

## **Section 2: 2000 Weekday and Weekend Regional Travel**

Regional trips made by Bay Area residents in 2000 are documented in this section based on the weighted and expanded count of trips from the 2000 household travel survey. Within the first subsection, the different types of regional travel are discussed. Next, trips are provided by trip purpose and travel mode. Time components of Bay Area travel are also explored in Section 2, including time of departure, time of arrival, and trip duration. In all cases, both weekday and weekend travel are discussed. Weekend tables, however, are not provided in this section – they can be found in Volume II of this report.

The 2000 household travel survey allowed respondents to select from a number of different activities when recording their daily pursuits. The reported activities surrounding a trip were then used to determine the type of trips being made by Bay Area residents. The five general trip purpose categories included in this analysis, along with their corresponding abbreviations used throughout the report, are:

1. Home-Based Work Trips (HBW),
2. Home-Based Shop (Other) Trips (HBSH),
3. Home-Based Social/Recreational Trips (HBSR),
4. Home-Based School Trips (HBSC), and
5. Non-Home-Based Trips (NHB).

Home-based trips are those that either start or end at the trip maker's residence. Non-home-based trips do not begin or end at the home location. For example, a trip from home to work would be considered a home-based work trip. Similarly, a trip from work directly home would also be labeled a home-based work trip. However, a trip from work to a grocery store would be designated a non-home-based trip. Each BATS2000 trip was categorized into one of the five trip purpose categories listed above.

Trips beginning and ending at home with a work or work related activity at the non-home end were labeled home-based work trips. Home-based shop (other) trips include several activity categories in addition to shopping at or away from home. If the activity at the non-home location included any of the following, the trip was designated a home-based shop (other) trip: shopping at home, shopping away from home, household chores and personal care, sleep, personal services such as banking or picking up dry cleaning, time spent sick or at a medical appointment, non-work or non-shop internet use, picking up or dropping off passengers, or changing mode. Trips beginning or ending at home were designated as home-based social/recreational trips if the non-home activity included meals, entertainment, hobbies, exercise, social activities, relaxing, volunteer work, or religious activities. The final home-based category, home-based school trips, included attending school or school related activities at the non-home location. Table 2.1B in Appendix B shows in detail how the various activities were consolidated into the five aggregate trip purpose categories.

In the BATS2000 survey, there were a multitude of modes to choose from (more than 40). Therefore, the mode for each trip was consolidated into more manageable categories for reporting purposes. The generalized modes used in this paper are:

1. Vehicle Driver,
2. Vehicle Passenger,
3. Transit Passenger,
4. Bicycle,
5. Walk, and
6. Other.

Vehicles represented in the vehicle driver and vehicle passenger categories include cars, trucks, vans, motorcycles, mopeds, and carpool vehicles. Transit modes include public buses, rail, and ferries. The bicycle and walk categories are self evident while the “other” category includes airplane, taxi, school bus, dial-a-ride, and shuttle bus passengers along with other modes not listed in the survey (rollerblades, skateboards, self propelled scooters, boats, wheelchairs, etc). Table 2.2B in Appendix B details how the reported survey modes were aggregated into the six general mode categories.

In select tables throughout the report, school bus passengers were gleaned out for home-based school trips. For all other trip purposes, however, school bus passengers were maintained as mode other. Additional modes used in this report include “person commuter” and “person” modes, which both represent the sum of vehicle drivers, vehicle passengers, and transit passengers. Additionally, vehicle modes are combined in various tables as the “in-vehicle” mode, which represents the sum of vehicle drivers and vehicle passengers. Finally, vehicle modes are also separated into drive alone and shared ride modes.

## **2.1 Components of Regional Travel**

Regional travel in the Bay Area is comprised of several different travel markets: commercial versus personal travel, intraregional versus interregional travel, resident versus non-resident travel, and weekday versus weekend travel. Each of the different components of regional travel is discussed in detail in this subsection along with the capabilities and limitations of BATS2000 in representing each market.

Commercial travel includes trips made in commercial vehicles on a daily basis as part of a normal work routine. Examples of commercial trips include delivery of goods, services, and passengers (i.e., bus drivers and train operators would fall into this category). Personal trips, on the other hand, serve the needs of a household and its members. The BATS2000 data sets were scoured for potential sequences of commercial trips. However, only a small number of possible commercial sequences were discovered (<0.1%). Upon further investigation, even fewer qualified as commercial trips. Therefore, for the purposes of this report, the assumption was made that BATS2000 trips reflect only personal travel in the Bay Area.

A second category of regional travel involves trips made within, outside, and across the region. Trips estimated from BATS2000 data include each type of trip: intraregional, interregional, and

external trips. Intraregional trips begin and end in the Bay Area while interregional trips have one location within the Bay Area and one location outside of the Bay Area. External travel describes trips that begin and end outside of the Bay Area. For a small percentage of trips in the BATS2000 data set, there was insufficient data to determine the location of either the origin or destination (or both). These trips could not be placed into any of the above categories and were therefore labeled as “unknown”. The exception was for trips with one known location within the Bay Area, one location with unknown coordinates, and a reported travel time less than two hours. These trips were labeled as intraregional trips. While the aggregate number of interregional and external trips is reported in this section, the bulk of this report is primarily concerned with intraregional travel only.

In addition to categorizing the purpose and location of trips made in the Bay Area, it is also important to understand characteristics of the trip maker. Regional travel is either pursued by residents or non-residents of the area. While residents typically dominate regional travel, non-resident travel is also quite important and can be divided into distinct components: tourist travel, business travel, personal business travel, and commute travel. Additionally, non-resident travel can fall within the commercial trip or personal trip category as well as in either the intraregional, interregional, or external trip category. Since the BATS2000 effort surveyed only persons residing in the Bay Area, non-resident travel is not an element of this analysis.

The final dimension of regional travel is weekday versus weekend travel. Travel that takes place during the week is significantly different from travel occurring over the weekend days. This is a well-known fact and is quite intuitive. Without the constraints of a weekly work schedule, most people are able to spend more time on the weekend for social and recreational outings and activities. Additionally, these activities tend to be distributed outside of the typical AM and PM peak periods. Shopping trips also increase during weekend days. However, the workweek is dominated by a combination of work and shop trips. Characteristics of both weekday and weekend travel are included in this analysis of the BATS2000 data.

In this report, the focus is intraregional, weekday and weekend personal travel made by residents of the nine-county Bay Area. Table 2.1.1 shows the break down of trips estimated from the 2000 survey. The majority of trips made by Bay Area residents on all days of the week are intraregional trips – 97.5% of weekday trips begin and end in the region. For weekend travel, 95.3% and 95.0% of trips on Saturday and Sunday occur within the region. Though interregional trips only account for a small percentage of weekday and weekend trips, there is a noticeable increase in the share of interregional (and external-to-external) trips during the weekend days. This is an intuitive result for weekend travel since individuals are allowed greater flexibility to make longer distance trips over the weekend that may lead them to destinations outside of the Bay Area. Trips with unknown origin and destination locations account for a small percentage of reported trips (1.2% on weekdays, 1.4% on Saturdays, and 1.5% on Sundays). It is interesting to note the increase in daily weekday person trips from 1990 to 2000. The 1990 survey reported nearly 17 million daily intraregional person trips while the 2000 survey includes almost 21 million daily intraregional weekday person trips, a 23% increase in trips (Purvis, 1994).

Table 2.1.2 shows the distribution of intraregional, interregional, external, and unknown trips by trip purpose for weekday, Saturday and Sunday trips. Trends typically seen when comparing

weekday and weekend travel are evident. Barring non-home-based travel, work and shopping trips dominate weekday travel while shopping and social/recreational trips lead weekend travel. On the average weekday, 21.8% of all trips (intraregional, interregional, external, and unknown) are home-based work trips while 25.6% of trips are home-based shop (other) trips. Home-based social/recreational and home-based school trips account for 17.3% and 12.1% of all trips, respectively, and non-home-based trips account for 23.2% of all residential weekday trips. Home-based school and work trips substantially decrease on weekend days compared to weekday shares. This is intuitive since most people are not required to attend work or school on weekend days. A comparison of average Saturday trips to average Sunday trips shows that home-based shopping trips decrease slightly from Saturday to Sunday (32.3% to 30.2%) while the share of home-based social/recreational trips slightly increases from Saturday to Sunday (33.3% of trips to 35.8% of trips).

The tables and discussion in the remainder of this report review only intraregional trips made by Bay Area residents (20.8 million weekday trips, 20.3 million trips on Saturday, and 18.9 million Sunday trips).

**Table 2.1.1****Components of Regional Travel: Intraregional, Interregional, and External Travel<sup>1</sup>**

Survey Component	Component of Travel	Sampled Trips	Expanded Trips	Percent of Total Daily Person Trips
Weekday Sample	Intraregional (I/I)	201,318	20,804,429	97.5%
	Interregional (I/X, X/I)	2,314	193,933	0.9%
	External-to-External Travel (X/X)	947	85,703	0.4%
	Unknown	2,850	263,817	1.2%
	Total	207,429	21,347,882	100%
Saturday Sample	Intraregional (I/I)	15,905	20,308,001	95.3%
	Interregional (I/X, X/I)	378	445,398	2.1%
	External-to-External Travel (X/X)	228	274,646	1.3%
	Unknown	269	290,357	1.4%
	Total	16,780	21,318,402	100%
Sunday Sample	Intraregional (I/I)	11,699	18,940,898	95.0%
	Interregional (I/X, X/I)	313	488,704	2.5%
	External-to-External Travel (X/X)	157	203,252	1.0%
	Unknown	195	294,584	1.5%
	Total	12,364	19,927,438	100%

<sup>1</sup>. Intraregional travel includes trips that begin and end in the Bay Area. It also includes trips where one location (either the origin or destination) is in the Bay Area, the other has unknown coordinates, and the duration of the trip is two hours or less. All other trips with one or both locations having unknown coordinates were placed in the Unknown category.

**Table 2.1.2****Weekday, Saturday, and Sunday Regional Travel by Trip Purpose**

Trip Purpose	Intra- Regional	Pct. of Total	Inter- Regional	Pct. of Total	External-to- External	Pct. of Total	Unknown	Pct. of Total	Total Trips	Pct. of Total
<b>Weekday Trips</b>										
Home-Based Work	4,598,874	22.1%	47,495	24.5%	0	0.0%	2,935	1.1%	4,649,304	21.8%
Home-Based Shop (Other)	5,345,607	25.7%	35,495	18.3%	0	0.0%	73,746	28.0%	5,454,848	25.6%
Home-Based Social/Recr.	3,622,461	17.4%	43,084	22.2%	0	0.0%	27,954	10.6%	3,693,499	17.3%
Home-Based School	2,579,254	12.4%	10,907	5.6%	0	0.0%	2,118	0.8%	2,592,279	12.1%
Non-Home-Based	4,658,233	22.4%	56,952	29.4%	85,703	100.0%	157,064	59.5%	4,957,952	23.2%
Total	20,804,429	100%	193,933	100%	85,703	100%	263,817	100%	21,347,882	100%
<b>Saturday Trips</b>										
Home-Based Work	1,436,025	7.1%	15,407	3.5%	0	0.0%	2,361	0.8%	1,453,793	6.8%
Home-Based Shop (Other)	6,725,477	33.1%	107,240	24.1%	0	0.0%	60,663	20.9%	6,893,380	32.3%
Home-Based Social/Recr.	6,856,888	33.8%	191,810	43.1%	0	0.0%	47,941	16.5%	7,096,639	33.3%
Home-Based School	462,977	2.3%	6,184	1.4%	0	0.0%	0	0.0%	469,161	2.2%
Non-Home-Based	4,826,634	23.8%	124,757	28.0%	274,646	100.0%	179,392	61.8%	5,405,429	25.4%
Total	20,308,001	100%	445,398	100%	274,646	100%	290,357	100%	21,318,402	100%
<b>Sunday Trips</b>										
Home-Based Work	1,404,824	7.4%	22,318	4.6%	0	0.0%	0	0.0%	1,427,142	7.2%
Home-Based Shop (Other)	5,847,940	30.9%	103,310	21.1%	0	0.0%	66,893	22.7%	6,018,143	30.2%
Home-Based Social/Recr.	6,855,961	36.2%	209,195	42.8%	0	0.0%	71,671	24.3%	7,136,827	35.8%
Home-Based School	496,416	2.6%	4,478	0.9%	0	0.0%	1,722	0.6%	502,616	2.5%
Non-Home-Based	4,335,757	22.9%	149,403	30.6%	203,252	100%	154,298	52.4%	4,842,710	24.3%
Total	18,940,898	100%	488,704	100%	203,252	100%	294,584	100%	19,927,438	100%

## **2.2 Weekday and Weekend Travel by Trip Purpose and Travel Mode**

Intraregional trips by trip purpose and travel mode are discussed in this section. Following the discussion of average weekday travel is a review of average trips by purpose and mode on Saturday and Sunday. In all cases, reported trips are for intraregional, weighted and expanded daily person trips.

### **Weekday Trips**

Regional weekday trips by purpose and detailed and general travel mode are shown in Table 2.2.1 (for a summary of how reported survey modes were consolidated to detailed and general mode categories, see Table 2.2B in Appendix B). The majority of Bay Area residents travel in private vehicles; 80% of weekday trips are vehicle driver or vehicle passenger trips. Walking trips have the second largest mode share of 10.3%. Transit trips account for 6.2% of total trips while bicycle trips comprise 1.5% of weekday intraregional travel. School bus passengers account for 0.8% of all trips while 1.3% of all weekday trips are made by other travel modes. An unweighted version of Table 2.2.1 is located in Appendix B (Table 2.2.1.1B). Additionally, see Table 2.2.1.2B in Appendix B for a distribution of weekday trips by the forty-five different reported survey modes.

Note that school bus passengers are assigned exclusively to home-based school trips. There were a handful of respondents reporting their travel mode as school bus for trips with purposes other than home-based school. For this analysis, these trips were placed into the mode other category. This was done for Table 2.2.1 and in all other tables included in this report. There are some tables that do not include school bus passengers as a general mode of travel. For these tables, school bus passengers have been placed in the mode other category regardless of trip purpose.

Transit trips account for nearly 1.3 million of the 20.8 million weekday trips, or 6.2%. Public bus passengers comprise 53.2% of all transit trips, and BART has the next highest share of transit trips at 31.3%. Streetcar and light rail vehicles account for 8.3% of all transit trips, and Caltrain holds 4.9% of the weekday transit share. Ferry passengers make 1.7% of weekday trips while AMTRAK and ACE passengers carry the balance (0.6%) of transit passengers.

Table 2.2.2 summarizes weekday trips by general trip purpose at origin and destination. Detailed purposes at origin and destination are provided in Table 2.2.2.2B in Appendix B. This table shows the propensity of workers and students to travel directly from home to work or school in the morning as opposed to driving directly home during the evening commute. Home-to-work trips number 2.45 million on the average weekday while work-to-home trips number 2.14 million trips. Therefore, the number of people traveling directly from home-to-work is 14.5% higher than those traveling directly from work-to-home. This reflects the increased willingness of individuals to make intermediate trips during the commute home (to stop at the grocery store or gym, or for a meal, etc.) as opposed to making these stops on the way to work or school.

Table 2.2.2 also allows for a better look at non-home-based trips. The largest sub-group of non-home-based trips are shop(other)-to-shop(other) trips (754,818 of 4.6 million non-home-based

trips). The second and third largest subgroups are work-to-shop(other) (511,614 trips) and work-to-social/recreational (511,124 trips). The majority of work-to-shop (other) trips (54.3%) are comprised of shopping away from home activities (see Table 2.2.2.2B in Appendix B for trips by detailed purpose at origin and destination). This includes midday work-to-shop trips as well as stops at the grocery store at the end of the workday. Approximately 28% of work-to-shop(other) trips are for trips from work to personal services such as banking, dry cleaning, or government services. Work-to-social/recreational trips are primarily made up of work-to-meal trips (70%), which typically represent midday work-to-lunch trips. Another major contributor to work-to-social/recreational trips is work-to-recreation/entertainment trips (16%). Since this category includes exercise, midday and post-work trips from work to the gym likely make up the plurality of work-to-recreation/entertainment trips.

The results in Table 2.2.2 can also be used to characterize non-home-based trips in terms of work-related and non-work-related trips. Of the 4.65 million non-home-based trips, 45.5% (2.11 million) are non-home-based work trips, and 54.5% are non-home-based non-work trips (2.54 million).

Weekday trips by general trip purpose and travel mode are displayed in Table 2.2.3. Column percentages represent modal shares for each trip purpose while row percentages represent trip purpose shares for each particular mode. Again, note that school bus passengers are gleaned out only for home-based school trips.

For all trip purposes except home-based school, vehicle drivers dominate mode shares. This is most pronounced for weekday home-based work trips where vehicle drivers make about 3.4 million of the nearly 4.6 million work trips, or 74.9% of work trips. Vehicle drivers make the majority of weekday home-based shopping trips (61.1%), and vehicle passengers account for 22.2% of shopping trips. Weekday home-based social/recreational trips have the most balanced vehicle share with 46.6% of trips made by drivers and 35.9% made by passengers. This is a reflection of the group nature of social/recreational trips. Weekday home-based school trips, which are primarily made by children, are predominantly vehicle passenger trips (see Purvis, June 2003 for trip linking details for adults and children for work and school trips).

Walking trips comprise 10.3% of all trips and are made more often for non-home-based trips than for any other purpose (27.8% non-home-based walk trip share). Home-based shop trips have the second highest walk share of 26.7%. Home-based school and social/recreational trips make up 20.2% and 17.9% of walking trips, respectively. The lowest share of walking trips by purpose is for home-based work trips (7.4% of walk trips). However, walking trips constitute only 3.4% of home-based work trips. The share of walking trips is approximately even for home-based shop and social/recreational trips at 10.7% and 10.6%. Walking comprises the largest mode share by purpose for home-based school trips (16.8%).

Table 2.2.3 shows that transit trips account for 6.2% of all weekday trips. The plurality of transit trips, 43.7%, is for home-based work trips. The next highest share of transit trips is for home-based school trips (17.0%). By purpose, transit trips account for 12.2% of home-based work trips and 8.4% of home-based school trips. Transit shares for the remaining purposes are similar



(3.3% share for home-based shop trips, 4.1% for home-based social/recreational trips, and 3.8% for non-home-based trips).

Bicycle shares are quite low for each trip purpose, ranging from 1.1% of non-home based trips to a high of 1.8% for home-based work trips. The majority of bicycle trips are for home-based work and home-based shop trips with a combined share of 51.5% of all bicycle trips.

The aggregate number of weekday, Saturday, and Sunday trips by general purpose and travel mode is provided in Table 2.2.3.1; however, the results are discussed in detail in the weekend section.

Vehicle occupancy rates by trip purpose are provided in Table 2.2.4 for weekday, Saturday, and Sunday trips. Vehicle occupancy is calculated by dividing the sum of vehicle driver and vehicle passenger trips by the number of vehicle driver trips. For weekday trips, vehicle occupancies range from a high of 4.08 persons per vehicle for home-based school trips to a low of 1.09 persons per vehicle for home-based work trips. The average vehicle occupancy for regional weekday trips is 1.44 persons per vehicle (for a discussion of weekend trips see the following subsection).

The vehicle occupancy rates detailed in Table 2.2.4 are rough estimates due to the way in which trips were reported and subsequently linked. Multi-passenger vehicle trips may contain drivers and passengers with differing trip purposes. For example, a parent escorting a child from home to school is considered to be on a home-based shop (other) trip (recall that activities involving picking up or dropping off passengers were grouped in the home-based shop (other) category by general trip purpose). In contrast, the child is considered to be making a home-based school trip. If the parent continues to work after dropping the child off at school, his or her trip would be classified as a home-to-work trip with a vehicle occupancy of two persons (Purvis, June 2003). This method tends to skew vehicle occupancy results for all types of trips, particularly home-based school trips.

## **Weekend Trips**

Saturday and Sunday trips are summarized in this subsection for the weighted and expanded intraregional trips reported in the 2000 survey. Appendices E and F include tables for Saturday and Sunday trips similar to those presented in the weekday portion of section 2.2.

Tables 2.2.1.1E and 2.2.1.1F report the number of Saturday and Sunday trips by general purpose and detailed and general travel mode. Unweighted versions of these tables are available in Appendices E and F along with a distribution of trips by all reported modes. Similar to weekday trips, vehicle trips dominate modal shares for weekend trips. In contrast to weekday trips, vehicle passenger shares on the weekend days are higher than those on the average weekday. Vehicle driver trips make up 50.4% of Saturday trips and 51.2% of trips on Sunday. Vehicle passenger trips account for 36.7% of Saturday trips and 35.9% of Sunday trips (compared to 24.5% for weekday trips). Transit shares are significantly lower during the weekend, with 2.4% of Saturday trips made by transit and only 2.2% of Sunday trips made by transit. Walk trip shares are about 2% lower than the average weekday share on Saturday and Sunday. Bicycle

trips on Saturday comprise 1.0% of the mode share. On Sunday, 1.7% of trips are made on a bicycle (a slightly larger share than the weekday bicycle share of 1.5%).

Weekend trips by purpose at origin and destination are provided in Appendices E and F. Table 2.2.2.1E shows the distribution of Saturday trips by purpose at origin and destination, while Table 2.2.2.1F focuses on Sunday trips. Home-based shop (other) and home-based social/recreational trips dominate weekend travel with a combined share of 66.9% of all trips on Saturday and 67.1% of all Sunday trips. A review of non-home-based weekend trips reveals that shopping and social/recreational activities also dominate non-home-based trips. Of non-home-based trips on Saturday, 98.1% have either shop (other) or social/recreation activities as a purpose at the origin, destination or both. On Sunday, the share decreases slightly to 97.9%. This means that a large majority of trips on the weekend are devoted to either shop (other) activities such as shopping away from home, banking, picking up dry cleaning, or getting a haircut or to social/recreational activities including meals, entertainment, or religious activities.

Tables 2.2.2.2E and 2.2.2.2F allow a closer look at the nature of non-home-based weekend trips. Trips with shop (other) activities at both trip ends comprise 25% of all non-home-based trips on Saturday (1.2 million). A majority of these shop(other)-to-shop(other) trips (51.9%) are between shopping locations outside of the home (629,139 trips). This shows the propensity of individuals to trip chain while shopping on Saturday. For example, a person (or family or group) might stop first at an electronics store and then continue on to a furniture store. Another example might be an outing to a large-scale grocery store followed by a stop at a specialty shop. Non-home-based trips on Saturday also include many social/recreational-to-social/recreational trips. Table 2.2.2.2E indicates that 72.1% (805,189 of 1.1 million) of social/recreational-to-social/recreational trips are a combination of trips between meals, recreation/entertainment activities, and social activities. Similar results are found for trips on Sunday where shop(other)-to-shop(other) trips and social/recreational-to-social/recreational trips account for 47.5% of non-home-based trips. An interesting and intuitive difference between trips on Saturday and Sunday is the prevalence of trips with volunteer/civic/religious activities at the origin and meals as the destination activity on Sunday. These trips likely represent post-worship meals that are quite common on Sundays.

Weekend trips by purpose and general travel mode are provided in Table 2.2.3E and Table 2.2.3F. Row percentages are mode specific while column shares are trip purpose specific. As with weekday trips, school bus passengers are gleaned out only for home-based school trips. For all other trip purposes, trips with a mode of school bus were placed in the mode other category.

Like weekdays, the majority of weekend vehicle driver trips are made in a private vehicle. On both Saturday and Sunday, 87.1% of trips are made by vehicle drivers and vehicle passengers. The difference between weekday and weekend trips is that vehicle passenger shares increase on weekend days and vehicle driver shares decrease. Vehicle driver trips account for 55.5% of all weekday trips but only 50.4% and 51.2% of all trips on Saturday and Sunday. On the average weekday, vehicle passengers make only 24.5% of trips. This share increases to 36.7% on Saturday and 35.9% on Sunday, reflecting the increased number of group and family outings on weekend days.

Transit use substantially decreases on Saturdays and Sundays as compared to weekdays. A mere 2.4% of Saturday trips are made by transit while only 2.2% of Sunday trips are by transit modes. For all other modes, modal splits decrease from weekdays to weekend days. The exception is for bicycle trips, which slightly increase on Sunday; 318,530 trips are made by bicycle compared to 303,961 trips on an average weekday.

Table 2.2.3.1 compares the number of weekday, Saturday, and Sunday trips by purpose and general travel mode. This table indicates that almost 10% fewer trips are made on Sunday as compared to the average weekday (18.9 million versus 20.8 million). Table 2.2.3.1 also shows that approximately 7% more trips occur on Saturday as compared to Sunday. Nearly twice as many home-based social/recreational trips are made during the weekend, and almost the same number of social/recreational trips occur on Saturday and Sunday (6.8 million on each day). Only a fraction of home-based work trips are made over the weekend while non-home-based trips remain fairly steady across all days of the week.

Vehicle occupancy rates for Saturday and Sunday trips are outlined in Table 2.2.4. The same limitations apply to the calculated rates for weekend travel as discussed previously for weekday travel. As expected (due to the increase in vehicle passenger trips), vehicle occupancies during the weekend are higher than those during the week (1.7 versus 1.4). Occupancy increases most substantially for non-home-based trips and home-based social/recreational trips on the weekend days.

**Table 2.2.1**  
**2000 Regional Weekday Trips by Purpose and Detailed Travel Mode**

Detailed Mode	H. B. Work		H. B. Shop (Other)		H. B. Soc/Rec		H. B. School		Non-Home-Based		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Vehicle Driver	3,440,726	74.8%	3,267,669	61.1%	1,687,142	46.6%	415,031	16.1%	2,734,922	58.7%	11,545,490	55.5%
Vehicle Passenger	301,358	6.6%	1,185,517	22.2%	1,296,737	35.8%	1,257,561	48.8%	1,009,061	21.7%	5,050,234	24.3%
Carpool Driver	2,629*	0.1%	1,073*	0.0%	344*	0.0%	95*	0.0%	1,553*	0.0%	5,694	0.0%
Carpool Passenger	12,384	0.3%	1,292*	0.0%	4,343*	0.1%	19,060	0.7%	6,412	0.1%	43,491	0.2%
Taxi Passenger	5,752*	0.1%	4,772*	0.1%	11,698	0.3%	3,555*	0.1%	3,599*	0.1%	29,376	0.1%
Public Bus Passenger	222,235	4.8%	119,787	2.2%	75,825	2.1%	174,987	6.8%	88,330	1.9%	681,164	3.3%
School Bus Passenger	0	0.0%	0	0.0%	0	0.0%	161,490	6.3%	0	0.0%	161,490	0.8%
Streetcar/LRT Passenger	45,400	1.0%	16,314	0.3%	12,707	0.4%	14,101	0.5%	17,478	0.4%	106,000	0.5%
Shuttle Bus Passenger	10,483	0.2%	274*	0.0%	285*	0.0%	484*	0.0%	2,497*	0.1%	14,023	0.1%
Dial-a-Ride Passenger	0	0.0%	437*	0.0%	494*	0.0%	96*	0.0%	0	0.0%	1,027	0.0%
BART Passenger	234,758	5.1%	34,544	0.6%	49,343	1.4%	25,428	1.0%	56,623	1.2%	400,696	1.9%
CalTrain Passenger	39,529	0.9%	3,922*	0.1%	5,733	0.2%	2,793*	0.1%	10,341	0.2%	62,318	0.3%
AMTRAK/ACE Pssgr.	5,447	0.1%	61*	0.0%	1,500*	0.0%	263*	0.0%	238*	0.0%	7,509	0.0%
Airplane Passenger	0	0.0%	1,743*	0.0%	47*	0.0%	0	0.0%	320*	0.0%	2,110	0.0%
Ferry Passenger	11,485	0.2%	434*	0.0%	5,217*	0.1%	351*	0.0%	4,417*	0.1%	21,904	0.1%
Bicycle	81,109	1.8%	75,328	1.4%	55,772	1.5%	42,688	1.7%	49,064	1.1%	303,961	1.5%
Walk	158,100	3.4%	573,699	10.7%	384,721	10.6%	433,273	16.8%	596,639	12.8%	2,146,432	10.3%
Other	25,184	0.5%	47,988	0.9%	24,709	0.7%	24,980	1.0%	68,100	1.5%	190,961	0.9%
Don't Know	2,295*	0.0%	10,753	0.2%	5,844*	0.2%	3,018*	0.1%	8,639	0.2%	30,549	0.1%
TOTAL	4,598,874	100.0%	5,345,607	100.0%	3,622,461	100.0%	2,579,254	100.0%	4,658,233	100.0%	20,804,429	100.0%

General Mode	H. B. Work		H. B. Shop (Other)		H. B. Soc/Rec		H. B. School		Non-Home-Based		Total Purposes	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Vehicle Driver	3,443,355	74.9%	3,268,742	61.1%	1,687,486	46.6%	415,126	16.1%	2,736,475	58.7%	11,551,184	55.5%
Vehicle Passenger	313,742	6.8%	1,186,809	22.2%	1,301,080	35.9%	1,276,621	49.5%	1,015,473	21.8%	5,093,725	24.5%
Transit Passenger	558,854	12.2%	175,062	3.3%	150,325	4.1%	217,923	8.4%	177,427	3.8%	1,279,591	6.2%
School Bus Passenger	0	0.0%	0	0.0%	0	0.0%	161,490	6.3%	0	0.0%	161,490	0.8%
Bicycle	81,109	1.8%	75,328	1.4%	55,772	1.5%	42,688	1.7%	49,064	1.1%	303,961	1.5%
Walk	158,100	3.4%	573,699	10.7%	384,721	10.6%	433,273	16.8%	596,639	12.8%	2,146,432	10.3%
Other	43,714	1.0%	65,967	1.2%	43,077	1.2%	32,133	1.2%	83,155	1.8%	268,046	1.3%
TOTAL	4,598,874	100.0%	5,345,607	100.0%	3,622,461	100.0%	2,579,254	100.0%	4,658,233	100.0%	20,804,429	100.0%

Notes: School Bus Passengers are included in mode "Other" for all trip purposes except home-based school.  
Values marked by an asterisk are based on fewer than 50 sample trips and are provided for informational purposes only.  
See Appendix B for an unweighted version of this table.

**Table 2.2.2**  
**2000 Regional Weekday Trips by Trip Purpose at Origin and Destination**

Origin Purpose	Destination Purpose						TOTAL
	Home	Work	Shop (Other)	Social/ Recreation	School	Unknown	
Home	545,038	2,454,444	2,297,120	1,743,971	1,407,851	50,584	8,499,008
	6.4%	28.9%	27.0%	20.5%	16.6%	0.6%	100.0%
	6.7%	69.9%	55.9%	53.2%	86.4%	60.3%	40.9%
Work	2,144,430	310,504	511,614	511,124	28,979	8,315	3,514,966
	61.0%	8.8%	14.6%	14.5%	0.8%	0.2%	100.0%
	26.2%	8.8%	12.5%	15.6%	1.8%	9.9%	16.9%
Shop (Other)	2,401,110	269,697	754,818	420,557	54,349	7,619	3,908,150
	61.4%	6.9%	19.3%	10.8%	1.4%	0.2%	100.0%
	29.3%	7.7%	18.4%	12.8%	3.3%	9.1%	18.8%
Social/ Recreation	1,878,490	430,732	404,297	408,133	64,529	7,758	3,193,939
	58.8%	13.5%	12.7%	12.8%	2.0%	0.2%	100.0%
	22.9%	12.3%	9.8%	12.4%	4.0%	9.2%	15.4%
School	1,171,403	36,951	128,544	187,251	71,644	7,230	1,603,023
	73.1%	2.3%	8.0%	11.7%	4.5%	0.5%	100.0%
	14.3%	1.1%	3.1%	5.7%	4.4%	8.6%	7.7%
Unknown	51,756	10,027	10,739	8,623	1,803	2,395	85,343
	60.6%	11.7%	12.6%	10.1%	2.1%	2.8%	100.0%
	0.6%	0.3%	0.3%	0.3%	0.1%	2.9%	0.4%
TOTAL	8,192,227	3,512,355	4,107,132	3,279,659	1,629,155	83,901	20,804,429
	39.4%	16.9%	19.7%	15.8%	7.8%	0.4%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*Notes: Upper entry is number of trips.  
Middle entry is row percent.  
Lower entry is column percent.*

**Table 2.2.3**  
**2000 Regional Weekday Trips by Trip Purpose and General Travel Mode**

Travel Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
Vehicle Driver	3,443,355	3,268,742	1,687,486	415,126	2,736,475	11,551,184
	29.8%	28.3%	14.6%	3.6%	23.7%	100.0%
	74.9%	61.1%	46.6%	16.1%	58.7%	55.5%
Vehicle Passenger	313,742	1,186,809	1,301,080	1,276,621	1,015,473	5,093,725
	6.2%	23.3%	25.5%	25.1%	19.9%	100.0%
	6.8%	22.2%	35.9%	49.5%	21.8%	24.5%
Transit Passenger	558,854	175,062	150,325	217,923	177,427	1,279,591
	43.7%	13.7%	11.7%	17.0%	13.9%	100.0%
	12.2%	3.3%	4.1%	8.4%	3.8%	6.2%
School Bus Passenger	0	0	0	161,490	0	161,490
	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
	0.0%	0.0%	0.0%	6.3%	0.0%	0.8%
Bicycle	81,109	75,328	55,772	42,688	49,064	303,961
	26.7%	24.8%	18.3%	14.0%	16.1%	100.0%
	1.8%	1.4%	1.5%	1.7%	1.1%	1.5%
Walk	158,100	573,699	384,721	433,273	596,639	2,146,432
	7.4%	26.7%	17.9%	20.2%	27.8%	100.0%
	3.4%	10.7%	10.6%	16.8%	12.8%	10.3%
Other	43,714	65,967	43,077	32,133	83,155	268,046
	16.3%	24.6%	16.1%	12.0%	31.0%	100.0%
	1.0%	1.2%	1.2%	1.2%	1.8%	1.3%
TOTAL	4,598,874	5,345,607	3,622,461	2,579,254	4,658,233	20,804,429
	22.1%	25.7%	17.4%	12.4%	22.4%	100.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Upper entry is number of trips.  
Middle entry is row percent.  
Lower entry is column percent.

**Table 2.2.3.1****2000 Regional Weekday, Saturday, and Sunday Trips by Purpose and General Travel Mode**

Travel Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
Vehicle Driver	3,443,355	3,268,742	1,687,486	415,126	2,736,475	11,551,184
	1,051,926	3,894,981	2,844,690	126,128	2,323,446	10,241,171
	1,059,482	3,331,905	2,995,597	95,310	2,218,852	9,701,146
Vehicle Passenger	313,742	1,186,809	1,301,080	1,276,621	1,015,473	5,093,725
	164,849	2,047,673	3,126,124	219,203	1,890,913	7,448,762
	128,453	1,744,052	3,015,353	267,484	1,646,063	6,801,405
Transit Passenger	558,854	175,062	150,325	217,923	177,427	1,279,591
	103,939	120,637	137,263	28,234	106,556	496,629
	139,726	92,769	110,758	14,816	57,338	415,407
School Bus Passenger	0	0	0	161,490	0	161,490
	0	0	0	13,697	0	13,697
	0	0	0	38,320	0	38,320
Bicycle	81,109	75,328	55,772	42,688	49,064	303,961
	12,835	68,531	95,333	4,153	19,331	200,183
	33,273	104,849	126,796	5,068	48,544	318,530
Walk	158,100	573,699	384,721	433,273	596,639	2,146,432
	81,124	517,880	586,038	71,562	420,279	1,676,883
	42,862	542,747	557,837	75,418	335,637	1,554,501
Other	43,714	65,967	43,077	32,133	83,155	268,046
	21,352	75,775	67,440	0	66,109	230,676
	1,028	31,618	49,620	0	29,323	111,589
TOTAL	4,598,874	5,345,607	3,622,461	2,579,254	4,658,233	20,804,429
	1,436,025	6,725,477	6,856,888	462,977	4,826,634	20,308,001
	1,404,824	5,847,940	6,855,961	496,416	4,335,757	18,940,898

Notes: Upper entry is number of Weekday trips.

Middle entry is number of Saturday trips.

Lower entry is number of Sunday trips.

**Table 2.2.4****2000 Regional Weekday, Saturday, and Sunday Vehicle Occupancies by Trip Purpose**

Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home Based	Total Purposes
<b>Weekday Trips</b>						
Vehicle Driver	3,443,355	3,268,742	1,687,486	415,126	2,736,475	11,551,184
Vehicle Passenger	313,742	1,186,809	1,301,080	1,276,621	1,015,473	5,093,725
In-Vehicle Person	3,757,097	4,455,551	2,988,566	1,691,747	3,751,948	16,644,909
Vehicle Occupancy	1.091	1.363	1.771	4.075	1.371	1.441
<b>Saturday Trips</b>						
Vehicle Driver	1,051,926	3,894,981	2,844,690	126,128	2,323,446	10,241,171
Vehicle Passenger	164,849	2,047,673	3,126,124	219,203	1,890,913	7,448,762
In-Vehicle Person	1,216,775	5,942,654	5,970,814	345,331	4,214,359	17,689,933
Vehicle Occupancy	1.157	1.526	2.099	2.738	1.814	1.727
<b>Sunday Trips</b>						
Vehicle Driver	1,059,482	3,331,905	2,995,597	95,310	2,218,852	9,701,146
Vehicle Passenger	128,453	1,744,052	3,015,353	267,484	1,646,063	6,801,405
In-Vehicle Person	1,187,935	5,075,957	6,010,950	362,794	3,864,915	16,502,551
Vehicle Occupancy	1.121	1.523	2.007	3.806	1.742	1.701



## **2.3 Distribution of Weekday and Weekend Trips by Time of Day**

This section summarizes the distribution of weekday and weekend intraregional trips by time of day. Included in this discussion are trips reported in the survey with valid start and end time entries. Trips with missing start or end time data were excluded from this portion of the analysis. For purposes of comparison with the 1990 report and in keeping with the MTC suite of travel demand models, the peak hour periods reported for the 2000 survey are the same as those provided in the regional travel characteristics report for the 1990 Bay Area Travel Survey.

The time of day tables and figures discussed in this section include three different methods of distributing trips based on start and end time values. The first examines the distribution of trips by time of departure, or time at trip origin. The second reviews time of arrival, or time at trip destination. In these two analyses, trips were assigned to a specific 30-minute interval based on the reported start time (time at trip origin) or end time (time at trip destination). The time at trip origin and time at trip destination tables and figures are useful in showing the peaking patterns of trips by purpose over the course of the day. For weekday trips, these tables can be used to understand the patterns of work and non-work trips. For weekend trips, where shop (other) and social/recreational trips dominate, the time of departure and arrival tables can be used to study peaking patterns and trip purpose shares for shop and non-shop trips and social/recreational and non-social/recreational trips. Additionally, the time at trip origin tables can be used to develop a set of peaking factors for travel demand forecasting systems (Purvis, 1994).

The third method of distributing trips by time of day is a bit more cumbersome and is referred to as the trips-in-motion analysis. The goal of the trips-in-motion analysis was to assign each trip into specific one-hour time periods based on the reported start and end times. The hour-long intervals for this analysis were 15 minutes apart. For example, the first time period began at 12:00am and ended at 1:00am, and the second time period began at 12:15am and ended at 1:15am. Trips were allocated to each time period in which they appeared. If a person reported beginning a trip at 7:50am and ending the trip at 8:05pm, the trip was assigned to five time periods: 7:00am to 8:00 am, 7:15am to 8:15am, 7:30am to 8:30am, 7:45am to 8:45am, and 8:00am to 9:00am. In this way, the results of the trips-in-motion analysis reflect the total number of trips on the network during any given time period.

### **Weekday Trips**

Weekday trips by mode and trip purpose distributed by time at trip origin are shown in Table 2.3.1. A review of total trips indicates that 9.7% of weekday trips occur during the AM peak period (7:00am to 8:00am) while 8.9% of all weekday trips occur in the PM peak period (4:30pm to 5:30pm). This follows the general rule suggested by most traffic engineers: in the absence of peak period counts, one can assume that approximately 10% of daily trips occur in the AM and PM peak hours.

Almost half of all weekday trips (nearly 8.6 million) begin in the three-hour morning and evening peak periods from 6:00am to 9:00am and 3:30pm to 6:30pm. This means that half of all trips made during the week occur in a quarter of the time available to make them.

Trips made by transit are even more concentrated in this six-hour interval. Nearly 60% of all transit trips occur during the three-hour AM and PM peak periods. Vehicle driver trips are a bit more dispersed throughout the day; only 46.5% of vehicle driver trips are included in the two three-hour peak periods.

The distribution of weekday home-based work trips shown in Table 2.3.1 reflects typical trends in work trips. During the morning period, the majority of work trips are from home to work, with the reverse occurring during the evening where trips begin at work and end at home. Of the home-based work trips that occur during the average weekday, 67.9% take place from home to work during the three-hour morning peak (6:00am to 9:00am) while 60.3% occur from work to home in the three-hour evening peak (3:30pm to 6:30pm). The lower percentage during the PM peak period reflects the propensity of workers to make stops after work instead of heading straight to their homes. For example, one might make a stop to pick up dry cleaning before heading home after work. More importantly, a working parent might stop at a day care center to pick up a child at the end of his or her workday.

Table 2.3.1 also shows the high concentration of home-based work trips by transit that occur during the AM and PM peak periods. Of the home-based work trips made by transit, 75.8% occur from home to work during the three-hour AM peak period while 72.2% occur from work to home during the three-hour PM peak period. Vehicle driver work trips are a little less concentrated; 67.6% of home-based work trips made by vehicle drivers occur from home to work in the AM three-hour peak while only 59.2% take place from work to home in the PM peak period.

Home-based school trips follow the same pattern as home-based work trips. During the AM peak, the majority of home-based school trips are from home to school with the return trip being made from school to home during the PM peak period. Transit trips to and from school and home seem to be imbalanced. In the three-hour AM peak, 79.1% of home-based school transit trips are made from home to school as opposed to only 28.3% of transit trips from school to home occurring in the three-hour PM peak. This can probably be attributed to the fact that school days typically end in mid-afternoon, and since the PM peak periods in Table 2.3.1 begin only after 3:30pm, a number of transit trips from school to home may not be included. In fact, a review of Table 2.3.5B confirms this suspicion and shows that nearly 45,000 trips from school to home occur from 2:30pm to 3:30pm (40% of daily school-to-home transit trips).

Table 2.3.1 shows that all home-based trips (work, shop (other), social/recreational, and school) follow the AM/PM split pattern discussed previously for home-based school and home-based work trips. Most home-based trips are made from home in the AM peak and to home during the PM peak. Home-based shop (other) and social/recreational trips differ in that more of these trips depart from home in the PM peak than work and school trips. For travel by all modes, 11.5% of all home-based trips leave home in the three-hour PM peak. Of this 11.5% of trips, 87% (793,175 trips) are to shop (other) or social/recreational activities. These types of activities include leaving home in the evening for a meal, to do volunteer work, or to go to the gym.

It is interesting to note after a review of daily home-based trips, that for travel by all modes, the number of trips that leave home is 15% higher than the number of trips arriving home (7.9

million versus 6.8 million). By mode, the difference ranges from a low of 15% for transit trips to a high of 21% for vehicle driver trips. This might be attributed to several different factors. It could be due to a miscoding of trip origins and destinations in the survey file. It also might be attributed to overnight trips that take place on a typical weekday (business or personal). However, it is probably primarily due to the number of trips with invalid start and/or end time values that were excluded from this summary (nearly 2.5 million weekday trips were not included in the time-of-day analysis).

Non-home-based trips are more concentrated during the PM peak hours and periods. Only a small percentage of non-home-based trips occur in the AM peak periods ranging from a low of 1.6% of all non-home-based trips in the AM peak hour to a high of 4.9% in the three-hour AM peak period. During evening hours, 10.1% of all non-home-based trips occur in the PM peak hour, and 26.5% of all non-home-based trips occur in the three-hour PM peak. These late-afternoon and early-evening trips include shopping trips after work and social/recreational trips after school.

Table 2.3.2 shows the distribution of trips by purpose and time at trip destination and indicates some of the same trends found in Table 2.3.1. Of the 18 million daily weekday trips, 11.0% arrive during the AM peak hour while 8.5% arrive in the PM peak hour. The majority of home-based trips depart from home in the morning and return to home in the evening. An interesting finding in Table 2.3.2 is for home-based work trips. Only 7.6% of daily transit trips arrive during the two-hour AM peak from 7:00am to 9:00am. Recall that 62.0% of daily home-based work trips made by transit depart between 6:30am and 8:30am (Table 2.3.1). When the AM peak period is extended to three hours (6:30am to 9:30am), 77.6% of daily transit trips are captured. Conversely, 52.2% of trips made by vehicle drivers from home to work are captured in the AM peak hours from 7:00am to 9:00am. This percentage increases less significantly than for transit to 68.0% in the three-hour AM peak. This reflects the longer travel times associated with transit trips from home to work compared to vehicle driver trips.

For a more detailed look at the distribution of weekday trips, see Tables 2.3.1B through 2.3.12B in Appendix B, which show the distribution of weekday trips by purpose and time of day at trip origin and trip destination for thirty-minute intervals across various mode categories.

Figures 2.3.1 through 2.3.6 provide graphical representations of the information presented in Table 2.3.1 and in the corresponding appendix tables. Figure 2.3.1 shows the distribution of weekday trips split into the five general trip purpose categories. Figures 2.3.2 through 2.3.6 show the time at trip origin distribution for each general trip purpose.

Figure 2.3.1 shows that the morning commute is dominated by home-based work and home-based school trips. The midday hump that is typically seen for weekday trips is evident in the figure, especially for non-home-based trips. There is a sharp rise in non-home-based trips around the noontime hour reflecting the number of lunch trips and personal business trips that occur during the typical workday lunch period. Figure 2.3.1 also shows the typical AM and PM peaks associated with weekday travel. The distribution of AM trips is sharper and confined to a smaller time interval as compared to the PM period where trips are a bit more dispersed over the late afternoon and evening hours.

Home-based work trips by time at trip origin are displayed in Figure 2.3.2. This graphic shows the very pronounced split of work trips into the AM and PM peak periods. A small midday peak reflects lunch trips made to home by a small group of workers. Figure 2.3.2 also shows that workers are more likely to work later hours than to arrive at work earlier in the morning.

Time at trip origin for weekday home-based shop (other) trips is displayed in Figure 2.3.3. The large PM peak period for these types of trips stands out in this graphic. It also indicates the steady nature of home-based shop (other) trips. Between approximately 6:30am and 7:00pm no fewer than 200,000 home-based trips are departing each hour.

Figure 2.3.4 indicates that the peak period for home-based social/recreational trips occurs during the evening hours from about 4:00pm to 7:00pm. This is an intuitive result since a variety of social and recreational activities during the week must be postponed until the post work period but must not encroach too much on the late night hours preceding a workday.

Similarly intuitive results can be seen in Figure 2.3.5 for weekday home-based school trips. A sharp and pronounced AM peak exists from 6:00am to 9:00am, around the start of the school day. Two distinct peaks are evident during the PM period, one from 1:30pm to 3:30pm and the second between 4:30pm and 6:00pm. The first peak corresponds to the end of the school day for most elementary and secondary schools. The second peak likely reflects parents picking up children from childcare facilities at the close of the workday.

The final trip purpose category, non-home-based trips, is outlined in Figure 2.3.6 by time at trip origin. The most pronounced peak for non-home-based trips occurs between 11:00am and 1:00pm, which corresponds to typical lunch periods during the workday. Two other mini-peaks are evident for non-home-based trips and correspond to the end of the school day and the end of the workday when students and employees are able to make stops and run errands before returning to the home location.

Figure 2.3.7 is the only graphic included in the main text that is based on the trips-in-motion analysis (see Table 2.3.25B for detailed trip purpose shares). This figure shows trip purpose shares for time intervals spanning the average weekday. The reader should note that this graphic does not accurately reflect the number of trips that occur during each time period. It only shows the share of trips being pursued for each general trip purpose. During the morning hours, the highest share of trips is for home-based work trips. In the late afternoon and early evening period, home-based work and non-home-based trips dominate trip purpose shares. Home-based social/recreational trips are the majority during the late evening hours. Tables 2.3.13B through 2.3.25B in Appendix B show the detailed results of the trips-in-motion analysis by trip purpose and travel mode. While these appendix tables contain a wealth of information, only a few key points and trends are highlighted in the following paragraphs.

A comparison of Tables 2.3.15B and 2.3.16B reiterates a trend discussed earlier in the report: transit trips are more concentrated in the peak period than are vehicle driver trips. The graphics in these two tables show that vehicle driver trips are more dispersed over the midday and evening

periods than transit trips, which are much more likely to occur during the AM and PM peak periods.

Table 2.3.17B shows that vehicle passenger trips are much more likely to be home-based trips than non-home based trips. This reflects a key characteristic of household travel. Multi-passenger trips being made either to or from home likely include many trips where picking up and dropping off passengers and attending social and recreational outings with household members are taking place.

### **Weekend Trips**

This subsection reports on the distribution of weekend intraregional trips by time of day. Weekend trips are analyzed by time at trip origin, time at trip destination, and with the trips-in-motion method.

Appendices E and F contain tables and figures for Saturday and Sunday travel similar to those included in the main text for this section. Detailed tables showing the distribution of weekend trips by time at trip origin and destination by trip purpose and travel mode are also included (Tables 2.3.1E through 2.3.12E for Saturday trips; Tables 2.3.1F through 2.3.12F for Sunday trips). Additionally, trips-in-motion results are provided in Appendices E and F for weekend travel.

Figures 2.3.1E through 2.3.6E summarize the results of the time at trip origin analysis for Saturday trips. Figure 2.3.1E provides the distribution of all trips by time at trip origin and trip purpose. This figure shows that the majority of trips on Saturday are home-based social/recreational and home-based shop (other) trips. Non-home based trips also make up a significant portion of daily Saturday trips, and as expected, home-based work and school trips are minimal on Saturdays. Unlike the average weekday trip distribution, trips on Saturday do not show two distinct peaks in the AM and PM periods. Rather, trips are dispersed fairly evenly from 7:00am to 6:00pm barring a lull in productions in the early afternoon between 1:00pm and 2:00pm.

Though relatively few home-based work trips take place on the average Saturday, those made still follow the weekday AM and PM peak trends as displayed in Figure 2.3.2E. Two sharp peaks are shown for Saturday work trips similar to those found in Figure 2.3.2 for weekday home-based work trips.

Home-based shop (other) trips on Saturday are similar to weekday trips in that they do not peak in the AM and PM periods but extend from the morning hours to the evening hours. Figure 2.3.3E shows the distribution of Saturday shop (other) trips by time at trip origin. Home-based shopping trips on Saturday are most concentrated in the hours between 8:30am and 5:00pm with a slight lull in productions from 1:30pm to 2:00pm.

Figure 2.3.4E reveals the pattern of Saturday home-based social/recreational trips by time at trip origin. The graphic shows three mini-peaks for these trips: one in the morning hours from 7:30am to 10:30am, a second from 11:30am to 1:30pm, and a final mini-peak between 4:00pm

and 6:30pm. Despite the drop in productions from 1:30pm to 4:00pm, the number of home-based social/recreational trips departing from 8:00am to almost 9:30pm on Saturday night remains steadily over 300,000 trips per hour.

Like home-based work trips on Saturday, home-based school trips are only a small fraction of trips on Saturday. Several mini-peaks can be seen in Figure 2.3.5E which shows the distribution of school trips. However, the most pronounced are during the AM and PM peak hours of 6:30am to 8:30am and 2:00pm to 3:30pm.

Non-home-based trips on Saturday peak between 9:30am and 1:00pm and again from 2:00pm to 3:30pm. Similar to home-based social/recreational trips, non-home-based trips remain steadily above 200,000 trips for the majority of the day (from 10:00am to 8:00pm).

Tables 2.3.13E through 2.3.33E detail the results of the trips-in-motion analysis and report the number of trips by purpose and mode that occur during consecutive hour-long intervals beginning every 15 minutes throughout the day. Table 2.3.20E indicates that the majority of home-based social/recreational trips on Saturday depart from the home location. Another interesting trend resulting from this analysis is found by comparing Table 2.3.20E and Table 2.3.13E. Based on the trips-in-motion analysis, home-based social recreational trips on Saturday have more of an AM/PM peak hour tendency than home-based shop (other) trips do.

Figure 2.3.7E summarizes the results of the trips-in-motion analysis for Saturday trips and shows the trip purpose share by time of day based on results provided in Table 2.3.33E. Like Figure 2.3.7 for weekday trips-in-motion, Figure 2.3.7E does not reflect the number of trips on the network during the specified intervals. It merely shows the split of trips by purpose during the interval. What can be gleaned from this figure is that home-based shop (other) trips dominate trip purpose shares in the daylight hours (9:30am to 5:00pm) while home-based social/recreational trips lead shares in the evening and early morning hours (5:00pm to 3:00am) on an average Saturday.

Sunday trips by all purposes by time at trip origin are displayed in Figure 2.3.1F. Like Saturday trips, Sunday trips are not separated into two peak periods as weekday trips are. Sunday trips are concentrated between the hours of 8:00am and 7:00pm, with a slight lull in productions from 1:00pm to 2:00pm.

Home-based work trips on Sunday (provided in Figure 2.3.2F) follow a pattern similar to home-based work trips on Saturday. The small number of work trips that occur are concentrated in two distinct AM and PM peak periods. The PM peak on Sunday is much higher than the Saturday peak. This is probably due to the fact that after working a full day on Sunday an individual is more likely to head straight home as opposed to participating in a social/recreational activity on Saturday evening after a day of work.

The number of home-based shop (other) trips on Sunday is slightly less than Saturday shop trips (Figure 2.3.3F). It also appears that shop (other) trips on Sunday tend to occur later in the day than shop (other) trips on Saturday.

Home-based social/recreational trips on Sunday are most concentrated between the hours of 8:00am and 1:00pm (Figure 2.3.4F). This trend is likely due to the high number of religious activities that take place on Sunday mornings. This differs from the Saturday trend where social/recreational trips are more concentrated in the evening hours.

Figure 2.3.5F shows that home-based school trips on Sunday are patterned very much like home-based school trips on the weekday though they are only a fraction of weekday school trips.

Non-home-based trips on Sunday are also quite similar to weekday non-home-based trips both in distribution and in number. Non-home-based trips are most concentrated between the hours of 10:00am and 12:00pm on Sunday (Figure 2.3.6F).

Detailed results of the trips-in-motion analysis for Sunday travel are provided in Tables 2.3.13F through 2.3.33F. Figure 2.3.7F displays trip purpose share by time of day based on the trips-in-motion analysis. The most notable result of the trips-in-motion analysis for Sunday trips is that for the majority of the day on Sunday, home-based social/recreational trips have the highest trip purpose share.

Table 2.3.1

## 2000 Distribution of Regional Weekday Trips by Time of Day - Time at Trip Origin

Comparison by Mode and Trip Purpose<sup>1</sup>

Time at Trip Origin	HOME-BASED WORK				HOME-BASED SCHOOL				TOTAL HOME-BASED				NON-HOME-BASED		TOTAL TRIPS	
	From Home	Percent	Number	To Home	From Home	Percent	Number	To Home	From Home	Percent	Number	To Home	From Home	Percent	Number	Percent
<u>7:00 AM - 8:00 AM</u> All Modes Commuters Transit Passengers Vehicle Drivers	723,425	29.7%	9,084	0.4%	548,401	39.1%	1,462	0.1%	1,626,625	20.6%	86,478	1.3%	57,353	1.6%	1,770,456	9.7%
	693,910	30.3%	8,943	0.5%	402,104	37.2%	1,365	0.2%	1,422,025	20.5%	61,882	1.1%	47,229	1.5%	1,531,136	9.7%
	99,476	34.0%	1,659	0.6%	25,911	24.2%	0	0.0%	154,259	26.6%	2,806	0.6%	4,217	2.5%	161,282	12.9%
	547,589	29.9%	6,388	0.4%	56,307	25.1%	1,285	0.7%	819,850	18.9%	50,249	1.4%	32,022	1.5%	902,121	9.0%
	1,289,894	53.0%	16,456	0.8%	1,014,363	72.3%	5,336	0.5%	2,986,118	37.9%	190,926	2.8%	115,749	3.2%	3,292,793	18.0%
<u>6:30 AM - 8:30 AM</u> All Modes Commuters Transit Passengers Vehicle Drivers	1,228,393	53.7%	15,734	0.8%	753,421	69.8%	2,714	0.3%	2,594,465	37.4%	134,966	2.3%	94,789	3.1%	2,824,220	17.8%
	181,569	62.0%	3,253	1.2%	74,046	69.3%	135	0.1%	307,691	53.1%	5,461	1.1%	6,260	3.7%	319,412	25.6%
	967,398	52.8%	11,429	0.7%	98,820	44.0%	2,358	1.3%	1,473,369	33.9%	106,516	3.0%	63,155	3.1%	1,643,040	16.4%
	1,651,677	67.9%	26,798	1.3%	1,141,348	81.3%	9,358	0.8%	3,725,302	47.3%	275,202	4.0%	175,460	4.9%	4,175,964	22.8%
	1,563,476	68.3%	24,448	1.2%	857,182	79.4%	5,265	0.7%	3,253,060	46.8%	195,380	3.3%	148,919	4.9%	3,597,359	22.7%
<u>6:00 AM - 9:00 AM</u> All Modes Commuters Transit Passengers Vehicle Drivers	221,719	75.8%	3,350	1.3%	84,483	79.1%	255	0.2%	374,814	64.7%	6,101	1.2%	8,064	4.8%	388,979	31.1%
	1,239,397	67.6%	18,568	1.2%	117,925	52.5%	4,367	2.5%	1,913,717	44.1%	155,779	4.3%	103,033	5.0%	2,172,529	21.7%
	20,355	0.8%	549,874	26.0%	15,726	1.1%	104,791	9.1%	291,187	3.7%	972,380	14.2%	363,409	10.1%	1,626,976	8.9%
	18,184	0.8%	523,241	26.4%	14,419	1.3%	92,500	11.4%	255,587	3.7%	883,479	15.1%	335,339	11.0%	1,474,405	9.3%
	303	0.1%	86,342	32.6%	953	0.9%	7,325	6.6%	6,558	1.1%	105,268	20.9%	32,415	19.3%	144,241	11.5%
<u>4:30 PM - 5:30 PM</u> All Modes Commuters Transit Passengers Vehicle Drivers	16,348	0.9%	394,839	25.1%	8,152	3.6%	12,190	6.8%	151,997	3.5%	561,608	15.6%	224,742	10.9%	938,347	9.4%
	41,159	1.7%	941,382	44.6%	38,661	2.8%	221,884	19.3%	602,232	7.6%	1,806,616	26.4%	669,401	18.5%	3,078,249	16.8%
	36,597	1.6%	894,991	45.1%	34,116	3.2%	190,930	23.6%	529,304	7.6%	1,632,372	28.0%	615,158	20.1%	2,776,834	17.5%
	1,497	0.5%	144,847	54.7%	3,212	3.0%	14,669	13.2%	17,525	3.0%	188,726	37.5%	57,196	34.0%	263,447	21.1%
	31,559	1.7%	680,149	43.3%	19,938	8.9%	24,499	13.8%	314,411	7.2%	1,014,044	28.2%	403,309	19.5%	1,731,764	17.3%
<u>3:30 PM - 6:30 PM</u> All Modes Commuters Transit Passengers Vehicle Drivers	59,655	2.5%	1,274,772	60.3%	57,069	4.1%	340,549	29.6%	909,899	11.5%	2,555,038	37.4%	957,826	26.5%	4,422,763	24.1%
	52,953	2.3%	1,210,340	61.0%	50,115	4.6%	273,045	33.7%	801,610	11.5%	2,293,931	39.3%	872,827	28.6%	3,968,368	25.1%
	2,150	0.7%	191,265	72.2%	4,052	3.8%	31,387	28.3%	24,305	4.2%	262,692	52.2%	71,821	42.7%	358,818	28.7%
	45,268	2.5%	930,791	59.2%	28,976	12.9%	36,625	20.6%	481,211	11.1%	1,424,713	39.6%	574,594	27.8%	2,480,518	24.8%
	2,433,604	100%	2,113,000	100%	1,403,758	100%	1,151,568	100%	7,881,253	100%	6,840,493	100%	3,609,437	100%	18,331,183	100%
<u>D A I L Y</u> All Modes Commuters Transit Passengers Vehicle Drivers	2,287,669	100%	1,984,017	100%	1,080,119	100%	809,705	100%	6,943,586	100%	5,833,508	100%	3,053,013	100%	15,830,107	100%
	292,655	100%	264,946	100%	106,853	100%	110,945	100%	579,043	100%	502,952	100%	168,014	100%	1,250,009	100%
	1,833,597	100%	1,571,919	100%	224,712	100%	178,073	100%	4,343,144	100%	3,593,572	100%	2,068,221	100%	10,004,937	100%

<sup>1</sup> For the sake of comparison, time intervals are the same as those used in the 1990 Regional Travel Characteristics Report (Purvis, 1994).



Table 2.3.2

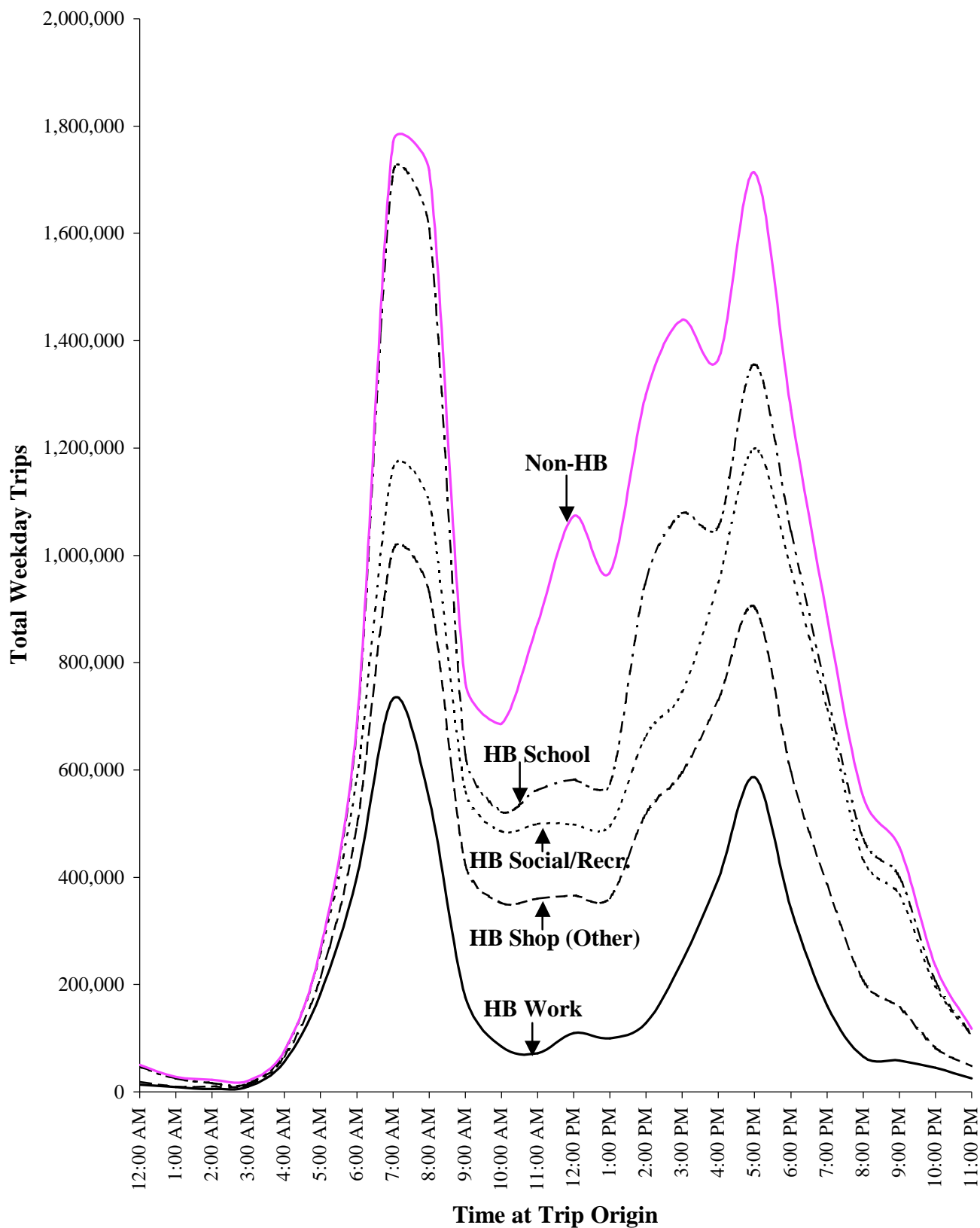
## 2000 Distribution of Regional Weekday Trips by Time of Day - Time at Trip Destination

Comparison by Mode and Trip Purpose<sup>1</sup>

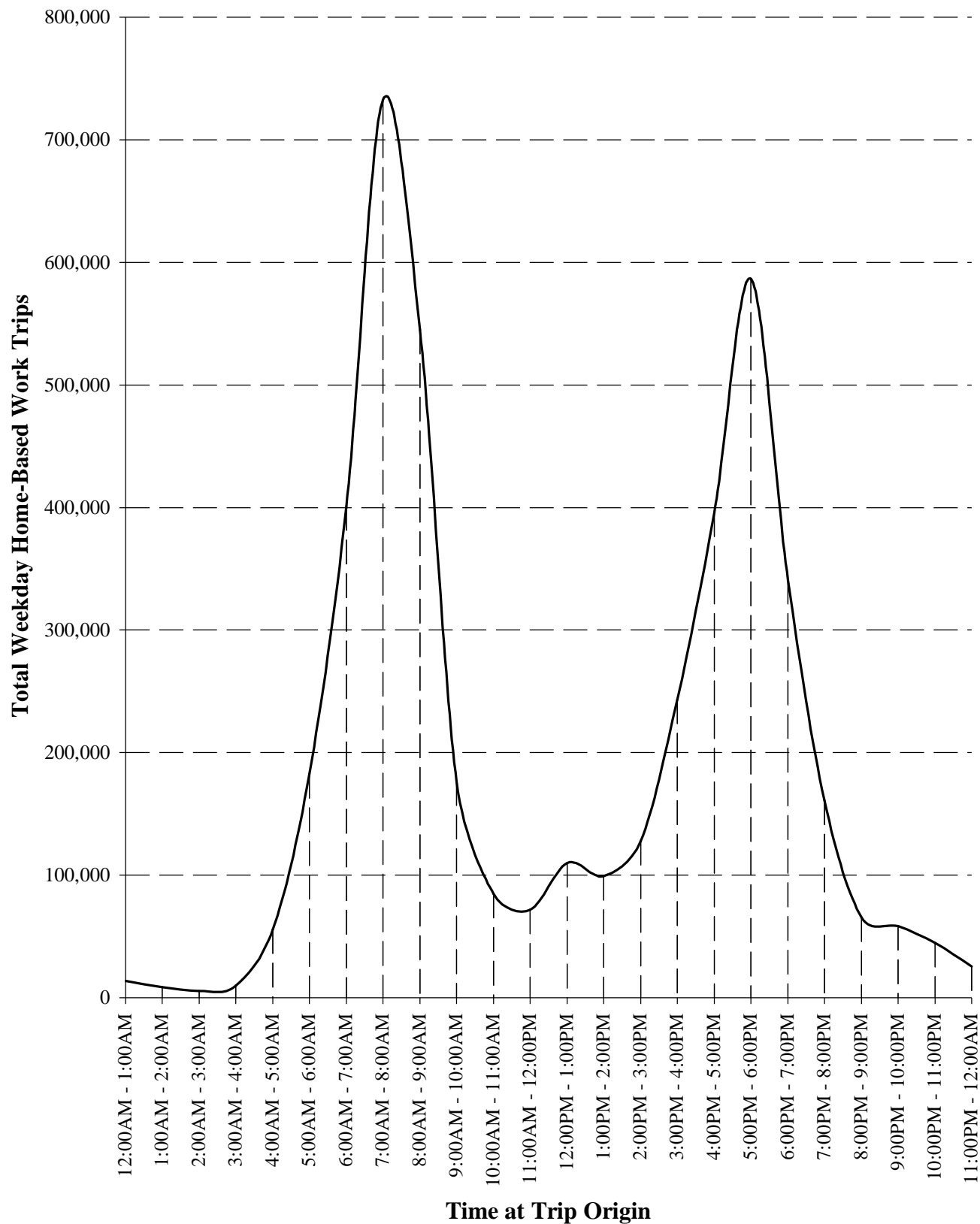
Time at Trip Destination	HOME-BASED WORK				HOME-BASED SCHOOL				TOTAL HOME-BASED				NON-HOME- BASED		TOTAL TRIPS	
	From Home	Percent	Number	To Home	From Home	Percent	Number	To Home	From Home	Percent	Number	To Home	Number	Percent	Number	Percent
<u>7:30 AM - 8:30 AM</u>																
All Modes	712,782	29.3%	7,518	0.4%	753,680	53.7%	3,598	0.3%	1,841,852	23.4%	103,885	1.5%	68,460	1.9%	2,014,197	11.0%
Commuters	676,427	29.6%	7,518	0.4%	558,434	51.7%	2,134	0.3%	1,574,048	22.7%	74,935	1.3%	53,864	1.8%	1,702,847	10.8%
Transit Passengers	100,024	4.4%	1,227	0.5%	31,735	93.6%	135	0.1%	160,544	27.7%	2,264	0.5%	3,805	2.3%	166,613	13.3%
Vehicle Drivers	529,277	28.9%	5,545	0.4%	62,098	27.6%	1,937	1.1%	815,285	18.8%	60,567	1.7%	31,693	1.5%	907,545	9.1%
<u>7:00 AM - 9:00 AM</u>																
All Modes	1,277,595	52.5%	16,127	0.8%	1,042,643	74.3%	8,373	0.7%	2,976,821	37.8%	205,275	3.0%	121,822	3.4%	3,303,918	18.0%
Commuters	1,210,783	52.9%	15,503	0.8%	772,173	71.5%	4,705	0.6%	2,578,976	37.1%	147,491	2.5%	99,907	3.3%	2,826,374	17.9%
Transit Passengers	174,706	7.6%	2,571	1.0%	70,555	163.5%	135	0.1%	293,700	50.7%	3,983	0.8%	5,879	3.5%	303,562	24.3%
Vehicle Drivers	956,991	52.2%	12,020	0.8%	95,966	42.7%	3,957	2.2%	1,453,214	33.5%	118,085	3.3%	65,489	3.2%	1,636,788	16.4%
<u>6:30 AM - 9:30 AM</u>																
All Modes	1,664,137	68.4%	27,713	1.3%	1,150,167	81.9%	12,490	1.1%	3,702,388	47.0%	289,938	4.2%	185,015	5.1%	4,177,341	22.8%
Commuters	1,576,431	68.9%	23,063	1.2%	863,130	79.9%	6,341	0.8%	3,246,240	46.8%	204,107	3.5%	157,972	5.2%	3,608,319	22.8%
Transit Passengers	227,172	77.6%	3,253	1.2%	83,866	78.5%	135	0.1%	371,687	64.2%	5,872	1.2%	7,287	4.3%	384,846	30.8%
Vehicle Drivers	1,245,935	68.0%	18,025	1.1%	118,649	52.8%	5,131	2.9%	1,908,794	43.9%	162,827	4.5%	108,155	5.2%	2,179,776	21.8%
<u>5:00 PM - 6:00 PM</u>																
All Modes	20,137	0.8%	475,939	22.5%	17,162	1.2%	122,463	10.6%	301,457	3.8%	922,723	13.5%	329,834	9.1%	1,554,014	8.5%
Commuters	18,574	0.8%	445,632	22.5%	13,972	1.3%	107,502	13.3%	266,583	3.8%	830,881	14.2%	302,580	9.9%	1,400,044	8.8%
Transit Passengers	989	0.3%	57,260	21.6%	211	0.2%	11,275	10.2%	8,082	1.4%	80,629	16.0%	23,451	14.0%	112,162	9.0%
Vehicle Drivers	14,870	0.8%	349,772	22.3%	8,776	3.9%	12,230	6.9%	159,368	3.7%	521,531	14.5%	200,059	9.7%	880,958	8.8%
<u>4:30 PM - 6:30 PM</u>																
All Modes	42,475	1.7%	898,170	42.5%	40,627	2.9%	234,115	20.3%	635,458	8.1%	1,792,113	26.2%	625,805	17.3%	3,053,376	16.7%
Commuters	38,088	1.7%	850,705	42.9%	36,126	3.3%	204,171	25.2%	562,934	8.1%	1,620,694	27.8%	573,590	18.8%	2,757,218	17.4%
Transit Passengers	2,333	0.8%	110,389	41.7%	3,389	3.2%	28,122	25.3%	18,334	3.2%	166,549	33.1%	47,835	28.5%	232,718	18.6%
Vehicle Drivers	32,600	1.8%	674,756	42.9%	22,012	9.8%	24,600	13.8%	341,442	7.9%	1,018,706	28.3%	376,339	18.2%	1,736,487	17.4%
<u>4:00 PM - 7:00 PM</u>																
All Modes	61,348	2.5%	1,222,447	57.9%	64,885	4.6%	353,715	30.7%	959,537	12.2%	2,537,317	37.1%	938,383	26.0%	4,435,237	24.2%
Commuters	55,359	2.4%	1,157,484	58.3%	57,837	5.4%	283,237	35.0%	851,339	12.3%	2,268,671	38.9%	853,433	28.0%	3,973,443	25.1%
Transit Passengers	2,866	1.0%	162,889	61.5%	4,295	4.0%	50,250	45.3%	25,203	4.4%	256,735	51.0%	69,473	41.3%	351,411	28.1%
Vehicle Drivers	46,704	2.5%	910,054	57.9%	33,078	14.7%	37,172	20.9%	515,347	11.9%	1,416,569	39.4%	554,110	26.8%	2,486,026	24.8%
<u>D A I L Y</u>																
All Modes	2,433,604	100%	2,113,000	100%	1,403,758	100%	1,151,568	100%	7,881,253	100%	6,840,493	100%	3,609,437	100%	18,331,183	100%
Commuters	2,287,669	100%	1,984,017	100%	1,080,119	100%	809,705	100%	6,943,586	100%	5,833,508	100%	3,053,013	100%	15,830,107	100%
Transit Passengers	292,655	100%	264,946	100%	106,853	100%	110,945	100%	579,043	100%	502,952	100%	168,014	100%	1,250,009	100%
Vehicle Drivers	1,833,597	100%	1,571,919	100%	224,712	100%	178,073	100%	4,343,144	100%	3,593,572	100%	2,068,221	100%	10,004,937	100%

<sup>1</sup> For the sake of comparison, time intervals are the same as those used in the 1990 Regional Travel Characteristics Report (Purvis, 1994).

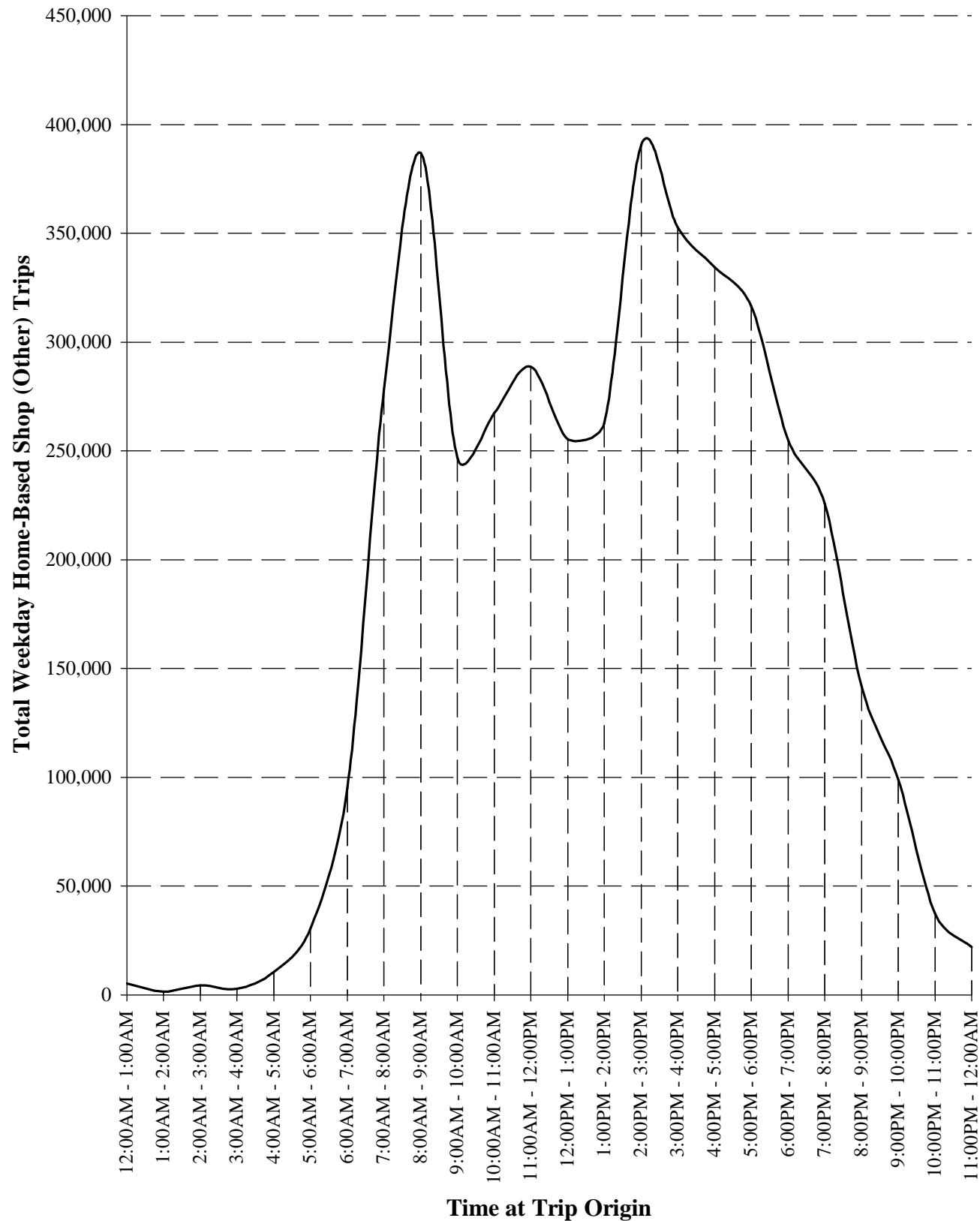
**Figure 2.3.1**  
**2000 Weekday Total Trips by Time at Trip Origin by Trip Purpose**



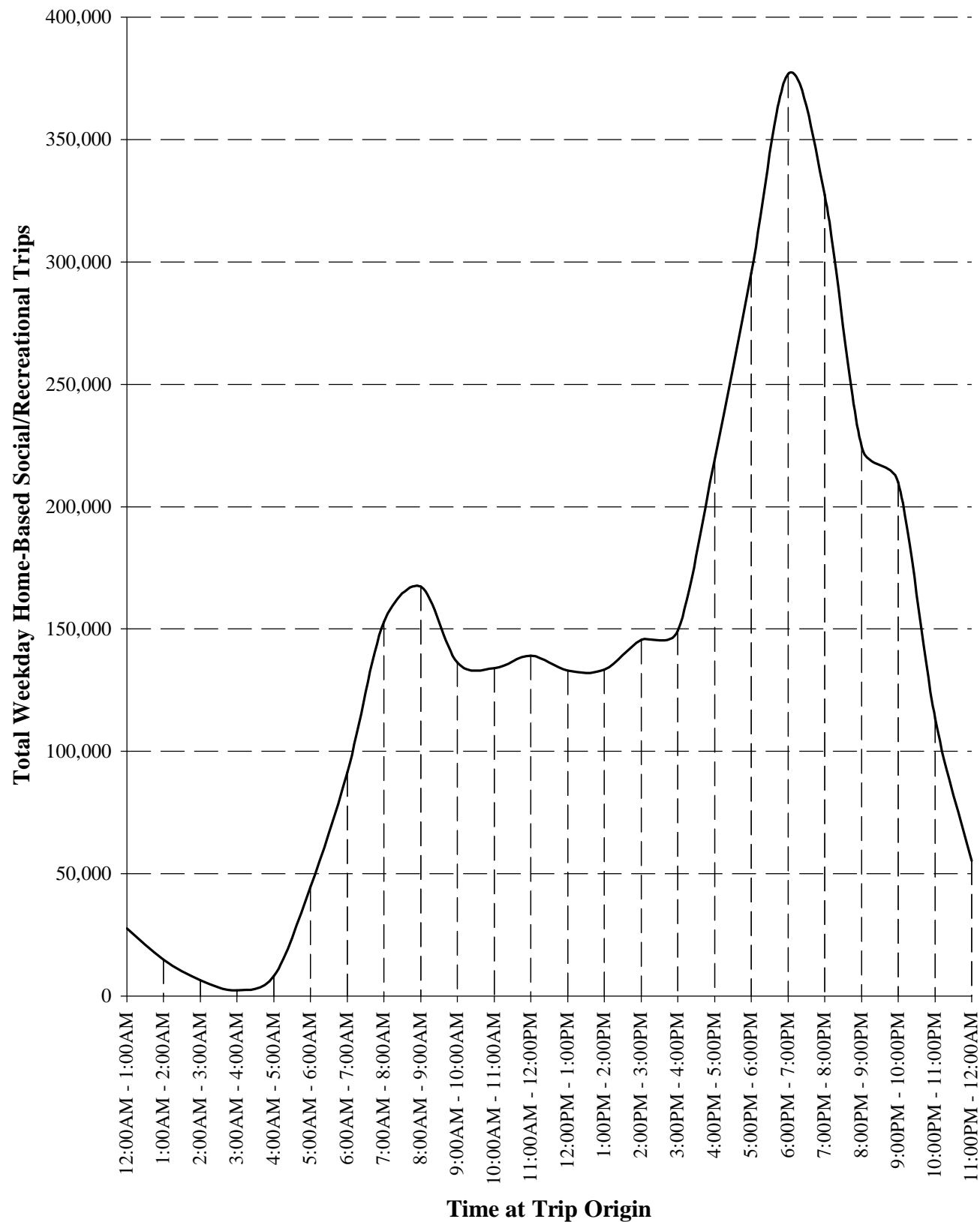
**Figure 2.3.2**  
**2000 Weekday Home-Based Work Trips by Time at Trip Origin**



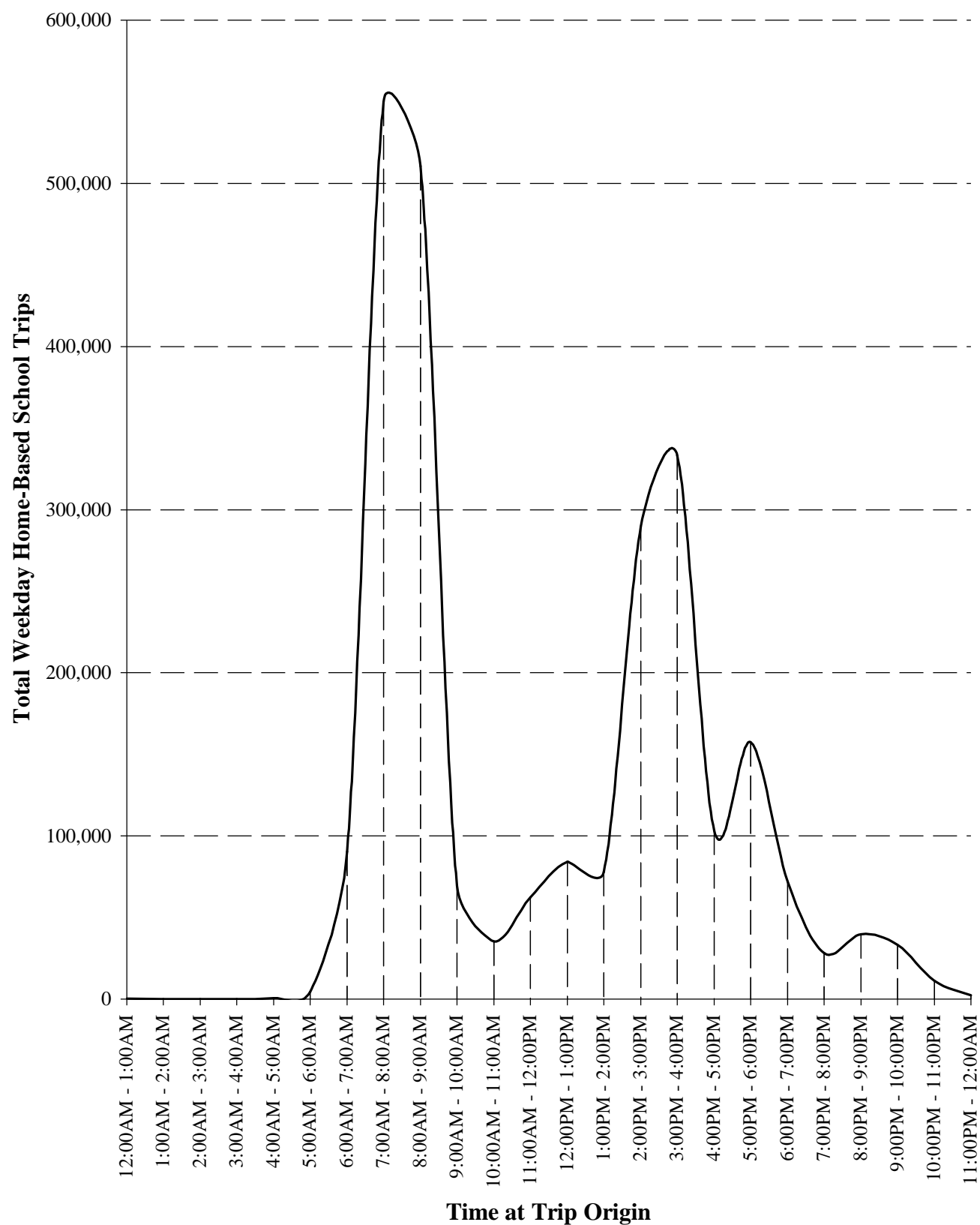
**Figure 2.3.3**  
**2000 Weekday Home-Based Shop (Other) Trips by Time at Trip Origin**



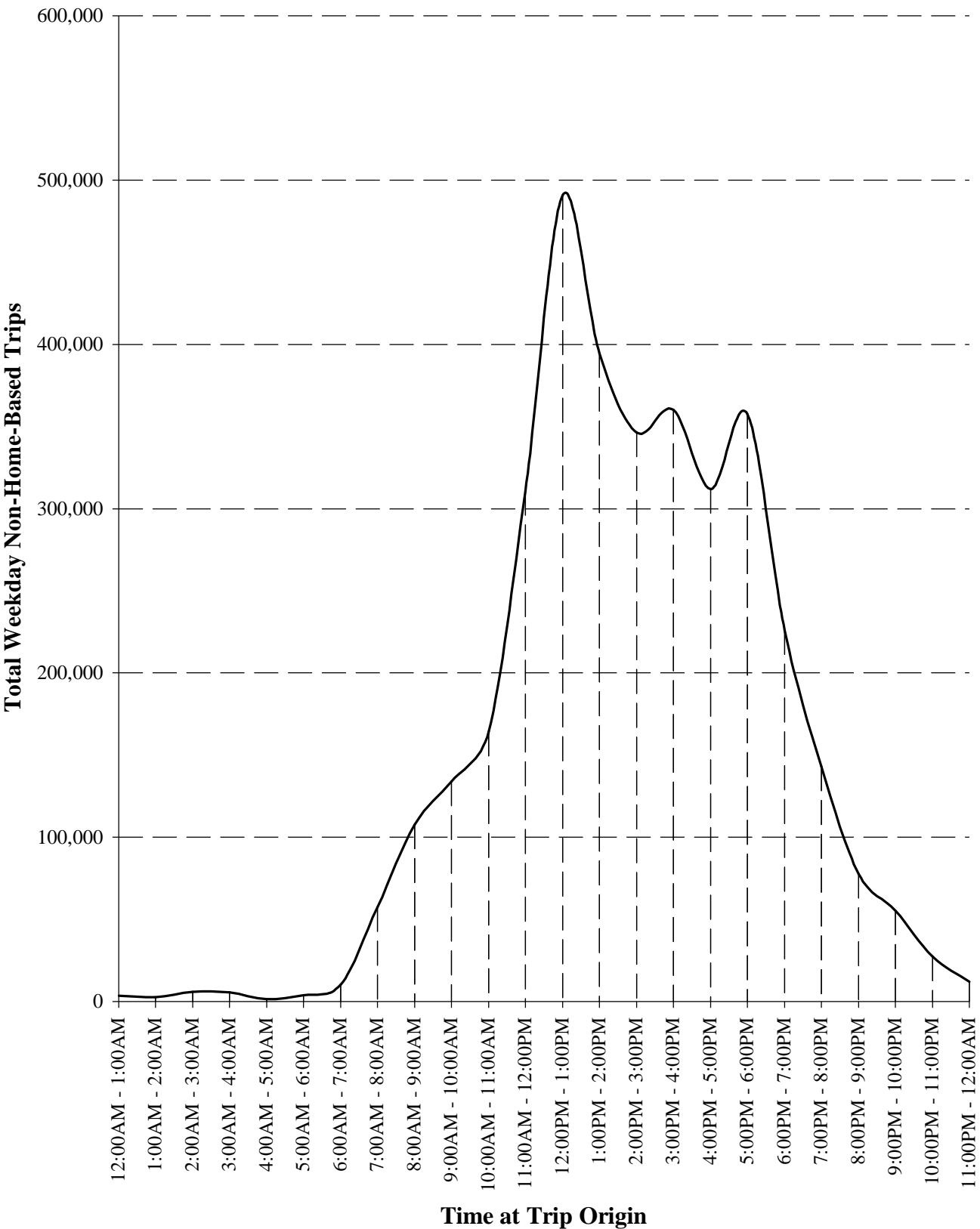
**Figure 2.3.4**  
**2000 Weekday Home-Based Social/Recreational Trips by Time at Trip Origin**



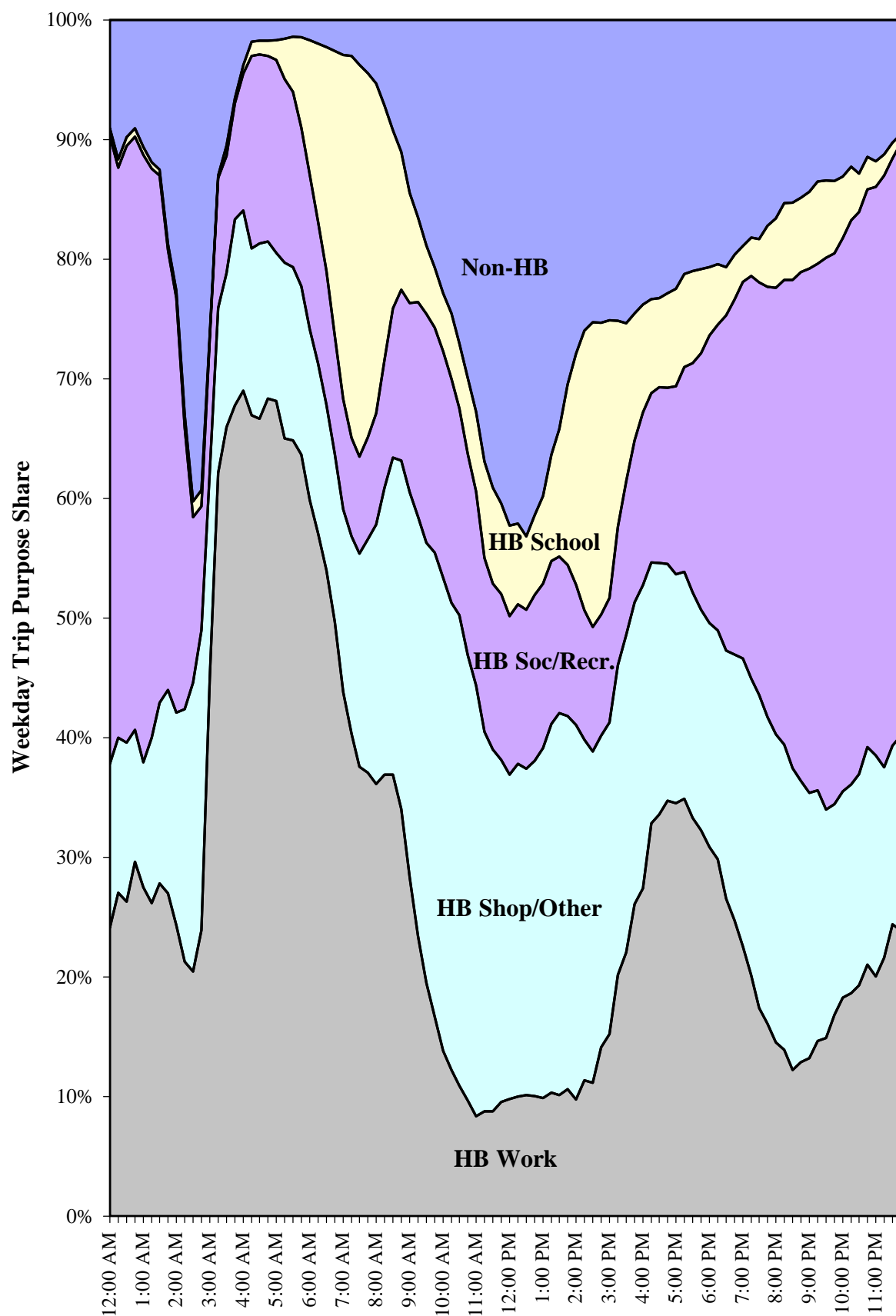
**Figure 2.3.5**  
**2000 Weekday Home-Based School Trips by Time at Trip Origin**



**Figure 2.3.6**  
**2000 Weekday Non-Home-Based Trips by Time at Trip Origin**



**Figure 2.3.7**  
**Weekday Trips in Motion by Trip Purpose Share by Time of Day**





## **2.4 Reported Trip Duration by Trip Purpose and Travel Mode**

Trip durations from the 2000 household survey are discussed in this section. Durations are reported by trip purpose and travel mode and were calculated based on the reported start and end time information provided by respondents.

BATS2000 survey participants were asked to record the start and end time of each activity pursued over a two-day period. Similar to other survey respondents, BATS2000 participants tended to round reported start and end times to the nearest fifteen-minute interval. For example, rather than reporting a trip beginning at 7:37pm and ending at 10:08pm, a respondent might prefer to say that she/he began her/his trip at 7:45pm and arrived at her/his destination at 10:15pm. The table below outlines this trend in the BATS2000 survey and compares the reported start and end times to those recorded in the year 2001 National Household Travel Survey (NHTS) sponsored by the Bureau of Transportation Statistics and the Federal Highway Administration (U.S. Department of Transportation, 2004).

Starting Minute	NHTS Trips (unweighted)	Percent of Trips	Cumulative Percent of Trips	Bay Area Trips (unweighted)	Percent of Trips	Cumulative Percent of Trips
00	140,523	21.9%	21.9%	54,492	23.8%	23.8%
15	52,892	8.2%	30.1%	18,262	8.0%	31.8%
30	119,947	18.7%	48.7%	46,078	20.1%	51.9%
45	53,207	8.3%	57.0%	19,873	8.7%	60.6%
Other	275,723	42.9%	99.9%	59,595	26.0%	86.6%
Unknown	656	0.1%	100.0%	30,622	13.4%	100.0%
Total	642,948	100.0%		228,922	100.0%	

*NHTS Source: U.S. Department of Transportation, 2004.*

The table above shows that 57.0% of NHTS respondents and 60.6% of BATS2000 participants reported start times beginning either on the hour, quarter hour, half hour, or three quarters past the hour.

Trip durations calculated from the 2000 survey are outlined in the table below. This duration distribution is for all intraregional travel in the Bay Area (weekday, Saturday, and Sunday trips).

Reported Trip Duration	Number of Trips	Percent of Total
5 minutes	4,989,433	8.3%
10 minutes	6,989,046	11.6%
15 minutes	9,188,434	15.3%
20 minutes	4,270,473	7.1%
25 minutes	1,904,092	3.2%
30 minutes	6,917,934	11.5%
35 minutes	1,036,094	1.7%
40 minutes	1,115,368	1.9%
45 minutes	2,319,225	3.9%
50 minutes	754,872	1.3%
55 minutes	375,621	0.6%
60 minutes	2,399,793	4.0%
Sub-Total	42,260,385	70.4%
All Other Times	9,941,787	16.6%
Unknown Duration	7,851,156	13.1%
TOTAL	60,053,328	100.0%

Since respondents tend to report start and end times on the hour, quarter hour, half hour, or three quarters past the hour, it follows that a number of trip durations will be in increments of fifteen minutes. The table above shows that nearly 35% of trips (20.8 million) have durations of 15, 30, 45, or 60 minutes. The table also shows the tendency of respondents to report trip durations to the nearest five minute interval. The most common trip duration in the 2000 household survey is fifteen minutes (15.3% of trips). Just more than 70% of trips have a duration of one hour or less (rounded to the nearest five minutes), and 57% of trips are thirty minutes or less (5, 10, 15, 20, 25, 30).

### **Weekday Trips**

Average trip durations for weekday intraregional trips are shown in Table 2.4.1 by trip purpose and travel mode. The average duration for all trips is 32.4 minutes. The longest average travel time is 38.1 minutes for home-based work trips, and the shortest average travel time is for home-based school trips at 24.4 minutes.

The average travel time for vehicle drivers for all trip purposes is 32.7 minutes. Vehicle drivers spend the most time getting to and from work. The average commute time for home-based work

trips by this mode is 35.4 minutes. Vehicle passengers follow a similar trend and spend the most time (36.6 minutes) commuting to and from work.

For all trip purposes, the average transit trip takes approximately one hour. The average home-based work trip by transit is just over an hour long at 61.3 minutes. Home-based school trips have the shortest average transit travel time of 51.9 minutes.

Bicycle trips in the Bay Area have an average duration of half an hour. The shortest bike trip is between home and school (16.9 minutes). Surprisingly, the longest bike trip is for home-based shop (other) trips at 47.1 minutes. At first glance this appears to be counterintuitive. It seems that shopping trips would be the most difficult to accomplish on a bicycle since the rider would have to carry their purchases with them on the return trip. However, considering the other purposes included in the shop (other) category and the fact that not all shopping trips include bulky purchases, this could be a reasonable result. Additional purposes in the shop (other) category include trips to the barber or hairdresser, banking and government services, medical appointments, and all other purposes not falling into one of the predefined survey categories.

The average walk trip in the Bay Area has a duration of 23.3 minutes. This corresponds well with typical values associated with pedestrian walking speeds and distance limitations. The average pedestrian walks at a rate of 3 to 4 ft/s. In fact, pedestrian signals are generally designed for a walking speed of 3.5 ft/s (Zegeer et al., 2002). Planners typically assume that an individual will not walk more than one mile away from their origin. At a rate of 4 ft/s, a person could walk a mile in about 22 minutes. At 3ft/s, a mile could be covered in a little over 29 minutes. Therefore, the average walk time of 23.3 minutes seems quite appropriate.

Table 2.4.2 shows the distribution of weekday trip durations by trip purpose and is separated into three parts. The first section reports the weighted and expanded number of trips within each duration category by trip purpose. The second shows the percent of total trips occurring in each travel time interval, and the final section of Table 2.4.2 shows the cumulative percent of total trips by purpose across travel time intervals.

A review of Table 2.4.2 shows that 57.0% of home-based work trips have durations of 30 minutes or less, and 20.9% are between 40.1 and 60.0 minutes long. Nearly 4% of home-based work trips in the Bay Area are more than an hour and a half long. Just over 38% of home-based shop (other) trips occur within 15 minutes of the home location, and nearly 60% are within a 30-minute travel time from home. For weekday travel, home-based social/recreational trips show an even higher propensity for being located near the home. Almost 72% of weekday home-based social/recreational trips are within 30 minutes of the home location. Nearly 32% of home-based school trips have a travel time less than or equal to 10 minutes. At the fifteen-minute mark, 53.6% of home-based school trips are captured. Non-home-based trips have the highest number of unknown travel times at 22.5%. Of the non-home-based trips with reported start and end times, Table 2.4.2 shows that 54.1% have travel times of 30 minutes or less, and 62.2% have durations of 45 minutes or less.

Figure 2.4.1 is the graphic version of Table 2.4.2. It provides the frequency distribution of weekday trips by duration and trip purpose. The spiky nature of this figure is due to the

tendency of respondents to report start and end times on the hour, quarter hour, half hour, and three quarters past the hour and to round start and end times to the nearest five minutes. From this figure, it is easy to see that the majority of trips for all purposes have a duration less than or equal to 30 minutes.

Table 2.4.3 and Figures 2.4.2 through 2.4.7 explore the relationship between trip duration and travel mode. Similar to Table 2.4.2, Table 2.4.3 is broken into three sections reporting the number of weekday trips by duration and mode, the percent of total trips, and the cumulative percent of trips. The most interesting patterns in this table are for transit, bike, and walk modes. Table 2.4.3 indicates that 54.1% of trips made by transit are between 25.1 and 60.0 minutes long. Nearly 12% of transit trips are more than 90 minutes long. Only a small percentage (5.7%) have durations of 15 minutes or less. Conversely, the majority of bicycle and walk trips have travel times less than or equal to 20 minutes (53.4% and 59.2%, respectively).

Figures 2.4.2 through 2.4.7 show graphically the information contained in Table 2.4.3. Figures 2.4.5 and 2.4.6 clearly show that the majority of bike and walk trips have durations of less than 30 minutes while Figure 2.4.4 displays the high travel times for trips made by transit. Vehicle driver and passenger trips are provided in Figures 2.4.2 and 2.4.3. Trips by these modes are most often within a travel time of 30 minutes.

### **Weekend Trips**

Trip durations by purpose and by mode for weekend travel are discussed in this section, and relevant tables are included in Appendices E and F.

Table 2.4.1E outlines average trip durations for Saturday trips by travel mode and trip purpose. The average travel time for trips on Saturday is 32.8 minutes, which is slightly higher than the average weekday trip duration. The average trip duration for vehicle drivers on Saturday is smaller than the weekday value (31.8 minutes for vehicle drivers on Saturday versus 32.7 minutes for vehicle drivers on the average weekday). However, travel time for vehicle persons increases from 30.9 minutes on the weekday to 32.5 minutes on Saturday.

A significant difference between weekday and Saturday travel is the increase in the average travel time for home-based social/recreational trips made by transit. On the average weekday, the average home-based social/recreational transit trip is just over an hour long (61.8 minutes). On Saturday, the travel time for home-based social/recreational trips by transit is 83.2 minutes. This reflects an additional 21 minutes individuals are willing to spend for social/recreational transit trips on Saturday.

Another interesting difference between weekday and Saturday trips is for the bicycle mode. While many of the bicycle categories on Saturday do not have a sufficient number of bicycle trips, a comparison can be made between the average duration of bike trips by all purposes on weekdays and Saturday. The average bicycle trip on Saturday is almost 9 minutes longer than the average weekday bicycle trip. Surprisingly, the duration of home-based social/recreational bicycle trips decreases on Saturday to an average of 23.2 minutes (compared to 30.4 minutes on the average weekday). This could be attributed to individuals pursuing longer bike trips during

the weekday as part of an exercise routine that may come to a halt on Saturdays. However, further investigation of this trend is necessary.

Walk trips have slightly longer durations on Saturday than on the weekday. Travel times for walking by all purposes increases from 23.3 minutes on the weekday to 25.3 minutes on Saturday. Finally, it is interesting to note that for all trip purposes except home-based work trips, travel times increase on Saturday as compared to the weekday.

Trip durations by mode and purpose for Sunday travel are provided in Table 2.4.1F. The average travel time for Sunday trips is 31.8 minutes. Similar to Saturday trips, Sunday trips display a shift in travel times for vehicle drivers and passengers. While the average travel time for vehicle persons on Sunday is comparable to the average time on the weekday (30.5 minutes on Sunday versus 30.9 minutes on the weekday), vehicle drivers spend less time driving on Sunday and vehicle passengers spend more time in cars on Sunday. The average trip duration for Sunday vehicle driver trips is 29.7 minutes, whereas the weekday average is 32.7 minutes. Vehicle passenger trips on Sunday average 31.7 minutes while 27.1 minutes is the weekday average for vehicle passengers.

Similar to Saturday travel, the duration of home-based social/recreational trips made by transit increases from 61.8 minutes on the weekday to 75.9 minutes on Sunday. Average transit travel time for all purposes also increases significantly from 60.1 minutes during the week to 69.3 minutes on Sunday.

Table 2.4.1F shows an interesting trend for bicycle and walk trips pursued on Sunday. The average duration of bike trips by all purposes on Sunday is 47.0 minutes (the average bike trip during the week is 31.7 minutes). Walk trips on Sunday average 30.9 minutes as compared to 23.3 minutes on the average weekday. Both results are intuitive and reflect the fact that individuals are able to pursue activities at a more leisurely pace and by alternative modes when not restricted by the rigor of the typical weekday work routine.

In addition to comparing Saturday and Sunday trips to weekday trips, it is also interesting to note the differences in travel times between Saturday and Sunday trips by purpose and by mode using the results provided in Tables 2.4.1E and 2.4.1F.

Trips made by vehicle drivers and passengers are longer on Saturday than on Sunday. Vehicle persons spend an average of 32.5 minutes traveling on Saturday as opposed to 30.5 minutes on Sunday. This difference is most pronounced for home-based shop (other) trips. Vehicle persons spend 35.2 minutes on home-based shop (other) trips on Saturday but only 31.4 minutes on Sunday.

Another notable difference between Saturday and Sunday travel is for person commuters. Recall that person commuters represent vehicle drivers, vehicle passengers, and transit passengers. For all purposes except home-based work trips, persons traveling in private vehicles and/or by transit spend more time making trips on Saturday than they do on Sunday.

Bicycle trips on Sunday tend to be longer than those made on Saturday (47.0 minutes versus 40.6 minutes). Walk trips follow the same pattern and tend to be longer on Sunday. The average Saturday walk trip is 25.3 minutes while the average walk trip on Sunday is 30.9 minutes.

Tables 2.4.2E and 2.4.2F detail trip durations for Saturday and Sunday trips by trip purpose. Similar to Table 2.4.2 for weekday travel, these two tables are divided into three sections: number of regional trips, percent of total trips, and cumulative percent of trips. The frequency distribution of trip durations for weekend trips is quite similar to that of weekday trips.

One interesting generalization can be made when comparing weekend work trips based on the regional number of trips provided in Tables 2.4.2E and 2.4.2F. If it can be assumed that the same individuals are making the same work commutes on Saturday and Sunday as during the week (i.e., workers who travel 30 minutes to get to work on the average weekday also travel 30 minutes to get to work on Saturday and Sunday), then work trips made on Saturday and Sunday can be characterized as follows. Employed individuals working on the weekend are more likely to make home-based work trips with durations of 30 minutes or less on Saturday and to make work trips with durations greater than 30 minutes on Sunday. In making this statement, one must consider a few key points regarding home-based work trips on the weekend. First, the commute between work and home on a weekend day may or may not be the same as the weekday home-based work commute. In some cases it will be longer, and in others it will be shorter. Additionally, some people work during the weekend and not during the week or they have shifts that span the weekend or a weekend day, so these weekend work trips are part of their usual schedule and do not reflect additional work taking place on the weekend (overtime work).

The frequency distribution of trip durations on Saturday and Sunday by trip purpose is displayed graphically in Figures 2.4.1E and 2.4.1F. The same trends found on the weekday are evident in the figures for Saturday and Sunday travel. The majority of trips have durations of 30 minutes or less. The figures also display the same spiky nature due to the respondent's tendency to round travel times to the nearest five minutes and to report start and end times on the hour, quarter hour, half hour, and three quarters past the hour.

Tables 2.4.3E and 2.4.3F provide the frequency distribution of trip durations on Saturday and Sunday by travel mode. Barring a few differences, these tables indicate that trip durations by travel mode for weekend days follow a similar trend to that of weekdays. For travel on Saturday and Sunday, at least half of trips for all travel by all modes except transit have travel times of half an hour or less. This result parallels weekday findings for duration by mode.

Weekend transit trips have longer durations than travel by all other modes (as was found on the average weekday). However, transit trips on Saturday and Sunday tend to have even longer durations than weekday transit trips. Table 2.4.3E shows that two thirds of Saturday trips by transit have durations greater than 30 minutes. The most common travel time for transit trips on Saturday was an hour and a half or more (14.8% of transit trips reported durations greater than or equal to 90 minutes). Table 2.4.3F indicates that this trend is even more pronounced on Sunday with 22.2% of transit trips having durations greater than or equal to 90 minutes. This result implies that individuals are more likely to take longer distance transit trips over the weekend, with a preference of doing so on Sunday rather than Saturday.

During the weekend, walk and bicycle trips also tend to have longer durations than on a typical weekday. On the weekday, 13.9% of bicycle trips have durations longer than 45 minutes (see Table 2.4.3). Tables 2.4.3E and 2.4.3F show that the shares of weekend bike trips longer than 45 minutes is nearly double the weekday value at 23.0% on both Saturday and Sunday. Walking trips over the weekend follow the same pattern, though the differences are not quite as stark. On the average weekday, slightly less than 10% of walk trips are longer than 45 minutes. The weekend shares are higher with 12.1% of Saturday walk trips having durations longer than 45 minutes and 12.6% of Sunday walk trips with travel times greater than 45 minutes. The graphical versions of the information contained in Tables 2.4.3E and 2.4.3F are provided in Figures 2.4.2E through 2.4.7E and 2.4.2F through 2.4.7F. These figures show trip duration shares for each travel mode on Saturday and Sunday.

**Table 2.4.1****2000 Regional Weekday Reported Trip Duration (in Minutes) by Purpose and Mode**

Mode	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
Vehicle Driver	35.4	31.4	28.1	26.0	34.6	32.7
Vehicle Passenger	36.6	32.5	26.4	19.3	30.5	27.1
<i>Vehicle Persons</i>	<i>35.5</i>	<i>31.7</i>	<i>27.3</i>	<i>20.9</i>	<i>33.4</i>	<i>30.9</i>
Transit Passenger	61.3	67.2	61.8	51.9	58.1	60.1
<i>Person Commuter</i>	<i>38.8</i>	<i>33.2</i>	<i>29.1</i>	<i>24.5</i>	<i>34.8</i>	<i>33.2</i>
School Bus	NA	NA	NA	38.0	NA	38.0
Bicycle	28.6	47.1	30.4	16.9	29.9	31.7
Walk	21.4	34.4	20.7	18.9	18.8	23.3
Other	39.0	61.7	37.0	34.2	39.9	43.6
<i>Total Modes</i>	<i>38.1</i>	<i>33.9</i>	<i>28.3</i>	<i>24.4</i>	<i>32.8</i>	<i>32.4</i>



**Table 2.4.2****2000 Regional Weekday Trip Duration Frequency Distribution by Trip Purpose***Number of Regional Trips*

Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
0 - 5 minutes	208,127	566,509	456,499	362,854	491,318	2,085,307
5.1 - 10.0 minutes	337,765	710,453	573,942	457,182	542,319	2,621,661
10.1 - 15.0 minutes	644,522	786,956	702,440	561,741	615,327	3,310,986
15.1 - 20.0 minutes	390,583	374,832	309,571	230,411	302,503	1,607,900
20.1 - 25.0 minutes	233,174	203,063	125,661	134,930	155,470	852,298
25.1 - 30.0 minutes	804,964	535,920	423,764	286,855	412,094	2,463,597
30.1 - 35.0 minutes	178,026	97,374	63,327	74,819	99,244	512,790
35.1 - 40.0 minutes	199,024	112,905	76,811	81,682	108,043	578,465
40.1 - 45.0 minutes	380,647	174,478	125,317	102,146	172,399	954,987
45.1 - 50.0 minutes	137,884	71,878	44,854	36,678	62,765	354,059
50.1 - 55.0 minutes	72,223	39,667	21,557	16,160	36,850	186,457
55.1 - 60.0 minutes	371,538	182,809	120,343	80,151	178,357	933,198
60.1 - 65.0 minutes	54,530	24,057	14,078	14,313	33,698	140,676
65.1 - 70.0 minutes	59,633	30,660	17,747	11,284	38,874	158,198
70.1 - 75.0 minutes	117,291	56,540	43,697	18,121	68,830	304,479
75.1 - 80.0 minutes	46,897	21,700	11,819	8,392	28,740	117,547
80.1 - 85.0 minutes	19,606	11,127	7,559	6,156	15,157	59,605
85.0 - 90.0 minutes	110,855	71,540	40,892	19,946	63,398	306,631
> 90.0 minutes	179,315	238,989	128,482	51,504	184,053	782,343
Unknown Duration	52,270	1,034,151	314,101	23,929	1,048,796	2,473,246
<b>TOTAL</b>	<b>4,598,874</b>	<b>5,345,607</b>	<b>3,622,461</b>	<b>2,579,254</b>	<b>4,658,233</b>	<b>20,804,429</b>

**Table 2.4.2 (continued)****2000 Regional Weekday Trip Duration Frequency Distribution by Trip Purpose***Percent of Total Trips*

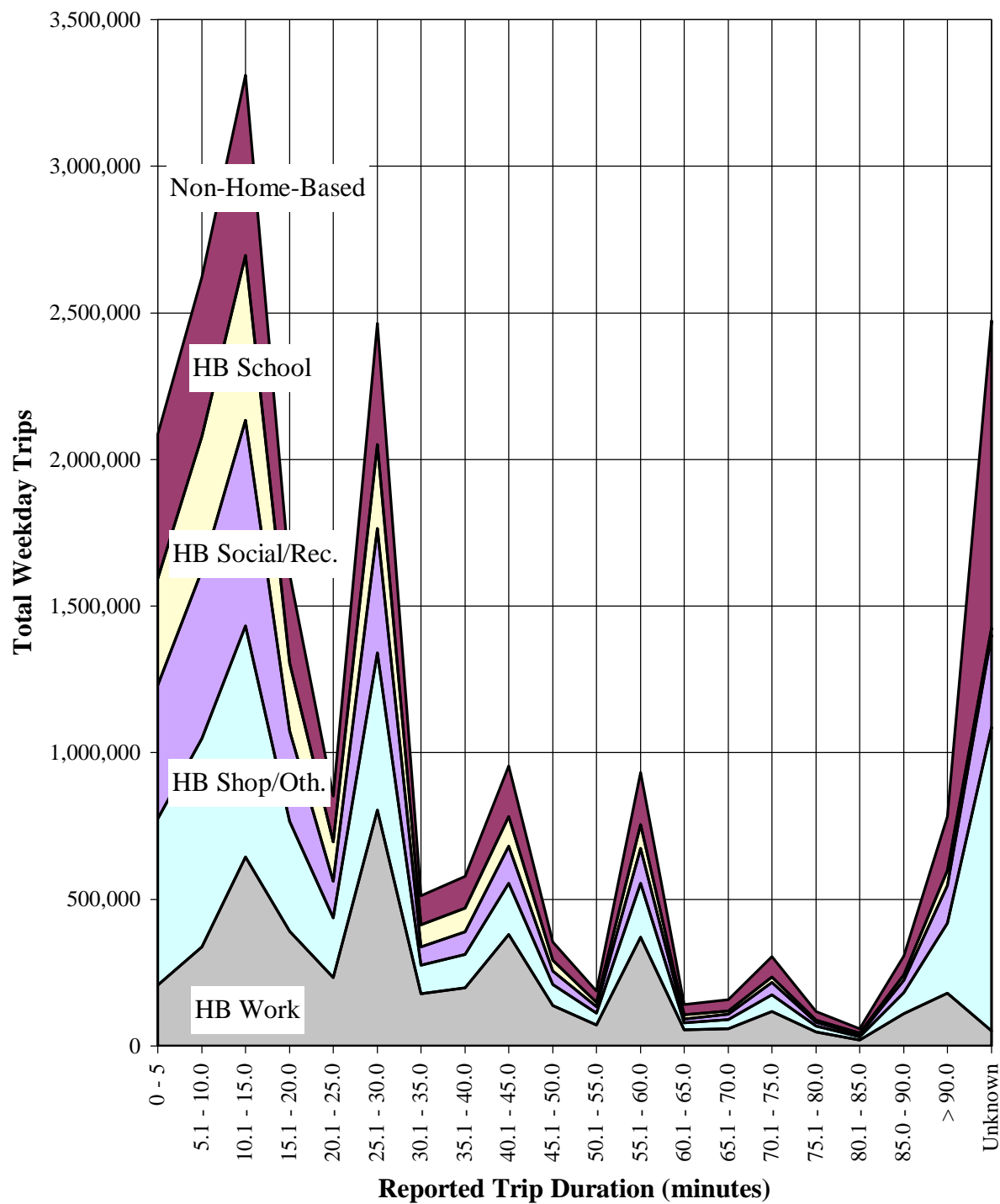
Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
0 - 5 minutes	4.5%	10.6%	12.6%	14.1%	10.5%	10.0%
5.1 - 10.0 minutes	7.3%	13.3%	15.8%	17.7%	11.6%	12.6%
10.1 - 15.0 minutes	14.0%	14.7%	19.4%	21.8%	13.2%	15.9%
15.1 - 20.0 minutes	8.5%	7.0%	8.5%	8.9%	6.5%	7.7%
20.1 - 25.0 minutes	5.1%	3.8%	3.5%	5.2%	3.3%	4.1%
25.1 - 30.0 minutes	17.5%	10.0%	11.7%	11.1%	8.8%	11.8%
30.1 - 35.0 minutes	3.9%	1.8%	1.7%	2.9%	2.1%	2.5%
35.1 - 40.0 minutes	4.3%	2.1%	2.1%	3.2%	2.3%	2.8%
40.1 - 45.0 minutes	8.3%	3.3%	3.5%	4.0%	3.7%	4.6%
45.1 - 50.0 minutes	3.0%	1.3%	1.2%	1.4%	1.3%	1.7%
50.1 - 55.0 minutes	1.6%	0.7%	0.6%	0.6%	0.8%	0.9%
55.1 - 60.0 minutes	8.1%	3.4%	3.3%	3.1%	3.8%	4.5%
60.1 - 65.0 minutes	1.2%	0.5%	0.4%	0.6%	0.7%	0.7%
65.1 - 70.0 minutes	1.3%	0.6%	0.5%	0.4%	0.8%	0.8%
70.1 - 75.0 minutes	2.6%	1.1%	1.2%	0.7%	1.5%	1.5%
75.1 - 80.0 minutes	1.0%	0.4%	0.3%	0.3%	0.6%	0.6%
80.1 - 85.0 minutes	0.4%	0.2%	0.2%	0.2%	0.3%	0.3%
85.0 - 90.0 minutes	2.4%	1.3%	1.1%	0.8%	1.4%	1.5%
> 90.0 minutes	3.9%	4.5%	3.5%	2.0%	4.0%	3.8%
Unknown Duration	1.1%	19.3%	8.7%	0.9%	22.5%	11.9%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table 2.4.2 (continued)****2000 Regional Weekday Trip Duration Frequency Distribution by Trip Purpose***Cumulative Percent of Total Trips*

Travel Time	Home-Based Work	Home-Based Shop (Other)	Home-Based Social/Rec.	Home-Based School	Non-Home- Based	Total Purposes
0 - 5 minutes	4.5%	10.6%	12.6%	14.1%	10.5%	10.0%
5.1 - 10.0 minutes	11.9%	23.9%	28.4%	31.8%	22.2%	22.6%
10.1 - 15.0 minutes	25.9%	38.6%	47.8%	53.6%	35.4%	38.5%
15.1 - 20.0 minutes	34.4%	45.6%	56.4%	62.5%	41.9%	46.3%
20.1 - 25.0 minutes	39.4%	49.4%	59.9%	67.7%	45.2%	50.4%
25.1 - 30.0 minutes	57.0%	59.4%	71.6%	78.9%	54.1%	62.2%
30.1 - 35.0 minutes	60.8%	61.3%	73.3%	81.8%	56.2%	64.7%
35.1 - 40.0 minutes	65.2%	63.4%	75.4%	84.9%	58.5%	67.5%
40.1 - 45.0 minutes	73.4%	66.6%	78.9%	88.9%	62.2%	72.0%
45.1 - 50.0 minutes	76.4%	68.0%	80.1%	90.3%	63.6%	73.7%
50.1 - 55.0 minutes	78.0%	68.7%	80.7%	90.9%	64.4%	74.6%
55.1 - 60.0 minutes	86.1%	72.1%	84.0%	94.0%	68.2%	79.1%
60.1 - 65.0 minutes	87.3%	72.6%	84.4%	94.6%	68.9%	79.8%
65.1 - 70.0 minutes	88.6%	73.2%	84.9%	95.0%	69.8%	80.6%
70.1 - 75.0 minutes	91.1%	74.2%	86.1%	95.7%	71.2%	82.0%
75.1 - 80.0 minutes	92.1%	74.6%	86.4%	96.1%	71.8%	82.6%
80.1 - 85.0 minutes	92.6%	74.8%	86.7%	96.3%	72.2%	82.9%
85.0 - 90.0 minutes	95.0%	76.2%	87.8%	97.1%	73.5%	84.4%
> 90.0 minutes	98.9%	80.7%	91.3%	99.1%	77.5%	88.1%
Unknown Duration	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

**Figure 2.4.1**

**Trip Duration Frequency Distribution - Weekday Trips by Trip Purpose**



**Table 2.4.3****2000 Regional Weekday Trip Duration Frequency Distribution by Travel Mode**

*Number of Regional Trips*

Travel Time	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total Purposes
0 - 5 minutes	986,930	616,069	18,748	23,034	425,621	14,905	2,085,306
5.1 - 10.0 minutes	1,361,264	836,853	16,750	48,630	339,163	19,001	2,621,661
10.1 - 15.0 minutes	1,790,243	1,009,838	37,882	60,992	365,200	46,831	3,310,987
15.1 - 20.0 minutes	939,693	421,527	37,290	29,788	139,724	39,879	1,607,901
20.1 - 25.0 minutes	494,789	209,001	37,517	11,113	76,984	22,892	852,297
25.1 - 30.0 minutes	1,443,124	552,790	185,901	36,014	178,268	67,499	2,463,596
30.1 - 35.0 minutes	305,472	102,075	46,848	5,442	24,207	28,747	512,790
35.1 - 40.0 minutes	329,623	118,692	70,340	3,302	36,884	19,624	578,465
40.1 - 45.0 minutes	553,054	177,133	133,573	13,624	45,610	31,993	954,986
45.1 - 50.0 minutes	208,555	58,937	54,484	3,765	18,323	9,996	354,059
50.1 - 55.0 minutes	110,840	26,140	30,973	1,920	11,304	5,279	186,457
55.1 - 60.0 minutes	519,328	136,298	170,556	12,485	70,023	24,508	933,198
60.1 - 65.0 minutes	73,397	20,525	38,196	651	4,603	3,303	140,675
65.1 - 70.0 minutes	87,049	28,211	28,932	1,179	11,031	1,796	158,197
70.1 - 75.0 minutes	168,433	44,878	64,496	1,882	16,954	7,838	304,480
75.1 - 80.0 minutes	56,115	19,363	32,337	740	6,317	2,674	117,547
80.1 - 85.0 minutes	30,460	9,151	15,690	486	1,566	2,251	59,604
85.0 - 90.0 minutes	144,150	39,547	76,726	5,614	18,815	21,779	306,631
> 90.0 minutes	402,419	148,133	152,769	13,375	49,881	15,767	782,343
Unknown Duration	1,546,247	518,564	29,581	29,926	305,954	42,975	2,473,246
<b>TOTAL</b>	<b>11,551,184</b>	<b>5,093,726</b>	<b>1,279,588</b>	<b>303,961</b>	<b>2,146,433</b>	<b>429,537</b>	<b>20,804,429</b>

**Table 2.4.3 (continued)****2000 Regional Weekday Trip Duration Frequency Distribution by Travel Mode***Percent of Total Trips*

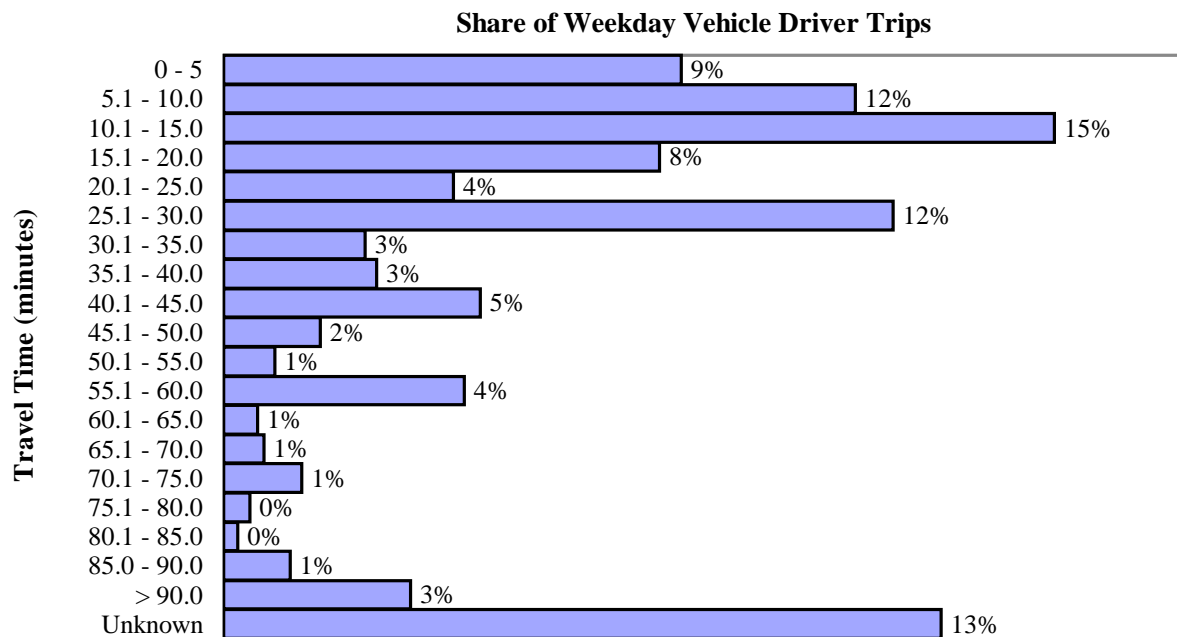
Travel Time	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total Purposes
0 - 5 minutes	8.5%	12.1%	1.5%	7.6%	19.8%	3.5%	10.0%
5.1 - 10.0 minutes	11.8%	16.4%	1.3%	16.0%	15.8%	4.4%	12.6%
10.1 - 15.0 minutes	15.5%	19.8%	3.0%	20.1%	17.0%	10.9%	15.9%
15.1 - 20.0 minutes	8.1%	8.3%	2.9%	9.8%	6.5%	9.3%	7.7%
20.1 - 25.0 minutes	4.3%	4.1%	2.9%	3.7%	3.6%	5.3%	4.1%
25.1 - 30.0 minutes	12.5%	10.9%	14.5%	11.8%	8.3%	15.7%	11.8%
30.1 - 35.0 minutes	2.6%	2.0%	3.7%	1.8%	1.1%	6.7%	2.5%
35.1 - 40.0 minutes	2.9%	2.3%	5.5%	1.1%	1.7%	4.6%	2.8%
40.1 - 45.0 minutes	4.8%	3.5%	10.4%	4.5%	2.1%	7.4%	4.6%
45.1 - 50.0 minutes	1.8%	1.2%	4.3%	1.2%	0.9%	2.3%	1.7%
50.1 - 55.0 minutes	1.0%	0.5%	2.4%	0.6%	0.5%	1.2%	0.9%
55.1 - 60.0 minutes	4.5%	2.7%	13.3%	4.1%	3.3%	5.7%	4.5%
60.1 - 65.0 minutes	0.6%	0.4%	3.0%	0.2%	0.2%	0.8%	0.7%
65.1 - 70.0 minutes	0.8%	0.6%	2.3%	0.4%	0.5%	0.4%	0.8%
70.1 - 75.0 minutes	1.5%	0.9%	5.0%	0.6%	0.8%	1.8%	1.5%
75.1 - 80.0 minutes	0.5%	0.4%	2.5%	0.2%	0.3%	0.6%	0.6%
80.1 - 85.0 minutes	0.3%	0.2%	1.2%	0.2%	0.1%	0.5%	0.3%
85.0 - 90.0 minutes	1.2%	0.8%	6.0%	1.8%	0.9%	5.1%	1.5%
> 90.0 minutes	3.5%	2.9%	11.9%	4.4%	2.3%	3.7%	3.8%
Unknown Duration	13.4%	10.2%	2.3%	9.8%	14.3%	10.0%	11.9%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table 2.4.3 (continued)****2000 Regional Weekday Trip Duration Frequency Distribution by Travel Mode***Cumulative Percent of Total Trips*

Travel Time	Vehicle Driver	Vehicle Passenger	Transit Passenger	Bicycle	Walk	Other	Total Purposes
0 - 5 minutes	8.5%	12.1%	1.5%	7.6%	19.8%	3.5%	10.0%
5.1 - 10.0 minutes	20.3%	28.5%	2.8%	23.6%	35.6%	7.9%	22.6%
10.1 - 15.0 minutes	35.8%	48.3%	5.7%	43.6%	52.6%	18.8%	38.5%
15.1 - 20.0 minutes	44.0%	56.6%	8.6%	53.4%	59.2%	28.1%	46.3%
20.1 - 25.0 minutes	48.2%	60.7%	11.6%	57.1%	62.7%	33.4%	50.4%
25.1 - 30.0 minutes	60.7%	71.6%	26.1%	68.9%	71.0%	49.1%	62.2%
30.1 - 35.0 minutes	63.4%	73.6%	29.8%	70.7%	72.2%	55.8%	64.7%
35.1 - 40.0 minutes	66.2%	75.9%	35.3%	71.8%	73.9%	60.4%	67.5%
40.1 - 45.0 minutes	71.0%	79.4%	45.7%	76.3%	76.0%	67.8%	72.0%
45.1 - 50.0 minutes	72.8%	80.5%	50.0%	77.5%	76.9%	70.2%	73.7%
50.1 - 55.0 minutes	73.8%	81.1%	52.4%	78.2%	77.4%	71.4%	74.6%
55.1 - 60.0 minutes	78.3%	83.7%	65.7%	82.3%	80.7%	77.1%	79.1%
60.1 - 65.0 minutes	78.9%	84.1%	68.7%	82.5%	80.9%	77.9%	79.8%
65.1 - 70.0 minutes	79.7%	84.7%	71.0%	82.9%	81.4%	78.3%	80.6%
70.1 - 75.0 minutes	81.1%	85.6%	76.0%	83.5%	82.2%	80.1%	82.0%
75.1 - 80.0 minutes	81.6%	86.0%	78.5%	83.7%	82.5%	80.7%	82.6%
80.1 - 85.0 minutes	81.9%	86.1%	79.8%	83.9%	82.5%	81.3%	82.9%
85.0 - 90.0 minutes	83.1%	86.9%	85.7%	85.8%	83.4%	86.3%	84.4%
> 90.0 minutes	86.6%	89.8%	97.7%	90.2%	85.7%	90.0%	88.1%
Unknown Duration	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

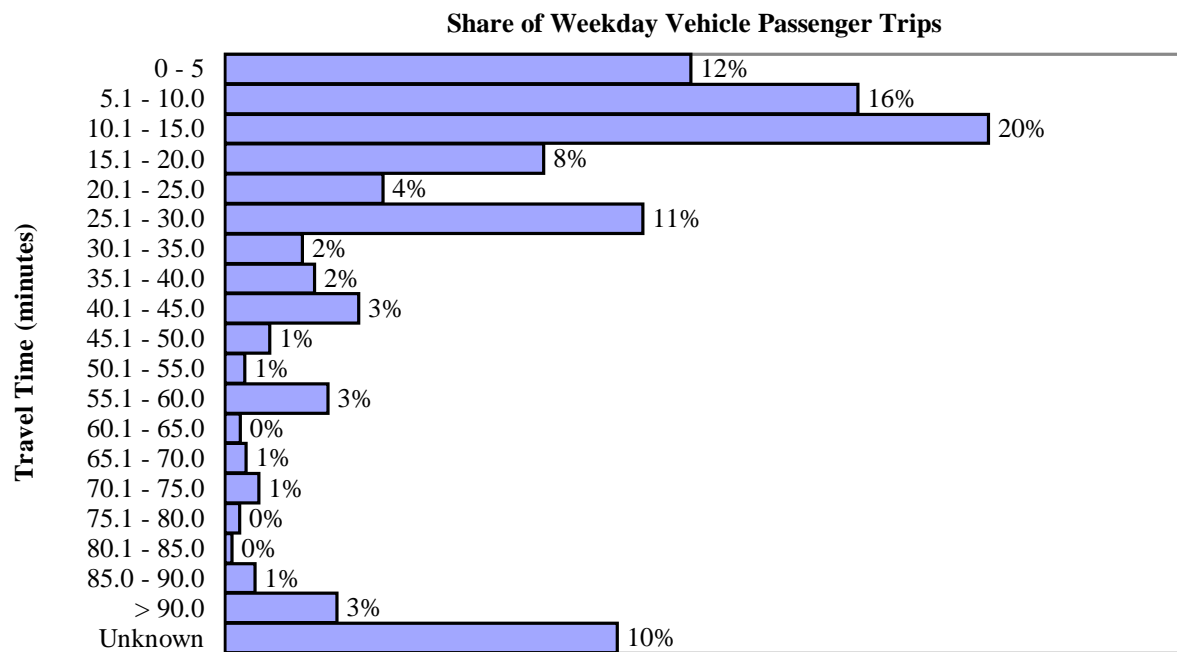
**Figure 2.4.2**

**2000 Regional Weekday Trip Duration Shares for Vehicle Driver Trips**



**Figure 2.4.3**

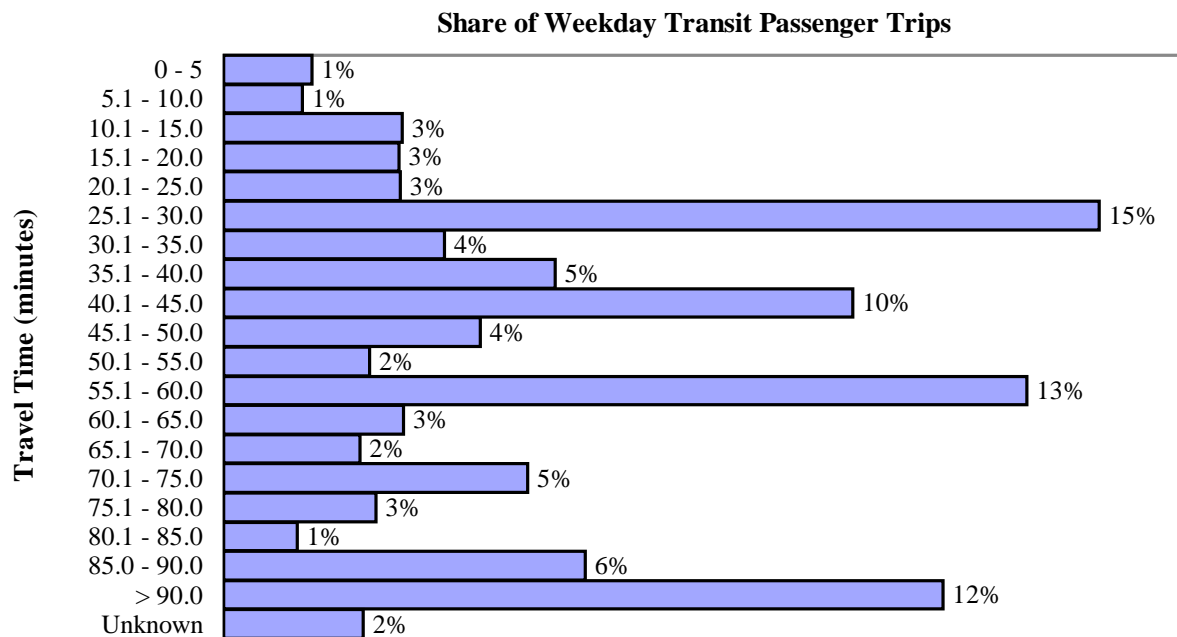
**2000 Regional Weekday Trip Duration Shares for Vehicle Passenger Trips**





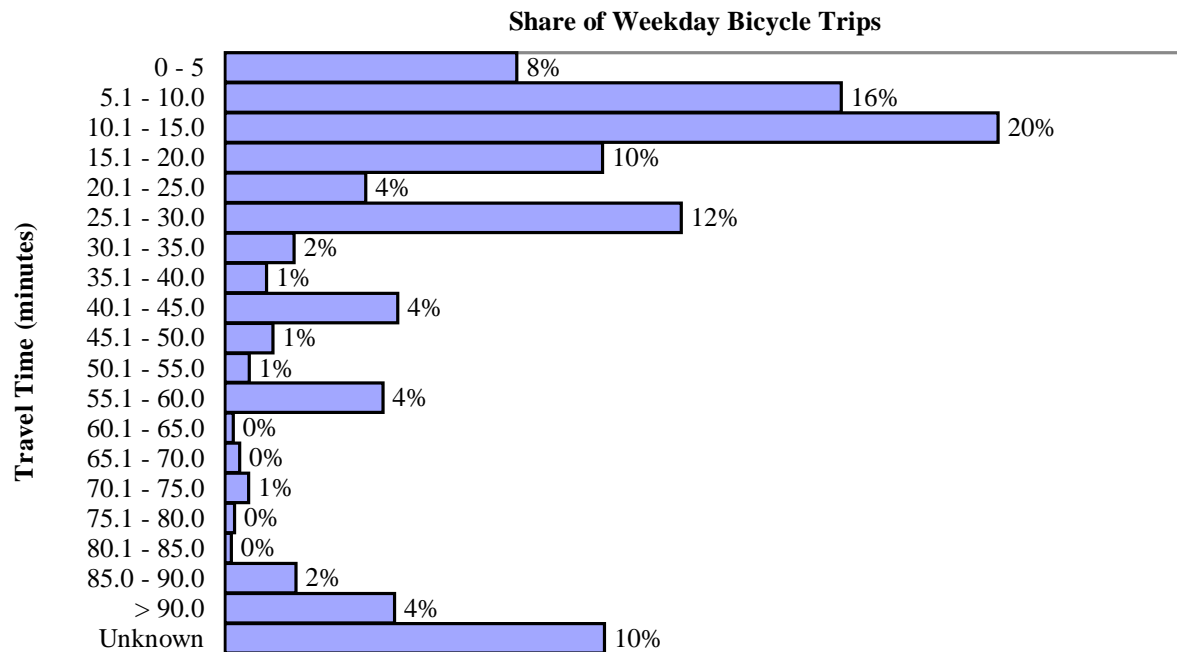
**Figure 2.4.4**

**2000 Regional Weekday Trip Duration Shares for Transit Trips**



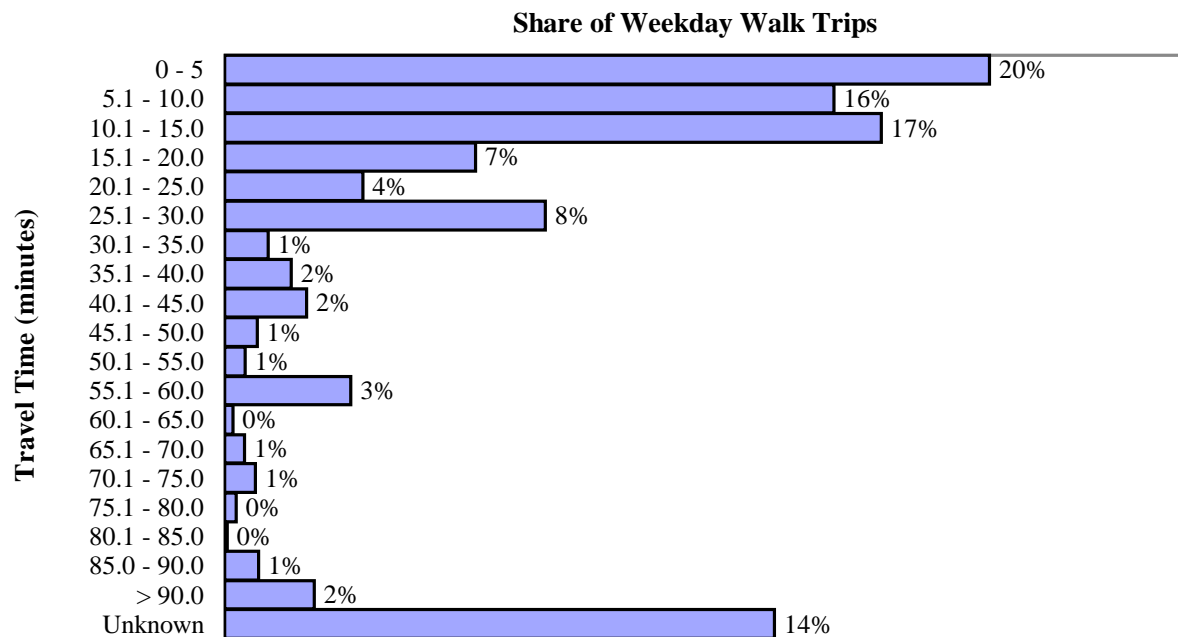
**Figure 2.4.5**

**2000 Regional Weekday Trip Duration Shares for Bicycle Trips**



**Figure 2.4.6**

**2000 Regional Weekday Trip Duration Shares for Walk Trips**



**Figure 2.4.7**

**2000 Regional Weekday Trip Duration Shares for Mode Other**

