Appendix C
Detailed Description of Frequency and Regression Analysis Results

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C.1 Frequency Analyses

All valid data were entered into a Microsoft Access database. Frequency analyses were then conducted using SPSS statistical software. Because the survey represents samples of all trips to and from the sites, there is a degree of error associated with the results for each individual site, which varies depending upon response rates. In essence, small sample sizes produce large rates of error. In addition, cross-tabulated data, where results are sorted based on a selected independent variable, can produce relatively high error rates because the samples are then divided even further. Lastly, the sites surveyed for this effort are a sample of the universe of all similarly sized or similarly functional sites near Metrorail stations throughout the Washington metropolitan area, which probably number in the thousands. Although discussion provided in this Appendix is based on land use type (e.g., high-density office and residential buildings, etc.), the number of surveyed sites within each land use category is not great enough to constitute a statistically significant sample. They do, however, constitute a representative sample and provide enough information to discern notable trends.

C.1.1 Office Sites

Data were collected about the travel characteristics of people who work at the 17 surveyed office sites, which are located at distances from Metrorail stations varying from zero (building situated on or directly next to station exit) to 3,000 feet (see Table C-1). Approximately 9,800 survey forms were distributed, which resulted in an average response rate of about 15 percent. Thirteen of the 17 sites agreed to allow visitor surveys.

The workplace survey requested information about the respondent's trip to his or her workplace, including whether the respondent used Metrorail for any part of the trip. In addition, respondents were asked about midday trips, including which travel modes they used or planned to use for such trips. Respondents who drove to work were asked additional questions regarding whether they had convenient access to transit for their work trip and if their employer provided a parking subsidy. Transit (Metrorail, Metrobus, commuter rail, etc.) users were also asked an additional set of questions about the quality of their walk experience between the location where they disembarked from their transit vehicle and their workplace. Visitors who participated in the interviews were asked questions about how they traveled to the office site, and how they planned to travel to their next destination.

As shown in Table C-2, 25 percent of all respondents across all 17 sites use Metrorail to commute. The average Metrorail use rate among all the surveyed sites (see Table C-2) also was 25 percent. In comparing the commute travel characteristics by site, the Metrorail modal share ranged from a high of 69 percent at 1634 I Street in the Farragut West Station area to a low of eight percent at both 8400 Corporate Drive in the New Carrollton Station area and Ballston One in the Ballston Station area. The Farragut West Station is located in downtown Washington, DC, where parking is limited and expensive and auto congestion is heavy, but Metrorail service is

Table C-1
Characteristics of Surveyed Office Sites

Office Site	Number of Surveys Distributed	Dist. from Station (ft)	Square Footage (1,000s)	Occupancy Rate (%)	Parking Spaces	Estimated Response Rate (%)	Number of Interviews
Ballston Station Area							
3 Ballston Plaza	932	2,000	303	87	753	15	10
Ballston One	267	1,900	230	--	450	5	N/A
Court House Station Area							
2100-2200 Clarendon Blvd.	850	0	584	--	1681[4]	47	61
Courthouse Tower	500	450	165[2]	--	430	4	15
Crystal City Station Area							
Crystal Park IV	1227	2,600[1]	484	89	1,122	6	35
Crystal Square 2	851	850	412	--	1,899[5]	15	60
Farragut West Station Area							
1634 I Street	138	0	69	100	0	51	53
1701 Pennsylvania Avenue	275	1,000	190	90	N/A[6]	32	18
Friendship Heights Station Area							
2 Wisconsin Circle	800	100	235	90	301	11	32
Chevy Chase Plaza	400	700	163	--	225	6	N/A
King Street Station Area							
333 John Carlyle	250	1,400	153	95	280	17	N/A
King Street Station	250	700	784	75	1,159	13	N/A
New Carrollton Station Area							
8400 Corporate Drive	550	3,000	149	--	503	7	17
Silver Spring Station Area							
8380 Colesville Road	228	600	74	93	400	26	51
8720 Georgia Avenue	400	1,600	87	--	129	19	36
Metro Plaza 1	364	200	619	90	442	7	5
U Street/African American Civil War Memorial/Cardozo Station Area							
Reeves Center	1550	950	512[3]	--	255	7	106

Notes: [1] Distance was measured via an indoor route, in this case, via underground corridors. The walking distance may be less if measured partially outdoor.
[2] This figure does not include 84,000 square feet occupied by one tenant that did not participate in the survey. Total square footage for Court House Tower is 249,000.
[3] Includes first floor lobby.
[4] Parking for the 2100-2200 Clarendon Blvd. is shared with other Court House Plaza users and includes 197 spaces for 2200 Clarendon.
[5] Parking for Crystal Square 2 is shared with other buildings in Crystal Square.
[6] Only valet parking is available, and cars valet parked are stacked.
"–": Unknown or unavailable; N/A: Not Applicable.

excellent. Therefore, the Metrorail use rate reported from 1634 I Street is not surprising. The other downtown site, 1701 Pennsylvania Avenue, showed a Metrorail use rate of 56 percent, the second highest among all the sites. When the results of this study are compared to those of the 1989 study, the data shows that Metrorail has increased its mode share in the core and remains competitive with the automobile in its primary markets.

The low Metrorail use rate reported from 8400 Corporate Drive also is not surprising. The New Carrollton Station is located in a suburban office park setting where office buildings are widely spaced, there is ample free parking and the area has good highway access from Routes 50 and 295 and Interstate 495.

In comparing the commuting characteristics at non-downtown sites located in station areas with a mix of uses (i.e., high density office and residential and other commercial establishments), which include Ballston, Court House, Crystal City, Friendship Heights, and Silver Spring, Metrorail ridership ranged from a high of 43 percent at Chevy Chase Plaza to a low of 8 percent at Ballston One. However, these rates might not be indicative of the travel characteristics at these sites because both had response rates amongst the lowest of all the sites. The survey included a second site in both the Ballston and Friendship Heights station areas, and both of these sites (3 Ballston Plaza and 2 Wisconsin Circle) had much higher response rates. The Metrorail mode share at these sites was 17 and 31 percent, respectively (see Table C-2), which may be more reflective of the travel characteristics for office buildings in these areas. The Silver Spring station sites averaged 12 percent Metrorail use rate, the lowest among the five TOD areas surveyed, and ranged from 9 percent at 8380 Colesville Road to 17 percent at Metro Plaza 1. However, Metro Plaza 1 had a very high rate for the Metrobus & Other Transit mode (26 percent) probably because the Silver Spring Station connects with MARC and a large number of bus routes.

Table C-3 sorts mode share at office sites by respondents' jurisdiction of residence. The likelihood of using Metrorail based on residential location was highest for those living in the District, with 44 percent of District respondents reporting that they used Metrorail for their commute trip. District residents made up only 14 percent of all respondents yet accounted for 25 percent of all Metrorail commute trips. This too is not surprising, as transit accessibility in the District is quite high, and on the work end all locations in this study are near rail stations. This suggests that transit accessibility at both the home and work end plays an important role in modal choice decisions.

In illustrating the influence of District residents on overall commuting characteristics, only nine percent of the respondents at 3 Ballston Plaza live in the District, yet they made up 42 percent of this site's total Metrorail users. Without District residents, the Metrorail ridership at 3 Ballston Plaza drops to 11 percent. In addition, thirty percent of respondents at the two Farragut West sites live in the District, and more than 60 percent used Metrorail for their commute trips. However, the pattern of very high Metrorail use among District respondents did not fit the travel characteristics at the Reeves Center where only 16 percent of the DC resident respondents used Metrorail. However, high rates of Metrobus & Other Transit (15 percent) use among District residents who work at the Reeves Center boosted the overall transit use for DC residents to 30

percent. Reeves Center workers who live in Prince George's and Montgomery Counties pulled the site's average Metrorail use to its overall 26 percent.

Table C-2
Mode Share at Office Sites

Office Site	Mode			
	Metrorail[1]	Metrobus & Other Transit[2]	Auto[3]	Walk & Other[4]
Ballston Station Area				
3 Ballston Plaza	17%	1%	79%	2%
Ballston One	8%	0%	85%	8%
Court House Station Area				
2100-2200 Clarendon Blvd.	20%	2%	70%	8%
Courthouse Tower	35%	5%	60%	0%
Crystal City Station Area				
Crystal Park IV	12%	2%	81%	5%
Crystal Square 2	28%	14%	58%	1%
Farragut West Station Area				
1634 I Street	69%	7%	16%	7%
1701 Pennsylvania Avenue	56%	16%	25%	3%
Friendship Heights Station Area				
2 Wisconsin Circle	31%	1%	67%	0%
Chevy Chase Plaza	43%	0%	57%	0%
King Street Station Area				
333 John Carlyle	26%	19%	50%	5%
King Street Station	10%	19%	71%	0%
New Carrollton Station Area				
8400 Corporate Drive	8%	3%	89%	0%
Silver Spring Station Area				
8380 Colesville Road	9%	7%	74%	9%
8720 Georgia Avenue	13%	6%	77%	4%
Metro Plaza 1	17%	26%	43%	13%
U Street/African American Civil War Memorial/Cardozo Station Area				
Reeves Center	26%	9%	58%	7%
Average Among All Sites	**25%**	**9%**	**62%**	**6%**

Notes: [1] Includes multimodal trips that may have involved bus or auto use in combination with Metrorail.
[2] Includes bus only trips, and commuter rail, such as MARC, VRE or Amtrak.
[3] Includes trips as driver and passenger of a private automobile.
[4] Includes cycling and any other form of transportation one may use.

The jurisdiction with the second highest rate of Metrorail use was Prince George's County at 35 percent. Prince George's residents made up 11 percent of all office respondents, yet accounted for 16 percent of all Metrorail commute trips.

At 20 percent, the greatest percentage of workplace survey respondents lives in Fairfax County. These respondents along with those who live elsewhere in Virginia drove or rode in private automobiles at rates much higher than the average for all the sites. For example, at 2100-2200

Table C-3
Mode Share at Office Sites by Location of Residence

Office Site	Mode	Location of Residence									
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery County	Virginia - Other	Maryland - Other
Ballston Station Area											
3 Ballston Plaza	Metrorail	77%	4%	14%	0%	16%	0%	40%	8%	0%	0%
	Metrobus & Other Transit	8%	4%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	15%	81%	86%	100%	84%	0%	60%	92%	100%	100%
	Walk & Other	0%	12%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%
Ballston One	Metrorail	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	83%	100%	0%	0%	0%	100%	100%	100%	100%
	Walk & Other	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	0%	0%	100%	100%	100%	100%
Court House Station Area											
2100-2200 Clarendon Blvd.	Metrorail	59%	7%	27%	33%	17%	25%	34%	56%	22%	25%
	Metrobus & Other Transit	0%	2%	0%	17%	1%	0%	0%	0%	4%	13%
	Auto	41%	71%	70%	50%	78%	75%	66%	33%	71%	63%
	Walk & Other	0%	20%	3%	0%	5%	0%	0%	11%	2%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Courthouse Tower	Metrorail	0%	33%	50%	0%	0%	0%	60%	100%	0%	100%
	Metrobus & Other Transit	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	100%	33%	50%	0%	100%	0%	40%	0%	100%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%

Table C-3
Mode Share at Office Sites by Location of Residence
(Continued)

Office Site	Mode	Location of Residence									
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery County	Virginia - Other	Maryland - Other
Crystal City Station Area											
Crystal Park IV	Metrorail	33%	0%	15%	0%	12%	0%	21%	7%	0%	10%
	Metrobus & Other Transit	0%	0%	8%	0%	0%	0%	0%	0%	6%	10%
	Auto	53%	79%	77%	100%	88%	100%	79%	86%	94%	80%
	Walk & Other	13%	21%	0%	0%	0%	0%	0%	7%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Crystal Square 2	Metrorail	60%	35%	25%	0%	29%	50%	11%	100%	7%	36%
	Metrobus & Other Transit	0%	0%	0%	0%	18%	0%	0%	0%	41%	0%
	Auto	40%	60%	75%	100%	54%	50%	89%	0%	52%	64%
	Walk & Other	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Farragut West Station Area											
1634 I Street	Metrorail	64%	100%	100%	100%	50%	100%	57%	81%	50%	0%
	Metrobus & Other Transit	9%	0%	0%	0%	0%	0%	0%	6%	0%	100%
	Auto	9%	0%	0%	0%	33%	0%	43%	13%	50%	0%
	Walk & Other	18%	0%	0%	0%	17%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1701 Pennsylvania Avenue	Metrorail	61%	31%	15%	0%	38%	0%	54%	100%	8%	0%
	Metrobus & Other Transit	14%	0%	0%	0%	0%	0%	10%	12%	33%	86%
	Auto	18%	33%	50%	0%	54%	0%	20%	12%	33%	14%
	Walk & Other	7%	0%	0%	0%	8%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%

Table C-3
Mode Share at Office Sites by Location of Residence
(Continued)

Office Site	Mode	Location of Residence									
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery County	Virginia - Other	Maryland - Other
Friendship Heights Station Area											
2 Wisconsin Circle	Metrorail	40%	25%	0%	0%	43%	0%	33%	25%	0%	67%
	Metrobus & Other Transit	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	53%	75%	0%	0%	57%	100%	67%	75%	100%	33%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	100%	100%	100%	100%	100%
Chevy Chase Plaza	Metrorail	67%	100%	0%	0%	0%	0%	67%	25%	0%	60%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	33%	0%	100%	0%	100%	0%	33%	75%	0%	40%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	0%	100%
King Street Station Area											
333 John Carlyle	Metrorail	60%	33%	33%	0%	0%	0%	50%	100%	10%	50%
	Metrobus & Other Transit	0%	0%	33%	0%	27%	0%	0%	0%	40%	0%
	Auto	20%	33%	33%	100%	73%	0%	50%	0%	50%	50%
	Walk & Other	20%	33%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%
King Street Station	Metrorail	0%	0%	0%	0%	8%	0%	20%	50%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	17%	0%	0%	0%	60%	50%
	Auto	100%	100%	100%	0%	75%	0%	80%	50%	40%	50%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%

Table C-3
Mode Share at Office Sites by Location of Residence
(Continued)

Office Site	Mode	Location of Residence									
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery County	Virginia - Other	Maryland - Other
New Carrollton Station Area											
8400 Corporate Drive	Metrorail	0%	0%	0%	0%	25%	0%	0%	0%	25%	5%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	13%	0%	0%
	Auto	0%	100%	0%	0%	75%	0%	0%	88%	75%	95%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	0%	100%	0%	0%	100%	0%	0%	100%	100%	100%
Silver Spring Station Area											
8380 Colesville Road	Metrorail	20%	0%	0%	0%	50%	50%	0%	4%	0%	10%
	Metrobus & Other Transit	20%	0%	0%	0%	0%	0%	0%	4%	0%	20%
	Auto	60%	0%	0%	0%	50%	50%	100%	74%	100%	60%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	17%	0%	10%
	Total	100%	0%	0%	0%	100%	100%	100%	100%	100%	100%
8720 Georgia Avenue	Metrorail	50%	0%	0%	0%	0%	0%	31%	5%	0%	0%
	Metrobus & Other Transit	17%	0%	0%	0%	0%	0%	0%	7%	0%	13%
	Auto	33%	0%	0%	0%	100%	0%	69%	84%	100%	75%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	5%	0%	13%
	Total	100%	0%	0%	0%	100%	0%	100%	100%	100%	100%
Metro Plaza 1	Metrorail	100%	0%	100%	0%	0%	0%	29%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	33%	100%	50%
	Auto	0%	100%	0%	0%	0%	0%	71%	33%	0%	50%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%

Table C-3
Mode Share at Office Sites by Location of Residence
(Continued)

Office Site	Mode	Location of Residence									
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery County	Virginia - Other	Maryland - Other
U Street/African American Civil War Memorial/Cardozo Station Area											
Reeves Center	Metrorail	16%	0%	0%	0%	50%	0%	40%	38%	0%	33%
	Metrobus & Other Transit	15%	0%	0%	0%	0%	0%	0%	0%	0%	17%
	Auto	60%	0%	100%	0%	50%	0%	60%	54%	100%	33%
	Walk & Other	9%	0%	0%	0%	0%	0%	0%	8%	0%	17%
	Total	100%	0%	100%	0%	100%	0%	100%	100%	100%	100%
Totals for Office Sites	**Metrorail**	**44%**	**15%**	**26%**	**20%**	**19%**	**31%**	**35%**	**26%**	**12%**	**19%**
	Metrobus & Other Transit	**9%**	**2%**	**3%**	**7%**	**4%**	**0%**	**1%**	**5%**	**17%**	**15%**
	Auto	**41%**	**67%**	**70%**	**73%**	**74%**	**69%**	**65%**	**63%**	**71%**	**64%**
	Walk & Other	**7%**	**16%**	**1%**	**0%**	**3%**	0%	0%	**5%**	**1%**	**3%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Clarendon Blvd., 31 percent of respondents live in Fairfax County, and they used the auto mode at a higher rate (78 percent) than the site's average (70 percent). Interestingly, many of the site's employees who reside in Arlington County (20 percent) used the "walk and other" mode, which is quite sizeable given that 29 percent of the respondents live in Arlington County. Although a few other sites had high "walk and other" mode shares from within the same jurisdiction as the surveyed office site, the sample sizes were too small to make any meaningful comparison.

Table C-4 displays modal share information at office sites organized by age of respondent. Overall, Metrorail use decreased with age. The 19 to 24 age cohort reported the highest overall Metrorail use at 45 percent. The Metrorail use rate for the 35 to 44 age cohort dipped to 20 percent, then jumped to 26 percent for the 45 to 54 age cohort. Although many of the individual sites followed the pattern described above, there were a few exceptions, such as 3 Ballston Plaza, Crystal Park IV, and 2 Wisconsin Circle. Interestingly, the Metrorail use rate at the 2100-2200 Clarendon Blvd. remained at about 20 percent among the four cohorts between ages 25 and 64.

Table C-5 displays mode share information at the office sites organized by the number of vehicles (car, pickup, motorcycle, etc.) available in a respondent's household. Overall, Metrorail use among respondents decreased as the number of vehicles owned in the household increased. Seventy-six percent of respondents whose households have no vehicles (six percent of all respondents) used transit (Metrorail, bus or other type), and 63 percent of those used Metrorail. Conversely, only 16 and 18 percent of respondents whose households have three (15 percent of all respondents) and four or more vehicles (six percent of all respondents), respectively, used Metrorail. The cut-off between above and below average Metrorail use was between one (33 percent of all respondents) and two vehicles (39 percent of all respondents) available in a household. The individual survey sites generally followed this pattern.

Table C-6 distributes mode shares at the office sites by gender of respondents. Overall, Metrorail use did not differ widely between males and females, although females made up 60 percent of total respondents. Males used Metrorail slightly more than females (26 percent vs. 24 percent), and used the auto mode slightly less frequently than females (62 percent vs. 64 percent).

Among the transit users (Metrorail, bus, and commuter rail), 92 percent described their walking experience between their last transit vehicle and their workplace as "short and pleasant" (see Table C-7). Even the small percentage of respondents who used transit to commute to 8400 Corporate Drive at New Carrollton described their walk experience as "short and pleasant," despite a walking distance of more than 1/2 mile (see Table C-1). Similarly, 72 percent of transit users working in Crystal Park 4 also described their walk experience as "short and pleasant," even though the walk is more than 1/2 mile if using Crystal City's underground and indoor walkways. When asked for suggestions to improve their pedestrian experience, 65 percent of responses said "nothing," by far the highest response (see Table C-8). The next highest response (11 percent) suggested that having favorable walk signals would improve their walk experience.

Table C-4
Mode Share at Office Sites by Age of Respondent

Office Site	Mode	Age of Respondent						
		=18	19-24	25-34	35-44	45-54	55-64	65+
Ballston Station Area								
3 Ballston Plaza	Metrorail	0%	50%	26%	6%	13%	17%	25%
	Metrobus & Other Transit	0%	0%	3%	3%	0%	0%	0%
	Auto	0%	50%	72%	89%	83%	78%	75%
	Walk & Other	0%	0%	0%	3%	3%	4%	0%
	Total	0%	100%	100%	100%	100%	100%	100%
Ballston One	Metrorail	0%	0%	20%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	100%	60%	100%	100%	100%	0%
	Walk & Other	0%	0%	20%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	0%
Court House Station Area								
2100-2200 Clarendon Blvd.	Metrorail	0%	33%	22%	19%	20%	21%	0%
	Metrobus & Other Transit	0%	0%	3%	0%	3%	3%	0%
	Auto	0%	67%	60%	71%	74%	68%	80%
	Walk & Other	0%	0%	15%	10%	3%	8%	20%
	Total	0%	100%	100%	100%	100%	100%	100%
Courthouse Tower	Metrorail	0%	100%	33%	25%	50%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	17%	0%	0%
	Auto	0%	0%	67%	75%	33%	100%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	0%
Crystal City Station Area								
Crystal Park IV	Metrorail	0%	14%	8%	5%	17%	29%	0%
	Metrobus & Other Transit	0%	0%	8%	0%	0%	0%	0%
	Auto	0%	71%	81%	89%	79%	64%	0%
	Walk & Other	0%	14%	3%	5%	3%	7%	0%
	Total	0%	100%	100%	100%	100%	100%	0%
Crystal Square 2	Metrorail	0%	25%	25%	34%	38%	0%	50%
	Metrobus & Other Transit	0%	0%	14%	17%	15%	10%	0%
	Auto	0%	75%	61%	48%	45%	90%	50%
	Walk & Other	0%	0%	0%	0%	3%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	100%

Table C-4
Mode Share at Office Sites by Age of Respondent
(Continued)

Office Site	Mode	Age of Respondent						
		=18	19-24	25-34	35-44	45-54	55-64	65+
Farragut West Station Area								
1634 I Street	Metrorail	100%	73%	77%	67%	67%	43%	100%
	Metrobus & Other Transit	0%	18%	8%	0%	7%	14%	0%
	Auto	0%	0%	8%	28%	13%	43%	0%
	Walk & Other	0%	9%	8%	6%	13%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
1701 Pennsylvania Avenue	Metrorail	0%	88%	57%	53%	50%	56%	0%
	Metrobus & Other Transit	0%	13%	9%	6%	35%	11%	50%
	Auto	0%	0%	30%	41%	10%	28%	50%
	Walk & Other	0%	0%	4%	0%	5%	6%	0%
	Total	0%	100%	100%	100%	100%	100%	100%
Friendship Heights Station Area								
2 Wisconsin Circle	Metrorail	0%	33%	46%	12%	31%	33%	50%
	Metrobus & Other Transit	0%	0%	0%	4%	0%	0%	0%
	Auto	0%	67%	54%	85%	69%	67%	50%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	100%
Chevy Chase Plaza	Metrorail	0%	100%	67%	40%	43%	25%	33%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	0%	33%	60%	57%	75%	67%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	100%
King Street Station Area								
333 John Carlyle	Metrorail	0%	100%	38%	7%	33%	27%	0%
	Metrobus & Other Transit	0%	0%	0%	21%	33%	27%	0%
	Auto	0%	0%	63%	64%	33%	36%	0%
	Walk & Other	0%	0%	0%	7%	0%	9%	0%
	Total	0%	100%	100%	100%	100%	100%	0%
King Street Station	Metrorail	0%	0%	0%	29%	8%	0%	0%
	Metrobus & Other Transit	0%	0%	25%	29%	23%	0%	0%
	Auto	0%	100%	75%	43%	69%	100%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	0%

Table C-4
Mode Share at Office Sites by Age of Respondent
(Continued)

Office Site	Mode	Age of Respondent						
		=18	19-24	25-34	35-44	45-54	55-64	65+
New Carrollton Station Area								
8400 Corporate Drive	Metrorail	0%	0%	17%	0%	22%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	11%	0%	0%
	Auto	0%	0%	83%	100%	67%	100%	100%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	0%	0%	100%	100%	100%	100%	100%
Silver Spring Station Area								
8380 Colesville Road	Metrorail	0%	0%	13%	13%	13%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	6%	6%	13%	0%
	Auto	0%	0%	75%	69%	75%	88%	80%
	Walk & Other	0%	0%	13%	13%	6%	0%	20%
	Total	0%	0%	100%	100%	100%	100%	100%
8720 Georgia Avenue	Metrorail	50%	33%	46%	0%	14%	0%	0%
	Metrobus & Other Transit	50%	0%	0%	11%	7%	7%	0%
	Auto	0%	67%	54%	84%	71%	93%	90%
	Walk & Other	0%	0%	0%	5%	7%	0%	10%
	Total	100%	100%	100%	100%	100%	100%	100%
Metro Plaza 1	Metrorail	0%	0%	14%	33%	0%	17%	0%
	Metrobus & Other Transit	0%	0%	29%	17%	25%	33%	0%
	Auto	0%	0%	43%	33%	75%	33%	0%
	Walk & Other	0%	0%	14%	17%	0%	17%	0%
	Total	0%	0%	100%	100%	100%	100%	0%
U Street/African American Civil War Memorial/Cardozo Station Area								
Reeves Center	Metrorail	0%	17%	38%	27%	29%	13%	17%
	Metrobus & Other Transit	0%	17%	6%	0%	14%	13%	0%
	Auto	0%	33%	44%	64%	54%	75%	83%
	Walk & Other	0%	33%	13%	9%	3%	0%	0%
	Total	0%	100%	100%	100%	100%	100%	100%
Totals for All Office Sites	**Metrorail**	**67%**	**45%**	**30%**	**20%**	**26%**	**19%**	**15%**
	Metrobus & Other Transit	**33%**	**6%**	**6%**	**4%**	**8%**	**7%**	**2%**
	Auto	**0%**	**42%**	**58%**	**70%**	**62%**	**70%**	**74%**
	Walk & Other	**0%**	**6%**	**6%**	**6%**	**3%**	**4%**	**9%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table C-5
Mode Share at Office Sites by Number of Household Vehicles

Office Site	Mode	Number of Vehicles				
		None	One	Two	Three	Four Plus
Ballston Station Area						
3 Ballston Plaza	Metrorail	100%	26%	8%	9%	20%
	Metrobus & Other Transit	0%	3%	2%	0%	0%
	Auto	0%	69%	87%	91%	80%
	Walk & Other	0%	3%	3%	0%	0%
	Total	100%	100%	100%	100%	100%
Ballston One	Metrorail	0%	100%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	0%	0%	100%	100%	0%
	Walk & Other	0%	0%	0%	0%	100%
	Total	0%	100%	100%	100%	100%
Court House Station Area						
2100-2200 Clarendon Blvd.	Metrorail	69%	19%	19%	17%	16%
	Metrobus & Other Transit	6%	1%	3%	2%	0%
	Auto	13%	67%	72%	81%	80%
	Walk & Other	13%	13%	6%	0%	4%
	Total	100%	100%	100%	100%	100%
Courthouse Tower	Metrorail	0%	71%	0%	29%	0%
	Metrobus & Other Transit	0%	0%	20%	0%	0%
	Auto	0%	29%	80%	71%	100%
	Walk & Other	0%	0%	0%	0%	0%
	Total	0%	100%	100%	100%	100%
Crystal City Station Area						
Crystal Park IV	Metrorail	50%	9%	13%	5%	0%
	Metrobus & Other Transit	13%	0%	2%	0%	20%
	Auto	13%	84%	83%	95%	80%
	Walk & Other	25%	7%	2%	0%	0%
	Total	100%	100%	100%	100%	100%
Crystal Square 2	Metrorail	100%	41%	19%	24%	22%
	Metrobus & Other Transit	0%	3%	21%	24%	0%
	Auto	0%	57%	59%	53%	78%
	Walk & Other	0%	0%	2%	0%	0%
	Total	100%	100%	100%	100%	100%

TableC-5
Mode Share at Office Sites by Number of Household Vehicles
(Continued)

Office Site	Mode	Number of Vehicles				
		None	One	Two	Three	Four Plus
Farragut West Station Area						
1634 I Street	Metrorail	60%	71%	68%	80%	50%
	Metrobus & Other Transit	10%	4%	14%	0%	0%
	Auto	0%	21%	18%	0%	50%
	Walk & Other	30%	4%	0%	20%	0%
	Total	100%	100%	100%	100%	100%
1701 Pennsylvania Avenue	Metrorail	75%	63%	47%	44%	67%
	Metrobus & Other Transit	25%	9%	13%	22%	33%
	Auto	0%	22%	37%	33%	0%
	Walk & Other	0%	6%	3%	0%	0%
	Total	100%	100%	100%	100%	100%
Friendship Heights Station Area						
2 Wisconsin Circle	Metrorail	75%	30%	31%	20%	40%
	Metrobus & Other Transit	0%	0%	3%	0%	0%
	Auto	25%	70%	67%	80%	60%
	Walk & Other	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
Chevy Chase Plaza	Metrorail	100%	30%	50%	40%	50%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	0%	70%	50%	60%	50%
	Walk & Other	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
King Street Station Area						
333 John Carlyle	Metrorail	50%	30%	24%	18%	0%
	Metrobus & Other Transit	25%	10%	24%	18%	0%
	Auto	25%	50%	53%	55%	0%
	Walk & Other	0%	10%	0%	9%	0%
	Total	100%	100%	100%	100%	0%
King Street Station	Metrorail	100%	11%	6%	0%	0%
	Metrobus & Other Transit	0%	0%	25%	67%	0%
	Auto	0%	89%	69%	33%	100%
	Walk & Other	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%

Table C-5
Mode Share at Office Sites by Number of Household Vehicles
(Continued)

Office Site	Mode	Number of Vehicles				
		None	One	Two	Three	Four Plus
New Carrollton Station Area						
8400 Corporate Drive	Metrorail	100%	25%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	7%	0%	0%
	Auto	0%	75%	93%	100%	100%
	Walk & Other	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
Silver Spring Station Area						
8380 Colesville Road	Metrorail	0%	5%	16%	10%	0%
	Metrobus & Other Transit	33%	0%	11%	0%	33%
	Auto	33%	74%	74%	90%	67%
	Walk & Other	33%	21%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
8720 Georgia Avenue	Metrorail	60%	14%	7%	0%	33%
	Metrobus & Other Transit	0%	7%	7%	8%	0%
	Auto	40%	71%	82%	92%	67%
	Walk & Other	0%	7%	4%	0%	0%
	Total	100%	100%	100%	100%	100%
Metro Plaza 1	Metrorail	0%	33%	9%	0%	0%
	Metrobus & Other Transit	0%	11%	36%	50%	100%
	Auto	0%	33%	55%	50%	0%
	Walk & Other	100%	22%	0%	0%	0%
	Total	100%	100%	100%	100%	100%
U Street/African American Civil War Memorial/Cardozo Station Area						
Reeves Center	Metrorail	42%	20%	30%	17%	0%
	Metrobus & Other Transit	25%	10%	3%	8%	0%
	Auto	17%	63%	67%	67%	75%
	Walk & Other	17%	8%	0%	8%	25%
	Total	100%	100%	100%	100%	100%
Totals for Office Sites	**Metrorail**	**63%**	**28%**	**20%**	**16%**	**18%**
	Metrobus & Other Transit	**13%**	**3%**	**8%**	**6%**	**5%**
	Auto	**11%**	**62%**	**69%**	**76%**	**73%**
	Walk & Other	**13%**	**8%**	**3%**	**1%**	**4%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**

Table C-6
Mode Share by Gender of Respondent

Office Site	Gender	Mode				Total
		Metrorail	Metrobus & Other Transit	Auto	Walk & Other	
Ballston Station Area						
3 Ballston Plaza	Male	17%	0%	79%	5%	100%
	Female	18%	3%	79%	0%	100%
Ballston One	Male	0%	0%	100%	0%	100%
	Female	14%	0%	71%	14%	100%
Court House Station Area						
2100-2200 Clarendon Blvd.	Male	24%	3%	60%	13%	100%
	Female	18%	1%	75%	6%	100%
Courthouse Tower	Male	38%	0%	63%	0%	100%
	Female	33%	8%	58%	0%	100%
Crystal City Station Area						
Crystal Park IV	Male	8%	4%	83%	4%	100%
	Female	15%	1%	80%	4%	100%
Crystal Square 2	Male	26%	14%	59%	1%	100%
	Female	31%	15%	54%	0%	100%
Farragut West Station Area						
1634 I Street	Male	84%	0%	8%	8%	100%
	Female	60%	12%	21%	7%	100%
1701 Pennsylvania Avenue	Male	57%	20%	23%	0%	100%
	Female	54%	14%	27%	5%	100%
Friendship Heights Station Area						
2 Wisconsin Circle	Male	36%	0%	64%	0%	100%
	Female	31%	2%	68%	0%	100%
Chevy Chase Plaza	Male	43%	0%	57%	0%	100%
	Female	44%	0%	56%	0%	100%
Silver Spring Station Area						
8380 Colesville Road	Male	18%	12%	71%	0%	100%
	Female	5%	5%	76%	14%	100%
8720 Georgia Avenue	Male	11%	4%	82%	4%	100%
	Female	15%	8%	73%	4%	100%
Metro Plaza 1	Male	14%	29%	43%	14%	100%
	Female	19%	31%	38%	13%	100%
King Street Station Area						
333 John Carlyle	Male	26%	21%	53%	0%	100%
	Female	24%	19%	48%	10%	100%
King Street Station	Male	9%	45%	45%	0%	100%
	Female	11%	5%	84%	0%	100%
New Carrollton Station Area						
8400 Corporate Drive	Male	9%	5%	86%	0%	100%
	Female	0%	0%	100%	0%	100%

Table C-6
Mode Share by Gender of Respondent
(Continued)

Office Site	Gender	Mode				Total
		Metrorail	Metrobus & Other Transit	Auto	Walk & Other	
U Street/African American Civil War Memorial/Cardozo Station Area						
Reeves Center	Male	28%	9%	59%	4%	100%
	Female	24%	9%	57%	9%	100%
Totals for Office Sites	**Male**	**26%**	**7%**	**62%**	**5%**	**100%**
	Female	**24%**	**6%**	**66%**	**5%**	**100%**

Table C-7
Transit User Opinions of Pedestrian Experience

Office Site	Transit User Pedestrian Experience				
	Short & Pleasant	Short & Unpleasant	Long & Pleasant	Long & Unpleasant	Neutral or No Opinion
Ballston Station Area					
3 Ballston Plaza	92%	4%	4%	0%	0%
Ballston One	0%	0%	0%	0%	0%
Station Total	92%	4%	4%	0%	0%
Court House Station Area					
Arlington County Bldg	94%	0%	2%	0%	3%
Courthouse Tower	88%	13%	0%	0%	0%
Station Total	94%	1%	2%	0%	3%
Crystal City Station Area					
Crystal Park IV	72%	6%	17%	6%	0%
Crystal Square 2	100%	0%	0%	0%	0%
Station Total	93%	1%	4%	1%	0%
Farragut West Station Area					
1634 I St.	96%	0%	4%	0%	0%
1701 Pennsylvania Ave	92%	2%	3%	0%	3%
Station Total	94%	1%	4%	0%	2%
Friendship Heights Station Area					
2 Wisconsin Circle	97%	0%	0%	0%	3%
Chevy Chase Plaza	90%	10%	0%	0%	0%
Station Total	95%	3%	0%	0%	3%
King Street Station Area					
333 John Carlyle	100%	0%	0%	0%	0%
King Street Station	89%	11%	0%	0%	0%
Station Total	96%	4%	0%	0%	0%
New Carrollton Station Area					
8400 Corporate Drive	75%	0%	0%	0%	25%

Table C-7
Transit User Opinions of Pedestrian Experience
(Continued)

Office Site	Transit User Pedestrian Experience				
	Short & Pleasant	Short & Unpleasant	Long & Pleasant	Long & Unpleasant	Neutral or No Opinion
Silver Spring Station Area					
8380 Colesville Rd	89%	11%	0%	0%	0%
8720 Georgia Ave	100%	0%	0%	0%	0%
Metro Plaza 1	73%	9%	9%	0%	9%
Station Total	89%	6%	3%	0%	3%
U Street/African American Civil War Memorial/Cardozo Station Area					
Reeves Center	83%	3%	6%	6%	3%
Totals for Office Sites	**92%**	**2%**	**3%**	**1%**	**2%**

Table C-8
Transit User Suggestions for Improving the Pedestrian Environment

Suggestion	Percent[1]
Nothing	65%
Favorable Walk Signals	11%
More Retail/Eating Establishments Along Route	8%
Wider Sidewalks	7%
More Shade Trees	7%
Pedestrian Bridges Over Busy Streets	6%
Provide Sidewalks	5%
Alternative Pedestrian Routes	4%

Note: [1] Percent of total number of transit users who answered this question. Figures do not add up to 100% as respondents could select more than one answer.

Tables C-9 and C-10 show the frequencies of employer-provided benefits for transit and auto users. Most respondents reported that their employer subsidized their mode of choice. For transit users, 62 percent reported that their employers pay for or subsidize their transit fares. For auto users, 72 percent reported that their employers provide free parking or subsidize their parking costs. Interestingly, very few (8 percent) reported that they participate in government parking subsidy programs in comparison to the transit users. The availability of flexible working hours or telecommuting did not appear to be a factor in modal choice as both groups report similar frequencies.

Table C-9
Employer Benefits Reported by Transit Users

Employer Benefit	Percent[1]
Employer Pays for or Subsidizes Transit Fares	62%
Participates in Government Transit Program	28%
Provides Car for Business During Day	16%
Carpool or Vanpool Program	11%
Flexible Working Hours	43%
Full or Partial Telecommuting	21%

Note: [1] Percent of total number of transit users who answered this question. Figures do not add up to 100% as respondents could select more than one answer.

Table C-10
Employer Benefits Reported by Auto Users

Employer Benefit	Percent[1]
Employer Provides Free or Subsidizes Parking	72%
Participates in Government Parking Program	8%
Subsidizes Automobile Expenses	4%
Provides Car for Business During Day	14%
Carpool or Vanpool Program	18%
Flexible Working Hours	43%
Full or Partial Telecommuting	22%

Note: [1] Percent of total number of auto users who answered this question. Figures do not add up to 100% as respondents could select more than one answer.

For midday trips (see Table C-11), the most popular mode used by office site respondents was auto (43 percent), but at a lower rate than for commuting. The "walk and other" and Metrorail modes were a close second and third at 28 and 25 percent, respectively, of the overall midday trips. The overall averages among the sites were not much different than when calculating overall mode shares from individual respondents (see Table C-11). The sites with high percentages of Metrorail and walk midday trips include: Courthouse Tower, Crystal Square 2, the Farragut West Station sites, the Friendship Heights Station sites, and Metro Plaza 1. Each of these sites is located in an area with ample business, retail and eating establishments, in addition to having good Metrorail access, suggesting that mixed-use environments encourage non-auto travel.

Table C-12 displays midday office trip mode share information organized by trip purpose. The three most common reasons office respondents embarked on midday trips were (1) work- related, (2) meals and snacks, and (3) personal business. Overall, most work-related trips used the auto mode (55 percent), but Metrorail also was used in a fairly large proportion of work-related midday trips (33 percent), which is substantially higher than the Metrorail share for commute

trips. This may suggest that some respondents who drive to work use Metrorail for midday work-related trips. The office sites with well above average Metrorail use for work-related trips include Courthouse Tower, Crystal Square 2, the Farragut West Station sites 2 Wisconsin Circle, 8380 Colesville Road and Metro Plaza 1.

Table C-11
Mode Share for Midday Trips at Office Sites

Office Site	Mode			
	Metrorail	Metrobus & Other Transit	Auto	Walk & Other
Ballston Station Area				
3 Ballston Plaza	9%	9%	68%	14%
Ballston One	36%	0%	45%	18%
Court House Station Area				
2100-2200 Clarendon Blvd.	20%	1%	55%	24%
Courthouse Tower	26%	0%	22%	52%
Crystal City Station Area				
Crystal Park IV	9%	0%	70%	21%
Crystal Square 2	34%	2%	25%	38%
Farragut West Station Area				
1634 I Street	56%	0%	2%	42%
1701 Pennsylvania Avenue	51%	4%	11%	35%
Friendship Heights Station Area				
2 Wisconsin Circle	33%	0%	29%	38%
Chevy Chase Plaza	10%	0%	33%	57%
King Street Station Area				
333 John Carlyle	20%	2%	63%	16%
King Street Station	16%	5%	58%	21%
New Carrollton Station Area				
8400 Corporate Drive	4%	4%	92%	0%
Silver Spring Station Area				
8380 Colesville Road	42%	4%	43%	11%
8720 Georgia Avenue	19%	4%	56%	21%
Metro Plaza 1	26%	9%	20%	46%
U Street/African American Civil War Memorial/Cardozo Station Area				
Reeves Center	19%	8%	48%	25%
Average Among All Sites	**25%**	**3%**	**43%**	**28%**

Trips for meals or snacks generally used the "walk and other" mode (53 percent) (see Table C-12). About half the trips for personal business and shopping used the auto mode (49 and 54 percent, respectively), but a fair amount of these trips also were made by the "walk and other" (28 and 20 percent, respectively), and Metrorail modes (20 and 21 percent, respectively). These mode shares may reflect the mixed land uses of the station areas studied, as well as Metrorail

Table C-12
Mode Share for Midday Trips by Trip Purpose

Office Site	Mode	Trip Purpose						
		Work Related	Personal Business	Meal or Snacks	Shopping	Education	Recreation	Other
Ballston Station Area								
3 Ballston Plaza	Metrorail	16%	3%	8%	0%	0%	50%	0%
	Metrobus & Other Transit	2%	7%	16%	25%	0%	0%	0%
	Auto	73%	80%	50%	63%	100%	0%	100%
	Walk & Other	8%	10%	26%	13%	0%	50%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Ballston One	Metrorail	33%	50%	0%	0%	100%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	50%	50%	50%	0%	0%	50%	0%
	Walk & Other	17%	0%	50%	100%	0%	50%	0%
	Total	100%	100%	100%	100%	100%	100%	0%
Court House Station Area								
2100-2200 Clarendon Blvd.	Metrorail	20%	20%	17%	22%	69%	0%	6%
	Metrobus & Other Transit	1%	2%	0%	0%	0%	0%	0%
	Auto	67%	51%	38%	65%	31%	40%	81%
	Walk & Other	11%	27%	46%	13%	0%	60%	13%
	Total	100%	100%	100%	100%	100%	100%	100%
Courthouse Tower	Metrorail	75%	0%	17%	50%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	25%	25%	50%	0%	0%	0%
	Walk & Other	25%	75%	58%	0%	0%	0%	100%
	Total	100%	100%	100%	100%	0%	0%	100%

Table C-12
Mode Share of Midday Trips by Purpose of Trip
(Continued)

Office Site	Mode	Trip Purpose						
		Work Related	Personal Business	Meal or Snacks	Shopping	Education	Recreation	Other
Crystal City Station Area								
Crystal Park IV	Metrorail	13%	10%	7%	0%	0%	0%	20%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	78%	69%	53%	100%	0%	90%	80%
	Walk & Other	9%	20%	40%	0%	0%	10%	0%
	Total	100%	100%	100%	100%	0%	100%	100%
Crystal Square 2	Metrorail	62%	0%	8%	0%	100%	0%	0%
	Metrobus & Other Transit	4%	0%	0%	0%	0%	0%	0%
	Auto	22%	43%	8%	100%	0%	0%	50%
	Walk & Other	12%	57%	84%	0%	0%	100%	50%
	Total	100%	100%	100%	100%	100%	100%	100%
Farragut West Station Area								
1634 I Street	Metrorail	76%	44%	25%	67%	0%	100%	40%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	13%	0%	0%	0%	0%	0%
	Walk & Other	24%	44%	75%	33%	0%	0%	60%
	Total	100%	100%	100%	100%	0%	100%	100%
1701 Pennsylvania Avenue	Metrorail	69%	43%	21%	67%	0%	50%	100%
	Metrobus & Other Transit	3%	9%	0%	0%	0%	0%	0%
	Auto	10%	13%	0%	33%	100%	50%	0%
	Walk & Other	17%	35%	79%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-12
Mode Share of Midday Trips by Purpose of Trip
(Continued)

Office Site	Mode	Trip Purpose						
		Work Related	Personal Business	Meal or Snacks	Shopping	Education	Recreation	Other
Friendship Heights Station Area								
2 Wisconsin Circle	Metrorail	47%	32%	27%	25%	33%	0%	67%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	37%	41%	14%	38%	33%	33%	0%
	Walk & Other	16%	27%	59%	38%	33%	67%	33%
	Total	100%	100%	100%	100%	100%	100%	100%
Chevy Chase Plaza	Metrorail	0%	20%	14%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	86%	0%	0%	0%	0%	100%	0%
	Walk & Other	14%	80%	86%	100%	0%	0%	0%
	Total	100%	100%	100%	100%	0%	100%	0%
King Street Station Area								
333 John Carlyle	Metrorail	25%	10%	17%	0%	0%	67%	0%
	Metrobus & Other Transit	5%	0%	0%	0%	0%	0%	0%
	Auto	65%	50%	58%	100%	0%	33%	100%
	Walk & Other	5%	40%	25%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	0%	100%	100%
King Street Station	Metrorail	38%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	13%	0%	0%	0%	0%	0%	0%
	Auto	50%	67%	63%	0%	0%	0%	0%
	Walk & Other	0%	33%	38%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	0%	0%	0%

Table C-12
Mode Share of Midday Trips by Purpose of Trip
(Continued)

Office Site	Mode	Trip Purpose						
		Work Related	Personal Business	Meal or Snacks	Shopping	Education	Recreation	Other
New Carrollton Station Area								
8400 Corporate Drive	Metrorail	0%	0%	14%	0%	0%	0%	0%
	Metrobus & Other Transit	17%	0%	0%	0%	0%	0%	0%
	Auto	83%	100%	86%	100%	0%	0%	100%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	0%	0%	100%
Silver Spring Station Area								
8380 Colesville Road	Metrorail	45%	40%	47%	0%	0%	0%	33%
	Metrobus & Other Transit	0%	15%	0%	0%	0%	0%	0%
	Auto	55%	30%	24%	100%	0%	50%	67%
	Walk & Other	0%	15%	29%	0%	0%	50%	0%
	Total	100%	100%	100%	100%	0%	100%	100%
8720 Georgia Avenue	Metrorail	25%	7%	12%	0%	0%	67%	0%
	Metrobus & Other Transit	0%	7%	0%	0%	50%	0%	33%
	Auto	71%	43%	24%	100%	50%	33%	67%
	Walk & Other	4%	43%	65%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Metro Plaza 1	Metrorail	40%	43%	6%	100%	0%	67%	0%
	Metrobus & Other Transit	20%	0%	13%	0%	0%	0%	0%
	Auto	40%	29%	0%	0%	100%	33%	0%
	Walk & Other	0%	29%	81%	0%	0%	0%	100%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-12
Mode Share of Midday Trips by Purpose of Trip
(Continued)

Office Site	Mode	Trip Purpose						
		Work Related	Personal Business	Meal or Snacks	Shopping	Education	Recreation	Other
U Street/African American Civil War Memorial/Cardozo Station Area								
Reeves Center	Metrorail	20%	13%	19%	0%	0%	100%	29%
	Metrobus & Other Transit	11%	4%	7%	0%	33%	0%	0%
	Auto	68%	58%	7%	0%	67%	0%	71%
	Walk & Other	1%	25%	67%	100%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Totals for Office Sites	**Metrorail**	**33%**	**20%**	**16%**	**21%**	**36%**	**26%**	**21%**
	Metrobus & Other Transit	**3%**	**3%**	**3%**	**5%**	**9%**	**0%**	**2%**
	Auto	**55%**	**49%**	**29%**	**54%**	**52%**	**44%**	**63%**
	Walk & Other	**9%**	**28%**	**53%**	**20%**	**3%**	**30%**	**15%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

accessibility. The office sites that had well above average "walk and other" mode share for meal and personal business trips include Crystal Square 2, the Farragut West and Friendship Heights Station sites, 8720 George Avenue, Metro Plaza 1 and Reeves Center.

Table C-13 sorts the midday trip mode shares by destination—either by jurisdiction or within ½ mile of the respondent's workplace. Overall, 56 percent of trips with destinations ½ mile from the workplace site were made using the "walk and other" mode. Also, by removing the ½ mile choice, the jurisdiction where the site is located tended to be the most common destination for midday trips. For sites located in the District, including 2 Wisconsin Circle, which is actually in Montgomery County but is very near the District's Friendship Heights station, 42 percent of midday trips within the District were made on Metrorail. At the other sites, the midday trips made within the same jurisdiction did not approach this average rate.

Among the visitors to the 13 offices sites surveyed, 15 percent used Metrorail (see Table C-14). Overall, the two most popular modes for visitors were auto (60 percent average) and "walk and other" (22 percent average). The stations exhibiting above average Metrorail use among visitors include: 1634 I Street (27 percent), Metro Plaza 1 (43 percent; but low response rate), and Courthouse Tower (43 percent). The sites to which a majority of visitors arrived by auto include: 3 Ballston Plaza (90 percent), 8720 Georgia Avenue (74 percent), 8380 Colesville Road (87 percent), and 8400 Corporate Drive (97 percent). A significant percentage of visitors to Crystal Square 2 (45 percent) and the Farragut West sites (44 percent combined), arrived by the "walk and other" mode, suggesting that many came from other nearby office or business establishments (e.g., copying shops).

Table C-15 distributes the visitors' mode shares by the location from where the respondent was last, and the destination to which the respondent planned to go after visiting the office site. The highest percentage of visitors came from and planned to go to the jurisdiction where the site is located (see Table C-15). The only exceptions were Crystal Park 4 and Metro Plaza 1, but the latter site had very few participating visitors. The visitors to the five District office sites (Farragut West and Friendship Heights station sites, and Reeves Center) made up 78 percent of all District origin/destination visitor trips to all surveyed sites. Among these trips, Metrorail was used 19 percent of the time, but the "walk and other" mode was used more often at 33 percent (auto mode was 36 percent). For the visitor trips solely within Montgomery and Prince George's Counties (for New Carrollton and Silver Spring station sites), visitors overwhelmingly arrived by automobile. For visitor trips solely within Arlington County (for Ballston, Court House and Crystal City station sites), the auto and "walk and other" modes were used most often by visitors.

Table C-13
Mode Share of Midday Trips by Destination

Office Site	Mode	Destination										
		Within 1/2 Mile	DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other
Ballston Station Area												
3 Ballston Plaza	Metrorail	14%	23%	7%	0%	0%	8%	0%	0%	17%	20%	0%
	Metrobus & Other Transit	14%	0%	5%	0%	25%	0%	40%	0%	0%	0%	0%
	Auto	14%	77%	77%	100%	67%	92%	60%	100%	83%	60%	100%
	Walk & Othe	57%	0%	11%	0%	8%	0%	0%	0%	0%	20%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Ballston One	Metrorail	50%	67%	0%	0%	0%	0%	0%	100%	33%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	17%	33%	60%	0%	0%	0%	100%	0%	67%	0%	100%
	Walk & Othe	33%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	0%	0%	100%	100%	100%	**0%**	100%
Court House Station Area												
2100-2200 Clarendon Blvd.	Metrorail	19%	16%	20%	40%	21%	26%	17%	0%	29%	13%	0%
	Metrobus & Other Transit	0%	3%	0%	0%	0%	0%	0%	0%	8%	0%	0%
	Auto	27%	45%	65%	60%	63%	74%	50%	100%	38%	63%	100%
	Walk & Othe	54%	36%	15%	0%	17%	0%	33%	0%	25%	25%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Courthouse Tower	Metrorail	11%	0%	22%	0%	0%	0%	100%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	22%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%
	Walk & Othe	67%	0%	44%	0%	100%	0%	0%	0%	0%	0%	0%
	Total	100%	0%	100%	0%	100%	0%	100%	0%	0%	0%	0%
Crystal City Station Area												
Crystal Park IV	Metrorail	6%	16%	6%	0%	17%	0%	0%	17%	30%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	48%	63%	86%	100%	50%	100%	100%	72%	30%	0%	0%
	Walk & Othe	45%	21%	8%	0%	33%	0%	0%	11%	40%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	**0%**	0%

Table C-13
Mode Share of Midday Trips by Destination
(Continued)

Office Site	Mode	Destination										
		Within 1/2 Mile	DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other
Crystal Square 2	Metrorail	15%	52%	52%	0%	33%	17%	0%	100%	27%	25%	0%
	Metrobus & Other Transit	0%	0%	3%	0%	0%	0%	0%	0%	13%	0%	0%
	Auto	15%	24%	16%	67%	33%	83%	0%	0%	13%	50%	100%
	Walk & Othe	70%	24%	29%	33%	33%	0%	0%	0%	47%	25%	0%
	Total	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%
Farragut West Station Area												
1634 I Street	Metrorail	42%	70%	75%	100%	50%	0%	100%	33%	50%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	0%	25%	0%	0%	100%	0%	0%	0%	0%	0%
	Walk & Othe	58%	30%	0%	0%	50%	0%	0%	67%	50%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%
1701 Pennsylvania Avenue	Metrorail	48%	48%	100%	0%	0%	0%	50%	86%	50%	50%	0%
	Metrobus & Other Transit	0%	3%	0%	0%	0%	0%	50%	0%	0%	0%	0%
	Auto	0%	18%	0%	0%	33%	0%	0%	14%	50%	0%	0%
	Walk & Other	52%	30%	0%	0%	67%	0%	0%	0%	0%	50%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%	0%
Friendship Heights Station Area												
2 Wisconsin Circle	Metrorail	19%	42%	0%	0%	0%	0%	100%	27%	50%	67%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	11%	47%	100%	0%	0%	0%	0%	36%	50%	0%	0%
	Walk & Othe	70%	11%	0%	0%	0%	0%	0%	36%	0%	33%	0%
	Total	100%	100%	100%	0%	0%	0%	100%	100%	100%	100%	0%
Chevy Chase Plaza	Metrorail	0%	29%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	57%	0%	0%	0%	0%	0%	0%	100%	50%	0%
	Walk & Othe	100%	14%	0%	0%	0%	0%	0%	100%	0%	50%	0%
	Total	100%	100%	0%	0%	0%	0%	0%	100%	100%	100%	0%

Table C-13
Mode Share of Midday Trips by Destination
(Continued)

Office Site	Mode	Destination										
		Within 1/2 Mile	DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other
King Street Station Area												
333 John Carlyle	Metrorail	0%	40%	33%	11%	0%	0%	67%	100%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%
	Auto	40%	20%	67%	89%	100%	75%	33%	0%	100%	50%	100%
	Walk & Othe	60%	40%	0%	0%	0%	0%	0%	0%	0%	50%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
King Street Station	Metrorail	0%	50%	0%	0%	0%	0%	0%	0%	100%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%
	Auto	86%	50%	100%	20%	0%	100%	0%	0%	0%	0%	100%
	Walk & Othe	14%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	0%	100%	0%	0%	100%	0%	100%
New Carrollton Station Area												
8400 Corporate Drive	Metrorail	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%
	Auto	100%	100%	0%	0%	100%	0%	0%	100%	100%	100%	50%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	100%	0%	100%	100%	100%	100%
Silver Spring Station Area												
8380 Colesville Road	Metrorail	27%	73%	100%	0%	0%	0%	0%	22%	20%	92%	50%
	Metrobus & Other Transit	7%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%
	Auto	33%	27%	0%	0%	0%	0%	100%	56%	67%	8%	50%
	Walk & Other	33%	0%	0%	0%	0%	0%	0%	11%	13%	0%	0%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%	100%

Table C-13
Mode Share of Midday Trips by Destination
(Continued)

Office Site	Mode	Destination										
		Within 1/2 Mile	DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other
8720 Georgia Avenue	Metrorail	20%	55%	0%	0%	0%	0%	0%	8%	15%	0%	0%
	Metrobus & Other Transit	0%	9%	0%	0%	0%	0%	0%	8%	4%	0%	0%
	Auto	0%	36%	100%	100%	0%	100%	0%	77%	77%	100%	0%
	Walk & Other	80%	0%	0%	0%	0%	0%	0%	8%	4%	0%	0%
	Total	100%	100%	100%	100%	0%	100%	0%	100%	100%	100%	0%
Metro Plaza 1	Metrorail	0%	100%	0%	0%	0%	0%	33%	30%	20%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%
	Auto	0%	0%	0%	0%	0%	0%	33%	30%	40%	0%	0%
	Walk & Other	100%	0%	0%	0%	0%	0%	33%	40%	20%	0%	0%
	Total	100%	100%	0%	0%	0%	0%	100%	100%	100%	0%	0%
U Street/African American Civil War Memorial/Cardozo Station Area												
Reeves Center	Metrorail	14%	27%	0%	0%	0%	0%	14%	17%	0%	0%	0%
	Metrobus & Other Transit	7%	8%	0%	0%	0%	0%	14%	8%	0%	0%	0%
	Auto	36%	58%	100%	0%	0%	100%	43%	58%	100%	0%	0%
	Walk & Other	43%	7%	0%	0%	100%	0%	29%	17%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	100%	0%	0%

Table C-14
Mode Share of Office Visitors

Office Site	Mode			
	Metrorail	Metrobus & Other Transit	Auto	Walk & Other
Ballston Station Area				
3 Ballston Plaza	11%	0%	89%	0%
Court House Station Area				
2100-2200 Clarendon Blvd.	11%	0%	69%	20%
Courthouse Tower	43%	0%	36%	21%
Crystal City Station Area				
Crystal Park IV	6%	7%	67%	20%
Crystal Square 2	14%	6%	35%	45%
Farragut West Station Area				
1634 I Street	27%	0%	30%	43%
1701 Pennsylvania Avenue	9%	3%	40%	49%
Friendship Heights Station Area				
2 Wisconsin Circle	13%	0%	82%	5%
New Carrollton Station Area				
8400 Corporate Drive	0%	0%	97%	3%
Silver Spring Station Area				
8380 Colesville Road	8%	0%	87%	5%
8720 Georgia Avenue	12%	3%	74%	12%
Metro Plaza 1	43%	0%	29%	29%
U Street/African American Civil War Memorial/Cardozo Station Area				
Reeves Center	16%	18%	49%	17%
Average Among All Sites	**16%**	**7%**	**60%**	**22%**

Table C-15
Mode Share of Office Visitor by Location Before and After Visit

Office Site	Mode	Place Before and After										
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Ballston Station Area												
Ballston Plaza	Metrorail	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
	Metrobus & Other Transit		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	100%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%
Court House Station Area												
2100-2200 Clarendon Blvd.	Metrorail	50%	12%	0%	0%	5%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	25%	57%	100%	100%	95%	100%	0%	100%	100%	0%	0%
	Walk & Other	25%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	0%	100%	100%	0%	0%
Courthouse Tower	Metrorail	67%	0%	0%	0%	0%	0%	0%	100%	0%	100%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	33%	54%	0%	0%	100%	0%	0%	0%	0%	0%	0%
	Walk & Other	0%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%
Crystal City Station Area												
Crystal Park IV	Metrorail	43%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	20%
	Auto	14%	13%	67%	100%	93%	0%	100%	100%	100%	100%	80%
	Walk & Other	43%	25%	33%	0%	7%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%
Crystal Square 2	Metrorail	33%	7%	13%	0%	100%	0%	100%	0%	0%	17%	0%
	Metrobus & Other Transit	0%	11%	0%	0%	0%	0%	0%	0%	7%	0%	0%
	Auto	43%	20%	63%	100%	0%	0%	0%	50%	43%	83%	0%
	Walk & Other	24%	63%	25%	0%	0%	0%	0%	50%	50%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	0%

Table C-15
Mode Share of Office Visitor by Location Before and After Visit
(Continued)

Office Site	Mode	Place Before and After										
		DC	Arlington County	Alexandria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgomery	Virginia - Other	Maryland - Other	Other Place
Farragut West Station Area												
1634 I Street	Metrorail	22%	0%	0%	0%	0%	0%	100%	40%	0%	0%	100%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	26%	100%	0%	0%	100%	0%	0%	60%	0%	75%	0%
	Walk & Other	52%	0%	0%	0%	0%	0%	0%	0%	0%	25%	0%
	Total	100%	100%	0%	0%	100%	0%	100%	100%	0%	100%	100%
1701 Pennsylvania Ave	Metrorail	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%
	Auto	18%	100%	100%	0%	0%	100%	100%	100%	0%	0%	0%
	Walk & Other	68%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%
	Total	100%	100%	100%	0%	0%	100%	100%	100%	0%	0%	100%
Friendship Heights Station Area												
2 Wisconsin Circle	Metrorail	33%	0%	0%	0%	0%	0%	20%	5%	0%	0%	25%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	67%	100%	100%	0%	100%	0%	80%	90%	100%	100%	50%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	25%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%	100%
New Carrollton Station Area												
8400 Corporate Drive	Metrorail	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	100%	0%	0%	0%	100%	0%	96%	0%	0%	100%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	0%
	Total	100%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%

Table C-15
Mode Share of Office Visitor by Location Before and After Visit
(Continued)

Office Site	Mode	Place Before and After										
		DC	Arlington County	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Silver Spring Station Area												
8380 Colesville Road	Metrorail	33%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	67%	0%	0%	0%	0%	0%	100%	87%	0%	100%	100%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%
	Total	100%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%
8720 Georgia Avenue	Metrorail	11%	0%	0%	0%	0%	0%	31%	0%	0%	17%	100%
	Metrobus & Other Transit	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	67%	100%	0%	0%	0%	0%	69%	79%	100%	83%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	21%	0%	0%	0%
	Total	100%	100%	0%	0%	0%	0%	100%	100%	100%	100%	100%
Metro Plaza 1	Metrorail	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%
	Total	100%	0%	0%	0%	0%	0%	100%	100%	0%	0%	100%
U Street/African American Civil War Memorial/Cardozo Station Area												
Reeves Center	Metrorail	17%	0%	0%	0%	0%	0%	0%	25%	33%	14%	0%
	Metrobus & Other Transit	21%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%
	Auto	41%	100%	100%	0%	0%	0%	100%	75%	67%	86%	0%
	Walk & Other	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	0%

C.1.2 Residential Sites

The residential survey was designed to capture information about the travel characteristics of the residents at 18 residential sites with more than 8,200 total units located at distances from Metrorail stations varying from 150 to 2,800 feet (see Table C-16). More than 7,800 survey forms were distributed, which resulted in an average response rate of almost 12 percent.

Table C-16
Characteristics of Surveyed Residential Sites

Residential Site	Number of Units	Distance from Station (ft)	Parking Spaces	Est. Response Rate (%)
Ballston Station Area				
Lincoln Towers	714	1,100	1,310	9
Randolph Towers	509	1,250	711	11
Court House Station Area				
Arlington Courthouse Plaza	564	150	1,484[2]	10
Courtland Towers	575	1,200	926	17
Crystal City Station Area				
Crystal Plaza Apartments	540	1,450[1]	1,963[3]	13
Crystal Square Apartments	378	600	1,899[4]	16
Dunn Loring-Merrifield Station Area				
Merrifield Village	706	2,800	--	7
Friendship Heights Station Area				
Highland House West	308	1,350	--	20
North Park Apartments	310	2,700	450	8
Gallery Place-Chinatown Station Area				
Meridian at Gallery Place	462	1,700	--	9
The Lansburgh	385	500	700	10
Grosvenor-Strathmore Station Area				
Avalon at Grosvenor Station	499	1,400	771	12
Grosvenor Park I	399	1,700	--	6
Grosvenor House Apartments	404	2,300	--	25
Stoneybrook	120	2,500	--	28
Silver Spring Station Area				
Georgian Towers	858	1,700	--	7
Twin Towers	345	550	312	11
U-Street/African American Civil War Memorial/Cardozo Station Area				
Summit Roosevelt	196	2,600	--	14

Notes: [1] Distance provided is to the north tower. The distance to the south tower is 1,700 feet.
[2] Parking for Arlington Courthouse Plaza is shared with the Arlington County Building at 2100 Clarendon Blvd.
[3] Parking for Crystal Plaza Apartments is shared with other buildings in Crystal Plaza.
[4] Parking for Crystal Square Apartments is shared with other buildings in Crystal Square.
"—": Unknown or unavailable.

The residential survey requested information about the respondent's trips taken on one weekday from his or her residence. The respondent could identify up to four trips, providing information

about the trip purpose, the general destination (i.e., political jurisdiction) and the mode used. The respondent also could provide the same trip information for up to two other persons who live in the household. Overall, information was obtained for approximately 2,800 trips distributed among the 18 sites.

The mode shares for reported trips generated from the residential sites are provided in Table C-17. Overall, 42 percent of all recorded trips from the residential sites used Metrorail, but other transit modes (which include Metrobus and commuter rail) were not nearly as popular at only three percent of all trips. More than 90 percent of all Metrorail trips included a walk to the station, which is not surprising, as the 18 residential sites are located on average, about 1,500 feet from a station. About six percent of the trips included a bus transfer, and very few trips involved driving and parking at the station or being dropped off by others.

The sites with above-average Metrorail use include: the Ballston sites (Lincoln Towers and Randolph Towers), Crystal Square Apartments, Twin Towers, the Court House sites (Arlington Courthouse Plaza and Courtland Towers), and Meridian @ Gallery Place. The sites exhibiting moderate (average to just below average) Metrorail use include Crystal Plaza Apartments, Avalon at Grosvenor Station, Georgian Towers, Merrifield Village, and the Lansburgh. With the exception of Grosvenor House Apartments, the remaining sites did not have Metrorail shares less than 30 percent. The response rate at Grosvenor House Apartments was among the lowest of all the sites. However, this site is undergoing a conversion from rental to condominium, which may account for the low response rate. Therefore, its low Metrorail use rate may not be indicative of the true travel characteristics of this site. Two nearby sites, Grosvenor Park I and Stoneybrook, had much higher response rates, and both sites reported much higher Metrorail use rates. In addition, the modal characteristics of the Gallery Place/Chinatown sites (Meridian @ Gallery Place and the Lansburgh), which exhibited high numbers of the "walk and other" trips, were quite different from the other sites probably due to of their location in downtown DC.

Work or school trips comprised 46 percent of all reported trips. When sorted by trip purpose (see Table C-18), an overall 55 percent of all work or school trips were conducted using Metrorail. The auto mode (driver or passenger) was used in 34 percent of the work and school trips. In contrast, trips primarily for personal business, meals and shopping had auto mode shares at 58, 53 and 55 percent, respectively. However, Metrorail appeared to be a popular mode of choice for social trips (45 percent).

In general, many of the individual residential sites followed the above pattern. However, the sites showing lower Metrorail use for work and school trips were: Merrifield Village, Highland House West, Grosvenor House Apartments, Grosvenor Park I, The Lansburgh and Summit Roosevelt. With the exception of the latter two District sites, the auto mode comprised relatively large shares for work and school trips at these sites. At the two District sites, "other transit" and "walk and other" modes comprised relatively large shares for these trips.

For personal business, meals and shopping trips, Arlington Courthouse Plaza, Georgian Towers, Twin Towers, Meridian at Gallery Place, The Lansburgh and Summit Roosevelt all exhibited large "walk and other" mode shares. Metrorail use also remained fairly high for these types of trips at these sites as well.

Table C-17
Mode Share for All Trips at Residential Sites

Residential Site	Mode			
	Metrorail[1]	Metrobus & Other Transit[2]	Auto[3]	Walk & Other[4]
Ballston Station Area				
Lincoln Towers	50%	2%	38%	11%
Randolph Towers	45%	1%	40%	15%
Court House Station Area				
Arlington Courthouse Plaza	58%	0%	29%	14%
Courtland Towers	46%	0%	39%	15%
Crystal City Station Area				
Crystal Plaza Apartments	39%	0%	52%	9%
Crystal Square Apartments	53%	0%	42%	5%
Dunn Loring-Merrifield Station Area				
Merrifield Village	37%	1%	53%	9%
Friendship Heights Station Area				
Highland House West	33%	2%	53%	12%
North Park Apartments	32%	2%	57%	9%
Gallery Place-Chinatown Station Area				
Meridian @ Gallery Place	61%	6%	15%	18%
The Lansburgh	39%	6%	21%	34%
Grosvenor-Strathmore Station Area				
Avalon at Grosvenor Station	39%	1%	57%	3%
Grosvenor House Apartments	17%	0%	76%	7%
Grosvenor Park I	30%	2%	64%	5%
Stoneybrook	34%	1%	62%	4%
Silver Spring Station Area				
Georgian Towers	42%	10%	35%	14%
Twin Towers	49%	4%	27%	19%
U-Street/African American Civil War Memorial/Cardozo Station Area				
Summit Roosevelt	31%	20%	22%	27%
Average Among All Sites	**41%**	**4%**	**43%**	**13%**

Notes: [1] Includes multimodal trips that may have involved use of autos and/or buses in combination with Metrorail.
[2] Includes bus only trips, and commuter rail, such as MARC, VRE or Amtrak.
[3] Includes trips as driver and passenger of a private automobile.
[4] Includes cycling and any other form of transportation one may use.

Table C-19 displays mode shares at the surveyed residential sites sorted by the trip destination/jurisdiction. With one exception (Arlington Courthouse Plaza), the most popular destination/jurisdiction for trips made from each individual site was the same jurisdiction as the surveyed site. However, close to 40 percent of all trips from the 18 residential sites ended in the District, and among those trips, 67 percent were made using Metrorail. Trips to other jurisdictions did not come close to this rate of Metrorail use. Eliminating all District trips from the total drops the overall Metrorail use rate from 42 percent to 25 percent. Two of the three District sites (the Lansburgh and Summit Roosevelt) did not follow the District destination pattern even though both sites generated a high number of trips within the District. At the

Table C-18
Mode Share at Residential Sites by Trip Purpose

Residential Site	Mode	Trip Purpose						
		Work or School	Personal Business	Meal or Snacks	Shopping	Recreation	Social	Other
Ballston Station Area								
Lincoln Towers	Metrorail	70%	7%	36%	29%	44%	48%	67%
	Metrobus & Other Transit	2%	0%	0%	4%	0%	0%	0%
	Auto	23%	66%	45%	50%	44%	52%	17%
	Walk & Other	5%	28%	18%	17%	11%	0%	17%
	Total	100%	100%	100%	100%	100%	100%	100%
Randolph Towers	Metrorail	58%	28%	18%	17%	40%	54%	25%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	4%	0%
	Auto	32%	52%	64%	50%	27%	39%	75%
	Walk & Other	10%	20%	18%	33%	33%	4%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Court House Station Area								
Arlington Courthouse Plaza	Metrorail	72%	33%	21%	36%	54%	67%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	22%	56%	29%	9%	46%	33%	0%
	Walk & Other	6%	11%	50%	55%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	0%
Courtland Towers	Metrorail	62%	19%	26%	23%	43%	28%	0%
	Metrobus & Other Transit	1%	0%	0%	0%	0%	0%	0%
	Auto	32%	56%	35%	69%	36%	48%	50%
	Walk & Other	5%	25%	39%	8%	21%	24%	50%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-18
Mode Share at Residential Sites by Trip Purpose
(Continued)

Residential Site	Mode	Trip Purpose						
		Work or School	Personal Business	Meal or Snacks	Shopping	Recreation	Social	Other
Crystal City Station Area								
Crystal Plaza Apartments	Metrorail	60%	29%	28%	17%	15%	40%	50%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	33%	65%	72%	63%	69%	55%	38%
	Walk & Other	7%	6%	0%	21%	15%	5%	13%
	Total	100%	100%	100%	100%	100%	100%	100%
Crystal Square Apartments	Metrorail	68%	39%	43%	43%	50%	42%	50%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	29%	50%	57%	52%	50%	58%	33%
	Walk & Other	3%	11%	0%	4%	0%	0%	17%
	Total	100%	100%	100%	100%	100%	100%	100%
Dunn Loring-Merrifield Station Area								
Merrifield Village	Metrorail	44%	23%	17%	21%	30%	54%	33%
	Metrobus & Other Transit	0%	0%	0%	7%	0%	0%	0%
	Auto	44%	68%	67%	71%	50%	46%	67%
	Walk & Other	11%	9%	17%	0%	20%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Friendship Heights Station Area								
Highland House West	Metrorail	42%	30%	21%	21%	17%	35%	33%
	Metrobus & Other Transit	1%	0%	7%	7%	0%	0%	0%
	Auto	46%	44%	64%	57%	83%	59%	33%
	Walk & Other	10%	26%	7%	14%	0%	6%	33%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-18
Mode Share at Residential Sites by Trip Purpose
(Continued)

Residential Site	Mode	Trip Purpose						
		Work or School	Personal Business	Meal or Snacks	Shopping	Recreation	Social	Other
North Park Apartments	Metrorail	61%	19%	9%	17%	40%	25%	25%
	Metrobus & Other Transit	0%	0%	9%	0%	20%	0%	0%
	Auto	36%	73%	64%	67%	40%	50%	75%
	Walk & Other	4%	8%	18%	17%	0%	25%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Gallery Place-Chinatown Station Area								
Meridian @ Gallery Place	Metrorail	63%	62%	38%	71%	80%	58%	0%
	Metrobus & Other Transit	9%	0%	15%	0%	0%	0%	0%
	Auto	13%	14%	8%	14%	20%	26%	0%
	Walk & Other	16%	24%	38%	14%	0%	16%	0%
	Total	100%	100%	100%	100%	100%	100%	0%
The Lansburgh	Metrorail	37%	67%	43%	31%	33%	40%	20%
	Metrobus & Other Transit	6%	0%	0%	23%	0%	0%	0%
	Auto	25%	17%	0%	23%	17%	10%	40%
	Walk & Other	31%	17%	57%	23%	50%	50%	40%
	Total	100%	100%	100%	100%	100%	100%	100%
Grosvenor-Strathmore Station Area								
Avalon at Grosvenor Station	Metrorail	53%	6%	8%	15%	29%	79%	33%
	Metrobus & Other Transit	1%	3%	0%	0%	0%	0%	0%
	Auto	44%	88%	85%	77%	57%	21%	67%
	Walk & Other	1%	3%	8%	8%	14%		0%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-18
Mode Share at Residential Sites by Trip Purpose
(Continued)

Residential Site	Mode	Trip Purpose						
		Work or School	Personal Business	Meal or Snacks	Shopping	Recreation	Social	Other
Grosvenor House Apartments	Metrorail	28%	11%	0%	29%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%
	Auto	50%	89%	100%	71%	100%	100%	100%
	Walk & Other	22%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Grosvenor Park I	Metrorail	43%	26%	14%	12%	35%	28%	7%
	Metrobus & Other Transit	2%	0%	4%	0%	0%	7%	0%
	Auto	46%	73%	79%	88%	55%	62%	93%
	Walk & Other	9%	1%	4%	0%	10%	3%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Stoneybrook	Metrorail	53%	15%	0%	8%	17%	60%	0%
	Metrobus & Other Transit	1%	0%	0%	8%	0%	0%	0%
	Auto	42%	81%	100%	83%	75%	40%	100%
	Walk & Other	4%	4%	0%	0%	8%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Silver Spring Station Area								
Georgian Towers	Metrorail	48%	26%	27%	36%	13%	33%	64%
	Metrobus & Other Transit	11%	13%	9%	9%	13%	0%	0%
	Auto	32%	39%	36%	36%	63%	33%	29%
	Walk & Other	9%	22%	27%	18%	13%	33%	7%
	Total	100%	100%	100%	100%	100%	100%	100%
Twin Towers	Metrorail	57%	58%	20%	28%	50%	62%	43%
	Metrobus & Other Transit	2%	4%	0%	11%	0%	0%	14%
	Auto	35%	17%	30%	17%	17%	31%	43%
	Walk & Other	7%	21%	50%	44%	33%	8%	0%
	Total	100%	100%	100%	100%	100%	100%	100%

Table C-18
Mode Share at Residential Sites by Trip Purpose
(Continued)

Residential Site	Mode	Trip Purpose						
		Work or School	Personal Business	Meal or Snacks	Shopping	Recreation	Social	Other
U-Street/African American Civil War Memorial/Cardozo Station Area								
Summit Roosevelt	Metrorail	28%	36%	22%	25%	50%	44%	0%
	Metrobus & Other Transit	36%	7%	0%	0%	0%	11%	0%
	Auto	26%	21%	11%	25%	25%	0%	100%
	Walk & Other	10%	36%	67%	50%	25%	44%	0%
	Total	100%	100%	100%	100%	100%	100%	100%
Totals of Residential Sites	**Metrorail**	**55%**	**28%**	**22%**	**25%**	**36%**	**45%**	**35%**
	Metrobus & Other Transit	**3%**	**1%**	**3%**	**4%**	**1%**	**2%**	**1%**
	Auto	**34%**	**58%**	**53%**	**55%**	**49%**	**43%**	**55%**
	Walk & Other	**8%**	**13%**	**22%**	**16%**	**14%**	**10%**	**9%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table C-19
Mode Share at Residential Sites by Trip Destination

Residential Site	Mode	Destination										
		DC	Arlington	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Ballston Station Area												
Lincoln Towers	Metrorail	88%	39%	50%	33%	0%	0%	100%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	2%	0%	0%	0%	0%	0%	0%	17%	0%	0%
	Auto	12%	37%	50%	67%	94%	100%		100%	83%	100%	0%
	Walk & Other	0%	22%	0%	0%	6%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
Randolph Towers	Metrorail	85%	22%	44%	0%	6%	0%	100%	0%	25%	100%	0%
	Metrobus & Other Transit	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%
	Auto	13%	49%	44%	75%	88%	0%	0%	0%	75%	0%	0%
	Walk & Other	2%	29%	11%	0%	6%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	0%	100%	100%	0%
Court House Station Area												
Arlington Courthouse Plaza	Metrorail	82%	41%	33%	0%	11%	0%	33%	100%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	15%	26%	67%	0%	89%	100%	67%	0%	100%	100%	0%
	Walk & Other	3%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%	0%
Courtland Towers	Metrorail	76%	28%	56%	0%	6%	0%	0%	67%	0%	0%	50%
	Metrobus & Other Transit	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%	0%
	Auto	16%	48%	44%	100%	83%	100%	100%	33%	100%	100%	50%
	Walk & Other	8%	25%	0%	0%	6%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Crystal City Station Area												
Crystal Plaza Apartments	Metrorail	70%	35%	9%	0%	20%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	26%	52%	87%	0%	80%	0%	0%	100%	100%	100%	0%
	Walk & Other	4%	13%	4%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	0%	100%	100%	100%	0%

Table C-19
Mode Share at Residential Sites by Trip Destination
(Continued)

Residential Site	Mode	Destination										
		DC	Arlington	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Crystal Square Apartments	Metrorail	77%	49%	17%	33%	0%	0%	0%	75%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	23%	41%	83%	67%	80%	100%	0%	25%	100%	0%	0%
	Walk & Other	0%	10%	0%	0%	20%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	0%	100%	100%	0%	0%
Dunn Loring-Merrifield Station Area												
Merrifield Village	Metrorail	73%	50%	0%	0%	12%	33%	100%	0%	20%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
	Auto	8%	50%	100%	100%	81%	67%	0%	100%	80%	100%	100%
	Walk & Other	20%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Friendship Heights Station Area												
Highland House West	Metrorail	63%	27%	0%	0%	14%	0%	100%	18%	0%	50%	0%
	Metrobus & Other Transit	2%	3%	0%	0%	0%	0%	0%	2%	0%	0%	0%
	Auto	27%	53%	100%	0%	86%	0%	0%	70%	0%	50%	0%
	Walk & Other	8%	17%	0%	0%	0%	0%	0%	10%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	0%	100%	0%
North Park Apartments	Metrorail	52%	100%	0%	0%	0%	0%	0%	24%	0%	0%	0%
	Metrobus & Other Transit	3%	0%	0%	0%	0%	0%	50%		0%	0%	0%
	Auto	28%	0%	0%	0%	100%	100%	50%	71%	0%	0%	0%
	Walk & Other	17%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	100%	100%	100%	0%	0%	0%
Gallery Place-Chinatown Station Area												
Meridian @ Gallery Place	Metrorail	62%	75%	100%	0%	40%	0%	0%	75%	0%	0%	0%
	Metrobus & Other Transit	7%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%
	Auto	8%	25%	0%	0%	60%	100%	100%	25%	0%	67%	0%
	Walk & Other	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	0%

Table C-19
Mode Share at Residential Sites by Trip Destination
(Continued)

Residential Site	Mode	Destination										
		DC	Arlington	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
The Lansburgh	Metrorail	42%	33%	0%	0%	0%	0%	0%	50%	33%	0%	0%
	Metrobus & Other Transit	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	Auto	15%	67%	100%	0%	0%	0%	0%	25%	33%	100%	0%
	Walk & Other	37%	0%	0%	0%	0%	0%	0%	25%	33%	0%	0%
	Total	100%	100%	100%	0%	0%	0%	0%	100%	100%	100%	100%
Grosvenor-Strathmore Station Area												
Avalon at Grosvenor Station	Metrorail	83%	100%	0%	0%	0%	0%	0%	22%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	33%	1%	0%	0%	0%
	Auto	15%	0%	100%	0%	100%	0%	67%	73%	0%	100%	0%
	Walk & Other	2%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	0%	100%	0%
Grosvenor House Apartments	Metrorail	40%	67%	0%	0%	0%	0%	0%	8%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	50%	33%	0%	0%	100%	0%	100%	85%	0%	0%	0%
	Walk & Other	10%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	0%	100%	100%	0%	0%	0%
Grosvenor Park I	Metrorail	62%	11%	67%	100%	25%	0%	17%	13%	0%	0%	0%
	Metrobus & Other Transit	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	24%	89%	33%	0%	75%	0%	83%	83%	75%	100%	100%
	Walk & Other	9%	0%	0%	0%	0%	0%	0%	4%	25%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%
Stoneybrook	Metrorail	78%	100%	0%	0%	0%	0%	33%	14%	100%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	33%	1%	0%	0%	0%
	Auto	17%	0%	0%	0%	100%	0%	33%	82%	0%	67%	0%
	Walk & Other	5%	0%	0%	0%	0%	0%	0%	2%	0%	33%	0%
	Total	100%	100%	0%	0%	100%	0%	100%	100%	100%	100%	0%

Table C-19
Mode Share at Residential Sites Trip Destination
(Continued)

Residential Site	Mode	Destination										
		DC	Arlington	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Silver Spring Station Area												
Georgian Towers	Metrorail	67%	0%	100%	0%	0%	0%	20%	18%	0%	0%	50%
	Metrobus & Other Transit	4%	0%	0%	0%	0%	0%	10%	15%	0%	33%	0%
	Auto	26%	0%	0%	0%	100%	0%	60%	43%	0%	33%	50%
	Walk & Other	3%	0%	0%	0%	0%	0%	10%	24%	0%	33%	0%
	Total	100%	0%	100%	0%	100%	0%	100%	100%	0%	100%	100%
Twin Towers	Metrorail	71%	100%	0%	100%	0%	0%	100%	31%	0%	33%	0%
	Metrobus & Other Transit	2%	0%	0%	0%	0%	0%	0%	4%	0%	17%	0%
	Auto	22%	0%	0%	0%	100%	0%	0%	28%	0%	42%	0%
	Walk & Other	4%	0%	0%	0%	0%	0%	0%	37%	0%	8%	100%
	Total	100%	100%	0%	100%	100%	0%	100%	100%	0%	100%	100%
U-Street/African American Civil War Memorial/Cardozo Station Area												
Summit Roosevelt	Metrorail	27%	50%	0%	0%	29%	100%	100%	100%	0%	0%	0%
	Metrobus & Other Transit	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	14%	50%	0%	0%	71%	0%	0%	0%	100%	100%	0%
	Walk & Other	34%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	100%	100%	100%	100%	100%	0%
Totals for Residential Sites	**Metrorail**	**67%**	**36%**	**33%**	**23%**	**10%**	**18%**	**33%**	**19%**	**12%**	**11%**	**20%**
	Metrobus & Other Transit	**4%**	**1%**	**0%**	**4%**	**1%**	**0%**	**10%**	**2%**	**3%**	**7%**	**10%**
	Auto	**18%**	**43%**	**64%**	**73%**	**84%**	**82%**	**54%**	**69%**	**79%**	**77%**	**50%**
	Walk & Other	**12%**	**20%**	**3%**	**0%**	**4%**	**0%**	**3%**	**9%**	**6%**	**5%**	**20%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Lansburgh, a significant number of these trips were made using the "walk and other" mode, and at the Summit Roosevelt, a significant number of these trips were made using the "Metrobus & Other Transit" mode.

Montgomery and Arlington Counties were the second and third most popular destinations overall with 24 and 21 percent of total trips, respectively, likely because 14 of the 18 residential sites are located in these locations--eight in Montgomery County and six in Arlington County. Thirty-six percent of trips to and within Arlington County were on Metrorail, but only 19 percent of trips to and within Montgomery County were on Metrorail. The reason for this disparity is that 35 percent of trips from the Arlington County sites to destinations within Arlington were made using Metrorail, whereas only 18 percent of trips from the Montgomery County sites to destinations within Montgomery County were made using Metrorail. However, if the trip is to the District, 67 percent of the Montgomery County generated trips were made using Metrorail.

Table C-20 sorts the mode shares at the residential sites by number of vehicles owned in the household. As Table C-20 shows, the fewer vehicles a household owns, the more likely trips generated from that household use transit, and the less likely the trip is made by automobile. However, because the surveyed sites are high-density residences, they tended to have lower rates of vehicle ownership. Households responding to the survey reported an average of about one vehicle. In contrast, the average number of vehicles per household reported by workplace survey respondents was 1.8, almost twice as much. Households owning zero to two vehicles accounted for 97 percent of the total number of trips recorded from residential sites. Households owning just one vehicle accounted for 57 percent of the total. The mode shares for one-vehicle households were 40 percent Metrorail, 2 percent for other transit, 47 percent auto, and 11 percent for the "walk and other" mode. The overall residential Metrorail and auto mode shares summarized in the bottom of Table C-17 are slightly below and above these one-vehicle averages, respectively. The Metrorail mode share for zero-vehicle and two-vehicle households were 66 and 30 percent, respectively. In addition, 20 percent of the trips from zero-vehicle households were made by the "walk and other" mode, as opposed to only 7 percent from the two vehicle households. This pattern— as the number of household vehicles increases, the auto mode increases its share of trips at the expense of the other modes—is generally followed among the sites, with a few exceptions. However, the cross tabulations decreased the sample sizes of the higher-vehicle households, which were relatively few in number to begin with; thus, these results are not robust enough to draw definitive conclusions about the transit characteristics of these types of household.

Table C-20
Mode Share at Residential Sites by Household Vehicle Ownership

Residential Site	Mode	Number of Vehicles Owned				
		None	One	Two	Three	Four +
Ballston Station Area						
Lincoln Towers	Metrorail	75%	45%	50%	60%	0%
	Metrobus & Other Transit	4%	0%	10%	0%	0%
	Auto	0%	47%	25%	40%	0%
	Walk & Other	21%	8%	15%	0%	0%
	Total	100%	100%	100%	100%	0%
Randolph Towers	Metrorail	55%	47%	38%	33%	17%
	Metrobus & Other Transit	9%	0%	0%	0%	0%
	Auto	9%	38%	50%	67%	67%
	Walk & Other	27%	15%	12%	0%	17%
	Total	100%	100%	100%	100%	100%
Court House Station Area						
Arlington Courthouse Plaza	Metrorail	50%	59%	50%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	22%	29%	50%	0%	0%
	Walk & Other	28%	12%	0%	0%	0%
	Total	100%	100%	100%	0%	0%
Courtland Towers	Metrorail	89%	45%	36%	40%	0%
	Metrobus & Other Transit	0%	1%	0%	0%	0%
	Auto	6%	40%	46%	60%	0%
	Walk & Other	6%	14%	19%	0%	0%
	Total	100%	100%	100%	100%	0%
Crystal City Station Area						
Crystal Plaza Apartments	Metrorail	72%	41%	22%	18%	11%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	24%	45%	73%	73%	89%
	Walk & Other	3%	13%	5%	9%	0%
	Total	100%	100%	100%	100%	100%
Crystal Square Apartments	Metrorail	95%	41%	33%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	3%	55%	52%	0%	0%
	Walk & Other	3%	4%	14%	0%	0%
	Total	100%	100%	100%	0%	0%
Dunn Loring-Merrifield Station Area						
Merrifield Village	Metrorail	100%	35%	31%	33%	0%
	Metrobus & Other Transit	0%	2%	0%	0%	0%
	Auto	0%	45%	66%	67%	0%
	Walk & Other	0%	18%	3%	0%	0%
	Total	100%	100%	100%	100%	0%

Table C-20
Mode Share at Residential Sites by Household Vehicle Ownership
(Continued)

Residential Site	Mode	Number of Vehicles Owned				
		None	One	Two	Three	Four +
Friendship Heights Station Area						
Highland House West	Metrorail	54%	34%	15%	67%	0%
	Metrobus & Other Transit	0%	3%	0%	0%	0%
	Auto	4%	58%	79%	0%	0%
	Walk & Other	43%	5%	5%	33%	0%
	Total	100%	100%	100%	100%	0%
North Park Apartments	Metrorail	61%	24%	26%	0%	0%
	Metrobus & Other Transit	0%	2%	3%	0%	0%
	Auto	17%	66%	68%	0%	0%
	Walk & Other	22%	7%	3%	0%	0%
	Total	100%	100%	100%	0%	0%
Gallery Place-Chinatown Station Area						
Meridian @ Gallery Place	Metrorail	76%	53%	57%	0%	0%
	Metrobus & Other Transit	2%	13%	0%	0%	0%
	Auto	0%	15%	32%	0%	0%
	Walk & Other	21%	20%	11%	0%	0%
	Total	100%	100%	100%	0%	0%
The Lansburgh	Metrorail	34%	42%	50%	0%	0%
	Metrobus & Other Transit	11%	3%	0%	0%	0%
	Auto	16%	25%	17%	0%	0%
	Walk & Other	39%	30%	33%	0%	0%
	Total	100%	100%	100%	0%	0%
Grosvenor-Strathmore Station Area						
Avalon at Grosvenor Station	Metrorail	75%	41%	38%	0%	0%
	Metrobus & Other Transit	13%	1%	0%	0%	0%
	Auto	13%	56%	57%	100%	0%
	Walk & Other	0%	2%	5%	0%	0%
	Total	100%	100%	100%	100%	0%
Grosvenor House Apartments	Metrorail	50%	15%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%
	Auto	10%	85%	100%	0%	100%
	Walk & Other	40%	0%	0%	0%	0%
	Total	100%	100%	100%	0%	100%
Grosvenor Park I	Metrorail	76%	24%	19%	30%	0%
	Metrobus & Other Transit	12%	0%	0%	0%	0%
	Auto	0%	70%	79%	70%	100%
	Walk & Other	12%	5%	2%	0%	0%
	Total	100%	100%	100%	100%	100%

Table C-20
Mode Share at Residential Sites by Household Vehicle Ownership
(Continued)

Residential Site	Mode	Number of Vehicles Owned				
		None	One	Two	Three	Four +
Stoneybrook	Metrorail	0%	57%	24%	0%	0%
	Metrobus & Other Transit	0%	2%	1%	0%	0%
	Auto	0%	31%	74%	0%	0%
	Walk & Other	0%	10%	1%	0%	0%
	Total	0%	100%	100%	0%	0%
Silver Spring Station Area						
Georgian Towers	Metrorail	64%	32%	20%	100%	0%
	Metrobus & Other Transit	14%	9%	0%	0%	0%
	Auto	3%	51%	70%	0%	83%
	Walk & Other	20%	9%	10%	0%	17%
	Total	100%	100%	100%	100%	100%
Twin Towers	Metrorail	61%	41%	50%	20%	0%
	Metrobus & Other Transit	7%	2%	0%	0%	0%
	Auto	7%	41%	50%	80%	0%
	Walk & Other	25%	17%	0%	0%	0%
	Total	100%	100%	100%	100%	0%
U-Street/African American Civil War Memorial/Cardozo Station Area						
Summit Roosevelt	Metrorail	50%	20%	25%	0%	0%
	Metrobus & Other Transit	29%	13%	25%	0%	0%
	Auto	7%	31%	25%	0%	0%
	Walk & Other	14%	36%	25%	0%	0%
	Total	100%	100%	100%	0%	0%
Totals for Residential Sites	**Metrorail**	**66%**	**40%**	**30%**	**29%**	**5%**
	Metrobus & Other Transit	**7%**	**2%**	**1%**	**0%**	**0%**
	Auto	**7%**	**47%**	**62%**	**68%**	**86%**
	Walk & Other	**20%**	**11%**	**7%**	**3%**	**8%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**

C.1.3 Retail Sites

Data were collected from almost 1,300 people who patronize or work at the five retail sites located at distances from Metrorail stations varying from zero (entrance to site located directly next to station exit) to 1,700 feet (see Table C-21). Those who participated in the interviews were asked questions about where they came from, why they came to the retail site, how they traveled to the site, and how and where they planned to travel to their next destination.

Table C-21
Characteristics of Surveyed Retail Sites

Retail Site	Square Footage (1000s)	Distance from Station (ft)	Parking Spaces	Number of Interviews
Ballston Station Area				
Ballston Common	490	800	3,450	412
Crystal City Station Area				
Crystal Plaza Shops	108	1,200	1,963[1]	229
The Underground	151	0	1,899[2]	268
Silver Spring Station Area				
Silver Spring Neighborhood Center	N/A	1,700	--	184
U Street/African American Civil War Memorial/Cardozo Station Area				
U St Main Street	N/A	0	N/A	196

Notes: [1] Parking for Crystal Plaza Shops is shared with other buildings in Crystal Plaza.
[2] Parking for The Underground is shared with other buildings in Crystal Square.
"–": Unknown or unavailable.
N/A: Not Applicable.

Table C-22 displays the mode shares of the surveyed retail sites. Overall, 28 percent of the retail site patrons and employees used Metrorail, and the auto and walk/other modes were not much different at 36 and 28 percent, respectively. However, this type of aggregate information may not provide an accurate description of typical travel characteristics at retail sites near Metrorail stations because retail establishments vary widely and can include anything from a big box retailer to a small mom-and-pop general store. Because there is a much greater variation among retail uses than in office or residential uses, retail site travel characteristics are more affected by the internal characteristics of the site (e.g., What does it sell? Who is its clientele?) than those of office or residential sites. Of the sites surveyed, the Crystal City sites are the most similar, and therefore, their results are comparable. As shown on Table C-22, both sites exhibited similar modal share characteristics. The U Street Main Street site exhibited the highest Metrorail use among the retail sites.

Table C-23 displays mode shares at the surveyed retail sites organized by trip purpose. At Ballston Common, a fairly high percentage of those who visited for personal business and other reasons (many employees) used Metrorail, despite the site having ample, nominally priced parking. The high percentage of visitors (48 percent) who arrived for dining purposes used the "walk and other" mode, strongly suggesting that many of them are workers or residents from

nearby buildings. With many nearby office and residential buildings, the Crystal City sites also had high percentages of dining visitors who arrived by the "walk and other" mode (62 and 64 percent). Also, since both Crystal City retail sites are part of the pedestrian network, a very high percentage of respondents reported "personal business" as the purpose of the visit, suggesting that they are workers or visitors walking between office and other buildings.

Table C-22
Mode Shares at Retail Sites

Retail Site	Mode			
	Metrorail[1]	Metrobus & Other Transit[2]	Auto[3]	Walk & Other[4]
Ballston Station Area				
Ballston Common	23%	7%	43%	27%
Crystal City Station Area				
Crystal Plaza Shops	36%	5%	24%	36%
The Underground	31%	6%	27%	35%
Silver Spring Station Area				
Silver Spring Neighborhood Center	9%	10%	67%	14%
U Street/African American Civil War Memorial/Cardozo Station Area				
U St Main Street	44%	13%	19%	25%
Average Among All Sites	**29%**	**8%**	**36%**	**27%**

Notes: [1] Includes multimodal trips that may have involved auto and/or bus use in combination with Metrorail.
[2] Includes bus only trips, and commuter rail, such as MARC, VRE or Amtrak.
[3] Includes trips as driver and passenger of a private automobile.
[4] Includes cycling and any other form of transportation one may use.

Table C-24 sorts the mode shares at the surveyed retail sites by the jurisdiction from which the respondents came, and the jurisdiction to which they planned to go after visiting the site. For all five sites, the most popular origin and destination for trips to and from each individual retail site was the jurisdiction of the site's location. At Ballston Common and the two Crystal City sites, the largest modal share among visitors coming from and going to Arlington County (all three sites are located in Arlington County) was the "walk and other" mode, suggesting large patronage from nearby office workers and residents. The Silver Spring Neighborhood Center did not exhibit this pattern. Its visitors from within Montgomery County overwhelming drove or rode in an automobile (68 percent) to travel to and from the site. U Street Main Street exhibited a different pattern; its largest customer base, those arriving from or going to a District location, tended to use Metrorail (44 percent).

Table C-23
Mode Shares at Retail Sites by Trip Purpose

Retail Site	Mode	Purpose of Visit			
		Shopping	Dining	Personal Business	Other
Ballston Station Area					
Ballston Common	Metrorail	18%	15%	31%	33%
	Metrobus & Other Transit	6%	7%	4%	9%
	Auto	42%	29%	57%	36%
	Walk & Other	33%	49%	8%	22%
	Total	100%	100%	100%	100%
Crystal City Station Area					
Crystal Plaza Shops	Metrorail	3%	17%	52%	36%
	Metrobus & Other Transit	0%	0%	7%	2%
	Auto	27%	21%	30%	11%
	Walk & Other	70%	62%	11%	52%
	Total	100%	100%	100%	100%
The Underground	Metrorail	22%	13%	40%	21%
	Metrobus & Other Transit	0%	5%	10%	0%
	Auto	14%	18%	38%	7%
	Walk & Other	65%	64%	11%	71%
	Total	100%	100%	100%	100%
Silver Spring Station Area					
Silver Spring Neighborhood Center	Metrorail	8%	5%	20%	11%
	Metrobus & Other Transit	19%	0%	20%	6%
	Auto	63%	91%	46%	56%
	Walk & Other	10%	5%	14%	28%
	Total	100%	100%	100%	100%
U Street/African American Civil War Memorial/Cardozo Station Area					
U St Main Street	Metrorail	32%	31%	52%	48%
	Metrobus & Other Transit	16%	0%	13%	10%
	Auto	21%	23%	26%	10%
	Walk & Other	32%	46%	9%	31%
	Total	100%	100%	100%	100%
Totals for Retail Sites	**Metrorail**	**17%**	**13%**	**43%**	**34%**
	Metrobus & Other Transit	**8%**	**3%**	**9%**	**6%**
	Auto	**38%**	**44%**	**38%**	**25%**
	Walk & Other	**37%**	**40%**	**10%**	**35%**
	Total	**100%**	**100%**	**100%**	**100%**

Table C-24
Mode Shares at Retail Sites by Location Before and After Visit

Retail Site	Mode	Place Before and After										
		DC	Arlington	Alexandria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgomery	Virginia - Other	Maryland - Other	Other Place
Ballston Station Area												
Ballston Common	Metrorail	65%	10%	15%	52%	14%	13%	43%	40%	30%	46%	11%
	Metrobus & Other Transit	2%	9%	10%	17%	9%	6%	0%	12%	0%	0%	0%
	Auto	27%	36%	73%	26%	72%	56%	52%	44%	70%	46%	74%
	Walk & Other	6%	46%	3%	4%	5%	25%	5%	4%	0%	8%	16%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Crystal City Station Area												
Crystal Plaza Shops	Metrorail	53%	9%	51%	0%	54%	0%	59%	71%	50%	60%	38%
	Metrobus & Other Transit	1%	1%	0%	0%	17%	0%	0%	0%	40%	0%	25%
	Auto	41%	8%	41%	100%	27%	100%	37%	29%	0%	40%	25%
	Walk & Other	5%	81%	7%	0%	2%	0%	4%	0%	10%	0%	13%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Crystal City Shops North (The Underground)	Metrorail	55%	19%	31%	0%	20%	100%	58%	61%	14%	40%	13%
	Metrobus & Other Transit	4%	3%	4%	0%	20%	0%	2%	0%	35%	0%	0%
	Auto	33%	13%	62%	0%	60%	0%	36%	28%	46%	40%	0%
	Walk & Other	8%	66%	4%	0%	0%	0%	4%	11%	5%	20%	88%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	100%	100%	100%
Silver Spring Station Area												
Silver Spring Neighborhood Center	Metrorail	19%	0%	0%	0%	0%	0%	19%	5%	0%	0%	0%
	Other Transit	19%	0%	0%	0%	0%	0%	12%	6%	0%	19%	0%
	Auto	61%	0%	100%	0%	100%	0%	69%	68%	100%	81%	75%
	Walk & Other	1%	0%	0%	0%	0%	0%	0%	21%	0%	0%	25%
	Total	100%	0%	100%	0%	100%	0%	100%	100%	100%	100%	100%
U Street/African American Civil War Memorial/Cardozo Station Area												
U St Main Street	Metrorail	44%	67%	100%	0%	0%	0%	73%	39%	0%	20%	25%
	Metrobus & Other Transit	14%	0%	0%	0%	0%	0%	15%	22%	0%	40%	0%
	Auto	14%	0%	0%	100%	100%	0%	8%	39%	100%	40%	50%
	Walk & Other	28%	33%	0%	0%	0%	0%	4%	0%	0%	0%	25%
	Total	100%	100%	100%	100%	100%	0%	100%	100%	100%	100%	100%

C.1.4 Hotel Sites

Data were collected from 167 guests and visitors at five hotels located at distances from Metrorail stations varying from zero (entrance to site located directly next to station exit) to 4,100 feet (see Table C-25). Eighty-three, or 50 percent, of the respondents identified themselves as overnight guests staying at the hotel, 20 of whom also said that they were at the hotel to attend a meeting or conference. Sixty-one, or 37 percent, of the respondents identified themselves as visitors attending a conference or meeting at the hotel, however, it is likely that many of them also were overnight guests because when asked, "Have you been outside this hotel earlier today?" 38 stated yes, suggesting that at least the remaining 23 were overnight guests. If they were all indeed visitors attending a meeting or conference, each of them would have answered yes. The remaining respondents said that they were at the hotel for other reasons.

Table C-25
Characteristics of Surveyed Hotel Sites

Hotel Site	Hotel Rooms	Distance from Station (ft)	Parking Spaces	Number of Interviews
Ballston Station Area				
Holiday Inn Arlington	221	1,700	225	13
Crystal City Station Area				
Crystal Gateway Marriott	700	550[1]	780	37
Crystal Hyatt Regency	685	4,100[2]	750	27
Friendship Heights Station Area				
Embassy Suites Chevy Chase Pavilion	198	0	--	49
Silver Spring Station Area				
Holiday Inn Silver Spring	242	1,800	250	49

Notes: [1] Via tunnel under Jefferson Davis Highway.
[2] Part of the distance was measured via indoor corridors.
"—": Unknown or unavailable.

Table C-26 displays the mode shares for the surveyed hotel sites. Overall, 30 percent of all trips to and from the hotels used Metrorail. The auto and walk/other modes were not much different at 31 and 34 percent, respectively. The averages for the hotels deviated three and seven percentage points from the shares calculated for the Metrorail and auto modes, respectively. This is likely due to the limited sample size and the wide variation in modal characteristics among the sites. The two Crystal City hotels (Hyatt Regency and Marriott) and Embassy Suites had similar mode share characteristics: strong Metrorail use, with high percentages of trips made by the "walk and other" mode reflecting the urban amenities (shops and eateries) of their surrounding environments. A fairly large percentage of trips (11 percent) were made by taxi, which is captured under the "walk and other" mode.

Table C-26
Mode Shares at Hotel Sites

Hotel Site	Mode			
	Metrorail[1]	Metrobus & Other Transit[2]	Auto[3]	Walk & Other[4]
Ballston Station Area				
Holiday Inn Arlington	17%	0%	67%	17%
Crystal City Station Area				
Crystal Gateway Marriott	27%	7%	24%	42%
Crystal Hyatt Regency	48%	3%	21%	28%
Friendship Heights Station Area				
Embassy Suites Chevy Chase Pavilion	33%	5%	25%	36%
Silver Spring Station Area				
Holiday Inn Silver Spring	8%	4%	54%	33%
Average Among All Sites	**27%**	**4%**	**38%**	**31%**

Notes: [1] Includes multimodal trips that may have involved use of autos and/or buses in combination with Metrorail.
[2] Includes bus only trips, and commuter rail, such as MARC, VRE or Amtrak.
[3] Includes trips as driver and passenger of a private automobile.
[4] Includes cycling and any other form of transportation one may use.

Table C-27 displays mode-share information for the surveyed hotels distributed by trip purpose. As noted in Appendix B.4, the interviews were generally conducted between the hours of 7:00 a.m. to 10:00 a.m. Therefore, among the overnight guests, only nine people reported leaving the hotel, and most of these people returned by the "walk and other" mode, suggesting that they did not travel far from the hotel. However, most of the guests interviewed planned to leave the hotel later in the day, and 40 percent of them planned to use Metrorail. The auto mode was generally not a popular choice, at only 24 percent for these guests. Among the guests staying at the hotels for meetings or a conference, most were also planning to leave the hotel later in the day, but many of them were not planning to travel far, based on the expected 56 percent "walk and other" mode choice. The visitors (non-overnight guests) who were at the hotel for meetings or a conference tended to arrive by auto (53 percent). The modal shares for trips away from the hotels for this group as provided in Table C-27 are probably not indicative of the travel characteristics of the market due to the possibility that many of them were mis-categorized (see above).

Respondents reported the District as the origin and destination for 40 percent of the hotel trips, by far the highest among all political jurisdictions of the metropolitan area. For these trips, respondents chose Metrorail 43 percent of the time (see Table C-28). Although only 20 trips were recorded to or from "other place," 40 percent of these trips were made on Metrorail.

Table C-27
Overall Mode Share at Hotel Sites by Purpose

Trip Direction	Mode	Reason for Being at the Hotel				
		Overnight Guest	Meeting or Conference	Guest and Conference	Meals or Eating	Other
To Hotel	Metrorail	22%	19%	0%	67%	25%
	Other Transit	0%	3%	0%	0%	0%
	Auto	0%	53%	0%	33%	42%
	Walk & Other	78%	25%	100%	0%	33%
	Total	100%	100%	100%	100%	100%
From Hotel	Metrorail	40%	26%	22%	100%	32%
	Other Transit	3%	9%	6%	0%	5%
	Auto	24%	33%	17%	0%	37%
	Walk & Other	33%	32%	56%	0%	26%
	Total	100%	100%	100%	100%	100%

C.1.5 Entertainment (Movie Theater) Sites

Data were collected from 974 moviegoers at the four entertainment (movie theater) sites located at distances from Metrorail stations varying from 700 to 2,200 feet (see Table C-29). Similar to the questions asked at retail sites, moviegoers who participated in the interviews were asked questions about where they came from, how they traveled to the site, and how and where they planned to travel to their next destination.

As noted in Table C-30, 20 percent of moviegoers used Metrorail. The Regal Cinemas and AFI Silver Theater drew the highest percentages of Metrorail riders (35 and 39 percent, respectively) among the four sites. As with the hotel sites, the site-level averages for the movie theater sites deviated relatively widely from the modal shares calculated from individual responses. Again, this is likely due to the limited sample size and the wide variation in modal characteristics among the sites. For example, at 12 percent, Metrorail use at the AMC Hoffman was well below the average. This site's ample free parking and good highway access (located near the Beltway) probably led to the low rate, despite its proximity to a Metrorail station.

Table C-31 provides mode-share information at the surveyed movie theater sites sorted by the jurisdiction from which they arrived and the jurisdiction to which they planned to go after the movie. About 50 percent of moviegoers at Regal Cinemas came from or would later go to Arlington County, and many of these people walked (36 percent), which is consistent with the results from Ballston Common (Regal Cinemas is located in the Ballston Common mall). The next highest group at this location came from the District, and most used Metrorail (82 percent).

The AFI Silver Theater and Majestic 20 drew most of their moviegoers from the District and Montgomery County. Moviegoers from the District were more likely to use Metrorail (57 percent at AFI and 39 percent at Majestic 20). The Montgomery County moviegoers were likely to use the auto mode (63 and 56 percent) or the walk/other mode (24 and 20 percent).

Table C-28
Mode Shares at Hotel Sites by Location Before and After

Hotel Site (Metro Station)	Mode	Place Before and After										
		DC	Arling-ton	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Holiday Inn Arlington (Ballston)	Metrorail	100%	18%	0%	0%	0%	0%	0%	0%	0%	0%	40%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	0%	82%	100%	0%	100%	0%	0%	0%	0%	0%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	60%
	Total	100%	100%	100%	0%	100%	0%	0%	0%	0%	0%	100%
Crystal Gateway Marriott (Crystal City)	Metrorail	25%	29%	50%	0%	0%	0%	0%	0%	29%	67%	0%
	Metrobus & Other Transit	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Auto	15%	18%	50%	100%	100%	0%	0%	0%	43%	33%	0%
	Walk & Other	45%	53%	0%	0%	0%	0%	0%	0%	29%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	0%	0%	100%	100%	0%
Crystal Hyatt Regency (Crystal City)	Metrorail	54%	67%	0%	0%	0%	0%	0%	0%	0%	100%	50%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%
	Auto	31%	33%	0%	0%	0%	0%	100%	0%	0%	0%	25%
	Walk & Other	15%	0%	0%	0%	0%	0%	0%	100%	50%	0%	25%
	Total	100%	100%	0%	0%	0%	0%	100%	100%	100%	100%	100%
Embassy Suites Chevy Chase Pavilion (Silver Spring)	Metrorail	47%	0%	0%	0%	0%	100%	50%	33%	0%	12%	29%
	Metrobus & Other Transit	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%
	Auto	16%	67%	100%	0%	0%	0%	50%	56%	100%	27%	0%
	Walk & Other	31%	33%	0%	0%	0%	0%	0%	11%	0%	62%	43%
	Total	100%	100%	100%	0%	0%	100%	100%	100%	100%	100%	100%
Holiday Inn Silver Spring (Silver Spring)	Metrorail	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%
	Auto	17%	0%	0%	0%	100%	0%	0%	62%	0%	100%	0%
	Walk & Other	50%	100%	0%	0%	0%	0%	0%	31%	0%	0%	0%
	Total	100%	100%	0%	0%	100%	0%	0%	100%	0%	100%	0%
Totals for Hotel Sites	**Metrorail**	**43%**	**26%**	**17%**	**0%**	**0%**	**100%**	**33%**	**13%**	**20%**	**19%**	**40%**
	Metrobus & Other Transit	**7%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**4%**	**10%**	**0%**	**10%**
	Auto	**18%**	**43%**	**83%**	**100%**	**100%**	**0%**	**67%**	**54%**	**40%**	**29%**	**10%**
	Walk & Other	**33%**	**31%**	**0%**	**0%**	**0%**	**0%**	**0%**	**29%**	**30%**	**52%**	**40%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table C-29
Characteristics of Surveyed Entertainment (Movie Theater) Sites

Movie Theater Site	Screens	Distance from Station (ft)	Parking Spaces	Number of Interviews
Ballston Station Area				
Regal Cinemas	12	800	3,450[1]	55
Eisenhower Station Area				
AMC Hoffman Theaters	22	700	--	377
Silver Spring Station Area				
AFI Silver Theater	3	1400	--	91
The Majestic 20	20	2200	--	451

Notes: [1] Parking is shared with Ballston Common.
"—": Unknown or unavailable.

Table C-30
Mode Share at Entertainment (Movie Theater) Sites

Movie Theater Site	Mode			
	Metrorail[1]	Metrobus & Other Transit[2]	Auto[3]	Walk & Other[4]
Ballston Station Area				
Regal Cinemas	35%	9%	39%	17%
Eisenhower Avenue Station Area				
AMC Hoffman Theaters	12%	1%	83%	4%
Silver Spring Station Area				
AFI Silver Theater	39%	2%	49%	10%
The Majestic 20	19%	13%	56%	13%
Average Among All Sites	**26%**	**6%**	**57%**	**11%**

Notes: [1] Includes multimodal trips that may have involved use of autos and/or buses in combination with Metrorail.
[2] Includes bus only trips, and commuter rail, such as MARC, VRE or Amtrak.
[3] Includes trips as driver and passenger of a private automobile.
[4] Includes cycling and any other form of transportation one may use.

The AMC Hoffman drew a large percentage of its customers from Alexandria, but also attracted fairly large percentages from the District, Fairfax County and Arlington County. The Alexandria, Fairfax County and Arlington County customers used the auto mode (84, 86 and 94 percent, respectively) more than any other mode. In comparison, 48 percent of the District customers used Metrorail to travel to and from the AMC Hoffman. Without the District customers, AMC Hoffman's Metrorail mode share drops to 8 percent.

Table C-31
Mode Shares at Entertainment (Movie Theater) Sites by Location Before and After

Movie Theater Site	Mode	Location Before and After										
		DC	Arlington	Alexan-dria	Falls Church	Fairfax County	Fairfax City	Prince George's	Montgo-mery	Virginia - Other	Maryland - Other	Other Place
Ballston Station Area												
Regal Cinemas	Metrorail	82%	17%	40%	50%	0%	0%	100%	0%	0%	0%	0%
	Metrobus & Other Transit	0%	11%	0%	13%	67%	0%	0%	0%	0%	0%	0%
	Auto	18%	36%	60%	38%	33%	0%	0%	0%	100%	0%	100%
	Walk & Other	0%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	0%	100%	0%	100%	0%	100%
Eisenhower Avenue Station Area												
AMC Hoffman Theaters	Metrorail	48%	10%	6%	0%	3%	0%	23%	29%	16%	0%	0%
	Metrobus & Other Transit	0%	0%	1%	0%	0%	0%	0%	0%	0%	6%	0%
	Auto	53%	86%	83%	100%	93%	100%	77%	71%	84%	94%	100%
	Walk & Other	0%	3%	9%	0%	3%	0%	0%	0%	0%	0%	0%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Silver Spring Station Area												
AFI Silver Theater	Metrorail	57%	80%	33%	0%	67%	100%	25%	11%	0%	0%	0%
	Metrobus & Other Transit	4%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%
	Auto	38%	20%	67%	0%	33%	0%	50%	63%	0%	100%	0%
	Walk & Other	0%	0%	0%	0%	0%	0%	25%	24%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	100%	100%	100%	0%	100%	0%
The Majestic 20	Metrorail	39%	0%	0%	0%	100%	0%	20%	10%	0%	20%	0%
	Metrobus & Other Transit	10%	100%	0%	0%	0%	0%	16%	14%	0%	7%	0%
	Auto	51%	0%	100%	0%	0%	0%	61%	56%	100%	73%	100%
	Walk & Other	0%	0%	0%	0%	0%	0%	3%	20%	0%	0%	0%
	Total	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%	100%
Totals for Movie Theater Sites	**Metrorail**	**45%**	**22%**	**8%**	**44%**	**8%**	**33%**	**26%**	**10%**	**14%**	**9%**	**0%**
	Metrobus & Other Transit	**7%**	**7%**	**1%**	**11%**	**2%**	**0%**	**10%**	**13%**	**0%**	**6%**	**0%**
	Auto	**48%**	**53%**	**83%**	**44%**	**88%**	**67%**	**61%**	**57%**	**86%**	**85%**	**100%**
	Walk & Other	**0%**	**18%**	**9%**	**0%**	**3%**	**0%**	**3%**	**20%**	**0%**	**0%**	**0%**
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

C.2 Regression Analyses

A considerable body of research shows that under the right conditions, TOD and transit joint development can increase transit ridership.[3] Although much of the research concludes that high transit ridership associated with TOD is partially a product of self-selection,[4] the research also finds that higher transit ridership also results from TOD design characteristics, such as proximity to rail stations, and a high-density, compact, mixed-used, and walk-friendly environment. In addition, the effects of competition from other travel modes, namely the use of private automobiles, and differing levels of transit service have impacts on transit ridership.

To test whether any physical characteristics of the station areas, competition from the auto mode, and transit service levels influence mode share characteristics described in Appendix C.1, a series of linear regression analyses were conducted. Regression is a statistical technique used to determine the degree to which a dependent variable correlates with one or more independent or explanatory variables. The independent variable is a hypothesized cause or influence on the dependent variable (i.e., that which is to be predicted). Regression analysis enables the development of mathematical equations that best explain the variation in the dependent variable on the basis of one or more independent variables, and is often used for predictive purposes--assuming that the independent variables are known. That said, regression equations are not perfect predictors, and should only be used as tools for general planning purposes in conjunction with other available planning tools. In other words, it should not be used as a foolproof method to predict accurate travel characteristics as every building or site that generates travel (to and from) is unique. There are many factors that affect travel to and from any particular site, many of which are unique to the site, such as costs and supply of parking, the age, sex and income of occupants and use of the site. These factors play a principal role in trip generation and mode choice. Any individual site may have certain internal characteristics that affect mode shares far from the norm, and no regression equation could predict such results.

The regression analyses conducted for this study tested candidate independent variables that could explain the variations in travel characteristics described in Appendix C.1. As noted in Appendix A.1, the project team purposely selected for the study certain station areas that exhibit TOD characteristics, often called three "Ds": density, diversity and design. Many of the sites shared these common characteristics or variables despite their different locations throughout the metropolitan area. The candidate independent variables that were tested included characteristics internal to the sites, such as square footage, number of employees, or residential units; walking distance between the site and Metrorail station; density of jobs and housing within the station area; and indicators of auto competition and transit service levels.

[3] Transit Cooperative Research Program, Transit-Oriented Development and Joint Development in the United States: A Literature Review, Research Results Digest, Number 52, October 2002.

[4] Those with a lifestyle preference for using transit choose to live and/or work in TOD areas, and act on that preference.

The following dependent variables also were tested:

- Metrorail ridership,
- Transit (includes Metrorail, bus and commuter rail) ridership, and
- Auto use.

The independent variables are described in this section if they exhibited explanatory power that affected the mode share results provided in Appendix C.1. This explanatory power is summarized in the R-squared statistic and is the proportion of variance in the dependent variable that can be "explained" by the independent variables. If all the variance could be explained, the R-squared value would be 1.0. The predictive power of linear regression is derived from its model or its equation of $Y = a + bX$, where X is the independent variable and Y is the dependent variable. The slope of the line is b, and a is the Y-intercept or the value of Y when X is equal to zero.

C.2.1 Office Sites

The following candidate independent variables were tested to determine if any explain the variation in mode choice characteristics for commuting, midday and visitor trips to or from the surveyed office sites as described in Appendix C.1.1:

Characteristics internal to the site

- Building square footage
- Number of employees
- Employees per 1000 square feet

Characteristics external to the site

- Distance between station and site
- Job density within 3/4 mile of the station (number of jobs per acre)
- Street density within a 3/4 mile of the station (total miles of street per square mile)[5]

Transit service characteristics

- Number of Metrorail trains during peak hour (for commuting and visitor trips)
- Number of Metrorail trains during off-peak hour (for midday and visitor trips)

Because 1634 I Street and 1701 Pennsylvania Avenue, the two Farragut West office sites located in the downtown core, exhibited modal characteristics far different than the other sites (see Appendix C.1.1), these sites were removed from the initial equations that uncovered correlations as a sensitivity test to determine whether there truly were correlations.

Among all the independent variables tested, only distance between station and site produced significant correlations with the mode choice characteristics for office worker commute, office worker midday and visitor trips (see Table C-32). Sensitivity testing did not substantially change the R-squared values.

[5] Street density was used as a proxy for the 'pedestrian friendliness' of the walk environment. Higher street densities should indicate good connectivity of the network and thus the potential for a good walking environment.

Table C-32
Linear Regression Equation Inputs for Office Sites using Distance from Station

Mode	Slope[1]	Y-Intercept[2]	R-Square
Office Worker Commuting			
Metrorail	-0.96	35.38	0.25
Transit	-1.21	46.15	0.31
Auto	1.32	48.44	0.35
Office Worker Midday			
Metrorail	-0.87	34.55	0.28
Transit	-0.83	37.16	0.27
Auto	1.97	22.59	0.56
Office Visitor			
Metrorail	-0.78	24.36	0.34
Transit	-0.69	26.30	0.26
Auto	1.31	46.63	0.28

Notes: [1] Percentage point for every 100 feet.
[2] Predictive mode share at 0 feet from station exit.

Table C-32 displays the inputs for the predictive equations for Metrorail, transit and auto commuter mode shares, which are graphically depicted in Figures C-1 through C-3. Table C-33 provides a summary of the expected office commute mode share based on distance from station derived from the regression equations. For example, the Y-intercept value for Metrorail mode share indicates that about 35 percent of all commute trips to and from an office site would be by Metrorail if the site is located directly at the station exit/entrance. The slope column indicates that this percentage decreases by 0.96 percent for every 100 feet increase in distance an office site is located from the station exit/entrance. The percentages of overall commuter trips made by all transit and auto would decrease by 1.21 percent and increase 1.32 percent, respectively, for every 100 feet increase an office site is located from the station exit/entrance.

Table C-33
Regression Equation Summary for Office Commute Trips

Distance (feet)	Mode		
	Metrorail	All Transit	Auto
0	35%	46%	48%
250	33%	43%	52%
500	31%	40%	55%
750	28%	37%	58%
1000	26%	34%	62%
1500	21%	28%	68%
2000	16%	22%	75%
2500	11%	16%	81%
3000	7%	10%	88%

Figure C-1
Office Commute Metrorail Usage by Distance from Station

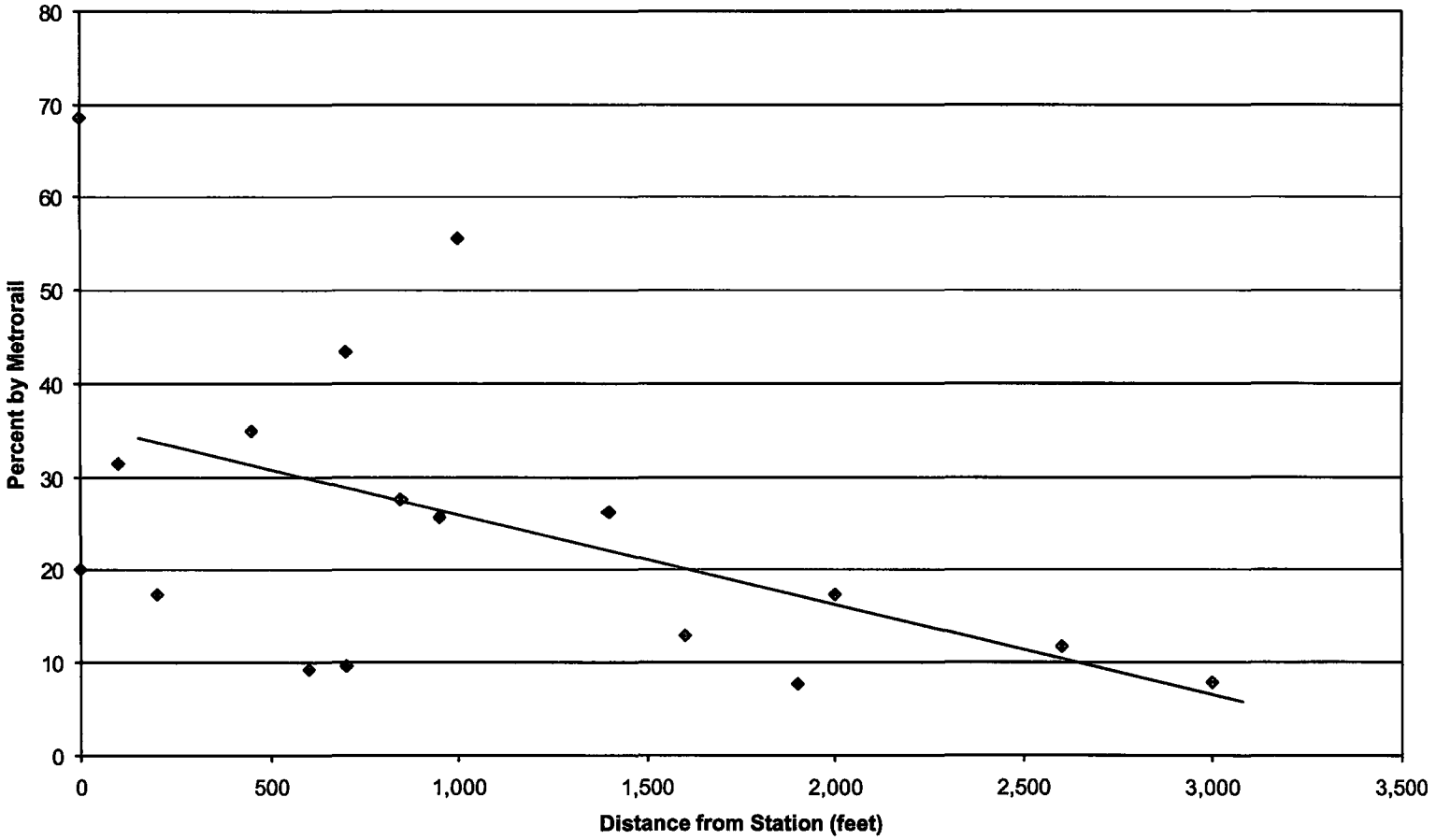


Figure C-2
Office Commute Transit Usage by Distance from Station

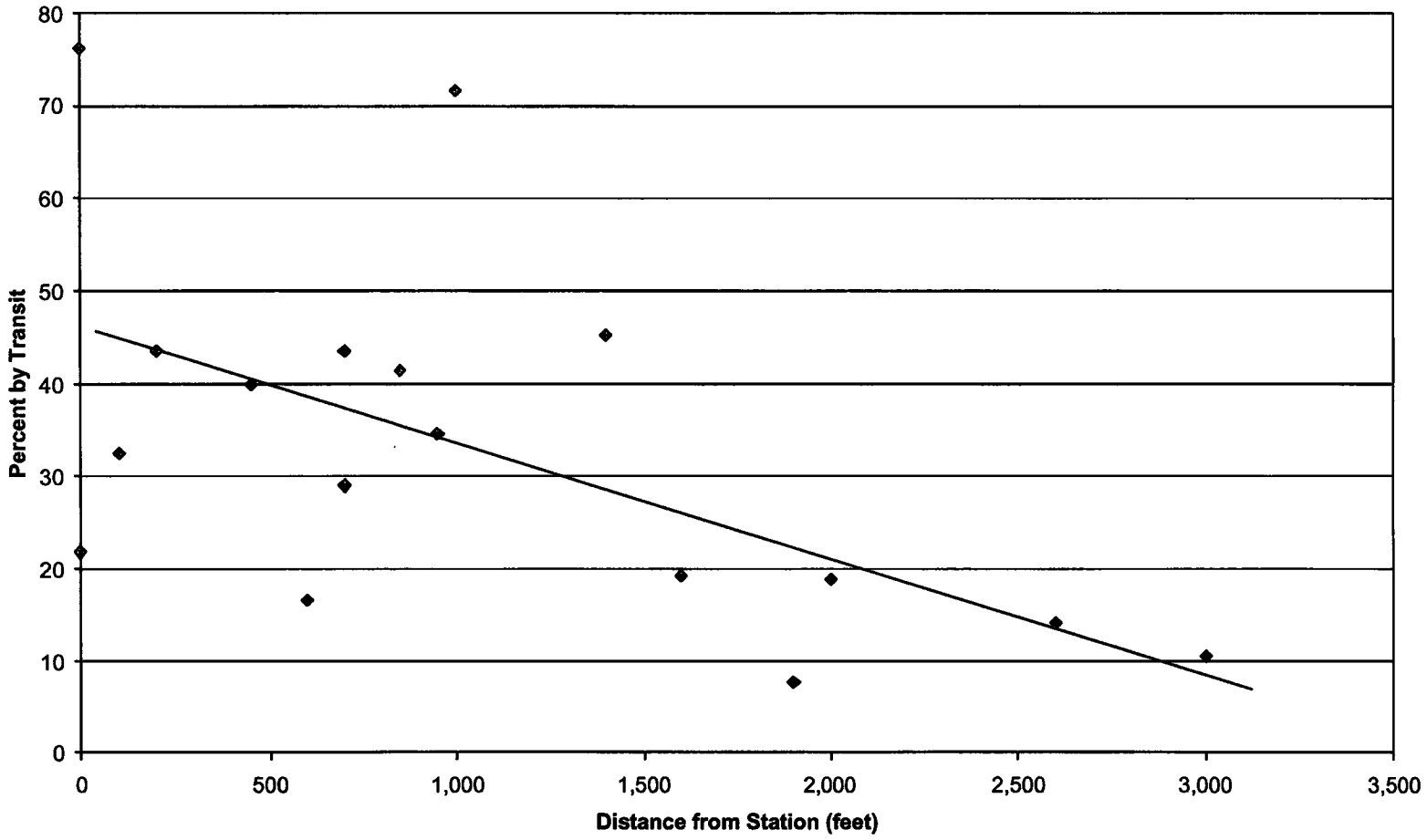
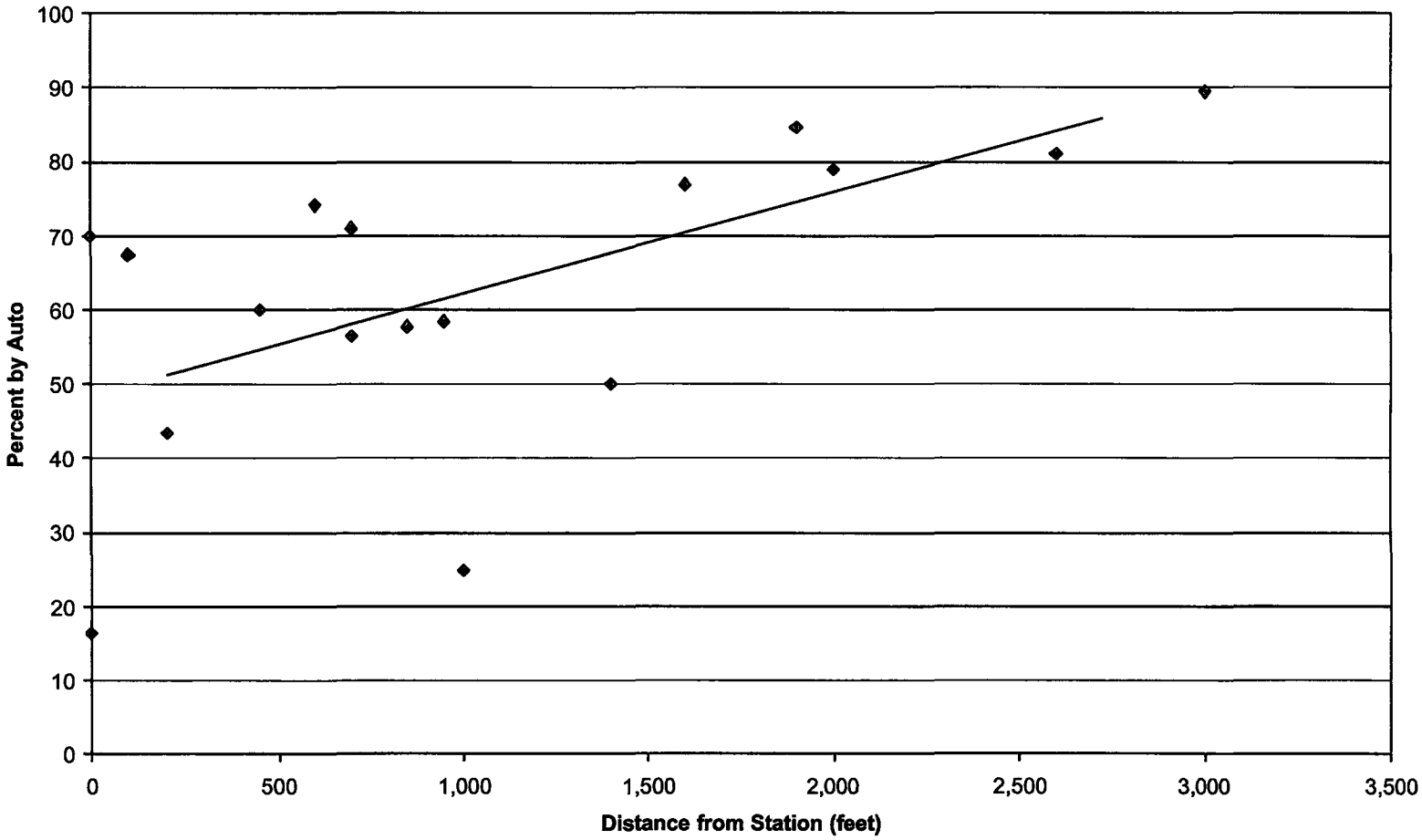


Figure C-3
Office Commute Auto Usage by Distance from Station



Figures C-4 through C-6 graphically depict the equations for midday trips made by Metrorail, transit and auto modes. The percentages for overall midday trips made on Metrorail decreases by 0.87 percent for every 100 feet increase in the distance an office site is located from the station exit/entrance. The percentages for overall midday trips made by all transit and auto would decrease by 0.83 percent and increase 1.97 percent, respectively, for every 100 feet increase in the distance an office site is located from the station exit/entrance.

Figures C-7 through C-9 graphically depict the equations for visitor trips made by Metrorail, transit and auto modes. The percentages of overall visitor trips made on Metrorail decrease by 0.78 percent for every 100 feet increase in the distance an office site is located from the station exit/entrance. The percentages of overall visitor trips made by all transit and auto decrease by 0.69 percent and increase 1.31 percent, respectively, for every 100 feet increase in the distance an office site is located from the station exit/entrance.

No significant correlations between internal office site characteristics were found with any of the dependent variables relating to Metrorail, transit and auto mode choices for all three types of office related trips (worker commute, worker midday trips and trips made by visitors). Transit service characteristics and job and street densities also did not result in notable correlations with the independent variables for office commute and midday trips and visitor trips. Although, the initial regression test between the number of peak-hour Metrorail trains and the percentage of office commuters who use Metrorail produced a moderate R-squared value of 0.35, sensitivity testing, which removed data from the two Farragut West sites, reduced this value to 0.007. The same sensitivity test also found that initial tests showing that job densities correlate with mode share characteristics for commute and midday trips greatly were not true. For instance, prior to dropping the Farragut West sites, the R-squared value between job density and Metrorail use by office commuters was 0.56. The sensitively test reduced this value to 0.14.

C.2.2 Residential Sites

The following candidate independent variables were tested to determine if any explain the variation in mode choice characteristics for trips originating from the residential sites as described in Appendix C.1.2:

Characteristics internal to the site

- Number of residential units

Characteristics external to the site

- Distance between station and site
- Housing density within 3/4 mile of the station (residential units per acre)
- Street density within a 3/4 mile of the station (total miles of street per square mile)

Transit and auto service characteristics

- Number of Metrorail trains during peak hour
- Number of Metrorail trains during off-peak hour

Figure C-4
Office Midday Metrorail Usage by Distance from Station

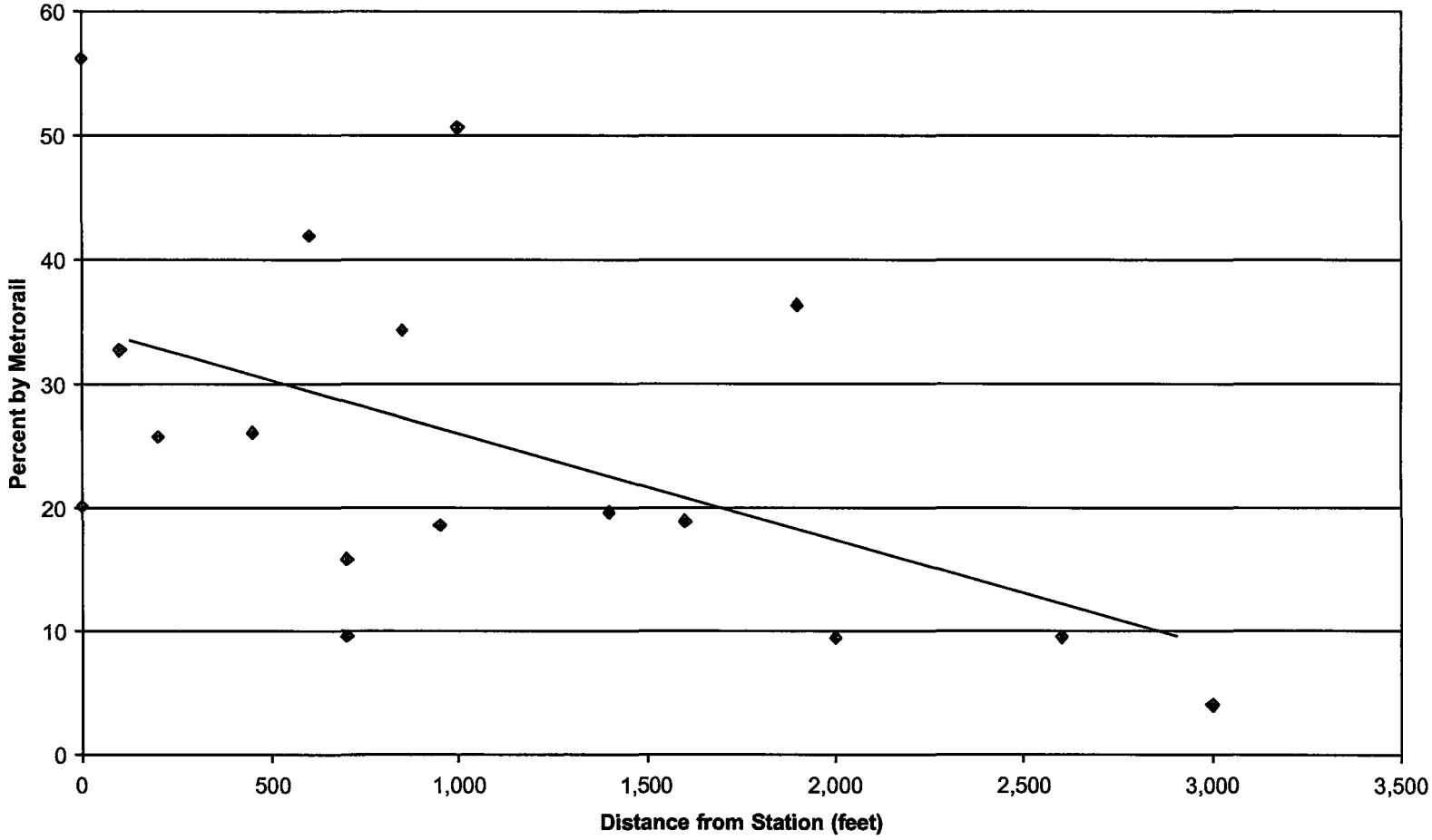


Figure C-5
Office Midday Transit Usage by Distance from Station

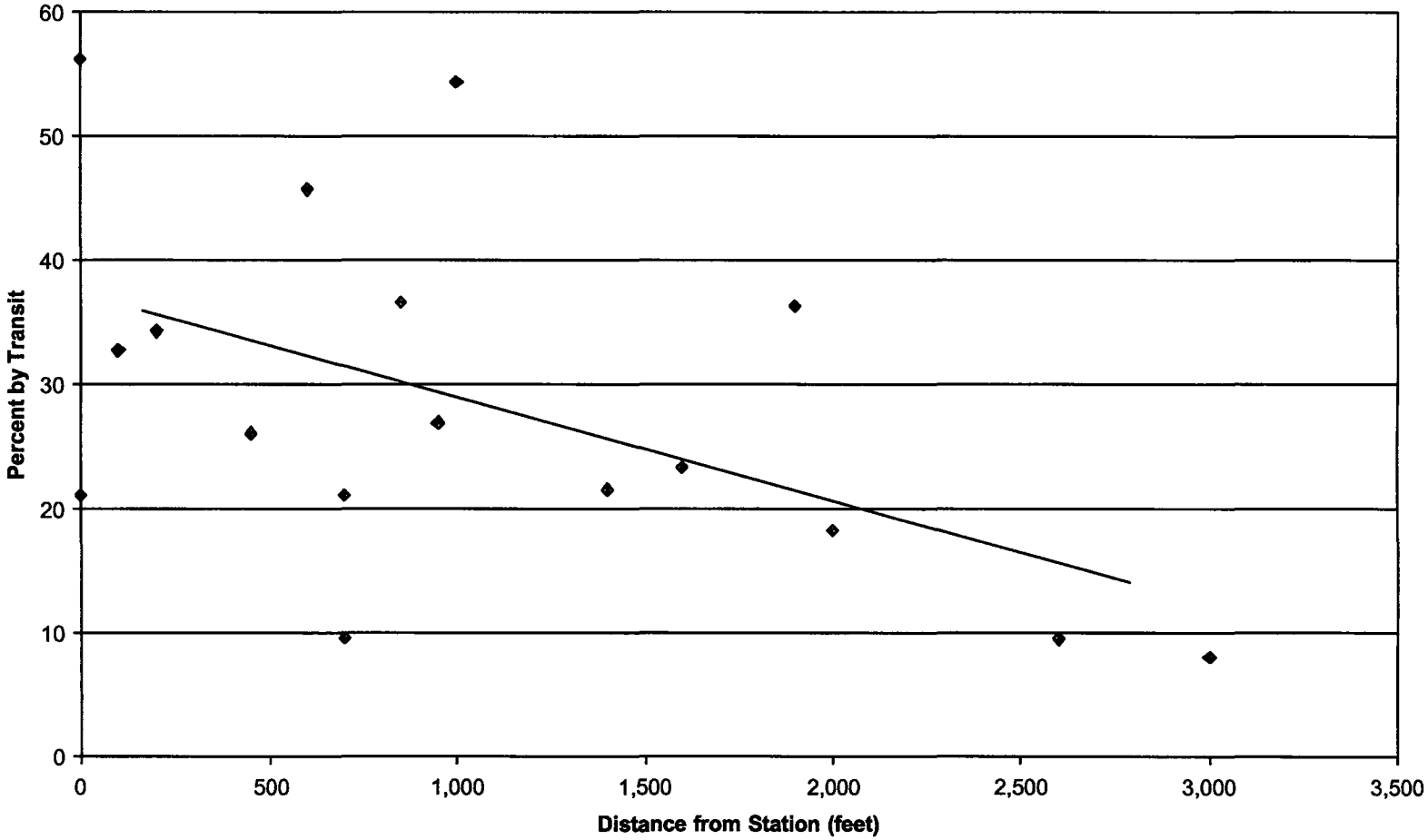


Figure C-6
Office Midday Auto Usage by Distance from Station

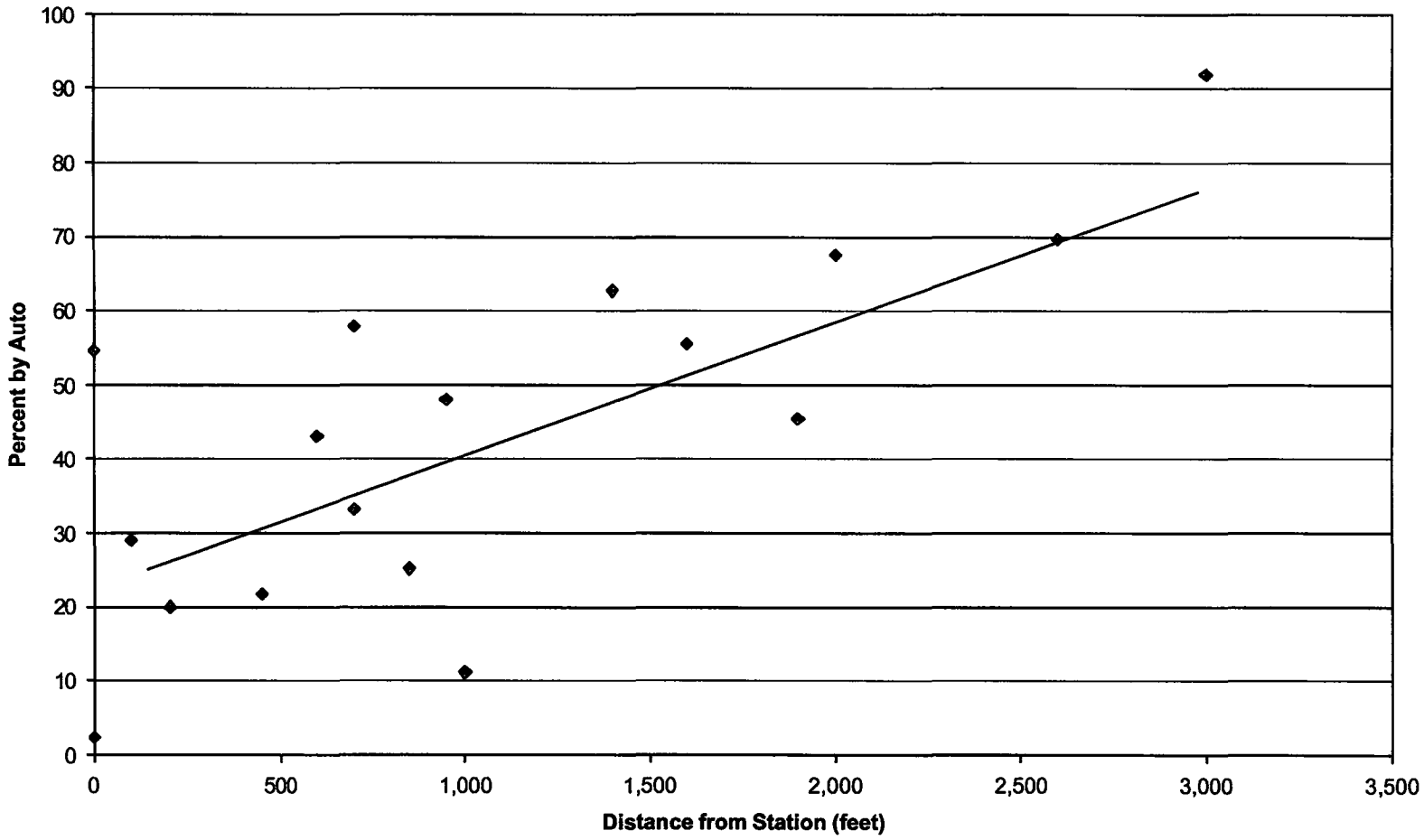


Figure C-7
Office Visitor Metrorail Usage by Distance from Station

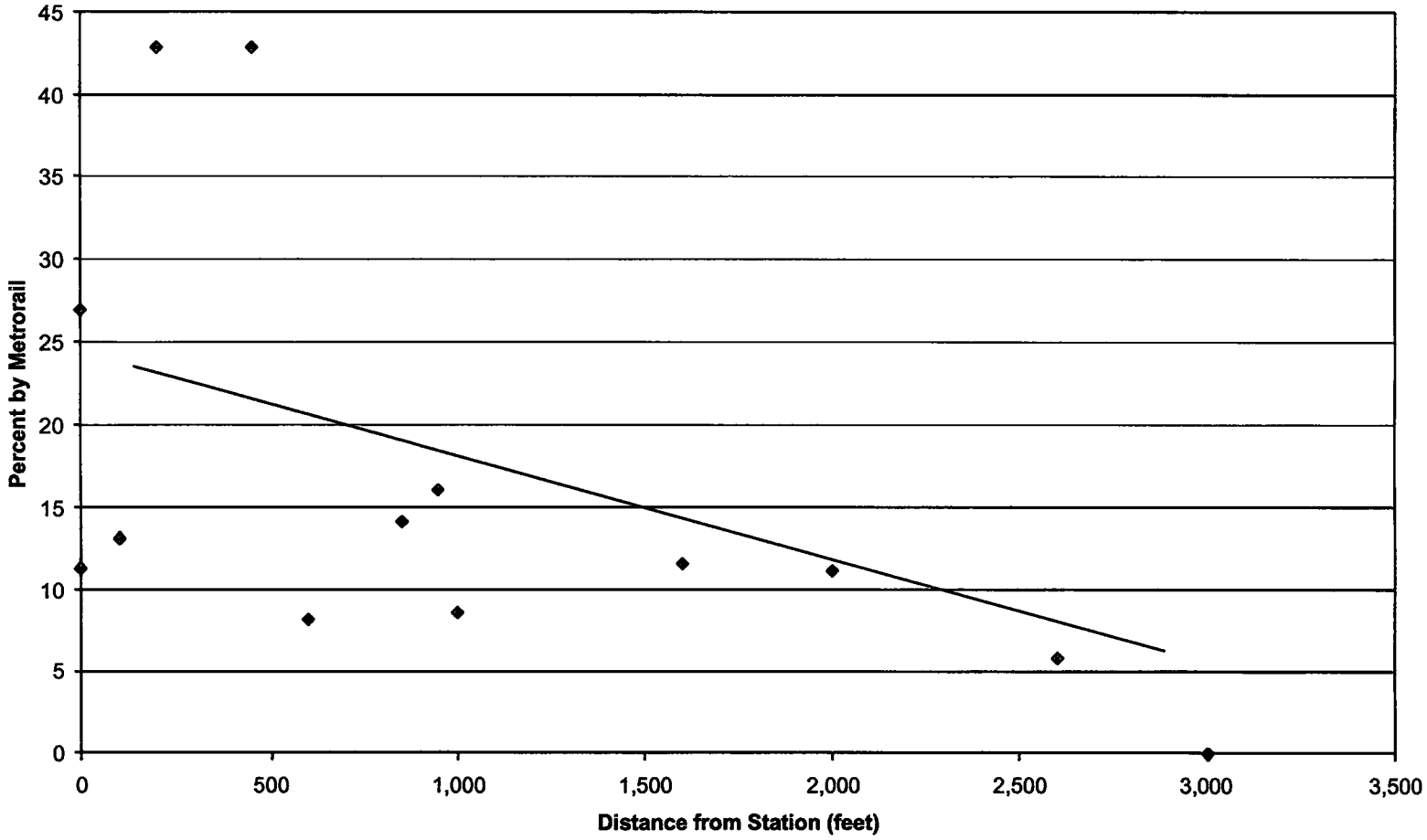


Figure C-8
Office Visitor Transit Usage by Distance from Station

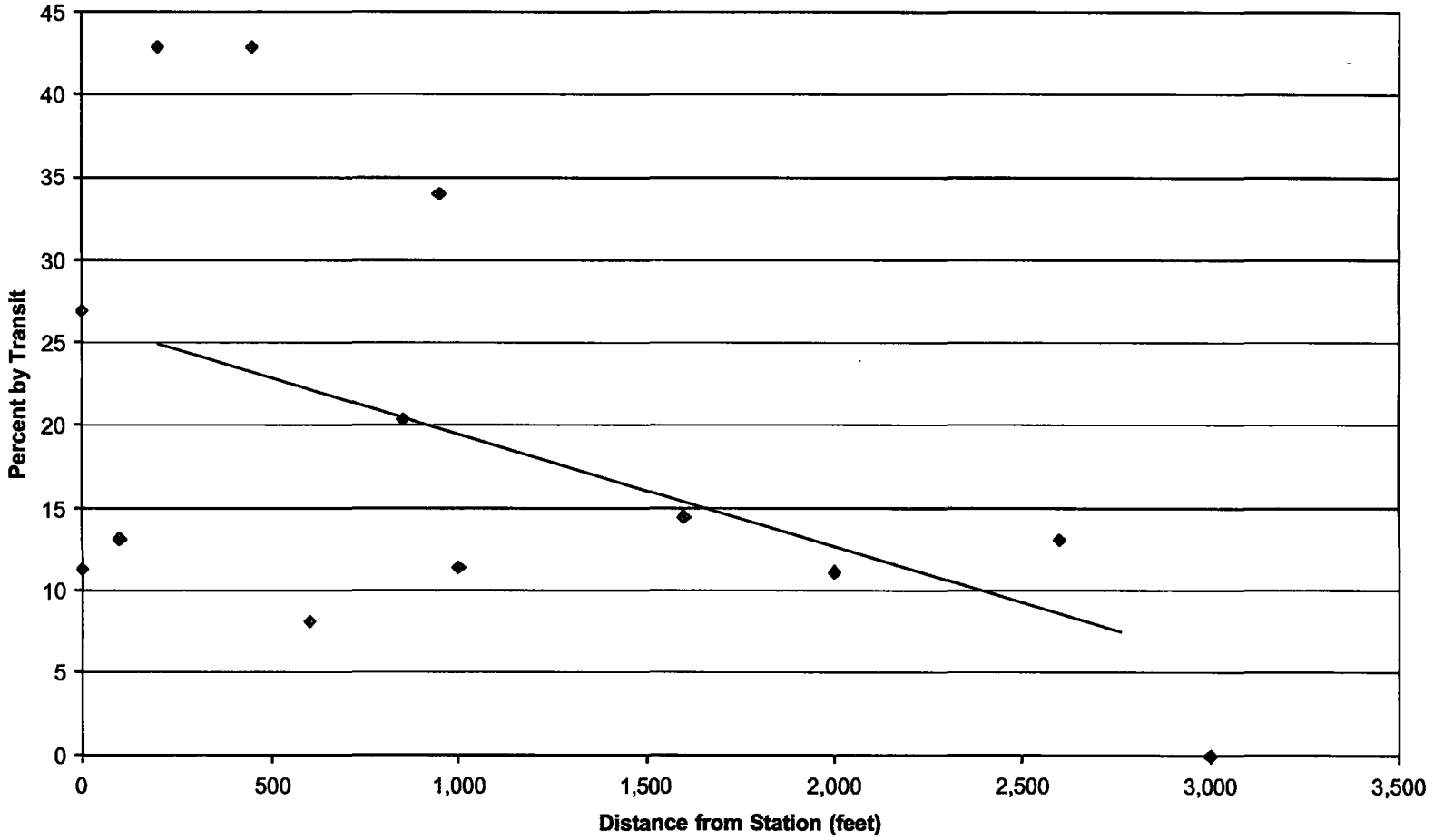
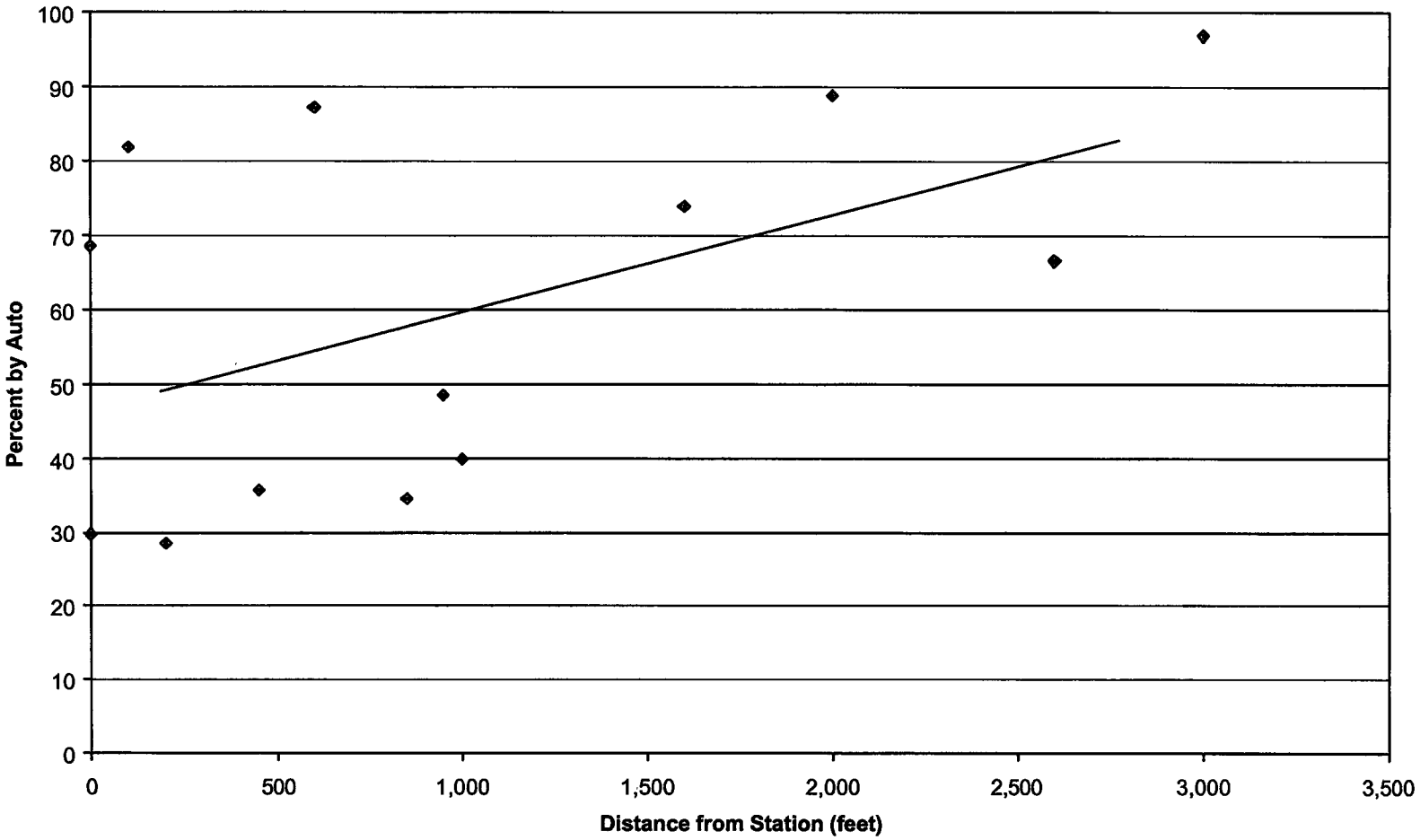


Figure C-9
Office Visitor Auto Usage by Distance from Station



- Number of jobs available within 15, 25, 35 and 45 minutes by auto and transit from the transportation analysis zone (TAZ[6]) of the survey site (auto/job and transit/job accessibility indices)

Tables C-34, C-35 and C-36 display correlations between mode share characteristic and (1) the distance a site is located from a station, (2) housing density surrounding the station, and (3) street density surrounding the station. Because the two residential sites located in the downtown core produced very different mode share characteristics than the other residential sites (see Appendix C.1.2), they were removed from the initial equations as a sensitivity test to determine if any of the equations were truly correlations. In particular, both sites produced very high pedestrian trips and very low auto trips compared with the other sites.

Table C-34
Linear Regression Equations for Residential Sites using Distance from Station

Mode	Slope[1]	Y-Intercept[2]	R-Square
All Sites			
Metrorail	-0.87	54.15	0.41
Transit	-0.71	54.83	0.24
Auto	0.97	28.60	0.21
Sensitivity Test: Without Gallery Place-Chinatown Station Sites			
Metrorail	-1.01	55.64	0.62
Transit	-0.81	55.20	0.37
Auto	0.87	32.83	0.22

Notes: [1] Percentage point for every 100 feet.
[2] Predictive mode share at 0 feet from station exit.

Table C-35
Linear Regression Equation Inputs for Residential Sites by Housing Density

Mode	Slope[1]	Y-Intercept	R-Square
All Sites			
Metrorail	0.87	33.72	0.12
Transit	1.51	31.68	0.32
Auto	-2.54	63.90	0.43
Sensitivity Test: Without Gallery Place-Chinatown Station Sites			
Metrorail	0.95	31.80	0.18
Transit	1.61	29.12	0.48
Auto	-2.74	69.07	0.72

Notes: [1] Percentage point for every one unit per acre.

[6] Transportation Analysis Zones (TAZs) have been used as the geographic analysis area for this exercise as that is the analysis area the regional planning body, the Council of Governments, uses to model transportation forecasts for the Region. However, TAZs, especially in non-core areas, tend to be much larger than a station area, so the measure is not a precise match.

Table C-36
Linear Regression Equation Inputs for Residential Sites by Street Density

Mode	Slope[1]	Y-Intercept	R-Square
All Sites			
Metrorail	0.85	21.72	0.16
Transit	1.27	15.47	0.31
Auto	-2.38	96.88	0.53
Sensitivity Test: Without Gallery Place-Chinatown Station Sites			
Metrorail	0.70	24.14	0.12
Transit	1.10	18.26	0.28
Auto	-2.01	90.66	0.49

Notes: [1] Percentage point for every one mile of additional density per acre.

For distance equations, the strongest correlation was produced for Metrorail use (see Table C-33). Sensitivity testing increased this R-squared value from 0.41 to 0.62. The equation for this regression is graphically depicted in Figure C-10, and shown in a tabular format in Table C-37. The correlation indicates that about 54 percent of trips from a residential site would be on Metrorail if the site is located directly at the station exit/entrance. This percentage would decrease by 0.87 percent for every 100 feet increase in the distance a residential site is located from the station exit/entrance.

Table C-37
Regression Equation Summary for Residential Trips

Distance (feet)	Mode		
	Metrorail	All Transit	Auto
0	54%	55%	29%
250	52%	53%	31%
500	50%	51%	33%
750	48%	49%	36%
1000	45%	48%	38%
1500	41%	44%	43%
2000	37%	41%	48%
2500	32%	37%	53%
3000	28%	33%	58%

For housing density equations, moderate correlations were produced for the auto and transit modes (see Table C-35). A weaker correlation was produced for the Metrorail mode. The sensitivity testing increased the R-squared value for the auto mode from 0.43 to 0.72. The equation for the housing density/auto regression is graphically depicted in Figure C-11. The correlation indicates that an increase of one residential unit per acre within 3/4 mile of the station would decrease the percentage of trips made from residential sites by auto by 2.54 percent. Despite the weakness in the housing density/Metrorail correlation, the overall

Figure C-10
Residential Metrorail Usage by Distance from Station

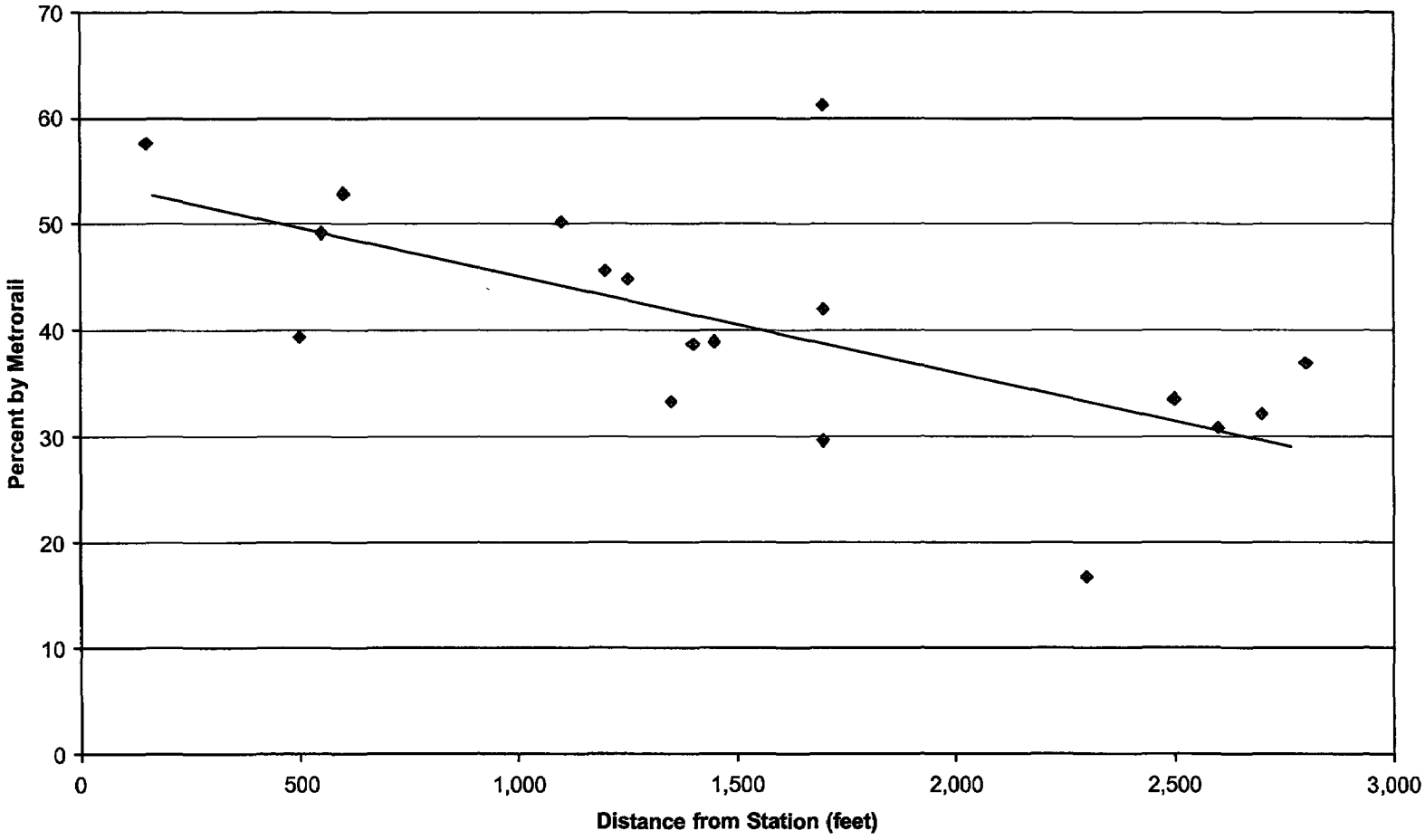
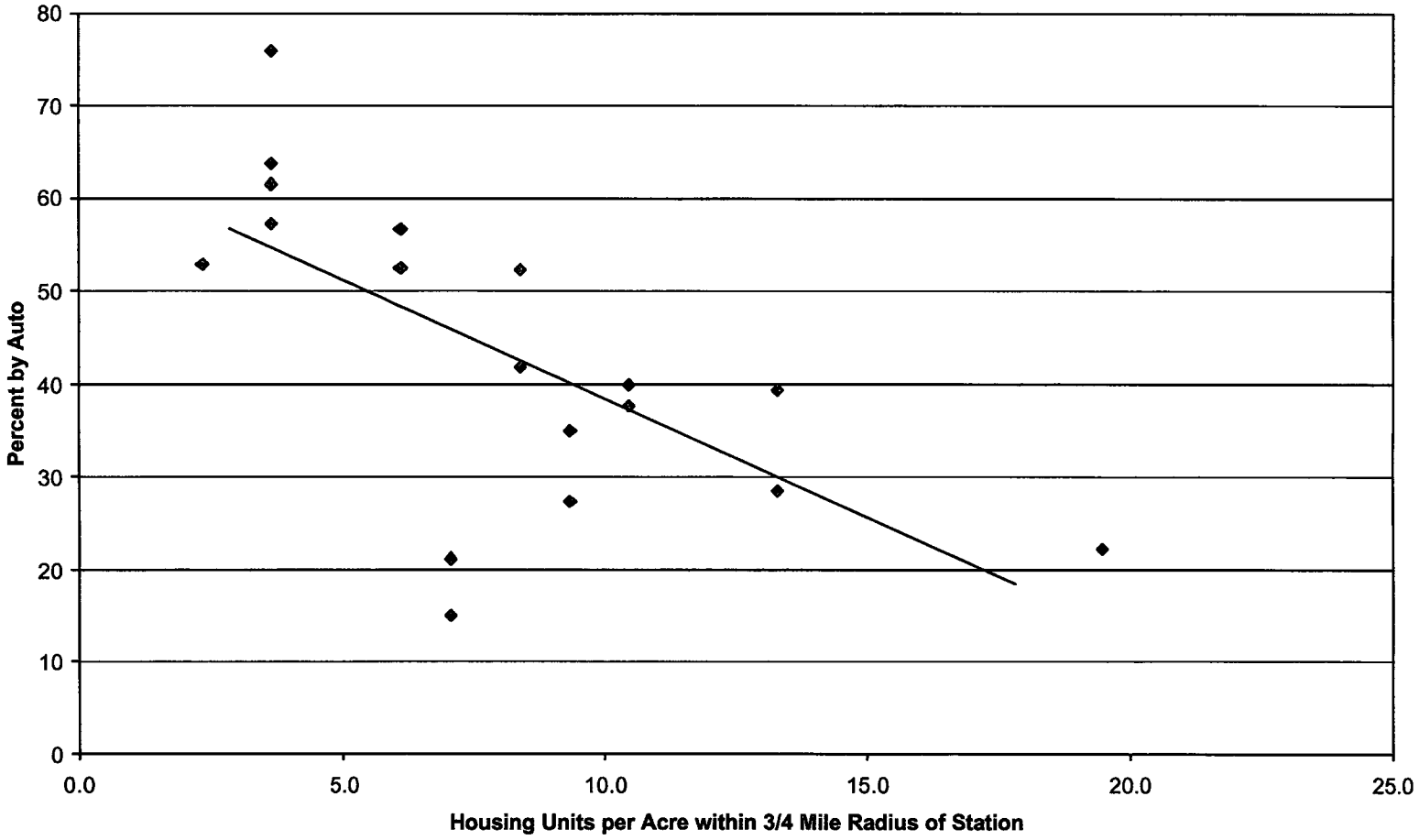


Figure C-11
Residential Auto Usage by Housing Density



correlation equations suggest that housing density near a Metrorail station does influence mode choice because if people are not using their cars, they are likely using Metrorail or other form of transit to travel distances farther than one can walk or bicycle.

Similar to housing density, street densities produced moderate correlations with the auto and transit modes, and the correlation with the Metrorail mode was weaker (see Table C-36). Unlike the other equations, the sensitivity testing slightly decreased the R-squared value for the auto mode from 0.53 to 0.49, but this drop did not substantially affect the correlation. The equation for the street density/auto regression is graphically depicted in Figure C-12. The correlation indicates that an increase of one linear mile of streets per square mile within 3/4 mile of the station would decrease the percentage of trips made from residential sites by auto by 2.38 percent. Similar to the housing density correlations, the overall correlation equations for street densities suggest that this does influence mode choice in Metrorail station areas.

No correlations were uncovered using factors or characteristics internal to the site and Metrorail service levels during the peak and off-peak hours. Nor did the transit/job indices produce correlations with the Metrorail or "all transit" modes.

C.2.3 Retail Sites

The following candidate independent variables were tested to determine if any explain the variation in mode choice for trips made to and from retail sites by patrons and employees as described in Appendix C.1.3:

- Distance between station and site
- Housing and job densities within 3/4 mile of the station (residential units and jobs per acre)
- Street density within 3/4 mile of the station (total miles of street per square mile)
- Number of Metrorail trains during off-peak hour

As shown in Table C-39, distance between stations and sites showed a correlation with all the mode choice variables. Table C-39 also shows that housing density had the strongest correlation with transit use. Sensitivity testing was not conducted for retail sites due to the small sample size (five surveyed sites) in the equations.

The distance variable and Metrorail use correlation showed an R-square value of 0.53. This equation is graphically depicted in Figure C-13. The correlation indicates that about 38 percent of trips to and from a retail site would be on Metrorail if the site is located directly at the station exit/entrance. This percentage would decrease by 1.29 percent for every 100 feet in the distance a retail site is located away from the station exit/entrance.

The housing-density variable and transit-use correlation showed an R-square value of 0.52. This equation is graphically depicted in Figure C-14. The correlation indicates that an increase of one residential unit per acre would increase the percentage of trips made to and from retail sites by transit by 2.15 percent.

Figure C-12
Residential Auto Usage by Street Density

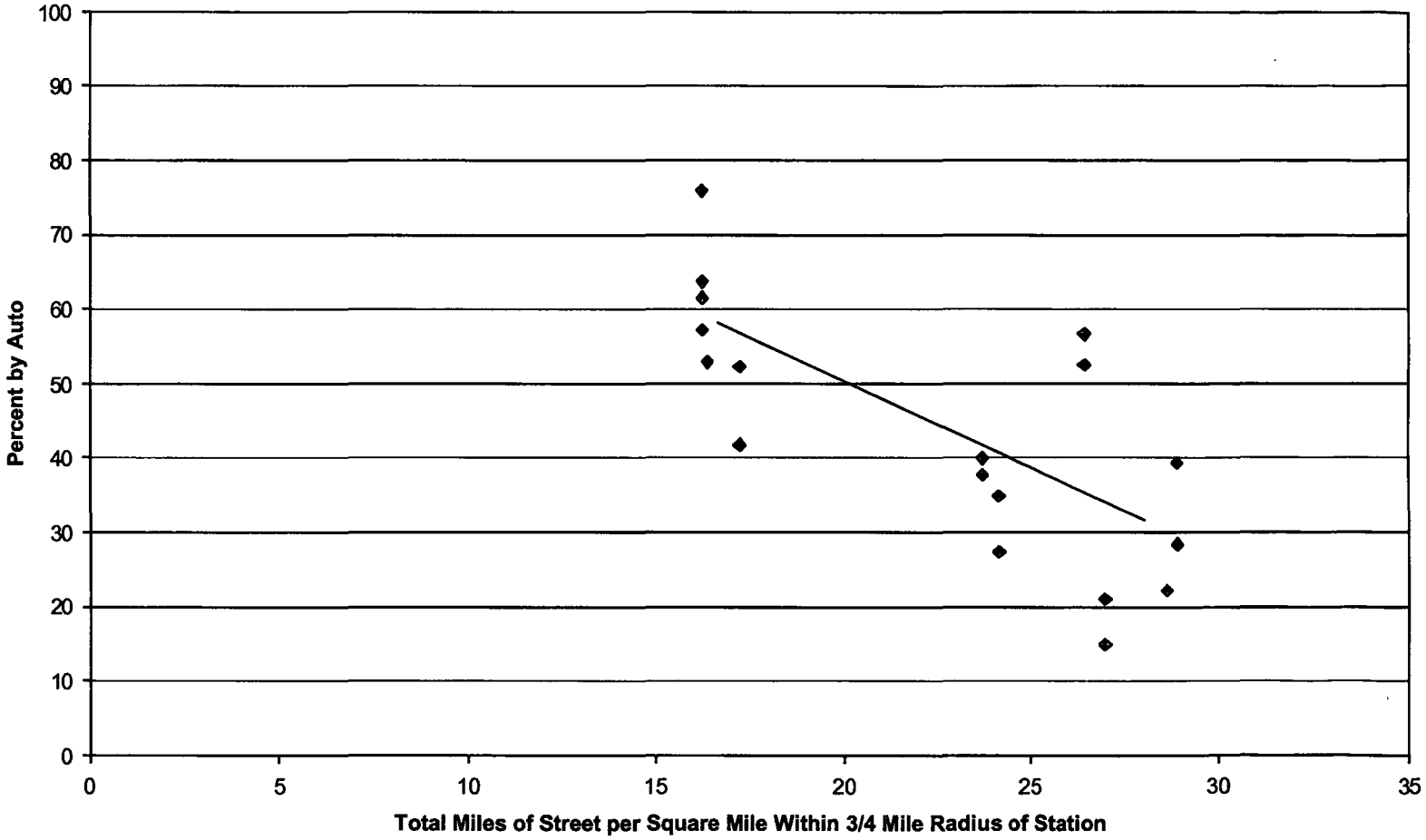


Table C-39
Linear Regression Equation Inputs for Retail Sites by Distance from Station and by Housing Density

Mode	Slope	Y-Intercept	R-Square
Distance Between Station Exit/Entrance and Site[1]			
Metrorail	-1.29	38.20	0.53
Transit	-1.41	47.27	0.57
Auto	1.96	21.44	0.56
Housing Density[2]			
Metrorail	1.54	11.39	0.30
Transit	2.15	12.67	0.52
Auto	-1.67	54.67	0.16

Notes: [1] Percentage point for every 100 feet.
[2] Percentage point for every housing unit per acre.

No significant correlations were uncovered using factors or characteristics relating to job and street densities and Metrorail service levels during off-peak hours.

C.2.4 Hotels

The following candidate independent variables were tested to determine if any explain the variation in mode choice for trips made to and from hotel sites by patrons and employees as described in Appendix C.1.4:

- Distance between station and site
- Job densities within 3/4 mile of the station (jobs per acre)
- Street density within 3/4 mile of the station (total miles of street per square mile)
- Number of Metrorail trains during off-peak hour

None of these independent variables produced correlations with the Metrorail, transit, and auto mode choices as reported in Appendix C.1.4.

C.2.5 Entertainment (Movie Theaters) Sites

The following candidate independent variables were tested to determine if any explain the variation in mode choice characteristics for trips made to and from hotel sites by patrons and employees as described in Appendix C.1.5:

- Distance between station and site
- Job and housing densities within 3/4 mile of the station (residential units and jobs per acre)
- Street density within 3/4 mile of the station (total miles of street per square mile)
- Number of Metrorail trains during off-peak hour

As shown in Table C-40, area job density showed correlations with all the mode choice variables. Sensitivity testing was not conducted for entertainment sites due to the small sample size (four surveyed sites).

Figure C-13
Retail Metrorail Usage by Distance from Station

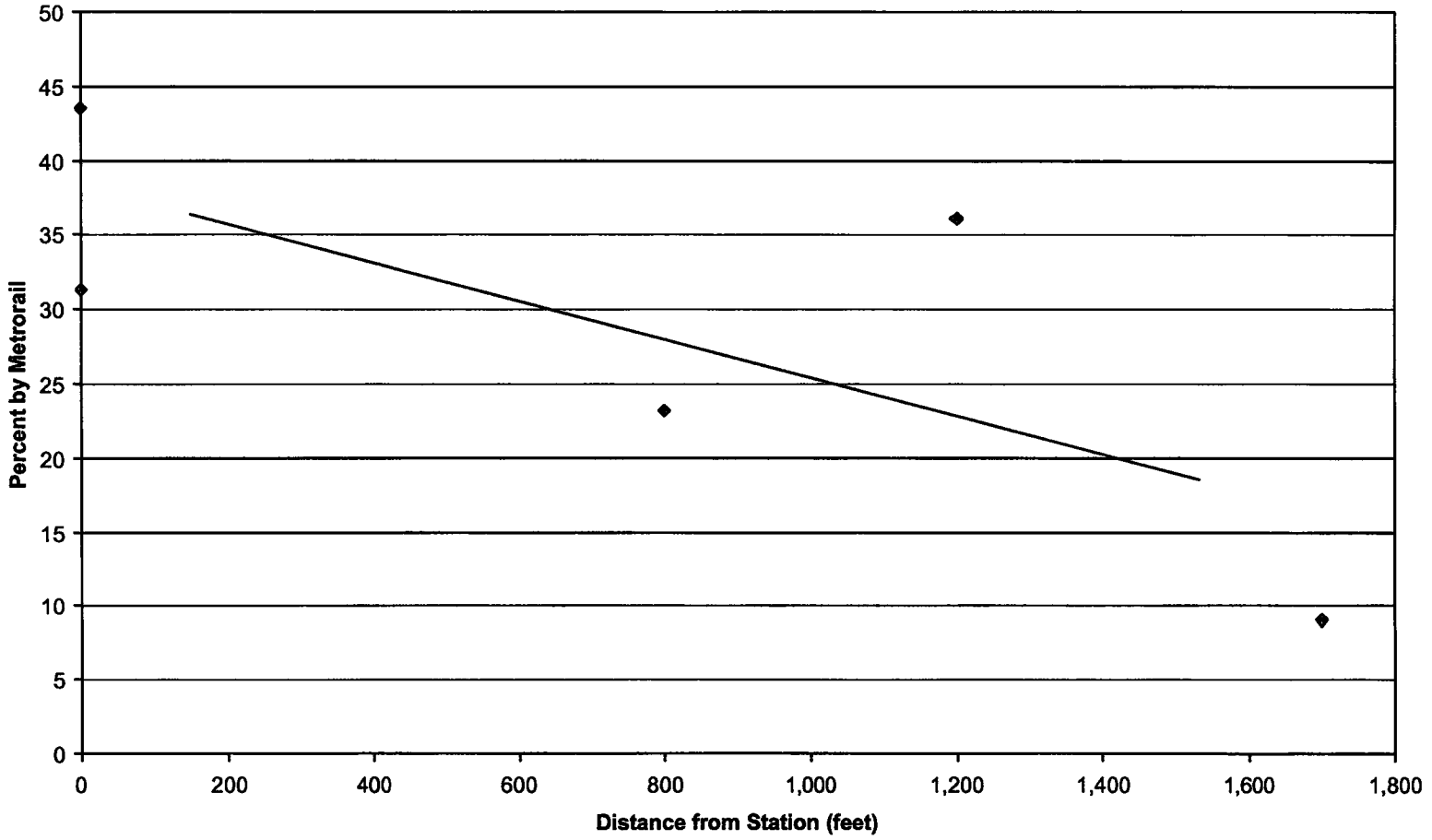


Figure C-14
Retail Transit Usage by Housing Density

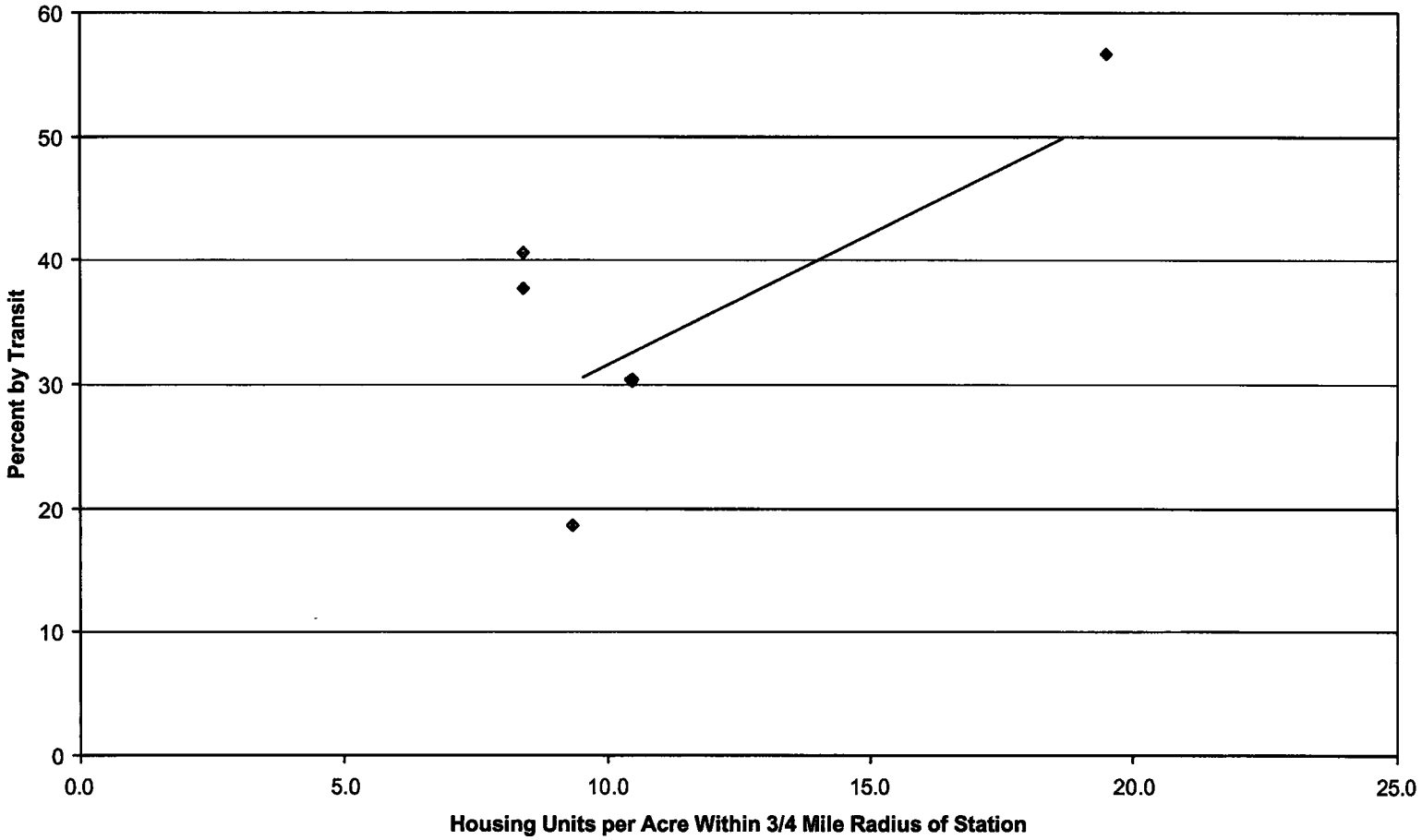


Table C-40
Linear Regression Equation Inputs for Entertainment Sites by Job, Housing and Street Densities

Mode	Slope	Y-Intercept	R-Square
Job Density[1]			
Metrorail	0.60	7.89	0.43
Transit	0.84	6.72	0.71
Auto	-1.10	90.39	0.69
Housing Density[2]			
Metrorail	3.83	-6.26	0.58
Transit	5.30	-12.42	0.91
Auto	-7.20	117.67	0.96
Street Density[2]			
Metrorail	2.57	-30.84	0.51
Transit	3.59	-47.25	0.82
Auto	-4.78	162.78	0.82

Notes: [1] Percentage point for every job per acre within 3/4 mile of station.
[2] Percentage point for every residential unit per acre within 3/4 mile of station.
[3] Percentage point for every street mile per acre within 3/4 mile of station.

Among the correlations shown on Table C-40, the job-density variable and transit-use correlation showed an R-square of 0.71. This equation is graphically depicted in Figure C-15. The correlation indicates that an increase of one job per acre would increase the percentage of trips made to entertainment sites by transit by 0.84 percent. For housing density (see Figure C-16), the correlation indicates that an increase of one residential unit per acre would increase the percentage of trips made to entertainment sites by transit by 5.30 percent. For street density (see Figure C-17), the correlation indicates that an increase of one linear mile of streets per square mile would increase the percentage of trips made to entertainment sites by transit by 3.59 percent.

No correlations were uncovered using factors relating to distance between station exit/entrance and site, and Metrorail service level during the off-peak hour.

Figure C-15
Entertainment Transit Usage by Job Density

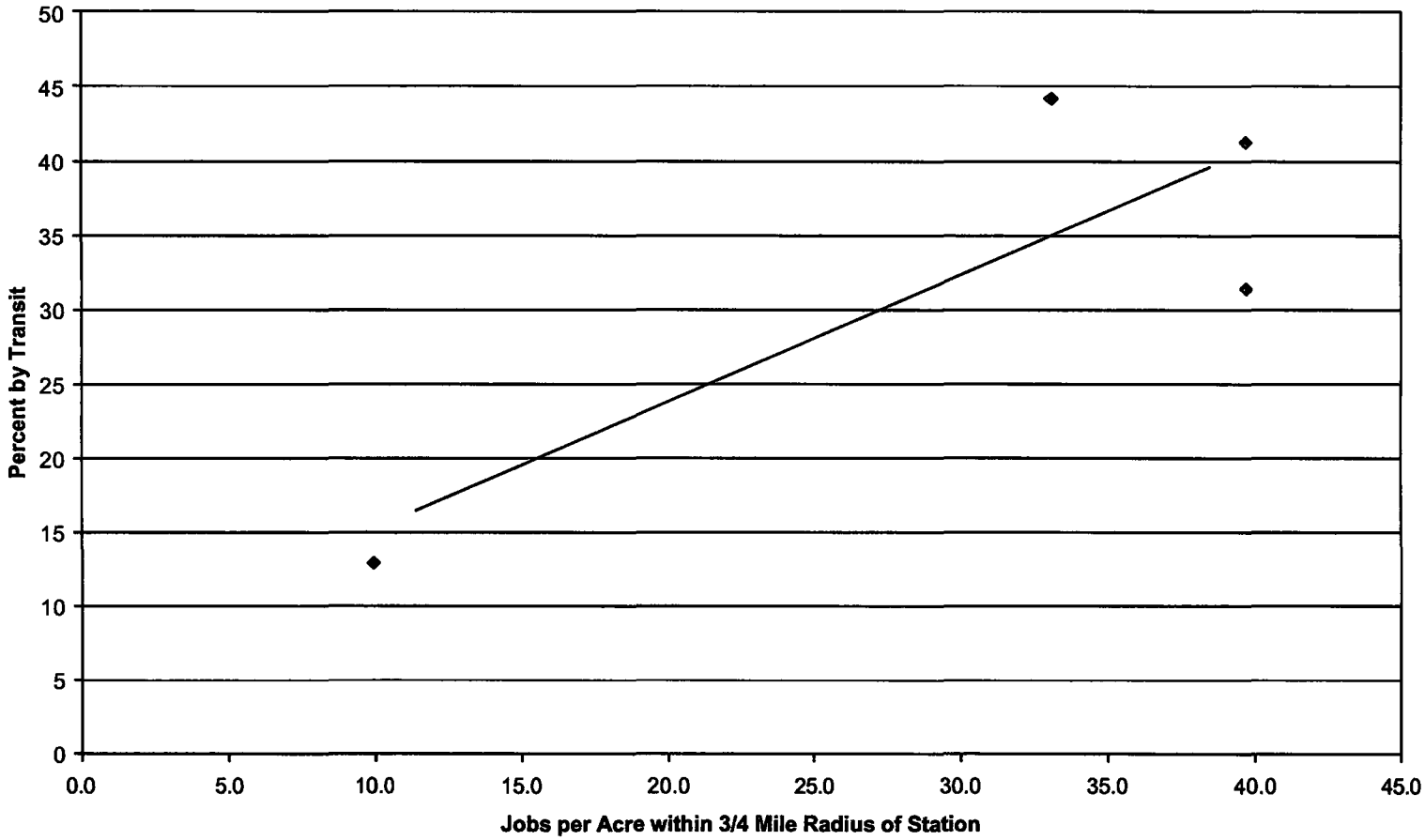


Figure C-16
Entertainment Transit Usage by Housing Density

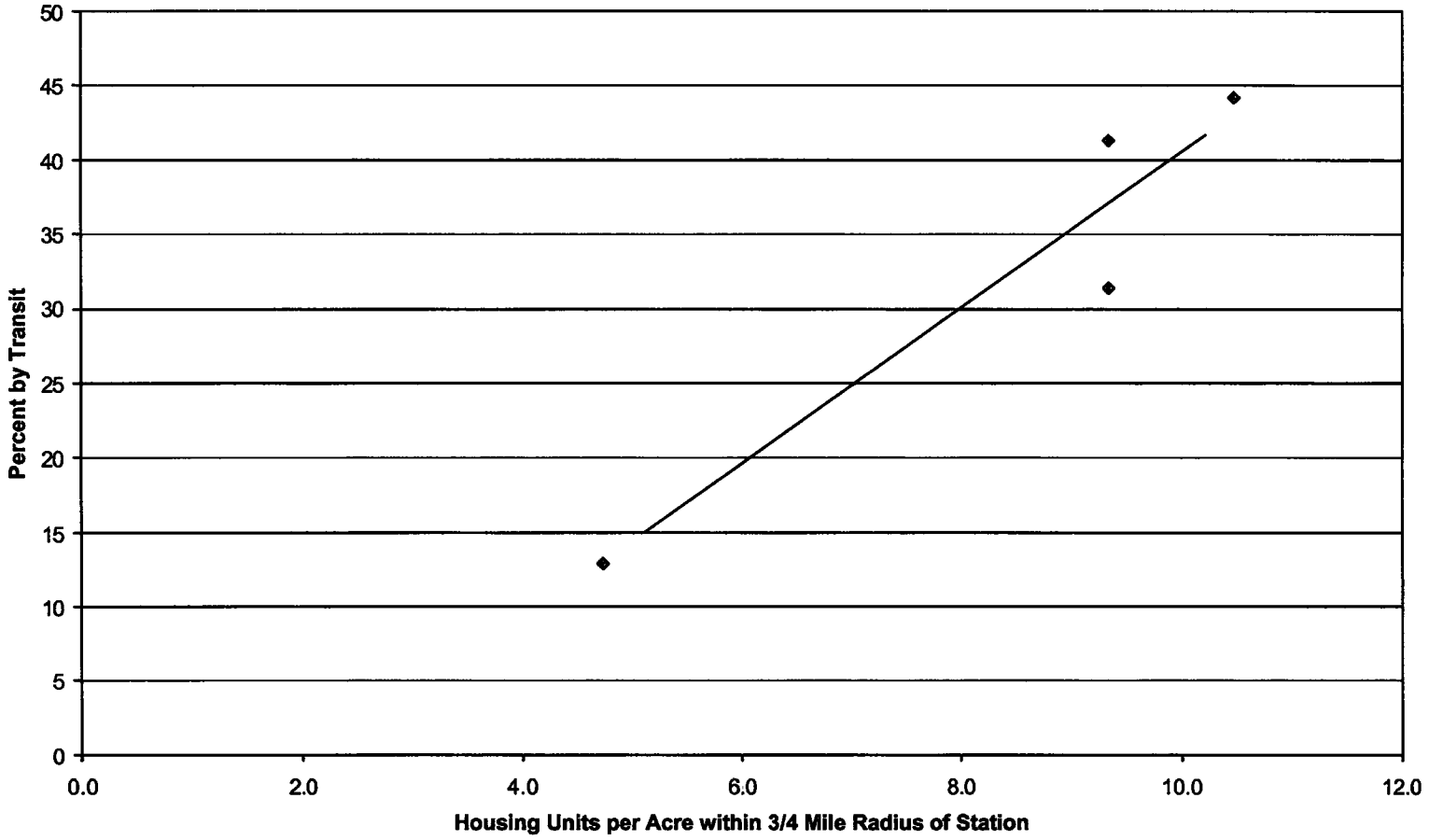


Figure C-17
Entertainment Transit Usage by Street Density