MANHATTAN CORE | Public Parking Study

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Transportation Division
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CONTENTS

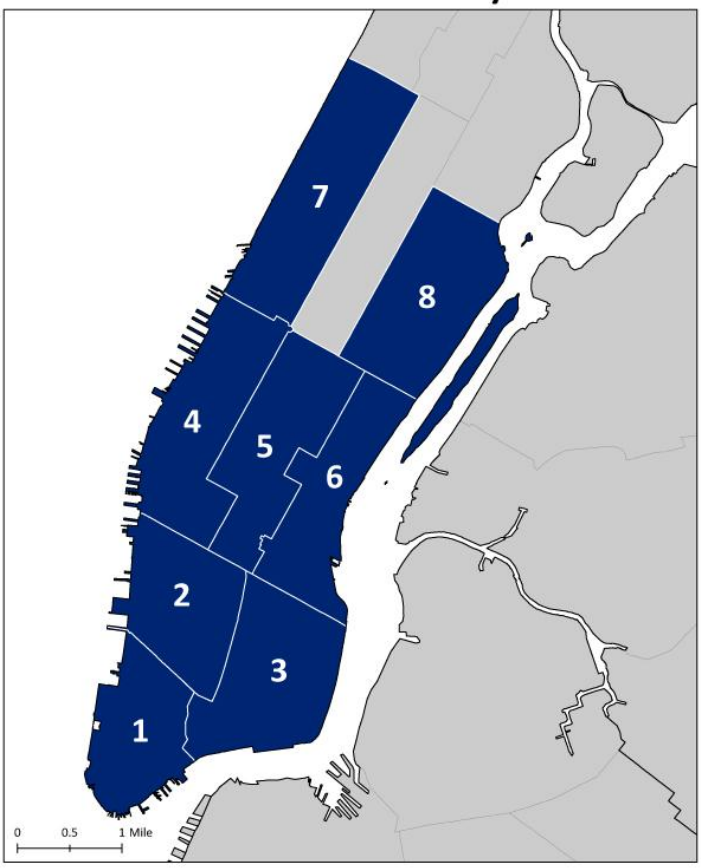
EXECUTIVE SUMMARY 3
Manhattan Core Parking Study 5
Findings 6
PARKING POLICY BACKGROUND 9
Clean Air Legislation 9
1982 Zoning Text Amendment 9
Effects of the 1982 Parking Policies in the Manhattan Core 11
Traffic and Parking Supply 11
Employment 12
Air Quality 12
Parking Cost 13
Previous Studies Related to Manhattan Core Parking Policy 15
MANHATTAN CORE DEMOGRAPHIC TRENDS SINCE 1980 16
Vehicle Availability 16
Income 16
Families 19
Journey to Work 19
2009 MANHATTAN CORE PUBLIC PARKING SURVEY FINDINGS 22
Work and Business-Related Users 24
Entertainment and Shopping Users 24
Residential Monthly Parkers 25
Other Users 28
STUDY FINDINGS AND POLICY GOALS 29
Study Findings 29
Policy Goals 31
Next Steps 33
TECHNICAL APPENDIX FOR THE 2009 MANHATTAN CORE PARKING SURVEY 34
Outreach to Facility Operators 34

Determining the CD Subareas 34
Determining Number of Surveys to Administer 34
Selecting Facilities to Survey 35
Surveying Facilities 35
Survey Limitations 36
Data Analysis 37
Questionnaire 38
FREQUENCIES 40
General Trends for Manhattan Core CDs 1-8 40
User Group Survey Results 52
ACKNOWLEDGEMENTS 61

EXECUTIVE SUMMARY

In 1982, in the context of the Clean Air Act and national and local concerns about deteriorating air quality, the City of New York adopted pioneering rules to manage the supply of off-street parking in Manhattan's Central Business District. The 1982 Manhattan Core parking zoning amendments sought, in the words of the City Planning Commission's report, "to institute land use controls over off-street parking which are consistent with environmental policies and sensitive to the concerns of business and development interests in the City." While the 1982 amendments recognized the continuing need for limited amounts of parking for vehicles associated with services, business, culture, and entertainment as well as residents, the strictest limits were reserved for public parking. It was anticipated that these limits, together with the redevelopment of sites with parking lots and garages, would, over time, reduce the overall number of public parking spaces and that with fewer parking spaces available, fewer motor vehicles would enter Manhattan's most traffic-congested areas. These regulations continue to be in effect today in Community Districts 1 through 8, comprising Manhattan below 96th Street on the East Side and 110th Street on the West Side. This area is referred to as the "Manhattan Core" in the New York City Zoning Resolution and includes some of the City's most populous neighborhoods, major institutions, parks and transit hubs, and the City's primary Central Business District (CBD), defined as Manhattan below 60th Street.

Manhattan Core Community Districts



The most significant change in the 1982 parking regulations was a shift from minimum parking *requirements* for new residential development to maximum parking *allowance**s*** for parking spaces that are limited to residents of the development, known as *accessory* spaces. Before 1982, off-street parking was mandatory in residential development in the Manhattan Core; since 1982, accessory parking is optional and subject to strict limits on the amount of parking that can be provided – no more than 20 percent of the number

of residential units in Community Districts 1 through 6 and no more than 35 percent of units in Community Districts 7 and 8. Accessory parking for other uses is also subject to maximums, and the total number of spaces provided in a development is capped at no more than 225 spaces for any mix of uses. Under the 1982 regulations, only new developments and enlargements may incorporate parking, whereas prior to 1982 the creation of new parking in existing buildings was allowed. In addition, the 1982 regulations require special permits for accessory parking exceeding the maximums as well as for new parking in existing buildings and for all *public* parking facilities. New surface public parking lots are prohibited in prime commuter areas such as Lower Manhattan and Midtown except by special permit.

Looking back after almost 30 years, these regulations have proven to be compatible with a growing, successful Manhattan Core. The regulations allow limited amounts off-street parking to be provided with new development and allow some developments to provide additional parking by special permit. In doing so, the 1982 regulations strike a balance between discouraging auto commuting in a highly traffic-congested part of the city where transit access and walkability are excellent while recognizing that the need for off-street parking remains even when auto commuting is restrained.

Since 1982, physical and demographic changes in the Manhattan Core and trends in CBD-bound travel have altered the overall supply off-street parking and its utilization. While parking facilities have been built as part of new developments since 1982, more spaces have been eliminated – typically as public parking lots and garages have been redeveloped for other uses. The total off-street parking supply in the Manhattan CBD has decreased from approximately 127,000 public parking spaces in 1978 to 102,000 spaces in 2010. At the same time, formerly peripheral neighborhoods such as Tribeca and the Far West Side have seen the rise of a significant amount of residential redevelopment occupied by higher-income residents and families with children, characteristics highly correlated with car ownership. As a result, public parking facilities in the Manhattan Core are increasingly used by residents rather than Manhattan-bound commuters and other visitors, who are now choosing public transit over cars more than in 1982. The Manhattan Core has thrived during this time, and its distinction as the commercial, cultural, and residential center of the region is even stronger than it was.

It is on the basis of these changes that the Department of City Planning decided to investigate how off-street parking in the Manhattan Core is currently used and to employ that information, along with three decades of experience, to reexamine and update the Manhattan Core parking regulations while retaining their basic framework.

Manhattan Core Parking Study

Certain deficiencies in the existing regulations have become apparent over the years since 1982, as has the need for additional data to better understand how off-street parking is utilized within the Manhattan Core. In 2008, with the assistance of a Federal grant, the Department launched a study to collect data about off-street parking in the Manhattan Core through a survey of current users, to analyze that data to better understand user characteristics, and to use that information to help in assessing the zoning regulations governing parking in the Core. Much of this research was conducted through the Manhattan Core Public Parking Survey.

The Manhattan Core Public Parking Survey was conducted between March and May 2009. Department staff collected almost 2,900 intercept surveys from 110 public parking facilities spread throughout the Manhattan Core. The number of parking spaces in the surveyed facilities represented approximately 15 percent of the 146,000 public parking spaces in the Manhattan Core licensed by the New York City Department of Consumer Affairs (DCA). Respondents included commuters, people conducting business, Manhattan residents, medical patients, and those visiting for leisure. The survey included questions about trip purpose, home ZIP code, reasons for not taking mass transit, frequency of respondents' auto trips to Manhattan, and respondents' occupation. In addition to the survey of public parking users, the Department also collected operator-provided data about the parking facilities, including the percentage of spaces occupied by residential monthly parkers.

The Study also included analysis of Census and other data to furnish insight into how demographic trends and changes in car ownership patterns relate to utilization of off-street parking. Transportation data, including the annual reports on Hub (CBD)-bound travel issued by the New York Metropolitan Transportation Council (NYMTC), were analyzed in order to ascertain how travel into the Manhattan Core has changed since 1982. In addition to data analysis, Department staff have closely reviewed the Manhattan Core regulations and the City Planning Commission's experience in recent years with review of parking special permit applications, with a view toward identifying areas where the regulations may be obsolete, inconsistent with current policies, or insufficient for a well-functioning special permit process. Staff have also interviewed practitioners with experience in parking facility design. More recently, the Department has conducted an ongoing survey of residential buildings constructed since 2000 in the Manhattan Core to determine, among other information, whether these buildings provided parking and whether the parking is public. Public parking facilities in New York City, except for municipal facilities operated by the City, are licensed by the New York City Department of Consumer Affairs (DCA).

Findings

The Manhattan Core study has yielded a number of key findings:

- **The Manhattan Core parking regulations have proved to be compatible with population and job growth and a thriving Central Business District.** In almost three decades since the Manhattan Core regulations were enacted, the Manhattan Core has added population and jobs and has strengthened its position as the vital heart of a world city. Travel into the CBD has shifted toward transit and away from private vehicles. While off-street parking is less critical than it was in this respect, it still plays an important role in supporting economic activity and provides a necessary amenity for residential neighborhoods in the Core.

- **The supply of off-street parking in the Manhattan CBD has declined** by about one-fifth since the Manhattan Core parking regulations were enacted. With the redevelopment of surface lots and garages, as well as the effects of the regulations in limiting the provision of parking, the number of off-street public (DCA-licensed) parking spaces below 60th Street has decreased from around 127,000 in 1978 to approximately 102,000 in 2010.

- **Levels of car ownership and auto commuting in the Manhattan Core are relatively low.** Approximately 23 percent of Manhattan Core households own a car (compared with 46 percent Citywide), and only about one-fifth of those households commute to work by car. However, since 1982, car ownership has increased at a faster rate in the Manhattan Core than in Manhattan outside the Core.

- ***Public* parking facilities serve a large number of Manhattan residents and fill neighborhood needs for residential parking.** In contrast with 1982, when most public parking was utilized by commuters and other business parkers, a large portion of spaces in public parking facilities were found to be utilized by Manhattan residents on a monthly basis. In public parking facilities located in residential and mixed-use buildings, approximately 60 percent of spaces were occupied by residential monthly parkers, most of whom do not live in the building but come from the surrounding neighborhood. In more residential neighborhoods such as the Upper East Side, over 70 percent of spaces in public parking facilities in residential and mixed-use buildings were used by neighborhood residents. To a much greater extent than in 1982, the supply of public parking is serving neighborhood needs for long-term residential parking.

- **Most new parking facilities in the Manhattan Core operate as public facilities**, despite zoning regulations that require permitted parking to be reserved for accessory use only. In part, this is a result of the complexity of the zoning regulations, which require certain spaces to be reserved for certain users (e.g., residents of the building, customers of the retail stores in the building), some of whom are transient while others are not. These regulations

have proven cumbersome and difficult to enforce. The widespread practice of operating new parking facilities, treated as accessory in zoning, as public facilities has resulted in a straightforward and successful system of multiuse parking that expands options for parkers, including residents seeking parking in their neighborhood. While the 1982 regulations assumed that distinguishing between accessory and public parking is necessary to ensure that there is parking sufficient to meet residential demand, today residents are able to secure parking through the market for public parking.

- **Limited amounts of new parking are still needed.** Many travelers into the Manhattan Core who park in public parking facilities make all or most of their trips into the Core by car. New investments in transit infrastructure and land use policies that encourage transit-oriented development are expected to further the positive trend of the last 30 years, where people traveling into the Manhattan CBD have come by transit in ever greater numbers. For the foreseeable future, however, parking will still be needed to accommodate some share of trips into the Manhattan Core, even if that share continues to fall. As the survey results showed, people choose to drive for a variety of reasons ranging from the needs of their job, because they are transporting goods or other people, or the inadequacy of transit where they live. A population of car-owning households in the Manhattan Core will remain, in part because residents of new housing in the Core tend to own cars at higher rates than the residents of existing housing. Some new parking will be necessary to support economic activity and accommodate residential demand.

On the whole, the Department concludes that the 1982 Manhattan Core parking regulations have been successful and do not require fundamental changes. However, targeted modifications could update the regulations to reflect contemporary conditions, improve their functioning, and provide more clarity and predictability. Some possible modifications along these lines are discussed in the concluding section, "Study Findings and Parking Policy Goals." In brief, the suggestions include:

- Formalizing the current system of public parking;
- Improving parking special permits for fuller consideration of the appropriateness of proposed facilities;
- Developing specific criteria for special generators and large sites;
- Removing obsolete regulations that could hinder the provision of affordable housing;
- Revising regulations to promote pedestrian-friendly streetscapes;
- Establishing layout standards for new parking facilities that promote pedestrian safety and well-functioning streets; and

- Providing for automated parking facilities.

This report consists of the following sections:

- Policy Background
- Manhattan Core Demographic Trends Since 1980
- Manhattan Core Public Parking Survey Findings
- Study Findings and Parking Policy Goals

PARKING POLICY BACKGROUND

Current parking policy in the Manhattan Core is embodied in zoning regulations, enacted in 1982, that restrict the development of new parking in Community Districts 1 through 8. Below is a description of the background and content of the 1982 policy, effects of the policy, and related studies.

Clean Air Legislation

In response to growing concern over air pollution and the effects of emissions from motor vehicles, Congress adopted the Clean Air Act in 1970. The legislation required all states to draft a federally-enforceable State Implementation Plan (SIP), which indicates how the state will achieve compliance with National Ambient Air Quality Standards (NAAQS). In response, the City adopted a Transportation Control Plan (TCP) in 1973, which included the goal of reducing off-street parking in the Manhattan Central Business District (CBD), generally defined as Manhattan below 60th Street, by 40 percent. The goals of the TCP shaped later zoning regulations for parking in Community Districts 1 through 8, which cover the area from the Battery north to East 96th Street and West 110th Street. This area encompasses Manhattan's densest residential areas, along with the Midtown and Downtown business districts.

1982 Zoning Text Amendment

In 1982, the City Planning Commission adopted an amendment to the Zoning Resolution (Article I, Chapter 3) that aimed to reduce parking in the Manhattan Core in order to improve air quality. It was widely believed that having less off-street parking, particularly in prime commuter areas, would reduce driving in Manhattan and encourage the use of mass transit. Goals of the 1982 amendment included:

- A reduction in the supply of off-street parking spaces in the Core
- A reduction in the number of motor vehicles entering the Core
- Improved air quality within the Core

Prior to 1982, the zoning resolution encouraged off-street parking in the Manhattan Core through parking *minimums* (as opposed to maximums) and through permissive streetscape and design regulations. Zoning required accessory parking for new residential developments and allowed a significant amount of parking in association with commercial and community facility development.[1] Zoning also allowed public surface parking lots (as distinct from public parking garages) with a capacity of up to 150 spaces as-of-right in most commercial and manufacturing

[1] *Accessory* parking is available only to the users of the building, while p*ublic* parking may be used by anyone, regardless of their destination. A public parking garage may sometimes include accessory parking spaces for other uses on the same zoning lot.

districts, in recognition that the vast majority of the users of public parking were commuters.[2] Accessory parking could be provided as-of-right for conversions and existing uses and could also be used by non-residents. Required parking could be unenclosed and located off-site, and curb cuts on wide streets were allowed for required parking.

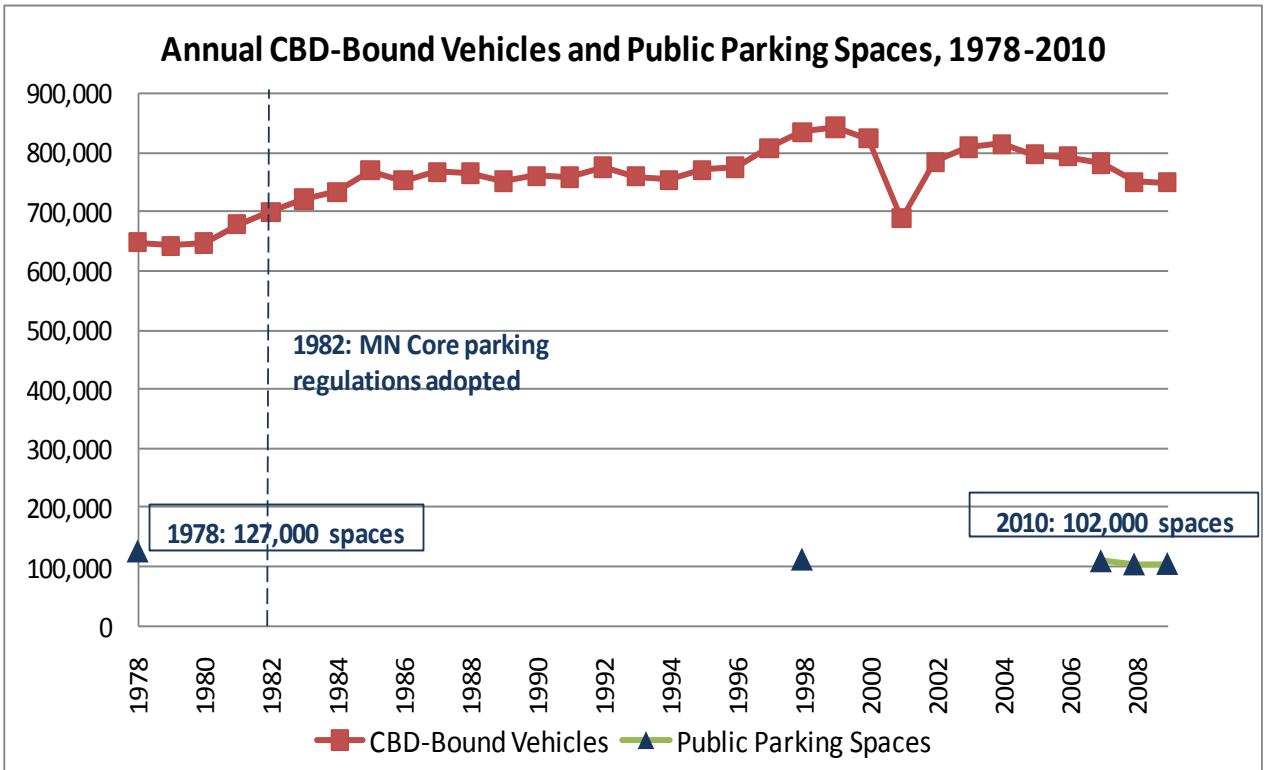
The most fundamental changes made with the establishment of the Manhattan Core parking regulations were the elimination of parking requirements for residential uses and the establishment of limits on the maximum amounts of accessory parking that could be provided, a reduction in the amount of accessory parking that could be provided for commercial and community facility uses, and the prohibition of as-of-right public parking lots in certain areas where commuter parking was most prevalent. Furthermore, accessory parking regulations were changed to require that parking be located on the same zoning lot to which it is accessory and restricted to only those occupants of particular developments. New public parking facilities required a special permit. New parking for conversions or existing buildings was no longer allowed except by action of the City Planning Commission.

[2] According to the 1981 *Parking Management Study* by the NYC Department of Environmental Protection, approximately 85 percent of public off-street parking was used by commuters and other business-related parkers.

Effects of the 1982 Parking Policies in the Manhattan Core

Traffic and Parking Supply

The number of off-street public (DCA-licensed) parking spaces in Manhattan has declined since the Manhattan Core parking regulations went into effect in 1982. Below 60th Street, the number of parking spaces decreased from approximately 127,000 in 1978 to approximately 102,000 in 2010.[3] The decline in the number of spaces is due to the redevelopment of sites that formerly contained parking facilities as well as the effects of the Manhattan Core regulations in limiting the provision of new parking.

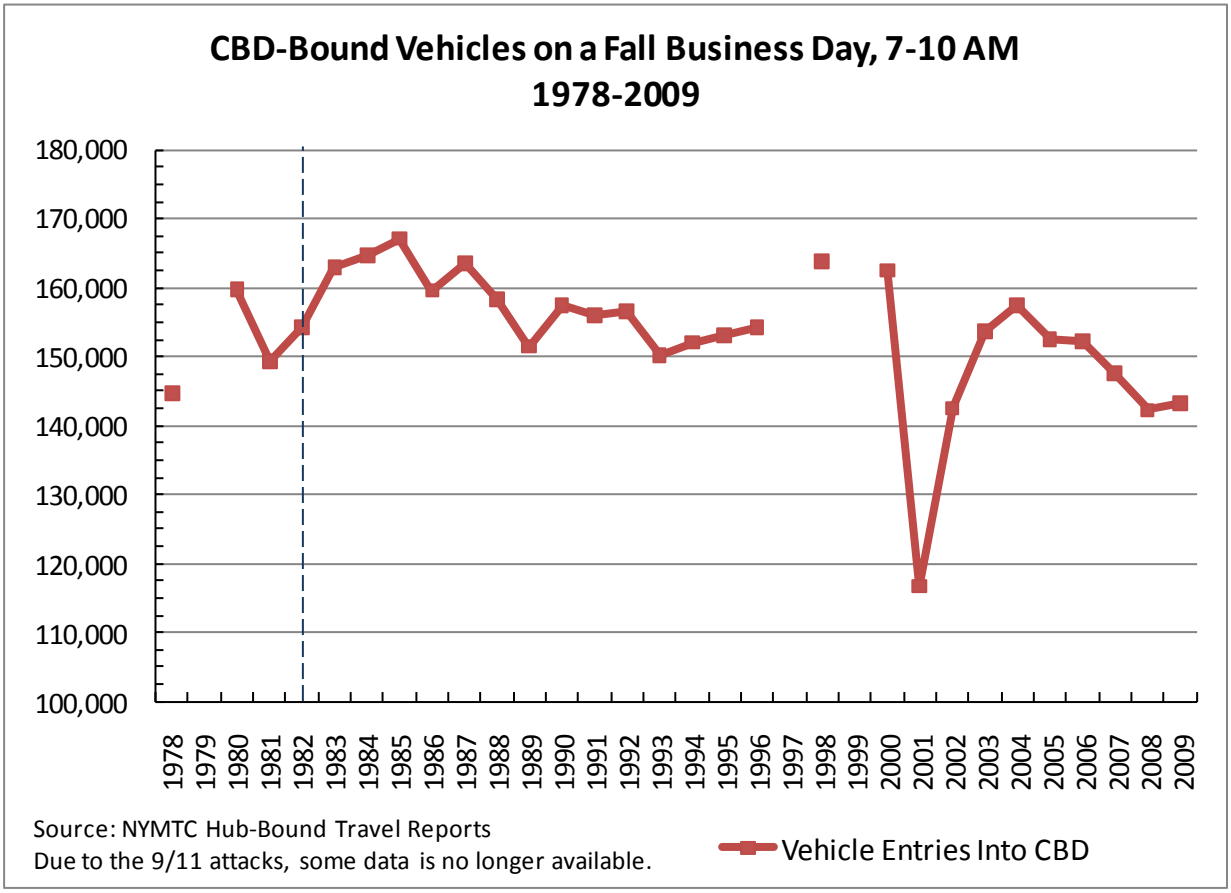


Source: 2009 NYMTC Hub-Bound Travel Report; DCA
Notes: All data for MN below 60th St. Through traffic is estimated to account for 20-40% of all traffic in the CBD.

During the morning peak period (7 am-10 am), when commuter entries are the highest, combined auto, taxi, and truck entries into the CBD trended down, declining by about seven percent from 154,000 to 143,000 between 1982 and 2009, with the decline concentrated since 2000. However, the total number of vehicles entering the CBD has not declined. In 2009, the number of vehicles entering the Hub as measured on a fall business day stood at 750,000, an increase of 49,000 from the 701,000 that entered in 1982.[4] The most recent figure, however, represents a decline in CBD-bound vehicle entries since 1999, the highest year ever recorded

[3] New York City Department of Consumer Affairs and Department of Environmental Protection.
[4] New York Metropolitan Transportation Council (NYMTC) 2009 Hub-Bound Travel Report. www.nymtc.org.

with 844,000 entries. In addition to any effects of the reduction in the number of parking spaces, other factors such as the introduction of the MetroCard, free transfers between buses and the subway, and improved safety on mass transit and in the city in general may have encouraged commuters to choose an alternative to driving.



Employment

Factors other than parking supply, such as income and employment, have a stronger correlation to the number of vehicles entering the CBD. The supply of high-paying jobs, particularly those within the finance, insurance, and real estate (FIRE) and service sectors, seems to have a much stronger correlation with driving trends than parking supply. As employment in these sectors has increased or decreased, the number of cars entering the CBD has followed a similar pattern.

Air Quality

Although the number of vehicles entering the CBD has increased since the current parking regulations were adopted in 1982, most of the air quality objectives of the Clean Air Act have been achieved, according to the State Department of Environmental Conservation (DEC). The annual average level of carbon monoxide (CO) has been decreasing since 1985 in the CBD and other locations, according to the annual New York State Ambient Air Quality Reports issued by

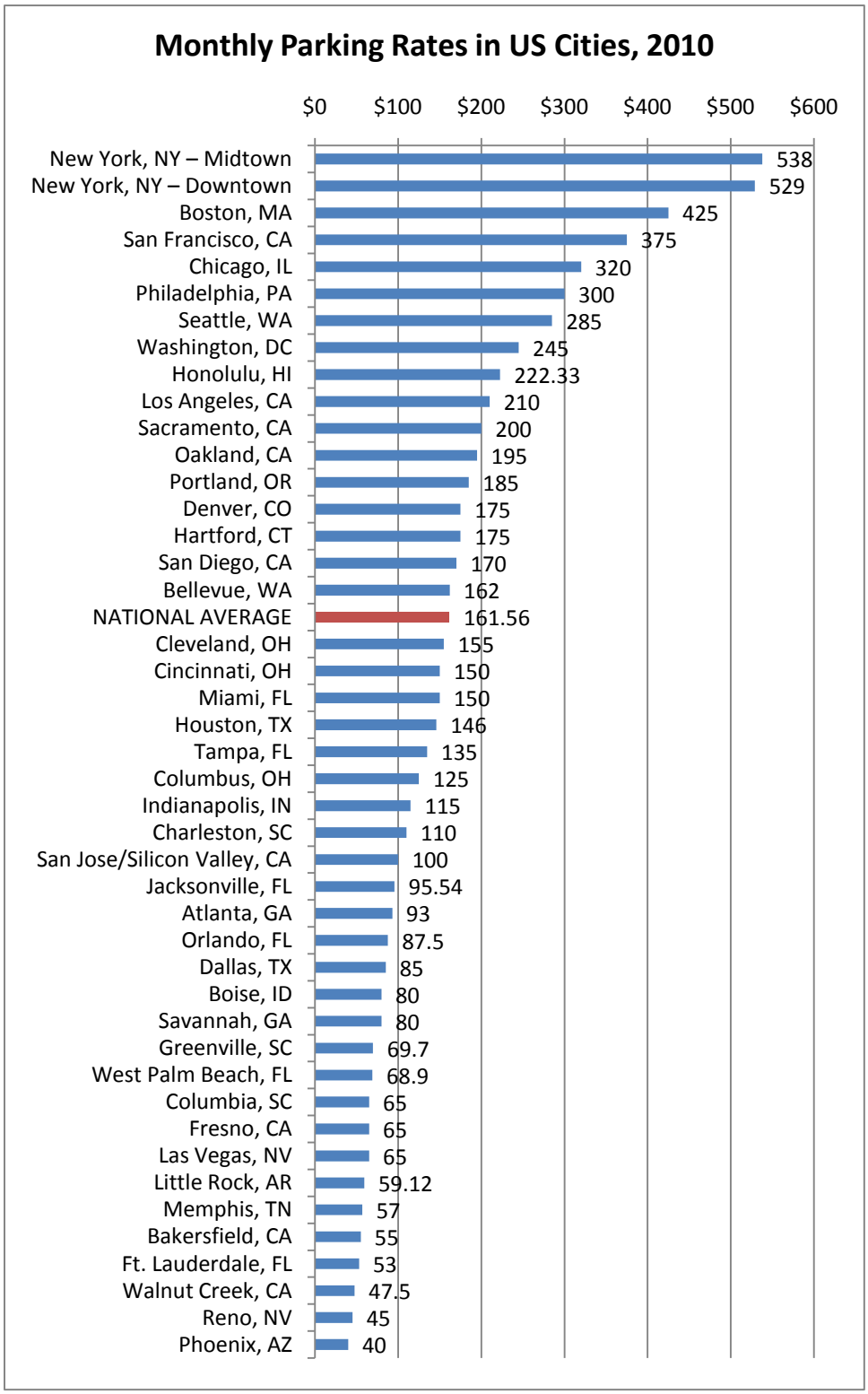
DEC. Factors likely contributing to a decrease in CO include the implementation of E-Z Pass and improved technology in the auto industry, such as the use of catalytic converters, the removal of lead from gasoline, and improved fuel efficiency.

Parking Cost

One significant effect of the decrease in the number of public parking spaces is that the cost of parking in the Manhattan Core has become very high. Colliers International's 2010 Global CBD Parking Rate Survey (see chart below) determined that New York City's average monthly unreserved parking rate and daily parking rate are the highest in the nation.[5] Parking facilities in Midtown Manhattan charged approximately $538 per month ($529 downtown) and $40 per day ($31 downtown). The high parking rates in the CBD are a result of a limited supply of spaces as well as continued robust demand. While the high cost and decreased supply of parking has not resulted in a reduced number of vehicles entering the CBD compared with 1982, this is not to say that the high cost of off-street parking has not influenced choice of travel mode. Manhattan-bound commuting has the highest transit mode share in the nation at 73 percent, according to the 2009 American Community Survey (ACS).

[5] Colliers International, *2010 Global CBD Parking Rate Survey*.
http://www.colliers.com/Country/UnitedStates/content/globalcolliersparkingratesurvey2010.pdf

COLLIERS MONTHLY UNRESERVED PARKING RATE



Source: Colliers International Global Parking Rate Survey, 2010

Previous Studies Related to Manhattan Core Parking Policy

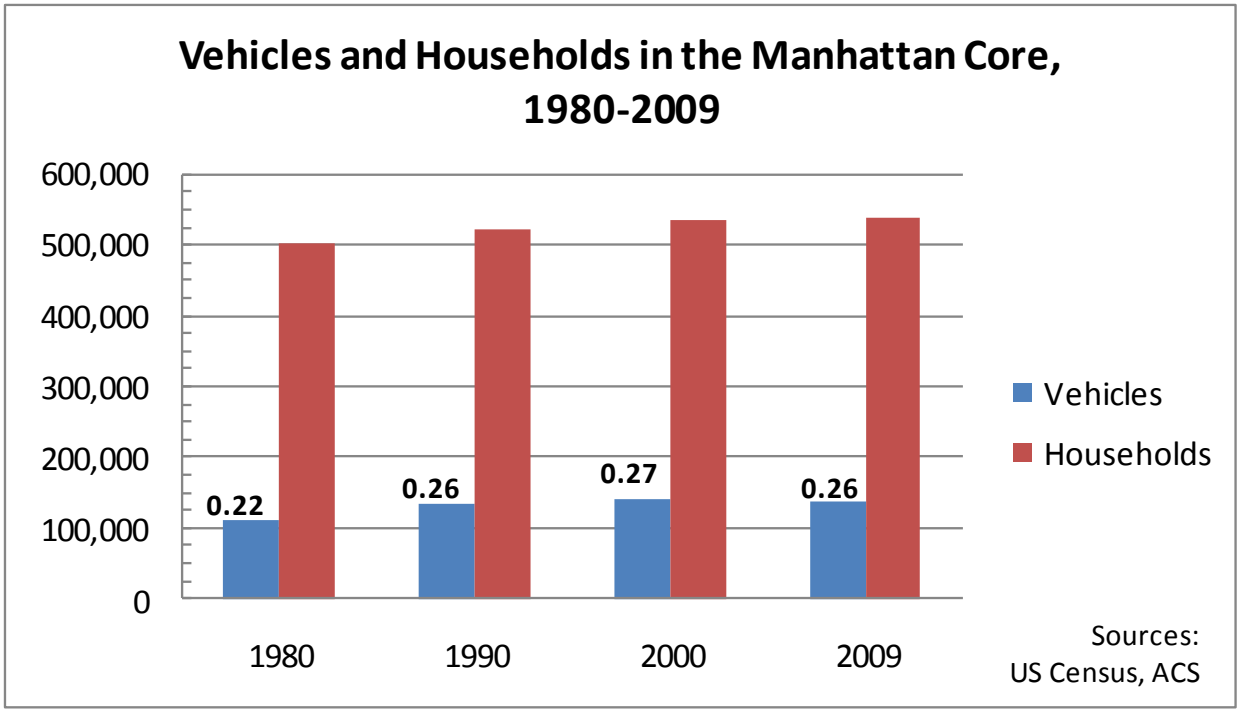
Off-street parking policies in New York City have been studied for several decades by the Department of City Planning and other agencies. In 1981, the NYC Department of Environmental Protection (DEP) published the *Parking Management Study*. The study surveyed 500 off-street parking facilities below 60th Street to examine the preferences and inclinations of those parking in Manhattan. The purpose of the study was to help policymakers determine how parking policy may be used to reduce traffic volumes and improve air quality in Manhattan.

In 1995, under the guidance of the Department's Transportation Division, a survey of public and on-street parking users in Manhattan Community Districts 1 through 8 was conducted by Hayden-Wegman Consulting Engineers. The sites surveyed for the study included both on-street and off-street parking spaces throughout the city. The purpose for this study was to examine the attitudes of drivers and determine the relationship between parking patterns and land use. These findings, compiled in a report called *Parking Facilities Users' Survey and Parking Needs Survey in Community Districts 1 through 8*, were intended to help the City predict parking needs for new developments based on the results for similarly zoned areas in the study.

MANHATTAN CORE DEMOGRAPHIC TRENDS SINCE 1980

Vehicle Availability

Since 1980, vehicle availability (the number of households with access to a vehicle) has increased for Manhattan Core residents, which correlates with increased income and presence of families with children. Census data indicates that between 1980 and 2009, the number of vehicles in the Manhattan Core increased by 27 percent, from approximately 110,000 to 139,000, while the number of households increased by seven percent, from approximately 503,000 to 537,000. The ratio of vehicles to households in the Manhattan Core increased sharply in the 1980s, from approximately 0.22 in 1980 to 0.26 in 1990 and has remained around the same level since, declining slightly from 2000 to 2009.

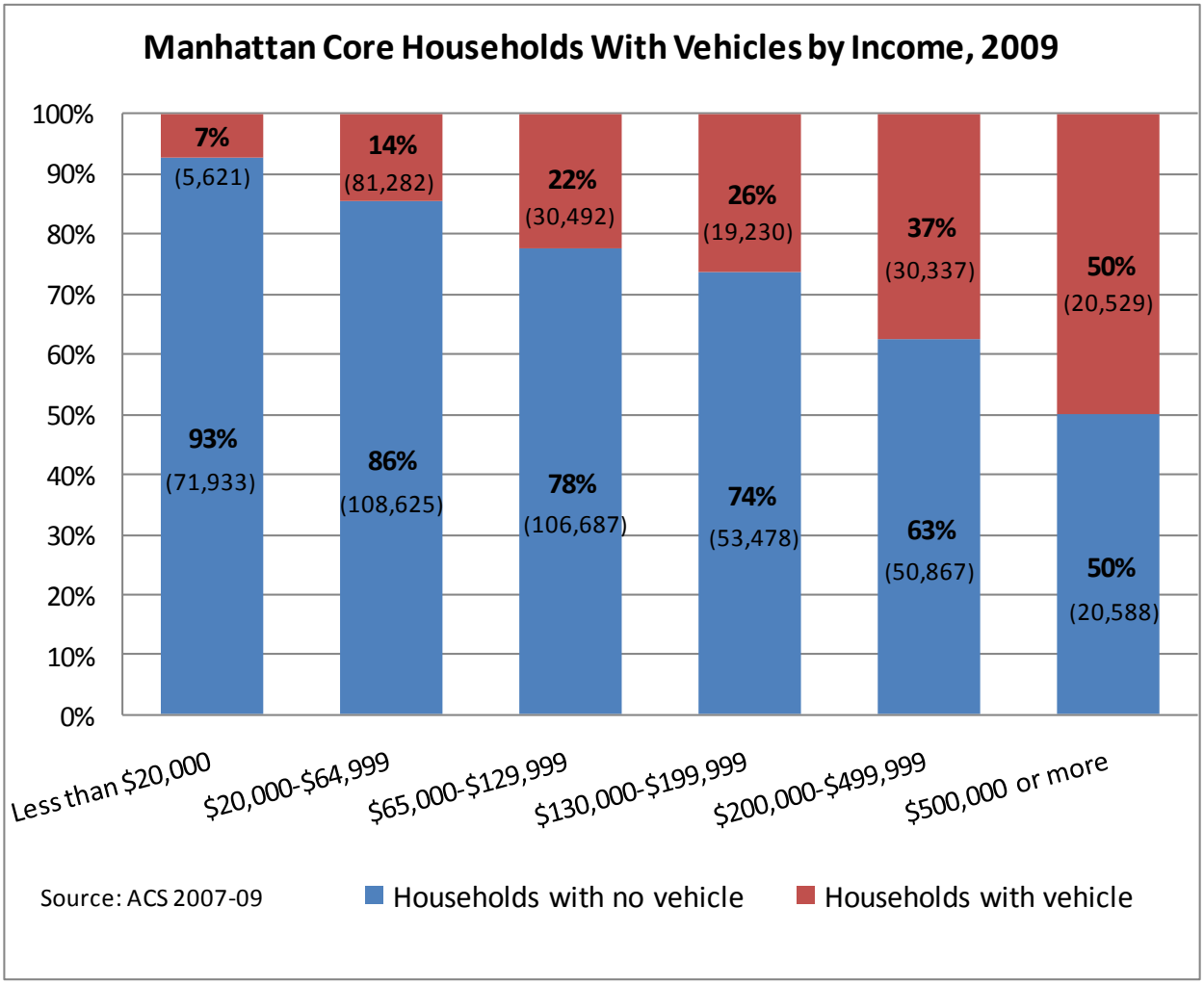


Income

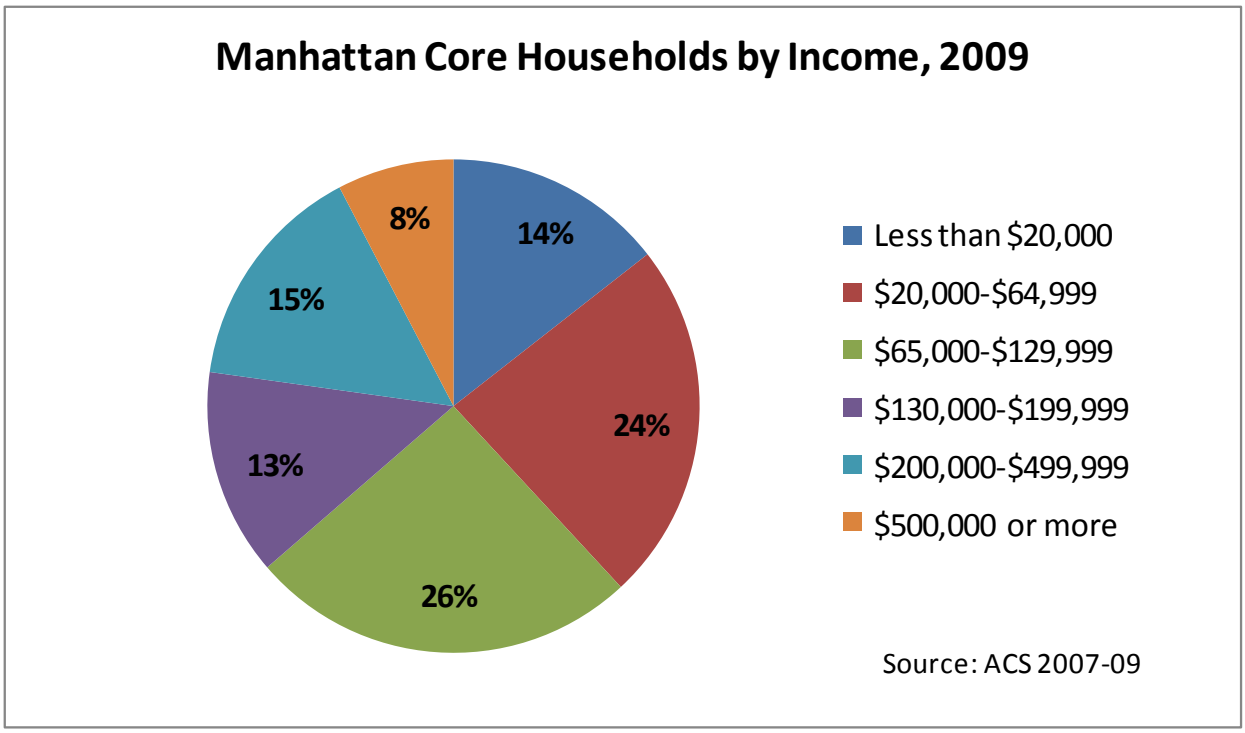
The increase in vehicle availability in the Manhattan Core may be largely attributed to increased income. According to Census data, median household Income in the Manhattan Core (adjusted for 2009 dollars) was $36,640 in 1980, $55,989 in 1990, $77,882 in 2000, and $87,625 in 2009, for a total increase of 239 percent over the full period.

It was found that auto ownership rates increase with household income throughout the city. This pattern holds true within the Manhattan Core. While 23 percent of all Manhattan Core households reported having access to an automobile in 2009, high-income households owned

vehicles at a much higher rate. According to the American Community Survey three-year estimates for 2007-09, approximately 36 percent of Manhattan Core households with incomes of $130,000 or more had at least one vehicle, while around half of households earning $500,000 or more had vehicles.



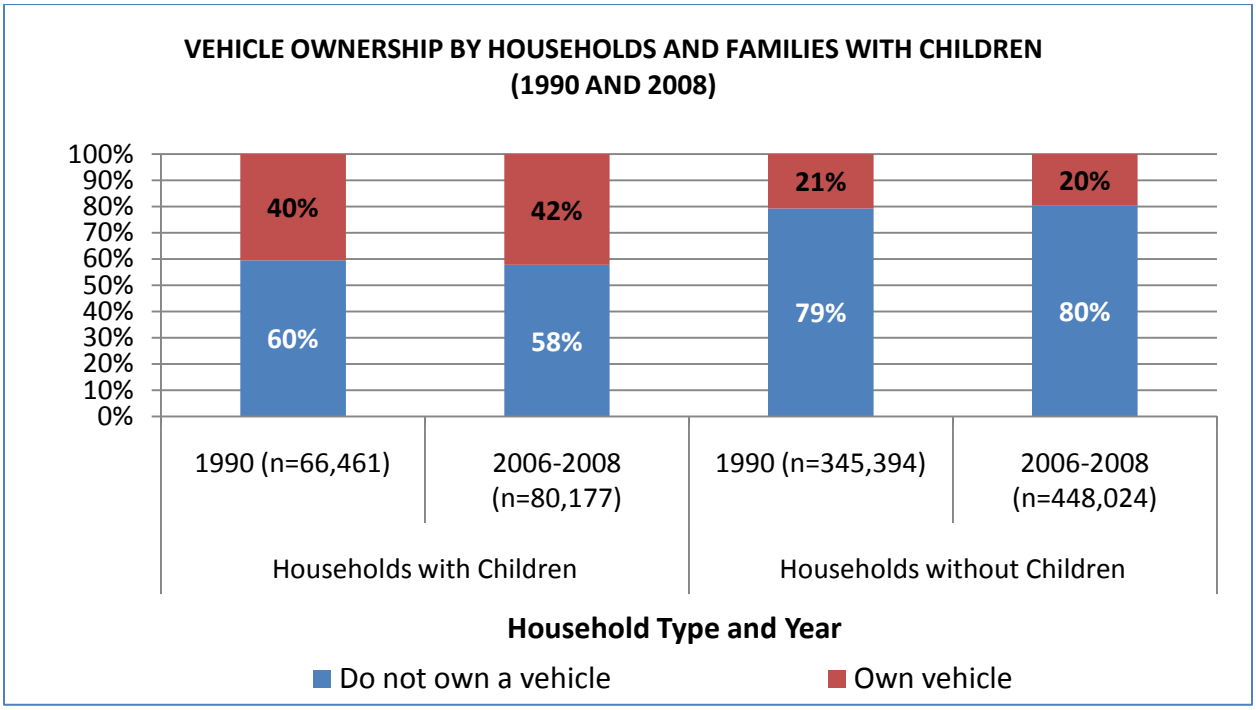
Furthermore, as shown in the chart below, a large percentage of Manhattan Core households are upper-income. According to the ACS data for 2007-09, 36 percent of households in the Core had an annual income of $130,000 or more.



Still, when controlling by income, a larger share of households citywide outside the Manhattan Core own cars than do households within the Manhattan Core. This likely reflects factors such as the excellent availability of transit options in the Core, very dense land use patterns that make walking feasible for many trips, and the scarcity and high cost of parking.

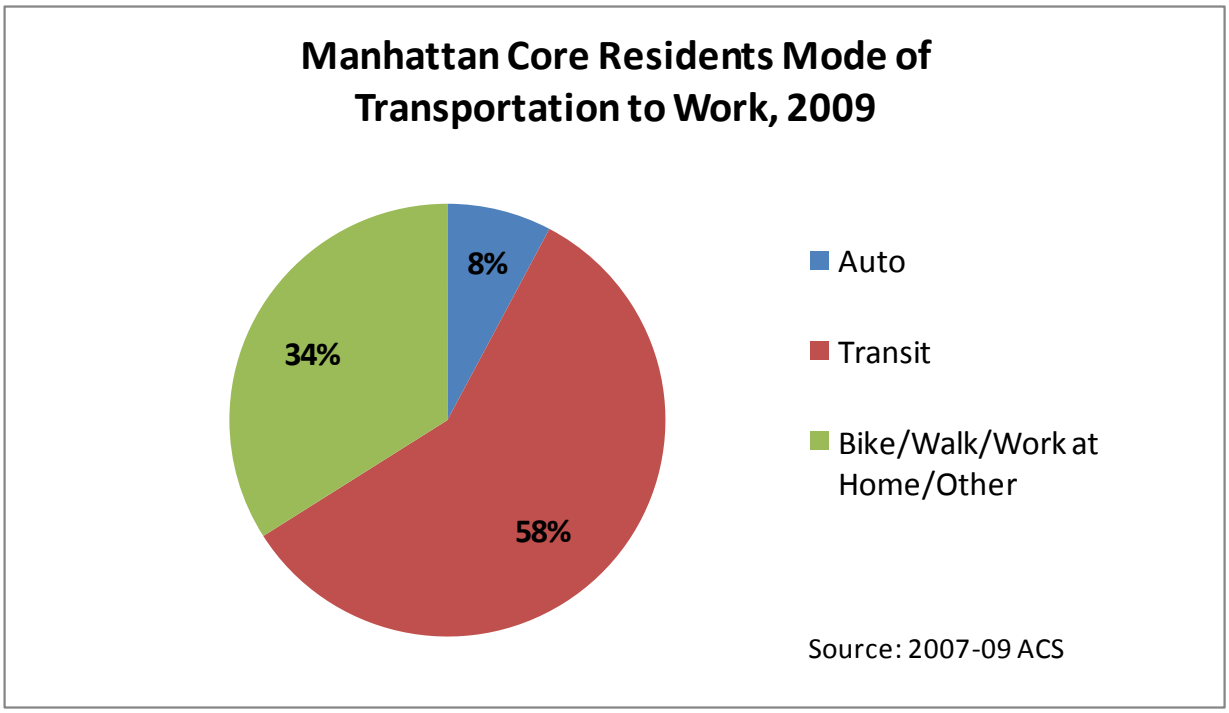
Families

The presence of children in a household is highly correlated with car ownership. As shown in the chart below, in 1990 as well as 2008, Manhattan Core households with children owned vehicles at around twice the rate as households without children.

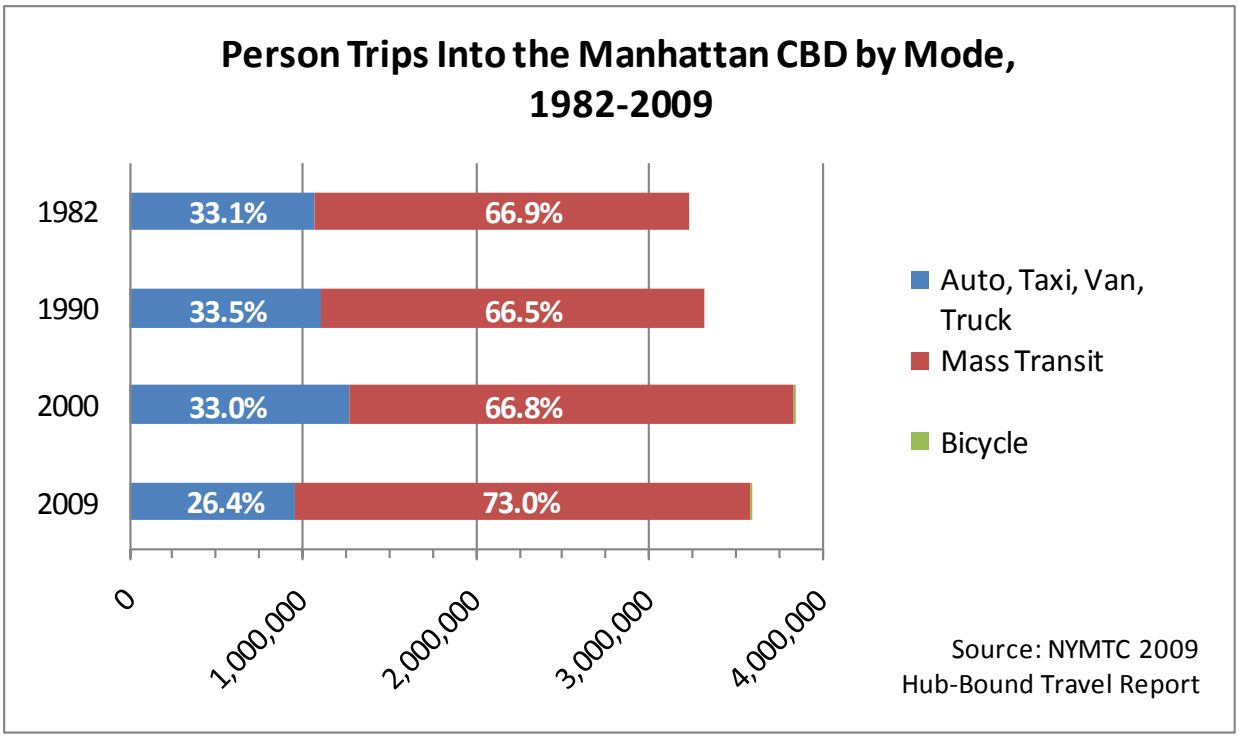


Journey to Work

About 23 percent of Manhattan Core households have cars; of these, only about one-fifth use a car as their primary means of commuting to work. Auto use as the primary means of travel to work has declined in spite of the increased number and share of households owning vehicles. In 1990, the share of Manhattan residents using a car as their primary means of commuting was 10.1 percent; in 2000, that percentage was 9.2 percent; and by 2009, it had declined further to 7.8 percent. Among Manhattan Core residents with jobs in Manhattan in 2009, approximately 69 percent traveled to work by transit, seven percent drove, and the remaining 24 percent biked, walked, used another mode, or worked at home. Borough-wide, about nine percent of workers who reside in Manhattan commute to work by car, including the four percent who commute to jobs within Manhattan.



In terms of trips into the Manhattan CBD from outside the CBD, while the data indicate that there has been an increase in the number of vehicles entering the CBD since 1982, it is important to note that a large majority of *people* traveling into the CBD use transit both for daily commuting (as measured by the share of trips during the morning rush hour period from 7 to 10 am) and for trips throughout the day, and that this share has increased since 1978. In 2009, 86 percent of people entering the CBD during the morning rush hour of a typical fall business day used transit, while most of the remainder drove. Overall, from 1982 to 2009, the total number of people entering the CBD by car on a typical fall business day decreased by approximately 118,000, during a period when total trips into the CBD increased by approximately 364,000.



In addition to having very low rates of auto commuting, Manhattan Core monthly residential parkers generally use their cars infrequently. According to the Manhattan Core Parking Survey, 25 percent of monthly residential parkers at surveyed facilities in the Manhattan Core reported making five or fewer vehicle trips per month; 38 percent reported five to 19 trips per month, and 37 percent reported making 20 or more trips per month. (The survey methodology, which captures respondents when using vehicles, likely over-represents frequent auto users and under-represents infrequent auto users.)

2009 MANHATTAN CORE PUBLIC PARKING SURVEY FINDINGS

The purpose of the Manhattan Core Parking Survey was to collect information about the use of off-street public parking n the study area in order to inform policy decisions pertaining to public parking.

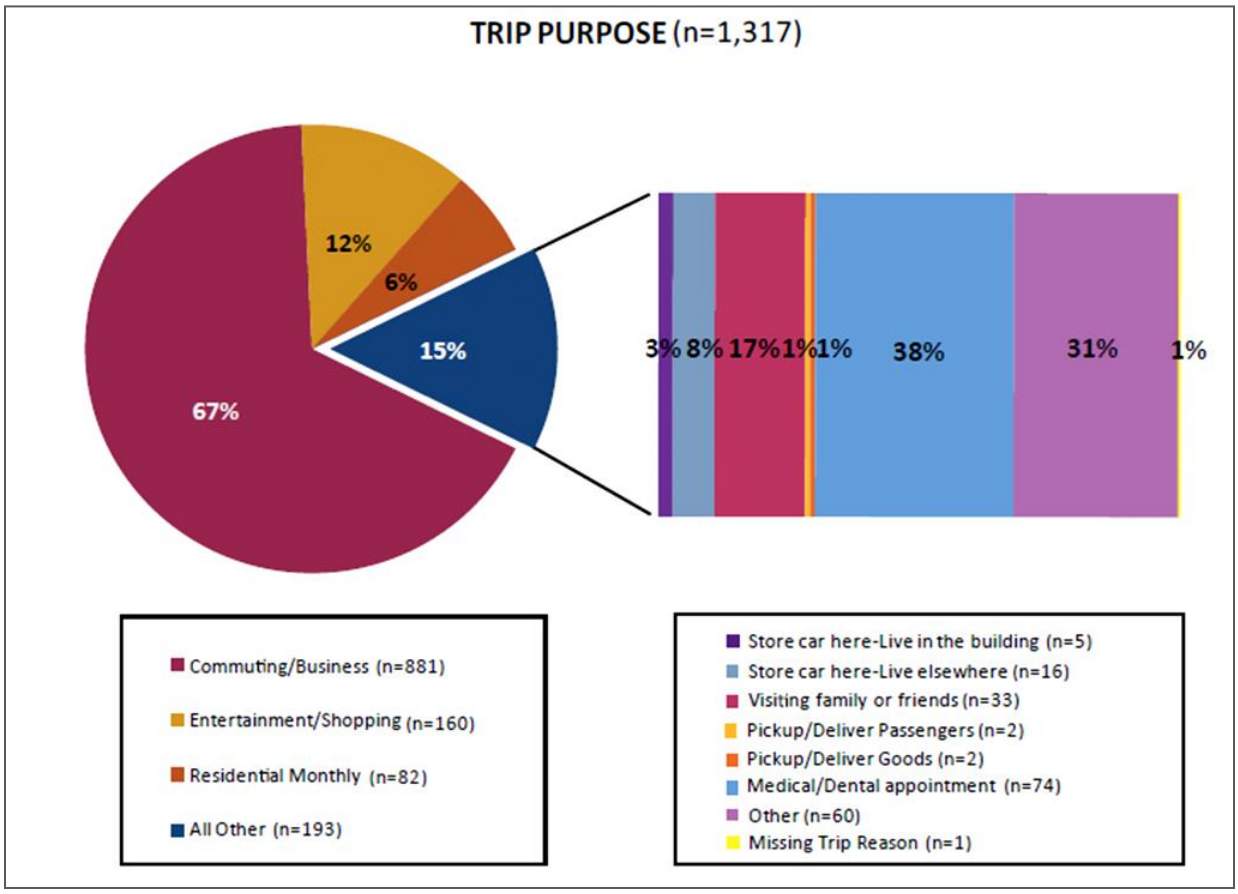
DCP staff collected 2,871 intercept surveys from 110 public parking facilities for this study. The number of parking spaces in the surveyed facilities represented approximately 15 percent of the approximately 146,000 public parking spaces in the Manhattan Core licensed by the New York City Department of Consumer Affairs (DCA). All New York City parking facilities with a private operator are required by law to obtain a license from DCA. The survey included questions about trip purpose, home zip code, reasons for not taking mass transit, frequency of auto trips to Manhattan, and occupation. Results were weighted to accurately compare the six community district (CD) subareas and the three larger geographic zones: Uptown, Midtown, and Downtown. The survey form is located in the Technical Appendix at the end of this report.

The results of the study yielded several major findings about parking garage users. The conclusions below specify the different type of users who responded to the survey, how often they need to drive into Manhattan, why transit is not an option for them, and their places of origin and destinations.

Public parking users traveling into the Manhattan Core came from widely dispersed locations across the New York City region and beyond with very little concentration coming from any one zip code. Survey respondents lived in over 800 different zip codes, with no more than 25 (less than one percent) living in the same zip code area.

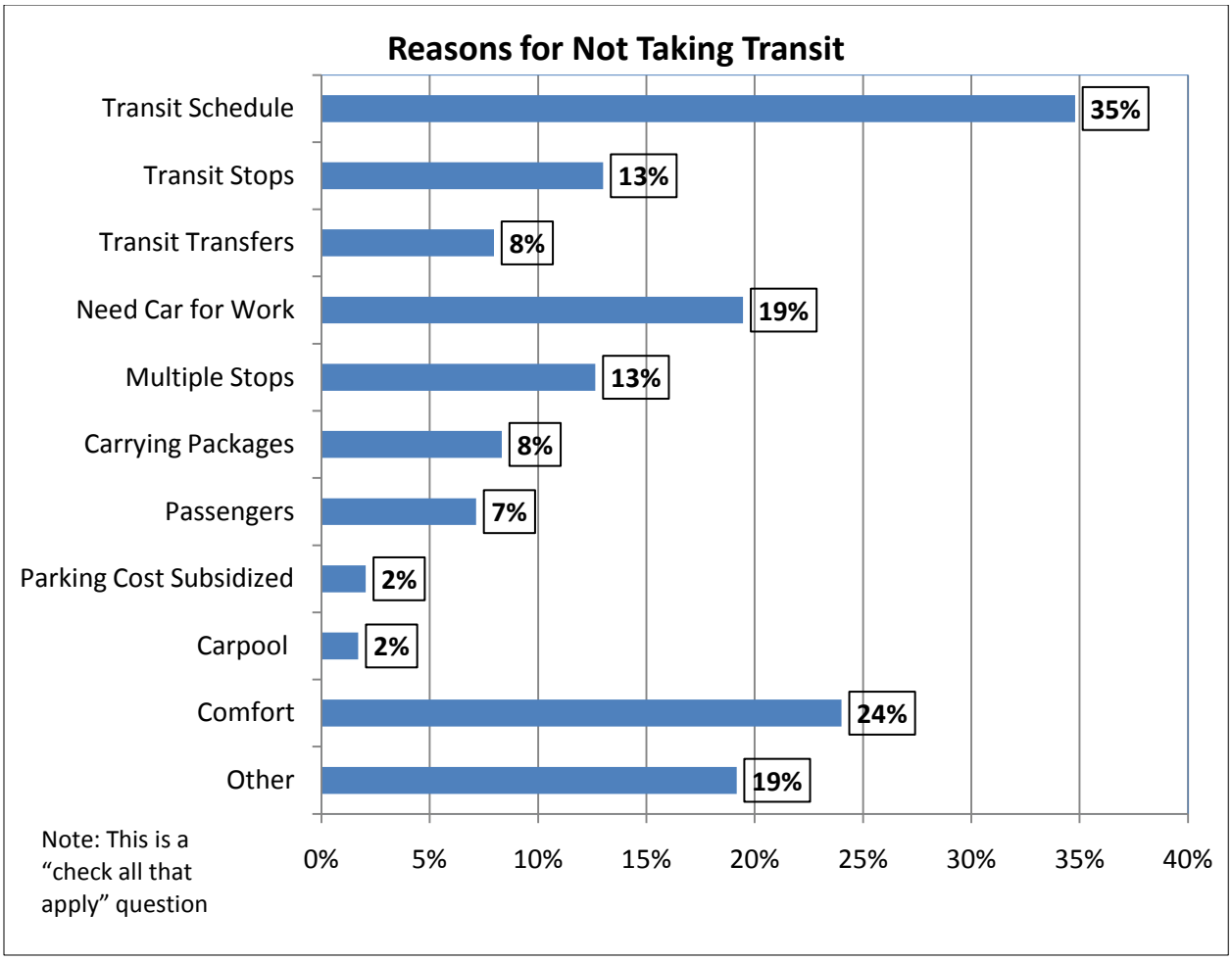
There were four major groups of survey respondents based on their reported trip purpose: Commuting/Business, Entertainment/Shopping, Residential Monthly Parkers, and All Other. (Manhattan residents who were storing their car and parked on a monthly basis are defined as Residential Monthly Parkers). It should be noted that the survey had some limitations, in particular regarding residential monthly parkers. The survey methodology involved handing surveys to parkers to fill out while they were waiting for their car to be retrieved; because residential monthly parkers often pre-arrange pick up of their vehicle, these parkers frequently could not be captured. In addition, residents who had cars in these facilities but were not using them during the survey periods were obviously not surveyed. As a result, the survey results underestimate the number of residential monthly parkers using the surveyed facilities, and so the study has employed data provided by the operators to assess more accurately the presence of residential monthly parkers in public parking facilities. Also, the survey was conducted during the nationwide economic recession, a time of higher unemployment in the City and region, which likely reduced utilization of public parking facilities.

Questions about trip purpose, why different user groups chose to drive that day rather than taking transit, and how frequently drivers use their car to drive in Manhattan were designed to provide insight into the role of personal vehicles in mobility, economics, and quality of life.



While commuting/business users cited transit schedule most frequently as their reason for driving into the Manhattan Core at the time of the survey, entertainment users reported comfort as being their main reason. Manhattan residential monthly parkers most frequently (23 percent) indicated "other reasons" for driving that day. Overall, 42 percent of all respondents cited transit schedule, transit stations, and/or transit transfers as reasons why they chose to drive.

Below are some additional observations about the four groups and their responses to the survey. Responses to all survey questions for all respondents and for the four user groups can be found in the Technical Appendix.



Work and Business-Related Users

At 67 percent, commuting and business-related users composed the largest segment of respondents. Of this segment, over two-thirds were commuters, and the remainder were parking for business-related purposes such as visiting clients or attending a business meeting.

A significant segment of workers, particularly those in sales and construction, reported choosing not to take transit because they needed their car for work, either because they were traveling to several locations in one day or because they needed to transport heavy tools or equipment.

Entertainment and Shopping Users

The respondents in this group were more likely than other groups to travel during off-peak hours and stay at their destination for short periods of time. Many respondents in this group drove with other occupants in their vehicle. The largest share of this group – 25 percent – cited comfort as a reason for not using transit.

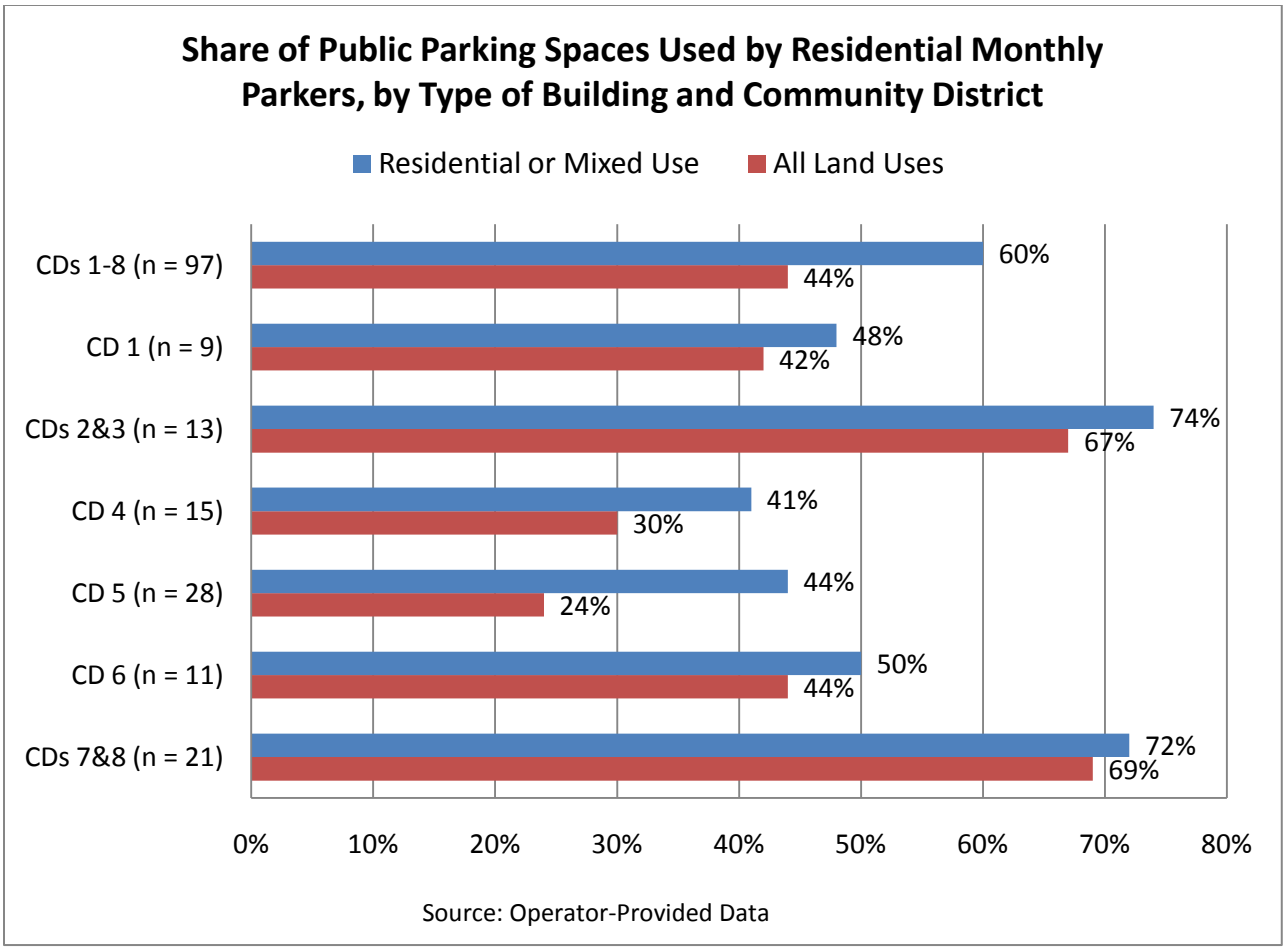
These findings indicate that this group of users may be relatively unreceptive to changing their mode of travel and parking in the Manhattan Core. They are a user group which generates revenue for the city, and since they are more likely to travel during off-peak hours and carpool, they are less likely to add to peak-period traffic congestion. Lastly, the respondents in this group park for short periods of time, so one parking space can accommodate several visitors in one day.

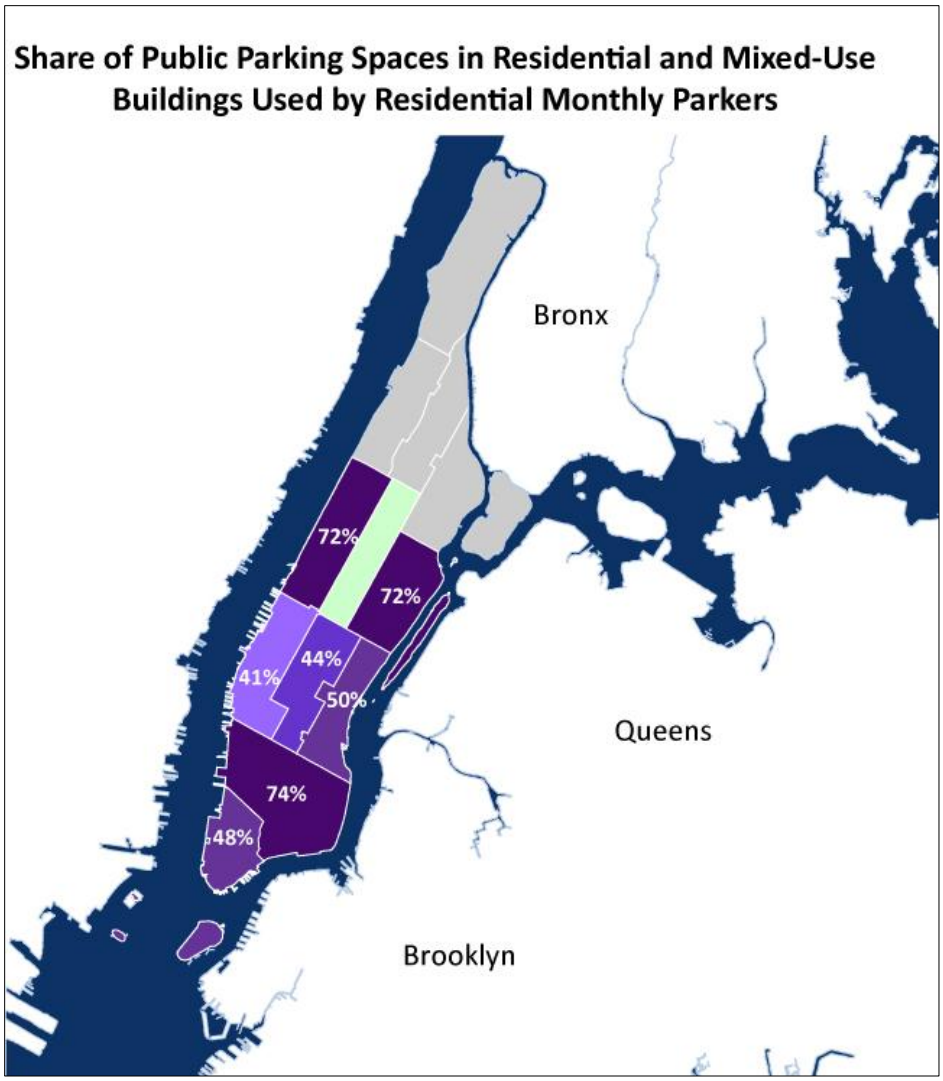
Almost half of these respondents (45 percent) parked in Midtown, indicating a particular need for parking in areas where there is a concentration of commercial and entertainment uses.

Residential Monthly Parkers

Manhattan residential monthly parkers were the smallest group of respondents, in part because they were able to access their cars quickly and thus were far less likely to participate in the survey. Many residents do not use their vehicles daily and were less likely to be surveyed for this reason as well. Those residents who were surveyed indicated that they made fewer trips by car in the prior month than Manhattan residents who were not monthly residential parkers.

According to operator-provided data, 44 percent of all public parking spaces in surveyed facilities were leased to residential monthly parkers. In residential study areas, the share was much higher: over 70 percent in Community Districts 2 & 3 and 7 & 8. The following chart and map indicate the percentages of spaces occupied by residential monthly parkers in residential or mixed-use buildings and in all buildings.


Share of Public Parking Spaces Used by Residential Monthly Parkers, by Type of Building and Community District
Residential or Mixed Use
All Land Uses
CDs 1-8 (n = 97)
60%
44%
CD 1 (n = 9)
48%
42%
CDs 2&3 (n = 13)
74%
67%
CD 4 (n = 15)
41%
30%
CD 5 (n = 28)
44%
24%
CD 6 (n = 11)
50%
44%
CDs 7&8 (n = 21)
72%
69%
0%
10%
20%
30%
40%
50%
60%
70%
80%
Source: Operator-Provided Data



Community Districts 2 & 3 and 7 & 8 had the highest percentages of monthly residential parkers, indicating a need for residential parking. This suggests that residents storing their vehicles in public parking facilities in residential neighborhoods occupy a much larger share of the parking spaces than was the case when the Manhattan Core parking regulations went into effect. For example, the 1981 *Parking Management Study* mentioned above found that approximately 85 percent of surveyed parking spaces were used by commuters and other business-related parkers.

The Manhattan Resident Parking Tax Exemption, which reduces taxes on parking fees for eligible applicants living in Manhattan, was another source of data used to obtain information about residential monthly parkers. Drivers who park in Manhattan are charged an 18.375 percent tax on rental parking spaces. However, qualified filers for the Manhattan Resident Parking Tax Exemption have this tax reduced to 10.375 percent. In order to be eligible, Manhattan residents must own and register their motor vehicle to a Manhattan address and

park in a long-term rented space for a month or more. The vehicle must be for personal use only.

Residents who file for the exemption are required to notify the New York City Department of Finance (DOF). According to records provided by DOF, on average only 10 percent of residents who filed for the tax exemption lived in the same building where they parked their vehicles. However, 63 percent of DOF filers lived either in the same building or within a quarter-mile of the parking facility where they parked their vehicle, and 84 percent of filers lived either in the same building or within a half-mile of the facility where they parked their vehicle.

Other Users

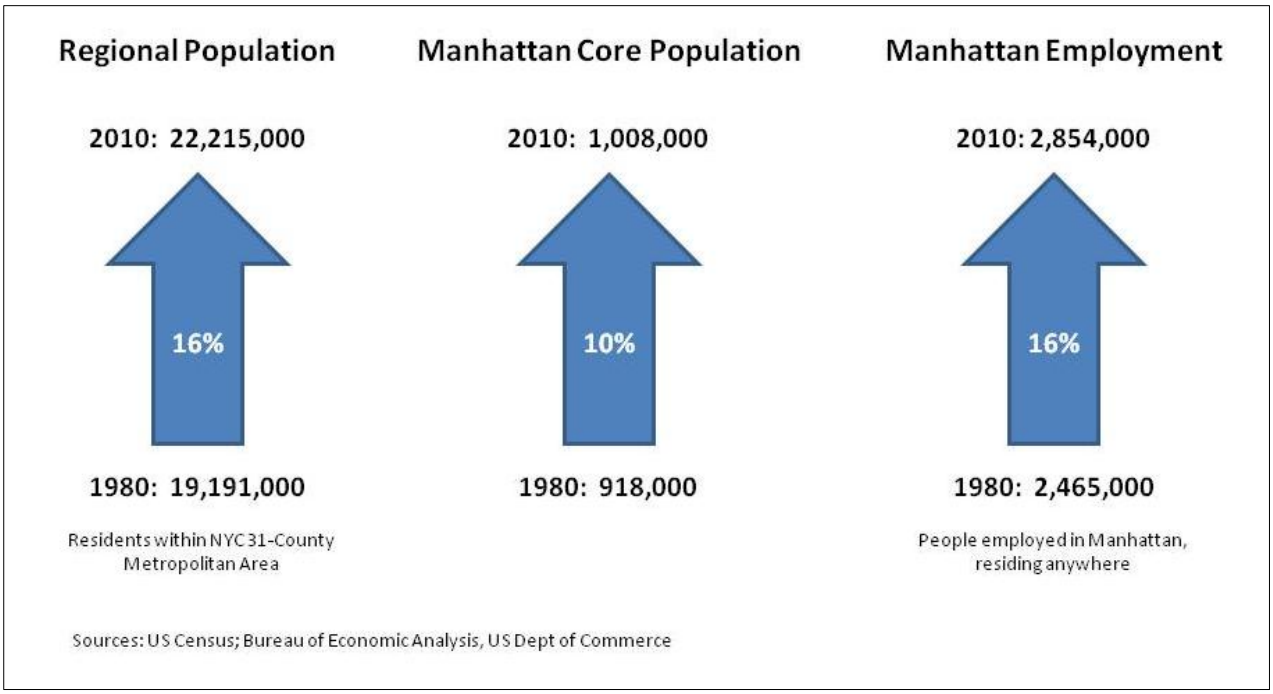
Survey respondents who did not fit into any of the three categories above reported several different trip purposes. Among those listed were picking up or dropping off passengers and goods, visiting family or friends, and going to a medical or dental appointment. A significant share (38 percent) of this group selected a medical or dental appointment as their trip purpose – another population of drivers with less flexibility in their transportation options.

STUDY FINDINGS AND POLICY GOALS

Study Findings

The purpose of the Manhattan Core study is to better understand how existing supply of off-street parking is used so as to advise stakeholders and decision makers on future parking policies. These surveys, along with analysis of Census and other data, yielded the following key findings:

- **The Manhattan Core parking regulations have proved to be compatible with population and job growth and a thriving CBD.** In the almost 30 years that the regulations have been in effect, both the Manhattan Core and the New York City region have gained population, while Manhattan has added almost 400,000 jobs.



Even with more people and more jobs, the number of people entering the Manhattan CBD daily by car has declined by over 100,000 since 1982, while the number using transit has increased by almost half a million. This shift to transit is especially pronounced among commuters. The transit-supported growth of the Manhattan Core has lessened the role of off-street parking, though it remains important.

- **The supply of off-street parking in the Manhattan Central Business District (Manhattan below 60th Street) has declined by about one-fifth since 1982**, when the Manhattan Core parking regulations were enacted. With the redevelopment of surface lots and garages as well as the effects of the Manhattan Core regulations in limiting the provision of parking,

the number of off-street public (DCA-licensed) parking spaces in the CBD has decreased from around 127,000 in 1978 to approximately 102,000 in 2010.

- **Levels of car ownership and auto commuting in the Manhattan Core are relatively low.** Only 23 percent of Manhattan Core households have a car (compared with 46 percent Citywide), and only about one-fifth of those households commute to work by car. Still, given the large population in the Manhattan Core, these low percentages still mean that a large number of households (approximately 127,000) own cars. The number of personal vehicles in the Core increased substantially in the 1980s and has remained basically flat since. Car ownership has increased at a faster rate than in Manhattan outside the Core.

- **Public parking garages serve a large number of Manhattan residents and fill neighborhood needs for residential parking.** Approximately 44 percent of spaces in 97 surveyed public parking facilities throughout the Manhattan Core were occupied by Manhattan residential monthly parkers (including residents who do not live in the building in which the parking garage is located). This figure increased to 60 percent of spaces in public parking facilities in residential and mixed-use buildings, and it was over 70 percent in public facilities in residential and mixed-use buildings in more residential neighborhoods such as the Upper West Side and Greenwich Village. In addition, 90 percent of parkers in the surveyed facilities who filed for the Manhattan Resident Parking Tax Exemption parked in a facility other than the building they live in, and 84 percent parked within a half-mile of home, indicating that residents with cars often look beyond their building to facilities in their neighborhood in order to find off-street parking. The wide use of public parking facilities by Manhattan residents represents a major change from 1982, when public parking was overwhelmingly used by commuters and other business parkers.

- **Most new parking facilities in the Manhattan Core operate as public, despite zoning regulations requiring new as-of-right parking to be "accessory."** Although not contemplated when the current parking regulations went into effect, this widespread practice has resulted in a successful system of multiuse parking that expands parking options for neighborhood residents within a single market.

- **Limited amounts of new parking are still needed.** While the survey results suggest that some current drivers could be induced to use transit for more trips, particularly with improvements in the extent and quality of transit service in the region, many people choose to drive for a variety of reasons ranging from work demands to practical needs and personal preference and are likely to continue to do so. The supply of existing off-street spaces in which these cars can park is expected to continue to decline as surface lots and garages are redeveloped. In order to support economic development and meet the needs of certain uses, such as hospitals and sites of large public assembly, some new parking beyond as-of-

right levels will be necessary. At the same time, new market-rate housing in the Manhattan Core for the growing population tends to accommodate relatively high-income residents, who own cars at significantly higher rates than lower-income residents but tend to use them infrequently.

In summary, public parking in the Manhattan Core is increasingly utilized by residential monthly parkers rather than commuters and other business-related drivers. While diminished, the role of public parking in supporting economic activity in the Manhattan Core continues to be significant and important to the city's economy. The net result of new off-street parking development and the redevelopment of existing facilities is expected to continue to result in a gradual decrease in total supply of off-street spaces.

Policy Goals

The study found that conditions have changed in the almost three decades since the Manhattan Core parking regulations were enacted. This period has provided extensive experience with the regulations. Based on that experience, the following policy goals seek to update and improve land use controls on off-street parking in the Manhattan Core that are consistent with the Federal Clean Air Act, promote a high-quality pedestrian environment, and support the City's economy.

Formalize the current system of public parking. The zoning distinction between "accessory" and "public" parking does not reflect the reality that public parking facilities, which are often located in residential buildings, serve neighborhood needs for residential monthly parking as well as for visitors and business-related trips. Most new parking facilities in residential buildings, while required to be accessory under zoning, already receive DCA licenses and operate as public without negative effects on neighborhoods. Instead of limiting certain portions of facilities to residential accessory parkers, changing zoning regulations to conform with this unplanned but beneficial outcome would preserve parking options for neighborhood residents and create consistency in the way City agencies deal with public parking. The existing zoning rules create unnecessary complexity that makes it more challenging to regulate parking facilities and, if enforced, would prevent neighborhood residents' use of many parking facilities.

Improve parking special permits to allow for fuller consideration of the appropriateness of proposed facilities. When an applicant is seeking a special permit for parking spaces in excess of what is allowed as-of-right, the City Planning Commission must evaluate whether the proposed facility meets certain specific "findings" set forth in the Zoning Resolution. At present, the findings are limited to ensuring that new facilities do not cause traffic congestion or overwhelm the local street network. Other important factors, such as an assessment of whether the number of spaces proposed is appropriate for the area in which it is located and

consideration of pedestrian safety and streetscape conditions, are excluded. A more comprehensive and tailored set of special permit findings would allow for consideration of the full range of relevant issues while providing additional guidance and clarity for applicants.

Develop specific criteria for special generators and large sites. The current special permit framework for applications for parking beyond permitted amounts does not adequately address certain situations. Large-scale developments, which because of their size have the potential to transform the parking landscape in the surrounding area, should be comprehensively assessed, including factors such as proposed development and uses, capacity in nearby parking facilities, and access to transit. In addition, "Special generators" – uses with a demonstrable need for larger amounts of parking, such as a hospital, convention center, or arena – also lack criteria that address these situations. A targeted set of findings would help the Commission to assess whether a particular applicant qualifies as a special generator and whether parking beyond as-of-right levels is justified.

Remove obsolete regulations that could hinder the provision of affordable housing. The Manhattan Core regulations *require* minimum amounts of off-street parking for new affordable housing, while the provision of parking is optional for every other use. This requirement is unnecessary and places additional cost burdens on affordable housing developments. In addition, there is currently no way for developments that remain subject to pre-1982 parking requirements to modify those requirements, which may be necessary if, for example, an existing parking lot is to be redeveloped as affordable housing.

Revise regulations to promote pedestrian-friendly streetscapes. The current regulations contain some provisions that may be inconsistent with the type of attractive and safe pedestrian streetscapes that are essential to the vitality of Manhattan Core neighborhoods and the success of the CBD. For example, the floor area exemption for above-ground parking that is available to all developments may encourage blank walls and displacement of active uses.

Remove unintended regulatory impediments to permitted parking. Zoning regulations limit the area, in square feet, of new attended parking facilities in order to ensure that the physical size of a facility is consistent with the number of spaces permitted. However, the current square footage limit prevents some new facilities from actually incorporating the number of spaces that they are otherwise allowed. Adjusting the maximum size to be more consistent with the maximum number of spaces would remove an unintended inconsistency in the regulations.

Establish layout standards for new parking facilities that promote pedestrian safety and well-functioning streets. At present, there are few regulations dealing with such issues as queuing space, adequate maneuverability, width of curb cuts, and safe pedestrian access. A limited set

of layout standards based on industry best practices would help ensure that new parking facilities are safe for users and pedestrians and do not interfere with pedestrian and vehicle flow on the street.

Provide for automated parking facilities. Automated parking, in which a computer-controlled system moves vehicles into vertically stacked slots, has been widely used in Japan and Europe, and two facilities are currently in operation in the Manhattan Core with others planned. It has several advantages for parking operators and users: Cars have less risk of damage or theft, there are no exhaust fumes, and the facility uses considerably less space than a conventional parking garage. For these and other reasons, it seems possible that automated facilities will become more prevalent in coming years. Zoning regulations should be adjusted as necessary so as to not to preclude this advance in off-street parking technology.

Next Steps

Beginning in Spring 2011, Department staff began to engage in a dialogue with a wide range of stakeholders, including City agencies, elected officials, transportation and affordable housing advocates, and representatives of the real estate and parking industries. In the coming months, the Department hopes to present a draft proposal for a zoning text amendment incorporating the recommendations above to Manhattan Core community boards and others.

TECHNICAL APPENDIX FOR THE 2009 MANHATTAN CORE PARKING SURVEY

This appendix includes methodology details along with frequencies of all survey responses and frequencies of the four groups of public parking users: commuting/business, shopping/entertainment, residential monthly parkers, and all other. (Residential monthly parkers were defined as Manhattan Residents who were storing their car and parked on a monthly basis).

Outreach to Facility Operators

Department of City Planning (DCP) staff contacted public parking facility operators to obtain their cooperation with this study. Several operators agreed to participate and provided a list of their facilities within the Manhattan Core study area. In order to secure their cooperation, DCP staff agreed to keep their identities, locations, and individual responses from their facilities confidential. These operators provided a total of 156 facilities (about 15 percent of the total DCA facilities in the Manhattan Core).

DCA maintains a database that contains all licensed public parking facilities in the city. By obtaining this database, DCP was able to map how parking facilities are distributed throughout the Manhattan Core study area. The DCA database for August 2009 listed 1,062 distinct licensed facilities within CDs 1-8 with a combined total of 145,660 spaces. The 156 facilities contained 28,135 parking spaces (about 19 percent of all DCA-licensed parking spaces in the Manhattan Core).

Determining the CD Subareas

DCP divided the Manhattan Core study area into six CD subareas, since parking demands and patterns differ according to neighborhood character and land uses. The subareas are: CD 1 (Lower Manhattan/Financial District), CDs 2 and 3 (West Village, Soho, Lower East Side), CD 4 (Clinton, Chelsea), CD 5 (Midtown), CD 6 (Gramercy Park, Murray Hill, Kips Bay), and CDs 7 and 8 (Upper West Side and Upper East Side).

Determining Number of Surveys to Administer

A target sample of 1,500 survey respondents was set for the entire study area to create a statistically valid sample for each CD subarea. The target number of surveys to be administered within each CD subarea was determined by the proportion of DCP database spaces in the CD subarea to the DCP database spaces in the entire study area.

The DCP database contained 28,211 public parking spaces in Manhattan CDs 1-8 (as described above, this is the number of spaces in cooperating operator facilities, not the total number of

DCA-licensed spaces.) The target number of surveys for each subarea was established as follows: Since nine percent of all parking spaces in the DCP sample were in CD 1, the study was designed so that nine percent of all 1,500 surveys in the study would come from CD 1. Therefore, a target of 132 surveys was set to be collected from CD 1. In order to ensure that survey results could be analyzed in a statistically significant way by CD subarea as well as for the study area as a whole, no fewer than 125 surveys would be collected in any CD subarea, regardless of the ratio of spaces in the CD subarea to the total study area.

Selecting Facilities to Survey

Within each CD subarea, specific parking facilities were chosen for surveying based on the number of parking spaces compared to others in the CD study area.

To calculate the number of surveys needed from each facility, all DCP database facilities within each CD subarea were sorted in descending order by number of spaces. The number of spaces in each facility as a percentage of all spaces in the DCP sample *within that CD subarea* was then determined. For the largest facility in a CD subarea, a target number of surveys to collect at that facility were calculated by multiplying the percentage of spaces within the CD subarea at that facility by the total target number of surveys desired for that CD subarea.

After the largest facility was accounted for, each successively smaller facility's targets were determined by calculating the percentage of spaces at that facility relative to all spaces within the *DCP sample within that CD subarea*, excluding the spaces from the larger facility. That percent was then applied to the target number of surveys desired for that CD subarea.

This process was repeated for each successively smaller facility within the CD subarea until the target number of surveys was reached. Any facilities remaining in the CD subarea after the target number of surveys was achieved were not scheduled for surveying. In situations where the assigned facility to be surveyed was deemed inappropriate to survey for reasons including inaccessibility or poor ventilation, the facility was substituted with the next on the list.

Surveying Facilities

DCP staff surveyed a total of 110 facilities from March to mid-May 2009 in the six CD subareas. In order to test the survey instrument, a pilot week of surveying was conducted January 26 through January 30, 2009; these pilot results were also used in this study. Each week, 15 facilities were scheduled Tuesday through Thursday, from 1-3 pm and from 4-6 pm. Friday was considered a make-up date for inclement weather, particularly in cases of colder winter weather and open lot sites. A small subset of the facilities was also surveyed Friday nights, from 9-11 pm, to capture the characteristics of evening parkers in areas, such as the Theater District, that have large concentrations of nighttime attractions.

Generally, one staff member was scheduled for the 1-3 pm shift and two staff members were scheduled for the 4-6 pm shift for each facility. However, the location and capacity of the facility, along with any safety concerns and staff resources, helped to determine the number of surveyors assigned to each shift. Facilities that were considered to be in high traffic areas, such as Times Square, Herald Square, and Midtown, usually had two surveyors for each shift period while facilities located in residential buildings or facilities further away from the CBD, such as the Upper West Side and along the East River, usually had only one surveyor. Additionally, operators provided input to the busiest times for their facilities to help determine the number of surveyors needed.

At the commencement of each shift, DCP surveyors approached the facility manager with an operator letter authorizing the surveying on the premises by their management. Surveyors gathered data from the attendants such as occupancy data of the facility (either number of vehicles or percentage estimate) and any other factors that may affect the parking levels for the day, such as special events. Surveyors then approached parking users after they paid at the cashier and were waiting for the attendants to retrieve their vehicles. The administering of surveys was often completed by the time the attendants had retrieved the vehicle.

Survey Limitations

DCP staff intended for the survey methodology to capture a robust sample of public parking facility users across Manhattan Community Districts 1-8, and within each CD subarea. While DCP collected 2,871 surveys – and enough to analyze patterns at fairly local levels – the sample of parking facilities from where surveys were collected was limited. Survey collection entailed a physical presence at each facility, and DCP only obtained permission to enter facilities run by cooperating operators. While the total number of parking spaces surveyed represented 15 percent of all DCA parking spaces in the study area, a larger number of cooperating operators might have contributed to a more thorough study.

Furthermore, staff members conducting the survey were limited by logistics, timing and available resources. The 1-3 pm, 4-6 pm, and Friday 9-11 pm time slots were chosen for survey administration since DCP staff was unable to be present at any facility at all hours of operation.

While the survey methodology was able to capture a wide range of public parking users, monthly parkers, especially residential monthly parkers, were very difficult to capture because they typically call the facility in advance to have their vehicles ready upon arrival. Moreover, it was discovered that residential monthly parkers use their cars less frequently during the hours when the survey was conducted than other user groups. This observation was made by surveyors who saw far less turnover in facilities with a high percentage of residential monthly

parkers. To offset this issue, the cooperating operators provided DCP staff with a count of the number of monthly parkers and residential monthly parkers in each of their facilities.

Surveyors also received imperfect data for the occupancy level of facilities during the shift periods. While many managers were easily able to access the information requested on their computers, others did not know the information or would make a general estimate based on how full the facility may be at 1 pm and 4 pm based on 25 percent, 50 percent, 75 percent, or 100 percent occupancy.

In certain cases, DCA capacity for any given facility often varied from the actual capacity, making occupancy percentages inaccurate.

Data Analysis

DCP staff surveyed 110 facilities and collected a total of 2,871 surveys, surpassing the 1,500 target survey number for the study area. In order to calibrate the number of surveys collected at each facility with the original target numbers, the DCP staff weighted the surveys up or down to match the target number for each facility within the subareas.

DCP staff verified the data by fixing data entry errors, inputting missing surveys into a database and categorizing the most common "other" choices for Questions 3 and 7 on the survey (reasons for not taking transit and reasons for parking at a certain facility, respectively).

DCP staff then compiled and analyzed the survey data using frequencies for the Manhattan Core study area and by individual CD subareas. The DCP staff also analyzed frequencies for the evening parkers and Manhattan residential monthly parker populations.

DCP staff used SPSS software to create cross tabulations of the survey data in order to find relationships between different groups of respondents and their survey answers. All frequencies and cross tabulation results use weighted numbers with the exception of residential monthly parkers and evening parkers (i.e., n values do not represent the number of respondents but the number of weighted survey responses collected).

In addition to the survey data, DCP staff also obtained monthly parker information from the operators and DOF data of Manhattan residents who applied and received the Manhattan Resident Parking Tax Exemption. The operators' data on the number of monthly parkers and the number of monthly parkers who were Manhattan residents in each of their facilities provided DCP with an estimate of the percentage of spaces leased to residents on a long-term basis. The Manhattan Resident Parking Tax Exemption allows Manhattan residents who own and register a motor vehicle to a Manhattan address and park in a long-term rented space, to

be eligible for a reduced rate of 10.375 percent. The DOF data gives an estimate of the number of Manhattan residents who applied for the Manhattan Resident Parking Tax Exemption.[6] [7] By comparing operator provided data of the number of residential monthly parkers to the DOF data, DCP was able to capture and approximate the number of Manhattan residential monthly parkers that eluded its surveyors.

Questionnaire

The survey was designed by DCP, with input from NYC Department of Transportation, the Real Estate Board of New York, and the cooperating parking operators. The final survey has twelve questions that include among others, asking the public parking users' trip purpose, home ZIP code, and reasons for not taking mass transit. The survey can be found on the following page.

[6] NYC Department of Finance. "Parking and Vehicles: Manhattan Resident Parking Tax Exemption." Accessed 30 November 2009. < http://www.nyc.gov/html/dof/html/parking/park_manhattan_res.shtml>

[7] The Manhattan Resident Parking Tax is 18.375%, which consists of the standard rate of 10.375% and an additional 8% for Manhattan rental parking spaces. Only Manhattan residents who own and register a motor vehicle to a Manhattan address and park in a long-term rented space are eligible to pay a reduced rate of 10.375%.

Manhattan Public Parking Survey

1. Which of the following best describes why you are parking at this location today?

- ☐ a. Store car here
  - i. Live in the building
  - ii. Live elsewhere
- ☐ b. Work or work-related
  - i. Coming to work
  - ii. Here on business
- ☐ c. Entertainment (dining, museums, etc.)
- ☐ d. Shopping
- ☐ e. Visiting family or friends
- ☐ f. Pickup/Deliver Passengers
- ☐ g. Pickup/Deliver goods
- ☐ h. Medical/Dental appointment
- ☐ i. Other

2. What is your home zip code? _____

3. What are your reasons for not taking mass transit today? (Check all that apply)

- ☐ a. Timing/Scheduling
  - i. Transit schedule did not fit my needs
  - ii. Transit stops did not fit my needs
  - iii. My trip would require transfers
- ☐ b. I need my car for work
- ☐ c. I need my car for other reasons
  - i. I am making multiple stops
  - ii. I am carrying packages
  - iii. I am traveling with other people
- ☐ d. Cost
  - i. The cost of my trip is subsidized
  - ii. I carpool
- ☐ e. Comfort
- ☐ f. Other: _____

4. Who is paying for your parking today?

- ☐ a. I paid the cost
- ☐ b. My parking is subsidized or fully paid by one or more of the following (check all that apply):
  - i. Employer
  - ii. Client
  - iii. Merchant
  - iv. Other: _____

5. Are you a monthly parker? If not, how long were you parked at this location?

- ☐ a. I am a monthly parker
- ☐ b. Less than 1 hour
- ☐ c. 1-3 hours
- ☐ d. more than 3 hours- less than 12 hours
- ☐ e. more than 12 hours- less than 24 hours
- ☐ f. 24 hours or more, but not monthly

6. Including yourself, how many people were in your car on this trip? _____

7. Why did you park at this location? (Check all that apply)

- ☐ a. It is close to where I live
- ☐ b. It is close to where I was going
- ☐ c. Affordable price
- ☐ d. It was the first place I saw
- ☐ e. I am reimbursed for parking costs at this particular garage
- ☐ f. Other: _____

8. How did you return to this parking location from your destination?

- ☐ a. Walked
- ☐ b. Biked
- ☐ c. Subway/Bus
- ☐ d. Taxi
- ☐ e. I live/work in the building
- ☐ f. Other: _____

9. How long did this take?

- ☐ a. Less than 5 minutes
- ☐ b. 5 to 15 minutes
- ☐ c. More than 15 minutes

10. If you live in Manhattan, how many times did you use your car in the last month? _____

11. If you do not live in Manhattan, how many trips did you make into Manhattan in the last month? _____

- ☐ a. Of those trips, how many were by car? _____
- ☐ b. How many were by another form of transportation? _____

12. Which category best describes your occupation?

- ☐ a. Construction/Maintenance
- ☐ b. Management/Executive
- ☐ c. Professional/Technical
- ☐ d. Sales
- ☐ e. Secretarial/Clerical/Administrative
- ☐ f. Services
- ☐ g. Transportation/Materials Moving
- ☐ h. Student
- ☐ i. Other (including homemaker, not employed, or retired

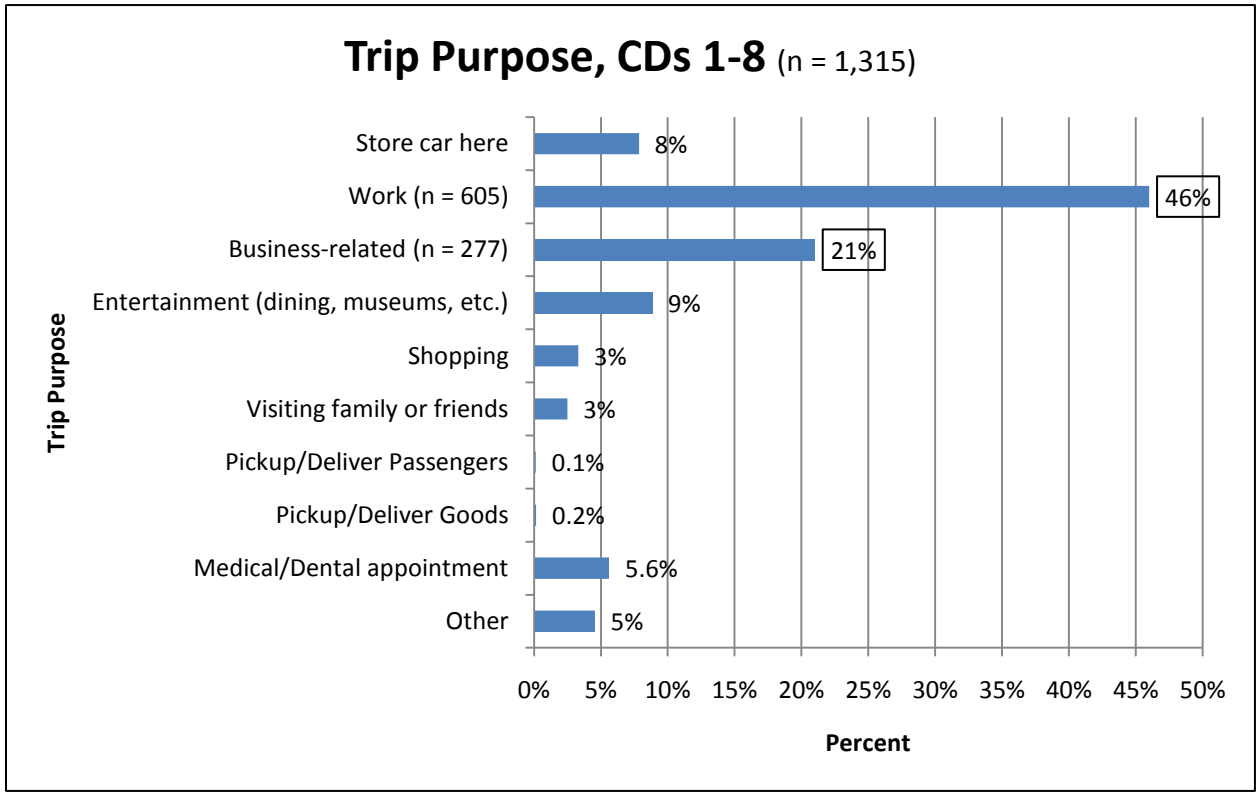
FREQUENCIES

General Trends for Manhattan Core CDs 1-8

The following are survey results for all respondents captured in CDs 1-8.

Q1: Trip Purpose

- Respondents in CDs 1-8 parked in off-street public parking facilities for a variety of trip reasons. The majority of respondents parked in a facility for work or business-related purposes (67 percent). Of this group, 46 percent were here for work (commuters) while 21 percent were here on business such as a meeting or visiting a client (business-related).

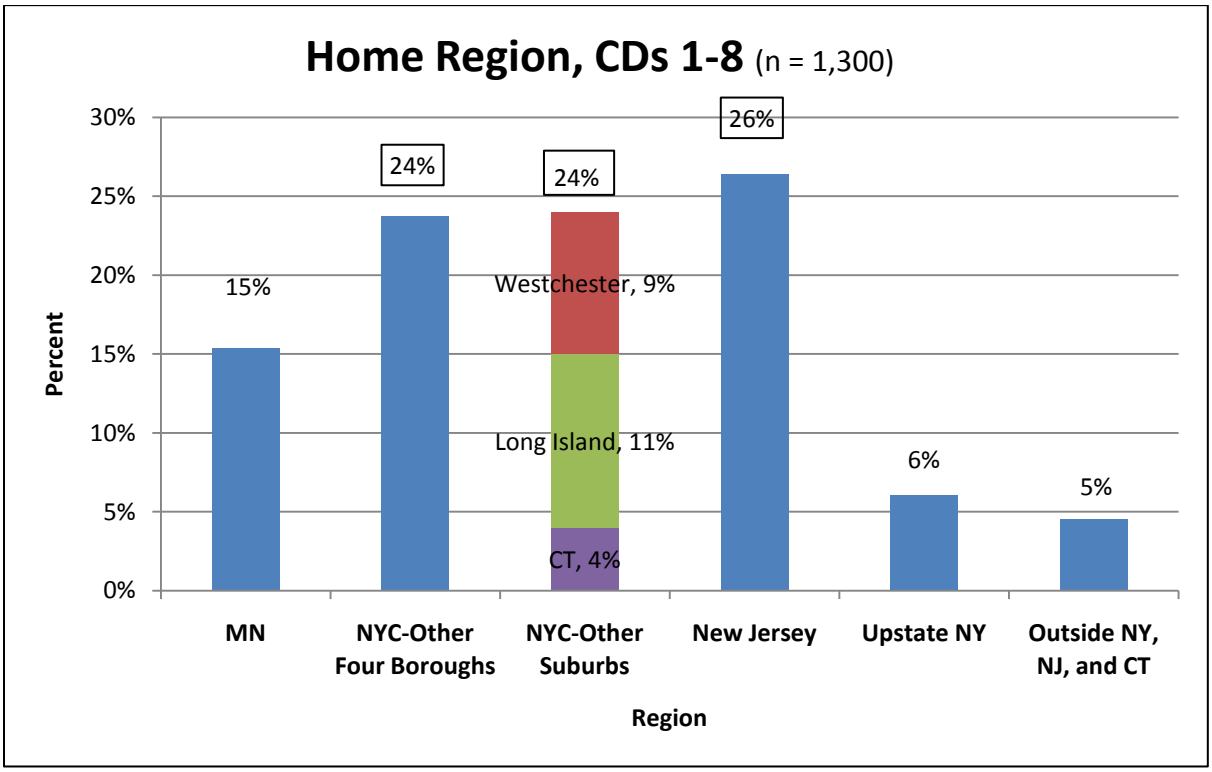


Q2: Home ZIP Code and Home Region

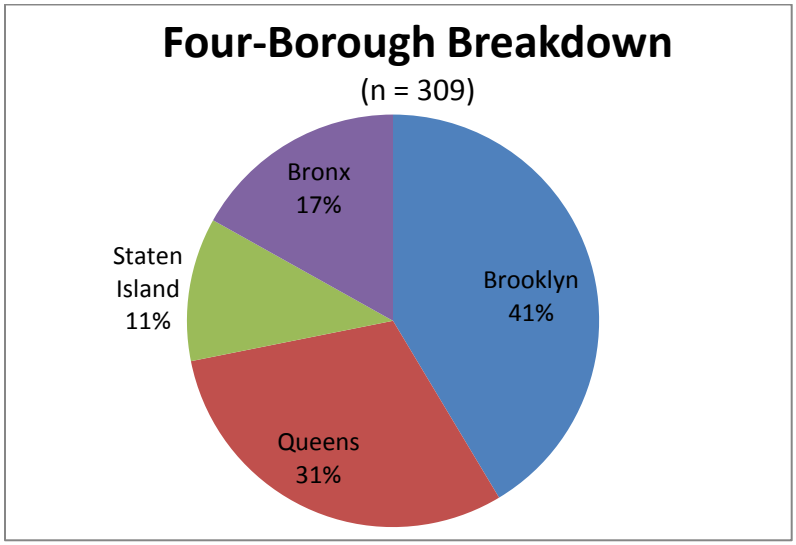
Survey respondents who parked in the Manhattan Core lived in over 800 different ZIP codes across the NYC region and beyond. There were no large concentrations of individuals coming from any particular ZIP code.

The following figure condenses all ZIP codes by region in the New York City Area. Nearly two-thirds of survey respondents lived in New York City or New Jersey (65 percent). Slightly over one-fourth of survey respondents lived in New Jersey alone (26 percent). Nearly a quarter of

respondents lived in NYC's other suburbs, defined as Westchester, Long Island, and Connecticut (24 percent).



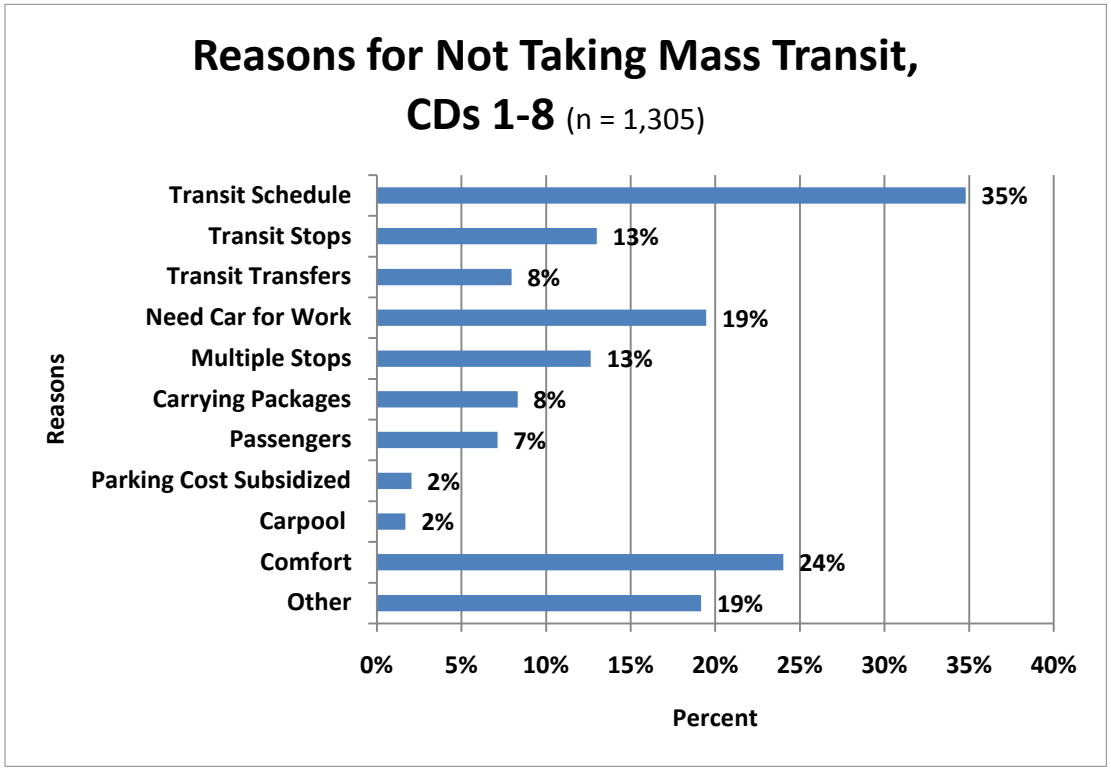
Of the 24 percent of survey respondents coming from another borough (outside Manhattan), 41 percent were from Brooklyn.



Q3: Reasons for Not Taking Mass Transit

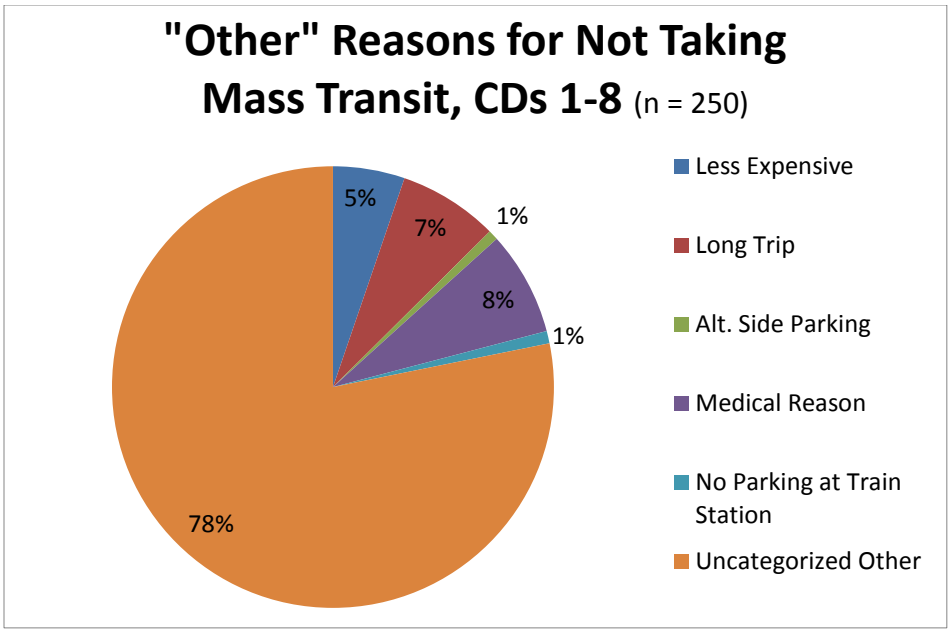
- Almost half of all survey respondents stated inadequate transit as the reason for driving into the Manhattan Core (42 percent). These respondents chose at least one of three transit-related reasons (transit schedules did not fit their needs, transit stops did not fit their needs, or their trip would require transfers) when answering this "check all that apply" question.

- Transit schedules not meeting respondents' needs and comfort were also the most frequently cited reasons for not taking mass transit (35 percent and 24 percent, respectively).



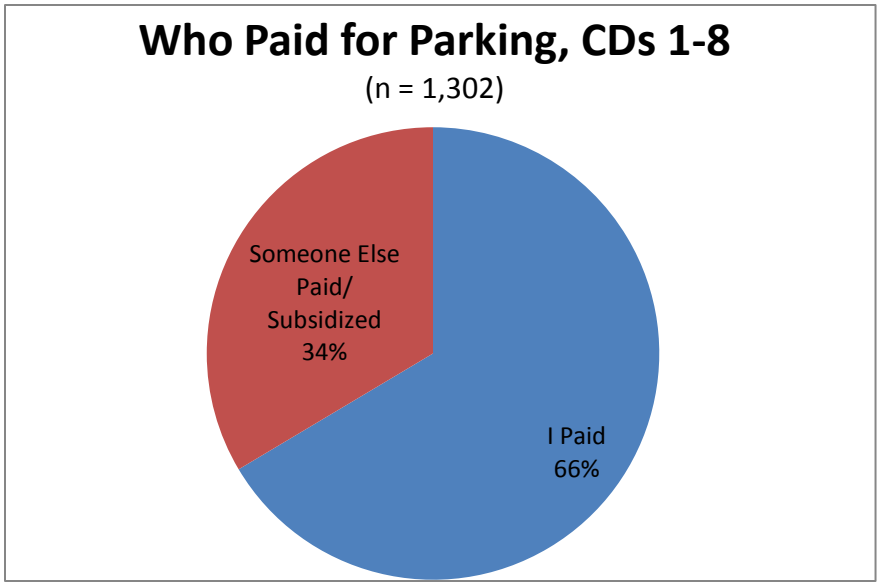
- DCP staff received over 545 reasons for not taking mass transit in the "Other" answer choice. Staff analyzed these reasons and based on frequency, created five sub-categories for "Other". Of the 19 percent of "Other" reasons, "Medical reason" (8 percent), "long trip" (7 percent), and "less expensive" (5 percent) were fairly common reasons for not taking mass transit. The remaining 78 percent of uncategorized "Other" comments were a variety of personal reasons for not using mass transit.

  Note: "Other" reasons percentages are rounded to the nearest whole.

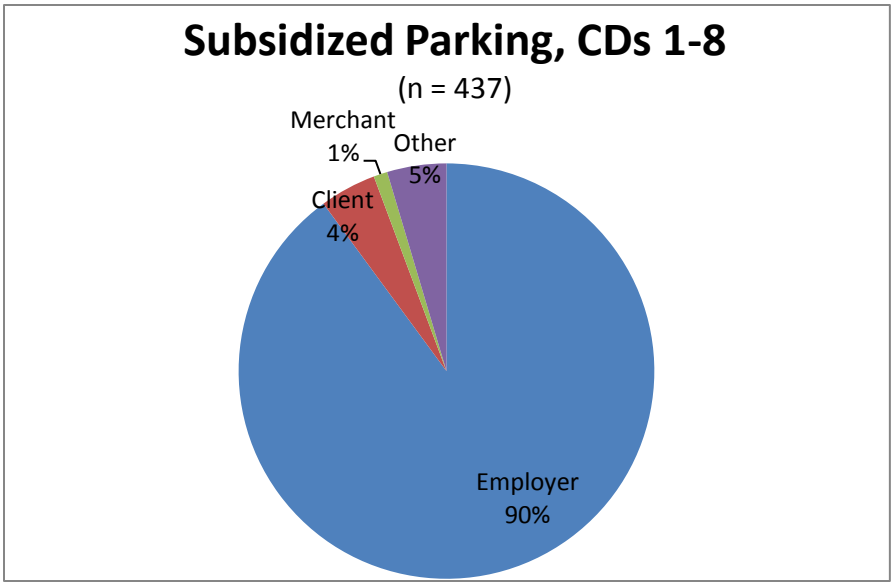


Q4: Who Paid for Parking

- Approximately two-thirds of survey respondents paid for their own parking.

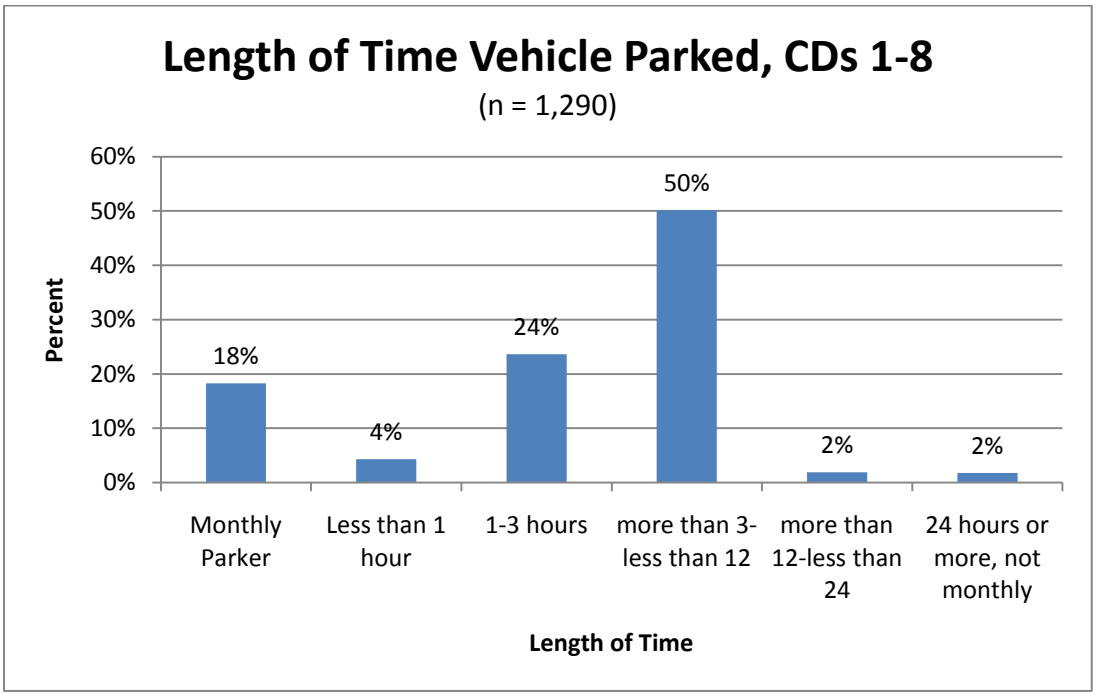


- Approximately 34 percent of survey respondents had someone else pay for their parking fees. Of that group, employers paid for parking 90 percent of the time.



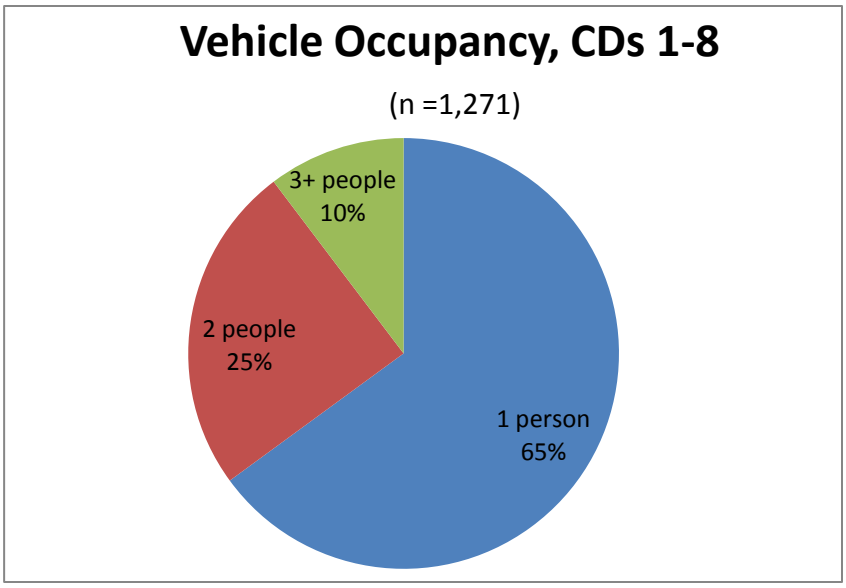
Q5: Length of Time Parked

- Half of survey respondents parked their vehicle for between three and 12 hours in a parking facility.

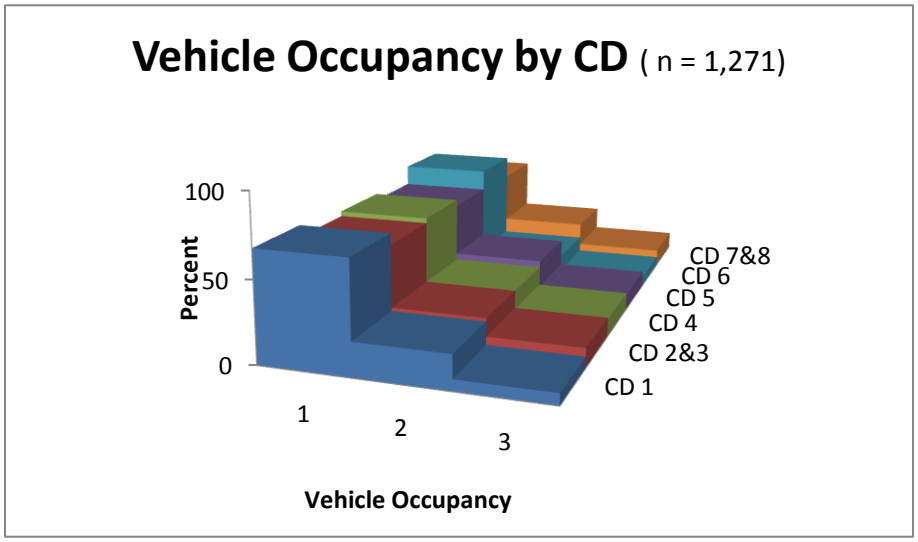


Q6: Vehicle Occupancy

- Almost two-thirds of survey respondents drove alone (65 percent).

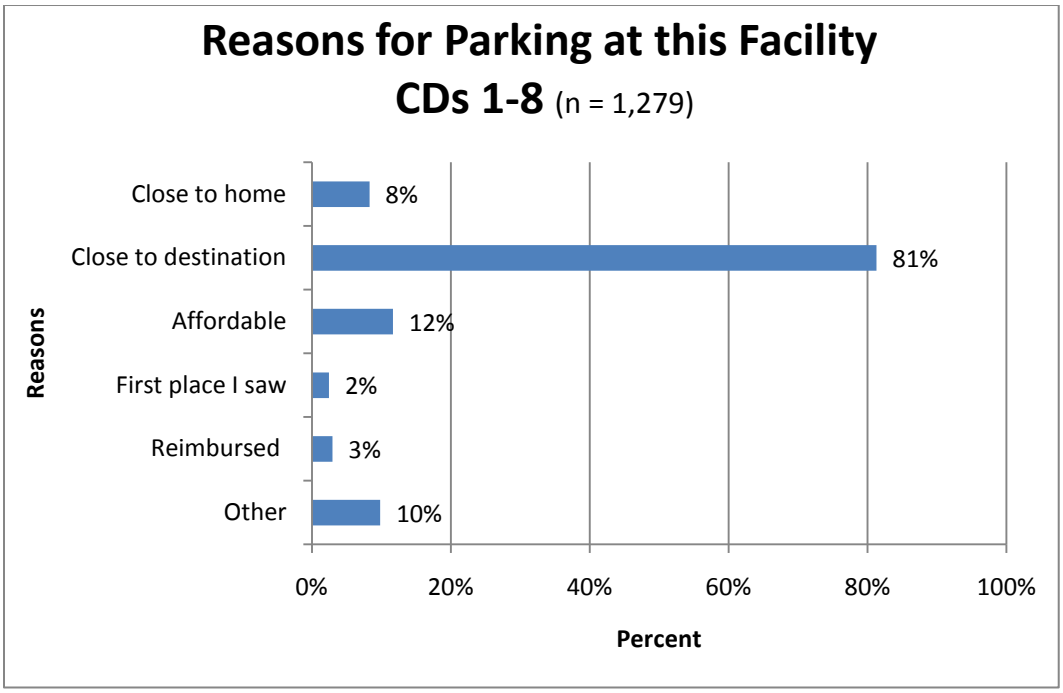


- Across CDs, similar vehicle occupancy patterns were observed, with the majority of survey respondents driving alone.

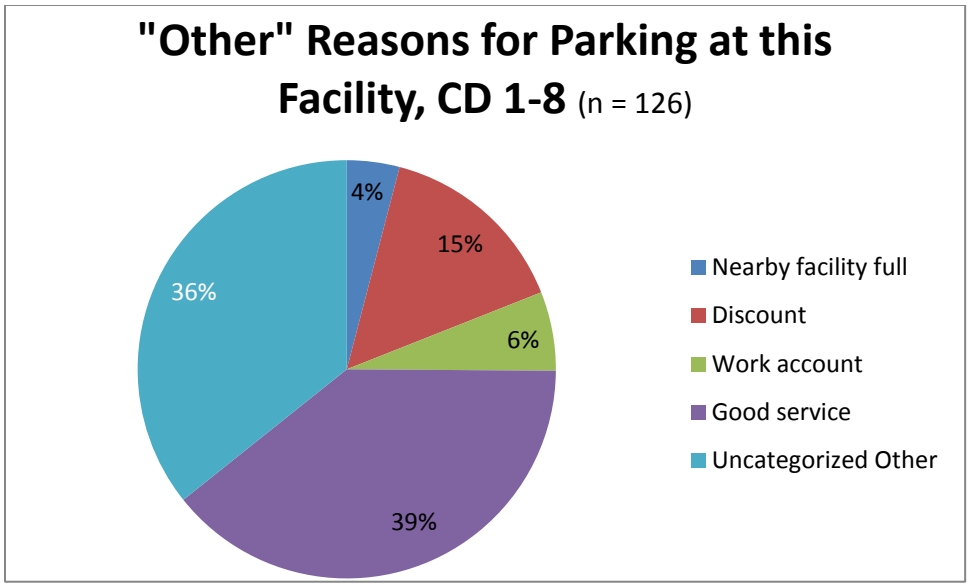


Q7: Reasons for Parking at this Facility

- Over 80 percent of survey respondents said that they parked at this particular facility due to its proximity to their destination, and 8 percent of respondents reported that they parked at this facility because it was close to home.

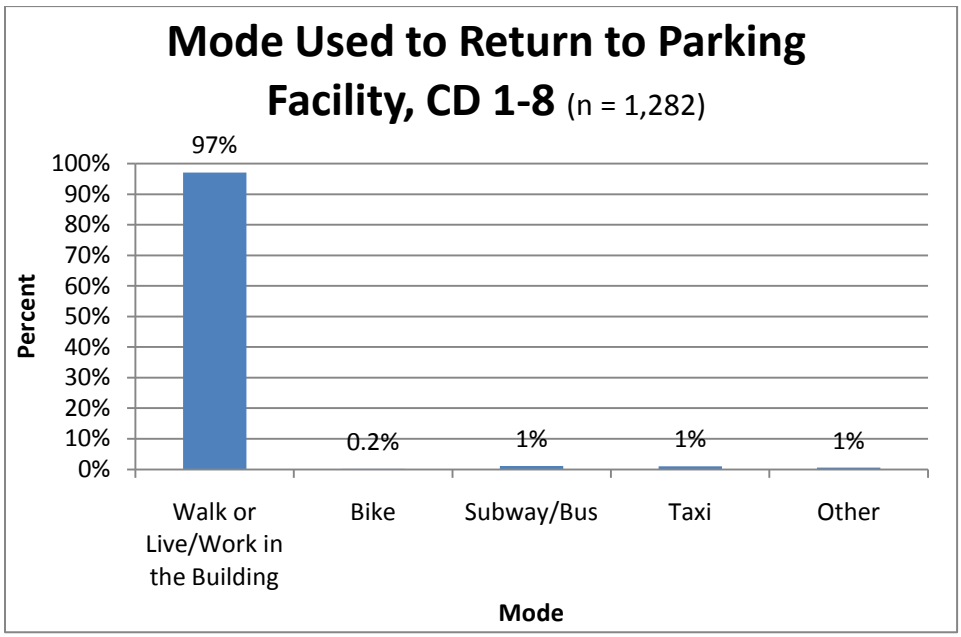


- Survey respondents had 253 "other" reasons for parking at a particular facility in CDs 1-8. DCP analyzed the "other" reasons and created additional categories for reasons with the greatest frequencies: "nearby facility was full", "discount", "work account for parking", and "good service" from facility attendants. While 36 percent of reasons are still in the uncategorized "other" category, 39 percent of survey respondents that selected "other" parked at a particular facility due to good service from attendants.



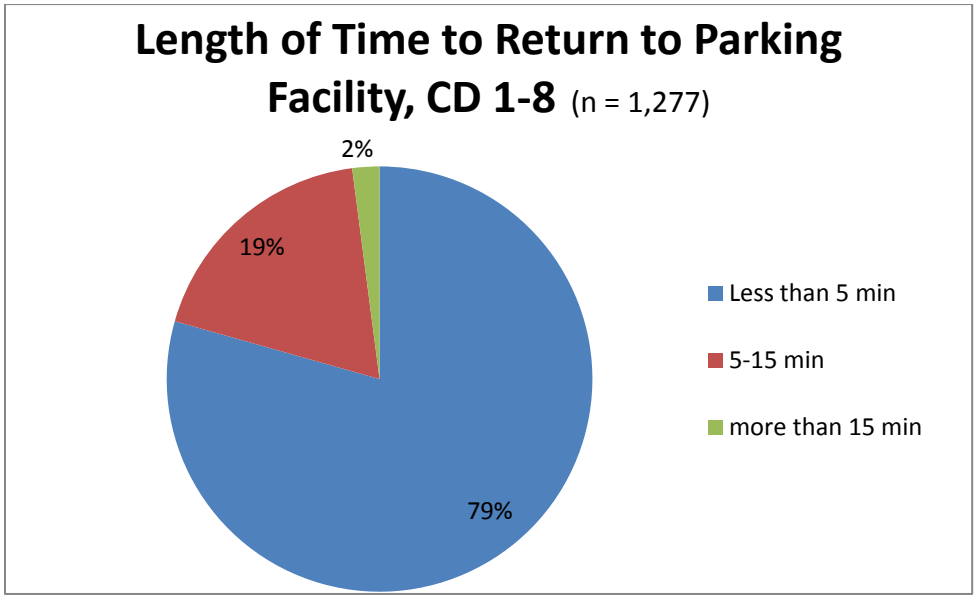
Q8: Mode Used to Return to Facility

- The overwhelming majority (97 percent) of survey respondents walked back to the parking facility from their destination.



Q9: Length of Time to Return to Facility

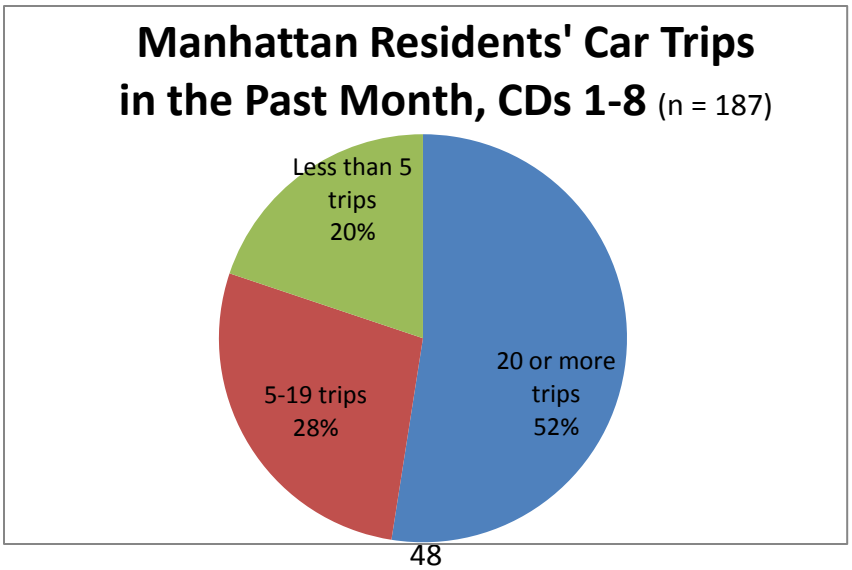
- Over three-fourths of survey respondents (79 percent) were able to return to their facility in less than 5 minutes. As seen in Q7, proximity to the destination was the main reason for choosing a parking facility. Therefore, travel time from the destination to the parking facility would be short for most respondents.



Q10: Live in Manhattan and Monthly Vehicle Usage

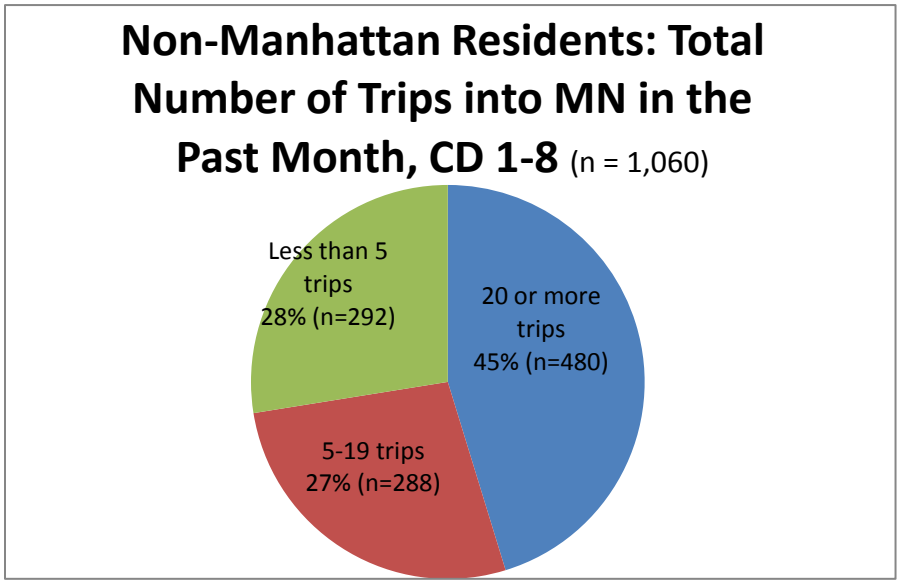
- Of the Manhattan residents surveyed, slightly over half (52 percent) used their cars for 20 or more trips in the last month.

  Note: Manhattan residents comprise 15 percent of total survey respondents. Because of the way the survey was administered, it was more likely to intercept users who typically use their cars more frequently.



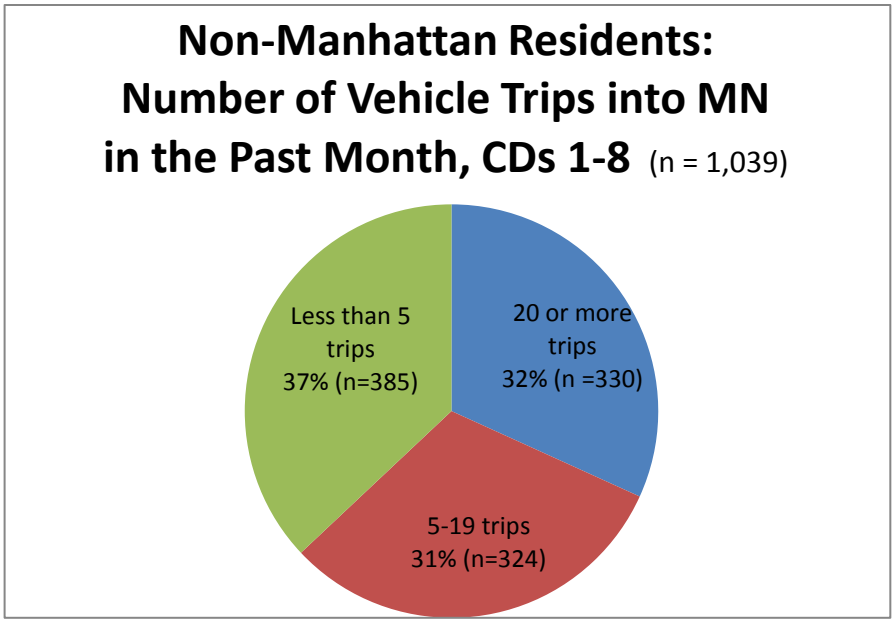
Q11. Parkers who Lived Outside MN: Total Trips by All Modes and Monthly Vehicle Usage into Manhattan

- Approximately 85 percent of survey respondents lived outside of Manhattan. Almost half (45 percent) of the survey respondents who lived outside of Manhattan came into the Manhattan Core for 20 or more trips in the prior month.



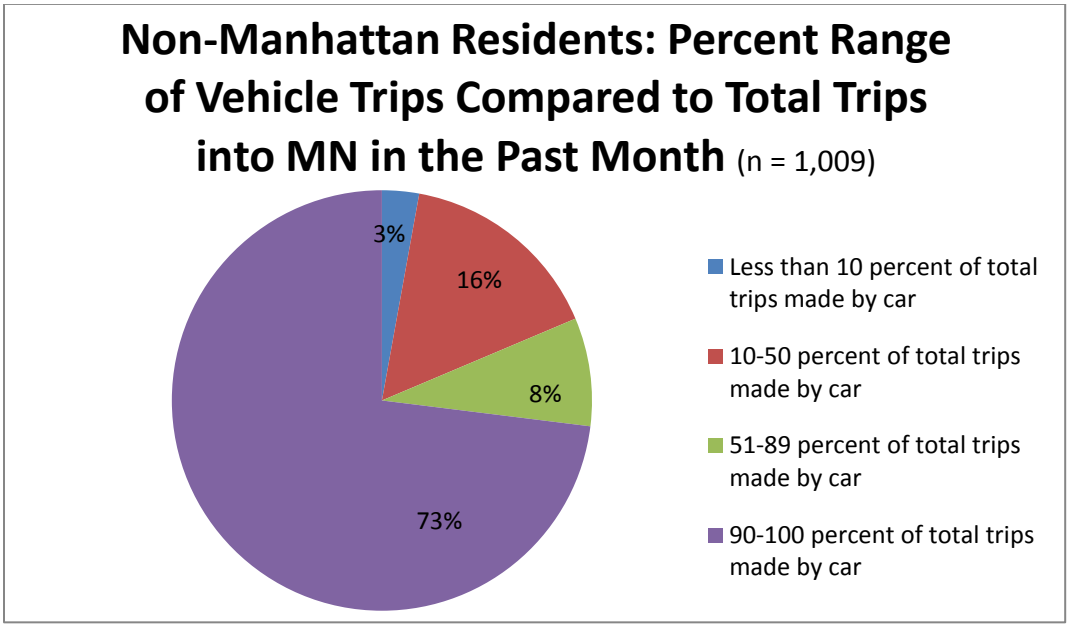
- In the prior month, survey respondents who did not live in Manhattan were relatively equally split in the number of vehicle trips made into Manhattan: less than 5 trips (37 percent), 5-19 trips (32 percent), and 20 or more trips (31 percent).

  Note: Survey respondents who took 20 or more total trips into Manhattan in the past month vary in their number of vehicle trips. Hence, vehicle trip totals for some categories may be larger than total number of trips.



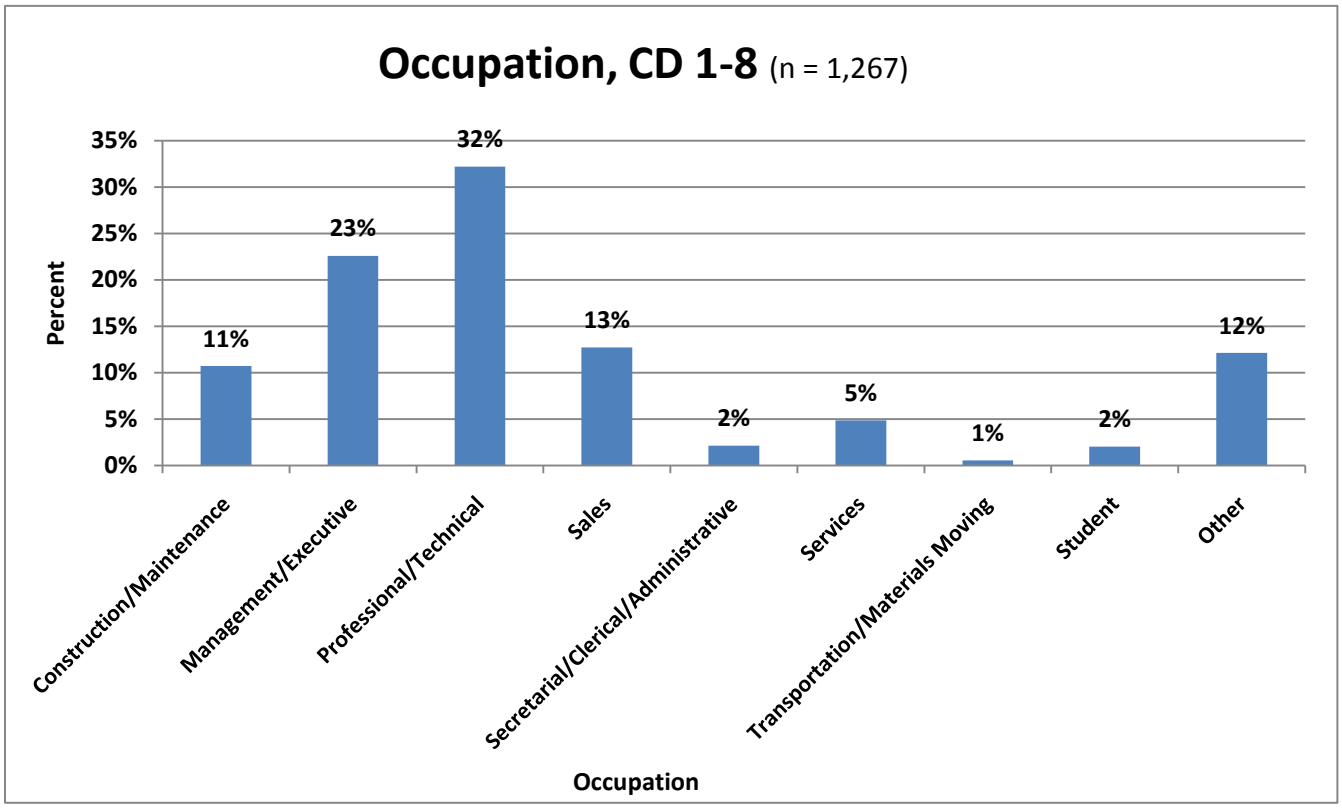
- Nearly three-fourths of survey respondents who lived outside of Manhattan made over 90 percent of their trips into Manhattan by car (73 percent).

  Note: This chart shows the percent range of vehicle trips compared to total trips per individual rather than the aggregate from the total number of trips.



Q12: Occupation of Survey Respondents

- Over half of survey respondents (55 percent) categorized themselves in the professional/technical or managerial/executive profession (32 percent and 23 percent, respectively).



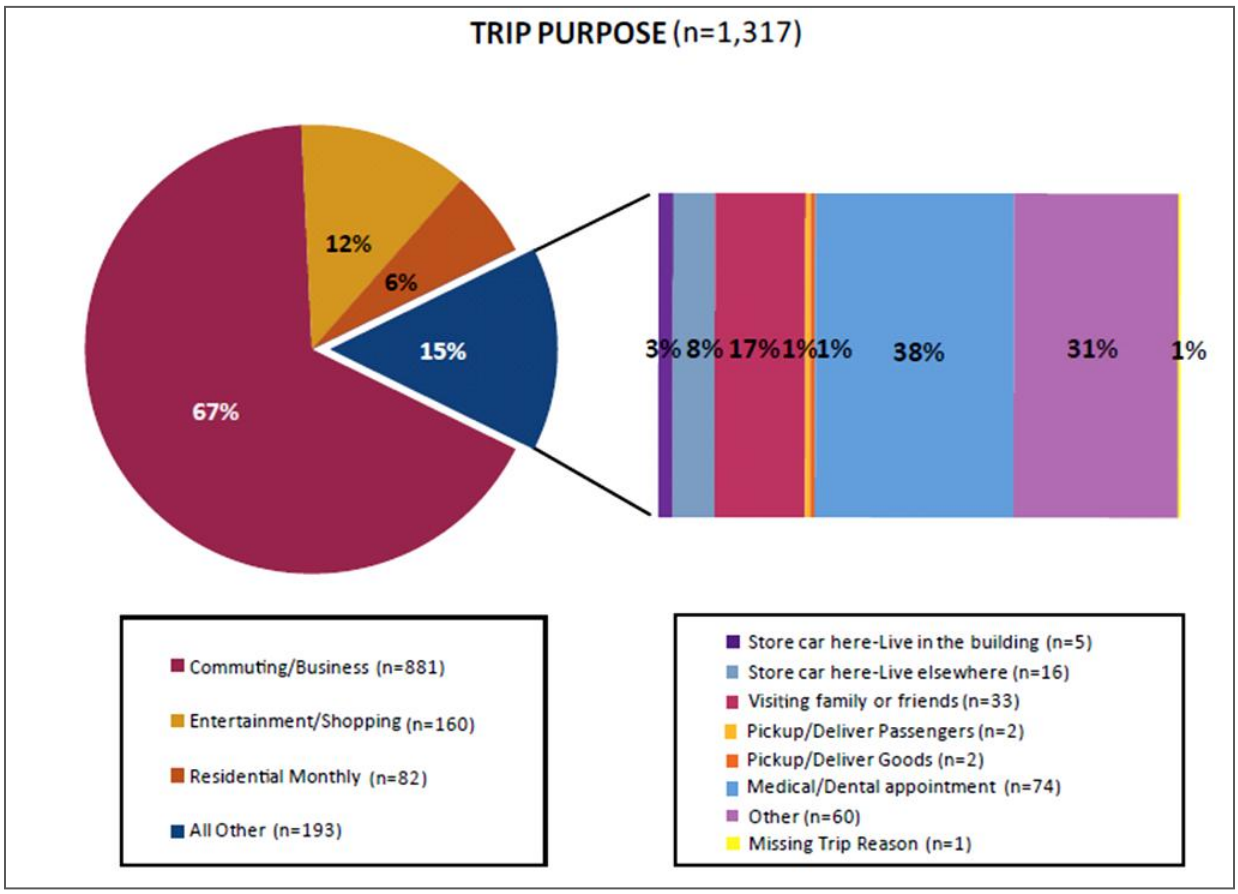
User Group Survey Results

The following are survey results for all respondents captured in CDs 1-8 and are analyzed in four user group categories.

Q1: Trip Purpose

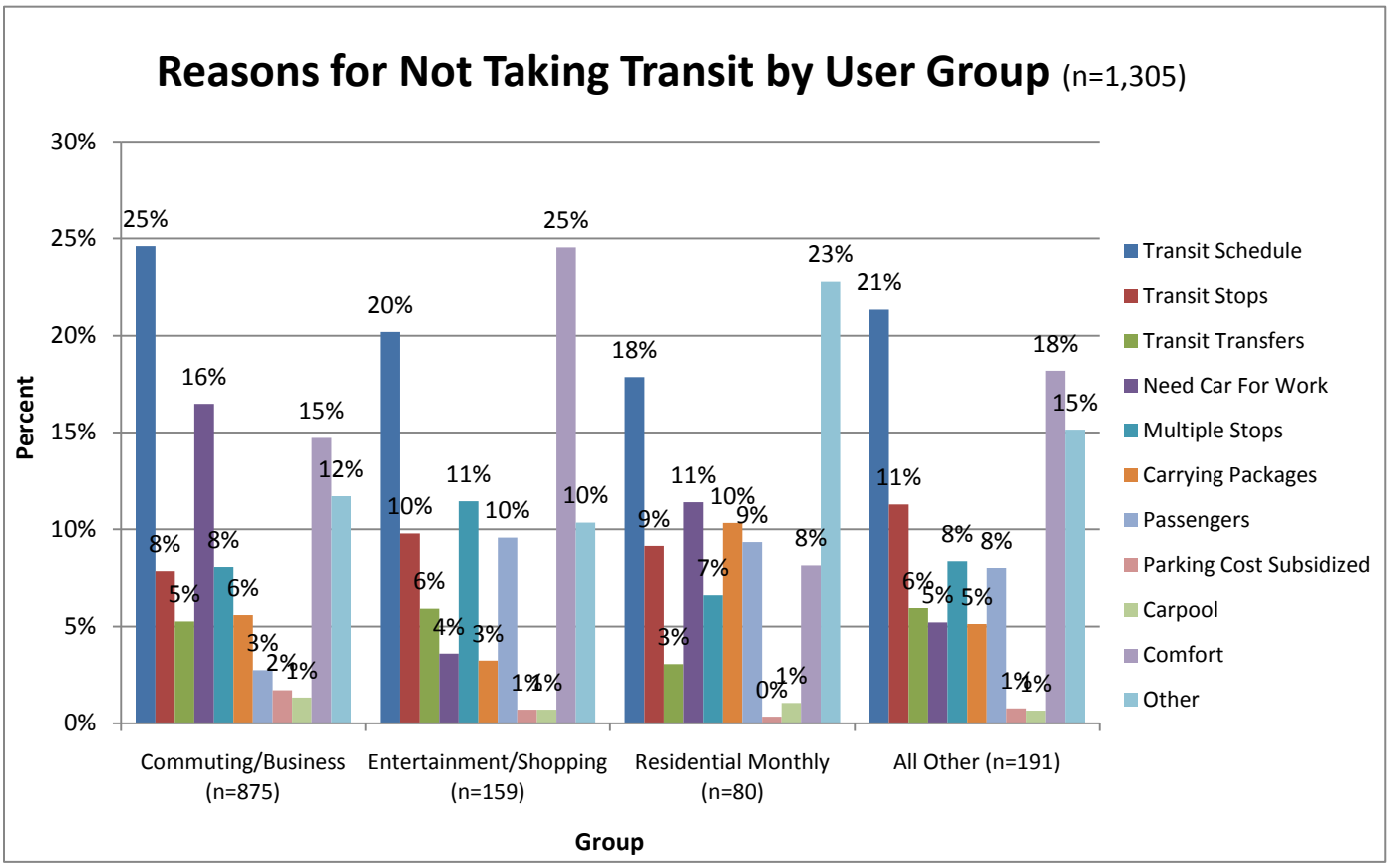
Respondents in CDs 1-8 parked in off-street public parking facilities for a variety of trip reasons. The majority of respondents parked in a facility for work or business-related purposes (67 percent).

- All other users made up 15 percent of survey respondents parked in a public parking facility. Of this group, over a third of respondents' trip purposes were for a medical or dental appointment (38 percent).



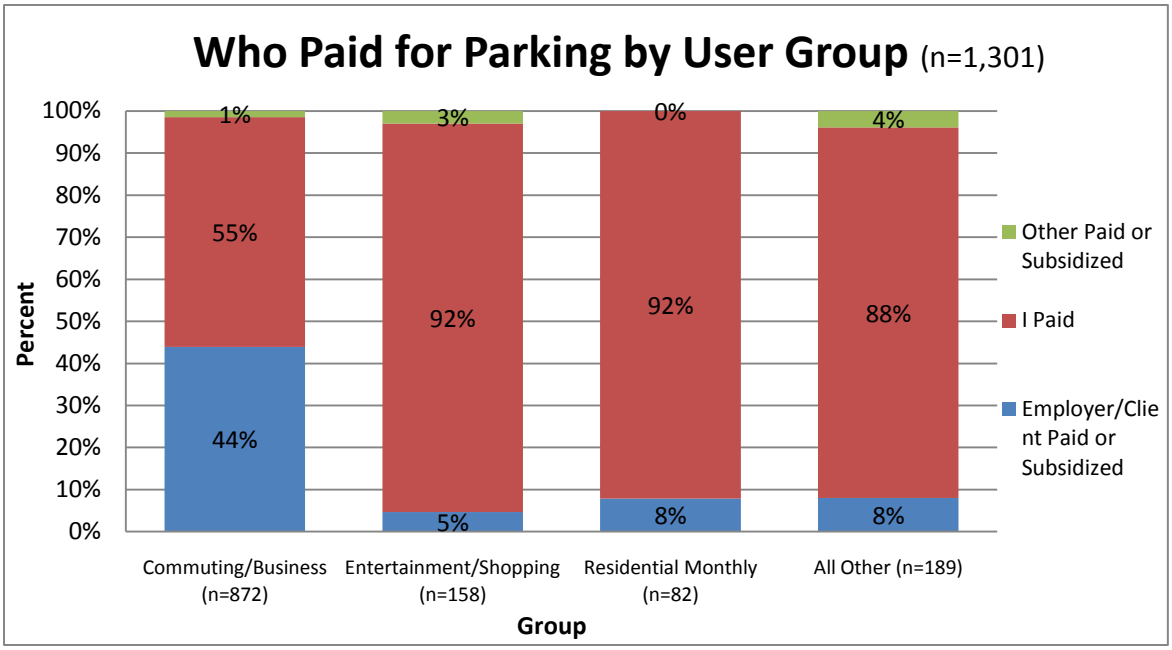
Q3: Reasons for Not Taking Mass Transit

- Commuting and business users most frequently cited transit schedule, needing their car for work, and comfort as reasons for not taking transit (25 percent, 16 percent, and 15 percent respectively).
- A quarter of entertainment and shopping users cited comfort as a reason for not taking transit.
- Residential monthly users most frequently cited transit schedule and other as reasons for not taking transit (18 percent and 23 percent respectively).



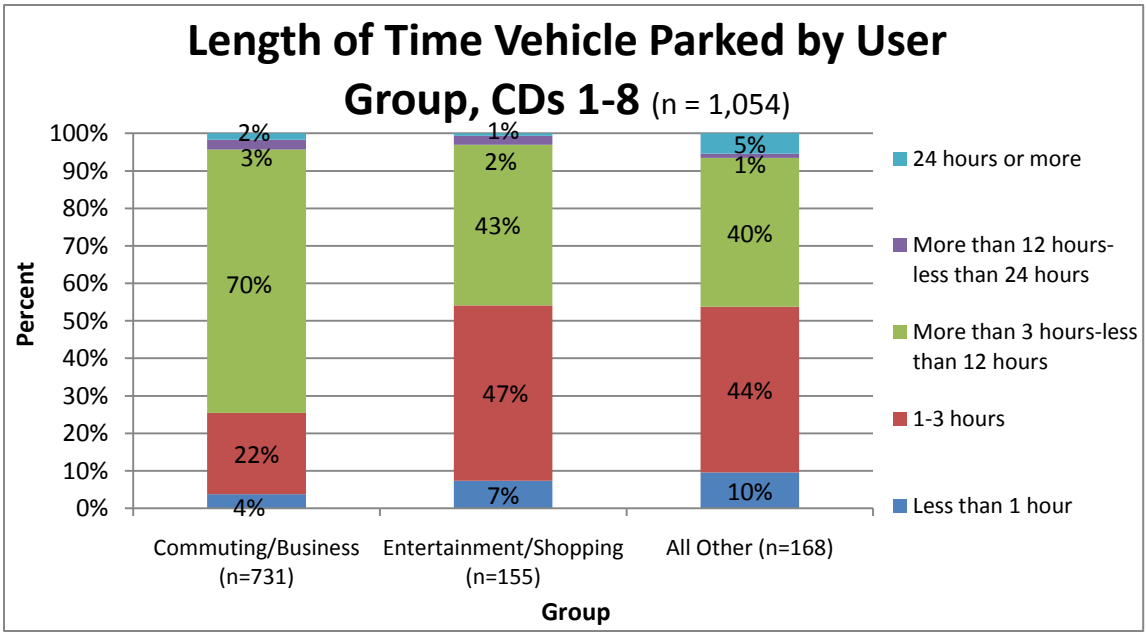
Q4: Who Paid for Parking

- Commuting and business users had the highest percentage of trips paid for or subsidized by an employer or client (44 percent).



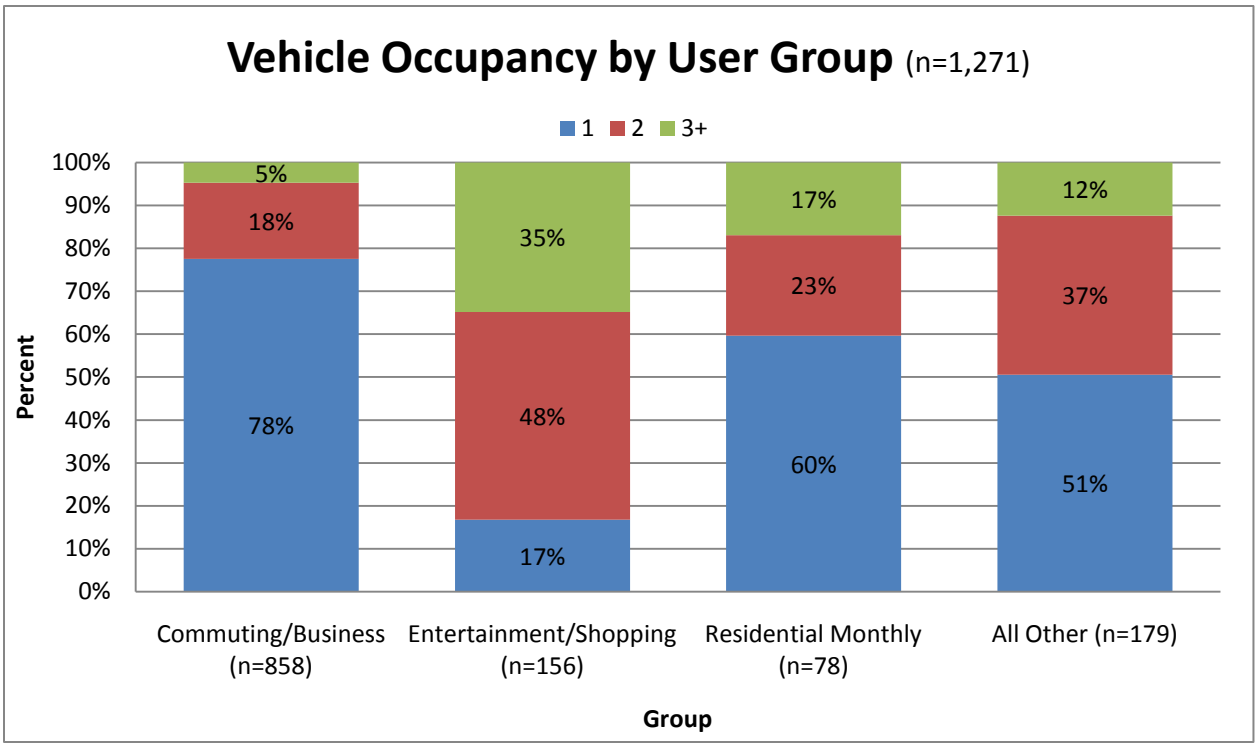
Q5: Length of Time Parked

- Seventy percent of commuting and business users parked their vehicles between three and twelve hours in a parking facility.
- Almost half of the entertainment and shopping users parked their vehicles between one and three hours in a parking facility.



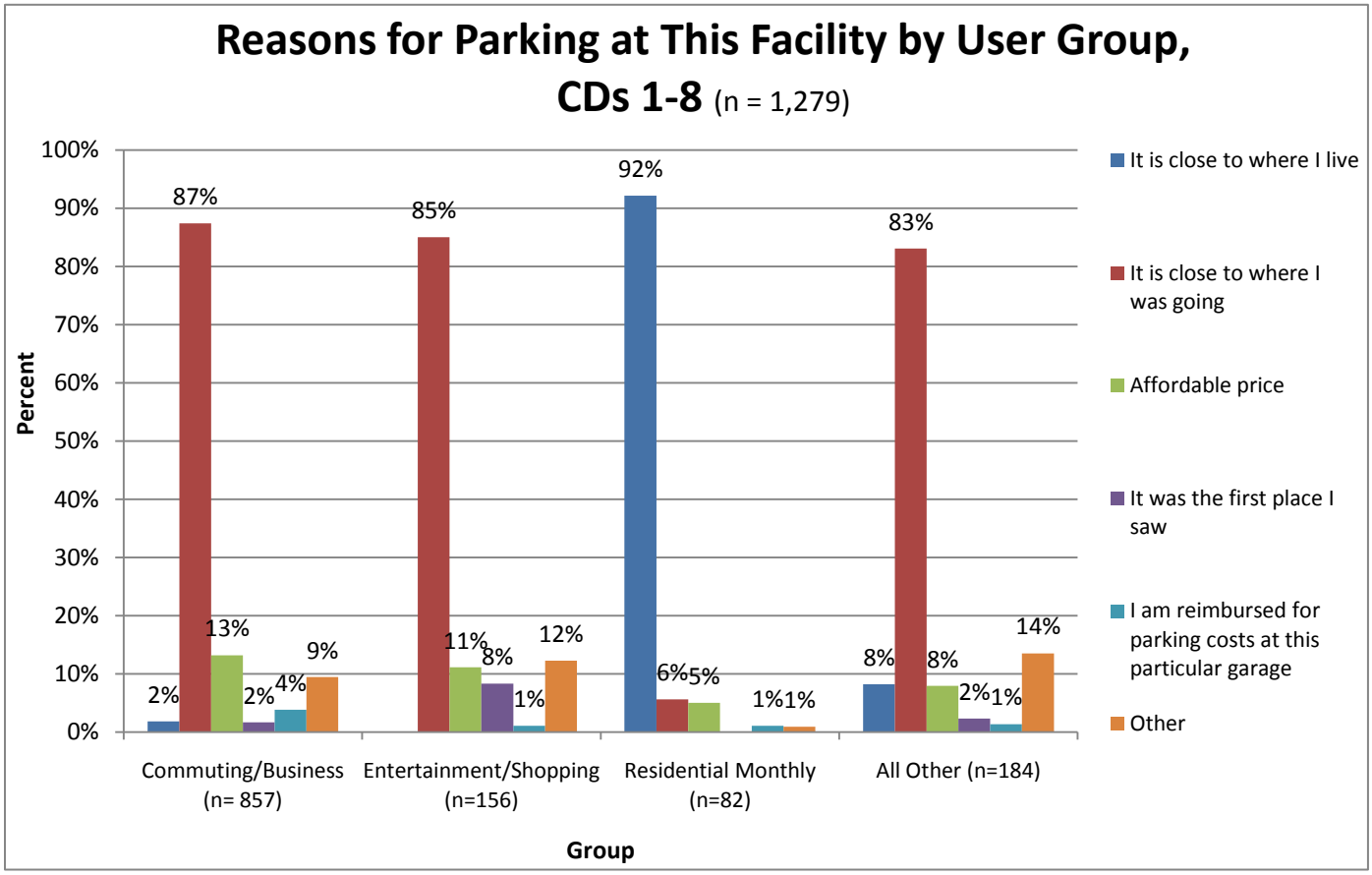
Q6: Vehicle Occupancy

- Entertainment users had the lowest percentage of single occupancy vehicles and were the most likely to travel in large groups.
- Over three-fourths (78 percent) of commuting and business users drove alone.



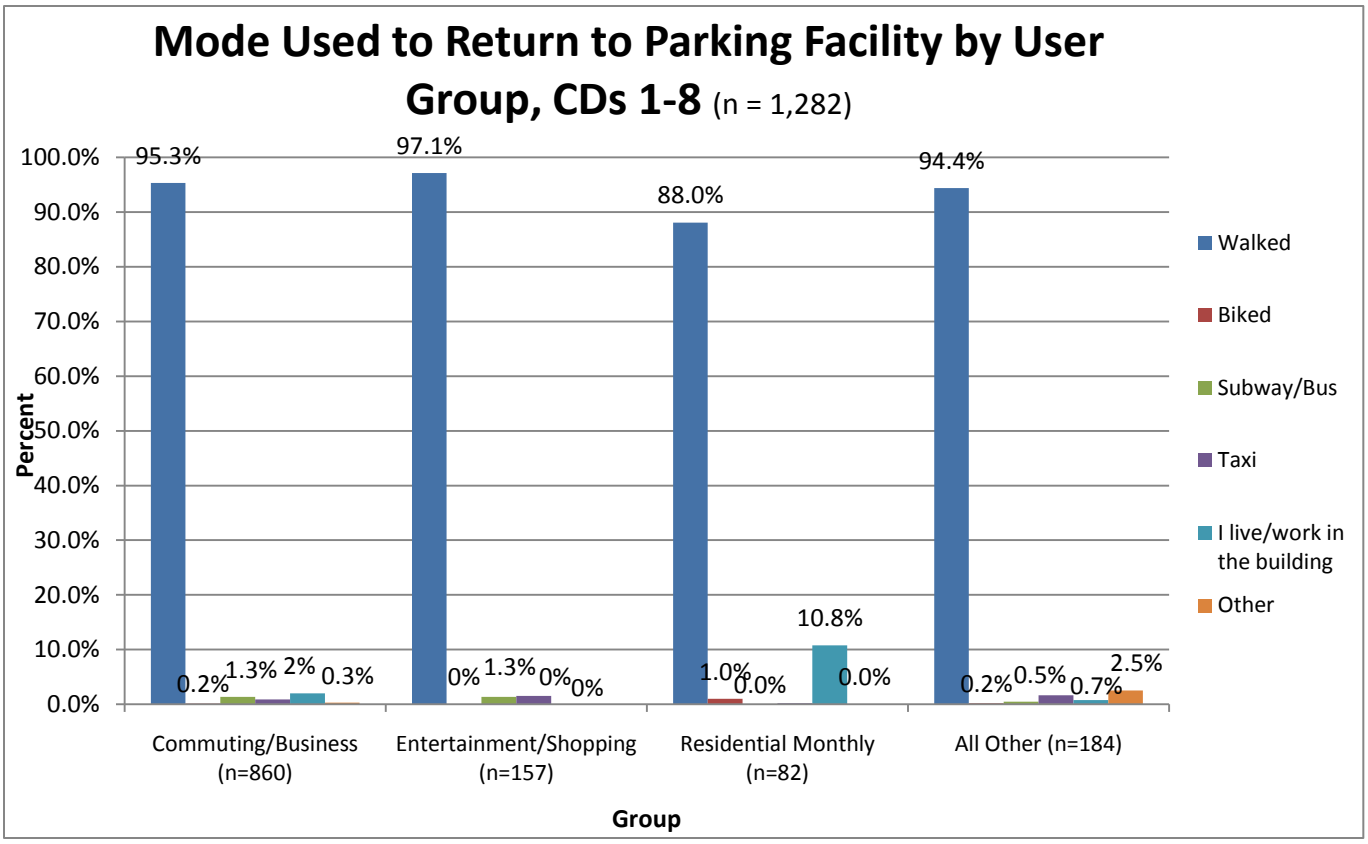
Q7: Reasons for Parking at This Facility

- With the exception of residential monthly parkers, the majority of respondents in all user groups said that they parked at this particular facility due to its proximity to their destination.
- Ninety-two percent of residential monthly parkers said that they parked at this facility because it was close to home.



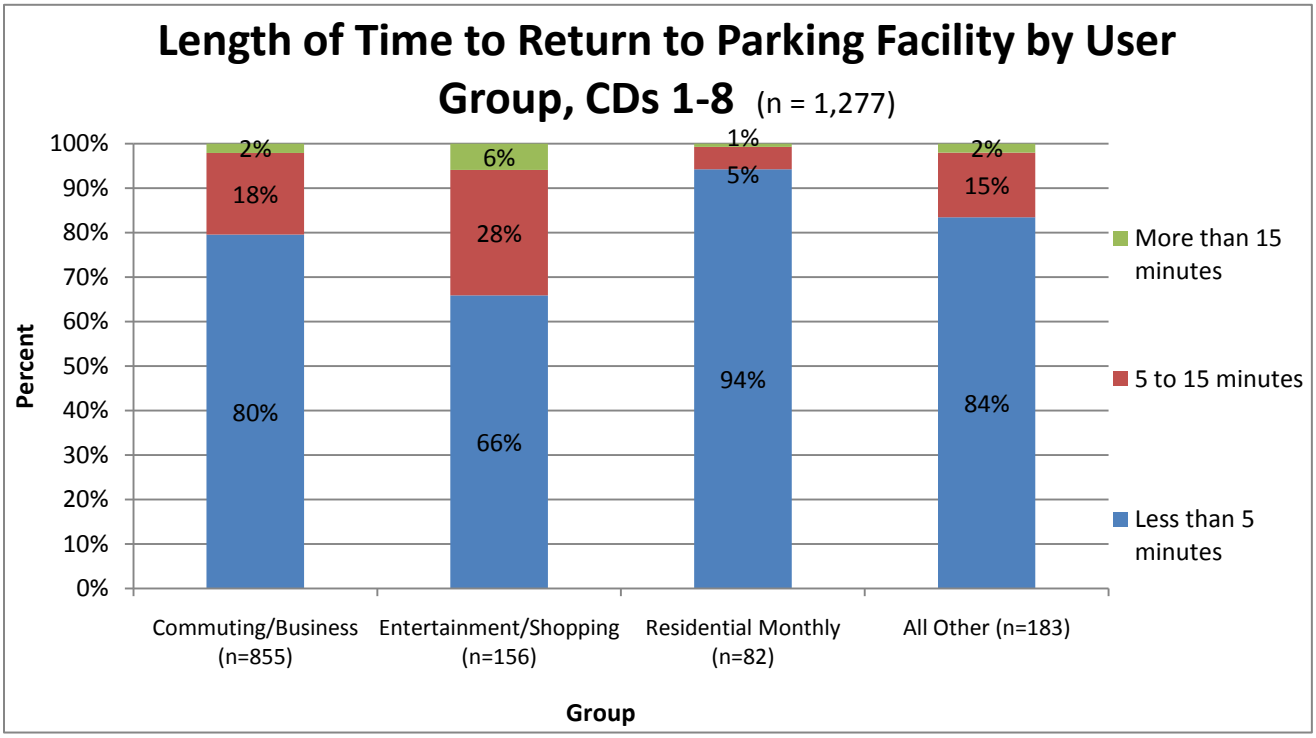
Q8: Mode Used to Return to Facility

- Over 85 percent of survey respondents in all user groups walked back to the parking facility from their destination.



Q9: Length of Time to Return to Facility

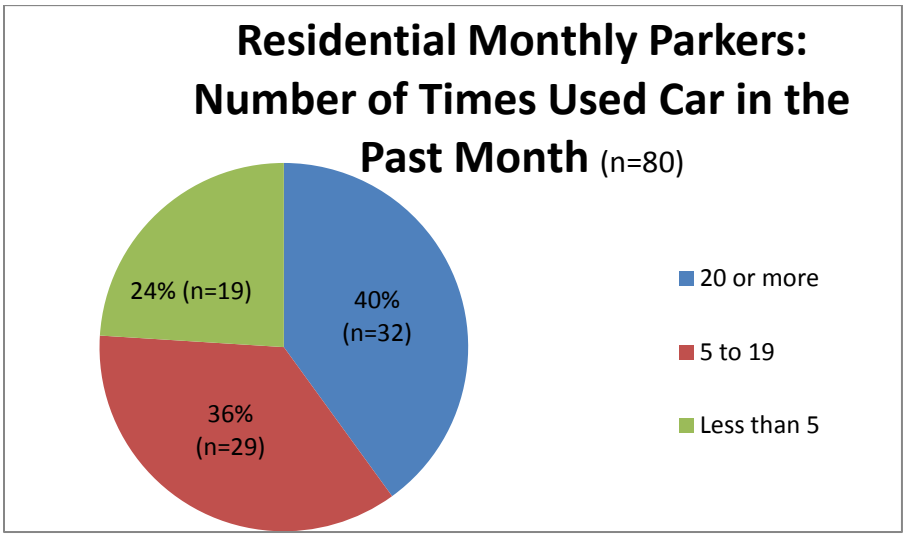
- Over three-fourths of commuting and business users, residential monthly parkers, and all other users were able to return to the facility in less than five minutes.
- Entertainment and shopping users had the longest travel time from their destination to the parking facility compared to the other user groups, with six percent taking more than 15 minutes to return to the facility.



Q10: Live in Manhattan and Monthly Vehicle Usage

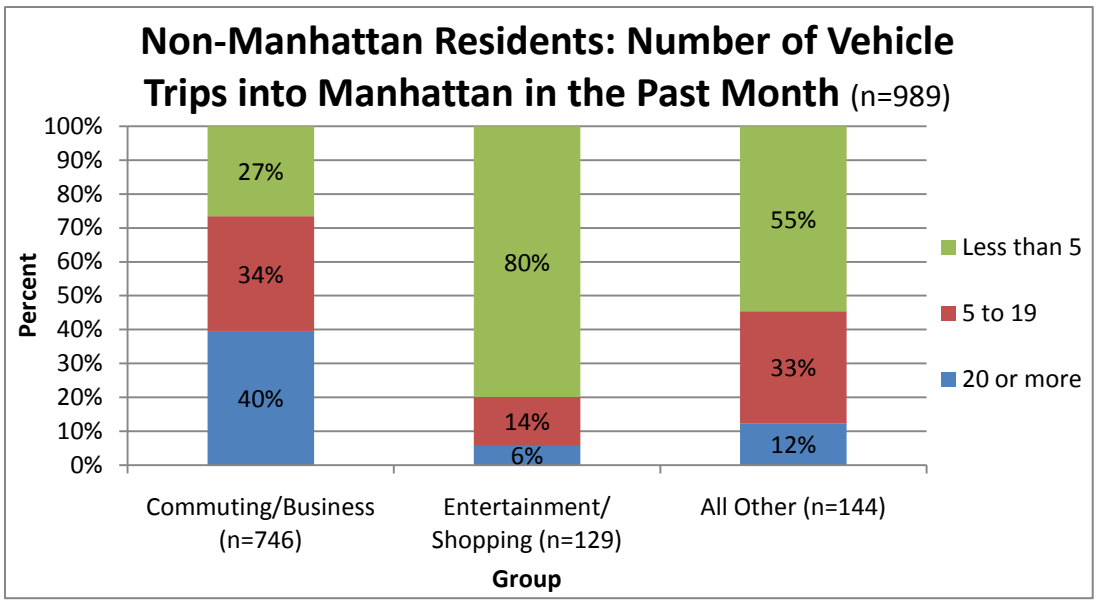
- Of the residential monthly users surveyed, less than half (40 percent) used their cars for 20 or more trips in the last month.

  Note: Residents who were intercepted and surveyed in this study are also more likely to use their cars often than residents who used their cars infrequently.



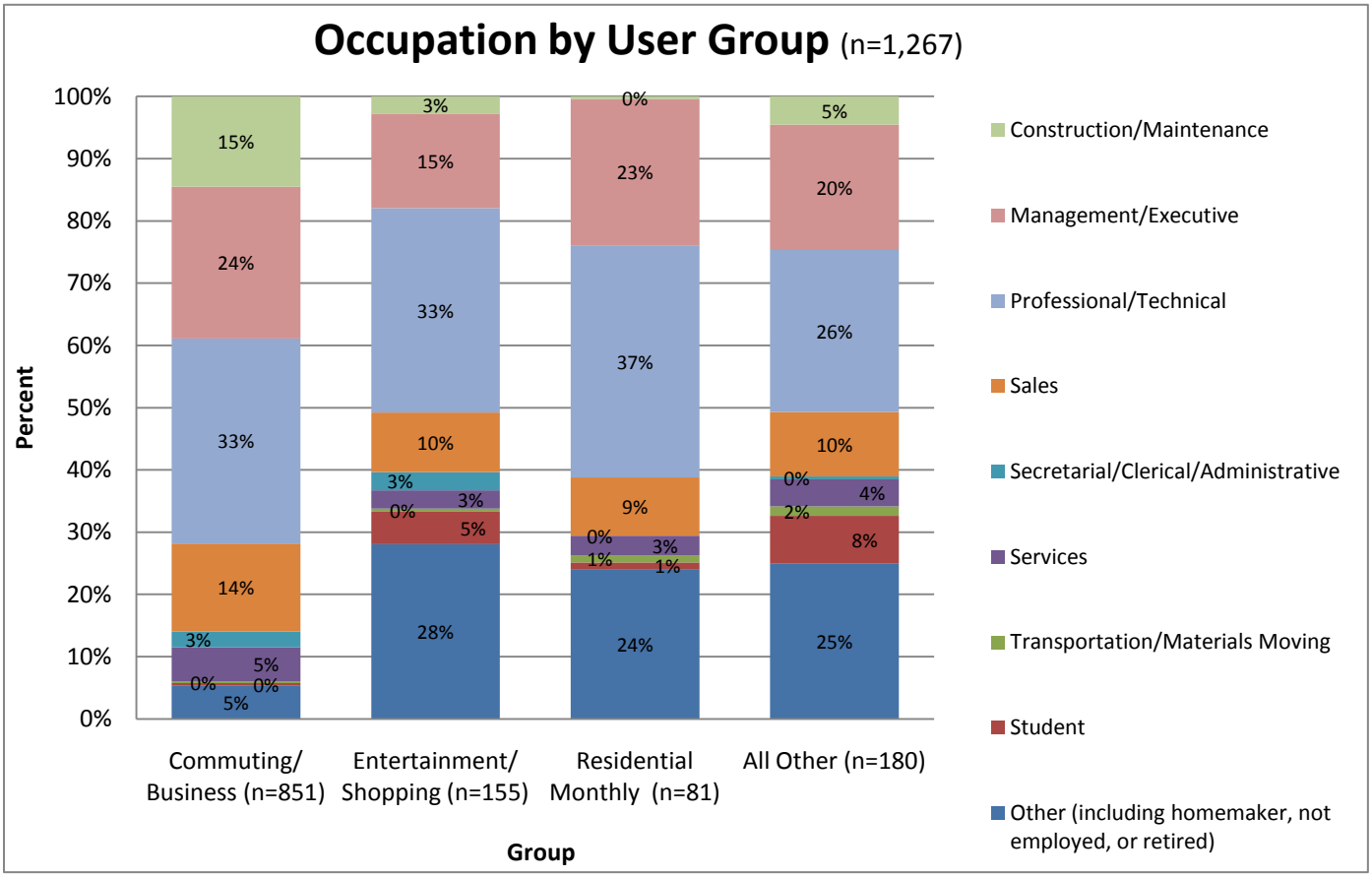
Q11. Parkers who Lived Outside Manhattan: Total Trips Monthly Vehicle Usage into Manhattan

- Most entertainment and shopping and all other users who lived outside of Manhattan, made fewer than five vehicle trips into the Manhattan Core in the past month (80 percent and 55 percent respectively).
- Forty percent of commuting and business users who lived outside of Manhattan made 20 or more vehicle trips into the Manhattan Core in the past month.



Q12: Occupation of Survey Respondents

- Survey respondents in all user groups most frequently categorized themselves in the professional/technical or managerial/executive profession.
- Almost one-third of the commuting and business users categorized themselves in the construction and sales professions (15 percent and 14 percent respectively).



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