



New York Metropolitan Transportation Council

Regional Establishment Survey *Final Report*



April 2018

Disclaimer

The preparation of this report has been financed through the U.S. Department of Transportation's Federal Transit Administration and Federal Highway Administration.

This document is disseminated under the sponsorship of the New York Metropolitan Transportation Council in the interest of information exchange. The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Transit Administration, Federal Highway Administration or the State of New York. This report does not constitute a standard, specification or regulation.

This report, Regional Establishment Survey Final Report, was funded through the New York Metropolitan Transportation Council project Regional Travel Surveys PTCS14D00.E03 in the 2014-2015 Unified Planning Work Program. This project was funded through matching grants from the Federal Transit Administration and from the Federal Highway Administration.

Acknowledgements

The Regional Establishment Survey was performed under NYMTC CONTRACT #COO0781.

The project team consisted of:

Consultant Team:

- Stan Hsieh, Abt Associates
- Farhad Siraj, Abt Associates
- Tom Rossi, Cambridge Systematics
- Anurag Komanduri, Cambridge Systematics
- Brent Selby, Cambridge Systematics
- Nikhil Puri, Cambridge Systematics
- Susan O'Donnell, Vanasse Hangen Brustlin
- Nora Madonick, Arch Street Communications
- Patrick Higgins, Arch Street Communications
- Allie Zamow, Arch Street Communications
- Stacey Bricka, Texas A&M Transportation Institute
- Chris Simek, Texas A&M Transportation Institute

NYMTC Staff:

- Sangeeta Bhowmick
- Lynne Thisse
- Mike Chiume
- Kyeongsu Kim
- Ali Mohseni
- Ali Afshar
- Abdus Salam
- Munnesh Patel
- Gauri Jumde
- Tanu Sonkhya

Technical Advisory Committee:

- Wu Sun, San Diego Association of Governments
- Arash Mirzaei, North Central Texas Council of Governments

- Jose Holguin–Veras, Rensselaer Polytechnic Institute
- Guy Rousseau, Atlanta Regional Commission
- Frank Southworth, Georgia Tech
- Darlanne Hoctor Mulmat, San Diego Association of Governments
- Vladimir Livshits, Maricopa Association of Governments

Steering Committee:

- Angel Canales, NYSDOT
- Craig Lader, Westchester County
- Cynthia Danza, NYCDOT
- Eileen Miller, Rockland County Dept. of Public Transportation
- Eva Marin, NYCDOT
- Janice Pepper, NJ Transit/MTA
- Susan O'Donnell, NJ Transit
- Julia Seltzer, MTA
- Keith Miller, NJ Transportation Planning Authority
- Louis Bekofsky, Suffolk County Department Of Economic Development & Planning
- Mark Debald, Poughkeepsie-Dutchess County Transportation Council
- Michael Griffith, NYCDOT
- Mike D'Angelo, Rockland County Dept Of Public Transportation
- Naomi Klein, Westchester County DOT
- Nathen Harp, NYSDOT
- Randy Fruchter, NJ Transit
- Robert M Brickman, Nassau County Planning Department
- Sean E. Sallie, Nassau County Planning Department
- Stratos Prassas, NYCDOT
- Todd Goldman, Port Authority of NY & NJ

Table of Contents

Glossary of Terms and Report Acronyms	1
Organization of the Report	2
Executive Summary	3
THE REGIONAL ESTABLISHMENT SURVEY: OVERVIEW	3
1.0 Objectives of the Survey	8
1.1 Background of the Survey	8
1.2 Overview of Modeling Objectives and the Role of RES	8
1.3 Model Structures and Features	9
1.3.1 Core Activity-Based Models	9
1.3.2 Visitor Model	10
2.0 Survey Planning and Approach	13
2.1 RES Study Area	13
2.2 Data Requirements and Survey Content	15
2.2.1 Core Survey	15
2.2.2 Hotel Survey	16
2.3 Pre-test and Soft Launch of Main Study	18
2.3.1 Approach and Results	18
2.3.2 Adjustments from Pre-Test and Soft-Launch	20
2.4 Sampling Plan	21
2.4.1 Sample Frame	21
2.4.2 Sample Design/Selection	22
2.4.3 Core Sample	22
2.4.4 Hotel (Out-of-Region Visitor) Sample	25
2.5 Survey Procedures	27
2.5.1 Core Survey	27
2.5.2 Hotel Survey	31
2.6 Quality Assurance/Quality Control	34
2.6.1 Training of Fieldworkers	34
2.6.2 Sample Adherence	34
2.6.3 Data Processing Protocol and Geocoding	35
2.6.4 Procedure for the Core Sample	36
2.6.5 Procedure for the Hotel Sample	38
2.6.6 Quality Enhancement Process	40
2.6.7 Protecting Data Privacy	41
2.7 Public Outreach	41
2.7.1 Public Awareness Plan	41
2.7.2 External Website	42
2.8 Survey Expansion Procedures	44

2.8.1 Procedure for the Core Sample	44
2.8.2 Procedure for the Hotel Sample	47
2.8.3 Hotel and Core Expansion Procedures – Example Calculations	49
3.0 Survey Data Collection	51
3.1 Data Collection Timeframe	51
3.2 Achieved Sample	51
3.2.1 Core Survey	51
3.2.2 Hotel Survey	52
3.3 Response Rates	54
3.3.1 Core Survey	54
3.3.2 Hotel Survey	54
3.4 Data Quality Verification	55
3.4.1 Core Survey	55
3.4.2 Hotel Survey	59
3.5 Survey Expansion Results	62
3.5.1 Results for the Core Sample	62
3.5.2 Results for the Hotel Sample	67
4.0 Summary of Survey Results	71
4.1 Summary of Core Survey Results	71
4.1.1 Respondent Age	71
4.1.2 Origin Type	72
4.1.3 Origin Location	73
4.1.4 Origin Departure Time	74
4.1.5 Establishment Arrival Time	75
4.1.6 Establishment Access Mode	76
4.1.7 Establishment Last Mode	78
4.1.8 Parking Choice	79
4.1.9 Parking Payment	80
4.1.10 Minutes Walked to Establishment	81
4.1.11 Stop Before Establishment	82
4.1.12 Number of Stops Before Establishment	83
4.1.13 Drop Off/Pick Up before Establishment	84
4.1.14 Time Spent at Establishment	85
4.1.15 Trip Purpose	86
4.1.16 Destination Type	87
4.1.17 Destination Location	89
4.1.18 Establishment Egress Mode	90
4.1.19 Destination Arrival Time	92
4.1.20 Stop After Establishment	93
4.1.21 Number of Stops After Establishment	94

4.1.22 Drop Off/Pick Up after Establishment	95
4.1.23 Number of People Traveling	96
4.1.24 Types of People Traveling	97
4.1.25 Home Location	98
4.1.26 Number of People in Household	99
4.1.27 Gender	100
4.1.28 Employment Status	101
4.1.29 Household Income	102
4.1.30 Mobility Device	103
4.1.31 Origin Type by Industry, Geography, and Size	104
4.1.32 Destination Type by Industry, Geography, and Size	105
4.1.33 Establishment Access Mode by Industry, Geography, and Size	106
4.1.34 Establishment Egress Mode by Industry, Geography, and Size	108
4.1.35 Establishment Last Mode by Industry, Geography, and Size	110
4.1.36 Establishment Departure Time by Industry, Geography, and Size	111
4.1.37 Destination Arrival Time by Industry, Geography, and Size	113
4.1.38 Number of Stops before Establishment by Industry, Geography, and Size	115
4.1.39 Number of Stops After Establishment by Industry, Geography, and Size	116
4.2 Summary of Hotel Survey Results	117
4.2.1 Home ZIP Code for Out-of-Region Visitors from the United States	117
4.2.2 Overall Purpose of Travel to Region	118
4.2.3 Initial Arrival Mode into Region	119
4.2.4 Type of Bus	120
4.2.5 Initial Travel Mode to Hotel	121
4.2.6 Number of Visitors Over 18 in Hotel Room	123
4.2.7 Number of Visitors Under 18 in Hotel Room	124
4.2.8 Vehicle Availability	125
4.2.9 Trips Made in Past 24 Hours	126
4.2.10 Initial Departure Time from Hotel	127
4.1.11 Trip Location	128
4.2.12 Arrival Time at Place	129
4.2.13 Trip Mode	130
4.2.14 Trip Purpose	132
4.2.15 Number of People Traveling	134
4.2.16 Departure Time from Place	135
4.2.17 Gender	136
4.2.18 Income	137

4.2.19 Overall Purpose of Travel to Region by Geography and Size	138
4.2.20 Initial Arrival Mode into Region by Geography and Size	139
4.2.21 Initial Travel Mode to Hotel by Geography and Size	140
4.2.22 Trip Purpose by Geography and Size	141
4.2.23 Trip Access Mode by Geography and Size	142
4.2.24 Departure Time from Place by Geography and Size	143
5.0 Lessons Learned	145
5.1 Lessons Learned	145
Appendix A: Core Survey Instrument	146
Appendix B: Hotel Survey Instrument	151

List of Tables and Figures

Figure 2–1: RES Study Area - NYMTC Region & Other Counties	13
Figure 2–2: RES Study Area – Counties By State	14
Table 2–3: Pre-Test Survey Completions	19
Figure 2–4: RES Region By Area Type	23
Table 2–5: Universe of Core Establishments By Industry, Geographic Area and Size	24
Table 2–6: Planned Sampling Distribution of Core Establishments and Surveys	25
Table 2–7: Universe of Hotels By Size and Geographic Area	26
Table 2–8: Planned Sampling Distribution of Hotels and Surveys	26
Figure 2–9: Overview of Core Survey Process	28
Figure 2–10: Overview of Hotel Survey Process	32
Figure 2–11: Data Processing Protocol	35
Table 2–12: List of Checks for Core Survey	37
Table 2–13: List of Checks for Hotel Survey	39
Figure 2–14: Languages Available for RES Website	42
Figure 2–15: Sample RES Website Page	43
Table 2–16: Core Survey Expansion Segmentation	45
Table 2–17: Estimates of Number of Rooms Occupied by Respondent by Group Size	48
Table 3–1: Survey Targets and Surveys Collected for the Core Establishment Survey	51
Table 3–2: Survey Targets and Surveys Collected for the Hotel Survey	52
Table 3–3: Core Survey Sample Disposition	54
Table 3–4: Hotel Survey Sample Disposition	55
Table 3–5: Summary Results of Checks for Core Surveys	57
Table 3–6: Comparison Checks for Valid Core Surveys Against Sampling Targets	58
Table 3–7: Summary Results of Checks for Hotel Surveys	61
Table 3–8: Comparison Checks for Valid Hotel Surveys Against Sampling Targets	62
Table 3–9: Total Counts of Individuals at Surveyed Establishments by Sampling Segment	63
Table 3–10: Counts of Employees at Surveyed Establishments by Sampling Segment	64
Table 3–11: Counts of Visitors Entering Surveyed Establishments by Sampling Segment	64
Table 3–12: Count of Total Employees by Sampling Segment	65
Table 3–13: Average Weighting Factor by Sampling Segment and Time-of-Day	65
Table 3–14: Final Weights for Each Sampling Segment and Time-of-Day Combination	66

Table 3–15: Weighted Results for Visitors for Each Sampling Segment and Time-of-Day Combination	66
Table 3–16: Trip Sums from Regional Household Travel Survey	67
Table 3–17: Weighting Adjustment Factor from Regional Household Travel Survey	67
Table 3–18: Total Number of Hotels in the Universe File by Star Rating and Area Type	68
Table 3–19: Total Number of Rooms for Hotels in the Universe File by Star Rating and Area Type	68
Table 3–20: Number of Surveyed Hotels by Star Rating and Area Type	69
Table 3–21: Number of Rooms in the Surveyed Hotels by Star Rating and Area Type	69
Table 3–22: Number of Surveyed Hotels by Segment	69
Table 3–23: Number of Acceptable Surveys Collected from Surveyed Hotels by Segment	70
Table 3–24: Average Expansion Factors by Hotel Segment	70
Figure 4–1: Respondent Age	71
Figure 4–2: Origin Type	72
Figure 4–3: Origin Location	73
Figure 4–4: Origin Departure Time	74
Figure 4–5: Establishment Arrival Time	75
Figure 4–6: Establishment Access Mode	76
Figure 4–7: Establishment Last Mode	78
Figure 4–8: Parking Choice	79
Figure 4–9: Parking Payment	80
Figure 4–10: Minutes Walked to Establishment	81
Figure 4–11: Stop Before Establishment	82
Figure 4–12: Number of Stops Before Establishment	83
Figure 4–13: Drop Off/Pick Up before Establishment	84
Figure 4–14: Time Spent at Establishment	85
Figure 4–15: Trip Purpose	86
Figure 4–16: Destination Type	87
Figure 4–17: Destination Location	89
Figure 4–18: Establishment Egress Mode	90
Figure 4–19: Destination Arrival Time	92
Figure 4–20: Stop After Establishment	93
Figure 4–21: Number of Stops After Establishment	94
Figure 4–22: Drop Off/Pick Up after Establishment	95
Figure 4–23: Number of People Traveling	96
Figure 4–24: Types of People Traveling	97
Figure 4–25: Home Location	98
Figure 4–26: Number of People in Household	99
Figure 4–27: Gender	100

Figure 4–28: Employment Status	101
Figure 4–29: Household Income	102
Figure 4–30: Mobility Device	103
Table 4–31: Origin Type by Industry, Geography, and Size	104
Table 4–32: Destination Type by Industry, Geography, and Size	105
Table 4–33: Establishment Access Mode by Industry, Geography, and Size	106
Table 4–34: Establishment Egress Mode by Industry, Geography, and Size	108
Table 4–35: Establishment Last Mode by Industry, Geography, and Size	110
Table 4–36: Establishment Departure Time by Industry, Geography, and Size	111
Table 4–37: Destination Arrival Time by Industry, Geography, and Size	113
Table 4–38: Number of Stops before Establishment by Industry, Geography, and Size	115
Table 4–39: Number of Stops After Establishment by Industry, Geography, and Size	116
Figure 4–40: Home ZIP Code	117
Figure 4–41: Overall Purpose of Travel to Region	118
Figure 4–42: Initial Arrival Mode into Region	119
Figure 4–43: Type of Bus	120
Figure 4–44: Initial Travel Mode to Hotel	121
Figure 4–45: Number of Visitors Over 18 in Hotel Room	123
Figure 4–46: Number of Visitors Under 18 in Hotel Room	124
Figure 4–47: Vehicle Availability	125
Figure 4–48: Trips Made in Past 24 Hours	126
Figure 4–49: Initial Departure Time from Hotel	127
Figure 4–50: Trip Location	128
Figure 4–51: Arrival Time at Place	129
Figure 4–52: Trip Mode	130
Figure 4–53: Trip Purpose (Including Return to Hotel)	132
Figure 4–54: Trip Purpose (Without Return to Hotel)	133
Figure 4–55: Number of People Traveling	134
Figure 4–56: Departure Time from Place	135
Figure 4–57: Gender	136
Figure 4–58: Income	137
Table 4–59: Income	138
Table 4–60: Initial Arrival Mode into Region by Geography and Size	139
Table 4–61: Initial Travel Mode to Hotel by Geography and Size	140
Table 4–62: Trip Purpose by Geography and Size	141
Table 4–63: Trip Access Mode by Geography and Size	142
Table 4–64: Departure Time from Place by Geography and Size	143

Glossary of Terms and Report Acronyms

ABM – Activity-Based Model
B&B – Bed & Breakfasts
BPM – Best Practice Model
CBRE – Coldwell Banker Richard Ellis
CBD – Central Business District
CS – Cambridge Systematics
DK/RF – Don't Know/Refuse
FAQ – Frequently Asked Questions
FIPS – Federal Information Processing Standards
HTS – Household Travel Survey
IPF – Iterative Proportional Fitting
MD – Mid Day
MNL – Multinomial Logit Models
NAICS – North American Industry Classification System
NT – Night Time
NYBPM – New York Best Practice Model
NYMTC – New York Metropolitan Transportation Council
PII – Personally Identifiable Information
QA/QC – Quality Assurance/ Quality Control
QCEW – Quarterly Census of Employment and Wages
RES – Regional Establishment Survey
RHTS – Regional Household Travel Survey
RTP – Regional Transportation Plans
SPSS – Statistical Package for Social Scientists (an IBM Statistical Software Package chosen as an analytical tool for this project)
SRO – Single Room Occupancy
TAZ – Traffic Analysis Zone
TOD – Time-of-Day
TTI – Texas Transportation Institute
VHB – Vanasse Hangen Brustlin
VOT – Value-of-Time

Organization of the Report

This report is organized as follows.

Executive Summary – This section provides a quick overview of the purpose of the survey and the methodology, main survey outcomes, and key findings of the survey results.

Section 1: Objectives of the Survey – Provides an overview of the survey objectives, and details the model structures and features that the survey data will help update and develop.

Section 2: Survey Planning and Approach – Includes the survey planning stages, design, and methodological approach. The study geographic area, data requirements, results of the pre-test & soft-launch and subsequent adjustments, survey sampling plan, survey procedures, and survey expansion protocols are all presented.

Section 3: Survey Data Collection – This section covers implementation of the survey, the data collection timeframe, achieved sample, response rates, data quality verification, and survey expansion results.

Section 4: Summary of Survey Results – Core survey and hotel survey results are presented in detail, including additional discussions on key subgroup differences.

Section 5: Lessons Learned – Lessons learned during the project that may benefit future establishment surveys are presented.

Appendices: Core survey & hotel survey questionnaires are included.

Executive Summary

THE REGIONAL ESTABLISHMENT SURVEY: OVERVIEW

The New York Metropolitan Transportation Council (NYMTC) conducted the Regional Establishment Survey (RES) to understand travel patterns of visitors traveling to and from establishments in a 28-county geographic area in and around the New York metropolitan area. The survey area included: the counties in the five boroughs of New York City (NYC) – New York (Manhattan), Queens (Queens), Bronx (Bronx), Kings (Brooklyn), and Richmond (Staten Island); Nassau and Suffolk counties on Long Island; five Hudson Valley counties – Westchester, Dutchess, Putnam, Rockland, and Orange; 14 counties in New Jersey – Bergen, Passaic, Hudson, Essex, Union, Morris, Somerset, Middlesex, Monmouth, Ocean, Hunterdon, Warren, Sussex, and Mercer; and Fairfield and New Haven counties in Connecticut.

NYMTC is a regional council of governments that is the metropolitan planning organization for New York City, Long Island and the lower Hudson Valley, providing a collaborative planning forum to address transportation-related issues, develop regional plans and make decisions on the use of federal transportation funds.

The RES was a multi-year transportation data-collection project seeking key information from visitors to establishments in the 28 counties within New York, New Jersey, and Connecticut. It will contribute data to an update of NYMTC's New York Best Practice Model (NYBPM), a state-of-the-art travel demand forecasting model for the greater New York City region. Results from the RES will complement the Regional Household Travel Survey (RHTS), which captured data of travel patterns of people living in the same 28-county area, and help guide the planning of future transportation projects in the region. There was also an out-of-region visitor survey component to the RES that will be the basis for the development of a new visitor model.

The RES collected data on 219 core establishments from retail, recreation (recreation/arts/entertainment), and food services industries totaling 12,088 surveys, and 92 hotels yielding 1,509 surveys. Thorough data completeness and quality reviews were conducted with 8,740 core surveys and 1,334 hotel surveys passing all critical checks and being valid for modeling. The final counts of establishments and valid surveys exceeded the survey plan targets of 112 core establishments and 7,840 associated surveys, and 30 hotels and 900 associated surveys. Survey expansion was implemented successfully, and with the inclusion of the expansion factors the data is fully ready to support the planned NYPBM update and visitor model development.

CORE SURVEY KEY FINDINGS:

The core survey obtained information about how resident (within region) visitors traveled to and from the establishment. Some key highlights included the following:

Where did core visitors travel from/to?

- More core visitors traveled from/to their home than their workplace (other origin/destination location types were reported infrequently), with the proportion going home after the establishment visit higher than the proportion coming from home.

- Core visitors in urban environments were more likely to travel from/to their workplace than those from suburban locations. Conversely, home was a more common origin/destination location for suburban establishment visitors than urban establishment visitors.
- Recreation establishments had the highest proportion of visitors (compared to retail & food service establishments) who originated from or went to their home.

What were the origin departure, establishment arrival, and destination arrival times?

- Departures from core visitors' origin location typically ranged from 9 AM to 6 PM, peaking at 5 PM.
- Arrival times at the establishment mainly spanned from 10 AM to 7 PM, with peaks from 10 AM to 12 PM and 5 PM to 6 PM.
- Arrivals at the destination after leaving the establishment were mostly reported to be between 11 AM and 8 PM, peaking at 7 PM.

How did core visitors get to/leave from the establishment?

- Overall, walk (walk only/longer than 30 minutes), subway, and drove were the three most reported establishment access and egress modes, in that order.
- Urban establishments had more visitors who walked to/from the establishment than suburban establishments. The proportion that drove was higher among suburban core visitors when compared to urban core visitors.
- Recreation establishments had the highest proportion of visitors who drove in comparison to the retail or food service establishments.

Did core visitors make stops along the way?

- Fewer than half of core visitors made stops to the establishment from the origin location or planned to make stops from the establishment to the destination location.
- Of those who made or planned to make stops, most made/planned to make only 1 stop and few were picking up or dropping off a person.

Did core visitors travel alone or with others?

- The vast majority of core visitors traveled alone to go to establishments.

How much time did core visitors spend at the establishment?

- The majority of core visitors spent 20 minutes or less at the establishment. Smaller but sizable groups of core visitors also spent 21-59 minutes or 60+ minutes at the establishment.

- A higher proportion of core visitors spent 6-30 minutes at urban establishments than those visiting suburban establishments. In contrast, more suburban establishment visitors spent 60+ minutes than urban visitors.
- The industry types showed different patterns in terms of lengths of time visitors spent at the establishment. Food services establishments had the highest percentage of visitors spending a short 5 minutes or less, retail stores had the highest proportion spending a medium 6-30 minutes, and recreation establishments had by far the highest percentage spending more than 31 minutes at the establishment.

HOTEL SURVEY KEY FINDINGS:

The hotel survey collected information about out-of-region visitors' initial arrival to the region and subsequent travel to the hotel. The focus of the survey pertained to the travel these visitors made to establishments (up to 24 hours) while staying at the hotel. Some key highlights included the following:

What was the overall purpose of travel to the region?

- Visitors traveled into the region for both business purposes (business meeting, other business purpose, and convention/conference) and personal reasons (vacation/leisure trip, visit friend/relative, special event, and shopping), at about equal proportions.
- Vacation/leisure was increasingly cited as the main purpose of travel into the region when one moves from visitors at more suburban to more urban hotels. Business meetings showed the opposite pattern – it was increasingly more common as the primary purpose for travel into the region when one moves from visitors at more urban hotels to more suburban hotels.

How did out-of-region visitors first travel into the region?

- The majority of out-of-region visitors traveled in by plane. Car was the next most common initial arrival mode into the region.
- Urban (CBD & Mostly Urban) visitors flew into the region more than suburban visitors. On the flip side, suburban visitors were more likely than urban ones to drive into the region.

How did out-of-region visitors travel to the hotel after initial arrival into the region?

- Most out-of-region visitors took some type of car service to get to their hotel after arrival into the region. Driving a private or rental car or using a hotel shuttle were also reported travel modes to the hotel, but at lower frequencies.
- Travel mode to the hotel varied depending on the geographic location of the hotel. Out-of-region visitors staying at urban hotels were more likely to take a car service, Amtrak/commuter rail, or subway to arrive at their hotel than those staying at suburban

hotels. Suburban hotel guests drove to their hotel more than visitors staying at urban hotels. Hotel shuttles were used less frequently to get to the most urban hotels in the CBD than Mostly Urban or suburban hotels.

Did out-of-region visitors have a vehicle available for use while staying at the hotel?

- Only a minority of out-of-region visitors had a vehicle available to them during their stay at the hotel.
- Those staying at suburban hotels were more likely to have a vehicle for use than those staying in urban hotels.

Did out-of-region visitors travel outside of the hotel within the past 24 hours at time of interview?

- The majority of out-of-region visitors had traveled outside of their hotel at the point of interview.

When did out-of-region visitors make trips outside of the hotel?

- Most out-of-region visitors initially left the hotel to go out in the morning, especially around 9 AM. Early evening was another period when respondents were likely to initially go out from the hotel, especially around 7 PM.
- Once starting their travel outside the hotel, out-of-region visitors departed from and arrived at the trip locations throughout the day. The early evening period was a frequent time period for departures. Peak arrival periods centered around 10 AM and 6 PM.

How did out-of-region visitors make trips outside of the hotel?

- Out-of-region visitors walked the most to travel to places outside of the hotel. Driving, car service and subway were other travel modes most used after walking.
- Travel modes while staying at the hotel varied depending on the geographic location. The more urban the hotel, the more likely it was that the out-of-region visitor walked. Conversely, the more suburban the hotel, the higher proportion of driving. The prevalence of subway usage was highest at Mostly Urban hotels (compared to CBD and suburban hotels).

Did out-of-region visitors make trips outside of the hotel alone or with others?

- Most out-of-region visitors traveled to places outside of the hotel with at least one other person. A group size of two was the most common.

What were the trip purposes for travel outside of the hotel?

- Food/drinks and sightseeing were the prominent trip purposes, followed by trips for business reasons and shopping.

In summary, the RES data will both update the NYBPM and be used as the basis for the development of a new visitor model. It will serve as a rich source of data for further analyses

and understanding of establishment-based travel, both of resident visitors and out-of-region visitors, for years to come. The full report, including the public dataset, is available for download on the NYMTC website (www.nymtc.org).

1.0 Objectives of the Survey

1.1 Background of the Survey

NYMTC undertook the RES to understand travel patterns of visitors traveling to and from establishments in a 28-county geographic area in and around the New York metropolitan area.

The RES data will be used in the 2012 NYBPM update project in both model estimation and validation. For model estimation, it is planned to use the RES data in combination with data from the RHTS to estimate the parameters of destination and mode choice models, and time of day choice models as well. The RES will enrich the RHTS data for travel to retail, food service, and recreational establishments, and so the choice models for tour purposes such as shopping and discretionary travel will be enhanced with the RES data. In model validation, the RES data will provide a good source of information about not only the distribution of modes, times of day, and trip/tour origins at these types of establishments, but also the characteristics of travelers to these places. In addition, the hotel surveys conducted in the RES will be instrumental in the development of a brand new visitor model for the region.

Survey data from the RES will contribute to a better understanding of regional travel behavior. Ultimately, this project will help in the development of federally-required long-range Regional Transportation Plans (RTP) that seek to forecast and address the region's future transportation needs, benefiting establishments and visitors throughout the region.

1.2 Overview of Modeling Objectives and the Role of RES

Large sample regional household surveys of detailed household activities and travel, such as the RHTS completed by NYMTC, have served as the primary source of resident-based travel data for the development of travel demand models, providing rich data for the analysis and modeling of travel demand produced by household activity. The principles and details of the requirements for household surveys are generally well understood, and both the design and methods of implementation are highly advanced. For some time now, there has been recognition in the field of travel-demand-modeling of the large potential value for the improvement of travel models with data that could only be collected at establishments. Data collected at establishments would capture details of travel at the non-home end for resident travel, especially for non-work trips, and also for non-residents of the region.

There is a principal difference between the RES and the RHTS in terms of how trips in each survey are organized and related to the explanatory variables of travel behavior. The RHTS provided a complete accounting of all trips made by a household over a one day (or longer) period, no matter where these trips were headed. In addition, the trips were usually supplemented, in detail, with information about both the person-level and household-level characteristics. The RES, on the other hand, provided a complete set of information about trips made by an individual at the activity-supply side. These trips were captured at establishments over a one day timeframe. As a result, the RES provided a direct linkage between trips made and the size/type of establishment that attracted the trips, something that the RHTS could not provide because it focused on travel data collected at the household level.

In addition to the set of individual trips or activity participations that were complementary to the RHTS, the RES provided unique aggregate information about each establishment in terms

of counts of visitors by hours of the day. This information was used for weighting the sample of individual records collected for the establishment as part of the overall expansion of the RES.

The RES data collected for NYTMTC also included a visitor component that will support the development of an entirely new model for non-resident travel. Future studies will utilize this survey as a major source for understanding and modeling travel patterns of non-residents visiting the region for business, tourism, or other purposes. In this regard, the RES played an important complementary role to the RHTS that was solely focused on residents.

1.3 Model Structures and Features

1.3.1 Core Activity-Based Models

The RES was an important additional source of information about activities and travel undertaken in the region. It was designed to support the statistical estimation, validation, and calibration of the NYBPM. In general, the estimation and calibration of an advanced Activity-Based Model (ABM) required the integration of many data sources, each describing travel behavior from a different angle of view and/or for a different population/travel market. Specifically, the RES was supplemental in the estimation of certain models within the NYBPM relating to activities at the non-home end. This included the mode, time-of-day, and destination choice models.

Tour and Trip Destination Choice

The RES provided rich data regarding the locations of people who were visiting away from their homes. While travel information was similar to the RHTS, it allowed for more attraction focused variables to be introduced and considered.

In general, there were two main components in any location choice that had to be specified and parameterized. The attraction size variable quantified the location itself as a potential place for activity for the given individual. A primary purpose of the RES was to provide information for a better and more detailed attraction size variable in terms of the number of explanatory variables as well as in terms of “individualized” coefficients that portrayed the impact of person and household characteristics on choice of the activity location.

The impedance function described the impact of travel time, cost, distance, and other (multimodal) accessibility measures on choice of activity location. Having characteristics of the establishments allowed the potential to estimate its effect on how long or far people were willing to travel for particular activities.

Mode and Car Occupancy Choice

The RES also provided important unique information for improving mode choice. This related to a better incorporation of parking constraints (not in the current NYBPM) as well as a wide set of mode preferences associated with the underlying activity type. This was another area where the RES and the RHTS could be effectively integrated in the model estimation. Specifically, for mode choice, the utility functions were enriched by the variables characterizing the establishment (like type and size) in addition to person, household, and Level-of-Service variables that were applied in NYBPM (and in practically all travel models of mode choice).

It was known from existing literature and from the consultant team's experience in ABM development that individual value-of-time (VOT) varied significantly by activity type. When VOT was high, the modal split was shifted towards more expensive, convenient, and reliable modes (like taxi or rail). The establishment survey provided important information on typical modal split for different types of establishments by geography, time-of-day, as well as travel purpose.

Another important impact of establishment type and size that was captured with the RES related to car occupancy. We expected that certain industries (for example, food industry associated with eating out, and recreation associated with discretionary trips) as well as large establishments in general would be characterized by higher vehicle occupancy due to a large share of inter-household and intra-household carpools. It was a well-known phenomenon for special events but it has never been yet explored in a broader context of all types of activities. Some of the (large) establishments in urbanized areas in New York had special access to transit stations (for commuter rail and subway). This factor might be significant since it improved access and egress conditions that transit users are extremely sensitive to. The RES provided a unique opportunity to explore this impact directly at the level of individual establishments.

Time-of-Day (TOD) Choice

In the same vein, along with the destination and mode choice models, the RES also served as a source of data for the principal improvement anticipated for the next generation NYBPM. This new version will include the introduction of a time-of-day choice model, replacing the simplified procedures applied in the current NYBPM (as part of the Pre-Assignment Procedure where tours and trips are randomly distributed using segmented look-up tables). In virtually all ABMs in practice today, time-of-day choice – the determination of the time of activity – is limited by available input information; these are largely driven by person and household attributes with an addition of crude density measures or area type dummies (like Manhattan/Central Business District (CBD) dummy used in the current NYBPM).

Adding more specific variables on the attraction side including establishment type, size, hours of business, and location, was a tremendous improvement over the current NYBPM that can open ways to explore some additional policies (like shifting business hours to spread congestion peaks). The New York metropolitan region is characterized by a great variety of timing profiles by different locations and establishment types. For example, the shopping and entertainment industry in Manhattan is characterized by unusually late closing hours which create a unique time-of-day pattern. In this regard, it was important to collect information about visitor counts (as well as associated activity durations) for each surveyed establishment along with the daily total statistics.

1.3.2 Visitor Model

The New York metropolitan area is a very unique location that attracts numerous out-of-region visitors from around the country and the world. These visitors are likely to make different transportation choices than local residents who are “anchored at home” and performing more routine activities near their homes. Therefore, there existed a need to model the travel behavior of these visitors separately in a stand-alone model. The current version of the NYBPM does not include such a model. For this reason, a new visitor model is being developed as part of the NYBPM 2012 update project. A state of the practice visitor model envisioned for a region as diverse as the Best Practice Model (BPM) region must include the following elements:

- First and foremost, the visitor model will ideally identify the total number of average weekday travel by people within the model region who do not live in the region, and have the ability to forecast these numbers into the future. Ideally, the forecasted numbers correctly identify the attractiveness of New York City, other urban areas and rural areas in the region to visitors and will be broken down by geography.
- Second, the model will ideally be capable of modeling visitor travel choices including modal choice, destination choice, time-of-day choice and activity purpose by market segment (recreational visitor vs. business traveler, for instance).
- Third, the visitor model component must be integrated within the framework of the NYBPM to take advantage of the wealth of data available as model input and to ensure that modules such as traffic assignment capture the full extent of travel in the region.

Activities and Trip Purposes

One of the first steps in developing a visitor model was to determine the types of activities and trip purposes that may or may not differ from the non-visitors. The design of the instruments must be as broad as possible to capture key non-resident travel markets.

Based on a previously developed visitor model, the following trip types/purposes were included:

- Convention/Conference
- Business Meeting
- Other Business Purpose
- Vacation/Leisure Trip
- Special Event/Concert/Show/Sporting Event
- Shopping
- Visit Friend/Relative
- Other

Trip Rates & Destination Choice Model

From a data collection and sampling standpoint it made the most sense to survey visitors at hotels that they were staying in. As such, the RES data was collected by surveying guests staying at hotels throughout the region. The hotels could be treated in a similar manner as homes are in the resident model, i.e. hotel trip ends could be counted as trip productions for all purposes except non-hotel based. Productions of non-hotel based trips would be consistent with their origins.

Although the visitor model is not completed and the structure is not yet fully known, separate production rates could be developed for each unique hotel market segment. Market segments may vary by geography, hotel price (star rating, average price), and total number of hotel beds, if such information is available for the universe of hotels in the BPM region. As similar to the resident destination choice models, the destination choice for visitors may be developed using multinomial logit models (MNL) which attempt to explain the behavior of individuals making one choice from a finite number of destination zones. The models are likely to be segmented by geography (i.e. CBD/mostly urban, other). Different geographic segmentations

may be used for the business and leisure traveler market segments to better capture their travel behavior and concentration of trip attractions. Business oriented measures, such as employment by industry type, may be used in the size function to improve the predictive power for business-visitor destination choice models. Variables based on the mode choice model estimation that measure zonal accessibility (e.g., logsums) are also likely to be considered.

Mode Choice Model

In mode choice model estimation, identifying the modes available for travel is a critical component in developing the full choice-set. When surveyed, visitors were asked how they arrived in the region and traveled within it, revealing availability of a rental or private car. In addition, mode choice options in the survey were tailored to the unique makeup of the BPM region.

Consistency with the transit component of the NYBPM was highly desirable, but differences in mode usage by visitors were important to distinguish. For example, there were modes, such as hotel and airport shuttles, that were available to visitors but not residents.

Some of the following rules may be applied to determine mode availability for a trip:

- Auto is available if visitors or someone in the travel party reports having a vehicle available.
- Shuttle is available for hotel-airport/transit trips, if provided by the hotel.
- Rail and bus is available, if a path exists for the origin-destination combination.
- Taxi or walk is available, if trip ends are within reasonable distance.
- Tour bus may also be an option for leisure travelers but not an option for business travelers.
- With the recent installation of bike share, bicycle travel may be a viable option for visitors to the city.

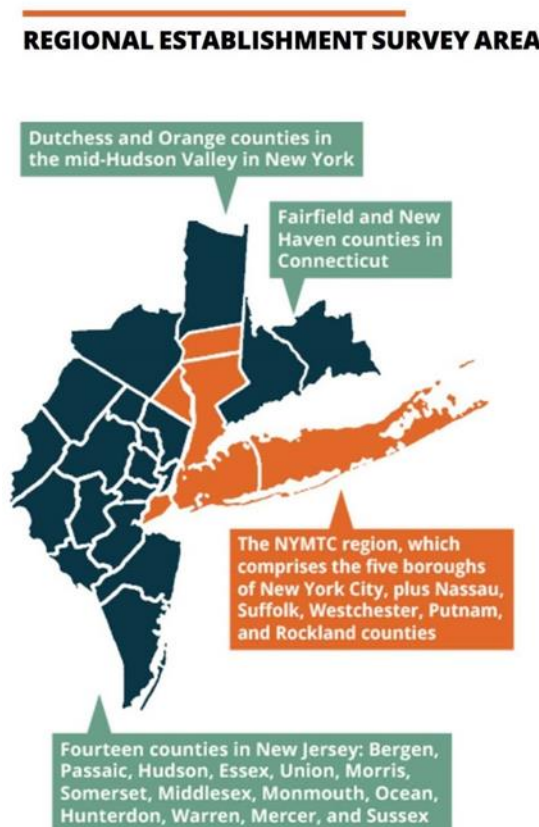
Visitor trips were captured for up to a full 24 hours after initial arrival at hotel, with their hotel as the primary base and modal availability rules applied to each trip prior to estimation. The RES was designed with this in mind.

2.0 Survey Planning and Approach

2.1 RES Study Area

The RES Study Area encompassed the greater New York metropolitan region. There are 28 total counties including the 10 NYMTC region counties [the counties in the five boroughs of New York City - New York (Manhattan), Queens (Queens), Bronx (Bronx), Kings (Brooklyn), and Richmond (Staten Island)– plus Nassau, Suffolk, Westchester, Putnam, and Rockland counties] and 18 other adjoining counties in NY, NJ and CT (See Figure 2–1).

**Figure 2–1:
RES Study Area - NYMTC Region & Other Counties**

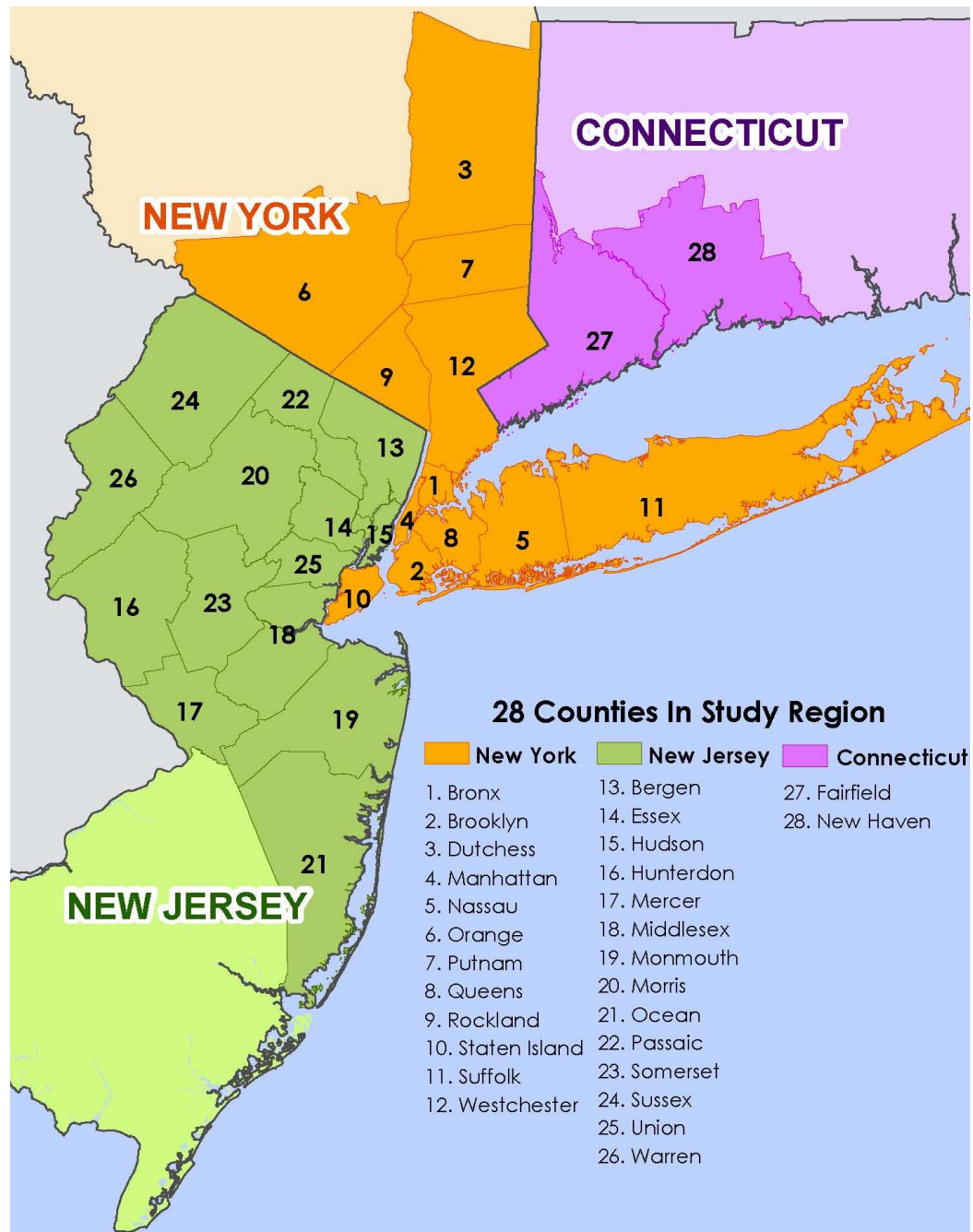


The RES Study Area can also be logically grouped into five sub-regions as follows and as organized by State in Figure 2–2:

1. New York City (NYC) – five boroughs comprised of Manhattan (New York), Queens, Bronx, Brooklyn (Kings), and Staten Island (Richmond) counties;
2. Long Island – Nassau and Suffolk counties;
3. Mid-Hudson Valley – Westchester, Dutchess, Putnam, Rockland and Orange counties;

4. New Jersey – Bergen, Passaic, Hudson, Essex, Union, Morris, Somerset, Middlesex, Monmouth, Ocean, Hunterdon, Warren, Sussex, and Mercer counties;
5. Connecticut – Fairfield and New Haven counties.

**Figure 2-2:
RES Study Area – Counties By State**



2.2 Data Requirements and Survey Content

2.2.1 Core Survey

When to Survey

The RES, like the RHTS, focused on weekday travel to support modeling of primarily average weekday behavior. As such, surveys and counts were performed during the business hours throughout the day.

Who to Survey

Everyone who entered the establishment was a potential respondent except those employed there. This may have included a small percentage of people who live outside the region, though the focus was within-region residents. A single person could respond for a group (and the party size was included as a question on the survey instrument).

Since work trips made by employees were already adequately captured through NYMTC's RHTS, the primary purpose of the RES was to capture details of travel at the non-home end of travel for non-work trips. As a result, employees were not surveyed as part of the RES.

Survey Content

Personal characteristics needed to be collected to associate with the travel behavior. This included:

- Group size and type (within household, with children, etc.)
- Home location
- Household size
- Gender
- Student/employment status
- Household income

A tour was defined as: i) a circuit that begins and ends at home for the before-work and after-work patterns or ii) a circuit that begins and ends at work for the work-based pattern. Travel information collected should have included the portion of the tour from the primary origin to the stop at the establishment, as well as the portion from the establishment to the primary destination. The "tour" was likely to start and stop at home or work, but may have started or stopped elsewhere. The trip characteristics were similar in depth as those in the household travel survey:

- Purpose of traveling to this location (meeting or other business purpose, shopping, entertainment, etc.)
- Arrival and departure modes (auto, transit modes, taxi, other)
- Travel times – departure from origin, arrival/departure at establishment, arrival at destination
- Prior location (origin of tour) and activity - to establish context of this trip with daily activities and travel tour
- Next location (end of tour) and activity – same as above
- Number of stops made before and after the establishment
- Parking information

Establishment Counts

General stratification of person counts was important for modeling purposes. These needed to be collected on an hourly basis for the day of business operation or survey time, and this was done at core establishments to the degree possible. This information was used to estimate the total visitors to the establishment and for the expansion of the sample of surveyed visitors by time-of-day.

Given that workers were excluded from the survey and it was logistically impossible to correctly count only non-workers, estimates were made for the number of employees in the counts. This is discussed in more detail in the survey expansion section of this report (Section 2.8).

2.2.2 Hotel Survey

Data Objectives for Modeling

The primary data collection for out-of-region visitors was conducted using a hotel-based survey. The hotel survey focused on overnight guests from outside of the BPM region. It did not include those staying in single room occupancy (SRO; also known as extended stay hotels) hotel units, those who stayed with friends & relatives, those who stayed in bed & breakfasts (B&B), those who stayed in Airbnb rentals, and those making day trips from outside of the region.

Those staying in SRO units did not qualify for the survey (they were in-region residents) and were screened out. People staying with friends & relatives would have theoretically been accounted for in the RHTS. Bed & breakfasts were not included in the survey work because of their small sizes; it would have been a highly inefficient use of project resources. For modeling application, B&Bs could be combined with smaller sized hotels.

Travel survey data for those staying in Airbnb rentals and those making day trips into the region were not generally available. If “day-trippers” had visited a food services, retail or recreation establishment, they could have theoretically been part of this study. But if those people just attended a business meeting only, then their trip would not have been included. Some data for these individuals may be available as part of special generator information (e.g., airports) or from the external model if they drove into the region. Surveys at attractions/special generators were also considered but ultimately not included because that would have likely missed business travelers. As a hotel-based survey was employed, the focus of this sub-section is limited to hotel visitors.

The collection of accurate and complete information was a concern as with every travel diary survey. In the case of the hotel survey, this was a bigger concern since visitors were less familiar with the area than within-region residents. Therefore, the survey was designed to allow the capture of point-of-interest information (landmark or nearest intersection) as a viable replacement for exact street addresses.

Who to Survey

Residents of the 28 county-region were already accounted for in the core survey, so their travel was not included in the hotel survey. The survey began with checking the following criteria to ensure that possible interviewees were appropriately screened:

- Must live outside the BPM region;
- Must be an overnight guest at the hotel where the interview is taking place;

- Must be 18 years or older.

Personal Interview vs. Web-Link Interview

In-person tablet-based interviews are known to get the highest response rate of completed surveys, so out-of-region visitors were surveyed using that methodology. As mentioned above, respondents could provide point of interest information if the exact street address was not known. Because not all visitors may have the time for an interview, the project team considered making a web-link interview available. However, the response rate for this survey method tends to be low, especially when considering the cost of setting up and administering the web link interview. As a result, the project team decided to use paper surveys to supplement the in-person interviews at hotels.

Where and When to Target Visitors

The lobbies of hotels were used as the survey location to best intercept hotel guests both going out and returning. In terms of when to survey hotel guests, the following were considerations:

- Having surveyors in place at the times expected to be most busy – check-out time in the morning - may help to maximize efficiency. However, many visitors may be busy in the morning, and visitors checking out may have to leave quickly to catch their transportation home.
- Another option would be to wait at the hotel during the afternoon/evening period to target visitors as they return to the hotel to conduct the interviews.
- Hotels generally want to limit the amount of time surveyors are allowed on their premises. Very early or late survey hours would likely be problematic for hotel management.

The survey timeframe of 7 AM to 9 PM was ultimately selected in consideration of all the points above.

Data Development Recommendations

The data collected in the hotel survey were somewhat different from the core survey conducted as part of the RES. In fact, the hotel survey was more similar to the household travel survey and tried to capture up to a full 24-hour travel diary. The questionnaire had been designed to ensure consistency with the regional household survey such that the visitor model may easily be incorporated into the resident regional model.

Data Items and Specific Measures

As in the household survey, the hotel survey collected two types of information - socio-demographics and trip-making behavior. In addition, the hotel survey also captured information on the reason for and means of travel to the region. The socio-demographics and the “reason for travel to region” questions were used to determine the various visitor market segments (i.e. business or leisure); while the trip-making questions were used for model estimation.

When designing the questionnaire for the hotel survey, questions related to the following socio-demographics were considered for inclusion in the hotel survey:

- Age;
- Gender;
- Household income;

- Worker and student status;
- Household size;
- Marital status;
- Home location (domestic vs. international); and
- Vehicle availability while in the region (own or rental vehicle).

However, to shorten the length of the survey gender was recorded by observation only. In addition, questions related to worker/student status and marital status were not asked, as these were considered less essential for modeling purposes. Finally, respondents must be at least 18 years of age to participate in the survey. As such, the respondents were simply asked whether they are 18 or older, rather than their age category.

Every trip made by the hotel guest in the 24 hours prior to the interview after initial arrival at the hotel was recorded with the following details (trips by other people in their party or hotel room were not additionally obtained):

- Location of origin and destination (landmarks, nearest intersection);
- Departure and arrival times;
- Travel mode;
- Travel purpose;
- Number of travel party members.

Unlike the household travel survey in which all participants were residents, it was necessary to collect information on the nature of the visit to the region:

- Purpose of visit;
- Mode used to enter the region;
- Mode used to travel to hotel from initial arrival location in the region;

Estimating Number of Visitors on an Average Day

The number of visitors on an average day was estimated as the product of (A) the number of hotel rooms or equivalents, (B) the occupancy rate, and (C) the average number of visitors per hotel room. The survey itself provided an estimate of the average number of visitors per hotel room. Since occupancy rate was used for survey expansion to the universe of hotel guests, counts at hotels were not critical. Furthermore, it would be difficult if not impossible to properly separate guests staying at the hotel from others visiting the guests, or using other hotel services.

2.3 Pre-test and Soft Launch of Main Study

The RES sampling plan and survey procedures (to be discussed in Section 2.4 & Section 2.5) were informed by the pre-test and the incremental roll-out (or “soft launch”) of the main study. The pre-test was conducted from June 10 – July 11 of 2014 and the soft launch of the main study took place generally from February through June of 2015 (one hotel was completed for this phase in October 2015).

2.3.1 Approach and Results

The survey approach for the pre-test varied based on the size of the establishment. Small establishments (19 or fewer employees) were notified by advance letter, recruited via

telephone, and given a packet of survey materials (paper surveys, postcards with invitation to web version of survey, count sheets) and asked to self-report the results. Medium establishments (20-249 employees in pre-test), large establishments (250+ employees in pre-test), and hotels were notified by advance letter, recruited by telephone and re-contacted a second time to schedule the survey date and obtain details to finalize site visit. At establishments, the survey and counts were conducted on an intercept-basis using computer tablets. The soft launch of the main survey continued the same general survey approach with some adjustments. As no hotels participated in the pre-test despite efforts to recruit, one hotel was selected, notified and surveyed from the public sidewalk outside the hotel as part of the soft launch.

Pre-test results showed survey completions were lower than initially targeted, including no hotels that agreed to participate. See Table 2–3. The survey instrument generally worked well, though adjustments were needed for questions about stops made to and from the establishment.

**Table 2–3:
Pre-Test Survey Completions**

Establishment Size	Geography / Density	Target Number of Establishments	Number of Establishments Surveyed	Average Intercept Surveys per Establishment	Target Number of Intercept Surveys	Number of Intercept Surveys Collected
<i>Core Sample</i>						
Small	CBD	8	5	28	224	17
	Mostly Urban	8	5	28	224	26
	Other	8	5	28	224	19
Medium	CBD	1	1	150	150	49
	Mostly Urban	1	1	150	150	63
	Other	0	0	160	0	0
Large	CBD	1	0	610	610	0
	Mostly Urban	0	1	160	0	309
	Other	0	0	160	0	0
<i>Hotel Sample</i>						
Small	CBD	1	0	30	30	0
	Mostly Urban	0	0	30	0	0
	Other	0	0	30	0	0
Medium	CBD	1	0	60	60	0
	Mostly Urban	0	0	60	0	0
	Other	0	0	60	0	0
Large	CBD	1	0	160	160	0
	Mostly Urban	0	0	160	0	0
	Other	0	0	160	0	0
Total		30	18		1832	483

The soft launch further clarified that: 1) the recruitment and subsequent scheduling of establishments needed adjustments (only 11 of 30 recruited establishments were successfully scheduled and surveyed) and 2) self-reporting by small establishments resulted in low numbers of surveys (only about 1 survey was self-reported on average per establishment; only 2 surveys in total were completed via the online option across 16 establishments). Although some interviews were able to be completed for the one hotel surveyed on the public sidewalk, there was strong pushback from hotel management and interviewing had to occur far from the hotel entrance.

2.3.2 Adjustments from Pre-Test and Soft-Launch

Based on the results of the pre-test and soft-launch, it was clear that adjustments were needed in the sample targets and segmentations to reflect what actual data collection can realistically yield. In addition, these results indicated that we would need to adjust some of the survey methodologies that were being used. The following adjustments were made:

- The sampling plan was adjusted to a final target total of 112 core establishments and 7,840 surveys, and 30 hotels and 900 surveys. The sampling segmentations were consolidated to 2 establishment sizes (Small, Large), 2 geographic areas (CBD/Mostly Urban, and Other for core survey; still 3 geographic areas for hotel survey) and 3 industry types (Retail, Recreation [Recreation/Arts/Entertainment], Food Services). This is discussed in more detail in Section 2.4 on the sampling plan.
- Data collection for all establishments, including small establishments, utilized only in-person intercepts that were administered by survey staff using computer tablets.
- The fieldwork focused on core establishments with 150+ visitors on average per day to maximize the return of survey efforts. (The pre-test and soft launch showed that establishments with fewer than 150 visitors tended to yield very low numbers of surveys, with fewer than 5 surveys on average per establishment.) For hotels, the final focus was on the larger, higher quality hotels.
- In CBD/Mostly Urban locations, where public sidewalk spaces were available to enable surveying, core survey intercepts were conducted with notice to establishments but without the need to obtain permissions. This helped to reduce costs and maximize resources for surveying by bypassing establishment recruitment in these geographic areas. (Hotel surveys continued with phone recruitment for all geographic areas, including CBD and Mostly Urban locations.)
- To maximize project resources, the recruitment process was limited (no advance letters). Recruitment surveys were also greatly shortened (no longer obtaining questions on establishment operations that were not essential or were already available in the sample database, which was the InfoGroup business database) to focus on confirming that permissions to survey were obtained from a person in the establishment with authority to allow the survey. Similarly, also to maximize project resources, commercial vehicle surveys (originally planned) were removed as that data could also be mostly obtained from other sources.
- To streamline survey operations, scheduling was added to the recruitment phone call to schedule a date immediately; this avoided the need for separate follow-ups with the establishment contact to schedule a field date.
- Revised the questions pertaining to number of stops from trip start to establishment and number of stops from establishment to trip end for the purpose of clarification. These questions were revised to ask whether stops were made and if yes, how many. The revised

questions also further clarified that respondents should include the number of stops to drop off or pick up a person, but not include places such as a train station or bus stop where they were waiting for transportation to arrive.

2.4 Sampling Plan

The sampling plan was structured based on the data-needs requirements and then adjusted to arrive at the final sampling plan. These adjustments were based on:

- 1.) The pre-test and related findings.
- 2.) Incremental roll-out of the main study sample – also known as the soft launch – whereby the sample plan methodologies and targets were adjusted as necessary based on the data collection.
- 3.) The available budget for the study.

The proposed sample selection was designed to maximize the number of trips and the variability of these trips across up to three stratifications: industry, establishment size, and geography.

2.4.1 Sample Frame

The sample for the NYMTC RES was drawn from the full InfoGroup U.S. Business Database containing all businesses in the 28 county RES region. The database included a total of 233,786 records in the sampled industries (Retail, Recreation and Food Services for core survey; Hotels for hotel survey) within the RES region.

This database was determined to be the single-most comprehensive and highest quality publicly available database of business establishments in the study area. InfoGroup compiles their data from multiple sources and conducts annual telephone verification of each business record to ensure the highest accuracy of its data. Their database contains basic company data, location addresses, telephone numbers, executive names, and employment and sales data.

An alternative sample frame that was considered for this study was Dun & Bradstreet's Duns Market Identifiers database. However, an independent audit conducted in 2009 by the Peter Kiewit Institute's College of Information Science at the University of Nebraska at Omaha found the database of business establishments maintained by InfoGroup to contain more accurate information than Dun & Bradstreet in regard to company name, address, phone number, employment size, and industry. Records in InfoGroup's database were also found to have a lower "out-of-business" rate compared to Dun & Bradstreet.

The Quarterly Census of Employment and Wages (QCEW) database was also considered for this study. Two critical weaknesses of the QCEW, however, made it unsuitable for the RES. First, the QCEW is based only on firms that are covered under unemployment insurance laws, and in many cases the data is available at the firm level rather than establishment level. A second major drawback of the QCEW is that some data from a number of businesses are intentionally obscured for privacy reasons.

Given these drawbacks of the QCEW and the Dun and Bradstreet database, the InfoGroup U.S. Business Database was selected as the sample frame for this project.

2.4.2 Sample Design/Selection

There were two “types” of sample used for the RES. Each was designed to focus on a different element of the RES along with contributions to the NYBPM improvements. (1) The core sample was designed to capture the majority of data related to resident non-work based attraction, including a focus on trip purpose, trip length, mode, and time of day as they relate to industry, establishment size, and establishment location. (2) The hotel (or out-of-region visitor) sample was designed to capture additional information regarding non-resident visitor travel in the region.

The design of these two main samples types have been based on the analysis conducted as part of the data-needs assessment, pre-test assessment, and subsequent adjustments based on initial roll-out of the main study, together with consideration of available study budget. Establishments were either selected based on ease of intercept (in urban areas where sidewalk interviewing was possible for core sample) or randomly selected for recruitment from the InfoGroup database according to the designated sampling plans. Core establishments selected focused on those with higher volumes of visitors (150+), regardless of number of employees. Hotels selected focused on those with higher number of guests (50+). For both core and hotel surveys, interviewers attempted to survey all respondents.

2.4.3 Core Sample

The core sample was designed to capture representative trips across up to three different establishment dimensions:

- 1.) Size,
- 2.) Geographic Area (Location), and
- 3.) Industry Type (Selected sectors)

The final sampling concept called for a total of 112 core sample establishments and 7,840 surveys. The revised¹ sampling segmentation scheme had 3 dimensions for a total of 12 strata:

- Establishment size (2) – Small (0-19 employees), Large (20+ employees)
- Geographic area (2) – CBD/Mostly Urban, Other (see Figure 2–4 on next page)
- Industry (3) – Retail (North American Industry Classification System [NAICS] codes 44, 45), Recreation [Recreation/Arts/Entertainment] (NAICS code 71), Food Services (NAICS code 72)

The segmentations were designed because of differences in travel expected from visitors to establishments of different industries (e.g., retail shopping different from recreational activities), geographic areas (urban different from suburban) and sizes (small different from large).

¹ The initial sampling plan called for 3 establishment sizes (Small, Medium, Large), 3 geographic areas (CBD, Mostly Urban, Other) and 6 industry types (Retail, Recreation, Food Services, Finance, Health Care, Public). The segmentations were consolidated because the total number of surveys had to be reduced due to the constraints of what the data collection can effectively yield based on the pre-test and the initial roll-out of the main study.

Figure 2-4:
RES Region By Area Type

Area Type: Aggregated Classifications

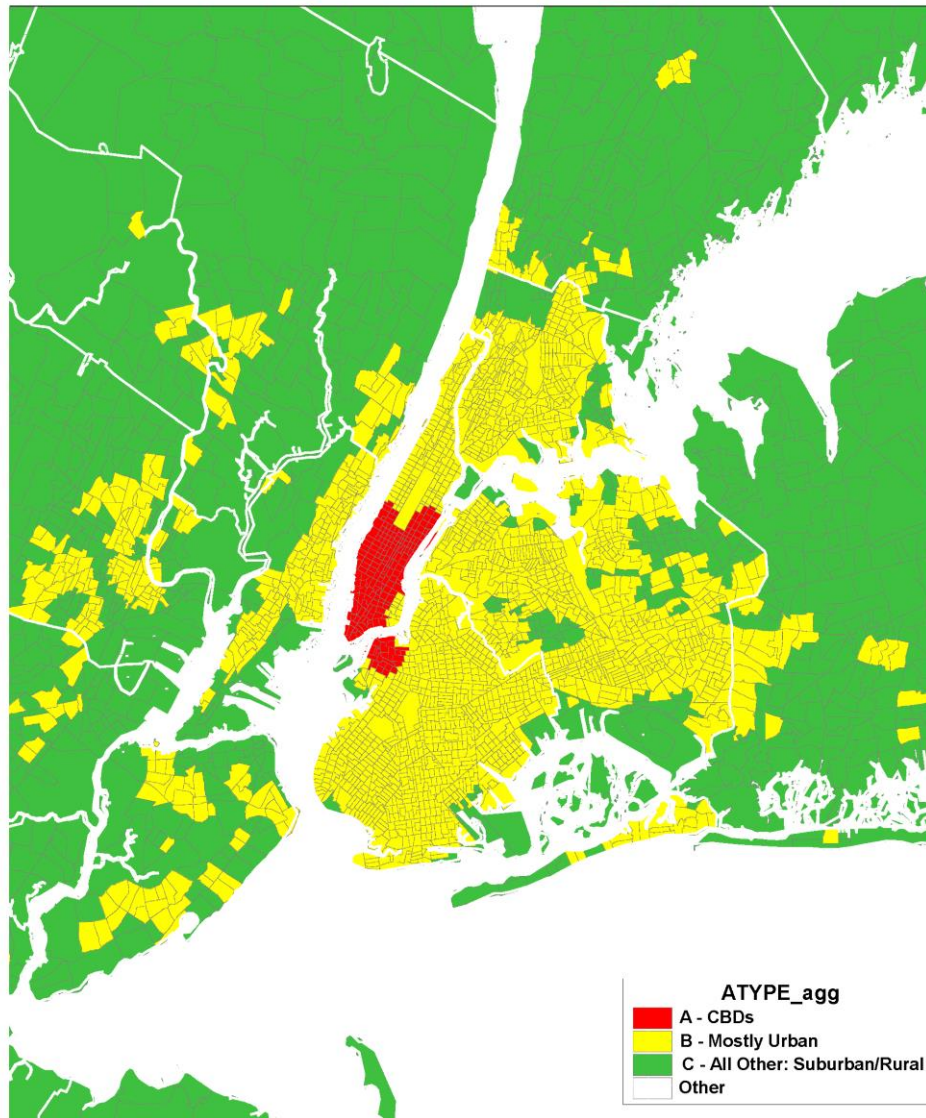


Table 2–5 shows the total universe of establishments by industry, geographic area and size.

**Table 2–5:
Universe of Core Establishments By Industry, Geographic Area and Size**

Industry	Geographic Type	Establishment Size	# Establishments
Retail	CBD/Mostly Urban	Small	56,512
		Large	3,553
	Other	Small	76,892
		Large	7,774
Recreation	CBD/Mostly Urban	Small	5,058
		Large	618
	Other	Small	9,664
		Large	1,335
Food Services	CBD/Mostly Urban	Small	28,356
		Large	2,700
	Other	Small	33,440
		Large	4,726
TOTAL			230,628

The sampling design only accounted for visitor surveys; surveys of work travel of employees for which the site is their usual work place were not included. Traditionally, household surveys do a great job of capturing work commuter travel and behavior. Based on preliminary analyses conducted by the team, it was determined that this was the case in the BPM region as well where the RHTS had abundantly captured regional workplace travel. Specifically, the RHTS showed that of the 143,925 linked trips captured, 24% (34,542) involve the workplace. This was significant, and as such, it was determined that employee surveys would be excluded from the RES.

Table 2–6 shows the summary of the core survey sampling plan. Within the constraints of the feasible number of establishments and visitor surveys by size, the sampling plan had been developed through testing variations on the number of targeted establishments allocated among different geography types and industry types to arrive at what was judged to be close to the optimal sampling plan for the resources available. Based on past experience with estimating activity-based travel demand models, the modeling consultants on the study team felt that these survey targets were sufficient to support model estimation. A minimum criterion of 300 surveys for each segment was set. Although no state distributions were necessary for modeling purposes, establishment distributions were targeted in line with universe percentages by state: 67 in NY; 35 in NJ; 10 in CT.

**Table 2-6:
Planned Sampling Distribution of Core Establishments and Surveys**

Industry	Geographic Type	Establishment Size	Target # Est	Ideal Target # Surveys	Min Target # Surveys
Retail	CBD/Mostly Urban	Small	16	800	300
		Large	16	1440	300
	Other	Small	12	600	300
		Large	12	1080	300
Recreation	CBD/Mostly Urban	Small	8	400	300
		Large	8	720	300
	Other	Small	6	300	300
		Large	6	540	300
Food Services	CBD/Mostly Urban	Small	8	400	300
		Large	8	720	300
	Other	Small	6	300	300
		Large	6	540	300
TOTAL			112	7,840	3,600

The sampling plan included a wide variety of variables that influence travel decision-making.

- Different geographies – which helped capture a variety of modal and temporal choices;
- Three high-visitor attracting industry segments – which allowed the capture of a variety of travel purposes, temporal choices, trip-length distributions, and even modal choices; and
- Establishment size (number of employees) – which helped quantify the attractiveness of the establishment and may influence the distance from which people travel to that location.

2.4.4 Hotel (Out-of-Region Visitor) Sample

The hotel (NAICS codes 72111 & 72119) sample was segmented using the same geographic areas as the core sample. Although suggestions were made about potentially segmenting hotels by size in rooms and by quality in rating, the sample universe (InfoGroup business database) did not include information regarding either of these attributes. It did, however, provide both square footage and sales volume. These attributes were highly correlated with one another, so only one of the two attributes were selected. Since data in the frame regarding sales volume was more granular, it was chosen for sample selection. To split the sample as evenly as possible, the two size categories were Small (<\$2.5M annual sales volume) and Large (\$2.5M+ annual sales volume).

The population of hotels eligible for sampling from the InfoGroup frame is shown in Table 2–7.

**Table 2–7:
Universe of Hotels By Size and Geographic Area**

Hotel Size	Geographic Area	Number of Establishments
Small	CBD	448
	Mostly Urban	353
	Other	1,451
Large	CBD	296
	Mostly Urban	102
	Other	508
Total		3,158

The final sampling distribution of hotels is shown in Table 2–8. The segmentations were designed because of differences in travel expected from guests of hotels of different sizes (small hotels different from large hotels) and in different geographic areas (urban hotels different from suburban hotels). Although no state distributions were necessary for modeling purposes, hotel distributions were targeted in line with universe percentages by state: 18 in NY; 10 in NJ; 2 in CT.

**Table 2–8:
Planned Sampling Distribution of Hotels and Surveys**

Industry	Size	Geographic Area	Target # Hotels	Target # Surveys
Hotel	Small	CBD	8	160
		Mostly Urban	8	160
		Other	8	160
	Large	CBD	2	140
		Mostly Urban	2	140
		Other	2	140
TOTAL			30	900

The sample target for the hotel survey was 900 surveys from 30 hotels. This sample size was determined as being able to support potentially up to three segments for modeling. The likely segmentation were the three geography/density levels described above, or perhaps something like CBD large, CBD small, and non-CBD.

2.5 Survey Procedures

The sections below describe the final survey procedures for RES.

2.5.1 Core Survey

Survey Population

As the RES data will be used to enhance the NYBPM, the survey region included population from the 28 county BPM area. For the core survey, only residents living in the 28 county study area were surveyed in order to focus on travel by residents who live within the study area. The hotel survey, discussed in Section 2.5.2, captured travel by non-residents.

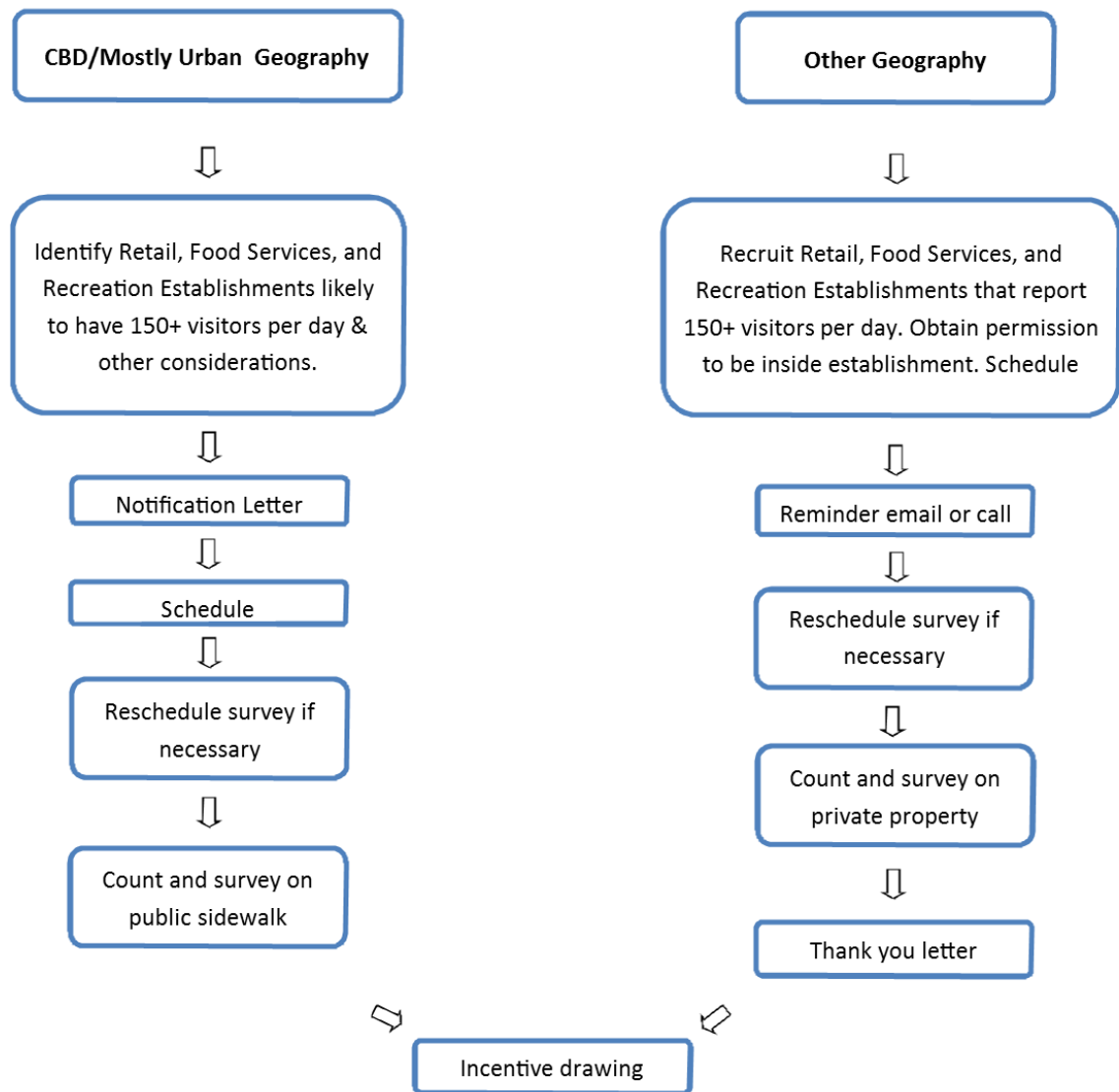
In the final design, only non-employees of the establishment were surveyed because it was decided that commuting trips were already adequately captured as part of the RHTS. However, trips to and from work were captured in the sense that workers visiting the establishments being surveyed were included.

Survey Methodology

The core survey was conducted for visitors to Retail, Recreation and Food Service establishments (the industries targeted in the final sampling plan) and focused on residents within the RES region. These industries were focused on because they have the most foot traffic. The final survey method was intercept surveying using computer tablets. In general, 2-3 surveyors were assigned to each establishment, with one surveyor conducting person counts while the other(s) conducted surveys. The core survey utilized two processes, one for establishments in the CBD/Mostly Urban geographic area and another for establishments in the Other (suburban) geographic area. See Figure 2–9 on the next page for a diagrammatic overview of the processes.

**Figure 2-9:
Overview of Core Survey Process**

Core Survey



CBD/Mostly Urban

For CBD/Mostly Urban areas, Retail, Recreation, and Food Service establishments were fielded on public sidewalk space just outside of the establishment. The establishments fielded were identified with several criteria in mind. 1) Expected daily visitors of at least 150. The 150+ daily visitor guideline was established as a baseline in order to maximize survey returns. 2) Where appropriate, 2 establishments were identified that both fit criterion #1 (150+ daily visitors) and were also located adjacent to one another. This was done so that one team of intercept staff can complete 2 establishments on the same day, increasing efficiency and maximizing the number of fielded establishments and surveys. 3) As much variety as possible in the types of establishments were also taken into consideration. 4) As only residents of the RES region qualified for the core survey, areas with high tourist concentrations (e.g., Times Square) were usually avoided. 5) Establishments were generally prioritized for selection if they had sufficient sidewalk space so that respondents would not feel too crowded while being interviewed.

Once identified, establishments were sent a letter notifying them of the project and upcoming fieldwork on public sidewalk space just outside of the establishment. Permissions were not needed as the fieldwork was completed on public space and not private property. To minimize disruptions to the establishments' business, interviewers generally conducted the interviews upon respondents' departure from the establishment. While surveys were generally conducted in the public space, surveys were conducted inside the establishment if management allowed - especially in the event of inclement weather.

The fieldwork plan was typically finalized towards the end of the week just prior to the fieldwork. If inclement weather was expected, fieldwork was often re-scheduled since interviewers were out in the elements on public sidewalks. Field staff utilized computer tablets to record visitor counts and to conduct in-person interviews.

As an incentive for completing the survey, respondents were offered the option of being entered into a drawing upon completion of the interview. In total, five \$100 winners were selected per month for 10 months, for a total of 50 incentives.

Other/Suburban

For the Other (suburban) establishments, the process involved obtaining permission to survey on the premises. Few, if any, suburban establishments were situated such that public sidewalks were available just outside that could be used for fieldwork. As such, permissions were required to conduct fieldwork on private property.

Telephone interviewers first recruited Retail, Recreation and Food Service establishments to participate in the study. Interviewers screened for suburban establishments that were both willing to grant permission for the team to conduct fieldwork on site and had daily visitors that numbered 150 or more. The establishment representative had to confirm that he/she was the appropriate person that can authorize and arrange for the fieldwork. Interviewers then scheduled an agreed upon upcoming fieldwork date.

The project team sent reminder emails or made reminder calls to establishments prior to the scheduled fieldwork date. Field staff utilized computer tablets to record visitor counts and to conduct in-person interviews. The incentive drawings mentioned earlier also applied to these respondents. Thank-you letters were sent to recruited establishments following the completion of the fieldwork.

Survey Instrument

The core survey was primarily structured to capture travel information from an anchor² origin location to the establishment, and then from the establishment to an anchor destination location. The questionnaire is included in Appendix A, with specific questions as follows:

Q1 & Q2 screened for non-employees and those who were 16 and older.

Q3 & Q4 asked for an anchor origin location type and the associated address information.

Q5 & Q6 requested time of departure from origin location and time of arrival at establishment.

Q7 & Q8 were about the mode(s) of travel from origin to establishment.

Q9-Q11 were related to parking (if the respondent drove).

Q12-Q14 obtained information about stops made between origin location and establishment.

Q15 referred to the length of time spent at the establishment.

Q16 was the trip purpose question.

Q17-Q19 asked for an anchor destination location type, whether it was the same as the origin location, and the associated address information.

Q20 & Q21 asked if respondent planned to use the same travel mode(s) and what those were.

Q22 requested the planned arrival time at the destination location.

Q23-Q25 obtained information about stops made between establishment and destination location.

Q26 & Q27 were questions about travel party size and composition.

Q28 requested home location address information.

Q29-Q32 were background questions about the respondent including household size and income, gender (by observation only), and employment status.

Q34 required an observation by interviewer about whether respondent needed a mobility device (e.g., wheelchair, cane, etc.).

(Q33 was the drawing address and contact question)

Accuracy Enhancing Measures Used

² Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

Flags were programmed into the survey computer tablet app to help identify unusual activity duration and/or travel times. In the final design, respondents were told that they could provide the nearest intersection or landmark if they did not know or if they did not want to give the street address of the origin or destination location. This proved helpful, especially for the hotel survey (discussed in Section 2.5.2).

2.5.2 Hotel Survey

Survey Population

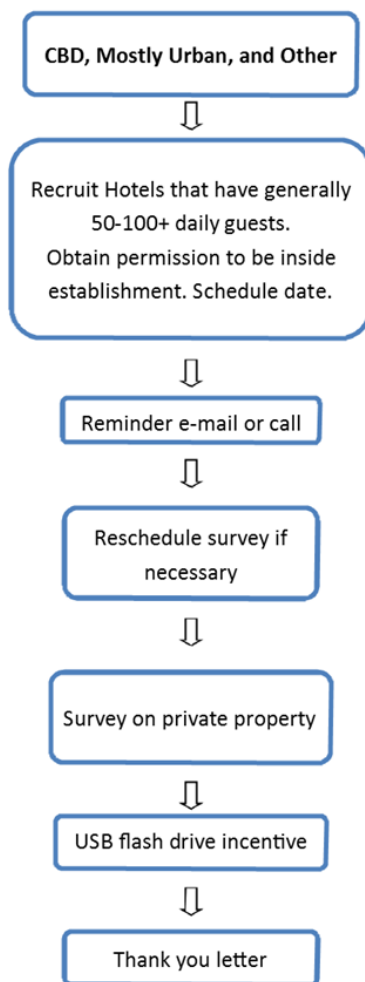
The hotels surveyed were in the same BPM geographic area. The survey effort, however, targeted out-of-region visitors to this 28 county region, as these visitors' travel patterns differed from those of residents within the region.

Survey Methodology

The hotel survey was conducted among hotel guests and focused on people who live outside the RES region. The final survey was also intercept surveying using computer tablets. In general, 1-2 surveyors were assigned to each hotel to conduct surveys. The hotel survey utilized a permission-based process similar to that for core establishments in the Other (suburban) geographic area. See Figure 2–10 for a diagrammatic overview of the process.

**Figure 2-10:
Overview of Hotel Survey Process**

Hotel Survey



Permissions were obtained for hotels in all geographic areas including CBD, Mostly Urban, and Other (suburban) locations. Hotel surveys were conducted with permissions even in locations with public sidewalks primarily for two reasons: 1) the survey was longer and included all trips for up to the prior 24 hours, making it harder to do while on the public sidewalks and 2) hotels tend to be more protective of their guests and conducting fieldwork without their permissions would likely be problematic.

Telephone interviewers first recruited hotels to participate in the study. Interviewers screened for hotels that were both willing to grant permission for the team to conduct fieldwork on site and had daily hotel guests that generally numbered 50 to 100 or more. The

recruit efforts also prioritized large and high-quality hotels such as Hyatt, Sheraton, Marriott, etc. that were likely to have more guests. The hotel representative had to confirm that he/she was the appropriate person that can authorize and arrange for the fieldwork. Interviewers then scheduled an agreed upon upcoming fieldwork date. An FAQ's sheet on the hotel survey was available and sent to hotels as needed and upon recruitment.

The project team sent reminder emails or made reminder calls to hotels prior to the scheduled fieldwork date. Field staff utilized computer tablets to conduct in-person interviews. Respondents were incentivized with an 8-gigabyte USB drive emblazoned with a NYMTC RES logo. To provide an alternative method of completion for hotel guests who were too busy to do the intercept tablet survey, a paper version of the hotel survey was developed and given out to the busier respondents as appropriate. These respondents were also provided with a stamped, self-addressed envelope and asked to give the completed survey to the hotel front desk to mail back upon completion. The paper survey respondents were incentivized with the offer of a \$5 e-gift card from Amazon.com. Thank-you letters were sent to establishments following the completion of the fieldwork.

Survey Instrument

The hotel survey was generally structured chronologically so that travel to hotel preceded the travel diary questions about travel after arrival at hotel. The questionnaire is included in Appendix B, with specific questions as follows:

Q1-Q3 screened for overnight stay at the hotel, 18 or older, and residence outside the RES region.

Q4 asked about main purpose for travel to the region.

Q5-Q7 were questions about travel mode into the region and to the hotel.

Q8 requested information about the number of people staying in the room whose ages were 18+ or under 18.

Q9 referred to vehicle availability for use while staying at the hotel.

Q10 obtained information on whether there was travel outside the hotel within the past 24 hours.

Q11a through Q11_x_7 were travel diary questions if respondent traveled outside the hotel within the past 24 hours. The diary collected up to 7 stops and included information on each stop such as departure and arrival times, stop name and location, purpose for traveling to stop, travel mode to stop, and travel party size.

Q12 & Q13 were respondent background questions on gender (by observation only) and household income.

Accuracy Enhancing Measures Used

Similar accuracy enhancing measures were used for the hotel survey as with the core survey. Respondents were also informed that they could provide the nearest intersection or landmark if they did not know or if they did not want to give the street address of the origin or

destination location. This was especially important when surveying these out-of-region visitors, as tourists are generally not familiar with the area.

2.6 Quality Assurance/Quality Control

The quality assurance/quality control aspects of the study involved many processes including the evaluation of survey responses for completeness and validity. Each record must have contained essential information describing the travel and activities being done by the respondent. Additionally, any errors or inconsistencies were identified and corrected when possible.

These efforts identified issues with the data, including missing or poor quality information. All records from both surveys were systematically checked for a variety of possible problems. The result was a complete list of records with any critical or non-critical issues as well as a summary of the types of issues and the number of acceptable records.

2.6.1 Training of Fieldworkers

A fieldwork training manual was developed to guide the field staff training. The manual included customized instructions to guide in the intercept process. Just prior to the start of data collection, field staff attended a two day instructions and procedures training session. This included an overview of the survey and elements such as wearing proper attire, protocols for dealing with the public, and the field safety of field staff and survey respondents.

In addition, NYMTC staff & Abt Associates staff made regular field visits to monitor the survey as a means of ensuring data quality. This allowed for feedback from the surveyors so that the survey procedures and/or instruments could be revised if needed. As the survey progressed and the data was reviewed, field staff members were retrained twice to ensure data quality. This was critical, as some elements of survey instruments and procedures had been adjusted.

The survey agents were equipped with ID badges and reflective vests to identify them as NYMTC contractors. This also helped to ensure their safety and the safety of respondents. In addition, each surveyor carried a letter of authorization that could be produced, if necessary to ensure respondents or establishment/hotel staff that the survey was authentic.

2.6.2 Sample Adherence

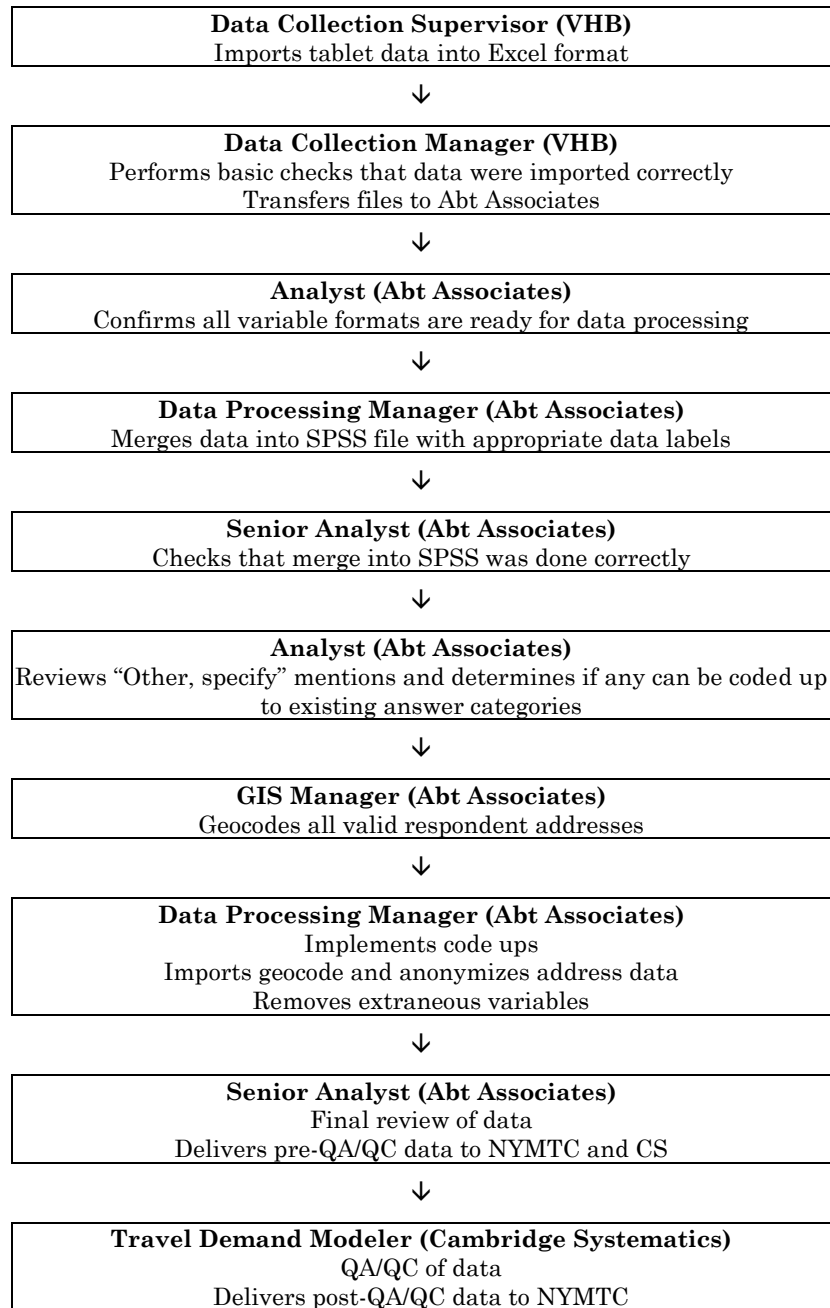
Sample plans for both the core establishment and hotel surveys were developed and helped guide the targeting of establishments and survey data collection. The core establishment sample plan provided targets for number of establishments, ideal target number of surveys and minimum target number of surveys. The hotel sample plan provided targets for number of hotels and number of surveys.

The main survey sample was rolled out through the soft launch approach where incremental and initial results were carefully monitored and regularly compared against the sample targets. Recruitment and survey efforts by industry, geography, and establishment size were then adjusted as needed.

2.6.3 Data Processing Protocol and Geocoding

A general data processing protocol was developed for the RES. Figure 2—11 depicts a flowchart that shows the process from the point data was collected through all the steps of data review.

**Figure 2–11:
Data Processing Protocol**



Geocoding of addresses followed a defined process as well. Core survey address data from Question 4 - Origin (Q4), Question 19 – Destination (Q19) and Question 28 - Home (Q28) were consolidated into a single list so that all similar addresses were geocoded consistently with

each other. Hotel survey Q11 series travel diary addresses were treated similarly. All addresses were manually reviewed and standardized in preparation for geocoding. Only addresses without DK/RF (Don't Know/Refuse) in the Address field were geocoded. Addresses which match with an entry in a "Places of Interest" list were automatically assigned X (longitude) and Y (latitude). All other addresses were run through the Bing API batch geocoder and the results were reviewed and assigned a matching accuracy level. Any addresses that were returned as "ungeocodable" were reviewed and manually geocoded when possible. All final X (longitude) and Y (latitude) geocoded coordinates were also assigned corresponding Traffic Analysis Zone (TAZ) and Census Federal Information Processing Standards (FIPS) codes.

2.6.4 Procedure for the Core Sample

Background

The core survey collected information about 1) the respondent (socio-demographics), 2) their visit to the establishment, 3) the origin anchor location³ before, and 4) the destination anchor location after. The variables fell into these general types:

Survey/IDs	Mode
Demographics	Parking
Location (address/type)	Additional stops
Location coordinates	Escort/party size
Arrival/Departure/Duration	Activity

The demographics described the characteristics of the person taking the survey. Locations and coordinates told where the establishment and other destinations were located while mode, parking, and arrival/departure/duration gave when and how they got to or from the origin or destination anchor locations. The activity provided the purpose at the establishment. There were indicators for additional stops taken (yes or no & how many) and party size (number of people, and yes or no for dropping off a passenger).

Quality Assurance and Quality Control Process

Quality assurance and quality control processes included the following:

- Data was processed according to established protocols described earlier and data files were provided in two formats – SPSS & Excel.
- The pre-test & soft launch approach helped monitor data quality and adjust the survey instruments and procedures as needed. This helped to improve the quality of the data. For example, the survey instrument was adjusted to ask for nearest intersection or landmark, as some initial respondents reported "Don't know" or "Refused" when we asked for a specific address.

³ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

- Flags were programmed into the survey computer tablet app to help identify unusual activity duration and/or travel times in order to verify on the spot with interviewees.
- Missing street-level geocodes for home location, establishment location (at which they were interviewed), trip origin location, and trip destination location were reviewed.
- CS staff also additionally randomly checked geocodes for up to 3 percent of all records, and recommended edits as necessary, to further enhance the robustness of the dataset.
- Missing demographics such as work status, gender, income, and age were evaluated.
- Missing trip-level information such as arrival and departure times, mode of travel, and activity type were considered. The team also measured statistics such as activities with unusual duration.
- Other missing trip-information such as parking costs, party size, unusually long travel times (especially for non-auto modes), and start/end date of trips were also evaluated.

Table 2—12 lists all the checks run on the core survey.

**Table 2–12:
List of Checks for Core Survey**

Number	Name	Critical	Description
	HasNoCriticalError		Respondents Info has NO critical errors
1	MissingEstbGPS	Yes	Missing geocode, establishment
2	MissingOrigGPS	Yes	Missing geocode, origin
3	MissingDestGPS	Yes	Missing geocode, destination
4	MissingHomGPS	No	Missing geocode, home
5	MissingEstbAddr	No	Missing address, establishment
6	MissingOrigAddr	No	Missing address, origin
7	MissingDestAddr	No	Missing address, destination
8	MissingHomAddr	No	Missing address, home
9	MissingEstbTAZ	Yes	Geocoded location missing TAZ, establishment
10	MissingOrigTAZ	No	Geocoded location missing TAZ, origin
11	MissingDestTAZ	No	Geocoded location missing TAZ, destination
12	MissingHomTAZ	No	Geocoded location missing TAZ, home
13	MissingWrkStatus	No	Missing Work Status
14	MissingGender	No	Missing Gender
15	MissingAge	Yes	Missing Age
16	AgeBelow18 ⁴	No	Age is below 18

⁴ The minimum allowable age for core survey eligibility was age 16. However, age 18 was the check conducted for both the core and hotel surveys.

Number	Name	Critical	Description
17	MissingEstbAct	Yes	Missing activity at establishment
18	MissingPrevLeaveTime	Yes	Missing previous leave time
19	MissingArvTime	No	Missing arrival time
20	MissingParkPay	No	Missing parking payment info
21	MissingParkWalkTime	No	Missing walk from parking spot time
22	MissingActTime	No	Missing activity duration
23	MissingNextArvTime	Yes	Missing next arrival time
24	OrigDateNotSvyDate	No	Origin date differs from survey data
25	DestDateNotSvyDate	No	Destination date differs from survey data
26	LvOrigAfterArv	No	Origin leave time after arrival time
27	ArvAfterNextArv	No	Arrival time after next arrival time
28	ArvPlusDurAfterNextArv	No	Arrival time with duration after next arrival time
29	MissingPartySize	No	Missing Party Size
30	LargeParty	No	Large Party
31	MissingPartyType	No	Missing Party Type
32	UnusualDur	No	Unusual Duration
33	MissingMode	Yes	Missing Mode
34	MissingLastMode	No	Missing Last Mode
35	MissingDestMode	Yes	Missing Destination Mode
36	UnusualTT1	No	Non-car travel time over 90 minutes, 1
37	UnusualTT2	No	Non-car travel time over 90 minutes, 2
38	UnusualTT12	No	Non-car travel time over 90 minutes, 1 & 2
39	UnempWorker	No	Unemployed and worker
40	MissingIncome	No	Missing Income

Project staff also identified all the key variables that must be properly coded for a record to be usable in modeling. These were listed as critical in Table 2—12 and included the following:

- Establishment geocodes
- Trip origin and trip destination geocodes
- Age of respondent
- Activity at establishment
- Activity duration
- Previous leave time and next arrival time
- Mode of travel for origin and destination trip

2.6.5 Procedure for the Hotel Sample

Background

The information collected in the hotel survey was closer to a Household Travel Survey (HTS) wherein respondents report information related to all stops made up to the prior 24 hours since arrival at the hotel. There were two available data formats. The first format gave each survey, i.e. each person, a line in the data file. This line included space for seven stops, so a person may have reported up to seven stops. There was no explicit declaration of number of stops, so the existence of values in the stop variables was used to infer the number of stops. Because respondents may not have made seven stops, records had variables that were

correctly blank. The second format, which was used for QA/QC (Quality Assurance/Quality Control), included one line for each trip. This was preferable for two reasons: there were fewer variables per line and all were used for each record. The information was the same for each trip, with these variable types:

Survey/IDs	Mode
Demographics	Vehicle availability
Location (address/type)	Escort/Party size
Location coordinates	Activity
Arrival/Departure/Duration	Purpose of travel

These variable types varied slightly from the core survey – the parking and additional stop variables were not included. In this dataset, however, there were more variables to match the additional stops. For each trip there was associated information for coordinates, mode, locations, party size, arrival/departure times, and activities. There were also variables about initial arrival to the RES region and subsequent travel to the hotel.

Quality Assurance and Quality Control Process

Each survey had the following checks applied:

Missing hotel address	Missing home zip code
Missing hotel coordinates	Missing trip purpose
Hotel coordinates out of region	Missing RES region arrival mode
Missing hotel TAZ	Missing hotel arrival mode
Missing stay overnight	Missing first trip time
Missing/out of range age	Missing Income
Missing gender	

Each trip made was checked for information specific to individual trips:

Missing place/landmark	Missing stop purpose
Missing stop address	Missing trip mode
Missing stop GPS	Time before previous/after next
Missing stop TAZ	Unusual activity duration
Missing arrival time	

This process included compiling the results to understand not only which trips had issues, but which surveys did as well. This gave the number of surveys with all critical data. Table 2—13 outlines all the checks carried out on the hotel survey.

Table 2–13:
List of Checks for Hotel Survey

Number	Critical	Description
		Person Has NO Critical Errors
1	Yes	Missing Hotel GPS
2	Yes	Missing Hotel Address

3	Yes	Missing Hotel TAZ
4	No	Missing Overnight Stay
5	No	Under 18 Or Missing Age
6	No	Missing Gender
7	No	Missing Home Zip
8	Yes	Missing RES Region Trip Purpose
9	No	Missing RES Region Arrival Mode
10	No	Missing Hotel Arrival Mode
11	No	Missing Hotel Party Size
12	Yes	Missing First Trip Time Date
13	No	Missing Income
14	No	Missing Auto Availability
15	No	Missing Stop Address or Landmark
16	Yes	Missing Stop GPS
17	Yes	Missing Stop TAZ
18	Yes	Missing Stop Arrival Time Date
19	Yes	Missing Stop Leave Time Date
20	Yes	Missing Stop Purpose
21	Yes	Missing Stop Mode
22	No	Time Out Of Order
23	No	Unusual Activity Duration

Project staff also identified all the key variables that must be properly coded for a record to be usable in modeling. These were listed as critical in Table 2—13 and included the following:

- Hotel geocodes
- Trip origin and trip destination geocodes
- Trip purpose of individual stops
- Purpose of travel to region
- Activity duration for every stop
- Previous leave time, next arrival time, and date for every stop
- Mode of travel

2.6.6 Quality Enhancement Process

There were two possible outcomes in the quality enhancement process:

- First, the survey data collection team led by Abt Associates looked at the records with improper information and addressed the issues identified by CS. A range of instances that fell under this category included:
 - Poor or missing geocodes that were able to be retrieved manually; and
 - Obvious errors in recording responses such as start or end times that were edited by the survey team.
- Second, some surveys were determined to be not readily salvaged by the survey team. However, the modeling team may be able to use the data for modeling by using either imputation techniques or by aggregating/not-using missing variables in the modeling

process. This will be determined at a later stage by the modeling team. For this reason, these records were not eliminated from the dataset.

2.6.7 Protecting Data Privacy

Travel data retrieved on the day of survey collection were linked to the establishment using unique identification numbers for all establishments. This allowed modeling analysts to assign establishment information to the traveler datasets to estimate and calibrate models.

At every stage of the survey process, procedures were put in place to ensure that the strictest confidentiality of respondent level data was maintained.

- Data were stored on servers which adhered to the latest federal government standards of data security.
- Only immediate identified project staff had access to the personal identifying information (PII). For this reason, any PII – such as the respondents’ home address, origin address, and destination address - has been removed from the dataset that has been provided for use. These fields have been geocoded to the census tract level so that the exact location of the origins, destinations, or home address cannot be identified.
- In addition, each member of our team annually went through security training protocols and certification to ensure that the data were stored and accessed in accordance with the latest standards.
- Respondents who may be concerned about providing exact street addresses to home or travel locations to the surveyor were given the option of providing nearest intersections or nearby landmarks. These options were provided as it became clear during the pretest and initial soft launch that some respondents were uncomfortable about disclosing exact street addresses.

2.7 Public Outreach

The RES employed public outreach to support the technical work related to the project by establishing credibility for the survey and encouraging participation.

2.7.1 Public Awareness Plan

The goals of the public awareness plan and program were to:

- Inform stakeholders and interested parties about the RES;
- Inform establishments of the purpose, benefits, and process of the RES;
- Build credibility for the RES; and
- Address stakeholder concerns regarding privacy and how the data will be collected, processed, maintained, and utilized.

The principal outreach tactics to achieve these goals involved:

- Branding, including design of the RES logo and development of key messages;
- RES public website to provide information and establish credibility for the survey (discussed in more detail in Section 2.7.2);
- Press releases;

- A social media component, including Facebook posts and Twitter announcements;
- Brochures and flyers (for pre-test and soft launch self-report packet);
- Advance letters to establishments (for pre-test).

2.7.2 External Website

As part of the RES public outreach effort, a public website, www.nymtc-res.org, was created to provide information about the survey. The website provided detailed information on both NYMTC and the survey effort. During the data collection phase of the project, the website was available in multiple languages using Google Translate. Figure 2—14 shows the different language options available to users.

Figure 2–14:
Languages Available for RES Website

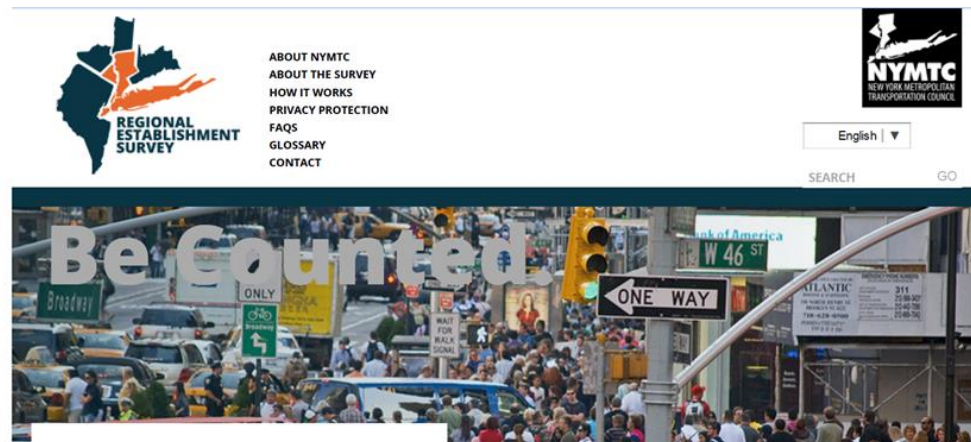


The website included the following sections:

1. Welcome – General information about the survey and region
2. About NYMTC – Detailed information on NYMTC, its mission, and study area
3. How It Works – An overview of the recruitment and survey process
4. Privacy Protection – A statement on the RES survey team’s policy on data privacy
5. FAQs – Frequently Asked Questions
6. Glossary – Definitions of survey terminology
7. Contact – For contacting the RES survey team with questions/comments

During both the establishment recruitment process and in-person intercepts, establishments and respondents were directed to the RES website if they wanted additional information or proof of the legitimacy of the study. The website banner included the NYMTC logo which linked to NYMTC’s official website. The footer section also included links to NYMTC’s official Twitter and Facebook pages. Figure 2—15 shows a sample page from the RES website.

Figure 2-15:
Sample RES Website Page

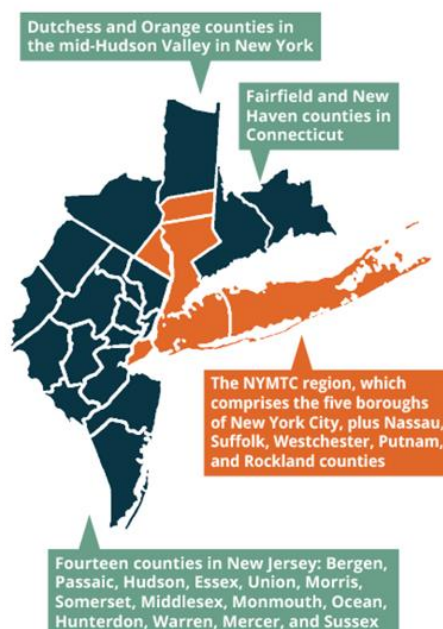


WELCOME

The New York Metropolitan Transportation Council (NYMTC), the metropolitan planning organization (MPO) for New York City, Long Island, and the Lower Hudson Valley, is collecting travel information from businesses in 28 counties in New York, New Jersey and Connecticut in order to help plan the region's transportation future.

This website has been developed to provide survey participants and the public with information and materials related to the Regional Establishment Survey (RES).

REGIONAL ESTABLISHMENT SURVEY AREA



2.8 Survey Expansion Procedures

Surveys were collected from visitors to establishments and out-of-region visitors staying in hotels in accordance with the RES sampling plan with the primary objective of sufficiently representing the different types of establishments in the region. As is the case with any survey, to correct uneven representation and to scale to the total population, survey expansion needed to be performed. For this survey, separate expansion factors were developed for the core establishment surveys and the hotel surveys. The result was an expansion factor for every valid record in the survey database. The sum of the core survey factors was equal to the estimated total number of visitors to Food Services, Retail, or Recreation establishments in the BPM region in a single day. For the hotel survey, they summed to an estimate of total number of occupied hotel rooms in the region in a day.

The weighted core data will supplement the RHTS database in the update of the NYBPM, the state-of-the-art activity-based travel demand model for the New York Region. The hotel survey data will be used to develop an entirely new out-of-region visitor model.

2.8.1 Procedure for the Core Sample

The core sample survey expansion approach involved two steps: (1) scale surveys to counts and (2) scale establishments to total establishments.

Scale Surveys to Counts

The first step of the expansion was necessary to account for unsurveyed visitors at each of the establishments. Counts of people entering each establishment were collected by the data collection team. This data was available at an hourly-level and included all individuals entering the establishment. For each establishment, person counts and intercept surveys were conducted on weekdays during the establishment's operating hours, up to a maximum of 6 AM – 10 PM. The survey team then aggregated the hourly data to four time-periods that correspond to the NYBPM time periods prior to conducting survey expansion: AM peak (6AM-10AM), Mid-day (10AM-4PM), PM peak (4PM-8PM), Night (8PM-6AM). The time of day periods reflected the counting and surveying times, thus 10 PM to 6 AM was not considered.

As mentioned previously, the core survey effort focused on non-employees only because the RHTS already provided a comprehensive understanding of worker-related travel. Since the core survey focused only on in-region visitors to the establishment, estimates of workers needed to be removed from these counts. It should also be noted that since the establishments were distributed throughout the region and did not generally include major tourist attractions, there was not a significant share of visitors from out of the region. Therefore, no additional steps were taken to adjust for out-of-region visitor share. The following process was implemented to drop workers from the database of counts:

- The total number of workers for each of the surveyed establishments was obtained from the InfoGroup business sampling frame database. InfoGroup is a leading provider of business data, and the U.S. Business Database used contained businesses in the 28 county RES region.

- The average number of worker arrivals per establishment was estimated based on estimates of total number of work location arrivals by workers in the RHTS trip file.⁵
- The average number of worker arrivals was broken down by time-of-day to support detailed expansion.

After this process was complete, the surveys were scaled to counts for their individual establishments and by time of day, using an iterative proportional fitting (IPF) framework. This procedure adjusted a table of data cells so that they added up to selected totals for both the columns and the rows of the table:

- This framework started by scaling valid surveys to the counts at each establishment for the full day.
- Then, this was adjusted by scaling the expanded surveys to match counts by the four time of day periods for all establishments in the segment. The establishment segments were based on the sampling plan: sizes Small (1-19 employees) and Large (20+ employees); areas CBD/Mostly Urban and Other; and industries Food Services, Recreation, and Retail. The segmentation is shown in Table 2—16 below.

**Table 2–16:
Core Survey Expansion Segmentation**

Industry	Size	Area
Food Services	Small	CBD/Mostly Urban
Food Services	Small	Other
Food Services	Large	CBD/Mostly Urban
Food Services	Large	Other
Recreation	Small	CBD/Mostly Urban
Recreation	Small	Other
Recreation	Large	CBD/Mostly Urban
Recreation	Large	Other
Retail	Small	CBD/Mostly Urban
Retail	Small	Other
Retail	Large	CBD/Mostly Urban
Retail	Large	Other

- Scaling to the establishments and to the time of day were done in separate steps because segmenting using both at the same time would cut the data into too many small pieces. At this level of disaggregation, the assumptions about average worker and counts would

⁵ This file contains Trips that involve a change in mode, are comprised of multiple Trip Segments, and represent the point-to-point travel between all places including places involving only a change in mode and no other activity.

become tenuous. An individual establishment could have a unique pattern where all the workers came in at an unusual time which was inconsistent with the estimated generic arrival by time of day. Additionally, expanding small groups of surveys could result in extreme factors. By considering the variables individually and iteratively, both could be matched while maintaining robustness.

- The IPF process mentioned above was repeated until an equilibrium was reached. A full iteration consisted of 2 calculations in the case, such as equations 1 and 2 or 3 and 4, scaling by each variable.

$$\text{Eq 1: } F_{i,t,m}^1 = \frac{\sum_t (C_{i,t,m} - W_{i,m} \cdot a_{t,m})}{\sum_t S_{i,t,m}} \cdot F_{i,t,m}^0 \text{ (scale by establishment)}$$

$$\text{Eq 2: } F_{i,t,m}^2 = \frac{\sum_i (C_{i,t,m} - W_{i,m} \cdot a_{t,m})}{\sum_i S_{i,t,m}} \cdot F_{i,t,m}^1 \text{ (scale by time of day)}$$

$$\text{Eq 3: } F_{i,t,m}^3 = \frac{\sum_t (C_{i,t,m} - W_{i,m} \cdot a_{t,m})}{\sum_t S_{i,t,m}} \cdot F_{i,t,m}^2 \text{ (scale by establishment)}$$

$$\text{Eq 4: } F_{i,t,m}^4 = \frac{\sum_i (C_{i,t,m} - W_{i,m} \cdot a_{t,m})}{\sum_i S_{i,t,m}} \cdot F_{i,t,m}^3 \text{ (scale by time of day)}$$

.

.

.

$$\text{Eq k: } F_{i,t,m}^k = \frac{\sum_{\{i,t\}} (C_{i,t,m} - W_{i,m} \cdot a_{t,m})}{\sum_{\{i,t\}} S_{i,t,m}} \cdot F_{i,t,m}^{k-1}$$

Where:

$F_{i,t,m}^k$ = Expansion factor for establishment i and time of day t after calculation of equation k ;
 $F_{i,t,m}^0 = 1$

m = establishment segment (area type, size, and industry)

t = Time-of-day period

i = Establishment ID

$C_{i,t,m}$ = Person counts at establishment i and during time of day t

$W_{i,m}$ = Actual location employment size (from InfoGroup data)

$a_{t,m}$ = Number of employee arrivals by time of day t per worker

$S_{i,t,m}$ = Total number of surveyed visitors during time-of-day period t at establishment i

Scale Establishments to Universe

Step 2 required scaling to account for unsurveyed establishments. One method considered was comparing surveyed establishments to total establishments, but this ignored the differences in size within the segments. For example, a two employee store would be in the

same segment as a 19 employee store, and similarly a recreation establishment with 14 employees would be in the same segment as one with 150 employees.

To more accurately account for the difference in employment, the number of employees in surveyed establishments and the total employees in each segment in the Universe were compared as in the equation below. To support this expansion, again the InfoGroup sampling frame was used.

$$F_m = \frac{E_m}{e_m}$$

Where

F_m = expansion factor to universe of core establishments for segment m

m = segment of establishments (defined by size, location and industry type from Core Data)

E_m = total number of employees in segment m

e_m = number of employees from the surveyed establishments in segment m

The factors and the final results were monitored for extreme values. In both steps very large or small values were considered for a need for modification, such as combining segments. The final expansion factors were calculated by multiplying the values of the two steps.

2.8.2 Procedure for the Hotel Sample

The hotel survey employed a similar two step approach to the core survey: (1) scale surveys to occupied rooms and (2) scale surveyed hotels to total hotels. There was no time of day consideration for the hotel survey. The hotels were scaled to the total hotels by segment just as establishments in the core survey were. The original survey expansion segments were based on the sampling plan: sizes Small (<\$2.5M annual sales volume) and Large >=\$2.5M annual sales volume); and areas CBD, Mostly Urban and Other.

The final survey expansion segmentations still included geographic area but sales volume was replaced by star rating. There were a couple of reasons. The list of hotels in the sampling frame included several corporate locations as well as non-lodging locations. Further, to achieve the sample size needed, the list of hotels surveyed was expanded to include very new hotels not listed in the original sampling universe. Therefore, the survey team decided to develop the list of hotels for expansion using an online database. This database was current and consistent with the field data collection effort. The consultant team also matched the surveyed hotels to this database.

During the development of the sampling plan, the team utilized sales as a sampling variable. However, in the online database, the star rating was available, but not annual sales. Therefore, during the survey expansion process the team decided to use hotel star rating and geographic location as key variables in the expansion process.

Scale Surveys to Occupants

In general, intercept surveys were conducted 7 AM – 9 PM on weekdays. The hotel survey did not involve a count of visitors as this was considered infeasible and not useful to calculate total hotel guests. Instead, the population of guests at a hotel was the number of occupants in its rooms. The number of occupied rooms was estimated by the number of rooms in the hotel multiplied by an occupancy rate.

Because only a single person in each group was generally surveyed we assumed that they represented all occupants of their room or group of rooms. Surveys that represented multiple rooms were weighted proportionally. It was assumed that for every 2 adults there was a single room and 1 additional room for every 3 kids. A group of 3 adults and 2 kids would have 2 rooms for the adults and no additional rooms for the kids. While a group with 2 adults would have 1 room unless they had 3 or more kids with them. Groups with 1 adult had only 1 room, regardless of the number of children. Table 2—17 shows a matrix summary.

Table 2–17:
Estimates of Number of Rooms Occupied by Respondent by Group Size

		Number of Children				
		0	1	2	3	4
Number of adults	1	1	1	1	1	1
	2	1	1	1	2	2
	3	2	2	2	3	3
	4	2	2	2	3	3
	5	3	3	3	4	4
	6	3	3	3	4	4

The number of surveyed rooms (rooms represented by collected surveys) was scaled to the number of occupied rooms in that particular hotel.

$$F_i = \frac{N_i \cdot O_m}{\sum_s R_{i,s}}$$

Where:

F_i = expansion factor of respondents to hotel occupancy for hotel i

N_i = number of rooms in hotel i

O_m = occupancy rate for segment m

$R_{i,s}$ = number of rooms represented by survey s in hotel i

m = segment of hotel i

i = hotel ID

s = survey ID

The list of hotels' number of rooms was sourced from the web and cross referenced with available sources, specifically the New York City's official marketing organization, NYC & Company. Occupancy rates were developed from estimates by Coldwell Banker Richard Ellis (CBRE), the world's largest commercial real estate services company. As occupancy rates were not available for the exact segments in the hotel survey, the rates were assumed to be equal across segments.

Scale Hotels to Universe

Similar to the core survey, the hotels needed to be expanded to all the hotels in the region. Instead of using employees, number of hotel rooms was considered to be the optimal estimate

for total population. Occupancy rate was not included here as it was assumed to be the same for the surveyed and unsurveyed hotels in each segment.

$$F_m = \frac{N_m}{n_m}$$

Where:

F_m = expansion factor to universe of core establishments for segment m

m = segment of hotels (defined by size and location)

N_m = total number of rooms in segment m

n_m = number of rooms from the surveyed establishments in segment m

2.8.3 Hotel and Core Expansion Procedures – Example Calculations

The expansion process was similar for each survey (hotel & core) – first we expanded the responses to everyone at their location. Then we expanded the surveyed location to every location like it (i.e. in its segment) in the region.

Example for the Hotel Sample

Step 1: Suppose we got 30 surveys from a hotel with 270 rooms. Because we did not survey multiple people in the room we could say that these represented the 30 rooms in the hotel. Dividing 270 by 30, however, suggested that there was travel produced by empty rooms. Thus we had this equation, in which the factor was equal to total rooms times an occupancy rate (88.5%), divided by the surveys.

$$F_i = \frac{N_i \cdot O_m}{\sum_s R_{i,s}} = \frac{270 \cdot 0.885}{30} \approx 8$$

Step 2: Now that we knew the factor to relate surveys to the total rooms in this hotel, we needed to expand it to all the rooms in all the hotels in its segment. Suppose that it was a 3 star hotel in the CBD. This segment had 931 rooms in surveyed hotels, and 10,548 in all hotels. These values are simply divided.

$$F_m = \frac{N_m}{n_m} = \frac{10548}{931} \approx 31$$

Final Weight: $31 \cdot 8 = 248$

Example for the Core Sample

The core sample procedures followed the same logic, but varied in a couple ways:

1. Time of day of arrival was considered.
2. The number of trips was scaled down using the household travel survey to account for the preference for high traffic locations.
3. To get the total number of visitors, workers entering had to be removed from the count of people coming in. A factor was devised from the household travel survey to estimate the number of trips workers tend to make to work in each time period.

4. Because it was not possible to segment the surveys by individual establishment and time of day at the same time, an iterative process was used in step 1.

To begin we divided the number of people (minus workers coming in) by the surveys, for a single establishment over the whole day. For a (large, urban) store with 30 surveys and 300 non-employee visitors, this would have been $300/30=10$. (Values in both examples were made up for demonstration purposes.)

Then we would take the weighted surveys from each time period. If 9 of our surveys were in the morning, we would have applied the weight of 10 for a total of 90. This would have been added to those from all large stores in the urban – let's say this was 400 total. That 400 would be divided by the segments total non-employer visitors in the morning. If the total was higher than 400 this would have been scaled up. In this example the total is 350, so the factor was $350/400 = 0.875$.

The new factor for the morning time period for this establishment was then $10*0.875 = 8.75$.

We then revert to the first step again: summing the (now weighted) surveys in the whole day at each establishment. Like the last equation, this may have raised or lowered it. If the weighted sum was now 310, it would scale down by $300/310 = 0.97$. The factor for the morning surveys from these establishments was now: $10*0.975*0.97 = 8.45$.

The new factors were then used to sum the weighted surveys from the morning at large, urban stores. Again the sum was divided by the sum of visitors in this segment.

The iterative process then continued, calculating the factor back and forth between establishment and time of day. It ended when the factors were converging. In the example here, the final value might have settled around 8.6.

The second step was similar to that in the hotel survey, except that the number of employees was used as number of rooms had been. This was the most suitable proxy for size that was available. The total employment for large urban stores was 86,436 – and 2,945 were employed at those surveyed. This produced a value of $86,436/2,945=29$.

The unadjusted expansion factor for surveys from *this* large, urban store in the morning would have been $29*8.6 = 252$.

A final step was added because the number of trips based on the expanded values was too high. While targeting higher volume locations was important to get a rich data set, it made our establishments less directly comparable to the universe of establishments. We therefore included a factor to reduce the trips accordingly. For our large, urban store this factor was .24, and would have been multiplied to result in a final weight of $252 * 0.24=61$.

3.0 Survey Data Collection

3.1 Data Collection Timeframe

The main survey data were collected on weekdays from February 2015 – February 2017 for the core survey and on weekdays from October 2015 through February 2017 for the hotel survey. Generally, data was collected when school was in session and excluded summers and holidays.

3.2 Achieved Sample

The number of establishments and surveys conducted were reviewed against the sampling plan for both the core establishment and hotel surveys.

3.2.1 Core Survey

The core survey focused on three types of establishments – Retail, Recreation, and Food Services. Surveys were administered to visitors at these establishments via tablet interviewing. Targets were established for both the number of establishments as well as the number of surveys for each of these three industry types. The targets were further broken down by geographic type and establishment size. These targets and the sample achieved are listed in Table 3–1. A total of 7,840 surveys from 112 establishments was set as the target for the core survey. A lower bound of 3,600 surveys was also included in the sampling plan. The lower bound represents the minimum number of surveys required for each industry/geographic type/size combination in order to satisfy modeling needs.

**Table 3–1:
Survey Targets and Surveys Collected for the Core Establishment Survey**

Industry	Geographic Type	Establishment Size	Target # Est	Ideal Target # Surveys	Min Target # Surveys	Surveyed Est	Total Surveys Collected
Retail	CBD/Mostly Urban	Small	16	800	300	25	1,420
		Large	16	1440	300	40	3,238
	Other	Small	12	600	300	15	729
		Large	12	1080	300	13	672
Recreation	CBD/Mostly Urban	Small	8	400	300	20	1,067
		Large	8	720	300	19	1,205
	Other	Small	6	300	300	7	389
		Large	6	540	300	14	468
Food Services	CBD/Mostly Urban	Small	8	400	300	15	658
		Large	8	720	300	22	1,353
	Other	Small	6	300	300	15	366
		Large	6	540	300	14	523
TOTAL			112	7,840	3,600	219	12,088

Note: Small establishments have <20 employees, Large establishments have 20+ employees

As a first stage check, the achieved sample was reviewed to ensure that the data collected met sampling targets for all cells.

- As can be seen in Table 3—1, the data collection team surveyed more establishments than originally planned in all of the survey cells.
- Further, the survey team surpassed the ideal number of surveys for all of the cells except Large Retail and Large Recreation establishments in the Other region.
- In total, the team collected over 12,000 surveys (35% more than target) from 219 (49% more than target) establishments.
- Finally, it was noted that the survey effort matched or exceeded the minimum number of surveys for each cell.
- This table suggested that the data collected in the core survey met or exceeded the criteria established in the sampling plan.

3.2.2 Hotel Survey

The hotel survey focused on targeting visitors from outside the 28 county region staying in hotels across different geographies and was segmented by hotel size. Surveys were administered to guests at these hotels via tablet interviewing. Targets were established for both the number of hotels as well as the number of surveys. The targets were further broken down by geography and hotel size. These targets and the sample achieved are listed in Table 3—2. A total of 900 surveys from 30 hotels was set as the target for the hotel survey. For each cell in the table, the goal was to collect between 140-160 surveys. For the Large hotels, a goal of 70 completed surveys per hotel was set as the target, while for the Small hotels, a goal of 20 completed surveys per hotel was established.

**Table 3–2:
Survey Targets and Surveys Collected for the Hotel Survey**

Industry	Size	Geographic Area	Target # Hotels	Target # Surveys (Target # per Hotel)	# Hotels Surveyed	# Surveys Collected
Hotel	Small	CBD	8	160 (20)	10	231
		Mostly Urban	8	160 (20)	8	95
		Other	8	160 (20)	14	172
	Large	CBD	2	140 (70)	14	381
		Mostly Urban	2	140 (70)	13	212
		Other	2	140 (70)	35	418
TOTAL			30	900	92	1,509
<i>Note: Small hotels have annual revenues of <\$2.5m, Large hotels have annual revenues of \$2.5m+</i>						

As a first stage check, the achieved sample was reviewed to ensure that the data collected met sampling targets for all cells.

- As can be seen in Table 3—2, the data collection team surveyed more hotels than originally planned in all of the survey cells.
- Further, the data collection team surpassed the sampling survey goals for all of the cells except Small Hotels in the Mostly Urban geography.
- In total, the team collected 1,509 surveys (68% more than target) from 92 hotels (207% more than target).
- It was noted that, on average, 16 surveys per hotel were obtained in both the Small and Large hotels – which was considerably lower than the original survey target.

3.3 Response Rates

3.3.1 Core Survey

In total, 3,911 core sample phone numbers were dialed for recruitment. The final disposition of these records is categorized in Table 3—3. These records were split roughly between contacts (spoke to a person) and non-contacts. Among the contacts, the most common dispositions were callback and screen-out. Among the non-contacts, answering machine/voice mail, line issues, and no answer/busy were all recorded at relatively similar frequencies. About 5% of the total sample dialed (and about 10% of contacts) resulted in a completed recruit. In total, 15,066 call attempts were made, or an average of roughly 4 attempts per sample record.

Table 3—3: Core Survey Sample Disposition

	#	%
Total Core Sample Dialed	3911	100%
<u>Non-Contacts</u>	1815	46%
Answering Machine/Voice Mail	725	19%
Not In Service/Disconnected/Line Problems etc.	530	14%
No Answer/Busy	505	13%
Fax/Modem Number/Computer Tone	55	1%
<u>Contacts</u>	2096	54%
Callback	824	21%
Screen-Out	563	14%
Refusal	237	6%
Foreign Language	117	3%
Misc. Other	88	2%
No Longer In Business	34	1%
Respondent Not Available	21	1%
Completed Recruit	212	5%

3.3.2 Hotel Survey

In total, 2,286 hotel sample phone numbers were dialed for recruitment. The final disposition of these records is categorized in Table 3—4. Among these records, the majority (78%) were contacts (spoke to a person). Among the contacts, the most common disposition was screen-out, followed by callback and refusal. Among the non-contacts, line issues and no answer/busy were recorded the most as dispositions. About 5% of the total sample dialed (and about 6% of contacts) resulted in a completed recruit. In total, 12,128 call attempts were made, or an average of roughly 5 attempts per sample record. These numbers show that the hotel survey was somewhat harder to recruit for than the core survey.

Table 3–4: Hotel Survey Sample Disposition

	#	%
Total Hotel Sample Dialed	2286	100%
<u>Non-Contacts</u>	508	22%
Not In Service/Disconnected/Line Problems etc.	218	10%
No Answer/Busy	149	7%
Answering Machine/Voice Mail	84	4%
Fax/Modem Number/Computer Tone	57	2%
<u>Contacts</u>	1778	78%
Screen-Out	873	38%
Callback	350	15%
Refusal	226	10%
Respondent Not Available	89	4%
No Longer In Business	70	3%
Misc. Other	56	2%
Foreign Language	1	0%
Completed Recruit	113	5%

3.4 Data Quality Verification

The data quality verification process identified issues with the data, including missing or poor quality information. All records from both surveys were systematically checked for a variety of possible problems as described in Section 2.6.4 and Section 2.6.5. This section outlines the results from those summary checks and recommendations for inclusion of surveys in the final database.

3.4.1 Core Survey

As outlined in Section 2.6.4, each record was analyzed for the following issues:

- Missing street-level geocodes for home location, establishment location (at which they were interviewed), trip origin location, and trip destination location.
- Missing demographics such as work status, gender, income, and age.
- Missing trip-level information such as arrival and departure times, mode of travel, and activity type.
- Other missing trip-information such as parking costs, party size, unusually long travel times (especially for non-auto modes), and start/end date of trips.

Project staff also identified the key variables that must be properly coded for a record to be usable in modeling. These included the following:

- Establishment geocodes
- Trip origin and trip destination geocodes

- Age of respondent
- Activity at establishment
- Activity duration
- Previous leave time and next arrival time
- Mode of travel for origin and destination trip

In order for a survey to be deemed usable and complete, responses to each of these questions must exist. Any record that had missing information for even one of these responses was deemed to be incomplete and was not included for further analysis, including but not limited to survey expansion, weighted tabulations, and modeling. Table 2—12 had listed all the checks run on the core survey and also identified whether or not a particular check was critical.

Results of Checks

Table 3—5 outlines results from running the checks on the entire dataset. Some key observations are listed below:

- About 28 percent of records were not included in the final set of records to be used for modeling because they did not pass the critical tests. Among them, a vast majority were missing street-level geocoding information for trip ends. Based on discussions with the data collection team, it was also determined that many of the records that failed the quality checks – primarily due to missing street level address information for their home, origin, or destinations - were from the initial phases of the study. This problem was alleviated in subsequent phases of the study by asking respondents for a nearby landmark or intersection if they could not remember or were uncomfortable giving a specific street address for their home, origin, or destination.
- About 5 percent of records were missing “next arrival time.” While this may be rational since many respondents did not yet know when they would reach their final destination, the consulting team felt that including those records in the final dataset may cause issues during model development. As such, these records were not included in the final set of records to be used for modeling.
- Nearly 40 percent of respondents did not report income. Even though income was not a critical check, such a high percentage of missing information suggested that the models developed using these data may not be segmented by income or that the modeling team will have to impute income variables using other available demographic data to support the use of that variable in detailed modeling exercises.

It was noted that the non-qualified records were not dropped from the final dataset. If there is a strong need for the modeling team to retrieve some of these records using manual editing and imputation techniques, they will have the ability to do so.

**Table 3-5:
Summary Results of Checks for Core Surveys**

Number	Name	Critical	Count	Percent
	HasNoCriticalError		8,740	72%
1	MissingEstbGPS	Yes	0	0%
2	MissingOrigGPS	Yes	2,518	21%
3	MissingDestGPS	Yes	2,728	23%
4	MissingHomGPS	No	3,165	26%
5	MissingEstbAddr	No	0	0%
6	MissingOrigAddr	No	0	0%
7	MissingDestAddr	No	0	0%
8	MissingHomAddr	No	0	0%
9	MissingEstbTAZ	Yes	0	0%
10	MissingOrigTAZ	No	8	0%
11	MissingDestTAZ	No	9	0%
12	MissingHomTAZ	No	21	0%
13	MissingWrkStatus	No	674	6%
14	MissingGender	No	0	0%
15	MissingAge	Yes	0	0%
16	AgeBelow18	No	172	1%
17	MissingEstbAct	Yes	206	2%
18	MissingPrevLeaveTime	Yes	183	2%
19	MissingArvTime	No	28	0%
20	MissingParkPay	No	122	1%
21	MissingParkWalkTime	No	489	4%
22	MissingActTime	No	1,075	9%
23	MissingNextArvTime	Yes	639	5%
24	OrigDateNotSvyDate	No	15	0%
25	DestDateNotSvyDate	No	28	0%
26	LvOrigAfterArv	No	90	1%
27	ArvAfterNextArv	No	25	0%
28	ArvPlusDurAfterNextArv	No	780	6%
29	MissingPartySize	No	0	0%
30	LargeParty	No	11	0%
31	MissingPartyType	No	0	0%
32	UnusualDur	No	522	4%
33	MissingMode	Yes	136	1%
34	MissingLastMode	No	12	0%
35	MissingDestMode	Yes	322	3%
36	UnusualTT1	No	1,410	12%
37	UnusualTT2	No	823	7%
38	UnusualTT12	No	251	2%

Number	Name	Critical	Count	Percent
39	UnempWorker	No	7	0%
40	MissingIncome	No	5,206	43%

The resulting “valid” dataset was then compared against the original sampling plan to see how usable records stacked against sampling targets (see Table 3—6).

- In every case, except in the case of Small Food Services establishments and Small Recreation establishments in the Other geographies, the number of valid surveys surpassed the minimum target laid out in the sampling plan. Even in these two segments, the number of valid surveys was less than 5 surveys below target.
- The total number of usable records exceeded the ideal survey targets by about 11 percent and the minimum survey targets by over 140 percent.
- The survey team collected nearly 6,450 usable records in the urban areas as compared to an ideal goal of 4,480 surveys. In the rural areas, the survey team collected 2,300 surveys against a minimum target of 1,800 surveys (and ideal goal of about 3,350 surveys). In several segments, all in the CBD/Mostly Urban area, the number of valid surveys surpassed the ideal number of targets. This was likely at least partly a function of the fact that there was more foot-traffic, and therefore, more potential respondents in these urban areas as compared to Other geographies.

Table 3–6:
Comparison Checks for Valid Core Surveys Against Sampling Targets

Industry	Geographic Type	Establishment Size	Ideal Target # Surveys	Min Target # Surveys	Total Number of Surveys	Valid Surveys
Retail	CBD/Mostly Urban	Small	800	300	1,420	1,239
		Large	1440	300	3,238	1,946
	Other	Small	600	300	729	534
		Large	1080	300	672	399
Recreation	CBD/Mostly Urban	Small	400	300	1,067	990
		Large	720	300	1,205	900
	Other	Small	300	300	389	296
		Large	540	300	468	369
Food Services	CBD/Mostly Urban	Small	400	300	658	371
		Large	720	300	1,353	998
	Other	Small	300	300	366	297
		Large	540	300	523	401
TOTAL			7,840	3,600	12,088	8,740

Project staff then reviewed the resulting valid records and conducted some manual edits. These edits focused primarily on the following conditions:

- The origin departure, arrival at establishment, departure from establishment, and arrival at final destination should be in chronological order. In surveys where this was not the case, the survey team conducted manual edits, where possible. These edits included changing the AM/PM designation of recorded times and switching the hours and minutes fields to make sense.
- Based on our experience with surveys of this nature in other locations, we understood that model developers are unlikely to model more than 3 stops in either the inbound or the outbound half-tours. Records where respondents reported making more than 5 stops either before arrival at or after departure from the establishment were modified and set to 3 stops in each direction.
- In some cases, respondents reported reaching the establishment very early in the morning. Based on our understanding of the survey data collection effort, we feel that surveys where respondents report reaching after midnight, but before 5 AM were likely misreported. These records were closely looked at, and edited, where needed. These edits included changing the AM/PM designation of recorded times and switching the hours and minutes fields to make sense.

In total, about 150 records were modified using this procedure.

3.4.2 Hotel Survey

As outlined in Section 2.6.5, each record was analyzed for the following issues:

- Missing street-level geocodes for hotel location, trip origin location, and trip destination location.
- Missing demographics such as gender and income.
- Missing trip-level information such as arrival and departure times, mode of travel, and activity type.
- Missing purpose of travel to the region.

Project staff also identified the key variables that must be properly coded for a record to be usable in modeling. These included the following:

- Hotel geocodes
- Trip origin and trip destination geocodes
- Trip purpose of individual stops
- Purpose of travel to region
- Activity duration for every stop
- Previous leave time, next arrival time, and date for every stop
- Mode of travel

As in the case of the core establishment survey, in order for a survey to be deemed usable and complete, responses to each of these questions must exist. Any record that had missing

information for even one of these responses was deemed incomplete and not included for further analysis, including but not limited to survey expansion, weighted tabulations, and modeling. Table 2—13 had listed all the checks run on the hotel survey and also identified whether or not a particular check was critical.

Results of Checks

Table 3—7 outlines results from a review of the entire dataset based on the checks. Some key observations are listed below:

- Only 10 percent of records were dropped from the final dataset used for further analysis because they did not pass the critical tests. Among them, a vast majority were missing geocoding information for stop locations.
- Nearly 49 percent of respondents did not report income. It was also noted that a majority of foreign travelers did not report their income, probably due to the fact that the question requested income in American Dollars (USD). Even though income was not a critical check, such a high percentage of missing information suggested that the models developed using these data may not be segmented by income.
- In total, it was observed that respondents were making, on average 3.1 trips. For the reasons explained below, this average rate included respondents who had not left the hotel yet (persons with zero trips). While this was lower than a typical household survey where respondents make, on average, 3.5-4.0 trips per day, it must be noted that these differences may be acceptable given that not all respondents may have been in the region for a full 24 hours since arrival at the hotel. It might also be somewhat related to the sample size, which was not extremely large but adequate for modeling purposes.
- Respondents who had not left the hotel yet (persons with zero trips) were not screened out as long as they were from outside the RES region and had stayed overnight at the hotel. The reason for this was that the non-travel-diary data (i.e. purpose and mode for travel to the region and other socio-demographics) were still useful. In addition, “no trips” will be one of the destination choice alternatives in the visitor model, making the number of persons with “zero trips/who have not left the hotel yet” useful for modeling purposes. The 24% of surveyed respondents who had not left the hotel yet (persons with zero trips) was generally in line with previous hotel surveys at Las Vegas (22%) and Dallas (17%).

It was noted that the non-qualified records were not dropped from the final dataset. If there is a strong need for the modeling team to retrieve some of these records using manual editing and imputation techniques, they will have the ability to do so.

**Table 3-7:
Summary Results of Checks for Hotel Surveys**

Number	Critical	Description	Count	Percent
		Person Has NO Critical Errors	1,334	90%
1	Yes	Missing Hotel GPS	0	0%
2	Yes	Missing Hotel Address	0	0%
3	Yes	Missing Hotel TAZ	0	0%
4	No	Missing Overnight Stay	0	0%
5	No	Under 18 Or Missing Age	0	0%
6	No	Missing Gender	0	0%
7	No	Missing Home Zip	557	37%
8	Yes	Missing RES Region Trip Purpose	5	0%
9	No	Missing RES Region Arrival Mode	5	0%
10	No	Missing Hotel Arrival Mode	8	1%
11	No	Missing Hotel Party Size	24	2%
12	Yes	Missing First Trip Time Date	0	0%
13	No	Missing Income	734	49%
14	No	Missing Auto Availability	18	1%
15	No	Missing Stop Address or Landmark	130	9%
16	Yes	Missing Stop GPS	128	8%
17	Yes	Missing Stop TAZ	0	0%
18	Yes	Missing Stop Arrival Time Date	19	1%
19	Yes	Missing Stop Leave Time Date	6	0%
20	Yes	Missing Stop Purpose	5	0%
21	Yes	Missing Stop Mode	5	0%
22	No	Time Out Of Order	6	0%
23	No	Unusual Activity Duration	292	19%
24	No	Persons with Zero Trips	365	24%

The resulting “valid” dataset was then compared against the original sampling plan to see how usable records stacked against sampling targets (see Table 3—8).

- The total number of valid surveys exceeded the original goal by 48 percent.
- The survey goals by geographic type were exceeded for both the CBD and Other Area. In the Mostly Urban Area, a total of 285 valid surveys were obtained against a goal of 300 surveys. While the Mostly Urban area surveys were below target, there were still enough surveys to support modeling because the samples from this segment could be combined/aggregated with those in another segment.
- For Large hotels, a total of about 900 surveys were obtained against a goal of 420 surveys. For Small hotels, a total of 430 surveys were obtained against a stated goal of 480 surveys. While the Small hotel surveys were below target, there were still enough surveys to support modeling because the samples from this segment could be combined/aggregated with those in another segment.

- Many of the records that were not valid were missing significant information such that the quality assurance team felt they could not be rectified using manual edits. As such, the team did not conduct any additional manual edits for the hotel survey.

**Table 3–8:
Comparison Checks for Valid Hotel Surveys Against Sampling Targets**

Industry	Size	Geographic Area	Target # Surveys	Valid Surveys
Hotel	Small	CBD	160	206
		Mostly Urban	160	85
		Other	160	139
	Large	CBD	140	335
		Mostly Urban	140	200
		Other	140	369
TOTAL			900	1,334

3.5 Survey Expansion Results

Survey expansion of both the core sample and the hotel sample was conducted in accordance with the procedure outlined in Section 2.8.1 and Section 2.8.2. The results shown in this section are the outcomes of several rounds of analysis and revision. Generally, the data behaved very well under the assumptions made regarding what the surveys represent. There were no extreme values, which occur when segments are poorly, or very unevenly, represented. The result was a factor for every survey – unique values for each segment. These factors are to be applied when using the data for modeling or statistical purposes.

3.5.1 Results for the Core Sample

The core survey focused on three types of establishments – Retail, Recreation, and Food Services. Sampling targets were established for both the number of establishments as well as the number of surveys for each of these three establishment types. The targets were further broken down by geographic type and establishment size. The definitions of the segmentations are as follows:

- Establishment size (2) – Small (0-19 employees), Large (20+ employees)
- Geographic area (2) – CBD/Mostly Urban, Other
- Industry (3) – Retail (NAICS codes 44, 45), Recreation (NAICS code 71), Food Services (NAICS code 72)

The expansion followed this segmentation, adding establishment and time of day level segmentation in the first of its two steps. There were 876 factors for the 4 times of day and 219 establishments. (Area type, size, and industry were implicitly included in this as each establishment was assigned to these groups.)

Data Description

A total of 12,088 complete surveys from 219 establishments were collected during the survey period. Several criteria, described in Section 2.8.1, were applied to identify valid survey

data for expansion purposes. Survey records with critical errors or with no time-of-day information were dropped prior to expansion.

Quantifying Visitor Counts for Expansion

For each of the surveyed establishments, counts were taken of people entering. Table 3—9 shows the sum of counts collected in each segment.

**Table 3—9:
Total Counts of Individuals at Surveyed Establishments by Sampling Segment**

Industry	Size	CBD/Mostly Urban	Other	Total
Food Services	Small	19,004	5,954	24,958
Food Services	Large	28,973	6,750	35,723
Recreation	Small	13,538	4,003	17,541
Recreation	Large	15,083	5,526	20,609
Retail	Small	34,485	6,326	40,811
Retail	Large	90,029	7,585	97,614
Total		201,112	36,144	237,256

Since the core survey included only visitors, the count database needed to be modified to properly reflect visitor movements at the establishments of interest. To account for the entries made by employees in the establishments, the following procedure was implemented.

- To remove the number of worker entries from the counts, two considerations needed to be made:
 - First, not every employee would be in attendance every day, and
 - Second, some employees may make multiple entries to the establishments.

To address these issues, the unlinked trip file from the RHTS [where each record is an unlinked trip or trip segment and either the From or To place may include a Change in Mode of travel (e.g. bus stop, train station, Park N' Ride facility, etc.)] was used to derive the number of arrivals per employee by time-of-day. The derived values are listed below:

- 1.22 daily total number of entries per worker
- 0.80 entries per worker during the AM period (6 AM – 10 AM)
- 0.29 entries per worker during the MD (Mid Day) period (10 AM – 4 PM)
- 0.09 entries per worker during the PM period (4 PM – 8 PM)
- 0.01 entries per worker during the NT (Night Time) period (8 PM – 6 AM)
- Then, information about the number of employees was first retrieved from the universe file – the database of establishments in the region – and assigned to every surveyed establishment.

By accounting for trips made by employees, a revised set of numbers were calculated for visitors. Table 3—10 outlines the number of employees at the surveyed establishments. Table 3—11 discounts employee entries and presents calculations of visitors at the surveyed establishments.

Table 3—10:
Counts of Employees at Surveyed Establishments by Sampling Segment

Industry	Size	CBD/Mostly Urban	Other	Total
Food Services	Small	213	129	342
Food Services	Large	858	448	1,306
Recreation	Small	219	66	285
Recreation	Large	1157	420	1,577
Retail	Small	248	89	337
Retail	Large	2,945	794	3,739
Total		5,640	1,946	7,586

Table 3—11:
Counts of Visitors Entering Surveyed Establishments by Sampling Segment

Industry	Size	CBD/Mostly Urban	Other	Total
Food Services	Small	18,744	5,797	24,541
Food Services	Large	27,926	6,203	34,130
Recreation	Small	13,271	3,922	17,193
Recreation	Large	13,671	5,014	18,685
Retail	Small	34,182	6,217	40,400
Retail	Large	86,436	6,616	93,052
Total		194,231	33,770	228,001

Quantifying Total Employees for Expansion

The core survey data were matched with the universe data to obtain number of employees for each survey establishment. The matching effort involved a number of steps, including:

- Matching by identifier QKEY or by Name/Address.
- Creating unmatched new records with only employment segment info and address. Employment was estimated using the average employment at all other locations of the same business. In the rare case that the establishment was not in the database regardless of address, employment was estimated from similar businesses.

Table 3—12 outlines a count of all employees in the three market segments of interest. In total, about 233,000 establishments were identified in the BPM study area for the industry segments included in the survey.

Table 3–12:
Count of Total Employees by Sampling Segment

Industry	Size	CBD/Mostly Urban	Other	Total
Food Services	Small	170,506	195,842	366,348
Food Services	Large	113,509	202,515	316,024
Recreation	Small	21,188	42,613	63,801
Recreation	Large	47,976	77,140	125,116
Retail	Small	208,148	308,274	516,422
Retail	Large	215,816	484,992	700,808
Total		777,143	1,311,376	2,088,519

Expansion Implementation

As described in Section 2.8.1, the expansion for the core survey followed a two-step process. The first step employed an iterative proportional fitting process to scale the surveys to the counts. The second step expanded each establishment to the universe.

Evaluation of Final Factors

Table 3—13 shows the average weighting factors as a result of steps 1 and 2, over the time of day and establishment characteristics. Within these groups, the values could vary by establishment for step 1.

Table 3–13:
Average Weighting Factor by Sampling Segment and Time-of-Day

Industry	Size	Area	Step 1				Step 2
			AM	MD	PM	NT	All
Food Services	Small	CBD/Mostly Urban	88	97.21	85.06	123.56	782.7
Food Services	Small	Other	29.94	23.45	26.62	12.92	1,504.10
Food Services	Large	CBD/Mostly Urban	27.56	34.34	43.73	28.54	135.3
Food Services	Large	Other	17.97	24.17	26.68	16.5	451
Recreation	Small	CBD/Mostly Urban	17.78	15.35	19.54	23.13	178.4
Recreation	Small	Other	12.41	17.81	23.44	40.24	599.3
Recreation	Large	CBD/Mostly Urban	14.44	21.29	24.17	33.1	40.3
Recreation	Large	Other	7.86	18.57	17.78	27.65	172
Retail	Small	CBD/Mostly Urban	13.2	27.41	29.93	22.55	839.3
Retail	Small	Other	17.02	13.15	14.56	10.45	3,463.80
Retail	Large	CBD/Mostly Urban	30.7	89.01	95.71	66.16	73.2
Retail	Large	Other	4.38	28.53	25.78	27.12	610.8
All			24.69	40.83	43.56	39.01	588.8

Table 3—14 below shows the product of the factors from steps 1 and 2 – the final weighting factor. This, when applied to each survey, expanded to the total number of visitors at establishments of a certain segment.

Table 3–14:
Final Weights for Each Sampling Segment and Time-of-Day Combination

Industry	Size	Area	AM	MD	PM	NT
Food Services	Small	CBD/Mostly Urban	68,874	76,082	66,573	96,705
Food Services	Small	Other	45,034	35,272	40,040	19,433
Food Services	Large	CBD/Mostly Urban	3,729	4,647	5,917	3,862
Food Services	Large	Other	8,104	10,900	12,032	7,441
Recreation	Small	CBD/Mostly Urban	3,172	2,739	3,486	4,127
Recreation	Small	Other	7,437	10,673	14,047	24,115
Recreation	Large	CBD/Mostly Urban	581	857	973	1,332
Recreation	Large	Other	1,352	3,194	3,058	4,756
Retail	Small	CBD/Mostly Urban	11,079	23,005	25,121	18,926
Retail	Small	Other	58,953	45,548	50,432	36,196
Retail	Large	CBD/Mostly Urban	2,248	6,516	7,007	4,844
Retail	Large	Other	2,675	17,427	15,747	16,565
All			14,538	24,042	25,650	22,971

Surveys were assigned the weights based on their establishment and time of day. These gave a numeric value to the amount of travel they represent. In Table 3—15, the survey weights are summed by time of day and establishment segment.

Table 3–15:
Weighted Results for Visitors for Each Sampling Segment and Time-of-Day Combination

Industry	Size	Area	AM	MD	PM	NT	Daily
Food Services	Small	CBD/Mostly Urban	2,161,726	6,818,068	3,629,352	1,961,694	14,570,840
Food Services	Small	Other	2,835,582	3,209,654	1,818,139	823,519	8,686,894
Food Services	Large	CBD/Mostly Urban	823,106	1,489,317	1,110,279	377,435	3,800,137
Food Services	Large	Other	766,409	930,785	776,255	336,291	2,809,741
Recreation	Small	CBD/Mostly Urban	779,163	588,760	968,091	326,159	2,662,172
Recreation	Small	Other	401,648	737,441	712,795	337,528	2,189,412
Recreation	Large	CBD/Mostly Urban	78,791	146,448	208,326	118,448	552,014
Recreation	Large	Other	97,956	226,048	348,538	185,683	858,225
Retail	Small	CBD/Mostly Urban	2,713,156	10,871,458	10,724,639	4,387,221	28,696,474
Retail	Small	Other	4,503,450	7,572,206	6,920,913	2,549,302	21,545,872
Retail	Large	CBD/Mostly Urban	362,459	2,606,346	2,325,191	1,043,811	6,337,806
Retail	Large	Other	195,924	1,722,300	1,525,490	613,824	4,057,538
All			15,719,371	36,918,831	31,068,008	13,060,915	96,767,126

Scaling Down of Final Factors

The weight results reflected an estimate of total stops based on assumptions that the surveyed and unsurveyed establishments attracted similar number of visitors. However, it should be noted that the core survey focused primarily on those establishments that had at least 150 visitors. As a result, the resulting expanded surveys were skewed towards a

higher total. To adjust these results to a more reasonable value, the RHTS was again used to calculate the total number of trips destined to food service, retail, or recreational locations for non-work purposes. It was observed that such trips added up to 20 million, as per Table 3—16. The core surveys were scaled down to the same total by applying a ratio based on the industry to all valid survey records. These ratios are in the rightmost column of Table 3—17.

Table 3–16:
Trip Sums from Regional Household Travel Survey

HTS category	Core Survey Categories	Expanded HTS
Drive Through (ATM, Bank, Fast Food, etc.)	Food Services	871,477
Eat Meal Out at Restaurant/Diner	Food Services	2,955,247
Indoor Recreation	Recreation	1,482,242
Entertainment	Recreation	683,192
Grocery/Food Shopping	Retail	4,563,724
Other Routine Shopping	Retail	4,146,959
Shopping for Major Purchases or Specialty Items	Retail	557,791
Household Errands	Retail	2,853,967
Personal Business	Retail	2,260,188

Table 3–17:
Weighting Adjustment Factor from Regional Household Travel Survey

Industry	Weighted Sums	Expanded HTS	Adjustment
Food Services	29,867,612	3,826,724	0.128
Recreation	6,261,823	2,165,433	0.346
Retail	60,637,690	14,382,629	0.237
Total	96,767,126	20,374,785	0.211

3.5.2 Results for the Hotel Sample

Data Description

The list of hotels in the sampling frame included several corporate locations as well as non-lodging locations. Further, the list of hotels surveyed during the survey effort included some additional newer hotels not in the sample universe. Therefore, the survey team decided to develop the list of hotels for expansion using an online database. This database was current and consistent with the field data collection effort. The consultant team also matched the surveyed hotels to this database.

It should be noted that during the development of the sampling plan, the team utilized sales volume as a sampling variable. However, in the online database, the star rating was available, but not annual sales. Therefore, during weighting the team decided to use hotel star rating, and geographic location as key variables in the expansion process. This hotel universe file included 1,285 hotels as shown in Table 3—18.

Table 3–18:
Total Number of Hotels in the Universe File by Star Rating and Area Type

Star Rating	CBD	Mostly Urban	Other	Total
1	1	0	1	2
1.5	2	6	11	19
2	17	59	124	200
2.5	24	75	187	286
3	72	58	220	350
3.5	60	30	89	179
4	112	22	34	168
4.5	39	1	2	42
5	36	3	0	39
Total	363	254	668	1,285

This online database also included information about total number of rooms in each hotel. There were a few hotels where the number of rooms was missing. The online database was used to match the individual hotels in the universe file to obtain information on number of rooms in each hotel. A scaling process that accounted for hotels with missing room information was implemented at a city-level. The results from this analysis are shown below. Table 3—19 shows the total number of rooms for hotels in each segment.

Table 3–19:
Total Number of Rooms for Hotels in the Universe File by Star Rating and Area Type

Star Rating	CBD	Mostly Urban	Other	Total
1	34	0	39	73
1.5	82	396	784	1,261
2	2,047	4,249	9,171	15,467
2.5	3,973	6,358	19,202	29,532
3	10,548	8,037	28,841	47,427
3.5	14,090	5,966	19,130	39,187
4	34,212	3,845	6,330	44,387
4.5	16,967	112	58	17,137
5	8,523	587	0	9,109
Total	90,476	29,550	83,555	203,580

The surveyed hotels had 17,813 rooms. The number of hotels surveyed by segment and the associated total number of rooms in each segment are shown in Table 3—20 and Table 3—21, respectively. Given the low number of hotels surveyed in segments with star ratings 4 and 4.5, the final segmentation combined these two star ratings for CBD and mostly Urban Area types and combined star ratings 3.5, 4 and 4.5 for the “Other” area type.

**Table 3–20:
Number of Surveyed Hotels by Star Rating and Area Type**

Star Rating	CBD	Mostly Urban	Other	Total
1-2	1	2	6	9
2.5	1	9	11	21
3	7	8	22	37
3.5	4	5	6	15
4	7	1	0	8
4.5+	4	0	0	4
Total	24	25	45	94

**Table 3–21:
Number of Rooms in the Surveyed Hotels by Star Rating and Area Type**

Star Rating	CBD	Mostly Urban	Other	Total
1-2	60	183	773	1,016
2.5	106	729	1,310	2,146
3	931	1,465	3,469	5,864
3.5	955	1,466	1,483	3,905
4	3,090	639	0	3,729
4.5+	1,153	0	0	1,153
Total	6,295	4,482	7,035	17,813

Tables 3—22 and 3—23 show the number of hotels surveyed and number of surveys collected for each of the 14 segments (after combining star ratings 4 and 4.5 for CBD and mostly Urban Area types and combining star ratings 3.5, 4 and 4.5 for the “Other” area type), respectively.

**Table 3–22:
Number of Surveyed Hotels by Segment**

Star Rating	CBD	Mostly Urban	Other	Total
1-2	1	2	6	9
2.5	1	9	11	21
3	7	8	22	37
3.5	4	5	6	15
4+	11	1		12
Total	24	25	45	94

Table 3–23:
Number of Acceptable Surveys Collected from Surveyed Hotels by Segment

Star Rating	CBD	Mostly Urban	Other	Total
1-2	14	18	37	69
2.5	10	114	110	234
3	147	120	260	527
3.5	96	68	48	212
4+	280	40		320
Total	547	360	455	1,362

Expansion Implementation

As described in Section 2.8.2, the expansion procedures for the hotel survey follow a two-step procedure. First, the number of surveyed rooms (rooms represented by collected surveys) was scaled to the number of occupied rooms in that particular hotel. Occupancy rate was obtained from estimates developed by Coldwell Banker Richard Ellis Company (CBRE), an average of 88.3% for hotels in the New York City area for the fourth quarter of 2016. Second, the surveyed hotels were expanded to all the hotels in the region, represented by number of hotel rooms in each segment.

Hotel Survey Expansion Results

Table 3—24 shows the average final expansion factors in each segment. These reflect the expansion of the surveys to all occupied rooms in the region. Variance existed in factors within each segment based on the share of people at each hotel who were surveyed. The total weighted surveys summed to the total number of rooms in the region within their segment, multiplied by the assumed occupancy rate.

Table 3–24:
Average Expansion Factors by Hotel Segment

Star Rating	CBD	Mostly Urban	Other	Total
1-2	136	366	475	413
2.5	351	78	211	160
3	91	63	144	116
3.5	169	185	656	369
4+	326	100		307
All Ratings	224	118	273	219

4.0 Summary of Survey Results

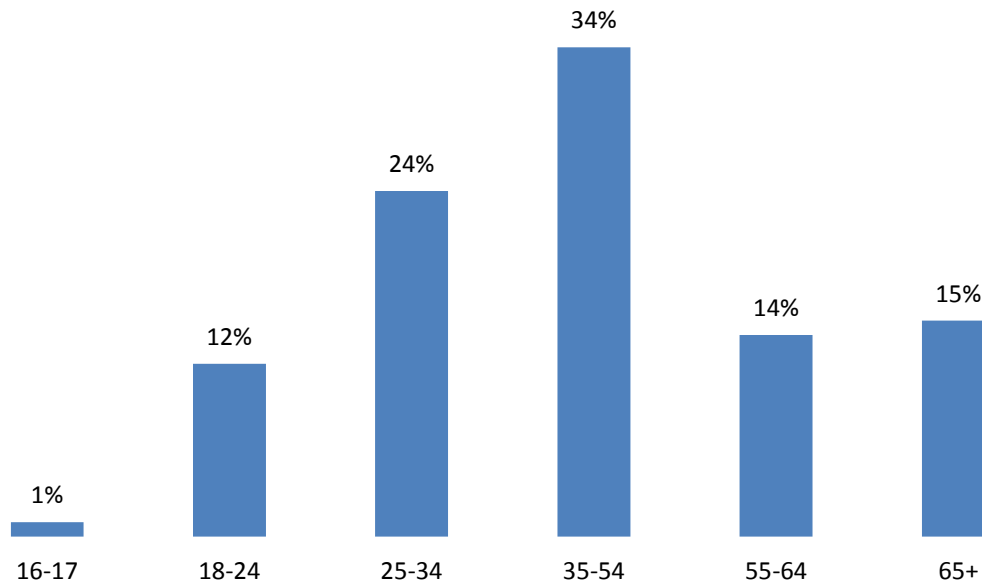
Sections 4.1 and 4.2 report on the results of the core establishment and hotel surveys, respectively. The questions in both surveys are covered, with salient and statistically significant differences between subgroups additionally presented where applicable. At the end of each section, detailed cross-tabulations of key questions by the sampling segmentations are also provided.

4.1 Summary of Core Survey Results

4.1.1 Respondent Age

About one-third of core visitors were in the 35-54 age range, with the second most reported age group being 25-34. The 18-24, 55-64, and 65 and over age groups each accounted for roughly the same percentage of respondents.

Figure 4-1: Respondent Age



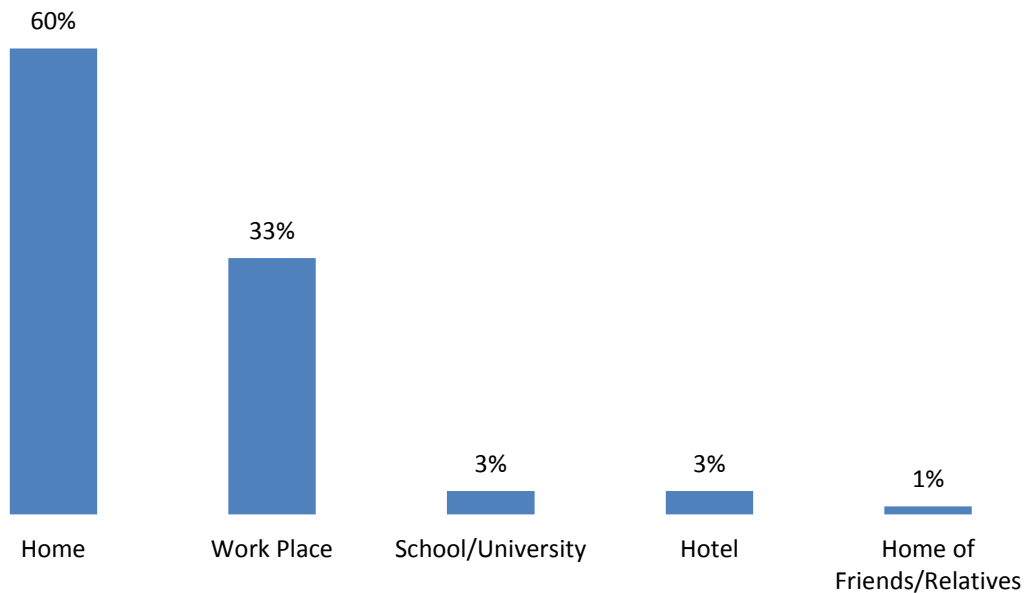
Q2: What is your age?⁶

⁶ Respondents 16+ in age qualified for the survey

4.1.2 Origin Type

Three-fifths of core visitors traveled from their home to the establishment and a third traveled from their work place as their origin anchor location⁷. Less than 10% traveled from an anchor location that was not their home or work place.

Figure 4–2: Origin Type



Q3: Without considering any stops on the way, which of these places did you come from most recently today?

Subgroup Analysis:

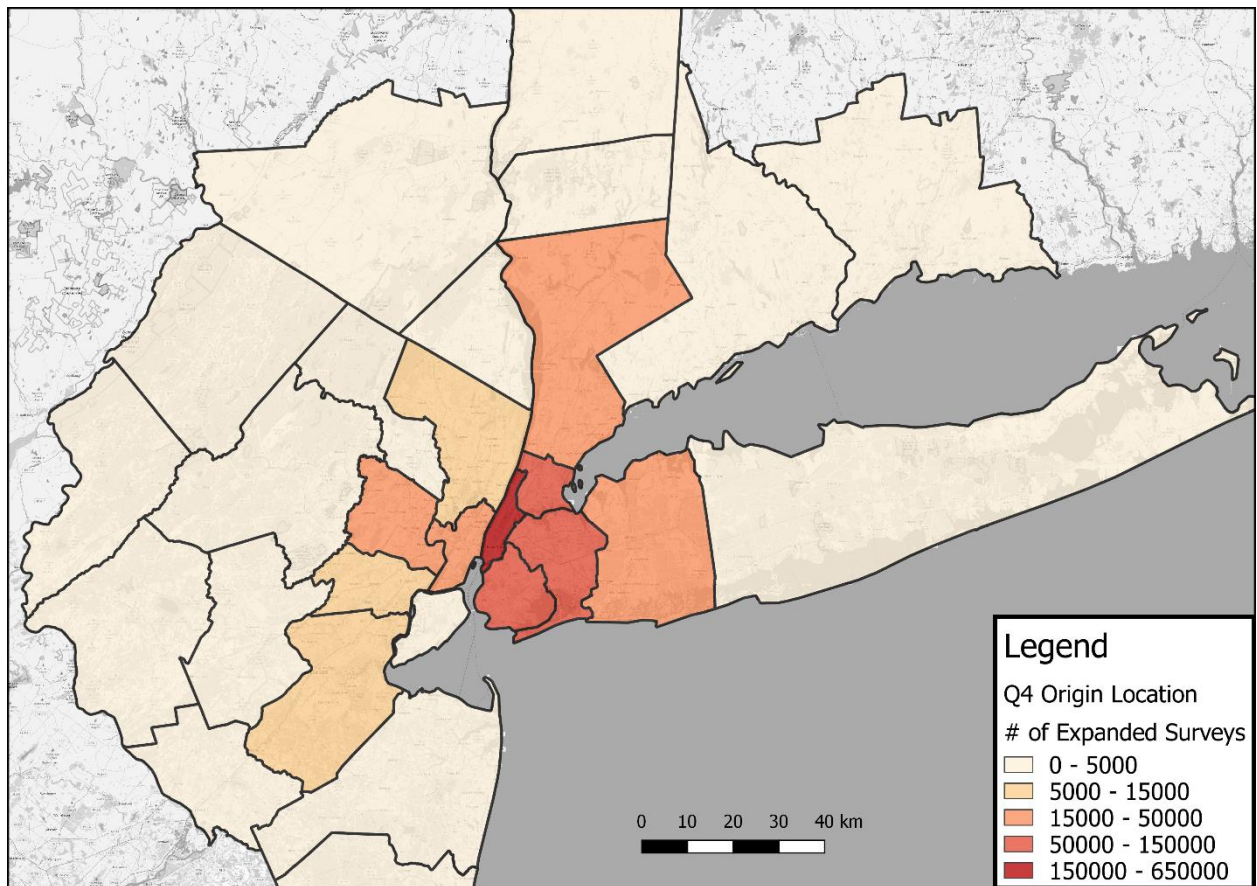
- Urban establishments had more core visitors who traveled from their work place than suburban establishments (Your Work Place: CBD/Mostly Urban = 34%, Other = 22%).
- Conversely, suburban establishments had more core visitors who traveled from their home than urban establishments (Your Home: CBD/Mostly Urban = 58%, Other = 76%). This was most likely because there tend to be more businesses in urban areas and more homes in suburban areas.
- A larger proportion of recreation establishment core visitors traveled from home than those who visited retail or food service establishments (Your Home: Retail = 58%, Recreation = 71%, Food Services = 53%).

⁷ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

4.1.3 Origin Location

Most core visitors traveled from an origin location in Manhattan to the establishment. The second most common origin locations were the outer-boroughs of Brooklyn, Queens, and Bronx, followed by Westchester and parts of Long Island and New Jersey.

Figure 4-3: Origin Location

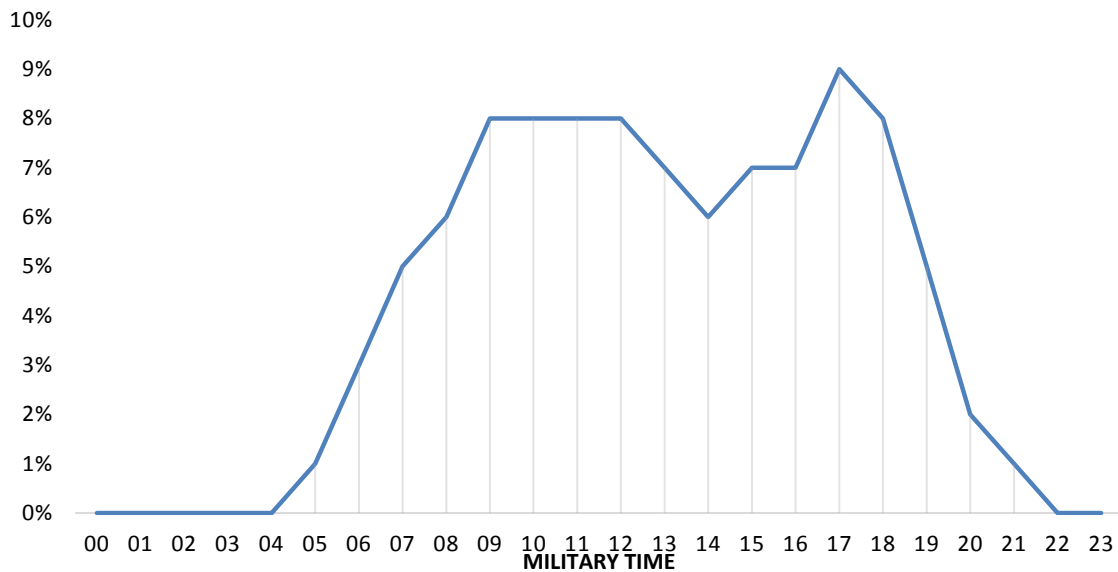


Q4: What is the location of that place?

4.1.4 Origin Departure Time

The majority of departures from the origin anchor location⁸ were between 9AM and 6 PM (09-18 military time). Within this period the most commonly reported origin time was 5 PM (17 military time) and the least commonly reported time was 2 PM (14 military time).

Figure 4-4: Origin Departure Time



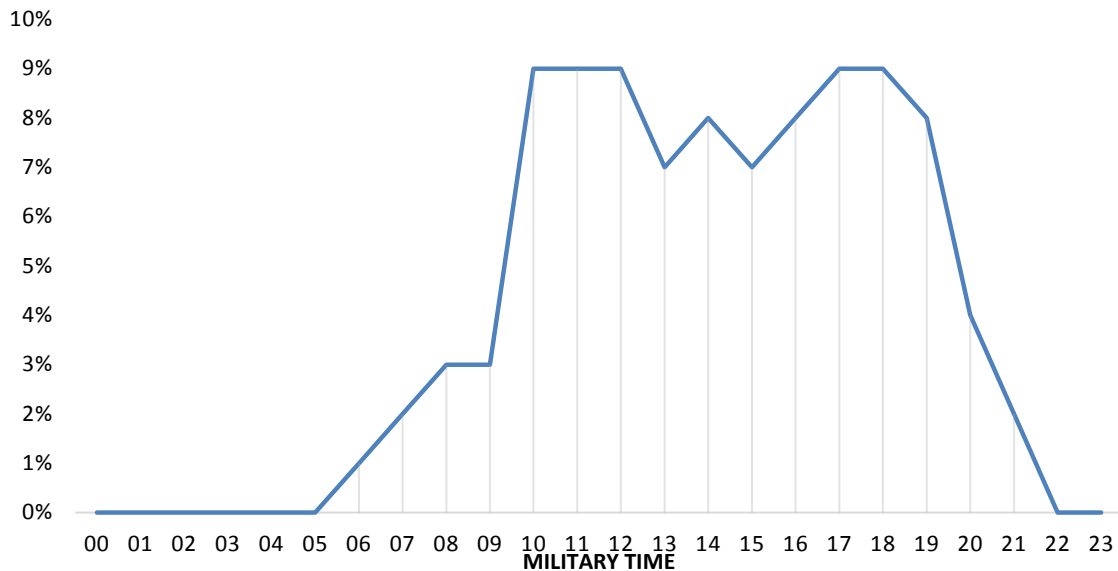
Q5: When did you leave that place?

⁸ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

4.1.5 Establishment Arrival Time

The distribution of arrival times at the establishment was bimodal. Core visitors arrived between 10 AM to 12 PM (10-12 military time) and 5 PM and 6 PM (17-18 military time) the most. The least commonly reported arrival times between the aforementioned periods were between 1 PM to 3 PM (13-15 military time).

Figure 4–5: Establishment Arrival Time

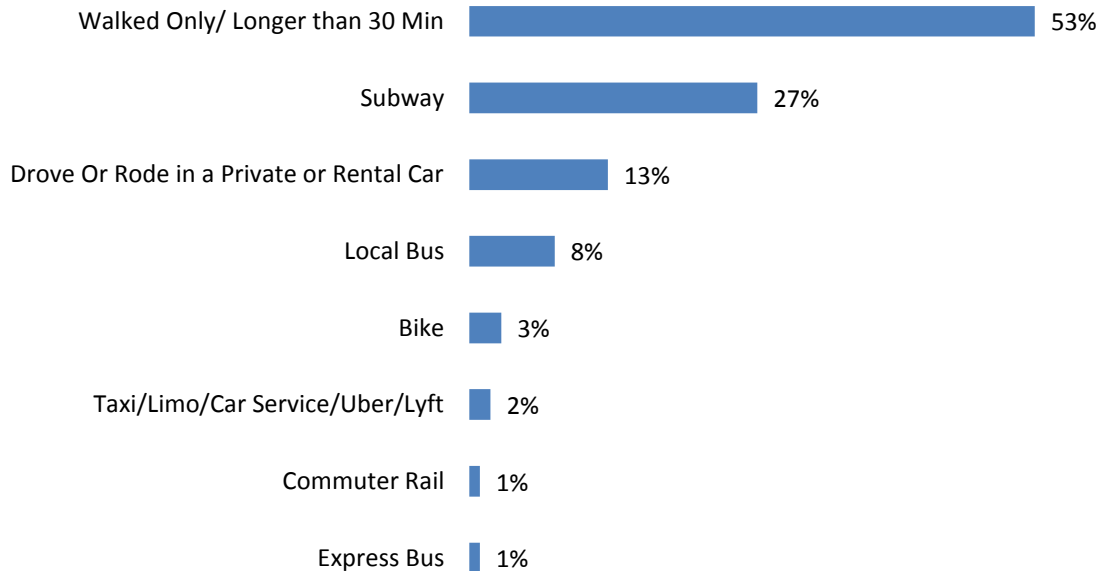


Q6: What time did you get here today?

4.1.6 Establishment Access Mode

Over half of core visitors primarily walked to the establishment from their origin anchor location⁹. Subway was the second most used access mode, followed by drove or rode in a private or rental car.

Figure 4–6: Establishment Access Mode



Q7: How did you travel to here from your origin location?¹⁰

Subgroup Analysis:

- Urban establishments had more visitors who walked (Walked Only/Longer than 30 Min: CBD/Mostly Urban: 58%, Other = 12%) or took the subway (Subway: CBD/Mostly Urban = 29%, Other = 1%) to the establishment location than suburban establishments.
- In contrast, suburban establishments had more visitors who drove to the establishment location than urban establishments (Drove or Rode in a Private or Rental Car: CBD/Mostly Urban = 6%, Other = 82%).

⁹ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

¹⁰ Multiple responses were allowed

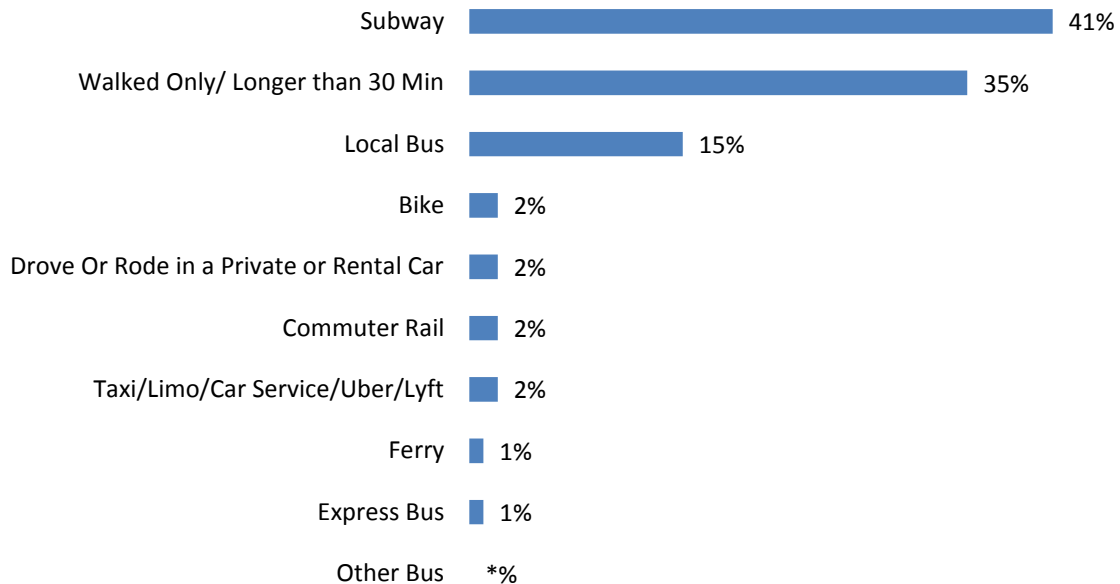
(The availability of sidewalks and subways in more urban areas likely made walking or taking the train a viable access mode, whereas the lack thereof likely made driving a car more necessary in suburban areas.)

- A greater proportion of retail core visitors walked to a retail store than those who traveled to a recreation or food place (Walked Only/More than 30 Min: Retail = 55%, Recreation = 48%, Food Services = 48%).
- Recreation establishment core visitors drove to the establishment more than those who went to a retail or food place (Drove or Rode in a Private or Rental Car: Retail = 10%, Recreation = 22%, Food Services = 16%).

4.1.7 Establishment Last Mode

Most core visitors who used more than one access mode (6.8% of total) took the subway or walked as their last mode of travel to the establishment, accounting for 41% and 35% of responses. Local bus was next at 15% of responses.

Figure 4–7: Establishment Last Mode

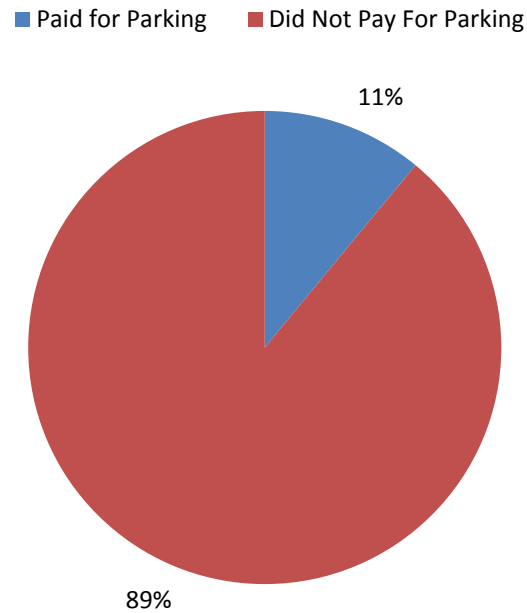


Q8: And what was the last mode of travel you were using when you arrived here today?

4.1.8 Parking Choice

About one out of ten people who drove or rode to the establishment in a private or rental car needed to pay for parking.

Figure 4–8: Parking Choice

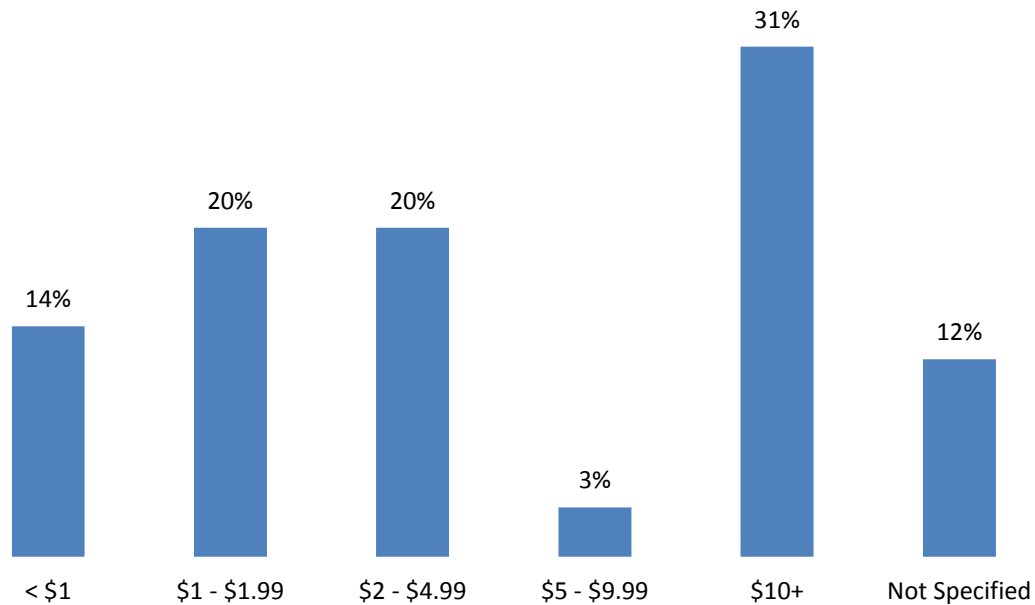


Q9: Did you or will you have to pay for parking?

4.1.9 Parking Payment

Over half of core visitors who paid for parking while visiting establishments paid less than \$5. Of the people who paid more than \$5, most reported paying at least \$10 for parking (31% of all respondents).

Figure 4–9: Parking Payment

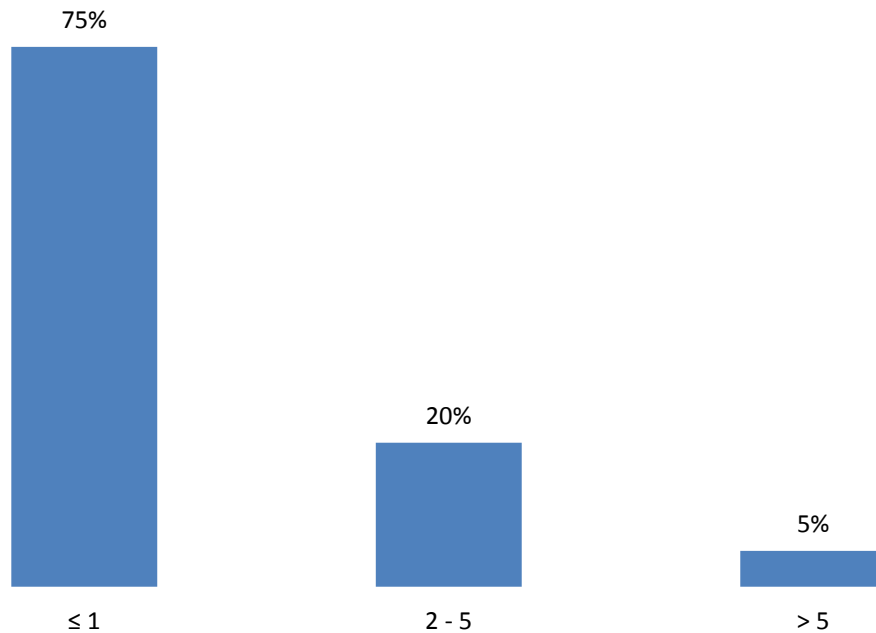


Q10: How much in total did you or will you have to pay for parking today?

4.1.10 Minutes Walked to Establishment

Three-quarters of core visitors walked one minute or less between the car parking location and the establishment. Most of the remaining (20% of total) walked 2 to 5 minutes between where they parked and establishment. Very few (5%) had to walk more than 5 minutes.

Figure 4–10: Minutes Walked to Establishment

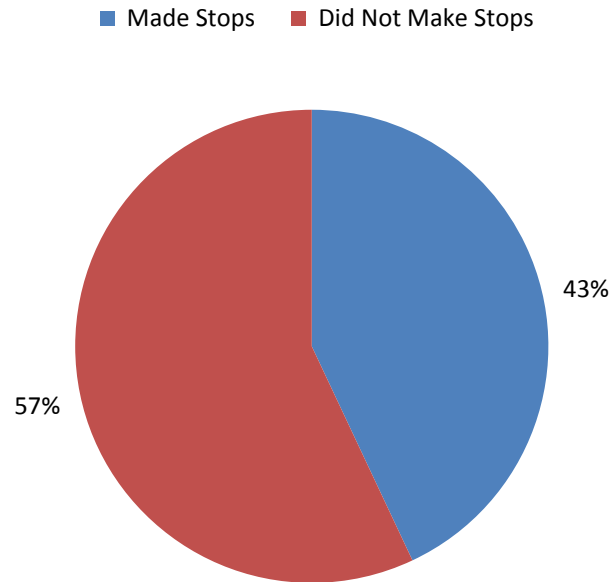


Q11: How many minutes did it take you to walk from where you parked to here?

4.1.11 Stop Before Establishment

Less than half of core visitors reported making a stop before arriving at the establishment.

Figure 4–11: Stop Before Establishment



Q12: Did you stop by any place between (origin location) and this place here?

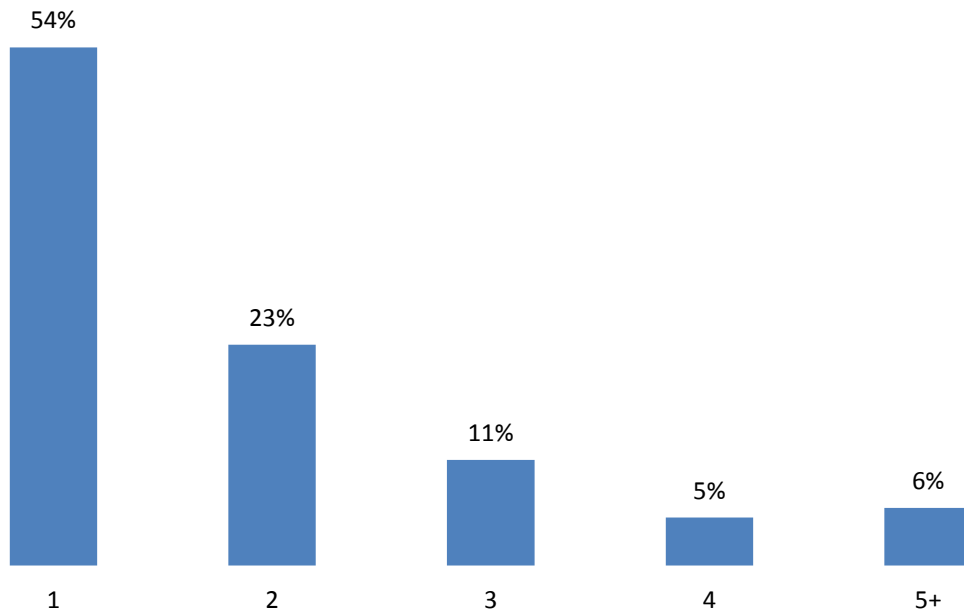
Subgroup Analysis:

- CBD/Mostly Urban core visitors were more likely to make stops on their way to the establishment than suburban (Other area) core visitors (Made Stops Between Origin and Establishment: CBD/Mostly Urban = 44%, Other = 29%).
- Retail establishment core visitors were more likely to make stops (Made Stops between Origin and Establishment: Retail = 50%) than those who went to food service or recreation establishments (Made Stops between Origin and Establishment: Food Services = 34%, Recreation = 22%).

4.1.12 Number of Stops Before Establishment

Of those core visitors who made a stop before arriving at the establishment (43% of total), more than half made only one stop. Relatively few made more than 3 stops (11%).

Figure 4–12: Number of Stops Before Establishment



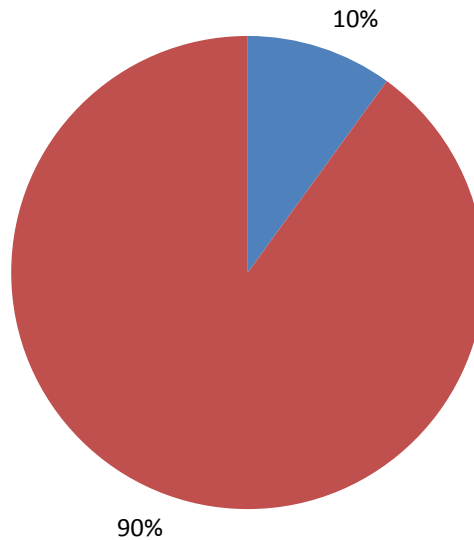
Q13: How many places did you stop at?

4.1.13 Drop Off/Pick Up before Establishment

Only 10% of core visitors who made stops (43% of total) reported that they picked up or dropped off anyone when making stops before arriving at the establishment.

Figure 4–13: Drop Off/Pick Up before Establishment

■ Picked Up Or Dropped Off ■ Did Not Pick Up Or Drop Off

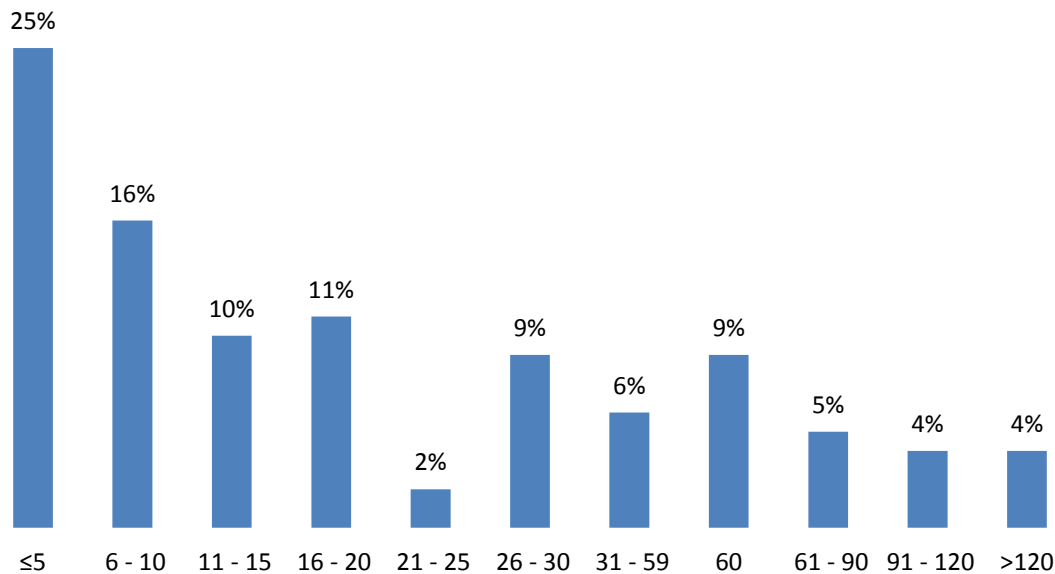


Q14: Were any of these stops to drop off or pick up a person?

4.1.14 Time Spent at Establishment

More than 60% of core visitors spent 20 minutes or less at the establishment, with a quarter visiting the establishment for 5 minutes or less. Close to one-fifth spent 21-59 minutes (17%) and an hour or more (22%) at the establishment, respectively.

Figure 4–14: Time Spent at Establishment



Q15: About how long do you plan on being here?

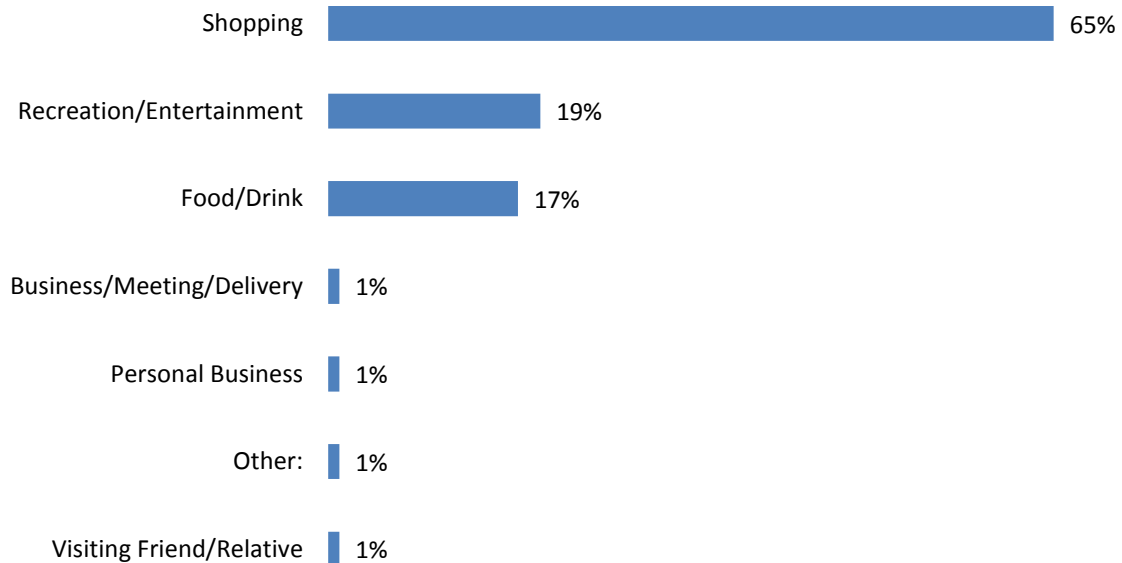
Subgroup Analysis:

- More urban establishments had visitors who spent 6-30 minutes at the location (6-30 Minutes: CBD/Mostly Urban = 50%, Other = 26%), while more suburban establishments had visitors who spent 60 minutes or more at the location (≥ 60 Minutes: CBD/Mostly Urban = 19%, Other = 37%).
- Food places had a large proportion of core visitors who spent a short 5 minutes or less at the location (≤ 5 Minutes: Retail = 26%, Recreation = 8%, Food Services = 50%); most likely grabbing a quick bite to eat or drink at a fast food place.
- Retail stores had more visitors who spent a medium length of time (6-30 minutes) at the location (6-30 Minutes: Retail = 62%, Recreation = 7%, Food Services = 38%).
- Recreation establishments had more visitors who spent longer periods of 31 or more minutes at the location (≥ 31 Minutes: Retail = 13%, Recreation = 85%, Food Services = 12%).

4.1.15 Trip Purpose

Two-thirds of core visitors reported shopping as the reason they came to the establishment. The next two most commonly reported categories were Recreation/Entertainment and Food/Drink at 19% and 17%, respectively. Note that this distribution of trip purpose was largely a function of the industries and target numbers specified in the sampling plan (more Retail establishments than either Food Services or Recreation establishments).

Figure 4–15: Trip Purpose



Q16: What was the reason you came to this place today?¹¹

Subgroup Analysis:

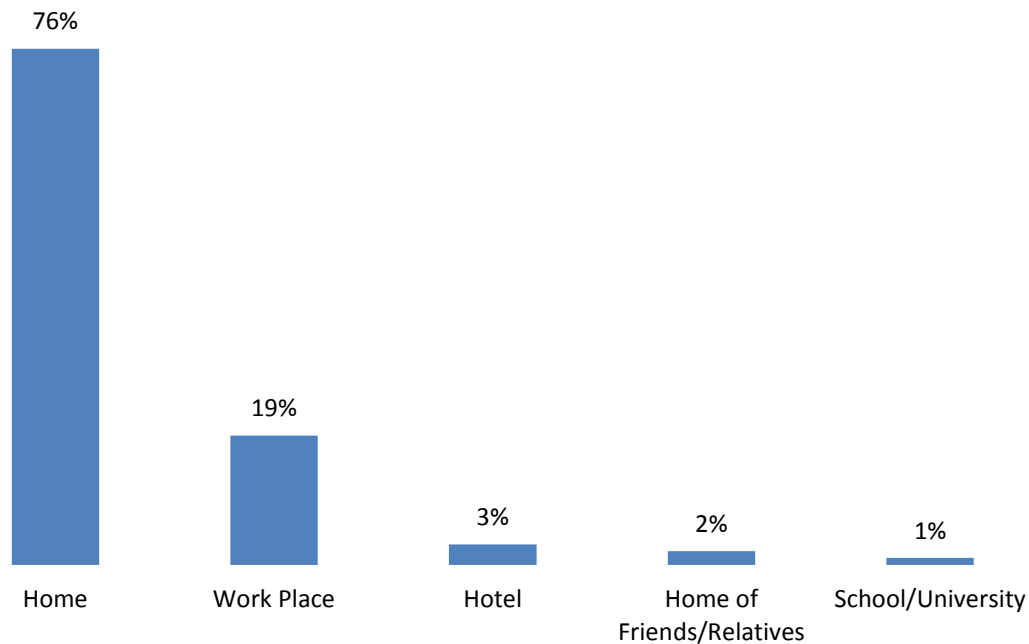
- Proportionally, many more core visitors who were visiting establishments in urban areas were there for shopping than those visiting suburban places (Shopping: CBD/Mostly Urban = 68%, Other = 29%).
- Conversely, proportionally more core visitors in suburban areas were traveling to establishments for recreation/entertainment or eating/drinking as compared to CBD/Mostly Urban counterparts (Recreation/Entertainment: CBD/Mostly Urban = 17%, Other = 37%) (Food/Drink: CBD/Mostly Urban = 15%, Other = 34%).

¹¹ Multiple responses were allowed

4.1.16 Destination Type

Over three-quarters of core visitors said that they would be going home after leaving the establishment. The next most reported destination anchor location¹² was their workplace, at about 20% of all responses. Together, home and work accounted for 95% of destination anchor locations after leaving the establishment.

Figure 4–16: Destination Type



Q17: Without considering any stops on the way, which of these places will you be going to next after leaving here today?

Subgroup Analysis:

- Suburban establishments had more core visitors who planned to travel home than urban establishments (Your Home: CBD/Mostly Urban = 75%, Other = 85%).
- On the other hand, urban establishments had more core visitors who planned to go to their work place than suburban establishments (Your Work Place: CBD/Mostly Urban = 19%, Other = 14%).

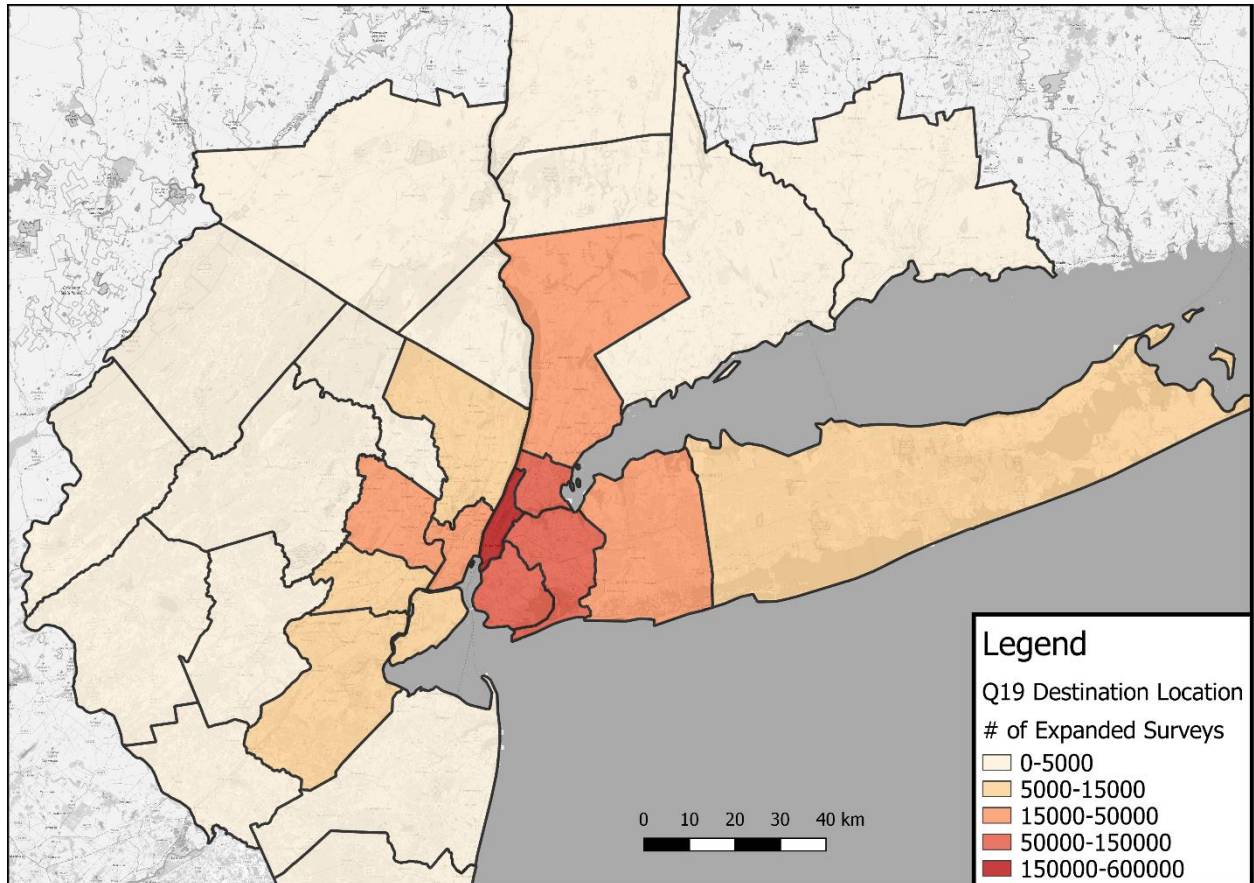
¹² Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

- Recreation and retail establishments had proportionally many more core visitors who planned to go home than food places (Your Home: Retail = 77%, Recreation = 88%, Food Services = 47%).
- Food places had a much larger proportion of core visitors whose planned destination was their work place (Your Work Place: Retail = 17%, Recreation = 10%, Food Services = 44%), perhaps returning to work after lunch or a snack break.

4.1.17 Destination Location

Much like their origin locations, most core visitors reported that they would travel from the establishment to a destination location in Manhattan. The second most common destination locations were the outer-boroughs of Brooklyn, Queens, and Bronx, followed by Long Island, Westchester, and parts of New Jersey.

Figure 4-17: Destination Location

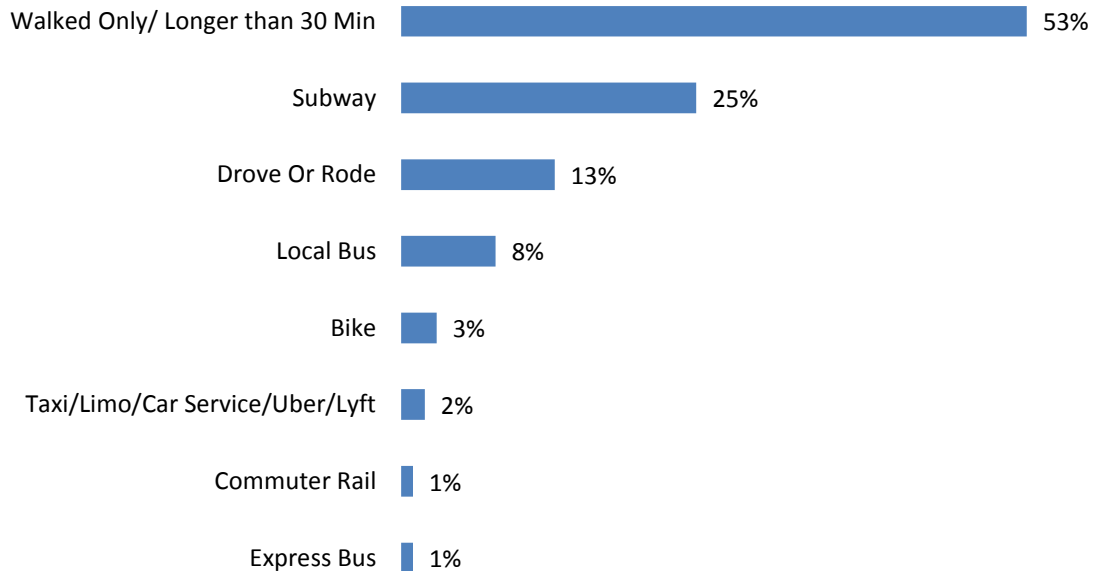


Q19: What is the location of that place?

4.1.18 Establishment Egress Mode

Core visitors traveled to the destination anchor location¹³ from the establishment in much the same way as how they got to the establishment (walk, subway, drove or rode in private or rental car, as the primary modes used).

Figure 4–18: Establishment Egress Mode



Q21: How do you plan to travel to your destination location from here?¹⁴

Subgroup Analysis:

- Urban establishments had proportionally many more visitors who planned on walking (Walked Only/Longer than 30 Min: CBD/Mostly Urban: 57%, Other = 13%) or taking the subway (Subway: CBD/Mostly Urban = 27%, Other = <1%) to their destination than suburban establishments.
- In contrast, suburban establishments had far higher percentage of visitors who planned on driving to their destination than urban establishments (Drove or Rode in a Private or Rental Car: CBD/Mostly Urban = 6%, Other = 82%).

¹³ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

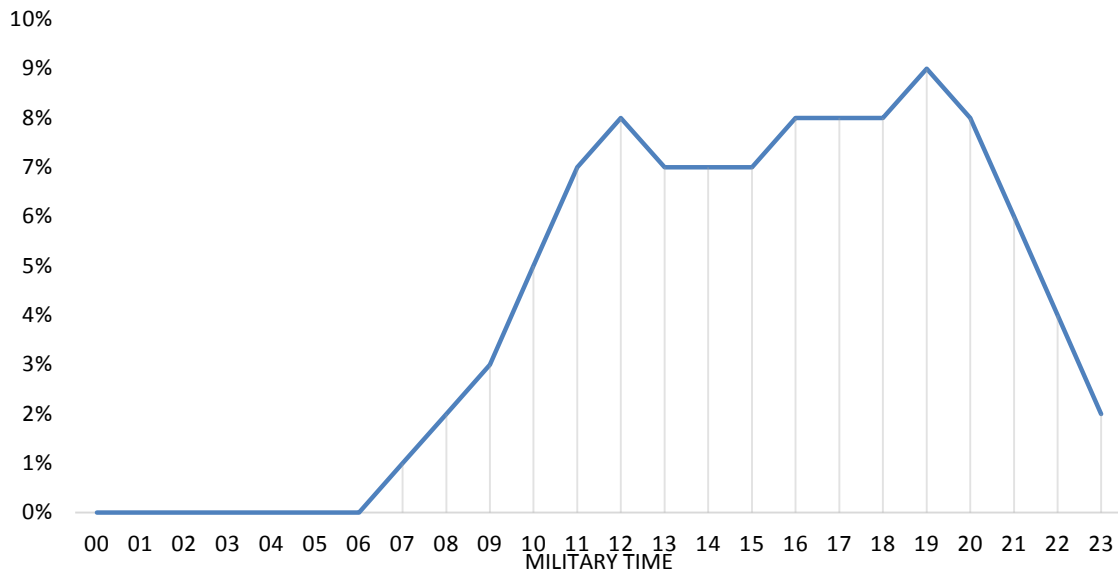
¹⁴ Multiple responses were allowed

- More core visitors leaving a recreation establishment plan on driving home than those leaving a retail or food establishment (Drove or Rode in a Private or Rental Car: Retail = 10%, Recreation = 22%, Food Services = 15%).

4.1.19 Destination Arrival Time

The majority of arrivals at the destination anchor location¹⁵ were reported between 11 AM and 8 PM (11-20 military time). Within this period the most commonly reported arrival time was 7 PM (19 military time) and the least commonly reported arrival time was between 1 PM to 3 PM (13-15 military time).

Figure 4–19: Destination Arrival Time



Q22: When do you anticipate arriving at that place?

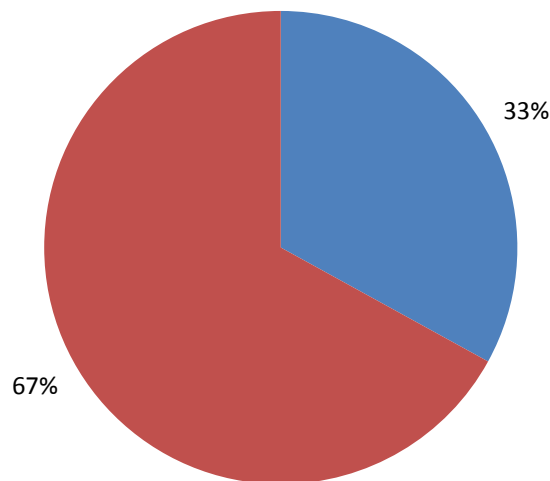
¹⁵ Anchor Location = typically home or work place. If origin/destination was neither a home nor work place location, then school, hotel, or friends'/relatives' home were additional answer choices provided.

4.1.20 Stop After Establishment

About one-third of core visitors planned to make stops between the establishment and their destination.

Figure 4–20: Stop After Establishment

■ Plan to Make Stops ■ Does Not Plan to Make Stops



Q23: Do you plan to stop by any other place between here and your arrival place?

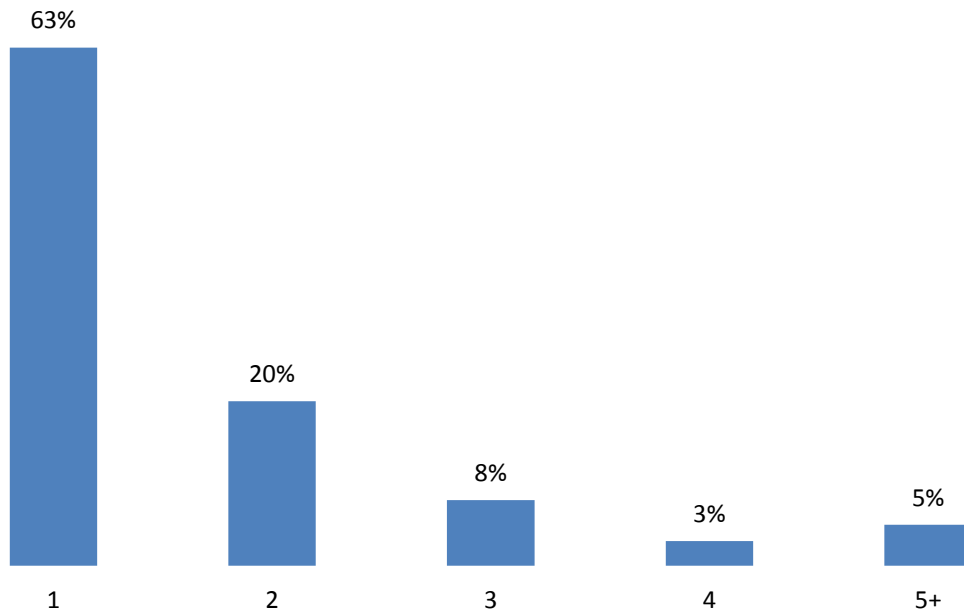
Subgroup Analysis:

- Urban establishment core visitors planned on making stops after leaving the establishment at a greater proportion than suburban establishment visitors (Made Stops Between Establishment and Destination: CBD/Mostly Urban = 34%, Other = 23%).
- Proportionally more retail establishment core visitors planned on making stops after leaving the establishment than those who visited recreation or food service places (Made Stops Between Establishment and Destination: Retail = 36%, Recreation = 28%, Food Services = 25%).

4.1.21 Number of Stops After Establishment

Out of the core visitors who planned to make stops between leaving the establishment and arriving at their final destination (33% of total), almost two-thirds planned on making only one stop. Very few planned to make more than 3 stops (8%).

Figure 4–21: Number of Stops After Establishment

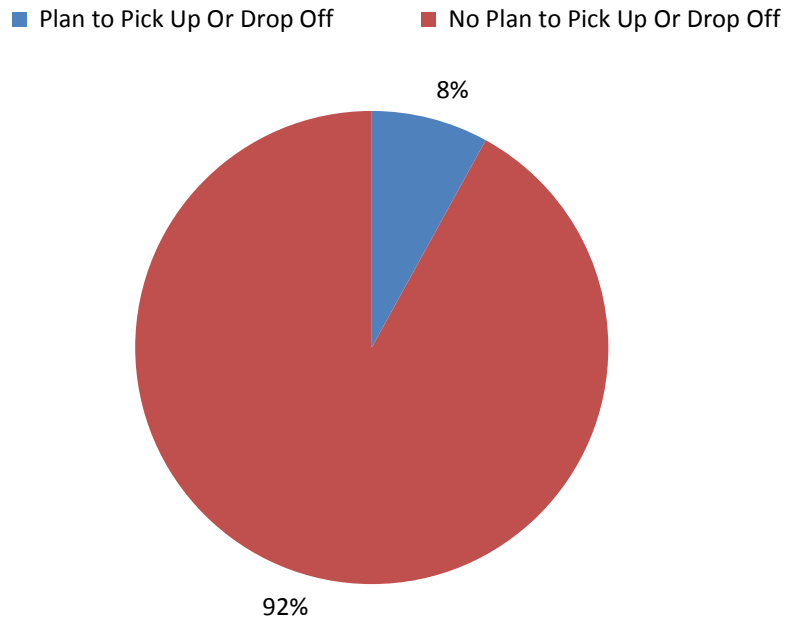


Q24: How many places do you plan to stop at?

4.1.22 Drop Off/Pick Up after Establishment

Of the core visitors that planned on making a stop before their final destination (33% of total), fewer than one in ten (8%) planned to pick up or drop off anyone during their stops.

Figure 4–22: Drop Off/Pick Up after Establishment

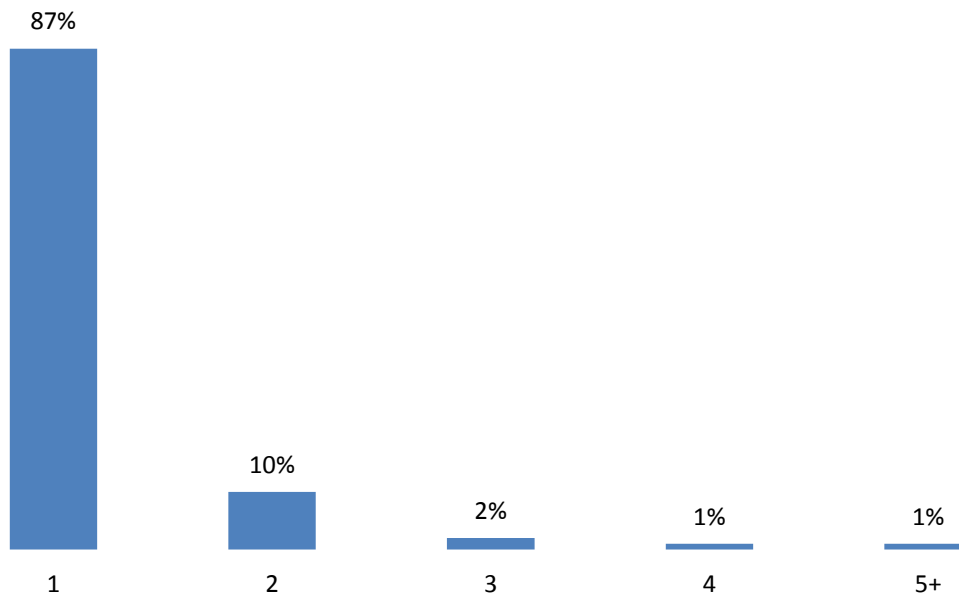


Q25: Do you plan to drop off or pick up a person at any of these stops?

4.1.23 Number of People Traveling

A large majority of core visitors traveled to the establishment by themselves, accounting for 87% of respondents. Group travel primarily involved only 2 people (10%).

Figure 4–23: Number of People Traveling

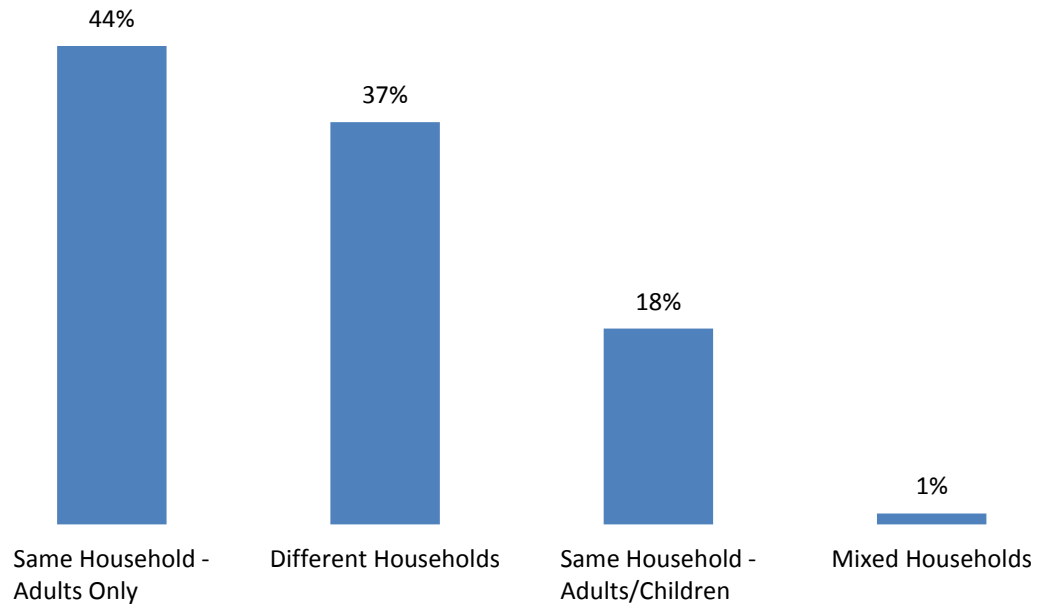


Q26: Including yourself, how many people traveled with you to this place today?

4.1.24 Types of People Traveling

Among core visitors who were not traveling alone (13% of total), the most commonly reported companions were adults from the same household (44%) followed closely by groups from different households (37%).

Figure 4–24: Types of People Traveling

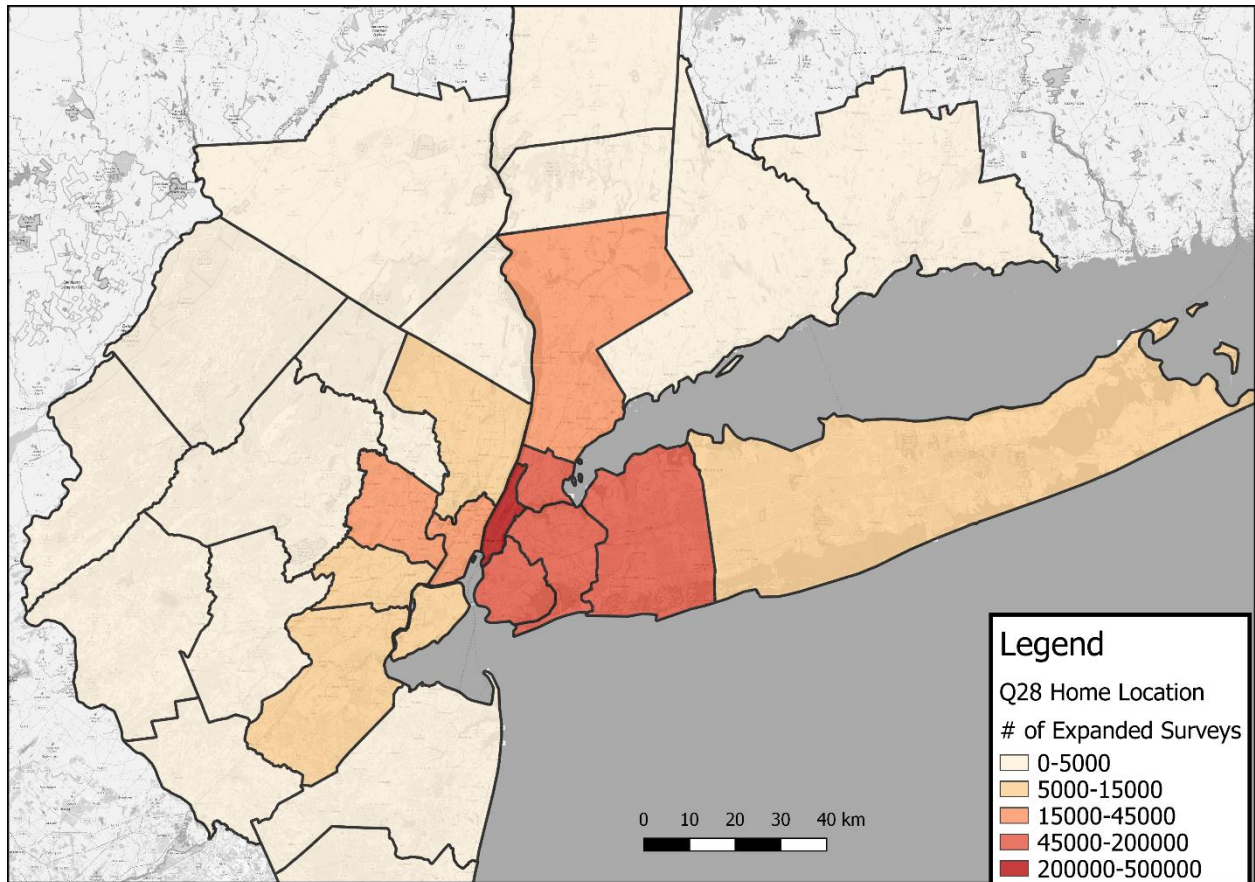


Q27: Would you describe the people who traveled with you as...?

4.1.25 Home Location

The majority of core visitors reported that their residence was in Manhattan. The second most common home locations were the outer-boroughs of Brooklyn, Queens, Bronx, and Nassau County, followed by Suffolk County, Westchester, and parts of New Jersey.

Figure 4-25: Home Location

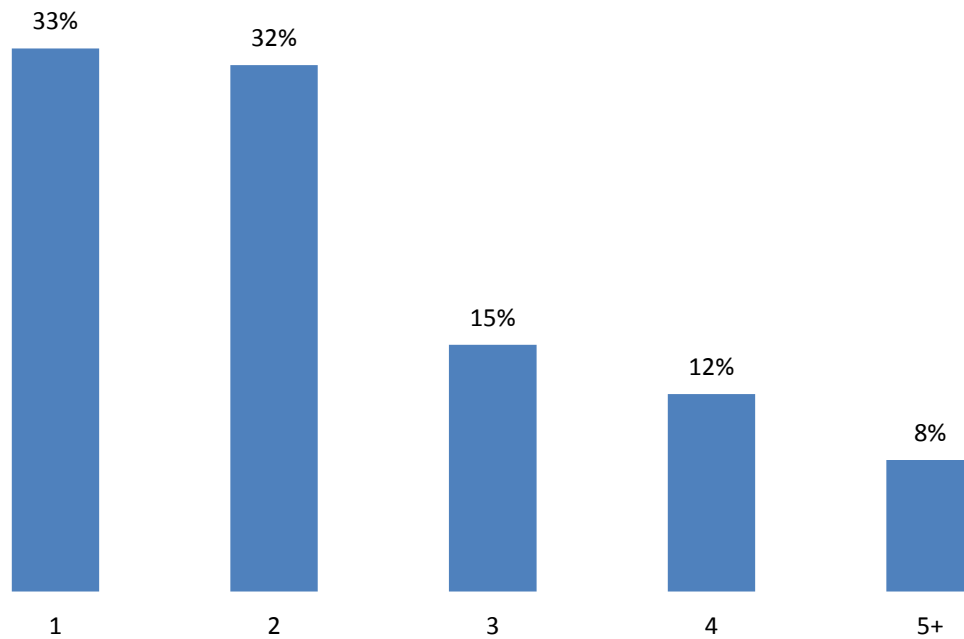


Q28: What is your home address or nearest intersection?

4.1.26 Number of People in Household

The majority of core visitor households had only one or two individuals. Larger household sizes (3+) accounted for about one-third of respondents.

Figure 4–26: Number of People in Household

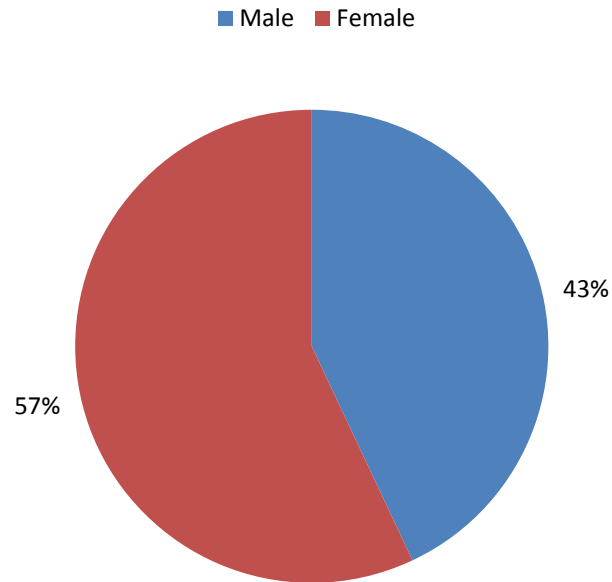


Q29: Including yourself, how many people are in your household?

4.1.27 Gender

More females than males participated in the survey as noted by interviewer observation.

Figure 4-27: Gender

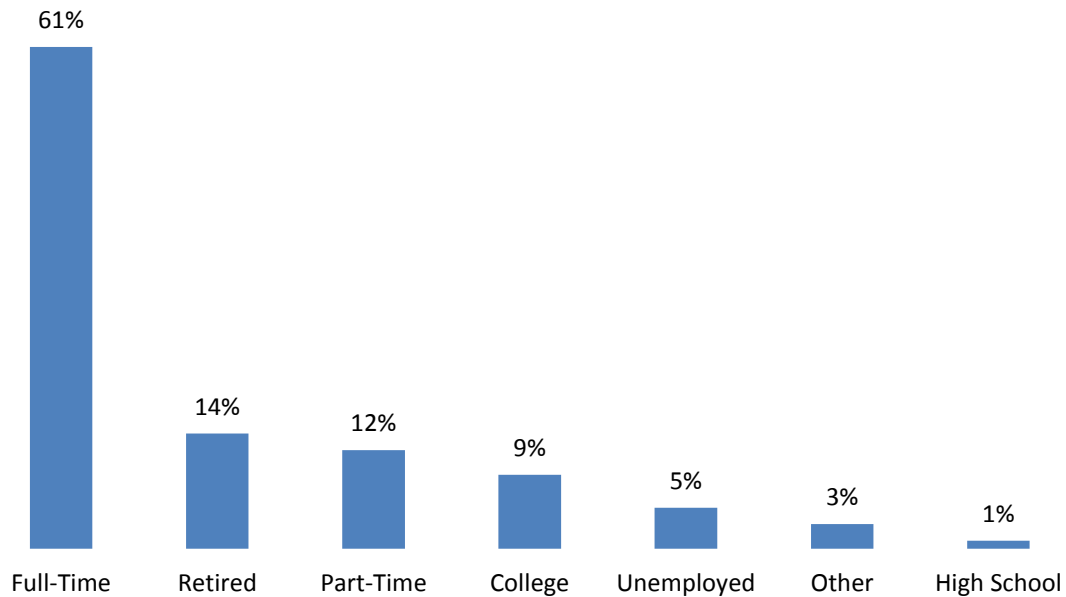


Q30: Respondent Gender

4.1.28 Employment Status

Three-fifths of core visitors were employed full-time. The next three most commonly reported categories were Retired, Part-Time, and College Students at 14%, 12%, and 9%, respectively.

Figure 4–28: Employment Status



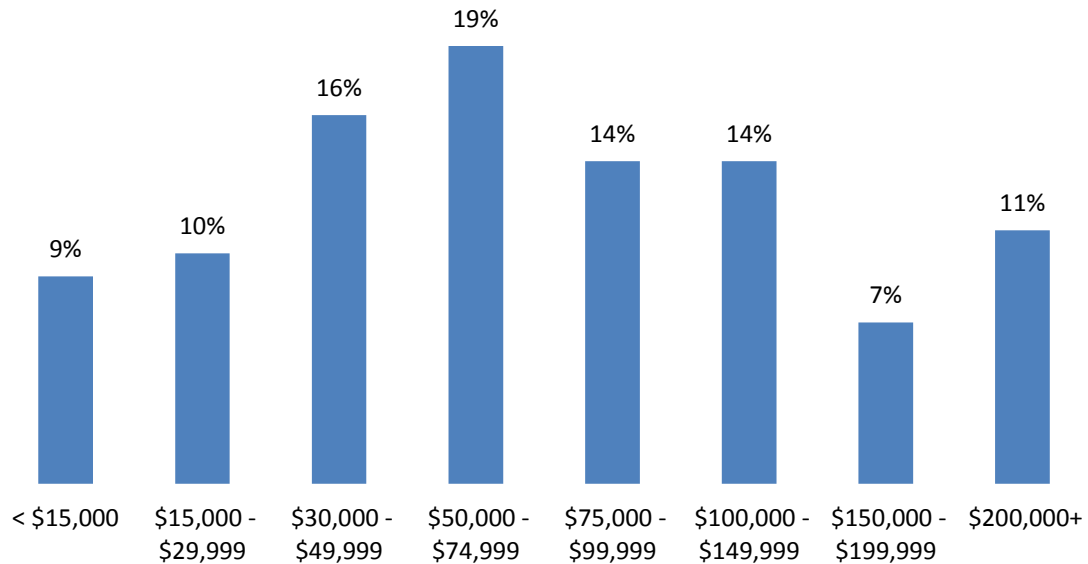
Q31: What is your student or employment status?¹⁶

¹⁶ Multiple responses were allowed.

4.1.29 Household Income

Core visitors' income levels were about evenly distributed between the lower (< 50k), medium (50 - < 100k), and higher (100k+) ranges at about one-third for each group.

Figure 4-29: Household Income

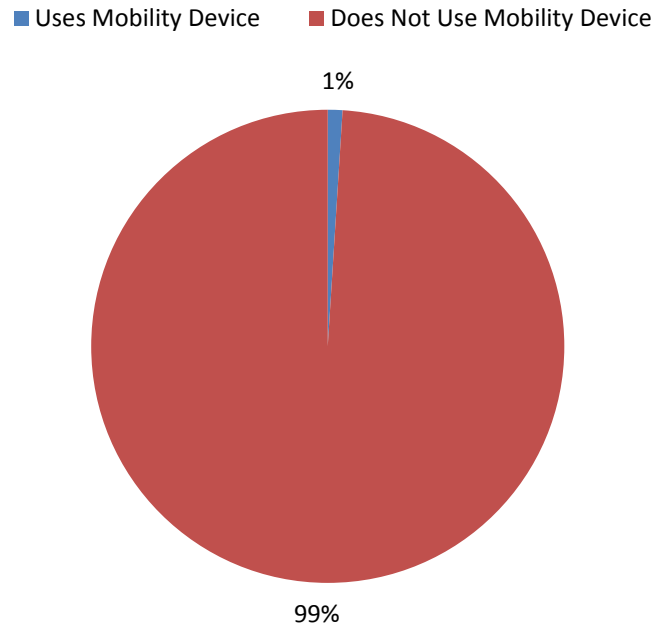


Q32: What roughly is your annual household income?

4.1.30 Mobility Device

Nearly all core visitors traveled without a mobility device.

Figure 4–30: Mobility Device



Q34: Does the respondent use a mobility device (e.g., wheelchair, cane, walker, etc.)?

4.1.31 Origin Type by Industry, Geography, and Size

Table 4-31: Origin Type by Industry, Geography, and Size¹⁷

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Home	126699 (0.57%)	247133 (0.56%)	16363 (0.77%)	15597 (0.72%)	56690 (0.69%)	46321 (0.67%)	13385 (0.77%)	16538 (0.85%)	10501 (0.39%)	33286 (0.55%)	4840 (0.69%)	6843 (0.69%)
Work Place	74328 (0.33%)	157525 (0.36%)	4653 (0.22%)	5958 (0.27%)	22686 (0.28%)	19796 (0.29%)	3295 (0.19%)	2478 (0.13%)	13090 (0.48%)	21981 (0.36%)	1803 (0.26%)	2722 (0.27%)
School/ University	4410 (0.02%)	17021 (0.04%)	99 (* %)	145 (0.01%)	2376 (0.03%)	1728 (0.03%)	425 (0.02%)	303 (0.02%)	1983 (0.07%)	2270 (0.04%)	155 (0.02%)	313 (0.03%)
Hotel	13979 (0.06%)	10105 (0.02%)	- (- %)	- (- %)	83 (* %)	333 (* %)	- (- %)	65 (* %)	397 (0.01%)	2419 (0.04%)	96 (0.01%)	- (- %)
Home Of Friends/ Relatives	3663 (0.02%)	6618 (0.02%)	274 (0.01%)	- (- %)	283 (* %)	497 (0.01%)	172 (0.01%)	80 (* %)	1111 (0.04%)	990 (0.02%)	86 (0.01%)	36 (* %)

¹⁷ *% = Less than 0.01 percent

4.1.32 Destination Type by Industry, Geography, and Size

Table 4–32: Destination Type by Industry, Geography, and Size¹⁸

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Home	159331 (0.72%)	334551 (0.78%)	16908 (0.8%)	19863 (0.92%)	71551 (0.88%)	58891 (0.86%)	15564 (0.91%)	18328 (0.94%)	9850 (0.37%)	28465 (0.47%)	4392 (0.63%)	6478 (0.65%)
Work Place	40690 (0.18%)	72461 (0.17%)	4200 (0.2%)	1782 (0.08%)	9041 (0.11%)	7371 (0.11%)	1093 (0.06%)	765 (0.04%)	14191 (0.53%)	26540 (0.44%)	2348 (0.34%)	2925 (0.3%)
Hotel	14135 (0.06%)	9844 (0.02%)	- (- %)	- (- %)	- (- %)	391 (0.01%)	- (- %)	65 (* %)	430 (0.02%)	2315 (0.04%)	28 (* %)	- (- %)
Home Of Friends/ Relatives	3815 (0.02%)	8880 (0.02%)	156 (0.01%)	- (- %)	765 (0.01%)	244 (* %)	172 (0.01%)	91 (* %)	1026 (0.04%)	1365 (0.02%)	58 (0.01%)	45 (* %)
School/University	2312 (0.01%)	4617 (0.01%)	- (- %)	8 (* %)	406 (* %)	1209 (0.02%)	291 (0.02%)	172 (0.01%)	1435 (0.05%)	1950 (0.03%)	108 (0.02%)	467 (0.05%)

¹⁸ *% = Less than 0.01 percent

4.1.33 Establishment Access Mode by Industry, Geography, and Size

Table 4–33: Establishment Access Mode by Industry, Geography, and Size¹⁹

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Walked	140534 (0.63%)	242914 (0.55%)	3150 (0.15%)	3542 (0.16%)	49584 (0.6%)	38583 (0.56%)	1676 (0.1%)	629 (0.03%)	15324 (0.57%)	32110 (0.53%)	1762 (0.25%)	1272 (0.13%)
Subway	57935 (0.26%)	133682 (0.3%)	126 (0.01%)	55 (* %)	21048 (0.26%)	22794 (0.33%)	- (- %)	189 (0.01%)	10356 (0.38%)	18583 (0.3%)	109 (0.02%)	40 (* %)
Drove Or Rode In A Car	4446 (0.02%)	33568 (0.08%)	16477 (0.77%)	17127 (0.79%)	3949 (0.05%)	4394 (0.06%)	15653 (0.91%)	17069 (0.88%)	1085 (0.04%)	2733 (0.04%)	4527 (0.65%)	8175 (0.82%)
Local Bus	20278 (0.09%)	34598 (0.08%)	981 (0.05%)	980 (0.05%)	5076 (0.06%)	3465 (0.05%)	123 (0.01%)	59 (* %)	1373 (0.05%)	7625 (0.13%)	426 (0.06%)	260 (0.03%)
Bike	4658 (0.02%)	15738 (0.04%)	208 (0.01%)	- (- %)	3068 (0.04%)	2391 (0.03%)	39 (* %)	- (- %)	480 (0.02%)	769 (0.01%)	- (- %)	60 (0.01%)
Taxi/Limo/Car Service/Uber/Lyft	3577 (0.02%)	6617 (0.02%)	499 (0.02%)	114 (0.01%)	1107 (0.01%)	1350 (0.02%)	- (- %)	44 (* %)	401 (0.01%)	1211 (0.02%)	97 (0.01%)	92 (0.01%)
Commuter Rail	3477 (0.02%)	2168 (* %)	232 (0.01%)	103 (* %)	233 (* %)	1557 (0.02%)	67 (* %)	322 (0.02%)	253 (0.01%)	2439 (0.04%)	124 (0.02%)	212 (0.02%)
Express Bus	2319 (0.01%)	2038 (* %)	58 (* %)	- (- %)	287 (* %)	418 (0.01%)	- (- %)	90 (* %)	78 (* %)	741 (0.01%)	- (- %)	- (- %)
Other Bus	207 (* %)	1476 (* %)	- (- %)	125 (0.01%)	484 (0.01%)	5 (* %)	- (- %)	1203 (0.06%)	86 (* %)	63 (* %)	63 (0.01%)	- (- %)
Other Mode	326 (* %)	1955 (* %)	54 (* %)	- (- %)	161 (* %)	78 (* %)	- (- %)	- (- %)	118 (* %)	129 (* %)	- (- %)	- (- %)
Ferry	76 (* %)	1671 (* %)	- (- %)	- (- %)	540 (0.01%)	- (- %)	- (- %)	- (- %)	144 (0.01%)	122 (* %)	- (- %)	- (- %)
Light Rail/LRT	- (- %)	316 (* %)	31 (* %)	- (- %)	- (- %)	- (- %)	34 (* %)	- (- %)	34 (* %)	312 (0.01%)	68 (0.01%)	14 (* %)
School Bus	64	-	-	-	-	-	-	-	-	114	76	-

¹⁹ *% = Less than 0.01 percent

	(* %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(* %)	(0.01%)	(- %)
Amtrak	- (- %)	52 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	56 (0.01%)

4.1.34 Establishment Egress Mode by Industry, Geography, and Size

Table 4–34: Establishment Egress Mode by Industry, Geography, and Size²⁰

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Walked	46648 (0.57%)	37046 (0.54%)	1708 (0.1%)	622 (0.03%)	46648 (0.57%)	37046 (0.54%)	1708 (0.1%)	622 (0.03%)	17542 (0.65%)	38156 (0.63%)	2039 (0.29%)	1162 (0.12%)
Subway	21803 (0.27%)	23573 (0.34%)	- (- %)	123 (0.01%)	21803 (0.27%)	23573 (0.34%)	- (- %)	123 (0.01%)	7738 (0.29%)	13707 (0.22%)	190 (0.03%)	26 (* %)
Drove Or Rode In A Car	4074 (0.05%)	4738 (0.07%)	15744 (0.91%)	17235 (0.89%)	4074 (0.05%)	4738 (0.07%)	15744 (0.91%)	17235 (0.89%)	993 (0.04%)	2073 (0.03%)	4315 (0.62%)	8269 (0.83%)
Local Bus	5597 (0.07%)	3446 (0.05%)	- (- %)	188 (0.01%)	5597 (0.07%)	3446 (0.05%)	- (- %)	188 (0.01%)	607 (0.02%)	6932 (0.11%)	362 (0.05%)	143 (0.01%)
Bike	3128 (0.04%)	2448 (0.04%)	39 (* %)	- (- %)	3128 (0.04%)	2448 (0.04%)	39 (* %)	- (- %)	480 (0.02%)	784 (0.01%)	- (- %)	69 (0.01%)
Taxi/Limo/Car Service/Uber/Lyft	1618 (0.02%)	1437 (0.02%)	- (- %)	44 (* %)	1618 (0.02%)	1437 (0.02%)	- (- %)	44 (* %)	1037 (0.04%)	926 (0.02%)	17 (* %)	54 (0.01%)
Commuter Rail	638 (0.01%)	1368 (0.02%)	- (- %)	31 (* %)	638 (0.01%)	1368 (0.02%)	- (- %)	31 (* %)	33 (* %)	832 (0.01%)	62 (0.01%)	296 (0.03%)
Express Bus	289 (* %)	232 (* %)	- (- %)	26 (* %)	289 (* %)	232 (* %)	- (- %)	26 (* %)	88 (* %)	275 (* %)	- (- %)	- (- %)
Other Bus	40 (* %)	167 (* %)	- (- %)	1203 (0.06%)	40 (* %)	167 (* %)	- (- %)	1203 (0.06%)	36 (* %)	109 (* %)	63 (0.01%)	- (- %)
Other Mode	110 (* %)	77 (* %)	- (- %)	- (- %)	110 (* %)	77 (* %)	- (- %)	- (- %)	118 (* %)	124 (* %)	- (- %)	- (- %)
Ferry	160 (* %)	- (- %)	- (- %)	- (- %)	160 (* %)	- (- %)	- (- %)	- (- %)	100 (* %)	75 (* %)	- (- %)	- (- %)
Light Rail/LRT	- (- %)	384 (0.01%)	- (- %)	- (- %)	- (- %)	384 (0.01%)	- (- %)	- (- %)	- (- %)	397 (0.01%)	68 (0.01%)	- (- %)
School Bus	-	-	-	-	-	-	-	-	-	114	32	-

²⁰ *% = Less than 0.01 percent

	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(- %)	(* %)	(* %)	(- %)
Amtrak	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	79 (* %)	- (- %)	- (- %)

4.1.35 Establishment Last Mode by Industry, Geography, and Size

Table 4-35: Establishment Last Mode by Industry, Geography, and Size²¹

Industry	Retail				Recreation				Food Services			
	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
Subway	5004 (0.35%)	14288 (0.42%)	39 (0.1%)	- (- %)	1833 (0.59%)	2266 (0.38%)	- (- %)	- (- %)	937 (0.42%)	2908 (0.56%)	32 (0.14%)	- (- %)
Walked	4489 (0.31%)	12408 (0.37%)	63 (0.16%)	63 (0.18%)	664 (0.21%)	2661 (0.44%)	- (- %)	9 (0.06%)	1051 (0.47%)	1544 (0.3%)	107 (0.46%)	54 (0.35%)
Local Bus	3681 (0.26%)	4660 (0.14%)	174 (0.44%)	125 (0.36%)	439 (0.14%)	333 (0.06%)	- (- %)	- (- %)	116 (0.05%)	430 (0.08%)	32 (0.14%)	9 (0.05%)
Bike	27 (* %)	907 (0.03%)	- (- %)	- (- %)	72 (0.02%)	318 (0.05%)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)
Drove Or Rode In A Car	35 (* %)	- (- %)	98 (0.25%)	158 (0.46%)	76 (0.02%)	255 (0.04%)	223 (1%)	66 (0.47%)	- (- %)	66 (0.01%)	17 (0.07%)	69 (0.44%)
Commuter Rail	355 (0.02%)	418 (0.01%)	22 (0.06%)	- (- %)	- (- %)	- (- %)	- (- %)	66 (0.47%)	- (- %)	149 (0.03%)	11 (0.05%)	26 (0.16%)
Taxi/Limo/Car Service/Uber/Lyft	688 (0.05%)	- (- %)	- (- %)	- (- %)	9 (* %)	99 (0.02%)	- (- %)	- (- %)	150 (0.07%)	80 (0.02%)	- (- %)	- (- %)
Ferry	- (- %)	796 (0.02%)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)
Express Bus	151 (0.01%)	269 (0.01%)	- (- %)	- (- %)	- (- %)	69 (0.01%)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)
Other Bus	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	32 (0.14%)	- (- %)

²¹ *% = Less than 0.01 percent

4.1.36 Establishment Departure Time by Industry, Geography, and Size

Table 4-36: Establishment Departure Time by Industry, Geography, and Size²²

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
12:00 AM - 12:59 AM	- (- %)	- (- %)	- (- %)	72 (* %)	- (- %)	185 (* %)	- (- %)	24 (* %)	- (- %)	- (- %)	- (- %)	- (- %)
1:00 AM - 1:59 AM	- (- %)	71 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	42 (* %)	- (- %)	- (- %)	- (- %)
2:00 AM - 2:59 AM	- (- %)	354 (* %)	37 (* %)	134 (0.01%)	101 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	125 (* %)	- (- %)	16 (* %)
3:00 AM - 3:59 AM	966 (* %)	- (- %)	37 (* %)	72 (* %)	- (- %)	57 (* %)	- (- %)	7 (* %)	34 (* %)	204 (* %)	32 (0.01%)	- (- %)
4:00 AM - 4:59 AM	151 (* %)	204 (* %)	21 (* %)	119 (0.01%)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	212 (* %)	- (- %)	- (- %)
5:00 AM - 5:59 AM	23 (* %)	161 (* %)	62 (* %)	- (- %)	88 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	149 (* %)	- (- %)	- (- %)
6:00 AM - 6:59 AM	650 (* %)	550 (* %)	167 (0.01%)	147 (0.01%)	1473 (0.02%)	734 (0.01%)	- (- %)	86 (* %)	334 (0.01%)	1502 (0.03%)	108 (0.02%)	153 (0.02%)
7:00 AM - 7:59 AM	3037 (0.01%)	1725 (* %)	366 (0.02%)	144 (0.01%)	3660 (0.04%)	1656 (0.02%)	543 (0.04%)	404 (0.02%)	683 (0.03%)	3891 (0.07%)	564 (0.09%)	1108 (0.11%)
8:00 AM - 8:59 AM	4136 (0.02%)	4972 (0.01%)	513 (0.03%)	326 (0.02%)	4720 (0.06%)	3265 (0.05%)	499 (0.04%)	396 (0.02%)	1368 (0.05%)	4188 (0.07%)	528 (0.09%)	1119 (0.11%)
9:00 AM - 9:59 AM	4955 (0.02%)	6193 (0.02%)	664 (0.04%)	324 (0.02%)	4588 (0.06%)	2533 (0.04%)	529 (0.04%)	146 (0.01%)	1457 (0.06%)	2821 (0.05%)	896 (0.15%)	1300 (0.13%)
10:00 AM - 10:59 AM	18517 (0.09%)	30624 (0.08%)	1080 (0.07%)	1127 (0.06%)	6262 (0.08%)	2759 (0.04%)	501 (0.04%)	488 (0.03%)	1440 (0.06%)	5062 (0.09%)	174 (0.03%)	495 (0.05%)
11:00 AM - 11:59 AM	13949 (0.07%)	39386 (0.1%)	1285 (0.08%)	1940 (0.11%)	3329 (0.04%)	3470 (0.05%)	1154 (0.09%)	902 (0.05%)	2744 (0.11%)	4997 (0.08%)	748 (0.12%)	582 (0.06%)
12:00 PM - 12:59 PM	19521	49753	1334	1367	5249	3469	717	1169	1631	5284	501	623

²² *% = Less than 0.01 percent

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
	(0.09%)	(0.13%)	(0.08%)	(0.08%)	(0.06%)	(0.05%)	(0.05%)	(0.06%)	(0.06%)	(0.09%)	(0.08%)	(0.06%)
1:00 PM - 1:59 PM	11938 (0.06%)	34508 (0.09%)	1396 (0.09%)	578 (0.03%)	2004 (0.02%)	3460 (0.05%)	514 (0.04%)	744 (0.04%)	2098 (0.08%)	5450 (0.09%)	428 (0.07%)	403 (0.04%)
2:00 PM - 2:59 PM	18360 (0.09%)	28659 (0.07%)	1848 (0.12%)	1114 (0.06%)	3184 (0.04%)	2088 (0.03%)	1041 (0.08%)	618 (0.03%)	3419 (0.13%)	3974 (0.07%)	314 (0.05%)	636 (0.06%)
3:00 PM - 3:59 PM	20850 (0.1%)	26676 (0.07%)	1039 (0.07%)	2117 (0.12%)	4679 (0.06%)	3093 (0.05%)	1002 (0.08%)	1635 (0.09%)	2128 (0.08%)	4782 (0.08%)	412 (0.07%)	577 (0.06%)
4:00 PM - 4:59 PM	24112 (0.11%)	30368 (0.08%)	1481 (0.09%)	2303 (0.13%)	3472 (0.04%)	3617 (0.05%)	808 (0.06%)	1038 (0.06%)	2438 (0.09%)	3281 (0.06%)	238 (0.04%)	733 (0.07%)
5:00 PM - 5:59 PM	18827 (0.09%)	29478 (0.08%)	1236 (0.08%)	1650 (0.09%)	8859 (0.11%)	4439 (0.07%)	1285 (0.1%)	503 (0.03%)	1615 (0.06%)	4016 (0.07%)	219 (0.04%)	578 (0.06%)
6:00 PM - 6:59 PM	17841 (0.08%)	32626 (0.08%)	1119 (0.07%)	2283 (0.13%)	9398 (0.11%)	5193 (0.08%)	1797 (0.13%)	1722 (0.09%)	1173 (0.05%)	3402 (0.06%)	383 (0.06%)	309 (0.03%)
7:00 PM - 7:59 PM	20386 (0.1%)	29048 (0.07%)	1345 (0.09%)	1223 (0.07%)	9776 (0.12%)	6632 (0.1%)	1135 (0.09%)	1761 (0.09%)	1745 (0.07%)	3302 (0.06%)	274 (0.05%)	531 (0.05%)
8:00 PM - 8:59 PM	8334 (0.04%)	23758 (0.06%)	541 (0.03%)	361 (0.02%)	7379 (0.09%)	8893 (0.13%)	1114 (0.08%)	3092 (0.16%)	648 (0.02%)	1470 (0.02%)	109 (0.02%)	406 (0.04%)
9:00 PM - 9:59 PM	6940 (0.03%)	17144 (0.04%)	183 (0.01%)	561 (0.03%)	3178 (0.04%)	6668 (0.1%)	496 (0.04%)	2905 (0.15%)	815 (0.03%)	852 (0.01%)	61 (0.01%)	268 (0.03%)
10:00 PM - 10:59 PM	519 (* %)	1023 (* %)	- (- %)	- (- %)	389 (* %)	3757 (0.06%)	199 (0.01%)	940 (0.05%)	184 (0.01%)	43 (* %)	32 (0.01%)	4 (* %)
11:00 PM - 11:59 PM	76 (* %)	505 (* %)	- (- %)	263 (0.01%)	88 (* %)	549 (0.01%)	- (- %)	274 (0.01%)	- (- %)	- (- %)	- (- %)	- (- %)

4.1.37 Destination Arrival Time by Industry, Geography, and Size

Table 4–37: Destination Arrival Time by Industry, Geography, and Size²³

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
12:00 AM - 12:59 AM	10 (* %)	238 (* %)	- (- %)	- (- %)	- (- %)	377 (0.01%)	- (- %)	- (- %)	228 (0.01%)	- (- %)	- (- %)	- (- %)
1:00 AM - 1:59 AM	- (- %)	618 (* %)	- (- %)	- (- %)	- (- %)	105 (* %)	- (- %)	- (- %)	17 (* %)	- (- %)	- (- %)	- (- %)
2:00 AM - 2:59 AM	- (- %)	71 (* %)	37 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	- (- %)	125 (* %)	32 (* %)	- (- %)
3:00 AM - 3:59 AM	724 (* %)	202 (* %)	37 (* %)	- (- %)	51 (* %)	57 (* %)	- (- %)	- (- %)	70 (* %)	125 (* %)	- (- %)	- (- %)
4:00 AM - 4:59 AM	530 (* %)	- (- %)	21 (* %)	- (- %)	51 (* %)	- (- %)	- (- %)	- (- %)	- (- %)	79 (* %)	- (- %)	- (- %)
5:00 AM - 5:59 AM	- (- %)	143 (* %)	41 (* %)	- (- %)	- (- %)	- (- %)	123 (0.01%)	- (- %)	- (- %)	180 (* %)	- (- %)	- (- %)
6:00 AM - 6:59 AM	361 (* %)	923 (* %)	78 (* %)	98 (* %)	987 (0.01%)	320 (* %)	98 (0.01%)	86 (* %)	137 (0.01%)	719 (0.01%)	45 (0.01%)	- (- %)
7:00 AM - 7:59 AM	2713 (0.01%)	1443 (* %)	516 (0.02%)	167 (0.01%)	2126 (0.03%)	1338 (0.02%)	507 (0.03%)	33 (* %)	532 (0.02%)	2100 (0.03%)	295 (0.04%)	702 (0.07%)
8:00 AM - 8:59 AM	2839 (0.01%)	3974 (0.01%)	815 (0.04%)	268 (0.01%)	5535 (0.07%)	2602 (0.04%)	617 (0.04%)	589 (0.03%)	1180 (0.04%)	4114 (0.07%)	350 (0.05%)	797 (0.08%)
9:00 AM - 9:59 AM	4478 (0.02%)	5224 (0.01%)	1369 (0.06%)	365 (0.02%)	3863 (0.05%)	2547 (0.04%)	734 (0.04%)	173 (0.01%)	1659 (0.06%)	2903 (0.05%)	768 (0.11%)	1277 (0.13%)
10:00 AM - 10:59 AM	11777 (0.05%)	16501 (0.04%)	1075 (0.05%)	769 (0.04%)	5438 (0.07%)	2726 (0.04%)	632 (0.04%)	183 (0.01%)	1416 (0.05%)	4198 (0.07%)	448 (0.06%)	517 (0.05%)
11:00 AM - 11:59 AM	13544 (0.06%)	34577 (0.08%)	1334 (0.06%)	1698 (0.08%)	3764 (0.05%)	2639 (0.04%)	1131 (0.07%)	641 (0.03%)	1583 (0.06%)	3601 (0.06%)	555 (0.08%)	590 (0.06%)
12:00 PM - 12:59 PM	19730	39362	1548	1747	2989	2931	987	1103	2204	5030	624	402

²³ *% = Less than 0.01 percent

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
	(0.09%)	(0.09%)	(0.07%)	(0.08%)	(0.04%)	(0.04%)	(0.06%)	(0.06%)	(0.08%)	(0.08%)	(0.09%)	(0.04%)
1:00 PM - 1:59 PM	11862 (0.05%)	43113 (0.1%)	1361 (0.06%)	1316 (0.06%)	2878 (0.04%)	3254 (0.05%)	561 (0.03%)	851 (0.04%)	1733 (0.06%)	4911 (0.08%)	688 (0.1%)	486 (0.05%)
2:00 PM - 2:59 PM	14003 (0.06%)	36094 (0.08%)	2333 (0.11%)	1251 (0.06%)	2604 (0.03%)	2231 (0.03%)	1055 (0.06%)	520 (0.03%)	2828 (0.1%)	4443 (0.07%)	619 (0.09%)	715 (0.07%)
3:00 PM - 3:59 PM	16910 (0.08%)	32521 (0.07%)	1502 (0.07%)	2206 (0.1%)	3500 (0.04%)	2527 (0.04%)	930 (0.05%)	745 (0.04%)	2017 (0.07%)	4479 (0.07%)	341 (0.05%)	776 (0.08%)
4:00 PM - 4:59 PM	21390 (0.1%)	35670 (0.08%)	1666 (0.08%)	2976 (0.14%)	3648 (0.04%)	3369 (0.05%)	1341 (0.08%)	1343 (0.07%)	2112 (0.08%)	3452 (0.06%)	286 (0.04%)	637 (0.06%)
5:00 PM - 5:59 PM	21905 (0.1%)	35731 (0.08%)	2004 (0.09%)	3107 (0.14%)	5224 (0.06%)	3466 (0.05%)	1411 (0.08%)	1695 (0.09%)	1526 (0.06%)	4118 (0.07%)	292 (0.04%)	874 (0.09%)
6:00 PM - 6:59 PM	21477 (0.1%)	32002 (0.07%)	1926 (0.09%)	2578 (0.12%)	8361 (0.1%)	4337 (0.06%)	2346 (0.14%)	1082 (0.06%)	2047 (0.08%)	5171 (0.08%)	578 (0.08%)	508 (0.05%)
7:00 PM - 7:59 PM	22247 (0.1%)	38672 (0.09%)	1708 (0.08%)	1769 (0.08%)	8842 (0.11%)	6275 (0.09%)	1399 (0.08%)	1473 (0.08%)	2155 (0.08%)	2995 (0.05%)	326 (0.05%)	490 (0.05%)
8:00 PM - 8:59 PM	15680 (0.07%)	31403 (0.07%)	1193 (0.06%)	552 (0.03%)	9521 (0.12%)	8662 (0.13%)	2037 (0.12%)	2296 (0.12%)	1249 (0.05%)	2575 (0.04%)	325 (0.05%)	364 (0.04%)
9:00 PM - 9:59 PM	9881 (0.04%)	27880 (0.06%)	573 (0.03%)	771 (0.04%)	7626 (0.09%)	8224 (0.12%)	891 (0.05%)	3745 (0.19%)	1086 (0.04%)	2185 (0.04%)	115 (0.02%)	380 (0.04%)
10:00 PM - 10:59 PM	6031 (0.03%)	15766 (0.04%)	185 (0.01%)	63 (* %)	2142 (0.03%)	7226 (0.11%)	477 (0.03%)	1875 (0.1%)	817 (0.03%)	2323 (0.04%)	141 (0.02%)	257 (0.03%)
11:00 PM - 11:59 PM	4984 (0.02%)	6273 (0.01%)	64 (* %)	- (- %)	2967 (0.04%)	3462 (0.05%)	- (- %)	1030 (0.05%)	485 (0.02%)	1118 (0.02%)	152 (0.02%)	141 (0.01%)

4.1.38 Number of Stops before Establishment by Industry, Geography, and Size

Table 4–38: Number of Stops before Establishment by Industry, Geography, and Size²⁴

Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
1	52633 (0.5%)	116682 (0.51%)	4949 (0.66%)	5060 (0.66%)	13176 (0.68%)	11697 (0.75%)	2048 (0.74%)	2842 (0.79%)	4349 (0.6%)	11875 (0.54%)	1818 (0.65%)	2347 (0.66%)
2	23693 (0.22%)	56349 (0.25%)	1518 (0.2%)	1433 (0.19%)	2374 (0.12%)	2664 (0.17%)	484 (0.18%)	231 (0.06%)	1325 (0.18%)	5291 (0.24%)	682 (0.24%)	678 (0.19%)
3	13029 (0.12%)	26146 (0.11%)	501 (0.07%)	409 (0.05%)	2748 (0.14%)	693 (0.04%)	219 (0.08%)	437 (0.12%)	800 (0.11%)	1802 (0.08%)	155 (0.06%)	149 (0.04%)
4	6575 (0.06%)	12415 (0.05%)	135 (0.02%)	477 (0.06%)	319 (0.02%)	49 (* %)	- (- %)	9 (* %)	261 (0.04%)	1251 (0.06%)	103 (0.04%)	132 (0.04%)
5 OR MORE	9385 (0.09%)	14200 (0.06%)	341 (0.05%)	305 (0.04%)	684 (0.04%)	334 (0.02%)	- (- %)	- (- %)	536 (0.07%)	1594 (0.07%)	30 (0.01%)	227 (0.06%)

²⁴ *% = Less than 0.01 percent

4.1.39 Number of Stops After Establishment by Industry, Geography, and Size

Table 4–39: Number of Stops After Establishment by Industry, Geography, and Size

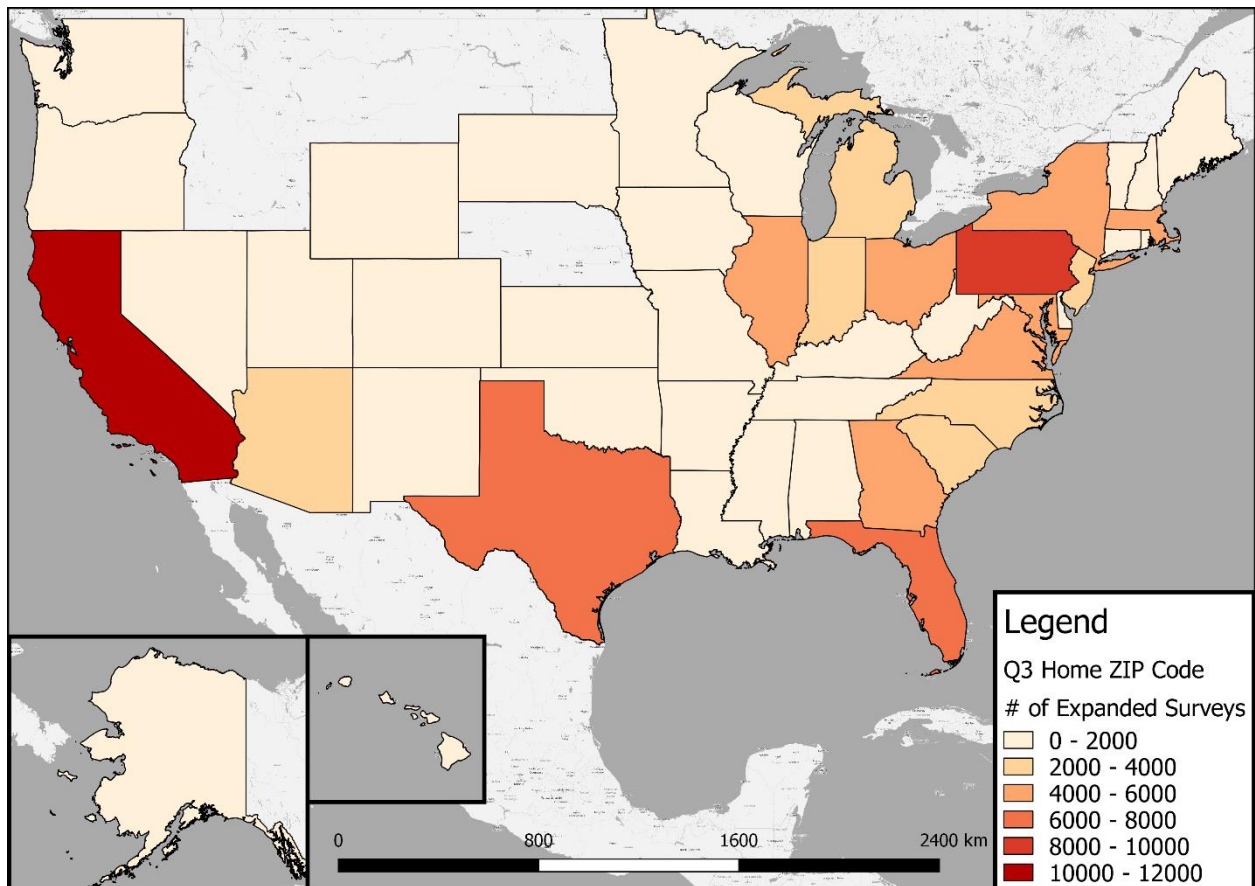
Industry	Retail				Recreation				Food Services			
Geographic Type	CBD/Mostly Urban		Other		CBD/Mostly Urban		Other		CBD/Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
1	49294 (0.63%)	96480 (0.6%)	3214 (0.68%)	3800 (0.7%)	16996 (0.71%)	13925 (0.7%)	2197 (0.74%)	3720 (0.84%)	3670 (0.6%)	8521 (0.56%)	1245 (0.65%)	1344 (0.5%)
2	13595 (0.17%)	35100 (0.22%)	993 (0.21%)	1208 (0.22%)	4344 (0.18%)	2501 (0.13%)	458 (0.15%)	534 (0.12%)	1137 (0.19%)	3517 (0.23%)	355 (0.18%)	610 (0.23%)
3	6174 (0.08%)	13235 (0.08%)	374 (0.08%)	376 (0.07%)	1262 (0.05%)	2088 (0.1%)	194 (0.07%)	161 (0.04%)	507 (0.08%)	1416 (0.09%)	201 (0.1%)	364 (0.14%)
4	2967 (0.04%)	5456 (0.03%)	- (- %)	49 (0.01%)	1013 (0.04%)	547 (0.03%)	137 (0.05%)	- (- %)	72 (0.01%)	623 (0.04%)	32 (0.02%)	210 (0.08%)
5 OR MORE	4382 (0.06%)	8529 (0.05%)	120 (0.03%)	- (- %)	429 (0.02%)	844 (0.04%)	- (- %)	- (- %)	481 (0.08%)	908 (0.06%)	96 (0.05%)	165 (0.06%)

4.2 Summary of Hotel Survey Results

4.2.1 Home ZIP Code for Out-of-Region Visitors from the United States

Out-of-region visitors traveled into the region from all over the United States. California was the most represented state. Pennsylvania was the second most common home location, followed by Texas, and Florida. After these states out-of-region visitors traveled into the region the most from other states in the East Coast. Residents living outside the United States were not asked to provide their zip code.

Figure 4-40: Home ZIP Code

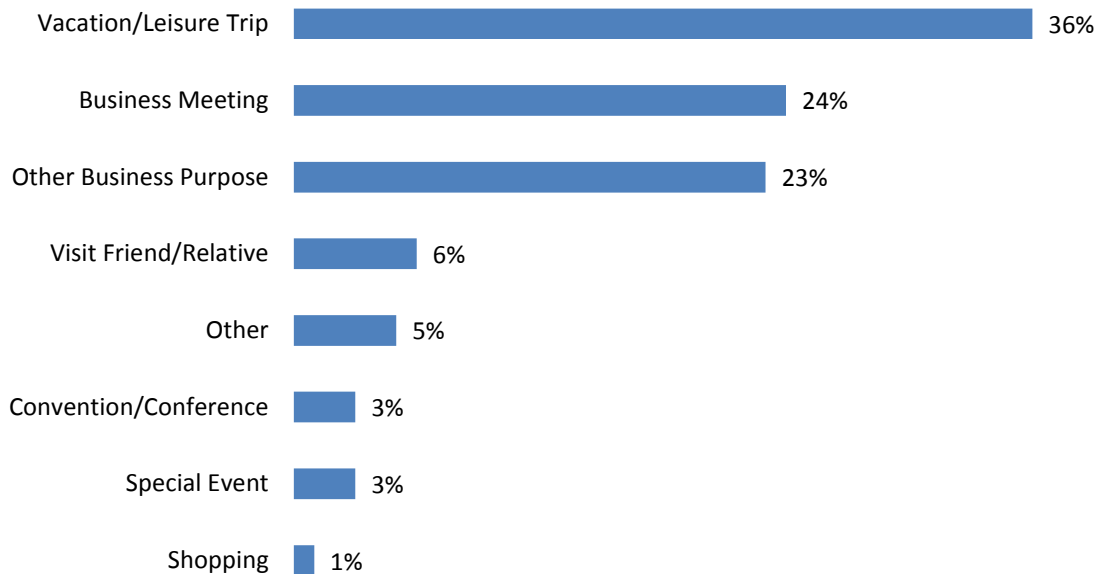


Q3: What is your home ZIP code?

4.2.2 Overall Purpose of Travel to Region

The main trip purpose into the region for out-of-region visitors was about evenly split between business travel (Business Meeting, Other Business Purpose, and Convention/Conference) and personal travel (Vacation/Leisure Trip, Visit Friend/Relative, Special Event, and Shopping).

Figure 4-41: Overall Purpose of Travel to Region



Q4: What is the main purpose of your trip to the New York, New Jersey and Connecticut Tri-State Area?

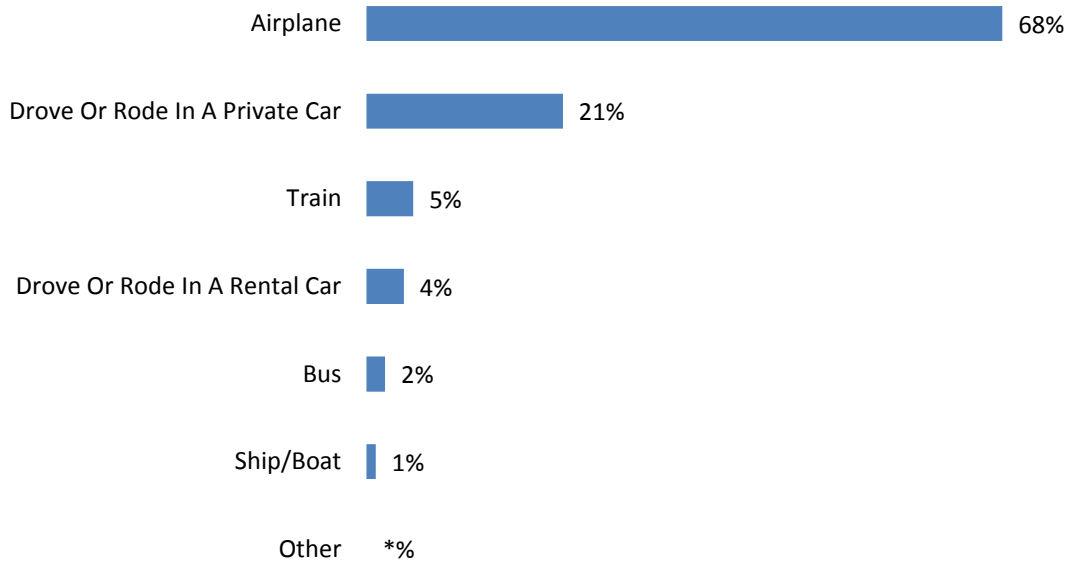
Subgroup Analysis:

- As we moved further away from more urban areas to less urban areas the proportion of out-of-region visitors traveling for Vacation/Leisure decreased (Vacation/Leisure: CBD = 58%, Mostly Urban = 38%, Other = 16%) and the proportion of Business Meetings increased (Business Meeting: CBD = 13%, Mostly Urban = 21%, Other = 35%).
- Out-of-region visitors were more likely to stay at Large hotels when traveling for Business Meetings than at Small hotels (Business Meeting: Small = 17%, Large = 27%).
- Those staying at Small hotels were more likely to travel for Other Business Purposes (Other Business Purpose: Small = 32%, Large = 20%).

4.2.3 Initial Arrival Mode into Region

Airplane was by far the primary travel mode into the region. Combined, driving a private or rental car were a distant second (25%). Train, bus, and ship/boat totaled only 10%.

Figure 4–42: Initial Arrival Mode into Region



Q5: How did you initially arrive into the Tri-State Area? Was it primarily by...?²⁵

Subgroup Analysis:

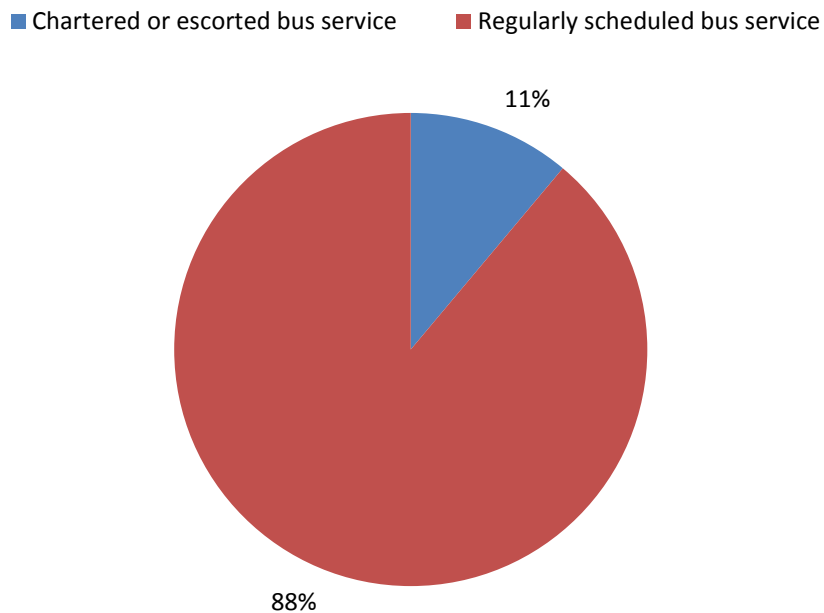
- CBD and Mostly Urban visitors flew more into the region than those staying in more suburban areas (Airplane: CBD = 83%, Mostly Urban = 85%, Other = 50%).
- In contrast, out-of-region visitors driving into the region was proportionately higher in the Other area than CBD or Mostly Urban locations (Drove or Rode in a Private Car: CBD = 6%, Mostly Urban = 11%, Other = 36%).

²⁵ *% = Less than 1 percent

4.2.4 Type of Bus

Among the 2% of out-of-region visitors who rode a bus into the region, about 9 out of 10 used a regularly scheduled bus service to travel into the area. Only 11% used a chartered bus.

Figure 4-43: Type of Bus

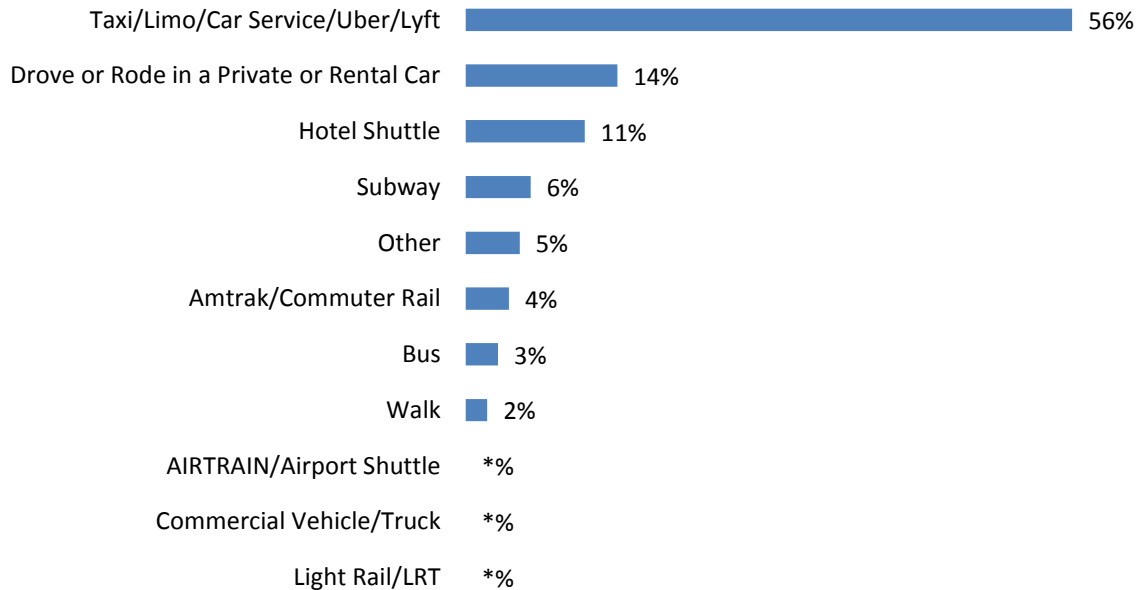


Q6: Was the bus you used a..?

4.2.5 Initial Travel Mode to Hotel

Once arriving in the region, more than half of out-of-region visitors took some form of car service to the hotel. The next two most commonly reported categories were Drove or Rode in a Private or Rental Car and Hotel Shuttle, at 14% and 11%, respectively.

Figure 4–44: Initial Travel Mode to Hotel



Q7: How did you travel from your initial arrival location in the Tri-State Area to the hotel? Please select each and any of the following that you used.²⁶

Subgroup Analysis:

- Upon arriving into the region, the proportion of out-of-region visitors who took a form of car service to their hotel was higher in CBD areas than Mostly Urban or Other (Taxi/Limo/Car Service/Uber/Lyft: CBD = 68%, Mostly Urban = 42%, Other = 46%).
- The proportion of out-of-region visitors who took Amtrak/Commuter Rail showed similar geographic patterns (Amtrak/Commuter Rail: CBD = 6%, Mostly Urban = 1%, Other = 1%).
- Conversely, the proportion of out-of-region visitors who drove to the hotel was much higher in Other areas than CBD or Mostly Urban (Drove or Rode in a Private Car: CBD = 4%, Mostly Urban = 11%, Other = 29%).

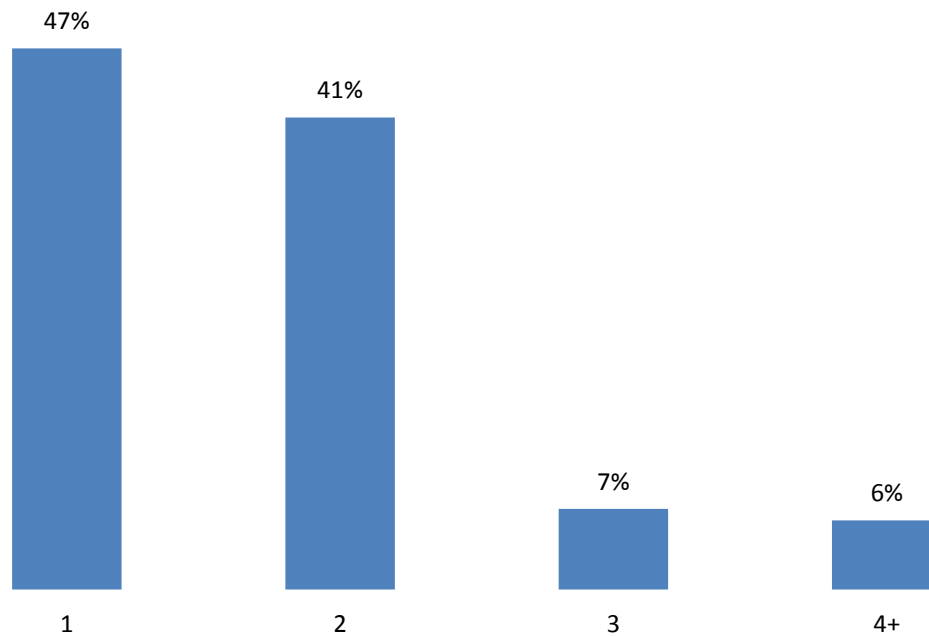
²⁶ *% = Less than 1 percent

- As expected, more out-of-region visitors took a subway to their hotel in CBD and Mostly Urban areas than Other areas as there is more access to subways in more urban areas (Subway: CBD = 8%, Mostly Urban = 13%, Other = 1%).
- On the other hand, more out-of-region visitors took a Hotel Shuttle to their hotel in Mostly Urban and Other areas than CBD areas, likely because the wide availability of public transportation in CBD areas makes shuttles less necessary (Hotel Shuttle: CBD = 3%, Mostly Urban = 26%, Other = 17%).

4.2.6 Number of Visitors Over 18 in Hotel Room

About half of out-of-region visitors stayed alone at the hotel and 41% stayed with only one other adult.

Figure 4–45: Number of Visitors Over 18 in Hotel Room

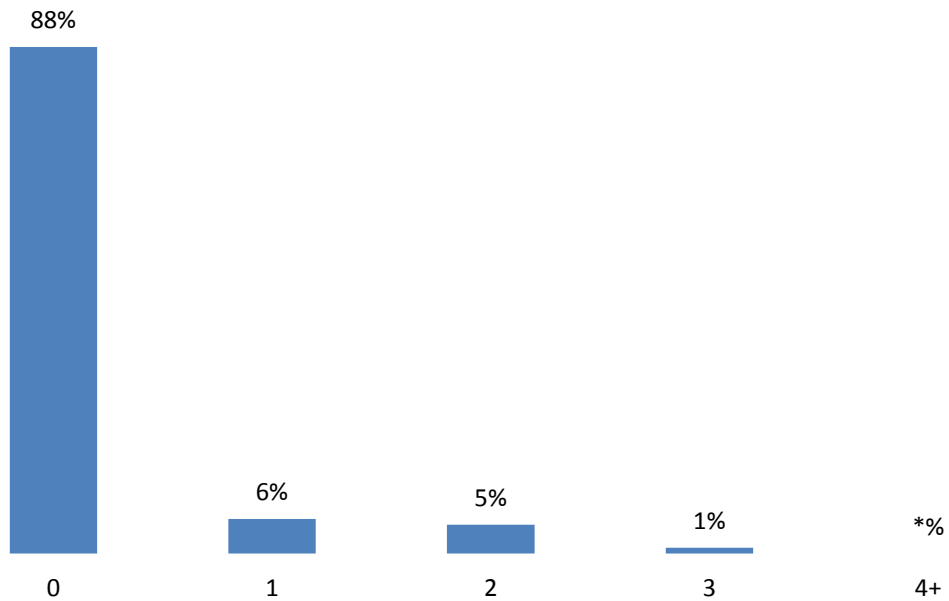


Q8: Including yourself, how many people are staying in your hotel room that are...over 18?

4.2.7 Number of Visitors Under 18 in Hotel Room

The vast majority of out-of-region visitors did not have children with them in their room during their stay at the hotel.

Figure 4–46: Number of Visitors Under 18 in Hotel Room



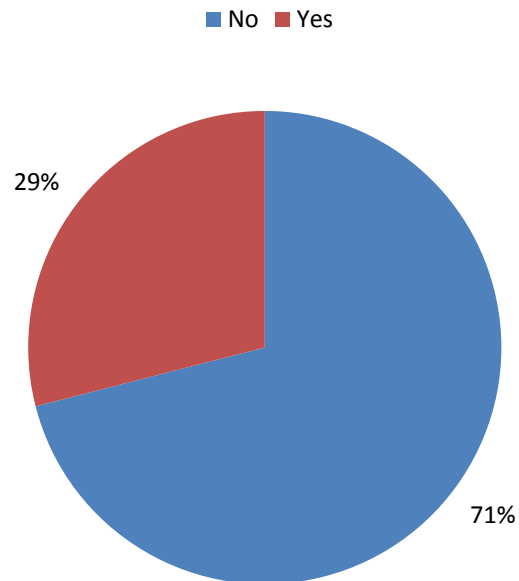
Q8: Including yourself, how many people are staying in your hotel room that are...under 18?²⁷

²⁷ *% = Less than 1 percent

4.2.8 Vehicle Availability

Only about 30% of out-of-region visitors had an automobile or other vehicle available to them during their stay.

Figure 4-47: Vehicle Availability



Q9: Do you have an automobile or other vehicle available for your use while staying at the hotel?

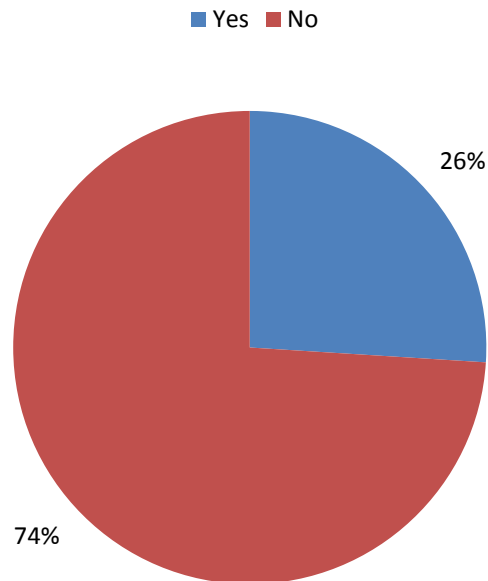
Subgroup Analysis:

- A greater proportion of out-of-region visitors had a vehicle available to them while at the hotel in suburban (Other) area than in CBD or Mostly Urban areas (Yes: CBD = 9%, Mostly Urban = 16%, Other = 50%). This was most likely because a car is more necessary in suburban areas where public transportation is more limited.

4.2.9 Trips Made in Past 24 Hours

Almost three-quarters of out-of-region visitors had traveled outside of the hotel during their stay at the point of the interview.

Figure 4–48: Trips Made in Past 24 Hours

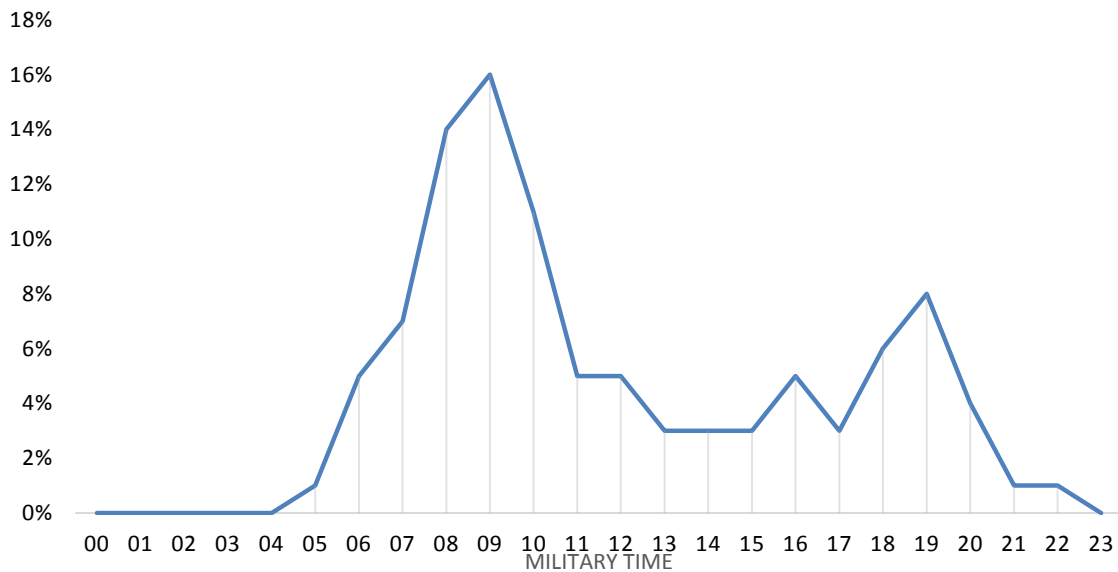


Q10: Did you travel outside the hotel within the past 24 hours?

4.2.10 Initial Departure Time from Hotel

Most out-of-region visitors initially left the hotel in the morning, especially around 9 AM (9 military time). A smaller group went out from the hotel initially in the early evening periods, especially around 7 PM (19 military time).

Figure 4-49: Initial Departure Time from Hotel

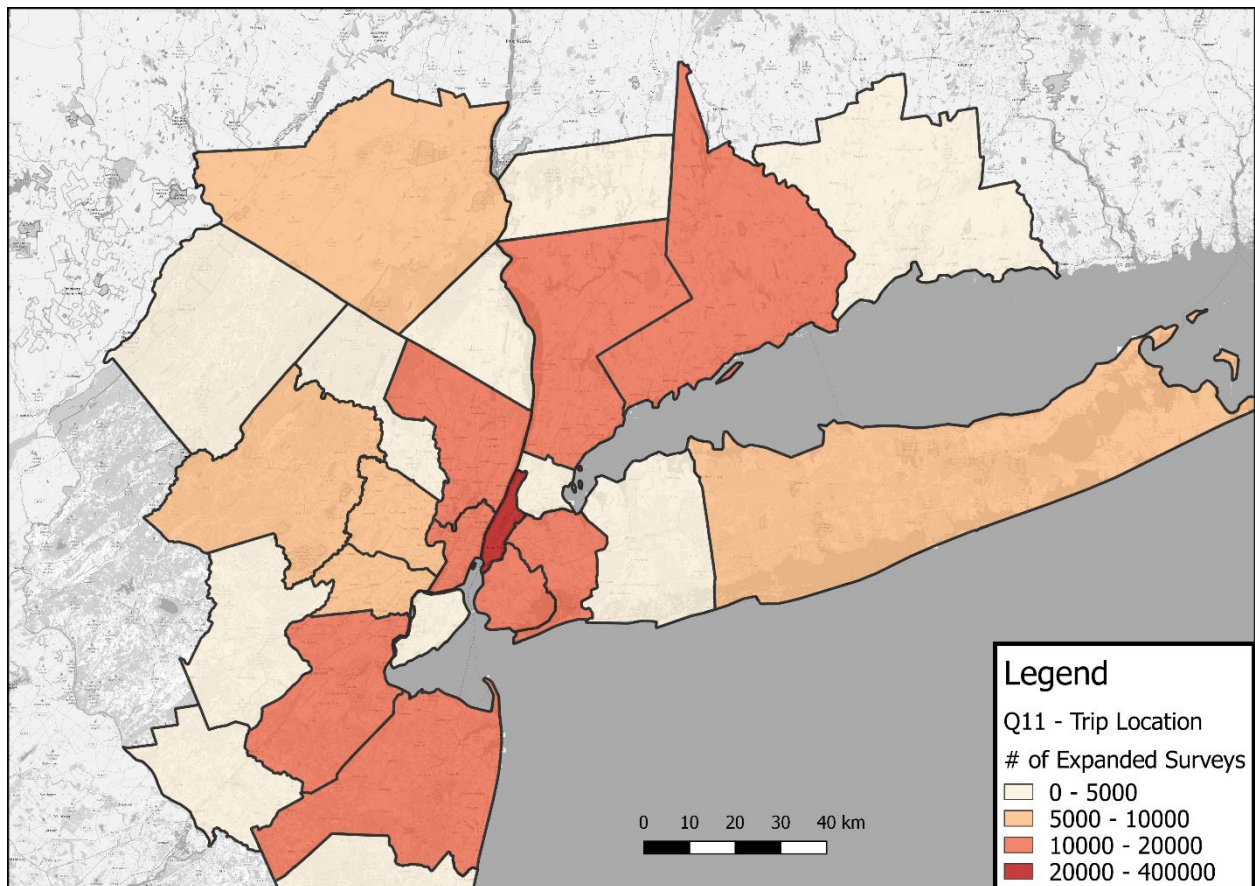


Q11a: What time did you leave the hotel to go to the first place you went to?

4.1.11 Trip Location

Most out-of-region visitors made trips to locations in Manhattan. The distribution of trips made outside of Manhattan is pretty evenly distributed. The location of trips was largely dependent on the location of the hotel because visitors likely picked a hotel that was close to the places where they planned to visit.

Figure 4-50: Trip Location

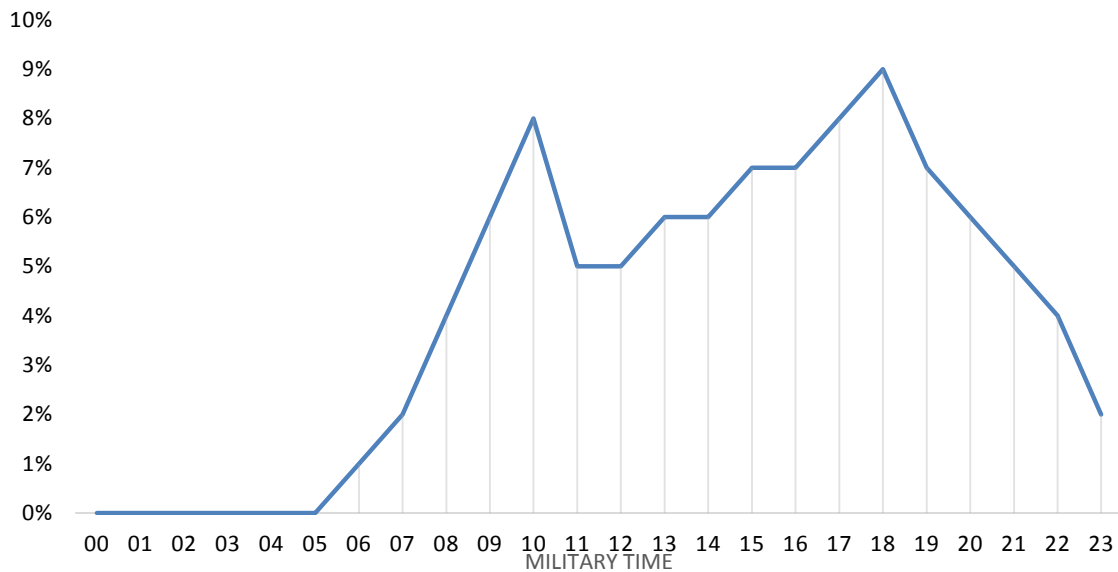


Q11_2: What was the location of that place?

4.2.12 Arrival Time at Place

Out-of-region visitors arrived at the trip destination at time periods throughout the day except for very early morning. The peak arrival times centered around 6 PM (18 military time) and 10 AM (22 military time).

Figure 4-51: Arrival Time at Place

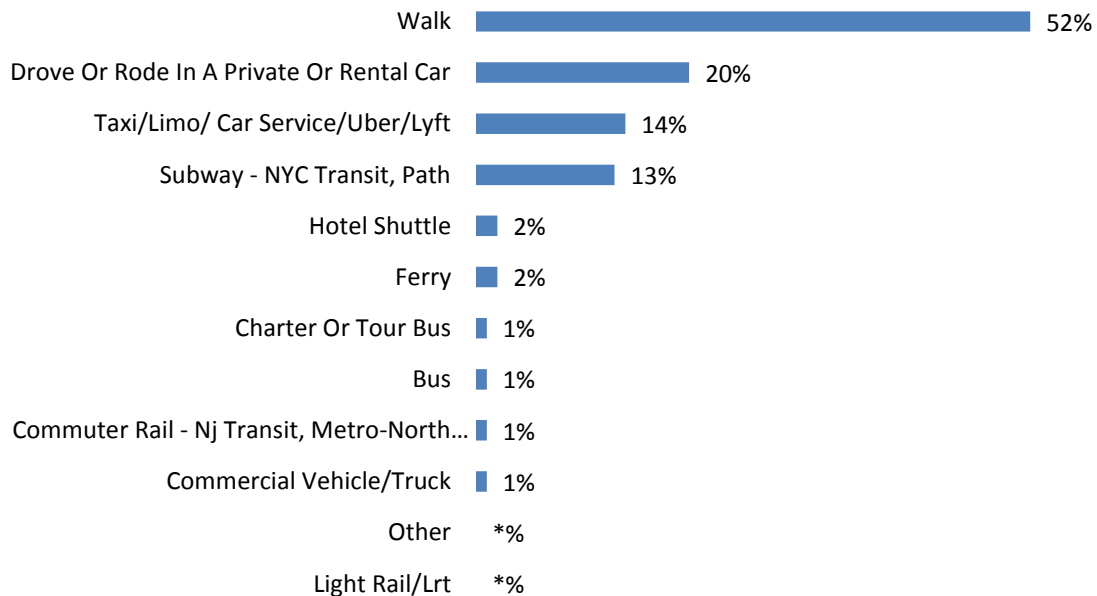


Q11_3: What time did you ARRIVE at this place?

4.2.13 Trip Mode

More than half of the out-of-region visitors walked to one of their trip destinations. A third traveled to their destination by car, either by driving themselves or taking a form of car service, and 13% took the subway.

Figure 4–52: Trip Mode



Q11_4: How did you travel to this place? Please include all forms of transportation, including walking.^{28 29}

Subgroup Analysis:

- As we moved further away from more urban areas to less urban areas the proportion of out-of-region visitors who walked to their trip locations decreased (Walk: CBD = 73%, Mostly Urban = 43%, Other = 20%) and the proportion of those who drove increased (Drove or Rode in a Private or Rental Car: CBD = 2%, Mostly Urban = 11%, Other = 54%).

(The availability of sidewalks and the concentration of attractions in more urban areas likely made walking a more viable access mode.)

²⁸ Multiple responses allowed

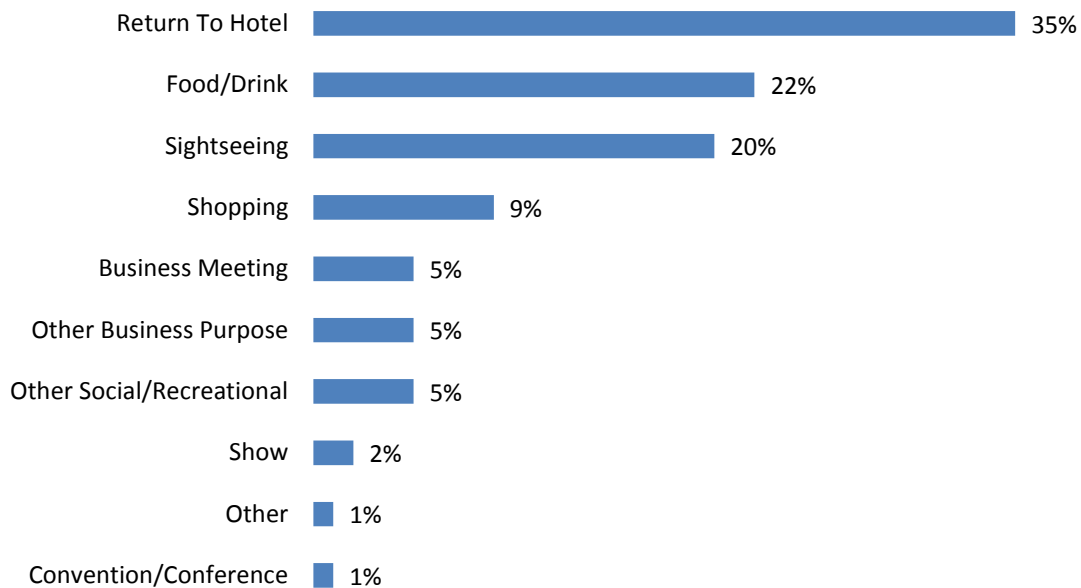
²⁹ *% = Less than 1 percent

- Out-of-region visitors who stayed in Mostly Urban hotels took the subway the most in comparison to those who stayed in CBD or Other areas (Subway - NYC Transit, PATH: CBD = 15%, Mostly Urban = 37%, Other = 2%).

4.2.14 Trip Purpose

When out-of-region visitors were asked why they went to a place the most common response was Return to Hotel; every trip out of the hotel had at least one return trip back to the hotel.

Figure 4–53: Trip Purpose (Including Return to Hotel)



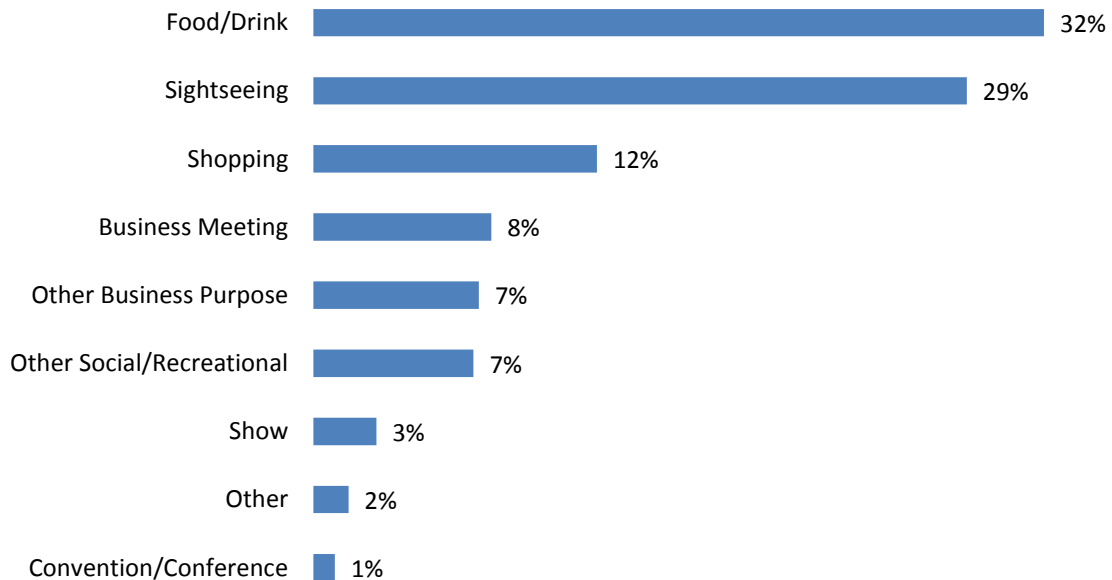
Q11_5: What was the reason you went to this place?

Subgroup Analysis:

- Consistent with overall purpose of travel into the region, more out-of-region visitors staying in CBD and Mostly Urban areas went sightseeing than those staying in more suburban (Other) areas (Sightseeing: CBD = 26%, Mostly Urban = 29%, Other = 8%).
- Conversely, a greater proportion of out-of-region visitors traveled outside of the hotel for Business Meetings and Other Business Purposes while staying in suburban (Other) areas than CBD or Mostly Urban areas (Business Meeting: CBD = 2%, Mostly Urban = 3%, Other = 11%) (Other Business Purpose: CBD = 2%, Mostly Urban = 4%, Other = 11%).

When Return to Hotel responses were removed from the analysis, Food/Drink (32%) and Sightseeing (29%) were the most prominent trip purposes. It was also worth noting that a number of out-of-region visitors traveled to a place for business reasons (Business Meeting, Other Business Purpose, Convention/Conference), accounting for 16% of responses after removing Return to Hotel mentions.

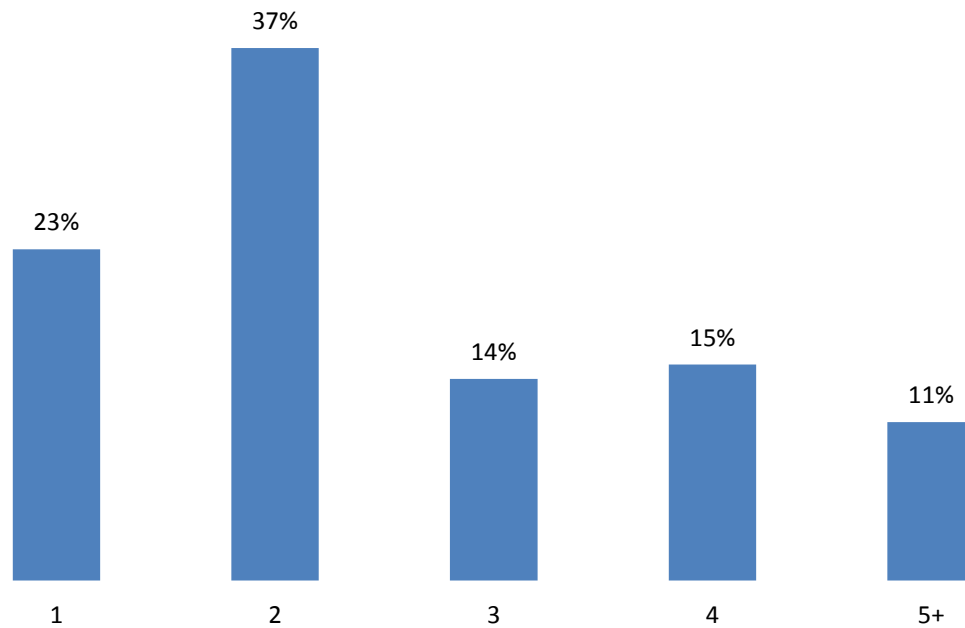
Figure 4–54: Trip Purpose (Without Return to Hotel)



4.2.15 Number of People Traveling

Most out-of-region visitors traveled to places with at least one other person; only about a quarter traveled by themselves. A group size of 2 was the most common.

Figure 4–55: Number of People Traveling

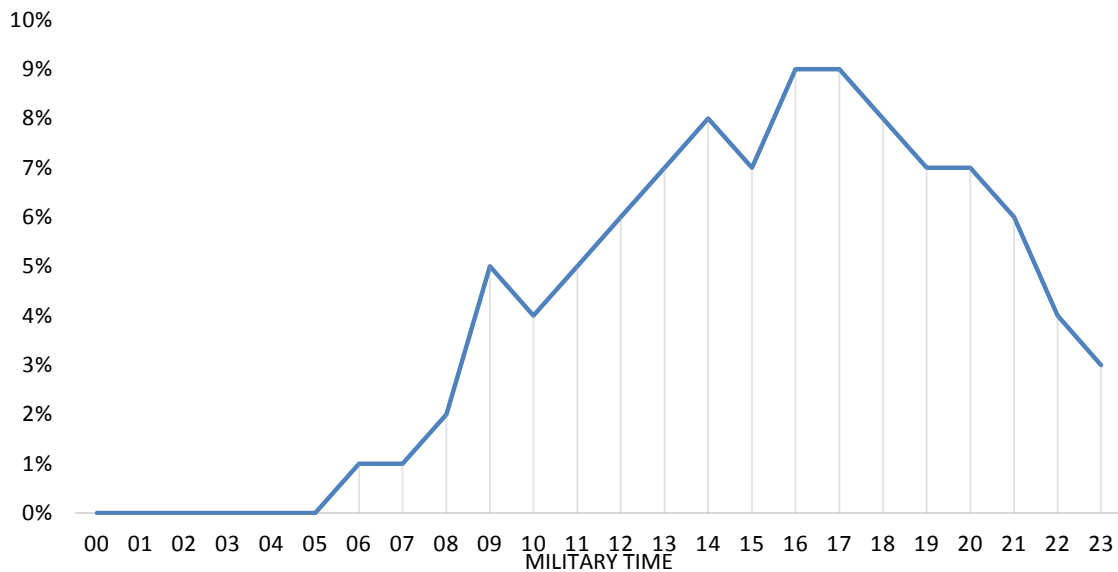


Q11_6: Including yourself, how many other people traveled with you to this place?

4.2.16 Departure Time from Place

Departure times from places visited ranged throughout the day, with the exception of the very early morning period. The early evening timeframe was the most frequently reported departure period.

Figure 4–56: Departure Time from Place

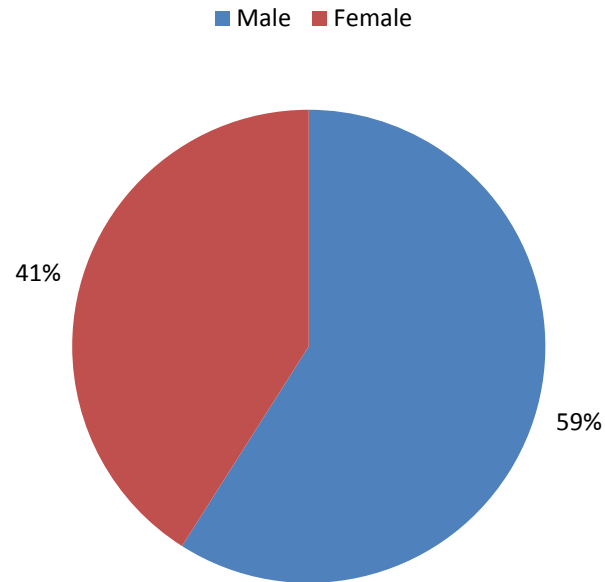


Q11_7: What time did you LEAVE this place?

4.2.17 Gender

More males than females participated in the survey as noted by interviewer observation.

Figure 4-57: Gender

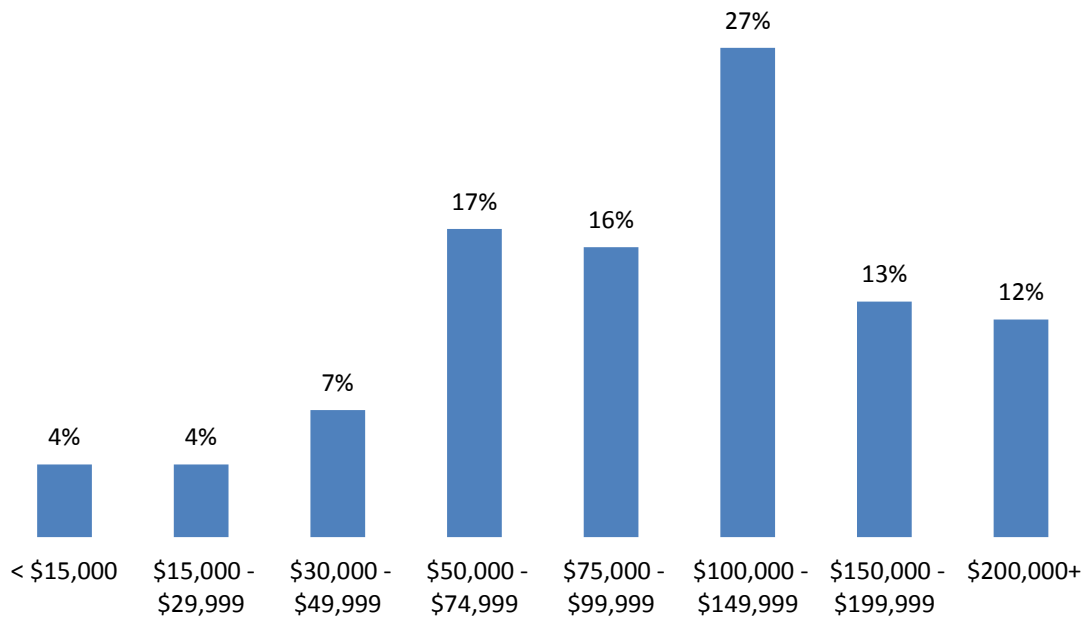


Q12: Respondent Gender

4.2.18 Income

The income distribution of out-of-region visitors had representation across all income groups, though it leaned more towards the higher end. Slightly more than half of the respondents reported household income above \$100,000. A third of respondents reported household incomes between \$50,000 and \$99,000. 15% of respondents reported a household income of less than \$50,000.

Figure 4–58: Income



Q13: What roughly is your annual household income?

4.2.19 Overall Purpose of Travel to Region by Geography and Size

Table 4-59: Income³⁰

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
Vacation/Leisure Trip	10905 (0.6%)	31043 (0.58%)	3246 (0.46%)	5406 (0.35%)	2464 (0.12%)	10920 (0.17%)
Business Meeting	2929 (0.16%)	6117 (0.11%)	1073 (0.15%)	3588 (0.23%)	3738 (0.18%)	26171 (0.41%)
Other Business Purpose	1917 (0.11%)	7141 (0.13%)	1487 (0.21%)	4309 (0.28%)	11172 (0.53%)	15358 (0.24%)
Visit Friend/Relative	1056 (0.06%)	2807 (0.05%)	- (- %)	844 (0.05%)	1540 (0.07%)	5085 (0.08%)
Other	578 (0.03%)	2424 (0.04%)	381 (0.05%)	977 (0.06%)	1005 (0.05%)	3070 (0.05%)
Convention/Conference	369 (0.02%)	2177 (0.04%)	34 (* %)	459 (0.03%)	857 (0.04%)	883 (0.01%)
Special Event	258 (0.01%)	2122 (0.04%)	910 (0.13%)	- (- %)	180 (0.01%)	1100 (0.02%)
Shopping	60 (* %)	73 (* %)	- (- %)	- (- %)	- (- %)	1543 (0.02%)

³⁰ *% = Less than 0.01 percent

4.2.20 Initial Arrival Mode into Region by Geography and Size

Table 4-60: Initial Arrival Mode into Region by Geography and Size³¹

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
Airplane	16385 (0.91%)	43598 (0.81%)	5207 (0.76%)	13780 (0.88%)	8344 (0.4%)	34212 (0.53%)
Drove Or Rode In A Private Car	568 (0.03%)	3804 (0.07%)	1427 (0.21%)	1013 (0.07%)	10581 (0.5%)	20215 (0.32%)
Train (Amtrak, Metro-North Railroad)	783 (0.04%)	3744 (0.07%)	34 (0.01%)	268 (0.02%)	290 (0.01%)	3246 (0.05%)
Drove Or Rode In A Rental Car	75 (* %)	1050 (0.02%)	111 (0.02%)	320 (0.02%)	935 (0.04%)	4659 (0.07%)
Bus	106 (0.01%)	711 (0.01%)	33 (* %)	110 (0.01%)	180 (0.01%)	1587 (0.02%)
Ship/Boat	154 (0.01%)	968 (0.02%)	- (- %)	- (- %)	130 (0.01%)	- (- %)
Other	- (- %)	- (- %)	- (- %)	92 (0.01%)	496 (0.02%)	211 (* %)

³¹ *% = Less than 0.01 percent

4.2.21 Initial Travel Mode to Hotel by Geography and Size

Table 4-61: Initial Travel Mode to Hotel by Geography and Size³²

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
Taxi/Limo/Car Service/Uber/Lyft	11403 (0.66%)	33565 (0.68%)	2924 (0.55%)	5248 (0.37%)	4398 (0.47%)	17724 (0.45%)
Drove Or Rode In A Car	1054 (0.06%)	1856 (0.04%)	648 (0.12%)	1449 (0.1%)	3595 (0.38%)	10358 (0.26%)
Hotel Shuttle	735 (0.04%)	1139 (0.02%)	159 (0.03%)	4932 (0.35%)	965 (0.1%)	7387 (0.19%)
Subway - NYC Transit, Path	1735 (0.1%)	3496 (0.07%)	1026 (0.19%)	1442 (0.1%)	138 (0.01%)	451 (0.01%)
Other	- (- %)	3574 (0.07%)	- (- %)	679 (0.05%)	- (- %)	2277 (0.06%)
Amtrak/Commuter Rail	1411 (0.08%)	2766 (0.06%)	- (- %)	132 (0.01%)	- (- %)	484 (0.01%)
Bus	1420 (0.08%)	633 (0.01%)	557 (0.11%)	298 (0.02%)	- (- %)	926 (0.02%)
Walk	336 (0.02%)	1945 (0.04%)	- (- %)	187 (0.01%)	- (- %)	835 (0.02%)
AirTrain/Airport Shuttle	281 (0.02%)	293 (0.01%)	- (- %)	33 (* %)	- (- %)	- (- %)
Commercial Vehicle/Truck	- (- %)	163 (* %)	- (- %)	92 (0.01%)	298 (0.03%)	- (- %)
Light Rail/LRT	62 (* %)	240 (* %)	34 (0.01%)	- (- %)	- (- %)	- (- %)

³² *% = Less than 0.01 percent

4.2.22 Trip Purpose by Geography and Size

Table 4-62: Trip Purpose by Geography and Size³³

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
Return To Hotel	19103 (0.28%)	67375 (0.33%)	5712 (0.29%)	10247 (0.34%)	18048 (0.44%)	49523 (0.39%)
Food/Drink	16973 (0.25%)	50331 (0.25%)	3280 (0.17%)	6716 (0.22%)	7052 (0.17%)	24911 (0.2%)
Sightseeing	22768 (0.34%)	47137 (0.23%)	7658 (0.39%)	6489 (0.22%)	944 (0.02%)	12705 (0.1%)
Shopping	6065 (0.09%)	22680 (0.11%)	1098 (0.06%)	3190 (0.11%)	447 (0.01%)	8929 (0.07%)
Business Meeting	1604 (0.02%)	4528 (0.02%)	305 (0.02%)	1282 (0.04%)	2371 (0.06%)	16544 (0.13%)
Other Business Purpose	2612 (0.04%)	2089 (0.01%)	412 (0.02%)	1705 (0.06%)	9482 (0.23%)	8468 (0.07%)
Other Social/Recreational	1979 (0.03%)	12455 (0.06%)	705 (0.04%)	1392 (0.05%)	1681 (0.04%)	5747 (0.05%)
Show	950 (0.01%)	6934 (0.03%)	17 (* %)	441 (0.01%)	640 (0.02%)	452 (* %)
Other	- (- %)	2311 (0.01%)	318 (0.02%)	444 (0.01%)	261 (0.01%)	1947 (0.02%)
Convention/Conference	31 (* %)	1241 (0.01%)	356 (0.02%)	269 (0.01%)	667 (0.02%)	674 (0.01%)

³³ *% = Less than 0.01 percent

4.2.23 Trip Access Mode by Geography and Size

Table 4-63: Trip Access Mode by Geography and Size³⁴

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
Walk	43592 (0.65%)	154155 (0.76%)	7317 (0.37%)	14130 (0.47%)	4574 (0.11%)	28585 (0.23%)
Drove Or Rode In A Car	1173 (0.02%)	3584 (0.02%)	1778 (0.09%)	3557 (0.12%)	31007 (0.76%)	58179 (0.46%)
Taxi/Limo/ Car Service/Uber/Lyft	8914 (0.13%)	26957 (0.13%)	2087 (0.11%)	2634 (0.09%)	3603 (0.09%)	22098 (0.18%)
Subway - NYC Transit, Path	16235 (0.24%)	23383 (0.12%)	7905 (0.4%)	10351 (0.35%)	91 (* %)	3765 (0.03%)
Hotel Shuttle	- (- %)	420 (* %)	191 (0.01%)	871 (0.03%)	743 (0.02%)	8658 (0.07%)
Ferry	676 (0.01%)	1758 (0.01%)	1308 (0.07%)	1223 (0.04%)	182 (* %)	2202 (0.02%)
Charter Or Tour Bus	628 (0.01%)	2118 (0.01%)	721 (0.04%)	140 (* %)	182 (* %)	2010 (0.02%)
Bus	871 (0.01%)	1398 (0.01%)	1097 (0.06%)	447 (0.01%)	- (- %)	1804 (0.01%)
Commuter Rail	154 (* %)	1827 (0.01%)	- (- %)	279 (0.01%)	91 (* %)	586 (* %)
Commercial Vehicle/Truck	- (- %)	- (- %)	- (- %)	- (- %)	1349 (0.03%)	1340 (0.01%)
Other	351 (0.01%)	584 (* %)	- (- %)	333 (0.01%)	- (- %)	- (- %)
Light Rail/LRT	228 (* %)	- (- %)	192 (0.01%)	754 (0.03%)	- (- %)	- (- %)

³⁴ *% = Less than 0.01 percent

4.2.24 Departure Time from Place by Geography and Size

Table 4-64: Departure Time from Place by Geography and Size³⁵

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
12:00 AM - 12:59 AM	787 (0.01%)	326 (* %)	33 (* %)	- (- %)	46 (* %)	- (- %)
1:00 AM - 1:59 AM	364 (0.01%)	437 (* %)	17 (* %)	46 (* %)	- (- %)	- (- %)
2:00 AM - 2:59 AM	- (- %)	233 (* %)	- (- %)	- (- %)	184 (0.01%)	138 (* %)
3:00 AM - 3:59 AM	- (- %)	819 (0.01%)	- (- %)	- (- %)	- (- %)	59 (* %)
4:00 AM - 4:59 AM	- (- %)	- (- %)	63 (* %)	369 (0.02%)	154 (0.01%)	61 (* %)
5:00 AM - 5:59 AM	- (- %)	163 (* %)	- (- %)	100 (* %)	297 (0.01%)	249 (* %)
6:00 AM - 6:59 AM	138 (* %)	536 (* %)	207 (0.01%)	190 (0.01%)	1305 (0.05%)	805 (0.01%)
7:00 AM - 7:59 AM	515 (0.01%)	1347 (0.01%)	95 (0.01%)	611 (0.03%)	435 (0.02%)	2174 (0.03%)
8:00 AM - 8:59 AM	935 (0.02%)	3088 (0.02%)	17 (* %)	392 (0.02%)	194 (0.01%)	2320 (0.03%)
9:00 AM - 9:59 AM	2700 (0.05%)	9666 (0.06%)	711 (0.05%)	835 (0.04%)	348 (0.01%)	3274 (0.04%)
10:00 AM - 10:59 AM	3480 (0.07%)	8639 (0.05%)	313 (0.02%)	602 (0.03%)	849 (0.03%)	2044 (0.02%)
11:00 AM - 11:59 AM	2909 (0.05%)	9089 (0.06%)	1049 (0.07%)	1225 (0.06%)	297 (0.01%)	3394 (0.04%)
12:00 PM - 12:59 PM	4657 (0.09%)	9870 (0.06%)	850 (0.06%)	1673 (0.08%)	1410 (0.05%)	2924 (0.03%)
1:00 PM - 1:59 PM	4475 (0.08%)	11418 (0.07%)	995 (0.07%)	1337 (0.06%)	1001 (0.04%)	4540 (0.05%)
2:00 PM - 2:59 PM	3476 (0.07%)	15988 (0.1%)	827 (0.06%)	1424 (0.06%)	2718 (0.1%)	5318 (0.06%)
3:00 PM - 3:59 PM	4004 (0.08%)	11165 (0.07%)	1460 (0.1%)	1322 (0.06%)	2418 (0.09%)	5374 (0.06%)
4:00 PM - 4:59 PM	5751 (0.11%)	15005 (0.09%)	1117 (0.08%)	2263 (0.1%)	2496 (0.09%)	6938 (0.08%)
5:00 PM - 5:59 PM	4283 (0.08%)	8507 (0.05%)	1908 (0.13%)	2085 (0.09%)	3476 (0.13%)	12330 (0.14%)
6:00 PM - 6:59 PM	3286 (0.06%)	11398 (0.07%)	1295 (0.09%)	1840 (0.08%)	3017 (0.11%)	9601 (0.11%)
7:00 PM - 7:59 PM	4191 (0.08%)	9216 (0.06%)	938 (0.06%)	1710 (0.08%)	1943 (0.07%)	7123 (0.08%)
8:00 PM - 8:59 PM	2467 (0.05%)	12383 (0.08%)	1322 (0.09%)	1355 (0.06%)	1836 (0.07%)	5065 (0.06%)
9:00 PM - 9:59 PM	2455 (0.05%)	10501 (0.06%)	832 (0.06%)	1324 (0.06%)	883 (0.03%)	5083 (0.06%)
10:00 PM - 10:59 PM	1208	7273	468	1114	1022	3867

³⁵ *% = Less than 0.01 percent

Geographic Type	CBD		Mostly Urban		Other	
Size	Small	Large	Small	Large	Small	Large
	(0.02%)	(0.04%)	(0.03%)	(0.05%)	(0.04%)	(0.05%)
11:00 PM - 11:59 PM	1109 (0.02%)	5039 (0.03%)	192 (0.01%)	256 (0.01%)	428 (0.02%)	2542 (0.03%)

5.0 Lessons Learned

5.1 Lessons Learned

The RES was a groundbreaking effort encompassing the surveying of visitors to establishments across 3 states and 28 counties. Due to the innovative nature of this endeavor, there were certainly “lessons learned” that could be useful for future planning and execution of establishment surveys. These included:

- In-person administration of the survey by interviewers using computer tablets is more optimal for obtaining cooperation from establishment visitors and maximizing survey returns. In comparison, more passive survey approaches such as asking establishments to hand out paper surveys or distributing postcards with a link to a web version of the survey is likely to yield far fewer completed surveys.
- Focusing limited resources more on surveying establishments with higher volumes of visitors or larger hotels with more guests also helps to increase overall survey yield.
- In CBD/Mostly Urban locations, where public sidewalk spaces are available to enable surveying, intercepts can be conducted with notice to establishments but without the need to obtain permissions. This helps to reduce costs and maximize resources for surveying by bypassing establishment recruitment in these geographic areas.
- Establishment recruitment efforts should clearly target person(s) in the establishment with the authority to allow the survey on site.
- To streamline survey operations, scheduling a field date should be done at the time of the recruitment phone call. This would help avoid the need for separate follow-ups with the establishment contact person to schedule a field date.
- In general, hotel management tend to be most protective of their guests compared to management from other types of establishments. Conducting interviews on public sidewalks outside of hotels, while legally permissible, may still incur pushback from hotel management. Given this, the survey recruitment effort for hotel participation is likely to be higher than that for other establishment types. As such, resources should be set aside appropriately to account for the higher level of effort for hotels.
- A well-designed, substantive, and authoritative-looking public website for the establishment survey is invaluable for helping to inform and obtain cooperation from establishments and visitor respondents.

Appendix A: Core Survey Instrument

NYMTC REGIONAL ESTABLISHMENT SURVEY Core Establishment Visitor SURVEY (Tablet Version)

Establishment Name: _____

Date: ____/____/____

Interviewer: _____

Location in Establishment: _____

Introduction: We are conducting an important survey to better understand how people travel in the New York, New Jersey or Connecticut area. Your information will help to improve transportation in the region. To thank you, we will put your name into a monthly drawing that gives \$100 to 5 winners for 10 months. *(If needed only: The survey is conducted on behalf of The New York Metropolitan Transportation Council, which provides a collaborative planning forum to address transportation-related issues, develop regional plans, and make decisions on the use of federal transportation funds.)*

Questions	Responses
1. First, with your permission, I would like to ask you a couple of questions. Do you work at this place? * Must be a non-employee visitor. Thank and terminate if Yes or DK/RF.	1. ☐ Yes (Thank & terminate) 2. ☐ No (Ask Q2) 9. ☐ DK/RF (Thank & terminate)
2. What is your age? Is it...? Read list. *Must be at least 16. Thank and terminate if younger than 16 or DK/RF.	1. ☐ Younger than 16 years (Thank & terminate) 2. ☐ 16-17 years 3. ☐ 18-24 years 4. ☐ 25-34 years 5. ☐ 35-54 years 6. ☐ 55-64 years 7. ☐ 65 years or older 9. ☐ DK/RF (Thank & terminate)
3. Without considering any stops on the way, which of these places did you come from most recently today – your home or your work place? Interviewer: Only present choices 3-5 (school/hotel/friend or relative's home) if neither home or work was selected. Read list. Single response only.	1. ☐ Your home 2. ☐ Your work place <i>(Present the following choices only if home or work place not selected)</i> 3. ☐ Your school or university 4. ☐ Your hotel 5. ☐ Home of friends or relatives 9. ☐ DK/RF (Thank & terminate)
4. What is the location of that place?	4a. Address, nearest intersecting streets, or nearby landmark. 1. ☐ Gave response. (4a1). Enter address/intersecting streets/nearby landmark: _____ 9. ☐ DK/RF 4b. City. 1. ☐ Gave response. (4b1). Enter city: _____ 9. ☐ DK/RF 4c. State. 1. ☐ Gave response. (4c1). Enter state: __ (Programmer: Provide State list. Place NY, NJ and CT on top. Other states list alphabetically after NY/NJ/CT.) 9. ☐ DK/RF 4d. Zip code.

	1. ☐ Gave response. (4d1). Enter zip code: _ _ _ _ _ 9. ☐ DK/RF
5. When did you leave that place? <i>If needed: Your best estimate is fine.</i>	5a. Date. 1. ☐ Today 2. ☐ Another day: (specify: _____) 9. ☐ DK/RF 5b. Time. 1. ☐ Gave response for all components of time (Hour/Minute/AM or PM) (5b1) Enter Time: _ _ : _ _ AM/PM (5b1H/5b1M/5b1AMP)PM 9. ☐ DK/RF
6. What time did you get here today? <i>If needed: Your best estimate is fine.</i>	Time. 1. ☐ Gave response for all components of time (Hour/Minute/AM or PM) (6a) Enter Time: _ _ : _ _ AM/PM (6aH/6aM/6aAMP)PM 9. ☐ DK/RF
7. How did you travel to here from (<i>Insert: Q3 answer</i>)? Please select each and any of the following that you used. <i>Read list. Allow multiple responses.</i>	1. ☐ Walked only/Walked for longer than 30 minutes 2. ☐ Drove or rode in a private or rental car 3. ☐ Taxi/Limo/Car Service/Uber/Lyft 4. ☐ Local Bus 5. ☐ Express Bus 6. ☐ Other Bus (employer-provided bus, charter bus, or interstate buses such as Greyhound, Megabus, and BoltBus). 7. ☐ School Bus 8. ☐ Commuter Rail (NJ Transit, Metro-North Railroad, Long Island Rail Road) 9. ☐ Subway (NYC Transit, PATH) 10. ☐ Light Rail/LRT 11. ☐ Amtrak 12. ☐ Ferry 13. ☐ Bike 14. ☐ Other (Specify): _____ 99. ☐ DK/RF (<i>Skip to Q12</i>)
<i>Ask only if more than one travel mode selected in Q7. If single response or DK/RF in Q7, skip to instructions before Q9.</i> 8. And what was the last mode of travel you were using when you arrived here today? Was it...? <i>Programmer: Display only selected choices in Q7. Read list. Single response only.</i>	1. ☐ Walked only/Walked for longer than 30 minutes 2. ☐ Drove or rode in a private or rental car 3. ☐ Taxi/Limo/Car Service/Uber/Lyft 4. ☐ Local Bus 5. ☐ Express Bus 6. ☐ Other Bus (employer-provided bus, charter bus, or interstate buses such as Greyhound, Megabus, and BoltBus). 7. ☐ School Bus 8. ☐ Commuter Rail (NJ Transit, Metro-North Railroad, Long Island Rail Road) 9. ☐ Subway (NYC Transit, PATH) 10. ☐ Light Rail/LRT 11. ☐ Amtrak 12. ☐ Ferry 13. ☐ Bike 14. ☐ <i>Insert if provided in Q7: Other Specify Response in Q7.</i> 99. ☐ DK/RF
<i>Ask if Q7=2 only ("drove or rode in a private or rental car"). Otherwise skip to Q12.</i> 9. Did you or will you have to pay for parking?	1. ☐ Yes (<i>Ask Q10</i>) 2. ☐ No (<i>Skip to Q11</i>) 9. ☐ DK/RF (<i>Skip to Q11</i>)
10. How much in total did you or will you have to pay for parking today? Your best estimate is fine. <i>Range 1-1000 (1=\$1 or less; 1000=\$1000 or more)</i>	1. ☐ Gave response. (10a). Enter \$ amount: _ _ _ _ _ 9. ☐ DK/RF
11. How many minutes did it take you to walk from where you parked to here? Your best estimate is fine. <i>Range 0-60 (60=60 or more).</i>	1. ☐ Gave response. (11a). Enter # minutes: _ _ 9. ☐ DK/RF
12. Did you stop by any place between (<i>Insert: Q3 answer or if Q3=DK/RF, insert: where you started</i>) and this place here? Please include any stops to drop off or pick up a person, but do not include places such as a train station or	1. ☐ Yes (<i>Ask Q13</i>) 2. ☐ No (<i>Skip to Q15</i>) 9. ☐ DK/RF (<i>Skip to Q15</i>)

bus stop where you were waiting for transportation to arrive.	
Ask if Q12=1. 13. How many places did you stop at? <i>Range 1-20 (20=20 places or more).</i>	1. ☐ Gave response. (13a). Enter # of stops: __ 9. ☐ DK/RF (<i>Skip to Q15</i>)
14. Were any of these stops to drop off or pick up a person?	1. ☐ Yes 2. ☐ No 9. ☐ DK/RF
15. About how long do you plan on being here? Your best estimate is fine. <i>Range for hours 0-24 (24=24 hours or more).</i> <i>Range for minutes 0-59.</i>	1. ☐ Gave response. (15a). Enter # of hours: __ (15b). Enter # of minutes: __ 9. ☐ DK/RF
16. What was the reason you came to this place today? Was it for...? <i>Read list. Allow multiple responses.</i>	1. ☐ Business/Meeting/Delivery 2. ☐ Shopping 3. ☐ Recreation/Entertainment 4. ☐ Food/Drink 5. ☐ Visiting Friend/Relative 6. ☐ School 7. ☐ Personal Business (Doctor's visit, bank, etc.) 8. ☐ Other (Specify): _____ 99. ☐ DK/RF
17. Without considering any stops on the way, which of these places will you be going to next after leaving here today – your home or your work place? <i>Interviewer: Only present choices 3-5 (school/hotel/friend or relative's home) if neither home or work was selected. Read list. Single response only.</i>	1. ☐ Your home (<i>If Q3 was also 1-home, skip to Q20 and insert Q4 answers in Q19</i>) 2. ☐ Your work place (<i>If Q3 was also 2-work, ask Q18</i>) <i>(Present the following choices only if home or work place not selected)</i> 3. ☐ Your school or university (<i>If Q3 was also 3-school/university, ask Q18</i>) 4. ☐ Your hotel (<i>If Q3 was also 4-hotel, skip to Q20 and insert Q4 answers in Q19</i>) 5. ☐ Home of friends or relatives (<i>If Q3 was also 5-home of friends or relatives, ask Q18</i>) 9. ☐ DK/RF <i>If none of the above instructions apply (Q17≠Q3 or Q17=DK/RF), skip to Q19, then skip to Q21.</i>
18. Is it to the same location as where you came from earlier?	1. ☐ Yes (<i>Skip to Q20 and insert Q4 answers in Q19</i>) 2. ☐ No (<i>Ask Q19, then go to Q20</i>) 9. ☐ DK/RF (<i>Ask Q19, then go to Q20</i>)
19. What is the location of that place?	19a. Address, nearest intersecting streets, or nearby landmark. 1. ☐ Gave response. (19a1). Enter address/intersecting streets/nearby landmark: _____ 9. ☐ DK/RF 19b. City. 1. ☐ Gave response. (19b1). Enter city: _____ 9. ☐ DK/RF 19c. State. 1. ☐ Gave response. (19c1). Enter state: __ (<i>Programmer: Provide State list. Place NY, NJ and CT on top. Other states list alphabetically after NY/NJ/CT.</i>) 9. ☐ DK/RF 19d. Zip code. 1. ☐ Gave response. (19d1). Enter zip code: _____ 9. ☐ DK/RF
Ask if Q17 and Q3 answers are the same for choices 1-5. Otherwise, skip to Q21 20. Do you plan to use the same modes of travel that you used earlier to arrive at that place?	1. ☐ Yes (<i>Skip to Q22 and insert Q7 answers in Q21</i>) 2. ☐ No (<i>Ask Q21</i>) 9. ☐ DK/RF (<i>Ask Q21</i>)

21. How do you plan to travel to (<i>Insert: Q17 answer or if Q17=DK/RF, insert: your arrival place</i>) from here? Please select each and any of the following that you plan to use. Will it be by...? <i>Read list. Allow multiple responses.</i>	1. ☐ Walk only/Walk for longer than 30 minutes 2. ☐ Drive or ride in a private or rental car 3. ☐ Taxi/Limo/Car Service/Uber/Lyft 4. ☐ Local Bus 5. ☐ Express Bus 6. ☐ Other Bus (employer-provided bus, charter bus, or interstate buses such as Greyhound, Megabus, and BoltBus). 7. ☐ School Bus 8. ☐ Commuter Rail (NJ Transit, Metro-North Railroad, Long Island Rail Road) 9. ☐ Subway (NYC Transit, PATH) 10. ☐ Light Rail/LRT 11. ☐ Amtrak 12. ☐ Ferry 13. ☐ Bike 14. ☐ Other (Specify): _____ 99. ☐ DK/RF
22. When do you anticipate arriving at that place? <i>If needed: Your best estimate is fine.</i>	22a. Date. 1. ☐ Today 2. ☐ Another day: (specify: _____) 9. ☐ DK/RF 22b. Time. 1. ☐ Gave response for all components of time (Hour/Minute/AM or PM) (23b1) Enter Time: _:_:_ AM/PM (22b1H/22b1M/22b1AMPM) 9. ☐ DK/RF
23. Do you plan to stop by any other place between here and (<i>Insert: Q17 answer or if Q17=DK/RF, insert: your arrival place</i>)? Please include any stops to drop off or pick up a person, but do not include places such as a train station or bus stop where you may be waiting for transportation to arrive.	1. ☐ Yes (<i>Ask Q24</i>) 2. ☐ No (<i>Skip to Q26</i>) 9. ☐ DK/RF (<i>Skip to Q26</i>)
<i>Ask if Q23=1.</i> 24. How many places do you plan to stop at? <i>Range 1-20 (20=20 places or more).</i>	1. ☐ Gave response. (24a). Enter # of stops: __ 9. ☐ DK/RF (<i>Skip to Q26</i>)
25. Do you plan to drop off or pick up a person at any of these stops?	1. ☐ Yes 2. ☐ No 9. ☐ DK/RF
26. <u>Including yourself</u>, how many people traveled with you to this place today? <i>Range 1-100 (100=100 people or more).</i>	1. ☐ Gave response. (26a). Enter # of people: __ 9. ☐ DK/RF
<i>Ask if Q26a>1</i> 27. Would you describe the people who traveled with you as...?	1. ☐ All from the same household and includes only adults 2. ☐ All from the same household and includes child(ren) 3. ☐ All from different households 4. ☐ Some from same household and some from different household 9. ☐ DK/RF
<i>Ask if neither Q3 nor Q17 answer was 1-Home.</i> 28. What is your home address or nearest intersection?	28a. Address, nearest intersecting streets. 1. ☐ Gave response. (28a1). Enter address/intersecting streets: _____ 9. ☐ DK/RF 28b. City. 1. ☐ Gave response. (28b1). Enter city: _____ 9. ☐ DK/RF 28c. State. 1. ☐ Gave response. (28c1). Enter state: __ (<i>Programmer: Provide State list. Place NY, NJ and CT on top. Other states list alphabetically after NY/NJ/CT.</i>) 9. ☐ DK/RF

	28d. Zip code. 1. ☐ Gave response. (28d1). Enter zip code: _ _ _ _ _ 9. ☐ DK/RF
29. The following questions are for classification purposes only. <u>Including yourself</u> , how many people are in your household? <i>Range 1-10 (10=10 or more).</i>	1. ☐ Gave response. (29a). Enter # of people: _ _ 9. ☐ DK/RF
30. (Do not ask. Record by observation.) Respondent Gender	1. ☐ Male 2. ☐ Female
31. What is your student or employment status? Please select any of the following that apply. <i>Read choices 1-6 on list, enter as Other only if necessary. Allow multiple responses.</i>	1. ☐ A high school student 2. ☐ A college or university student 3. ☐ Employed full time 4. ☐ Employed part time 5. ☐ Unemployed 6. ☐ Retired 7. ☐ Other (Specify): _____ 9. ☐ DK/RF
32. Again, for classification purposes only, what roughly is your annual household income? Is it...? <i>Read List.</i>	1. ☐ Less than \$15,000 2. ☐ \$15,000 to less than \$30,000 3. ☐ \$30,000 to less than \$50,000 4. ☐ \$50,000 to less than \$75,000 5. ☐ \$75,000 to less than \$100,000 6. ☐ \$100,000 to less than \$150,000 7. ☐ \$150,000 to less than \$200,000 8. ☐ \$200,000 or more 9. ☐ DK/RF
33. Thank you. Would you like to be entered into a monthly drawing that gives \$100 to 5 winners for 10 months? <i>(Note: If respondent already provided full home address earlier, you only need to obtain the respondent's name, phone number and email address).</i>	1. ☐ Yes, gave contact information. (33a). Enter first and last name: _____ (33b). Enter street address: _____ (33c). Enter apt/suite: _____ (33d). Enter city: _____ (33e). Enter state: _____ (33f). Enter zip code: _____ (33g). Enter phone number: _____ (33h). Enter email address: _____ 9. ☐ No/RF
34. (Tablet Intercept Version Only) (Do not ask. Record by observation.) Does the respondent use a mobility device (e.g., wheelchair, cane, walker, etc.)?	1. ☐ Yes 2. ☐ No

Thank you for your time and participation!

Appendix B: Hotel Survey Instrument

NYMTC REGIONAL ESTABLISHMENT SURVEY Hotel Visitor SURVEY

Hotel Name: _____

Date: ____/____/____

Interviewer: _____

Location in Hotel: _____

Introduction: We are conducting an important travel survey with hotel guests such as yourself survey to better understand how people travel in the New York, New Jersey or Connecticut area. To thank you, we have a 16 Gigabyte USB drive for you upon completion of the survey. *(If needed only:* The survey is conducted on behalf of The New York Metropolitan Transportation Council, which provides a collaborative planning forum to address transportation-related issues, develop regional plans, and make decisions on the use of federal transportation funds.)

Questions	Responses
1. First, with your permission, I would like to ask you a couple of questions. Have you stayed overnight at this hotel? <i>Thank and terminate if No or DK/RF.</i>	1. ☐ Yes <i>(Continue)</i> 2. ☐ No <i>(Thank & terminate)</i> 9. ☐ DK/RF <i>(Thank & terminate)</i>
2. Are you 18 or older? <i>*Must be at least 18. Thank and terminate if No or DK/RF.</i>	1. ☐ Yes <i>(Continue)</i> 2. ☐ No <i>(Thank & terminate)</i> 9. ☐ DK/RF <i>(Thank & terminate)</i>
3. What is your home ZIP code? <i>*Thank and terminate if living in 28 county NYMTC region or DK/RF. Otherwise, continue to Q4.</i>	Enter zip code: _ _ _ _ _ <i>(Thank & terminate if within 28 county)</i> <i>(If outside of U.S., code as 99998).</i> ☐ DK/RF <i>(Thank & terminate)</i>
4. What is the main purpose of your trip to the New York, New Jersey and Connecticut Tri-State Area? <i>Read list only if necessary. Single response only.</i>	1. ☐ Convention/Conference 2. ☐ Business Meeting 3. ☐ Other Business Purpose 4. ☐ Vacation/Leisure Trip 5. ☐ Special Event/Concert/Show/Sporting Event 6. ☐ Shopping 7. ☐ Visit Friend/Relative 8. ☐ Other: (specify: _____) 9. ☐ DK/RF
5. How did you initially arrive into the Tri-State Area? Was it primarily by...? <i>Read list. Single response only.</i>	1. ☐ Airplane 2. ☐ Train (Amtrak, Metro-North Railroad) 3. ☐ Ship/Boat 4. ☐ Bus 5. ☐ Drove Or Rode In A Private Car 6. ☐ Drove Or Rode In A Rental Car 7. ☐ Other: (specify: _____) 9. ☐ DK/RF
<i>Ask if Q5=4 (Bus). Otherwise, skip to instructions to before Q7.</i> 6. Was the bus you used a...? <i>Read List.</i>	1. ☐ Regularly scheduled bus service like Greyhound 2. ☐ Chartered or escorted bus service or tour bus 9. ☐ DK/RF
<i>Ask Q7 if Q5 = 1-4 or 7. If Q5=5 or 6 (drove a private car or rental car) or 9 (DK/RF), skip to Q8.</i> 7. How did you travel from your initial arrival location in the Tri-State Area to the hotel? Please select each and any of the following that you used. <i>Read list. Allow multiple responses.</i>	1. ☐ Taxi/Limo/ Car Service/Uber/Lyft 2. ☐ Amtrak/Commuter Rail (NJ Transit, Metro-North Railroad, Long Island Rail Road) 3. ☐ Ferry 4. ☐ Light Rail/LRT 5. ☐ Subway (NYC Transit, PATH) 6. ☐ Hotel Shuttle 7. ☐ Bus 8. ☐ Drove Or Rode In A Private Or Rental Car 9. ☐ Commercial Vehicle/Truck

	10. ☐ AIRTRAIN/Airport Shuttle 11. ☐ Walk 12. ☐ Other: (specify: _____) 99. ☐ DK/RF
8. <u>Including yourself</u> , how many people are staying in your hotel room that are...? <i>Ask for each age category. Range 0-10 (10=10 or more).</i>	8a. 18 or over: Enter # of people: __ ☐ DK/RF 8b. Under 18: Enter # of people: __ ☐ DK/RF
9. Do you have an automobile or other vehicle available for your use while staying at the hotel?	1. ☐ Yes 2. ☐ No 9. ☐ DK/RF
10. Did you travel outside the hotel within the past 24 hours? <i>Ask Q11 if Q10=1. Otherwise, skip to Q12.</i>	1. ☐ Yes (<i>Ask Q11</i>) 2. ☐ No (<i>Skip to Q12</i>) 9. ☐ DK/RF (<i>Skip to Q12</i>)

11. We'd like to ask about the places you went to within the past 24 hours since you arrived in the Tri-State Area.

For the initial place (11_1 series), say: Let's start at the first place you went to.

For second through seventh places (11_2 to 11_7 series), say: Now let's think about the next place you went to.

<u>Questions</u>	<u>Responses</u>
<i>Ask Q11a only once as the very first question for the first place. Other questions from 11_x_1 through 11_x_7 are asked of every place visited up to a max of 7 places.</i> 11a. What time did you leave the hotel to go to the first place you went to? Please provide the approximate time. <i>If needed: Your best estimate is fine.</i>	11a_1. Date Enter Date: _____ ☐ DK/RF 11a_2. Time. Enter Time: __:__:__ AM/PM ☐ DK/RF
11_x_1. What was the place? <i>Programmer note: x in question label refers to the series/place number (e.g., 1 to 7).</i>	11_x_1. Enter place name: _____ ☐ DK/RF
11_x_2. What was the location of that place?	11_x_2a. Enter address/intersecting streets/nearby landmark/location name if landmark: _____ ☐ DK/RF 11_x_2b. Enter city/town: _____ ☐ DK/RF
11_x_3. What time did you ARRIVE at this place? Please provide the day, either yesterday or today, and the approximate time. <i>If needed: Your best estimate is fine.</i>	11_x_3a. Date Enter Date: _____ ☐ DK/RF 11_x_3b. Enter Time: __:__:__ AM/PM ☐ DK/RF
11_x_4. How did you travel to this place? Please include all forms of transportation, including walking. <i>Read list only if necessary. Allow multiple responses.</i>	1. ☐ Taxi/Limo/ Car Service/Uber/Lyft 2. ☐ Commuter Rail (NJ Transit, Metro-North Railroad, Long Island Rail Road) 3. ☐ Ferry 4. ☐ Light Rail/LRT 5. ☐ Subway (NYC Transit, PATH) 6. ☐ Charter or Tour Bus 7. ☐ Hotel Shuttle 8. ☐ Bus 9. ☐ Drove Or Rode In A Private Or Rental Car 10. ☐ Commercial Vehicle/Truck 11. ☐ Walk 12. ☐ Other: (specify: _____) 99. ☐ DK/RF
11_x_5. What was the reason you went to this place? <i>Read list only if necessary. Allow multiple responses.</i>	1. ☐ Food/Drink 2. ☐ Show 3. ☐ Shopping

	4. ☐ Sightseeing 5. ☐ Other Social/Recreational 6. ☐ Convention/Conference 7. ☐ Business Meeting 8. ☐ Other Business Purpose 9. ☐ Return to Hotel 10. ☐ Other: (specify: _____) 99. ☐ DK/RF
11_x_6. Including yourself, how many other people traveled with you to this place? <i>Range 1-10 (10=10 or more).</i>	11_x_6. Enter # of people: __ ☐ DK/RF
11_x_7. What time did you LEAVE this place? Please provide the day, either yesterday or today, and the approximate time. <i>If needed: Your best estimate is fine.</i>	11_x_7a. Date. Enter Date: _____ ☐ Last place back at the hotel/have not left hotel yet. <i>Go to Q12.</i> ☐ DK/RF 11_x_7b. Time. Enter Time: __:__:__ AM/PM ☐ DK/RF
12. (Do not ask. Record by observation.) Respondent Gender	1. ☐ Male 2. ☐ Female
13. This last question is for classification purposes only. What roughly is your annual household income? Is it...? <i>Read List.</i>	1. ☐ Less than \$15,000 2. ☐ \$15,000 to less than \$30,000 3. ☐ \$30,000 to less than \$50,000 4. ☐ \$50,000 to less than \$75,000 5. ☐ \$75,000 to less than \$100,000 6. ☐ \$100,000 to less than \$150,000 7. ☐ \$150,000 to less than \$200,000 8. ☐ \$200,000 or more 9. ☐ DK/RF

Thank you for your time and participation!