

# CHARACTERISTICS AND TRAVEL PATTERNS OF NEW YORK RESIDENTS: Foreign Born Subpopulations in New York State



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Engineering and Transportation Science Division | Center for Transportation Analysis

**Final Technical Memorandum for Task 14**

**TRAVEL PATTERNS AND CHARACTERISTICS OF  
FOREIGN-BORN SUBPOPULATION IN NEW YORK STATE**

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## TABLE OF CONTENTS

LIST OF FIGURES .....	vii
LIST OF TABLES .....	xi
ACRONYMS .....	xiii
ACKNOWLEDGEMENTS .....	xv
ABSTRACT .....	xvii
1. INTRODUCTION .....	1
1.1 BACKGROUND .....	1
1.2 OBJECTIVE .....	2
1.3 BRIEF DESCRIPTIONS OF THE DATA SOURCES .....	2
1.3.1 NHTS .....	2
1.3.2 Census Data .....	3
1.3.3 Department of Homeland Security Data .....	3
1.4 DIFFERENCE IN TERMINOLOGY .....	3
1.5 ORGANIZATION OF REPORT .....	4
2. PROFILE OF THE FOREIGN-BORN POPULATION .....	5
2.1 FOREIGN-BORN POPULATION PROFILE .....	5
2.1.1 Population Evolution .....	5
2.1.2 Population Composition .....	7
2.1.3 Historical Trends in Naturalization and Immigration .....	8
2.1.4 NHTS Definition of Foreign Born Population .....	9
2.2 IMMIGRATION STATISTICS FOR SELECTED YEARS .....	10
2.2.1 Age Profiles .....	10
2.2.2 Marital Status of Immigrants .....	11
2.2.3 Occupational Profile of Legal Permanent Residents .....	12
2.3 DEMOGRAPHIC PROFILE OF THE NYS FOREIGN-BORN POPULATION .....	13
2.3.1 Age Profile of the NHTS Foreign-born Population .....	13
2.3.2 Household Income by Foreign-Born Status .....	15
2.3.3 Influence of Length in U.S. on Employment .....	18
2.3.4 Ethnicity of the Foreign-Born Population .....	19
2.3.5 Influence of Length of Time in U.S. on Driver Status .....	23
2.3.6 Influence of Gender on Driver Status among Foreign-born Populations .....	25
2.3.7 Birthplace Status and Household Size .....	27
2.3.8 Number of Workers in Households .....	29
2.4 VEHICLE OWNERSHIP FOR FOREIGN BORN HOUSEHOLDS .....	30
2.4.1 Vehicle Accessibility .....	30
2.4.2 Vehicle Age .....	35
2.5 ZERO-VEHICLE HOUSEHOLDS .....	36
2.5.1 Income Level of Zero-Vehicle Households .....	37

2.5.2	Availability of Drivers in Zero-Vehicle Households .....	38
2.5.3	Number of Workers in Zero-Vehicle Households .....	39
3.	TRAVEL PATTERNS OF THE FOREIGN-BORN POPULATION .....	41
3.1	TRAVEL STATISTICS BY PERSON TRIPS .....	41
3.1.1	Birthplace Difference in Trip Frequencies .....	41
3.1.2	Ethnicity Impact on Trip Frequencies .....	42
3.1.3	Impact of Length in the U.S. on Trip Rates .....	44
3.1.4	Influence of Birthplace on Person-Miles Traveled (PMT) .....	44
3.1.5	Mode Shares by Person Trips.....	45
3.1.6	Zero-Vehicle Household Effect on Mobility.....	47
3.1.7	Average Daily Person-Trips by Trip Purpose .....	50
3.1.8	Average Length of Person-Trips .....	51
3.1.9	Daily Person-Trips by Time of Travel .....	52
3.1.10	Average Travel-Time (in Minutes) Per Person-Trip.....	55
3.2	VEHICLE TRAVEL .....	56
3.2.1	Average Daily Vehicle-Trip Rates .....	56
3.2.2	Average Vehicle-Trip Length .....	58
3.2.3	Impact of Birthplace on Average Vehicle-Trips by Purpose .....	60
3.2.4	Effect of Time in the U.S. on Average Daily Vehicle-Trips.....	61
3.3	SIZE OF TRAVEL PARTY ON TRIPS INVOLVING FOREIGN-BORN.....	62
4.	VIEWS OF TRANSPORTATION SERVICES BY FOREIGN-BORN POPULATION .....	65
5.	SUMMARY .....	69
5.1	OVERVIEW.....	69
5.2	KEY FINDING .....	69
5.2.1	Population Size of Foreign-Born in NYS.....	69
5.2.2	Characteristics of the Foreign-Born Households .....	70
5.2.3	Driving Status of Foreign-Born Population .....	71
5.2.4	Vehicle Ownership/Accessibility for Foreign-Born Households.....	71
5.2.5	Travel Patterns of Foreign-Born Persons .....	71
5.2.6	Mobility of Foreign-Born Population.....	72
5.3	FINAL REMARKS .....	73
	APPENDIX A. GLOSSARY .....	75
	APPENDIX B. SUPPLEMENTAL STATISTICS FROM 2009 NHTS .....	83

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
2-1. Population changes between 2000 and 2010 by citizenship and region. ....	6
2-2. Population distribution by population status and region based on the 2008-2015 5-year ACS estimates. ....	7
2-3. Immigration trends in NYS versus the Rest of the U.S. for fiscal years 2004 to FY 2014. ....	8
2-4. Occupational distributions for LPRs by region for fiscal years 2007, 2009, and 2013 (DHS data). ....	13
2-5. Distribution of the foreign-born population by age and region (2001 and 2009 NHTS). ....	14
2-6. Distribution of the U.S.-born population by age and region (2001 and 2009 NHTS). ....	14
2-7. Household income distribution for foreign-born households by region (2009 NHTS). ....	15
2-8. Household income distribution for U.S.-born households by region (2009 NHTS). ....	16
2-9. Distribution of household incomes by length of time in the U.S. for NYS households (2009 NHTS). ....	17
2-10. Distribution of household income for the Rest of the U.S. by length of time in the U.S. (2009 NHTS). ....	17
2-11. Percent of NYS residents employed during 2009 by length of time living in the U.S. (2009 NHTS). ....	18
2-12. Percent of the Rest of the U.S. residents employed during 2009 by length of time living in the U.S. (2009 NHTS). ....	19
2-13. Distribution of foreign-born population by ethnicity and location in 2009 (2009 NHTS). ....	20
2-14. Distribution of U.S.-born population by ethnicity and location in 2009 (2009 NHTS). ....	20
2-15. Shares of foreign-born NYS population by ethnicity (2001 and 2009 NHTS data). ....	22
2-16. Shares of foreign-born population in the Rest of the U.S. by ethnicity for 2001 and 2009 (NHTS data). ....	22
2-17. Percent of drivers in population group, by time in the U.S. and region for 2009 NHTS. ....	24
2-18. Percent of drivers in population group, by time in the U.S. and region for 2001 NHTS. ....	24

2-19.	Estimated 95% confidence intervals (CI) for driver rates by gender for foreign-born living in Manhattan (2001 and 2009 NHTS).....	26
2-20.	Estimated 95% confidence intervals (CI) for driver rates by gender for foreign-born living in NYS as a whole (2001 and 2009 NHTS).....	27
2-21.	Distribution of households (HH) by size, birthplace status, and HH location (2009 NHTS). .....	28
2-22.	Distribution of households (HH) by size, birthplace status, and HH location in 2001 (2001 NHTS). .....	28
2-23.	Profile of households (HH) by number of workers, birthplace status, and HH location (2009 NHTS).....	29
2-24.	Profile of households (HH) by number of workers, birthplace status, and HH location (2001 NHTS).....	30
2-25.	Profile of households by vehicle availability, birthplace status, and region (2009 NHTS).....	31
2-26.	Average number of vehicles owned per household (HH) by region and number of foreign-born per HH (2009 NHTS).....	32
2-27.	Comparison of 2009 and 2001 NHTS data for foreign-born households (HH) average vehicle age by region (2009 and 2001 NHTS).....	35
2-28.	Distribution of households (HH) by vehicle-age class, birthplace status, and region (2009 NHTS). .....	36
2-29.	Zero-vehicle household income distributions by birthplace status and region (2009 NHTS). .....	37
2-30.	Zero-vehicle household income distributions by birthplace status and region (2001 NHTS). .....	38
2-31.	Zero-vehicle household distribution by number of drivers, birthplace status, and region (2001 and 2009 NHTS). .....	39
2-32.	Zero-vehicle household distribution by number of workers, birthplace status, and region (2001 and 2009 NHTS).....	40
3-1.	Daily number of person-trips per person by birthplace status and region (2001 and 2009 NHTS).....	41
3-2.	Daily person-trips per person in 2009, by birthplace and region (2009 NHTS).....	42
3-3.	Daily person-trips by ethnicity and birthplace status (2001 and 2009 NHTS).....	43
3-4.	Daily person-trip rate per person by length in the U.S. for foreign-born residents (2001 & 2009 NHTS). .....	44
3-5.	Daily person-miles-traveled (in miles) by birthplace status and length in the U.S. (2009 NHTS) .....	45
3-6.	Mode shares by birthplace status and region (2001 and 2009 NHTS). .....	46
3-7.	Person-trip distribution by mode and the length in U.S. (2009 NHTS). .....	46
3-8.	Percent of person-trips by public transit or walking by birthplace status (2009 NHTS).....	47



3-9.	Daily person-trips per person by household (HH) vehicle ownership, birthplace status and region (2001 and 2009 NHTS).....	48
3-10.	Total household (HH) daily PMT by birthplace status, vehicle ownership and region (2001 and 2009 NHTS). ....	49
3-11.	Percent of household (HH) person-trips using public transit or walking by vehicle ownership, birthplace status and region (2001 and 2009 NHTS). ....	50
3-12.	Percent of person-trips per person by trip purpose, birthplace status and region (2001 & 2009 NHTS) .....	51
3-13.	Average person-trip distance (miles) by birthplace status and length in the U.S. (2009 NHTS) .....	52
3-14.	Distribution of NYS resident person-trips by time of travel, birthplace status and length of time in the U.S. (2009 NHTS).....	53
3-15.	Distribution of person-trips by time of travel, birthplace status and length of time in the U.S. the Rest of the U.S. residents (2009 NHTS).....	53
3-16.	Distribution of NYS resident work person-trips by time of travel, birthplace status and length in the U.S. (2009 NHTS). ....	54
3-17.	Distribution of work person-trips by time of travel, birthplace status, and length in the U.S., for residents of the Rest of the U.S. during (2009 NHTS). ....	55
3-18.	Average travel time on overall person-trips and work trips (in minutes) by birthplace status and length in the U.S. (2009 NHTS). ....	56
3-19.	Number of vehicle-trips per driver by birthplace status and region (2001 and 2009 NHTS).....	57
3-20.	Daily vehicle-miles-traveled per driver by birthplace status and region (2001 and 2009 NHTS).....	58
3-21.	Average length of vehicle trips by birthplace status and region (2001 and 2009 NHTS).....	59
3-22.	Average vehicle-trip length in distance (miles) by birthplace status and length in the U.S. (2009 NHTS). ....	60
3-23.	Percent of vehicle trips per driver by trip purpose, birthplace status and region (2001and 2009 NHTS).....	61
3-24.	Average daily vehicle trips per person by time in the U.S. (2009 NHTS). ....	62
3-25.	Distribution of vehicle trips by travel party size, birthplace status and region (2009 NHTS). ....	63
4-1.	Percent of respondents that identified an important issue as a big issue by birthplace status and region (2009 NHTS). ....	66
4-2.	Percent of respondents that view the selected issue as a trivial concern in travel, by birthplace status and region (2009 NHTS). ....	68



## LIST OF TABLES

<u>Table</u>	<u>Page</u>
2-1.	Population Changes between April 2010 and July 2014 (Census Data) .....5
2-2.	Population Changes by Citizenship Status and Region (2000 to 2010 Census data).....6
2-3.	Comparison of New York State versus Rest of the U.S. Population by Citizen Type for the 2001 and 2009 NHTS and Corresponding Census Population .....10
2-4.	Distributions of LPRs and Naturalized Citizens by Age and Resident Region for Fiscal Years 2007, 2009, and 2013 (DHS Data).....11
2-5.	Distributions of LPRs and Naturalized Citizens by Marital Status and Resident Region for Fiscal Years 2007, 2009, and 2013 (DHS Data) .....12
2-6.	Distribution of populations by birthplace status and ethnicity (2001 and 2009 NHTS).....21
2-7.	Number and Share of Drivers by Length of Time in the U.S. by Region 2009 and 2001 NHTS .....23
2-8.	Driver Rate by Gender, Birthplace Status, and Region (2001 and 2009 NHTS) .....25
2-9.	NYS Household Distribution by Vehicle Ownership and Average Vehicle Age, Birthplace Status and Region (2009 NHTS).....33
2-10.	NYS Household Distribution by Vehicle Ownership and Average Vehicle Age, Birthplace Status and Region (2001 NHTS).....34
3-1.	Distribution of Vehicle-Trip Length by Birthplace Status and Region (2001 and 2009 NHTS).....59
3-2.	Vehicle Trips by Travel Party Size, Birthplace Status and Region (2009 NHTS) .....63
4-1.	Percent of 2009 NHTS Respondent Views of <i>Significant</i> Transportation Problems by Birthplace Status and Region.....67
5-1.	Summary Mobility Statistics by Birthplace Status of Residents in NYS and the Rest of the U.S. (2009 and 2001 NHTS) .....69



## ACRONYMS

ACS	American Community Survey
DHS	U.S. Department of Homeland Security
LPR	Legal Permanent Resident
NHTS	National Household Travel Survey
NYC	New York City
NYMTC	New York Metropolitan Transportation Council
NYS	New York State
NYSDOT	New York State Department of Transportation
OIS	Office of Immigration Statistics
PMT	Person Mile Traveled
PT	Person Trip
USDOT	U.S. Department of Transportation
VMT	Vehicle Miles Traveled
VT	Vehicle Trip



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## **ABSTRACT**

According to the 2010 Census, over 22% of total New York State (NYS) residents were foreign-born and over one in three persons living in New York City (NYC) were foreign-born. Foreign-born and their dependents impact local economies in many different ways, including purchasing power, transportation service needs, business sales and receipts generated, and workforce. To allow better policy decision making and program planning of transportation developments and investments in NYS, a clear understanding of the foreign-born population's travel characteristics and behaviors, as well as their unique transportation service needs, are necessary. This report documents the characteristics of the foreign-born population and identified differences in travel behaviors and mobility issues between foreign-born residents of NYS and their U.S.-born counterparts.



# 1. INTRODUCTION

## 1.1 BACKGROUND

Foreign-born<sup>1</sup> individuals are a very important component of the United States' population composition. Research on the extent of the existing foreign-born population as well as projections of its future growth has been conducted. As reported by the Pew Research Center<sup>2</sup> using data from the Census Bureau, the foreign-born population is expected to reach 78 million by year 2060, making up nearly 19% of the total U.S. population. This is a significant increase from the latest Census 2010 estimates indicating the foreign-born population accounted for nearly 13% of the national total population.

The share of the foreign-born population in New York State (NYS) is significantly higher than the national average accounting for about 22% of the total NYS population in 2010 according to Census 2010 data. In fact, the Census estimated that the NYS population changed from nearly 19.4 million in 2010 to 19.8 million in 2015, resulting in a relatively small growth in population (nearly 2%, or 418 thousand persons). Over this period between 2010 and 2015, the Census data shows that NYS had a natural increase of 468 thousand persons, but had a negative net population change of 653 thousand due to domestic migrations. Clearly, without the 631 thousand international migrations into NYS (i.e., immigrations) during this period there would not be any population growth for NYS for this timeframe.

Foreign-born and their dependents undoubtedly impact local economies in many different ways, including purchasing power, transportation service needs, business sales and receipts generated, and workforce, just to name a few. As stated in a fact sheet produced by the American Immigration Council<sup>3</sup>, the 2014 purchasing power of NYS's Latino population totaled over \$95 billion and buying power of NYS's Asian population totaled over \$70 billion in the same year. The same report also pointed out that immigrants comprised over 27% of NYS's workforce in 2013, embodying about 2.75 million workers. To allow better policy/decision making and planning on transportation developments and investments at federal, state, and local levels, a clear understanding of the foreign-born population's travel characteristics and behaviors, as well as any unique transportation service needs (e.g., transit), are necessary.

For this study, Oak Ridge National Laboratory (ORNL) was tasked by the NYS Department of Transportation to conduct a detailed examination of travel behaviors, and identify patterns and

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<sup>1</sup> Census defines a "foreign-born" individual as anyone who is not a U.S. citizen at birth. See definition provided in Section 1.4 of this report.

<sup>2</sup> "U.S. immigrant population projected to rise, even as share falls among Hispanics, Asians," FACTANK, Pew Research Center, March 9, 2015, <http://www.pewresearch.org/fact-tank/2015/03/09/u-s-immigrant-population-projected-to-rise-even-as-share-falls-among-hispanics-asians/>.

<sup>3</sup> New Americans in New York - The political and Economic Power of Immigrants, Latinos, and Asians in the Empire State, <https://www.americanimmigrationcouncil.org/research/new-americans-new-york>.

trends on several NYS subpopulations, including foreign-born residents. This research focused on examining issues associated with foreign-born travelers among NYS residents only. Specifically, the study identifies differences between foreign-born and the non-foreign-born residents, if any, in travel patterns that are attributable to demographic characteristics, household characteristics, modal characteristics, geographic location, and other parameters. Focus is given to trip frequency, trip chaining, as well as travel by time of day, trip purpose, and mode choice.

## **1.2 OBJECTIVE**

The 2009 National Household Travel Survey (NHTS) data was used, as the primary data source, to analyze subjects and address questions such as are there differences in traveler demographics between the foreign-born and U.S. born residents who lived in various NYS regions, e.g., New York City (NYC), other urban areas of NYS, or other parts of the country? How do they compare with the population at large? Are there any regional differences (e.g., urban versus rural)? Are there any gender differences? Do any unique travel characteristics or patterns exist in the foreign-born population group?

## **1.3 BRIEF DESCRIPTIONS OF THE DATA SOURCES**

### **1.3.1 NHTS**

Overall, statistics in this report were produced using data from the 2009 NHTS. The NHTS is a Federal Highway Administration-sponsored national travel survey of U.S. households; it surveyed over 150,000 households in 2009.<sup>4</sup> According to the NHTS website (NHTS 2014) “*the NHTS is the authoritative source of national data on the travel behavior of the American public.*” The NHTS includes questions about trip frequency, distance, travel time, and modes of transportation, including walking and bicycling.

In this study, a “foreign-born” person is defined as one who answered “no” to the 2009 NHTS question: *Were you (or subject) born in the United States?* Similarly, a “foreign-born household” is defined as a household with one or more person born outside the U.S. Furthermore, the “number of years in the U.S.” was calculated based on the answer to the 2009 NHTS question: *In what year did you (or subject) come to the United States?*

The NHTS data from the 2001 survey year were also included in this study when trends or changes over time were concerned. Note that the NHTS collected information for individuals that were age 5 years old and older at the survey time only.

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<sup>4</sup> U.S. Territories are not included in the NHTS sampling frame.

### **1.3.2 Census Data**

Other information and data sources were also utilized in this study; particularly data from the Census. The American Community Survey (ACS) was used for examining the size of the population. The ACS is a survey conducted by the U.S. Census Bureau for about 3 million households each year (250 thousand per month), and are subject to the constraint that households should not be surveyed more than one time in any five-year period. Thus the ACS is very intensive—about 20 times as large as the NHTS (3 million versus 150 thousand)—and it is repeated every year. The ACS is also, geographically, more uniform than the NHTS data. Each year’s ACS sample includes, on average, almost 50 households per Census Tract and almost 15 households per Block Group. Data on demographic, social, and economic characteristics on all ages of populations living in the U.S. is collected in the ACS. The ACS also collects data on commuting, i.e., the Journey to Work, including mode of transportation and travel time to work.

### **1.3.3 Department of Homeland Security Data**

The Office of Immigration Statistics (OIS) in the Department of Homeland Security (DHS) releases annual statistical information regarding naturalization and immigration in the U.S. in various publications, including annual yearbooks and other profile reports. Data on naturalizations and legal permanent residents (LPR, or “green card” recipients) are available from the OIS, including demographic information, state of residence, and the region/country of birth. Each annual set of naturalization data covers all age 18 years and over who were naturalized during a given fiscal year; while the annual LPR data contains all immigrants (of any age) who have been granted LPR status in the U.S. in a given fiscal year. A fiscal year is defined as the period from October 1 of a year to September 30 of the following year.

## **1.4 DIFFERENCE IN TERMINOLOGY**

Census uses the term “native born” or “natives” to define anyone who is a U.S. citizen at birth, which includes those born in the U.S., Puerto Rico, U.S. Island Area (e.g., Guam), as well as those born abroad of U.S. citizen parents. A “foreign-born” resident is defined as anyone who is not a U.S. citizen at birth, which includes naturalized U.S. citizens, LPRs, temporary migrants, humanitarian migrants, and unauthorized migrants. However, the NHTS definition for a “foreign-born” is simply anyone who was not born in the U.S., including those who were born abroad of U.S. citizen parents. In this report, the more appropriate term of “U.S. born,” instead of “native born,” is used for all discussions involving the NHTS data. The term “native born” is used when referring to the Census data such as the ACS, however.

## **1.5 ORGANIZATION OF REPORT**

This report presents results generated from data analyses performed for travel made by NYS foreign-born residents. Section 2 of this report describes characteristics of the foreign-born population in NYS, including the size of this population, their demographic profiles, household living arrangements, their vehicle ownership and vehicle age. Travel patterns for the foreign-born population are discussed in Section 3. This technical memorandum is concluded with a summary of key findings in Section 4. A glossary listing definitions of general terms used in this report is provided in Appendix A and supplemental table from the 2009 NHTS data are found in Appendix B.

## 2. PROFILE OF THE FOREIGN-BORN POPULATION

### 2.1 FOREIGN-BORN POPULATION PROFILE

#### 2.1.1 Population Evolution

According to Census estimates, the period between 2010 and 2014<sup>5</sup> the total U.S. population increased by over 10 million, which included 6 million from natural increases and 4 million from population migration (Table 2-1). As seen in Table 2-1, although NYS shows a population increase of about 370 thousand during the same period, it actually experienced an outflow of nearly 487 thousand domestically. That is, nearly one-half million of the NYS population migrated to other states during the four years period. The impact of negative population growth in NYS was offset by natural increase and immigration (Table 2-1).

**Table 2-1. Population Changes between April 2010 and July 2014 (Census Data)**

Total Population Change*	United States	New York State
	<b>10,098,951</b>	<b>368,115</b>
Natural Increases	6,035,640	385,685
Vital Events		
Births	16,811,002	1,023,877
Deaths	10,775,362	638,192
Net Migration	4,063,311	-1,626
International	4,063,311	485,224
Domestic		-486,850

\* Total population change includes a residual, which represents the change in population that cannot be attributed to any specific demographic component.

Notice that the net international migration shown in Table 2-1 includes international movements of both native-born and foreign-born populations, which consists of four sub-components:

- (a) Net international migration of the foreign-born,
- (b) Net migration between the U.S. and Puerto Rico,
- (c) Net migration of natives to and from the U.S., and
- (d) Net movement of the Armed Forces population between the U.S. and overseas.

Using 2000 and 2010 Census population data, Figure 2-1 shows percent changes in total populations between the two Census years by region and citizenship status (native, naturalized citizen, and non-citizen). Clearly, the largest increases in population over the decade (2000 to 2010) are for the naturalized citizen group, ranging from an increase of 17% in Manhattan to over 43% in the Rest of the U.S. The non-citizen population in the 5-county NYC area, however, shows a significant decrease since 2000, reduced about 10% in Manhattan and dropped

<sup>5</sup> Data source: “Annual Estimates of Resident Population Change for the United States, States, and Puerto Rico and State Rankings: April 1, 2010 to July 1, 2014”, NST-EST2014-popchg2010-2014. Population Division, U.S. Census Bureau, released date of December 2014.

over 8% in the Rest of NYC. Because NYC (5-county) accounts for a significant share of the NYS population, the decrease in the non-citizen population in NYC is likely contributes to the overall 2% decrease in the statewide population during the same time. Outside the 5-county NYC area, the non-citizen population saw increases with growth ranging from about 5% in the Putnam-Rockland-Westchester region to about 22% in regions outside NYS. These patterns are also visible in statistics presented in Table 2-2, where the changes in population are presented.

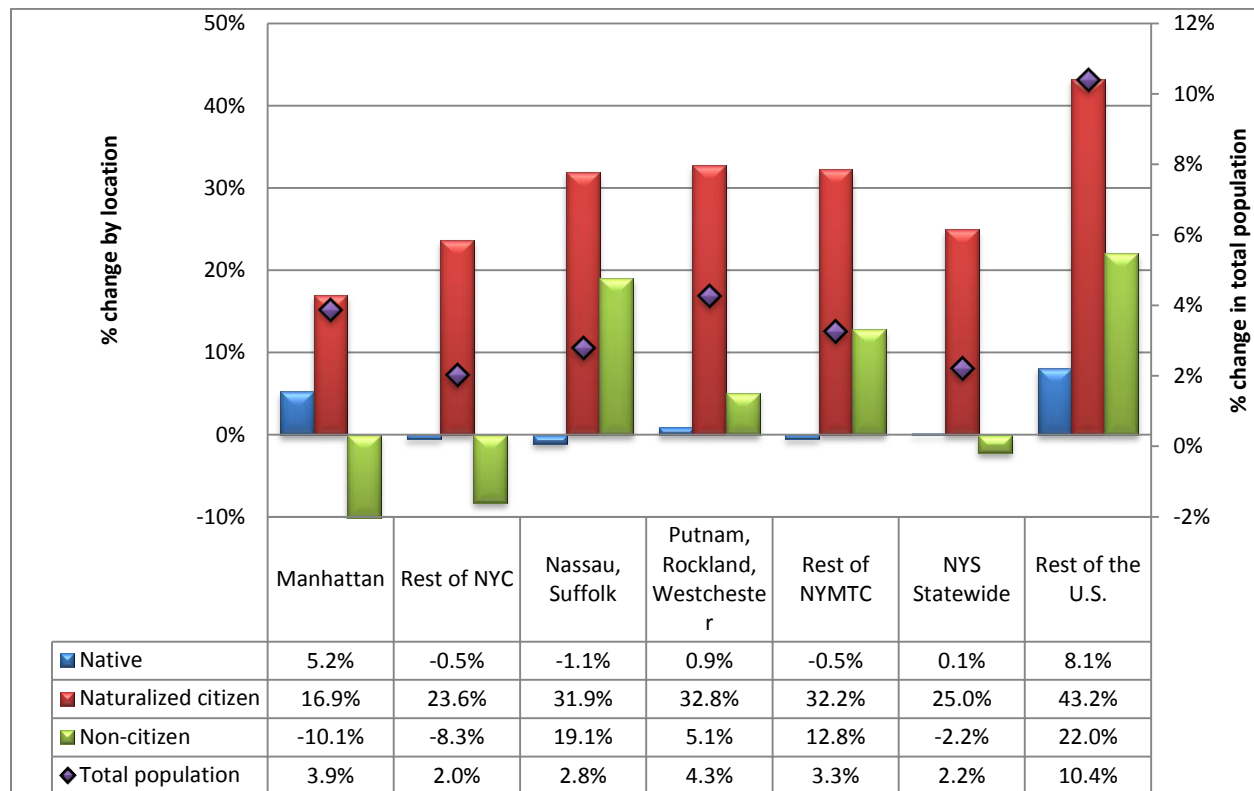


Figure 2-1. Population changes between 2000 and 2010 by citizenship and region (Census data).

Table 2-2. Population Changes by Citizenship Status and Region (2000 to 2010 Census data)

Population type	Manhattan	Rest of NYC	Nassau, Suffolk	Putnam, Rockland, Westchester	Rest of NYMTC	Statewide (NYS)	Rest of the U.S.
<b>All population</b>	59,540	131,403	77,159	55,983	133,142	421,668	27,295,137
Native	56,732	(18,622)	(25,577)	9,718	(15,859)	21,781	19,018,608
Foreign born	2,808	150,025	102,736	46,265	149,001	399,887	8,276,529
Naturalized citizen	30,398	259,247	67,151	38,586	105,737	445,399	4,651,182
Not a citizen	(27,590)	(109,222)	35,585	7,679	43,264	(45,512)	3,625,347

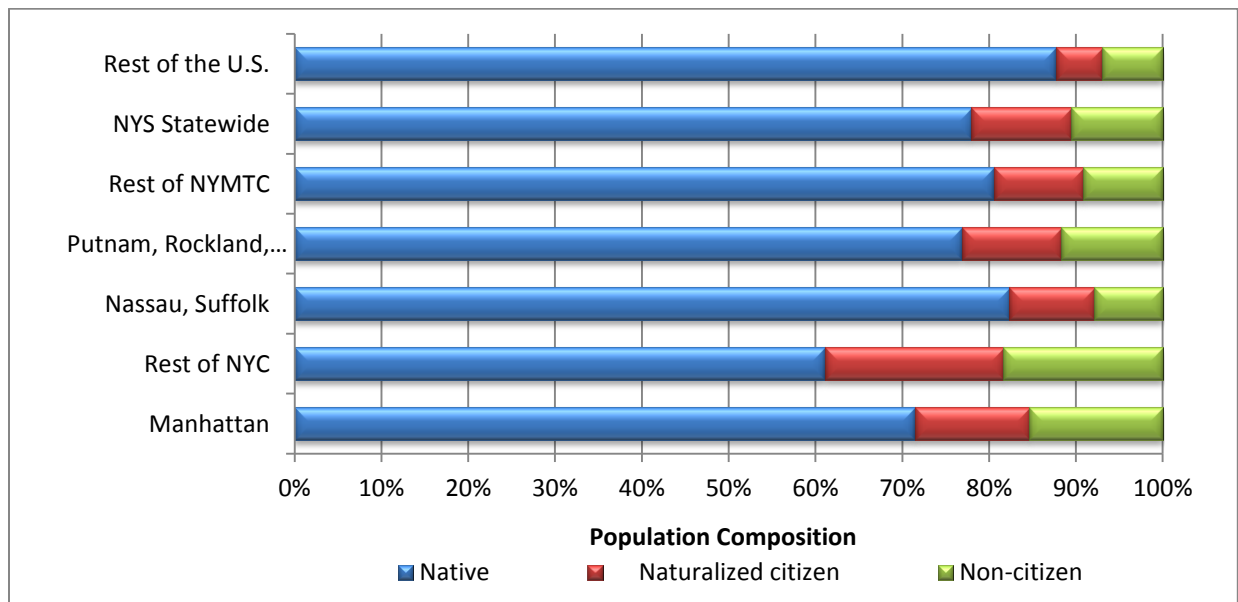
The population changes between 2000 and 2010 for natives are less substantial for most regions in NYS, except for Manhattan with a growth rate of about 5%. Outside NYS, the native-born population increases about 8% during the same time. As a reference, percent changes in total populations for each of the regions are also plotted in Figure 2-1 (shown in purple dots).



Note that a different scale is used in displaying total population changes, which is shown on the right axis of Figure 2-1. Evidently, the foreign-born (particularly naturalized citizens) population is the main factor for the population growth seen in NYS between the two Census years (2000 and 2010). The only exception is Manhattan, where its population growth was mainly due to the increase of natives during that period (see Table 2-2). A more detailed listing of population broke down by population status (e.g., native, foreign born) and geographic areas for Census years of 1990, 2000 and 2010 is presented in Table A.1 at the end of this report; follow by their associated percent population changes given in Table A.2.

### 2.1.2 Population Composition

With respect to the population composition in 2010, Figure 2-2 shows that based on data from the latest ACS 5-year 2008-2015 series, it is estimated that nearly 30% of the residents from Manhattan were foreign-born (including naturalized citizens and non-citizens). The share of foreign-born in the other four boroughs (or counties) of NYC, however, was about 10% higher. The foreign-born population accounted for nearly 40% of this region’s total population. In other words, about two in every five persons that lived in the Rest of NYC region during 2010 were foreign-born. As a whole, 22% of the NYS 2010-population was foreign-born; while only about 12% of those that lived outside of NYS were.

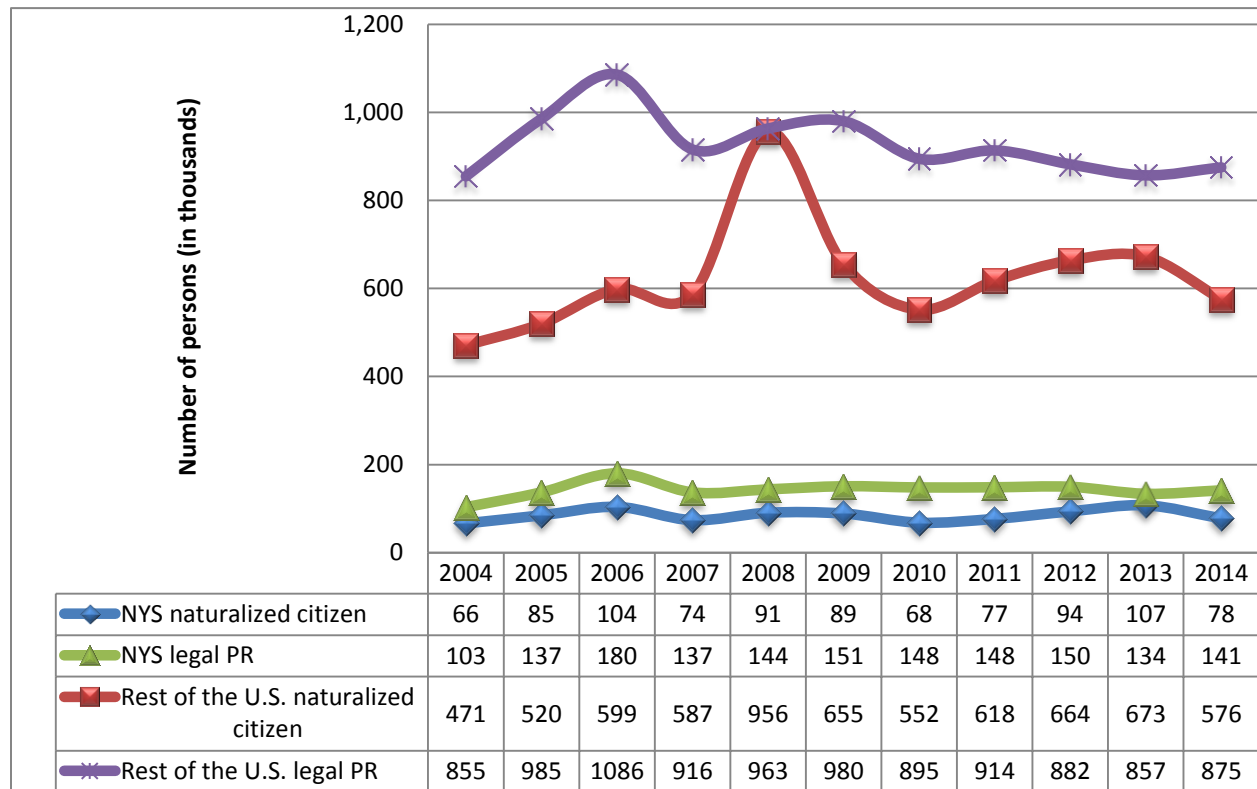


**Figure 2-2. Population distribution by population status and region based on the 2008-2015 5-year ACS estimates.**

### 2.1.3 Historical Trends in Naturalization and Immigration

Based on the OIS/DHS *2014 Yearbook of Immigration Statistics*<sup>6</sup>, Figure 2-3 shows the number of naturalized citizens and LPRs in NYS and the Rest of the U.S. during the period 2004 to 2014. According to this latest OIS published data, nearly 78 thousand persons (aged 18 years and over) naturalized in NYS during fiscal year 2014. In addition, 141 thousand individuals obtained LPR status in NYS during the same year. Outside NYS, the OIS statistics show that 576 thousand persons became U.S. citizens (i.e., naturalized) and over 875 thousand people were granted LPR in 2014 (Figure 2-3).

The number for naturalized citizens includes individuals who are 18 years old and older only, while LPRs include all age groups. In addition, people entering the U.S. who applied for asylum or refugee status are not included in this analysis. As pointed out previously, the years used in OIS reports refer to fiscal year, which is from October 1 of a year to September 30 of the following year.



**Figure 2-3. Immigration trends in NYS versus the Rest of the U.S. for fiscal years 2004 to 2014.**

As seen in Figure 2-3, a record number of persons were naturalized in other parts of the U.S. (outside NYS) in 2008 (956 thousand in total), increasing 63% from 587 thousand in 2007.

<sup>6</sup> Yearbook of Immigration Statistics, Office of Immigration Statistics, Department of Homeland Security, <https://www.dhs.gov/yearbook-immigration-statistics#wcm-survey-target-id>, accessed June 2016.

According to a March 2009 edition of the Annual Flow Report released by the OIS, this all-time record increase<sup>7</sup> was “primarily attributable to the large volume of naturalization applications received by the U.S. Citizenship and Immigration Services (USCIS) in 2007 in advance of a fee increase and in response to special efforts to encourage eligible applicants to apply for U.S. citizenship.” Furthermore, OIS also pointed out “many of these applications, especially those received during the latter part of 2007, were processed during 2008.” States with the largest increase in naturalization between 2007 and 2008 are California (from 182 thousand to 298 thousand) and Florida (from 55 thousand to 128 thousand), based on this Annual Flow Report.

Overall, OIS data shows that the number obtaining LPRs in NYS stayed at a relatively stable level since 2008. The number of naturalizations in NYS, however, appears to show a trend-cycle over the last 10 years or so (Figure 2-3). A similar trend-cycle seems to exist for the number of naturalizations in areas outside NYS (if the jump in 2008 is ignored). On the other hand, the number of LPRs in the Rest of the U.S. displays a slightly declining trend since 2009.

#### **2.1.4 NHTS Definition of Foreign Born Population**

The 2009 NHTS asked the respondents whether they were born in the U.S. and, for those not born in the U.S., a follow-up question of what year they came to the U.S. was asked. This follow-up answer allows the number of years since the respondents arrived to the U.S. to be estimated. Using this NHTS-collected information, travel patterns between the foreign-born and U.S.-born residents can be compared.

As mentioned in Chapter 1 of this study, the NHTS foreign-born population is identified as those who answered “no” to the “whether born in the U.S.” question. With this definition, however, children born to U.S. citizens that lived outside the U.S. at the time of birth are included in the foreign-born group.

On the other hand, Census defines “foreign-born” population as “anyone who is not a U.S. citizen at birth<sup>8</sup>,” including those who become U.S. citizens through naturalization (which is the same as that under the NHTS). Similarly, Census defines the “native” population as anyone who is a U.S. citizen at birth. Clearly, this is different from the classification scheme used by the NHTS. Consequently, some discrepancies in population estimates should be expected. Table 2-3 shows population estimates for the 2001 and 2009 NHTS along with the corresponding Census results, by region (NYS and outside NYS). Not surprisingly, the share of “foreign-born” (by either definition) is significantly higher in NYS, when compared to their counterparts that lived outside NYS. Since NHTS did not collect information pertinent to foreign-born in 1995, only 2009 and 2001 are presented here.

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<sup>7</sup> *Naturalizations in the United States: 2008*, page 2, Annual Flow Report, Office of Immigration Statistics, Department of Homeland Security, March 2009.

<sup>8</sup> Definition of Foreign Born, U.S. Census Bureau, <http://www.census.gov/topics/population/foreign-born.html>,

Also seen in Table 2-3, more than 15% of the 2009 NHTS respondents did not report whether they were born in the U.S. or not (the “Data not available” category). The non-response rate for this data element, in fact, has improved since the 2001 NHTS had an unreported rate of around 24% of the survey respondents. Note that, unlike the Census population that includes people of all ages, NHTS includes persons aged 5 years old and over only.

**Table 2-3. Comparison of New York State versus Rest of the U.S. Population by Citizen Type for the 2001 and 2009 NHTS and Corresponding Census Population**

Population type	New York State		Rest of the U.S.	
	Number of persons	Percent	Number of persons	Percent
<b>2010 CENSUS</b>				
<b>Total population</b>	19,398,125	100%	289,740,586	100%
Native	15,130,105	78%	254,224,301	88%
Foreign born	4,268,020	22%	35,516,285	12%
Naturalized citizen	2,229,143	11%	15,410,064	5%
Non-citizen	2,038,877	11%	20,106,221	7%
<b>2009 NHTS</b>				
<b>Total population</b>	18,281,802	100%	264,772,070	100%
Born in U.S.	11,999,673	66%	192,383,594	73%
Born Outside U.S.	3,642,603	20%	30,052,963	11%
Data Not Available	2,639,525	14%	42,335,513	16%
<b>2000 CENSUS</b>				
<b>Total population</b>	18,976,457	100%	262,445,449	100%
Native	15,108,324	80%	235,205,693	90%
Foreign born	3,868,133	20%	27,239,756	10%
Naturalized citizen	1,783,744	9%	10,758,882	4%
Non-citizen	2,084,389	11%	16,480,874	6%
<b>2001 NHTS</b>				
<b>Total population</b>	18,635,650	100%	258,567,585	100%
Born in U.S.	10,853,903	58%	173,581,796	67%
Born Outside U.S.	3,664,385	20%	23,177,076	9%
Data Not Available	4,117,361	22%	61,808,713	24%

## 2.2 IMMIGRATION STATISTICS FOR SELECTED YEARS

### 2.2.1 Age Profiles

By general default, immigrants are the LPRs who are foreign nationals and have been granted the lawful/legal right to reside permanently in the U.S. Data from OIS/DHS shows that more than two in five new LPRs are between the ages of 25 to 44 years old in each of the three fiscal years (2007, 2009, and 2013) examined under this study (Table 2-4). There are no significant differences in age distribution patterns for those granted LPRs for residents of the two regions (NYS and the Rest of the U.S.) over the three years. Similarly, Table 2-4 also shows that over half of those newly naturalized citizens, in each of the three years, are between the ages of 25 to 44 years old in both regions. Recall that naturalization statistics are for people age 18 year

or older only, while LPRs include individuals in all age groups. The rationale for selecting the three specific years for comparison in Table 2-4 are:

- a) the 2007 OIS data was used in a similar study previously conducted by ORNL using the 2001 NYS NHTS data<sup>9</sup>;
- b) the 2009 OIS data overlaps with the latest NHTS data for the data collection timeframes; and
- c) 2013 is the most recently available data year for the OIS *Profile Reports* where Table 2-4 estimates were obtained.

**Table 2-4. Distributions of LPRs and Naturalized Citizens by Age and Resident Region for Fiscal Years 2007, 2009, and 2013 (DHS Data)**

Age group	2007		2009		2013	
	New York State	Rest of the U.S.	New York State	Rest of the U.S.	New York State	Rest of the U.S.
<b>Legal Permanent Residents</b>						
<i>Total population</i>	136,739	915,676	150,722	980,096	133,601	856,952
Under 18 years	19.3%	20.1%	19.9%	19.7%	19.1%	18.0%
18 to 24 years	14.1%	13.2%	14.1%	13.7%	13.0%	12.3%
25 to 34 years	24.2%	24.5%	23.5%	24.7%	22.9%	23.8%
35 to 44 years	20.0%	18.8%	19.2%	18.6%	17.4%	19.0%
45 to 54 years	11.8%	10.7%	12.0%	10.9%	12.0%	11.4%
55 to 64 years	6.3%	7.0%	6.8%	7.1%	7.6%	7.2%
65 years & over	4.4%	5.7%	4.6%	5.3%	4.2%	5.0%
Unknown	0.0%	0.0%	0.0%	0.0%	3.8%	3.2%
<b>Naturalized Citizens*</b>						
<i>Total population</i>	73,676	586,801	88,733	654,982	107,330	672,599
18-24 years	11.1%	9.8%	8.8%	8.1%	9.4%	9.2%
25-34 years	24.7%	25.4%	25.6%	25.3%	26.2%	24.9%
35-44 years	26.3%	29.6%	26.2%	29.4%	24.2%	27.1%
45-54 years	18.1%	16.2%	19.1%	17.8%	18.0%	18.3%
55-64 years	12.4%	11.1%	13.0%	11.6%	13.4%	11.7%
65 years & over	7.3%	8.0%	7.4%	7.8%	8.8%	8.9%
Unknown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

\* Individuals age 18 years or older only

## 2.2.2 Marital Status of Immigrants

Based on the same OIS data as above, Table 2-5 summarizes the distributions of new LPRs and naturalized citizens by their marital status. There is a noticeable difference in the share of singles by region of residency, where shares of singles for new LPRs and naturalized citizens are greater in NYS than the Rest of the U.S. No significant changes in marital shares over time can be observed in Table 2-5, however.

<sup>9</sup> Chapter 2, "Travel Patterns of the Immigrant Population," *2001 NYS NHTS Special Populations Report*, March 2010, Oak Ridge National Laboratory. <https://www.dot.ny.gov/divisions/policy-and-strategy/darb/dai-unit/tss/repository/2001%20NYS%20NHTS%20Special%20Populations%20Report%20w-Appendices.pdf>

**Table 2-5. Distributions of LPRs and Naturalized Citizens by Marital Status and Resident Region for Fiscal Years 2007, 2009, and 2013 (DHS Data)**

Marital status	2007		2009		2013	
	New York State	Rest of the U.S.	New York State	Rest of the U.S.	New York State	Rest of the U.S.
<b>Legal Permanent Residents</b>						
Single	40.2%	36.3%	40.5%	36.3%	40.9%	35.1%
Married	54.9%	58.4%	54.5%	58.4%	53.3%	59.3%
Other*	4.5%	4.8%	4.6%	4.9%	5.2%	5.2%
Unknown	0.4%	0.5%	0.4%	0.4%	0.6%	0.4%
<b>Naturalized Citizens**</b>						
Single	27.2%	20.6%	23.7%	19.3%	26.2%	21.9%
Married	58.8%	67.4%	62.5%	67.5%	58.3%	64.5%
Other***	14.1%	11.0%	13.7%	12.3%	15.5%	13.3%

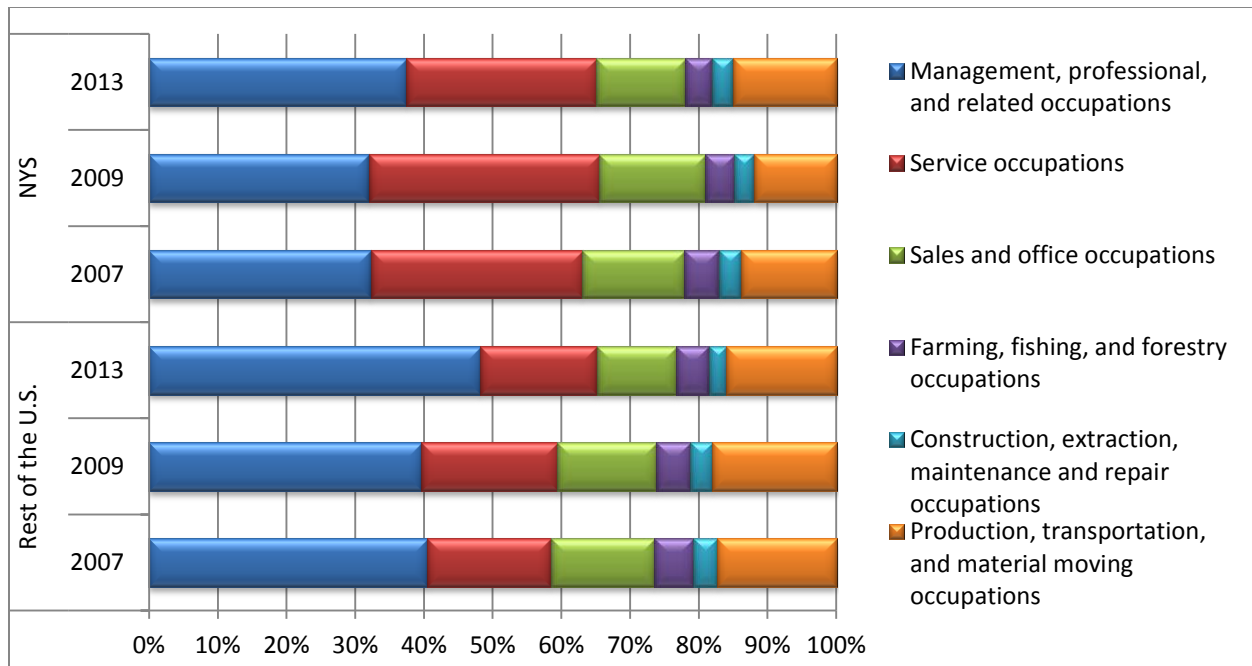
\* Other includes persons who are divorced, separated, or widowed.

\*\* Individuals age 18 years or older only.

\*\*\* Includes people who are divorced, separated, widowed, or of unknown marital status.

### **2.2.3 Occupational Profile of Legal Permanent Residents**

The OIS/DHS also collects occupational statistics for naturalized citizens and LPRs at the time of filing their applications. Figure 2-4 shows that the majority of immigrants (LPRs) from the Rest of the U.S. area hold jobs in the “management, professional, and related” occupations; while the majority of those from NYS are nearly equally split between the “management, professional, and related” and the “service” occupational groups. Clearly, the NYS region has a greater share of LPRs with occupations in the service sector than their counterparts in the Rest of the U.S.



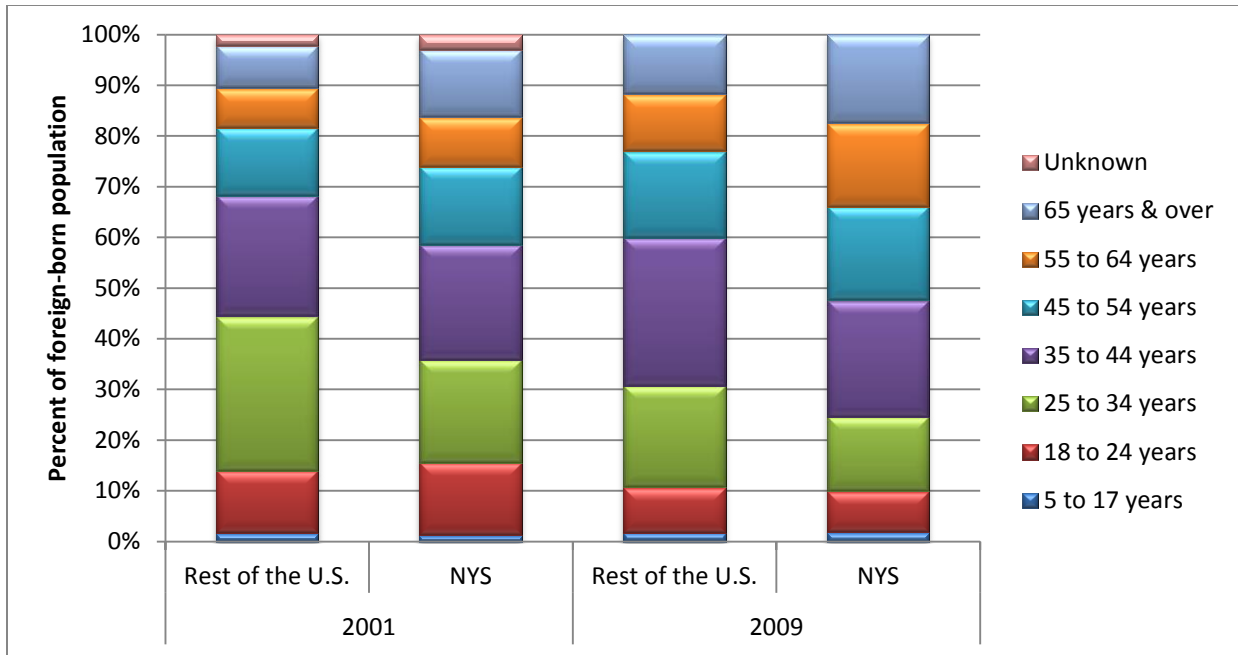
**Figure 2-4. Occupational distributions for LPRs by region for fiscal years 2007, 2009, and 2013 (DHS data).**

Although similar occupational statistics can be obtained for naturalized citizens, a large portion of naturalized citizens did not report their occupation (i.e., missing data), especially for data reported in earlier years (with 50%- 75% of unknown). For this reason, and to avoid misleading results being presented, a table of summary statistics on naturalized citizens, similar to Figure 2-4, is not provided.

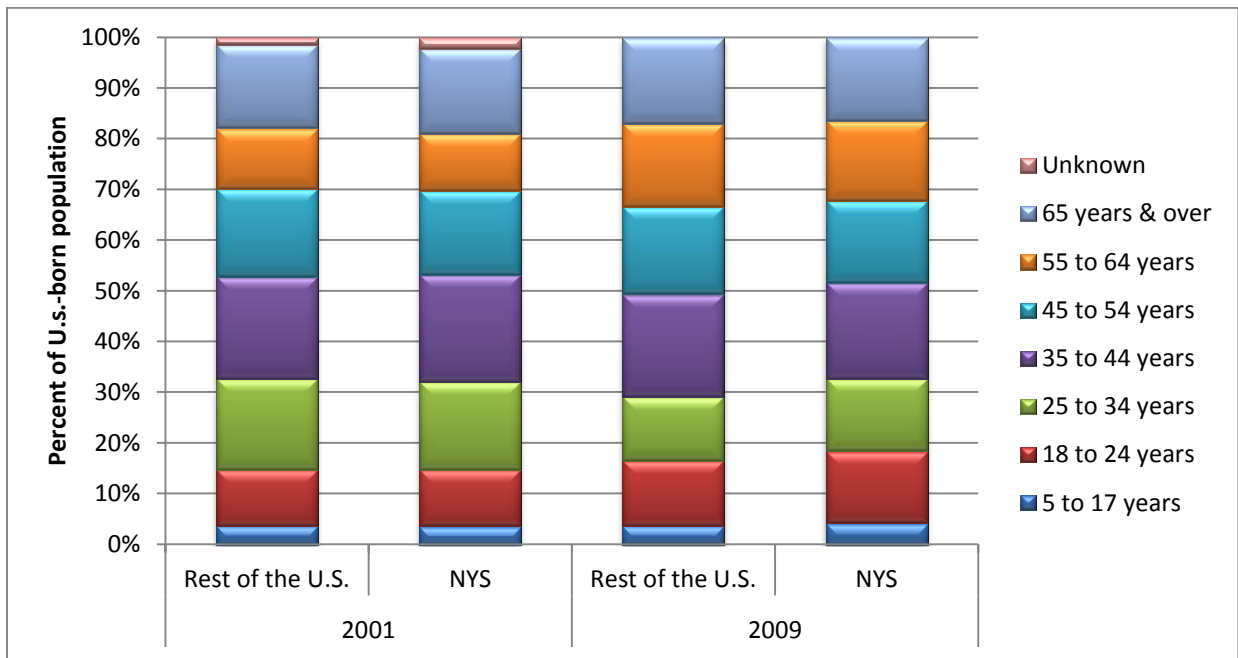
## **2.3 DEMOGRAPHIC PROFILE OF THE NYS FOREIGN-BORN POPULATION**

### **2.3.1 Age Profile of the NHTS Foreign-born Population**

Based on the NHTS data, Figure 2-5 and Figure 2-6 compare the age distributions of foreign-born and U.S.-born populations for residents of NYS and the Rest of the U.S. in the 2001 and 2009 NHTS. The most visible difference shown in Figure 2-5 for foreign-born populations between the two NHTS survey years is a change in the age profiles, which are moving toward a greater share of older age groups. For example, the share of foreign-born residents from the Rest of the U.S. who are 25 to 34 years old accounted for about 31% in 2001 but dropped to only 20% in 2009. The share of 35 to 44 year olds jumped from 24% in 2001 to over 29% in 2009, while the 65+ year olds grew from 8% to 12%. Similarly, for NYS foreign-born residents, the population share of 25 to 34 year olds declined from over 20% in 2001 to less than 15%, while the share of 55+ year olds increased from about 23% in 2001 to nearly 34% in 2009.



**Figure 2-5. Distribution of the foreign-born population by age and region (2001 and 2009 NHTS).**



**Figure 2-6. Distribution of the U.S.-born population by age and region (2001 and 2009 NHTS).**

For the two NHTS survey years, the difference in age profiles between the two regions for those who were born in the U.S. are not as visible as those shown in the foreign-born, although some shifts toward the older age groups between the two NHTS years could be seen in Figure 2-6. Specifically, those aged 25 to 34 years old who were born in the U.S. and lived in the Rest of the U.S. accounted for about 18% in 2001 but declined to less than 13% in 2009. Over the



same time, the share of those U.S.-born from outside NYS between ages 55 and 64 years old has increased from 12% in 2001 to over 16% in 2009. A similar change in the age profile pattern is also seen for those who lived in NYS.

### 2.3.2 Household Income by Foreign-Born Status

Recall that a “foreign-born household” is one that includes at least one household member that was born outside of the U.S. Using the 2009 NHTS data, Figure 2-7 and Figure 2-8 display the distributions of household incomes for foreign-born and U.S.-born households, respectively, by their regions of residence. Based on Figure 2-7 and Figure 2-8, the poverty rates (i.e., percent of households with an annual income under \$25,000) are greater for those of foreign-born households in most regions. This difference in the poverty rate between foreign-born and U.S.-born households is particularly noticeable for those that lived in NYC. For example, about 28% of foreign-born households from Manhattan earned less than \$25,000 in 2009, while only 16% of their counterpart U.S.-born households are in the same income level. Outside Manhattan, the poverty rates for households living in NYC are 35% and 24% for foreign-born and U.S. born, respectively.

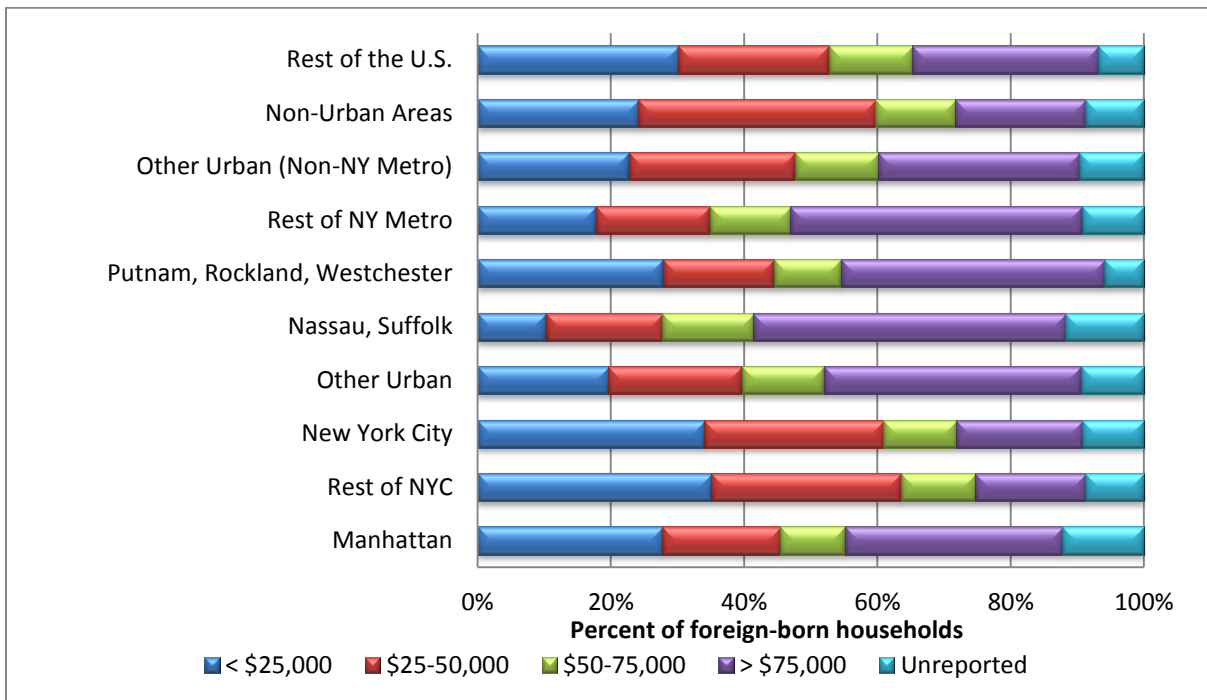
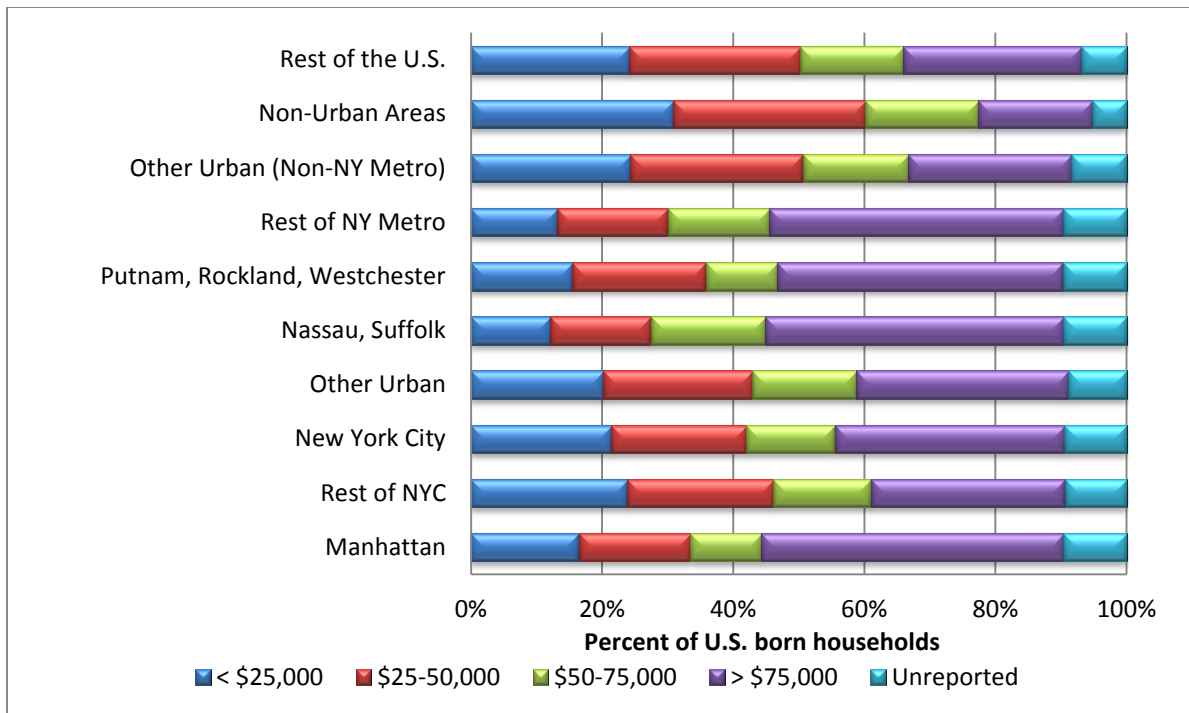


Figure 2-7. Household income distribution for foreign-born households by region (2009 NHTS).



**Figure 2-8. Household income distribution for U.S.-born households by region (2009 NHTS).**

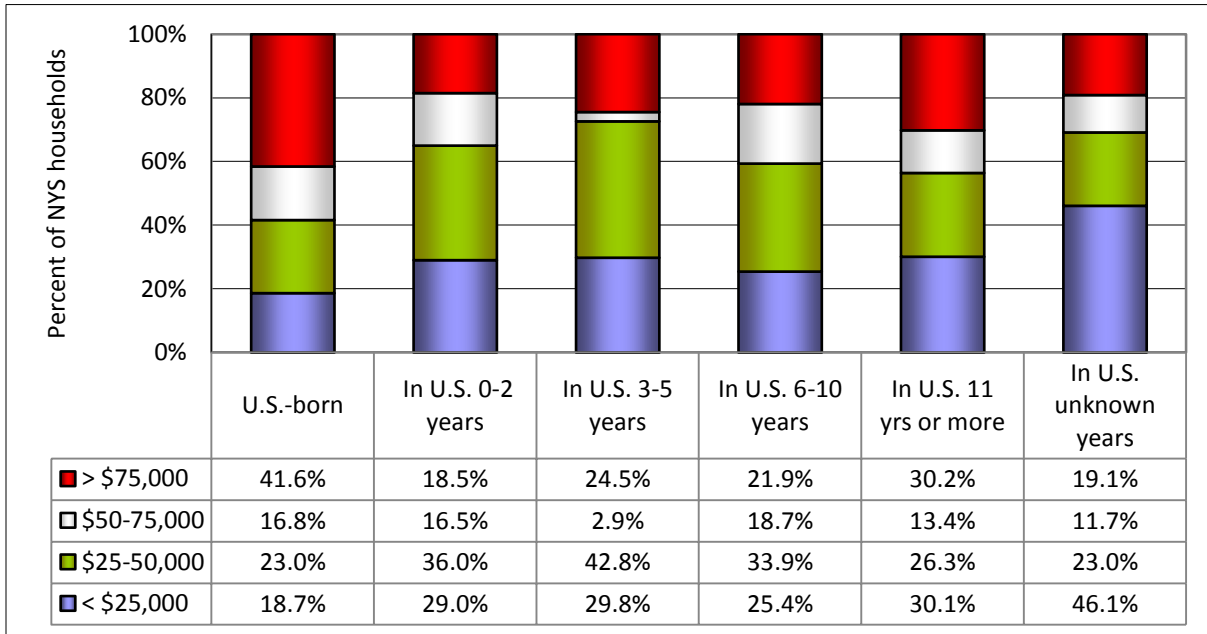
Outside NYS, 30% of foreign-born households made less than \$25,000 in 2009, while about 24% of their U.S.-born neighbors are in the same income group. Detailed tabulations (percentages) supporting these two figures are included in Appendix B of this report. Similar statistics generated using the 2001 NHTS data are also found in Appendix B.

Generally, patterns for poverty rates in 2001 and 2009 are consistent, except a noticeable difference observed for households living in the “Nassau, Suffolk” and “Putnam, Rockland, Westchester” regions. In 2001, the poverty rate for foreign-born households in Nassau-Suffolk was nearly twice as high when compared to their U.S.-born counterparts. Clearly, this is not the case based on Figure 2-7 and Figure 2-8, where the rates are not significantly different. On the other hand, although foreign-born households living in the Putnam-Rockland-Westchester region during 2001 had a similar poverty rate to their counterpart U.S.-born neighbors, the poverty rate among foreign-born households from this region jumps from below 16% in 2001 to about 28% in 2009. During the same time, the poverty rate in their U.S.-born neighbors was up only 2%, from nearly 14% in 2001 to nearly 16% in 2009.

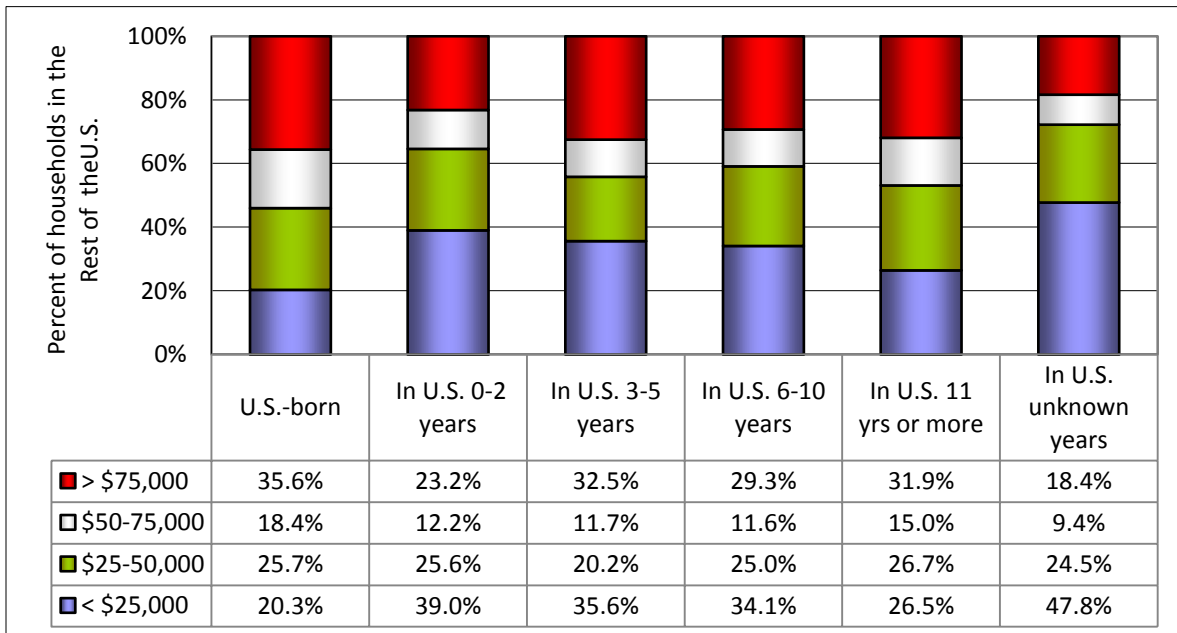
***Household Income by Length of Time in the United States***

As mentioned previously, in addition to the “Born in the U.S.” question, NHTS also collects information on “when” (which year) a foreign-born person entered the U.S. This information enables one to estimate how long the foreign-born household has been in the U.S., and to examine whether the length of living in the U.S. has any impact on the household’s income status.

Based on statistics presented in Figure 2-9, poverty rates (i.e., percent of households with annual income <\$25,000) for foreign-born households in NYS are significantly higher than those of the U.S.-born counterparts, regardless of how long they have been living in the U.S. However, among NYS foreign-born households, there is no evidence on any poverty-rate impacts due to the varying length of time lived in the U.S.



**Figure 2-9. Distribution of household incomes by length of time in the U.S. for NYS households (2009 NHTS).**



**Figure 2-10. Distribution of household income for the Rest of the U.S. by length of time in the U.S. (2009 NHTS).**

Outside NYS, foreign-born households also had a greater likelihood of being in the poorest income category (with annual income <\$25,000) regardless of how long they had lived in the U.S. Unlike NYS, Figure 2-10 shows the longer the foreign-born households from the Rest of the U.S. resided in the U.S., the smaller the poverty rate is. The patterns in the income distributions for foreign-households that reside in the U.S. over 10 years are closer to that of the U.S.-born households; and are the same for households from either region (NYS and the Rest of the U.S.).

### 2.3.3 Influence of Length in U.S. on Employment

Considering worker status for those who lived in NYS, Figure 2-11 shows a slight disadvantage in employment for the foreign-born populations, as compared to their U.S.-born counterparts. Although a slight increase in the employment rate after living in the U.S. for two years is seen, length of living in the U.S. does not have a significant influence on the employment rates (i.e., percent of worker) for foreign-born NYS residents in most cases; except for those who have been in the U.S. for 6-10 years.

Outside NYS, as displayed in Figure 2-12, there is no significant difference in employment rates between the foreign-born and the U.S.-born. The longer length of living in the U.S. does not show a significant influence on employment rates, except for those that had lived in the U.S. for 6-10 years. The employment rates for foreign-born residents living in the Rest of the U.S. are, in fact, greater than their counterparts who resided in NYS, except for the “lived in U.S. for 6-10 years” foreign-born population group.

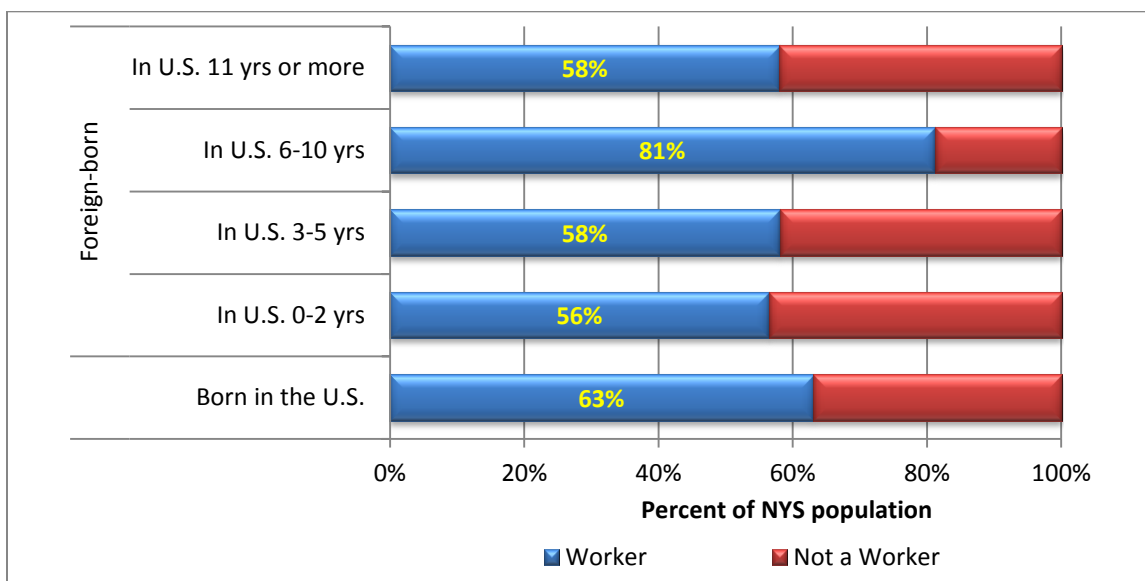


Figure 2-11. Percent of NYS residents employed during 2009 by length of time living in the U.S. (2009 NHTS).

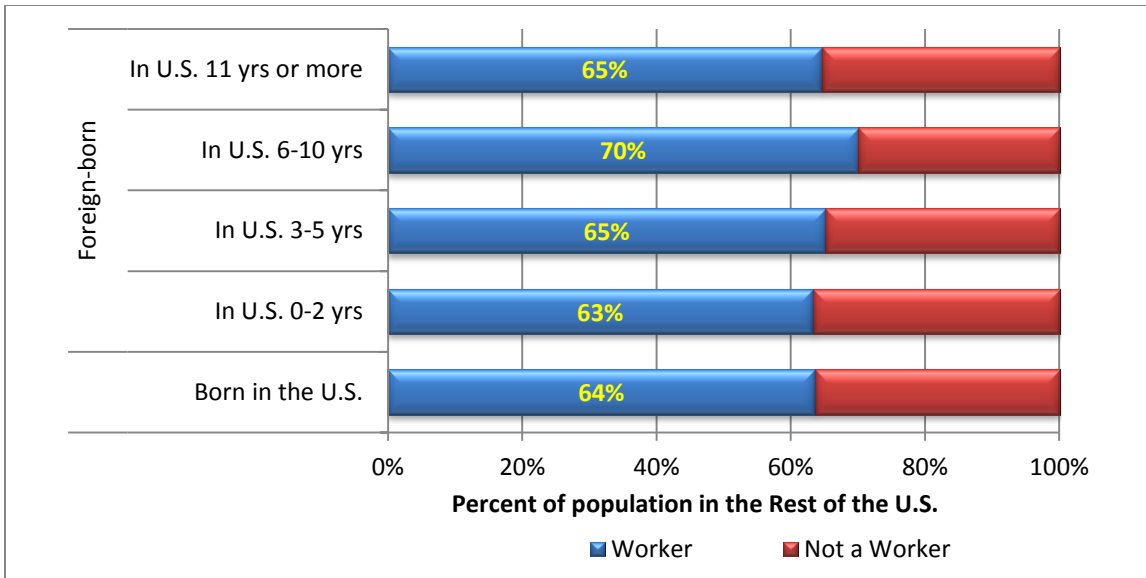
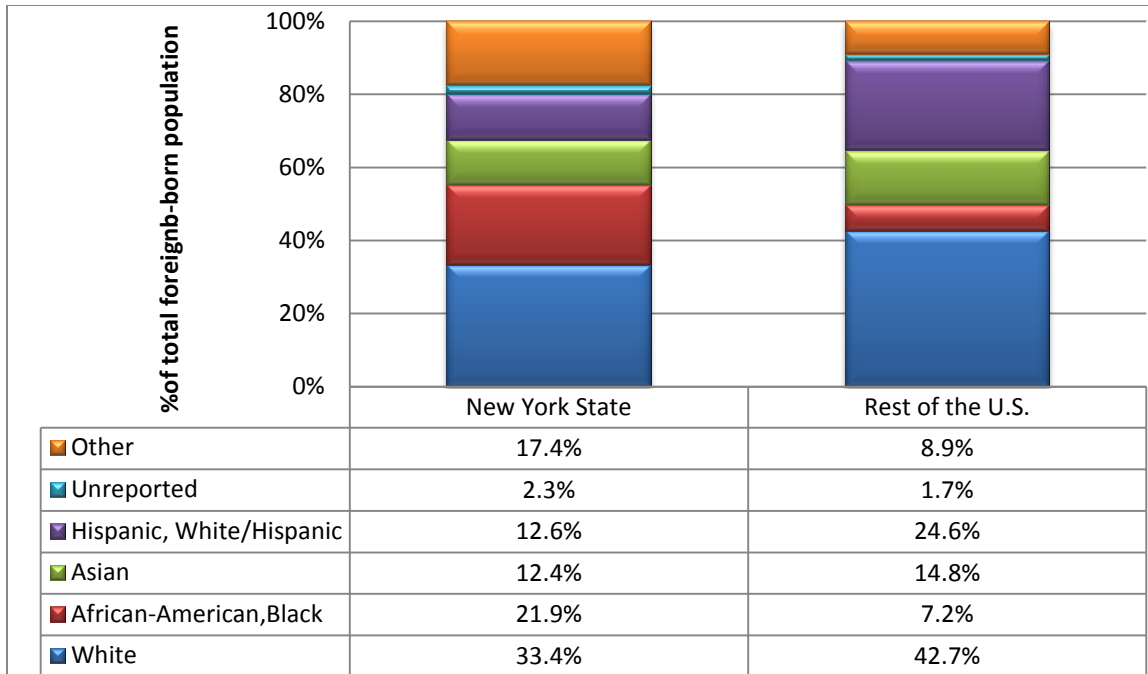


Figure 2-12. Percent of the Rest of the U.S. residents employed during 2009 by length of time living in the U.S. (2009 NHTS).

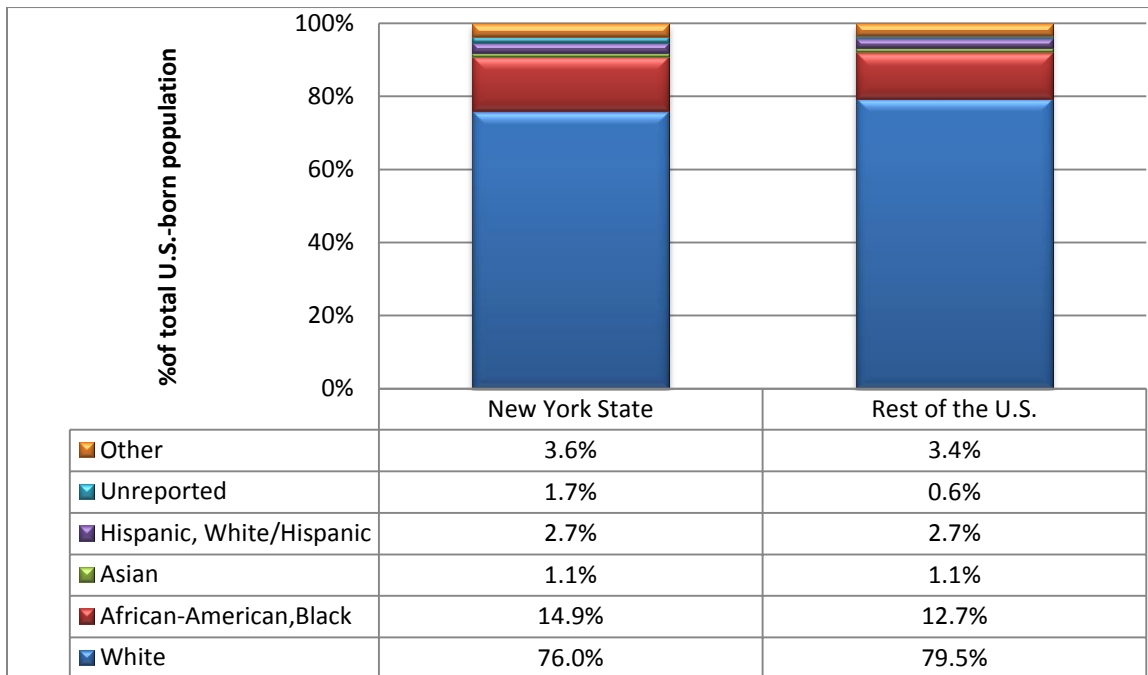
### 2.3.4 Ethnicity of the Foreign-Born Population

The racial composition of the foreign-born population in 2009 was quite different among the residents of NYS than those who lived elsewhere (Figure 2-13). Note that the “Other” category in Figure 2-13 includes multiracial, as well as American Indian, Alaskan natives, etc. For the NYS regions, the share of “African-American” and “Other” ethnicity groups combined account for nearly 40% of the NYS foreign-born population in 2009, while it is only at 16% for foreign-born that lived outside NYS. On the other hand, Figure 2-13 shows that one in four (i.e., 25%) foreign-born residents of the Rest of the U.S. area identified as Hispanic/Mexican in 2009, while their counterparts accounted for less than 13% in the NYS. Over two in five foreign-born persons from the Rest of the U.S. were white, while only one-third of their NYS counterparts identified the same ethnicity.

Figure 2-14 shows that the ethnic composition of the U.S.-born population was similar between the two regions (i.e., NYS and Rest of the U.S.). Over three-quarters of U.S.-born residents in both regions identified as white, while roughly 15% reported as African-Americans in the NYS region.



**Figure 2-13. Distribution of foreign-born population by ethnicity and location in 2009 (2009 NHTS).**



**Figure 2-14. Distribution of U.S.-born population by ethnicity and location in 2009 (2009 NHTS).**

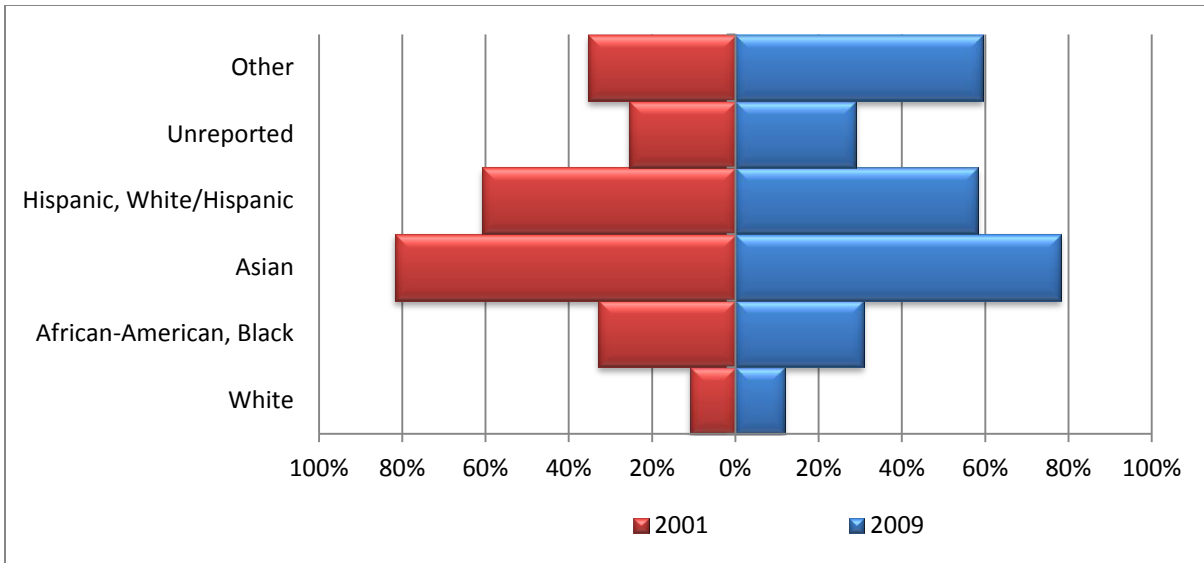
To examine whether the patterns of ethnic compositions have changed over time, the 2001 and 2009 NHTS datasets were analyzed and summaries are presented in Table 2-6. It is important to point out that there are differences in the racial categories defined in the two NHTS surveys (2001 and 2009). While the 2001 survey has a more specific list of multiracial

categories, there is only one “Multiracial” category in the 2009 NHTS. Efforts have been made in making the ethnicity groupings in the two sets of NHTS data as consistent as possible for this comparison (Table 2-6).

**Table 2-6. Distribution of populations by birthplace status and ethnicity (2001 and 2009 NHTS)**

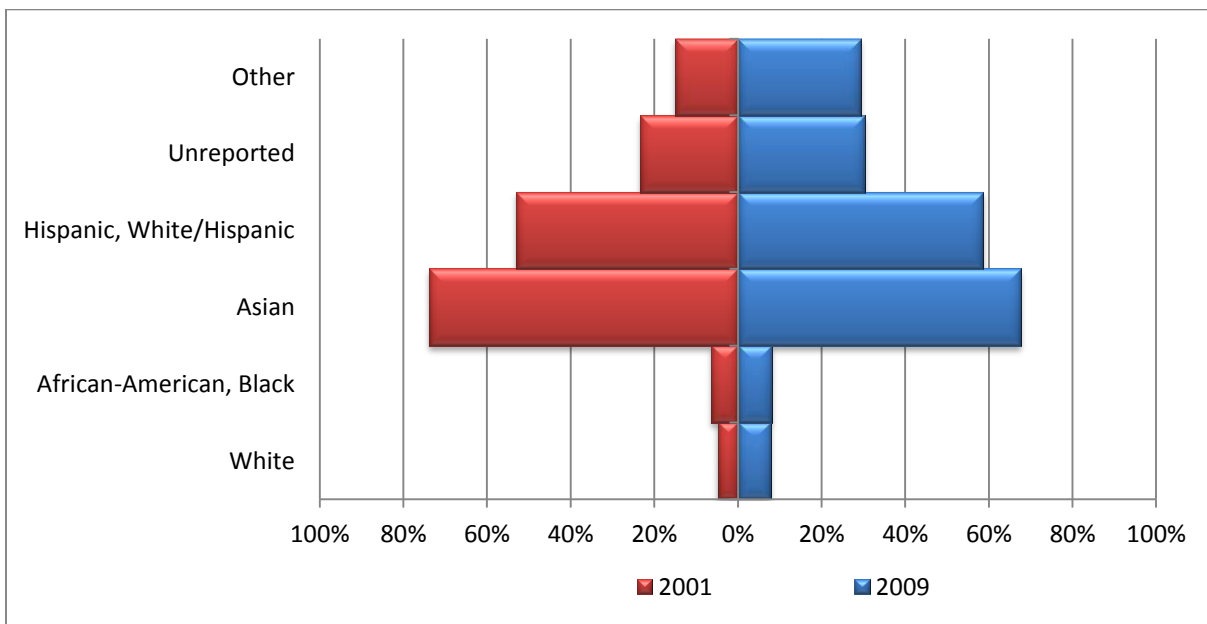
Ethnicity	2001 NHTS			2009 NHTS		
	U.S.-born	Foreign-born	Share of foreign-born	U.S.-born	Foreign-born	Share of foreign-born
<b>NYS</b>						
White	8,050,777	989,306	10.9%	9,117,731	1,217,957	11.8%
	74.2%	27.0%		76.0%	33.4%	
African-American, Black	1,448,470	708,797	32.9%	1,787,095	796,465	30.8%
	13.3%	19.3%		14.9%	21.9%	
Asian	97,834	436,692	81.7%	126,307	452,280	78.2%
	0.9%	11.9%		1.1%	12.4%	
Hispanic, White/Hispanic	875,060	1,351,714	60.7%	328,510	457,435	58.2%
	8.1%	36.9%		2.7%	12.6%	
Unreported	146,854	50,394	25.5%	204,428	83,104	28.9%
	1.4%	1.4%		1.7%	2.3%	
Other	234,909	127,482	35.2%	435,602	635,363	59.3%
	2.2%	3.5%		3.6%	17.4%	
All	10,853,903	3,664,385	25.2%	11,999,673	3,642,603	23.3%
	100.0%	100.0%		100.0%	100.0%	
<b>Rest of the U.S.</b>						
White	136,141,618	6,893,770	4.8%	152,954,250	12,823,142	7.7%
	78.4%	29.7%		79.5%	42.7%	
African-American, Black	20,525,015	1,401,087	6.4%	24,397,009	2,167,930	8.2%
	11.8%	6.0%		12.7%	7.2%	
Asian	1,183,895	3,318,454	73.7%	2,141,564	4,452,761	67.5%
	0.7%	14.3%		1.1%	14.8%	
Hispanic, White/Hispanic	9,051,591	10,203,753	53.0%	5,227,994	7,399,789	58.6%
	5.2%	44.0%		2.7%	24.6%	
Unreported	1,410,210	427,895	23.3%	1,204,685	521,322	30.2%
	0.8%	1.8%		0.6%	1.7%	
Other	5,269,468	932,116	15.0%	6,458,091	2,688,020	29.4%
	3.0%	4.0%		3.4%	8.9%	
All	173,581,796	23,177,076	11.8%	192,383,594	30,052,963	13.5%
	100.0%	100.0%		100.0%	100.0%	

Regarding shares of the percent foreign-born populations by ethnic group in NYS, Figure 2-15 shows a similar pattern in 2001 and 2009, except those in the “Other” category. About 80% of Asians living in NYS were foreign-born, and roughly 60% of Hispanics in NYS were foreign-born. The rather significant difference in the shares of “Other” is likely a result from the previously mentioned changes in definitions of the ethnic category.



**Figure 2-15. Shares of foreign-born NYS population by ethnicity (2001 and 2009 NHTS data).**

Outside NYS, the shares of foreign-born population also mirror a similar pattern over the two NHTS survey years, except for the visible increases in “Other” and the “Unreported” groups in 2009 (Figure 2-16). Again, the likely reason for the difference is the change in the definition for the “Other” category. Among those who did not specify their ethnicity (i.e., “Unreported” group) in 2009 NHTS, about 30% were foreign-born, for those that lived in the Rest of the U.S. As seen in Figure 2-16, less than 8% of whites from the Rest of the U.S. region in 2009 were foreign-born, an increase from the share of 5% in 2001. A similar share for foreign-born African-Americans outside NYS is also observed.



**Figure 2-16. Shares of foreign-born population in the Rest of the U.S. by ethnicity for 2001 and 2009 (NHTS data).**



### 2.3.5 Influence of Length of Time in U.S. on Driver Status

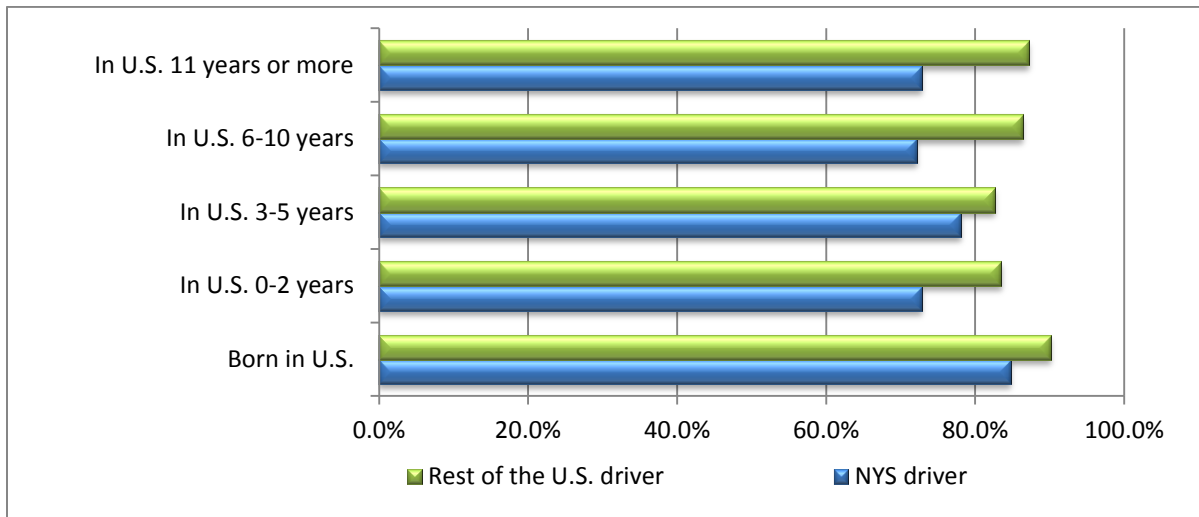
The driver status of a person is determined based on the answer to the NHTS question of “Are you a driver?” This question was only asked to NHTS respondents age 16 years or older. Table 2-7 summarizes the statistics for foreign-born drivers by the length of time they have been in the U.S., based on data collected from the 2001 and 2009 NHTS. The foreign-born population is classified into four length-of-times in the U.S. groups: up to 2 years, 3 to 5 years, 6 to 10 years, and 11+ years. Equivalent statistics on drivers born in the U.S. are also presented alongside to allow comparisons.

As expected, the driver rate (i.e., percent of population that is a driver) for those who were born in the U.S. is higher than that in the counterpart foreign-born population, regardless of how many years they have been in the U.S. Furthermore, the driver rate is higher for those who lived in the Rest of the U.S. than for those from NYS. Over time, driver rates in 2009 for all foreign-born groups are higher than the 2001 rates.

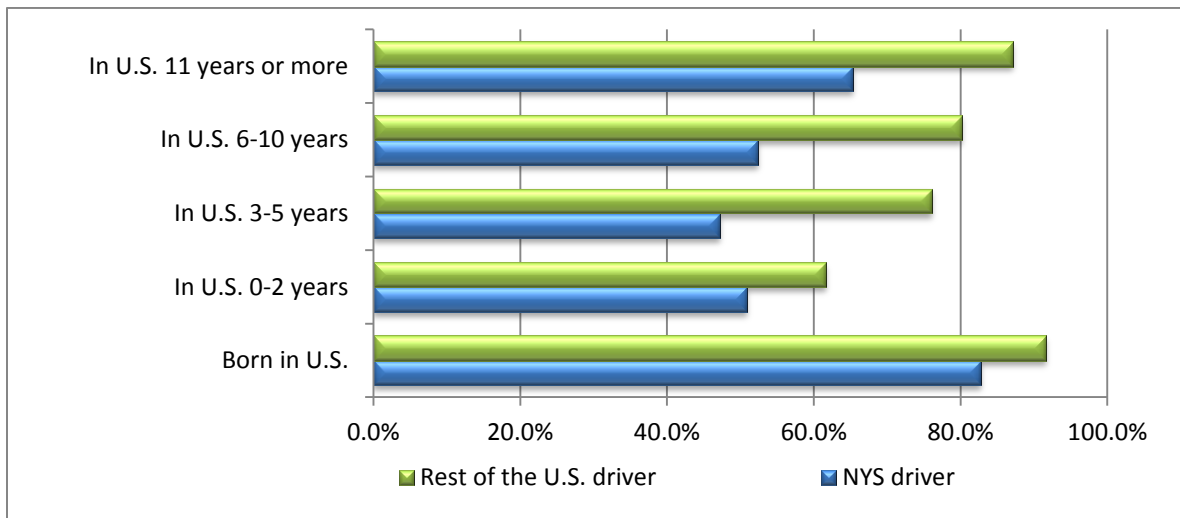
**Table 2-7. Number and Share of Drivers by Length of Time in the U.S. by Region 2009 and 2001 NHTS**

Driver Status	Born in U.S.	Foreign born			
		In U.S. 0-2 years	In U.S. 3-5 years	In U.S. 6-10 years	In U.S. 11+ years
<b>2009 NHTS</b>					
<b>New York State</b>					
Driver	10,170,076	200,714	192,186	342,360	1,540,417
	84.8%	72.8%	78.1%	72.2%	72.8%
Not a Driver	1,829,597	74,948	53,813	131,863	574,637
	15.2%	27.2%	21.9%	27.8%	27.2%
All	11,999,673	275,662	245,999	474,222	2,115,054
	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Rest of the U.S.</b>					
Driver	173,472,419	2,916,464	2,094,874	2,979,337	12,699,781
	90.2%	83.5%	82.6%	86.3%	87.2%
Not a Driver	18,911,175	576,156	441,834	471,074	1,869,219
	9.8%	16.5%	17.4%	13.7%	12.8%
All	192,383,594	3,492,620	2,536,708	3,450,411	14,569,000
	100.0%	100.0%	100.0%	100.0%	100.0%
<b>2001 NHTS</b>					
<b>New York State</b>					
Driver	8,973,525	146,108	148,495	318,842	1,413,664
	82.7%	50.9%	47.2%	52.4%	65.3%
Not a Driver	1,880,379	140,729	166,295	289,591	752,864
	17.3%	49.1%	52.8%	47.6%	34.7%
All	10,853,903	286,837	314,790	608,434	2,166,527
	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Rest of the U.S.</b>					
Driver	158,979,786	1,781,829	1,785,481	2,479,276	11,962,373
	91.6%	61.6%	76.1%	80.2%	87.1%
Not a Driver	14,602,010	1,111,884	560,273	612,679	1,777,978
	8.4%	38.4%	23.9%	19.8%	12.9%
All	173,581,796	2,893,713	2,345,754	3,091,955	13,740,351
	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2-7 (and Figure 2-17) shows nearly 85% of NYS residents born in the U.S. reported themselves as drivers, while only 73% of the relatively new foreign-born NYS residents (lived in the U.S. for 0-2 years) identified as drivers. There is no strong evidence of impact from the length in the U.S. on driver status of a foreign-born NYS resident in 2009, although an increasing trend for foreign-born who lived in NYS for 3 years or longer can be seen in 2001 (Figure 2-18).



**Figure 2-17. Percent of drivers in population group, by time in the U.S. and region for 2009 NHTS.**



**Figure 2-18. Percent of drivers in population group, by time in the U.S. and region for 2001 NHTS.**

Interestingly, the 2009 driver rates for foreign-born NYS residents have increased dramatically from their corresponding 2001 levels in every category (Figure 2-17). This may be a reflection of the fact that, the accessibility of vehicles in the world has greatly increased during this period, resulting in more foreign-born persons entering into the U.S as drivers. Some

evidence can be found to support this theory. According to a 2012 article from CNBC<sup>10</sup> which cited the “World Growth in Vehicles per Capita” statistics from the International Energy Agency (IEA) that, the average number of vehicles per Capita in the world was 4 per 1,000 people in 2000. The article stated that in 2010, this average jumped about tenfold to an average of 40 per 1,000 people. Another inference on the increasing accessibility to vehicles could be derived using published statistics on “Car Registrations for Selected Countries” from the latest Transportation Energy Data Book<sup>11</sup>. For example, car registrations in China grew from under 4 million in 2000 to over 34 million in 2010, while car registrations in India went from about 5 million in 2000 to over 13 million in 2010. This level of increasing driver-rate pattern between the 2001 and 2009 NHTS is not displayed between the U.S.-born populations, however. Outside the NYS, an increase in driver rate as the length in the U.S. increases is visible among foreign-born populations in both 2001 and 2009 (Figure 2-17 and Figure 2-18), although the increases are less significant in 2009. The regional difference in driver rates between NYS as a whole and the Rest of the U.S. is stronger in 2001 than in 2009.

### 2.3.6 Influence of Gender on Driver Status among Foreign-born Populations

Gender wise, Table 2-8 shows that foreign-born females have a lower driver rate than foreign-born males, regardless of where they lived. The most noticeable fact from this table is on the changing pattern of driver-rates among foreign-born females.

**Table 2-8. Driver Rate by Gender, Birthplace Status, and Region (2001 and 2009 NHTS)**

Resident location	2001 NHTS				2009 NHTS			
	Male		Female		Male		Female	
	U.S.-born	Foreign-born	U.S.-born	Foreign-born	U.S.-born	Foreign-born	U.S.-born	Foreign-born
Manhattan	71%	77%	59%	37%	85%	72%	67%	69%
Rest of NYC	76%	66%	58%	38%	78%	78%	71%	56%
Other Urban (non-NYC)	93%	85%	89%	74%	93%	88%	88%	79%
Nassau, Suffolk	93%	80%	91%	72%	94%	90%	89%	80%
Putnam, Rockland, Westchester	96%	88%	88%	74%	93%	87%	86%	71%
Rest of NYMTC (outside NYC)	94%	83%	90%	73%	94%	89%	88%	76%
Other Urban (non-NYMTC)	93%	90%	88%	77%	92%	85%	87%	86%
Non-Urban Areas	94%	97%	90%	95%	91%	85%	87%	68%
NYS Statewide	87%	73%	79%	48%	88%	80%	81%	63%
Rest of the U.S.	94%	90%	90%	74%	92%	91%	89%	75%

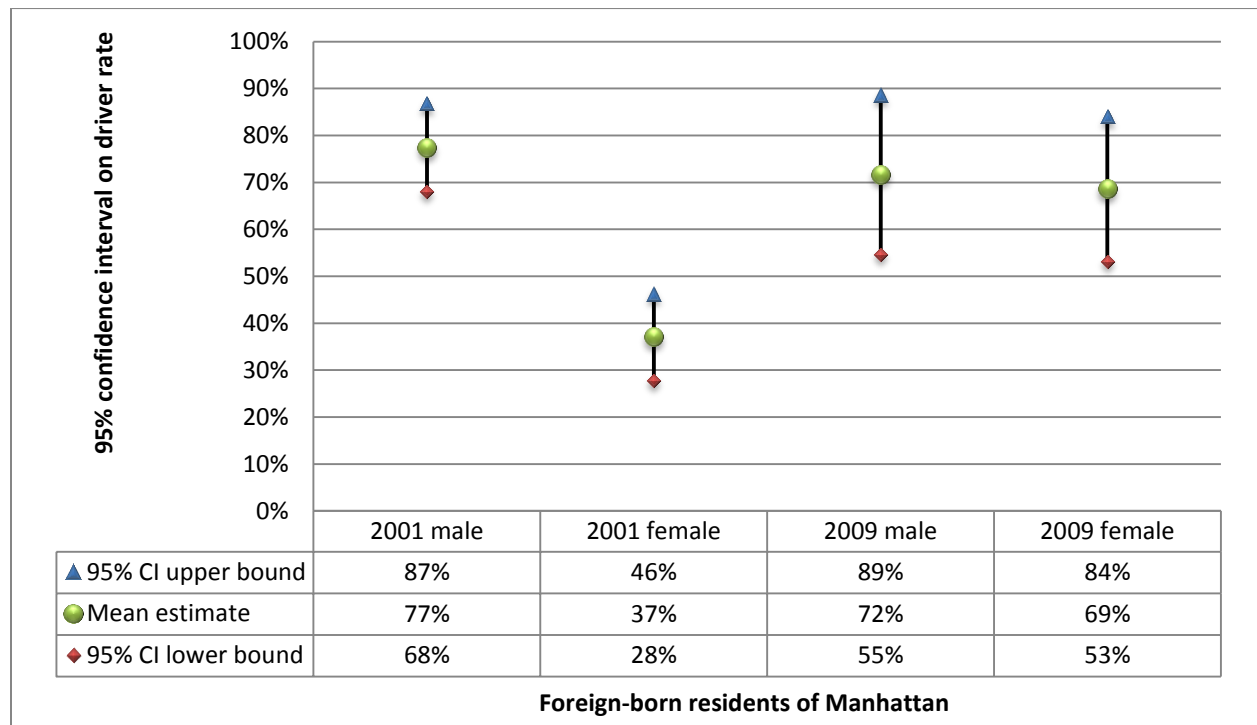
Table 2-8 shows that driver rates for foreign-born females who lived in NYC have dramatically increased, rising from 37% in 2001 to 69% in 2009 for those who lived in Manhattan and from 38% to 56% for those from the rest of NYC. Changes in driver rates (from

<sup>10</sup> *Behind the Wheel*, edited by Phil LeBeau, see <http://www.cnbc.com/id/49796736> accessed in July 2016.

<sup>11</sup> Table 3.2 of Chapter 3 “All Highway Vehicles and Characteristics,” *Transportation Energy Data Book*, Edition 34. Oak Ridge National Laboratory, September 30, 2015.

2001 to 2009) for foreign-born females that lived in other parts of NYS are not statistically significant, except for those who lived in the “Non-urban areas” region. For some unidentified reason, the driver rate for foreign-born females from non-urban areas of NYS dropped from 95% in 2001 to 68% in 2009, which is statistically significant. A limitation of the NHTS sample size for this region is assumed to be the cause here. Nonetheless, driver rates of foreign-born females that lived in NYS, as a whole, increased significantly from 48% in 2001 to 63% in 2009 (Table 2-8). Unlike the foreign-born females, none of the changes over time in driver rates for foreign-born males is statistically significant.

Moreover, analysis of the NHTS data also shows that the previous existence of a significant gender-gap in driver rates (i.e., 2001) for foreign-born who lived in many NYS regions has disappeared and is no longer significantly different in 2009. Figure 2-19 shows driver rates for foreign-born who lived in Manhattan by gender in 2001 and 2009, along with their corresponding 95% confidence intervals (CI). Here, the 95% CI represents the likelihood that the range (as framed by its lower and upper bounds of a given estimate) will include the “true” estimate (i.e., driver rate in this case). When two intervals overlap each other, it signifies the difference between those two is not statistically significant.

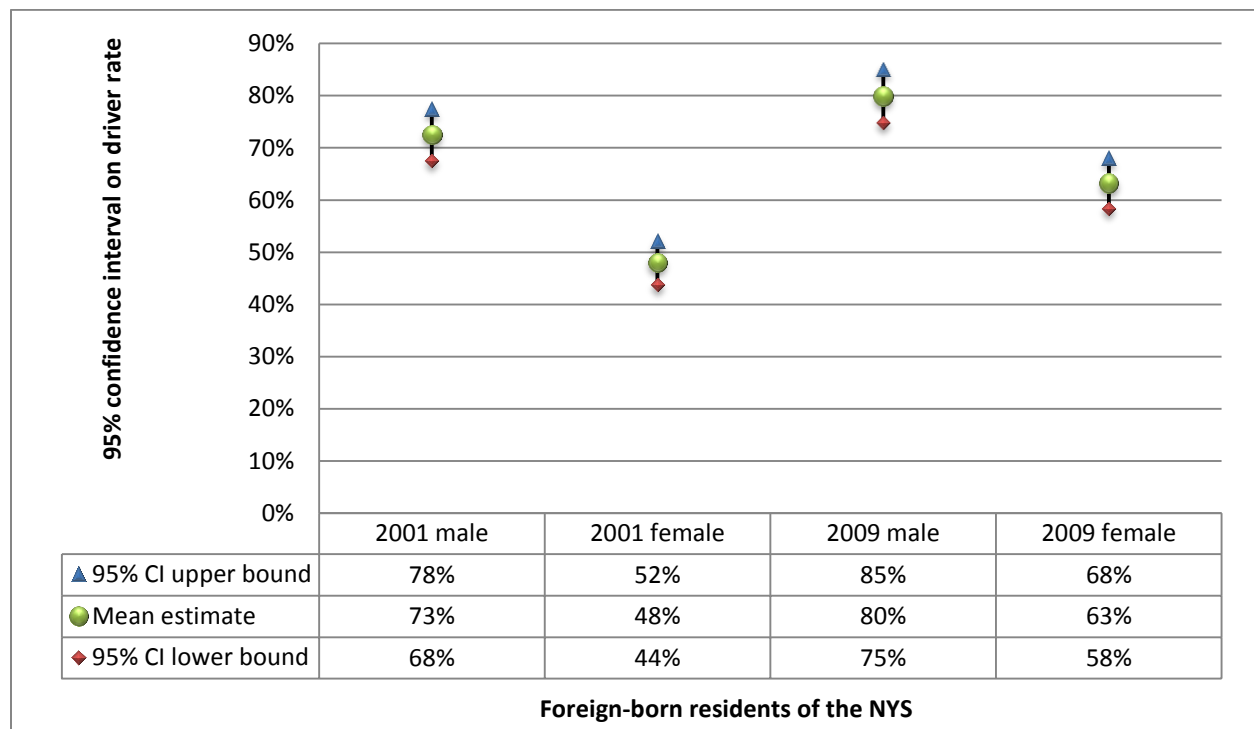


**Figure 2-19. Estimated 95% confidence intervals (CI) for driver rates by gender for foreign-born living in Manhattan (2001 and 2009 NHTS).**

Based on the CIs shown in Figure 2-19, a statistically significant gender difference in driver rates of foreign-born living in Manhattan is observed for 2001 but not for 2009. In addition, Figure 2-19 confirms that driver rates for foreign-born males from Manhattan are not

significantly different between the two NHTS years, while the same rates for their female counterparts are statistically significant.

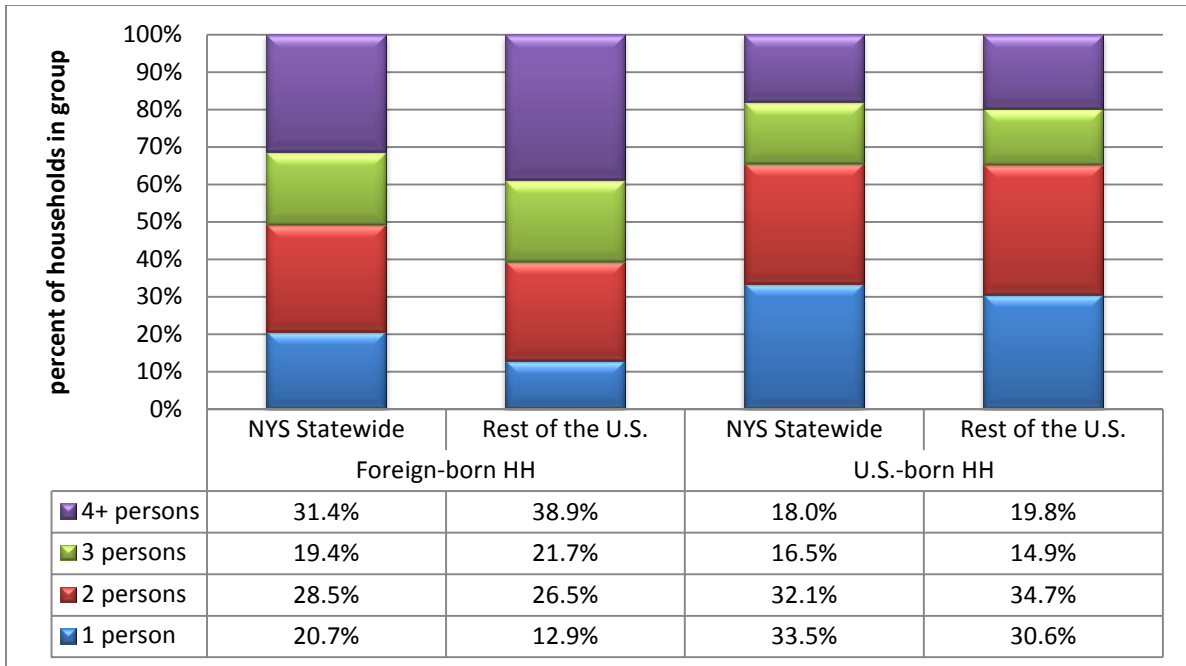
In cases where gender-gaps appear to have lingered between the two NHTS survey years, Table 2-8 statistics show that such a gender-gap in driver-rate has narrowed in 2009 from the respective level in 2001. As displayed in Figure 2-20, gender gaps in driver rates among foreign-born who lived in NYS (as a whole) are significant in both 2001 and 2009. However, the change of NYS driver rates of 73% for foreign-born males versus 48% for foreign-born females in 2001, to 80% versus 63% in 2009 for the same groups respectively, indicates that the gender gap has been reduced.



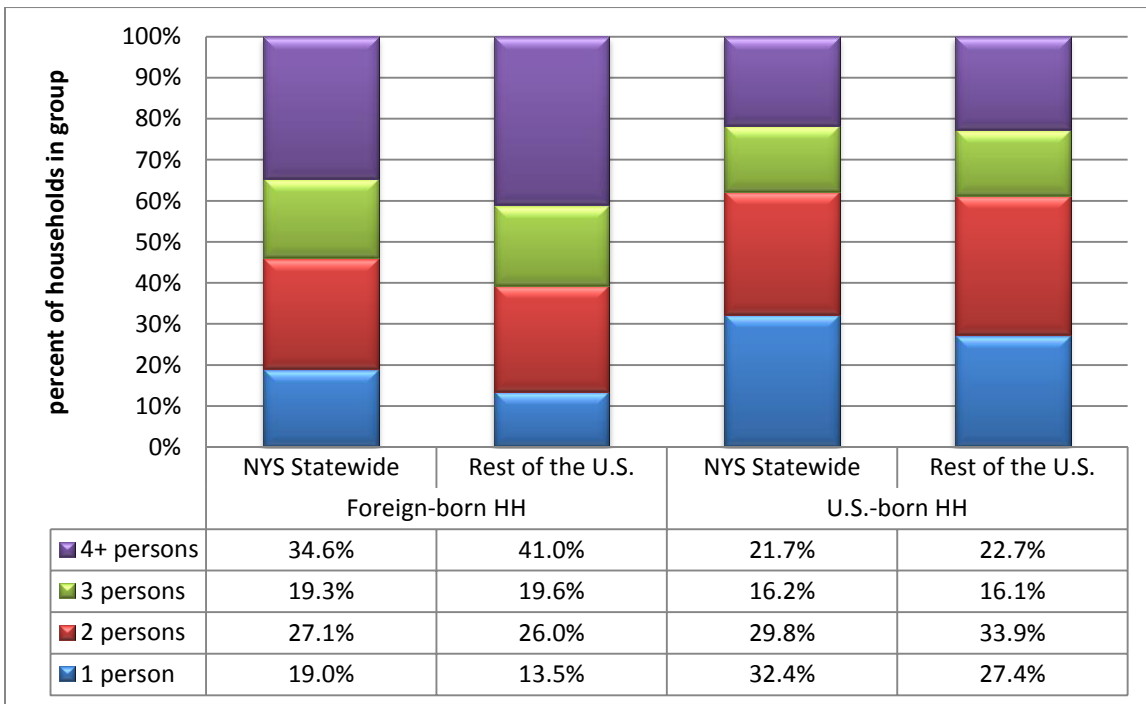
**Figure 2-20. Estimated 95% confidence intervals (CI) for driver rates by gender for foreign-born living in NYS as a whole (2001 and 2009 NHTS).**

### 2.3.7 Birthplace Status and Household Size

In 2009, Figure 2-21 shows that over half of foreign-born households (i.e., households with at least one foreign-born person) from NYS contain three or more members in the household; even more so for households outside NYS where over 60% of foreign-born households have three or more members. On the other hand, only about 35% of the non-foreign-born (i.e., U.S.-born) counterparts from each corresponding region are in this same size households. Based on the location of medians (50% point), foreign-born household are, on average, larger than that of their non-foreign-born counterparts from the same region. Note that the 2009-based pattern is consistent with those of the 2001, although slightly greater shares of 4+ households are observed in Figure 2-22.



**Figure 2-21. Distribution of households (HH) by size, birthplace status, and HH location (2009 NHTS).**

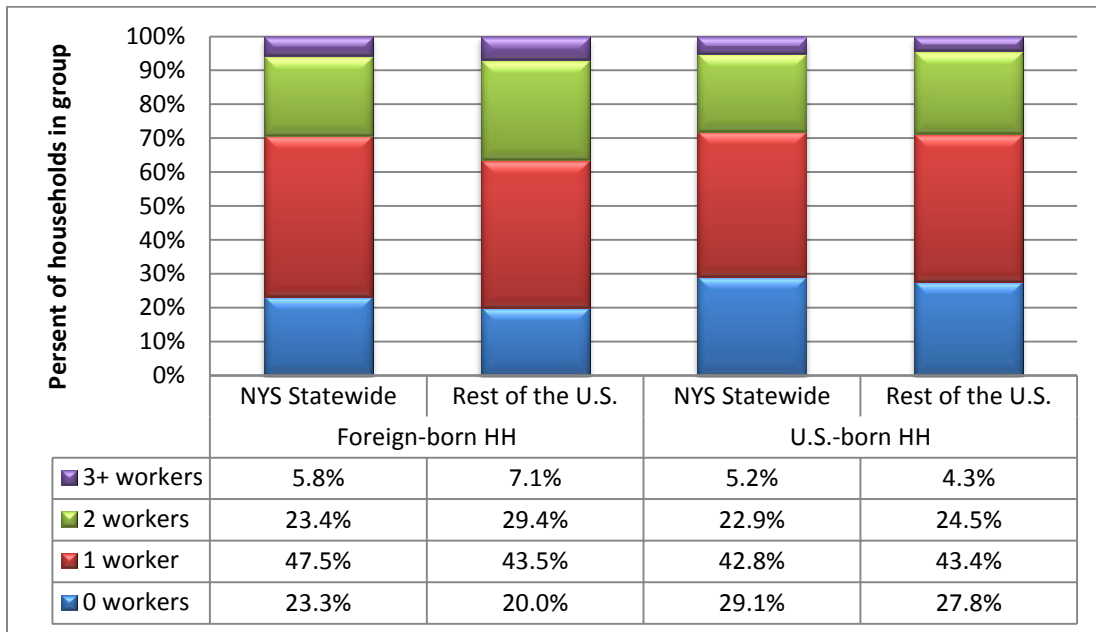


**Figure 2-22. Distribution of households (HH) by size, birthplace status, and HH location in 2001 (2001 NHTS).**

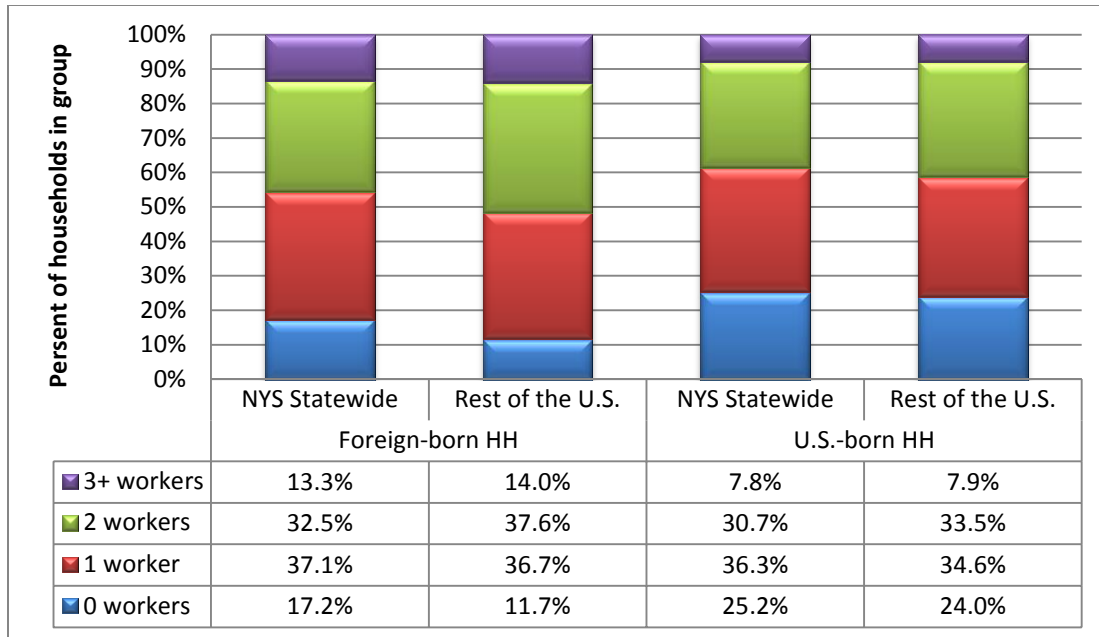
### 2.3.8 Number of Workers in Households

Similarly, profiles of households by the number of workers were examined to determine whether there are any association between birthplace status of a household and the number of workers. Figure 2-23 and Figure 2-24 present results from analysis conducted using 2009 and 2001 NHTS data. Interestingly, there is a greater share of foreign-born households with at least one worker in them than that of the non-foreign-born households, regardless of where they lived and consistent in both 2009 and 2001 NHTS years.

Moreover, Figure 2-23 shows that, in 2009, the share of larger worker-number households (with two or more workers) is greater for foreign-born households located in the Rest of the U.S. than those in NYS, about 37% versus 29% of total foreign-born households from the region, respectively. Similarly, Figure 2-24 shows that the 2001 shares of foreign-born households with two or more workers are 52% and 46% for the Rest of the U.S. and NYS, respectively. Recall that the share of larger household sizes for foreign-born households that lived in the Rest of the U.S. is greater than that for NYS (Section 2.3.7). A favorable association between the household size and number of workers for these foreign-born households is to be expected in this case.



**Figure 2-23. Profile of households (HH) by number of workers, birthplace status, and HH location (2009 NHTS).**



**Figure 2-24. Profile of households (HH) by number of workers, birthplace status, and HH location (2001 NHTS)**

No specific patterns for the number of household workers are observed among all non-foreign-born households regardless of their household location, either in 2009 or in 2001. The share of non-foreign-born households with two or more workers is greater in 2001 (roughly 40%) than in 2009 (about 29%), however.

## 2.4 VEHICLE OWNERSHIP FOR FOREIGN BORN HOUSEHOLDS

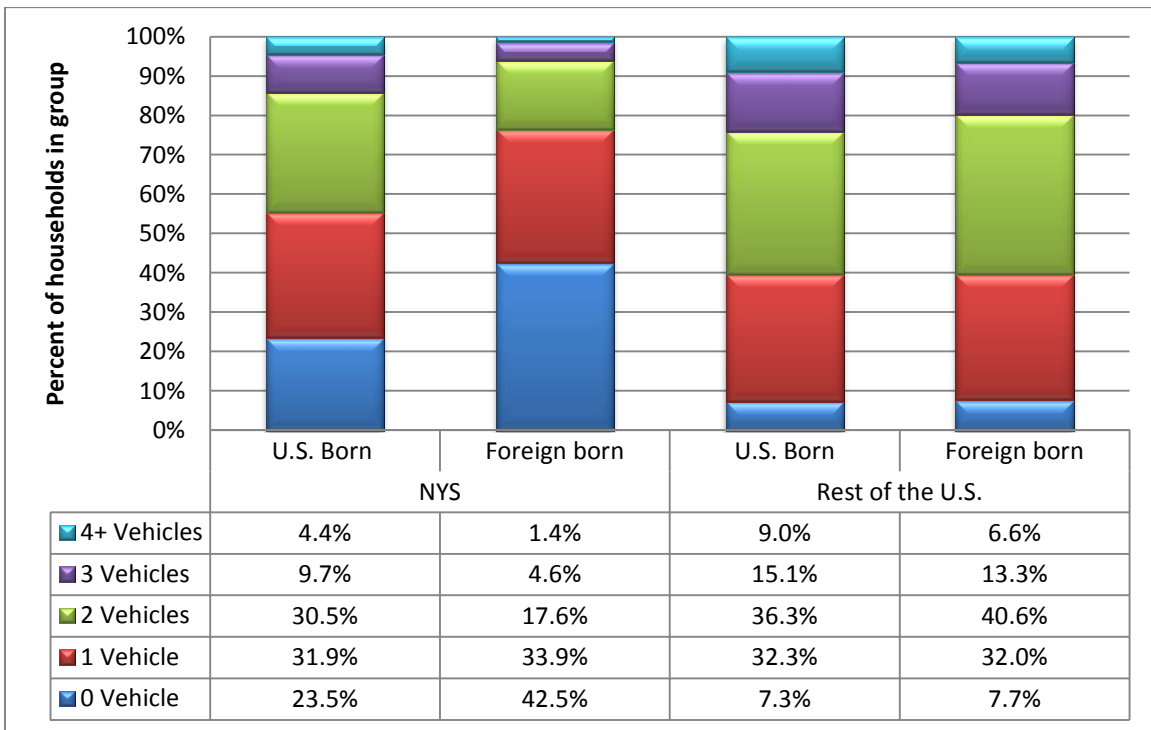
### 2.4.1 Vehicle Accessibility

According to the 2009 NHTS, nearly 43% of the foreign-born households that resided in NYS did not own any vehicles while only 24% of their U.S.-born counterpart neighbors reported zero vehicles (Figure 2-25). In addition, the majority of foreign-born households in NYS that possessed vehicles only had a single vehicle. As Figure 2-25 shows, about 45% of the U.S.-born households owned two or more vehicles in 2009, compared to less than 24% among foreign-born households in the same year. This pattern is consistent with what is seen in 2001 (see Table 2-9 and Table 2-10).

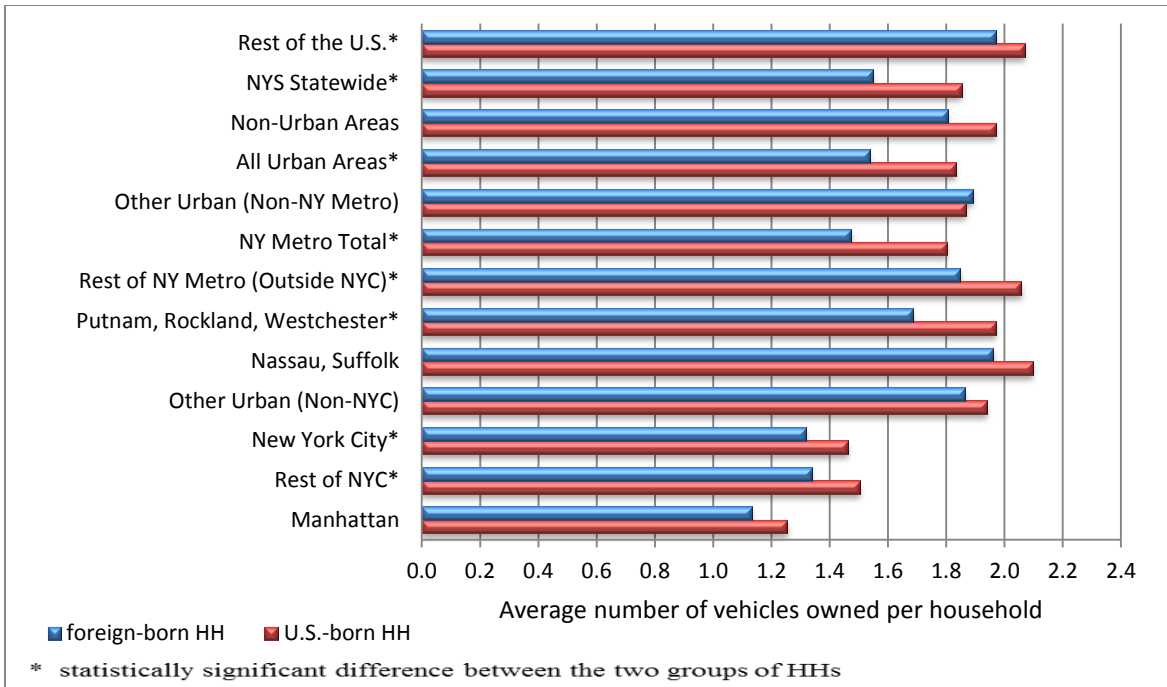
Outside NYS, the distributions of vehicle availability are similar between the foreign-born households and the U.S.-born households (Figure 2-25). There is no difference on the accessibility of vehicles between the two types of households. Clearly, the shares of zero-vehicle households that resided in the Rest of the U.S. are significantly lower than those that reside in NYS, regardless of the birth status of the households (i.e., foreign-born or U.S.-born).



With respect to the average number of vehicles owned by a typical household, Figure 2-26 shows that a foreign-born household from NYS owned an average of 1.55 vehicles in 2009, while their U.S.-born counterparts owned an average of 1.85 vehicles for the same year. The difference in the average number of vehicles owned per household are statistically significant in many regions in NYS (Figure 2-26) compared to some regions with more limited sample sizes. Although there was no significant difference by the foreign-born status on the vehicle-ownership profiles of households that resided outside NYS in 2009 (Figure 2-23), the differences in the average number of vehicles owned per household is statistically significant (Figure 2-26). The statistics for distributions of households by vehicle ownership and birthplace status are listed in Table 2-9 (2009 NHTS) and Table 2-10 (2001 NHTS).



**Figure 2-25. Profile of households by vehicle availability, birthplace status, and region (2009 NHTS).**



**Figure 2-26. Average number of vehicles owned per household (HH) by region and number of foreign-born per HH (2009 NHTS).**

**Table 2-9. NYS Household Distribution by Vehicle Ownership and Average Vehicle Age, Birthplace Status and Region (2009 NHTS)**

<b>Vehicle ownership</b>	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NYMTC</b>	<b>Other Urban (Non-NYMTC)</b>	<b>Non-Urban Areas</b>	<b>NYS Statewide</b>
<b>Distribution by vehicle ownership - U.S. born households</b>									
0 Vehicle	78.0%	43.1%	9.1%	5.2%	11.4%	7.2%	10.3%	7.9%	23.5%
1 Vehicle	17.5%	36.0%	32.6%	25.7%	32.6%	27.9%	35.3%	33.7%	31.9%
2 Vehicles	3.9%	15.2%	39.5%	43.8%	36.0%	41.3%	38.4%	39.3%	30.5%
3+ Vehicles	0.7%	5.7%	18.9%	25.3%	20.0%	23.6%	16.0%	19.1%	14.2%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Distribution by vehicle ownership - Foreign-born households</b>									
0 Vehicle	69.6%	52.0%	10.6%	7.8%	14.5%	10.7%	10.6%	6.4%	42.5%
1 Vehicle	27.6%	34.3%	35.5%	31.9%	41.6%	36.1%	34.4%	35.3%	33.9%
2 Vehicles	1.5%	11.7%	37.0%	38.4%	32.9%	36.1%	38.5%	44.4%	17.6%
3+ Vehicles	1.3%	2.1%	17.0%	21.8%	11.0%	17.2%	16.6%	13.9%	6.0%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Total number of households</b>									
U.S.-born	547,229	1,121,153	2,907,454	742,123	343,944	1,086,067	1,821,387	657,543	5,233,378
Foreign-born	202,107	1,184,786	472,700	168,914	125,455	294,369	178,331	44,511	1,904,104
<b>Average vehicle age</b>									
U.S.-born	7.4	8.4	7.6	7.5	7.1	7.4	7.8	8.4	7.9
Foreign-born	6.4	7.6	7.4	6.8	7.4	7.0	8.0	7.8	7.5

**Table 2-10. NYS Household Distribution by Vehicle Ownership and Average Vehicle Age, Birthplace Status and Region (2001 NHTS)**

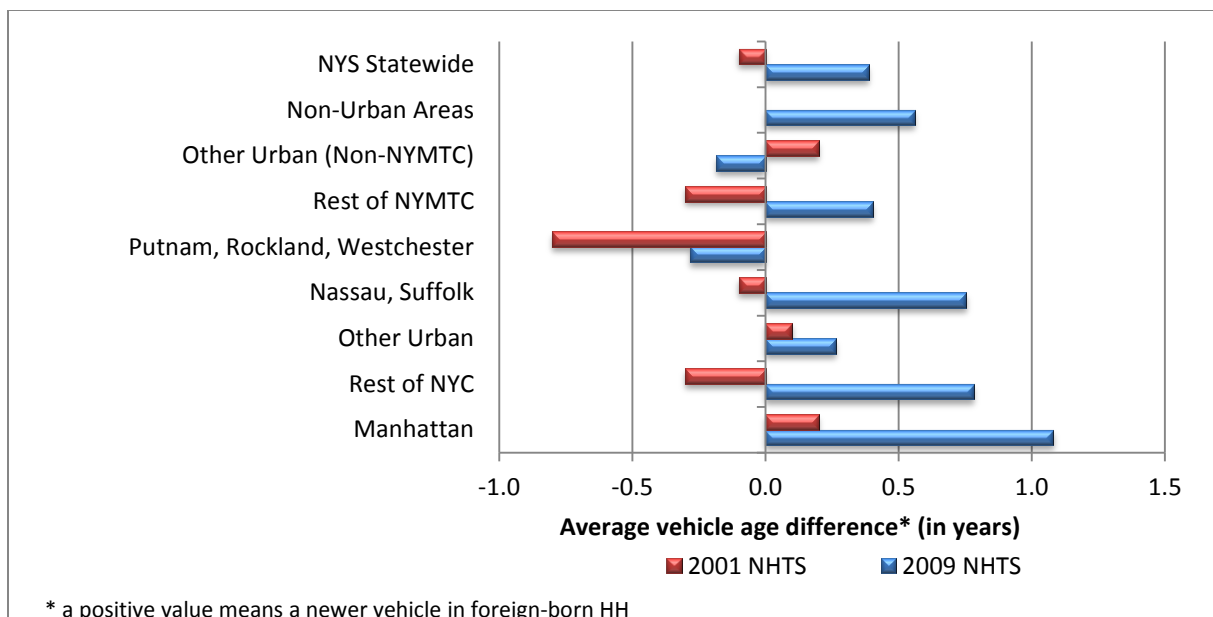
<b>Vehicle ownership</b>	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NYMTC</b>	<b>Other Urban (Non-NYMTC)</b>	<b>Non-Urban Areas</b>	<b>NYS Statewide</b>
<b>Distribution by vehicle ownership - U.S. born households</b>									
0 Vehicle	69.2%	45.6%	8.1%	5.4%	9.5%	6.6%	9.0%	6.8%	22.2%
1 Vehicle	26.5%	34.9%	32.8%	30.4%	31.6%	30.7%	34.1%	31.4%	32.5%
2 Vehicles	2.9%	14.6%	40.0%	44.3%	40.6%	43.2%	37.9%	37.3%	30.3%
3+ Vehicles	1.4%	5.0%	19.2%	20.0%	18.2%	19.4%	19.1%	24.5%	15.1%
All	100.0%	100.1%	100.1%	100.1%	99.9%	99.9%	100.1%	100.0%	100.1%
<b>Distribution by vehicle ownership - Foreign-born households</b>									
0 Vehicle	69.0%	46.3%	7.4%	2.4%	11.8%	6.5%	9.2%	1.1%	38.5%
1 Vehicle	27.4%	37.3%	34.2%	31.7%	36.4%	33.8%	35.2%	40.4%	35.2%
2 Vehicles	3.4%	13.4%	36.5%	38.2%	33.0%	35.9%	37.9%	37.0%	18.5%
3+ Vehicles	0.1%	3.0%	21.9%	27.7%	18.8%	23.9%	17.8%	21.6%	7.9%
All	99.9%	100.0%	100.0%	100.0%	100.0%	100.1%	100.1%	100.1%	100.1%
<b>Total number of households</b>									
U.S.-born	476,901	1,245,440	2,765,474	750,739	330,659	1,081,397	1,684,076	813,286	5,301,100
Foreign-born	274,968	1,078,379	476,068	182,359	140,142	322,502	153,567	52,693	1,882,108
<b>Average vehicle age</b>									
U.S.- born	9.4	7.9	7.5	7.3	6.3	7.0	7.9	8.7	7.8
Foreign-born	9.2	8.2	7.4	7.4	7.1	7.3	7.7	8.7	7.9

Table 2-9 and Table 2-10 also present the total number of households by foreign-born status in each of the NYS regions. Note that the total number of the U.S.-born households living in NYS decreased from 5.3 million in 2001 to a little over 5.2 million in 2009, about a 1.2% reduction. During that same period, the total number of foreign-born households in NYS increased from 1.88 million in 2001 to 1.90 million in 2009. Clearly visible in Table 2-9 and Table 2-10, most of this increase was due to an increase of foreign-born households in the Rest of NYC area (which includes Manhattan and the four other counties of NYC).

## 2.4.2 Vehicle Age

### *Average Vehicle Age by Foreign-Born Status of Households*

The average vehicle age (calculated using model year of the vehicle) by foreign-born status and household location are also provided in Table 2-9 and Table 2-10. The average vehicle age by a household's foreign-born status does not show any significant difference at the NYS level, in both NHTS years. Although none of the regional averages for vehicle age shows any significant difference between the two household types, Figure 2-27 shows an interesting pattern change in the age of vehicles owned by foreign-born households. In 2001, vehicles owned by foreign-born households for most of the NYS regions were slightly older, on average, than what their U.S.-born counterparts owned (i.e., negative values). However, average vehicle age for foreign-born households in most of the NYS regions become younger (i.e., newer vehicle) in 2009 when compared to those in 2001 (i.e., positive values shown in Figure 2-27).



**Figure 2-27. Comparison of 2009 and 2001 NHTS data for foreign-born households (HH) average vehicle age by region (2009 and 2001 NHTS)**

## Vehicle Age Profile by Foreign-Born Status of Households

Figure 2-28 shows the distributions of households by the age of vehicles owned by foreign-born and U.S.-born households by regions, using 2009 NHTS data. One visible difference that can be seen in Figure 2-28 is the share of “Unreported” tends to be slightly higher among foreign-born households in most regions. The shares of owning newer vehicles (e.g., vehicles three years old or younger) appear to be relatively stable across regions in NYS. Shares of older vehicles (11 or more years in age) by households from the Rest of the U.S. region seem to be higher when compared to those owned by NYS residents, regardless of their foreign-born status.

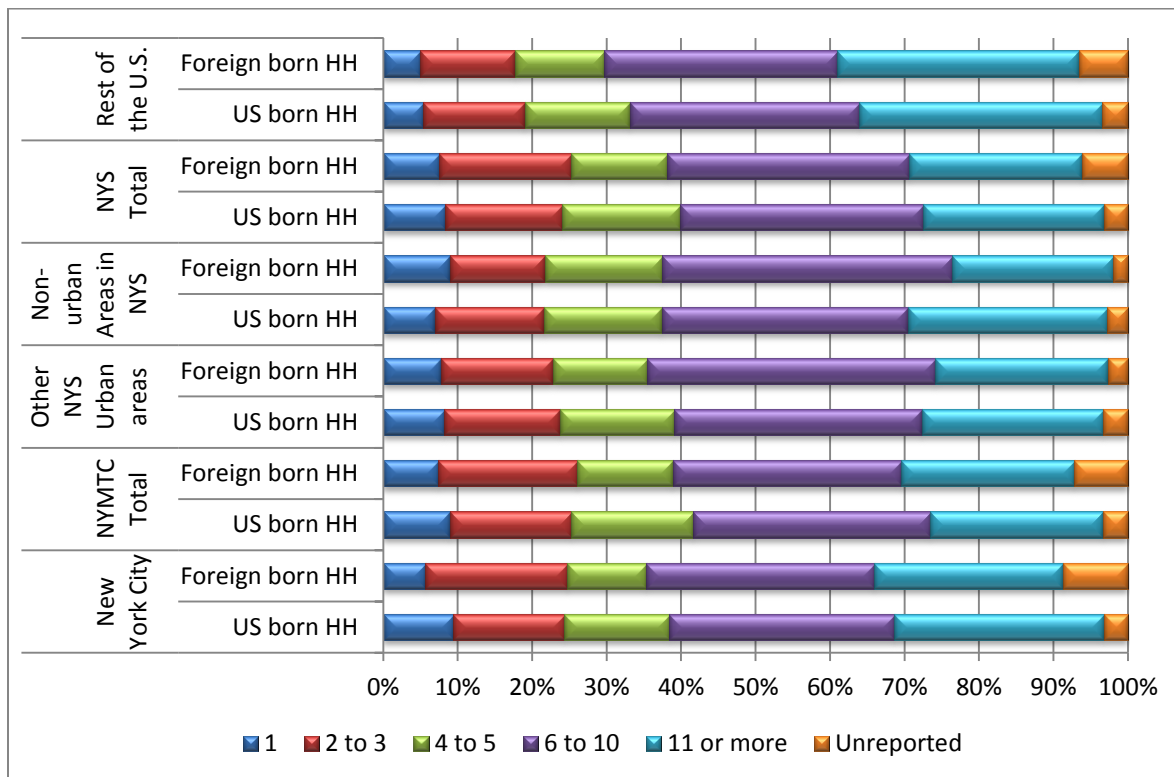


Figure 2-28. Distribution of households (HH) by vehicle-age class, birthplace status, and region (2009 NHTS).

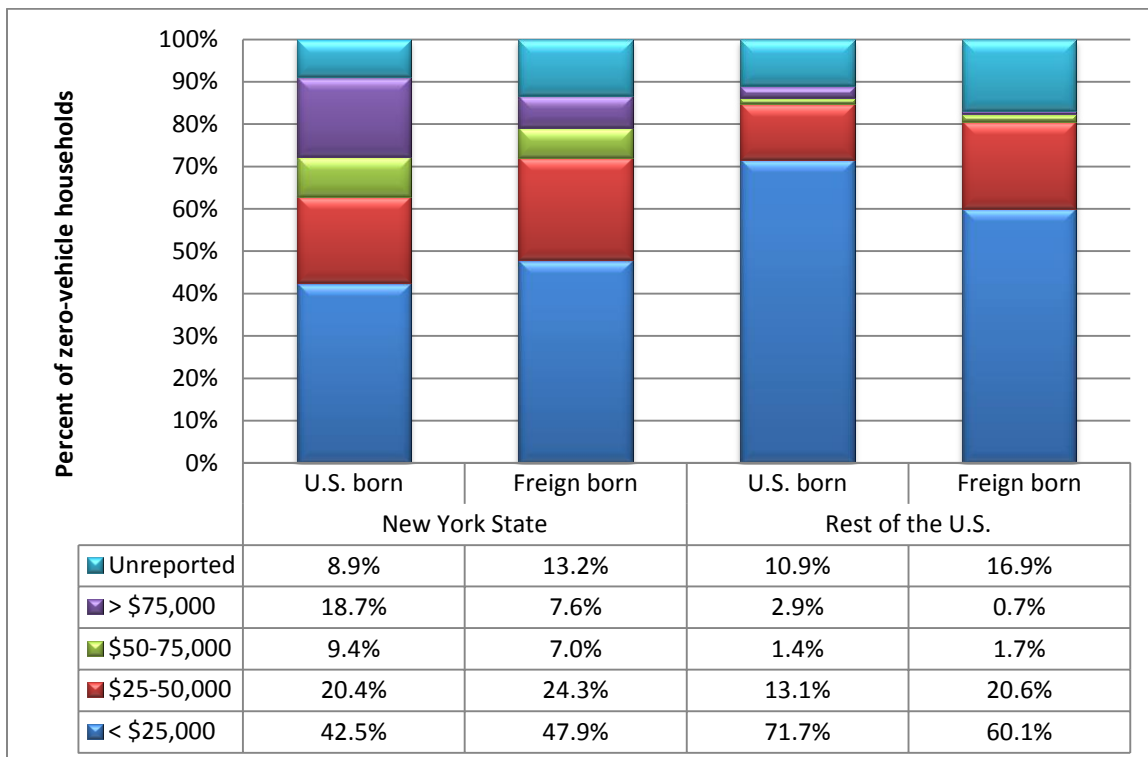
## 2.5 ZERO-VEHICLE HOUSEHOLDS

As addressed in Section 2.4.1, foreign-born households were more likely not to own a vehicle, or have no access to vehicles, than those in U.S.-born households. This is especially true for households that resided in NYS. In this section, results from an examination of zero-vehicle households, by their characteristics and foreign-born status, are further discussed. Specifically, impacts of household income, as well as the number of drivers or workers in the household, by a household’s foreign-born status, are reviewed.

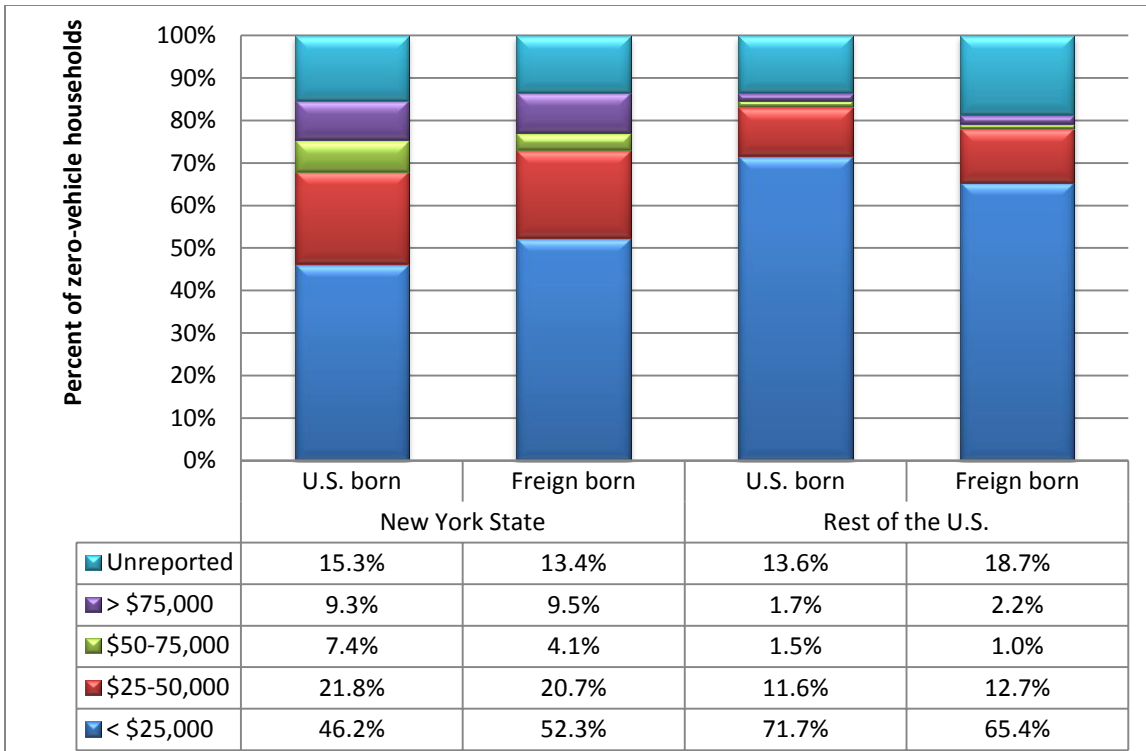
### 2.5.1 Income Level of Zero-Vehicle Households

Figure 2-29 shows a majority of zero-vehicle households were in the lowest income group (<\$25,000 annually) during 2009. For those that lived in the Rest of the U.S. region, as many residents of NYC opted for a vehicle-free life by choice. Although not statistically significant, there is a visible difference between the shares of the lowest income foreign-born households and their counterpart U.S.-born households, especially for those that lived outside NYS in 2009.

Due to large sample-variations in the NHTS data, differences between foreign-born and U.S.-born households by income category are inconclusive (Figure 2-29). Regional differences (NYS vs. Rest of the U.S.), especially among U.S.-born households, are more likely to be statistically significant because of their much larger sample sizes. A significant share of households did not report their income level; a visibly higher share among foreign-born households can be observed. Figure 2-30 shows a similar and generally consistent set of results for 2001.



**Figure 2-29. Zero-vehicle household income distributions by birthplace status and region (2009 NHTS).**



**Figure 2-30. Zero-vehicle household income distributions by birthplace status and region (2001 NHTS).**

### 2.5.2 Availability of Drivers in Zero-Vehicle Households

Unlike zero-vehicle households from 2001 where over half have no drivers in the households, Figure 2-31 shows that a majority of zero-vehicle households (over 45%) from NYS actually have one driver, in 2009. Only slightly over a third of zero-vehicle households that resided in NYS did not have any drivers in their households during 2009. Based on an examination of the NHTS data, a zero-vehicle household had a significantly lower likelihood of having no drivers in 2009, when compared with corresponding zero-vehicle households in 2001.

Specifically, only 35% of foreign-born zero-vehicle households from NYS in 2009 contained no drivers in the household, while the rate is 55% for their counterpart households in 2001 (Figure 2-31,). Furthermore, the no-driver rate is higher among those zero-vehicle households that reside in the Rest of the U.S. compared to those in NYS during 2009. However, no significant differences could be attributed to the foreign-born household status for the no-driver rates among zero-vehicle households.



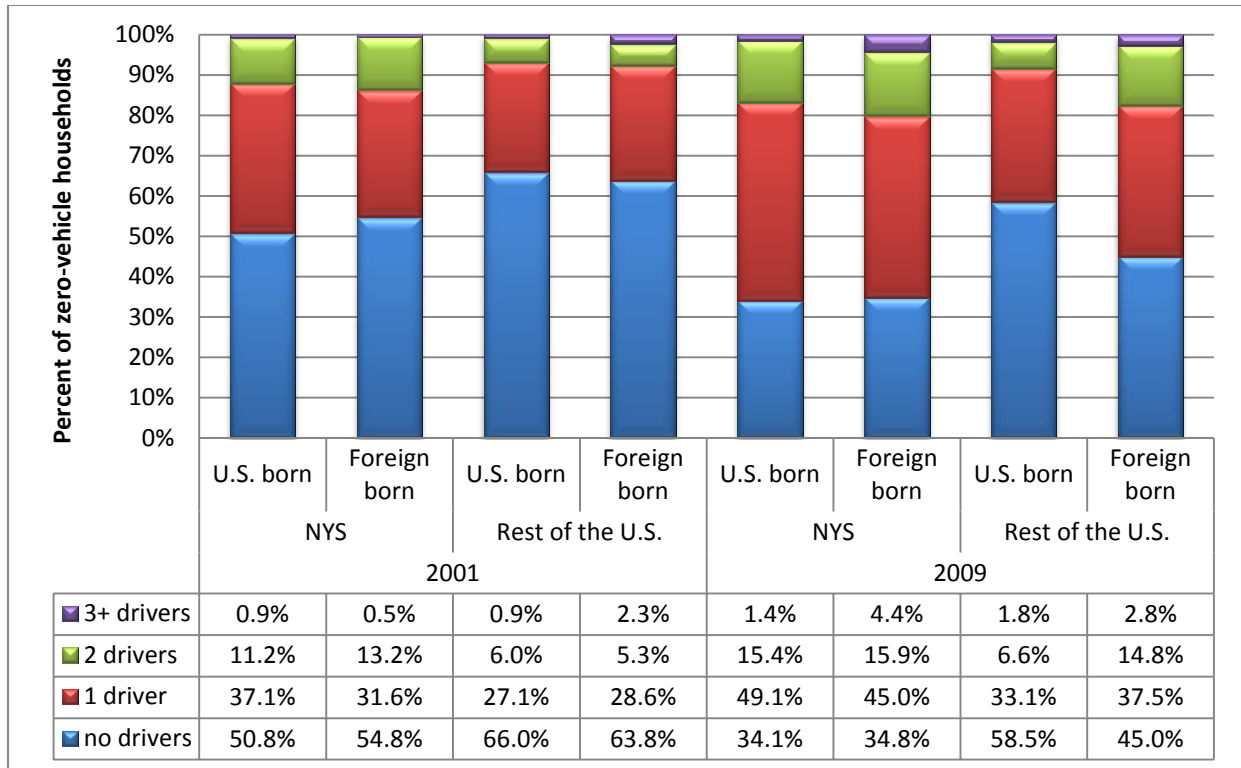
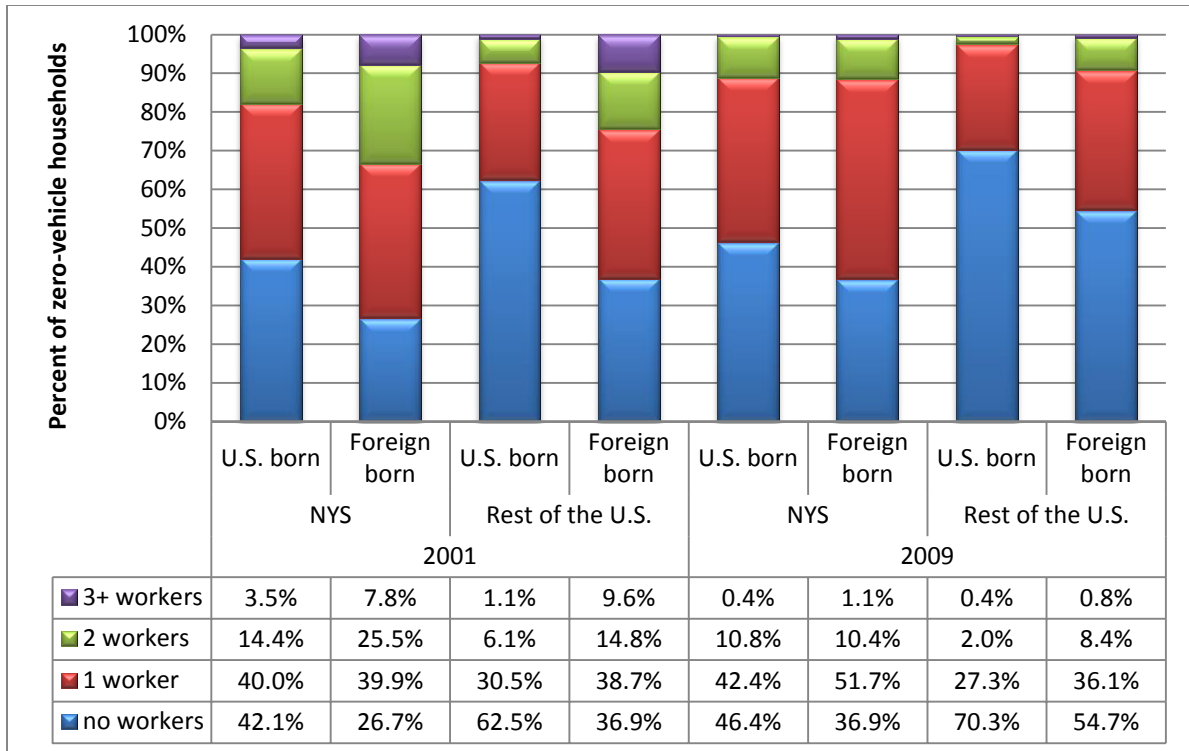


Figure 2-31. Zero-vehicle household distribution by number of drivers, birthplace status, and region (2001 and 2009 NHTS).

### 2.5.3 Number of Workers in Zero-Vehicle Households

Unlike Figure 2-31, the difference in the number of workers in zero-vehicle households are more visible between the U.S.-born and foreign-born households (Figure 2-32). No-worker rates are lower among zero-vehicle foreign-born households than of their counterpart U.S.-born households, regardless of household region or year (2001 or 2009). Due to sample limitations however, the 2009 no-worker rates for foreign-born zero-vehicle households located in NYS are not statistically different. In addition, the no-worker rates are significantly higher for zero-vehicle households that resided outside NYS, when compared to their counterparts from NYS. This is true regardless of birthplace status of the households during 2009.



**Figure 2-32. Zero-vehicle household distribution by number of workers, birthplace status, and region (2001 and 2009 NHTS).**

### 3. TRAVEL PATTERNS OF THE FOREIGN-BORN POPULATION

National level studies using NHTS data have found that Americans are traveling less over the last decade, making fewer and shorter trips in 2009 as compared to 2001. This section examines travel behaviors of NYS foreign-born residents, which include estimating their level of travel, assessing any regional differences, and determining whether birthplace imposes any influences on travel behavior.

#### 3.1 TRAVEL STATISTICS BY PERSON TRIPS

##### 3.1.1 Birthplace Difference in Trip Frequencies

According to the NHTS, foreign-born travelers on average took fewer trips than their counterpart U.S.-born neighbors, regardless of where they lived during 2001 or 2009. A typical foreign-born resident of NYS made 3.25 person-trips every day in 2009, while his/her U.S.-born counterpart traveled at a daily rate of 3.9 person-trips on average during the same year. As shown in Figure 3-1, which presents a 95% CI along with each estimated mean (i.e., average), the difference in person-trip frequencies between the U.S.-born and the foreign-born residents from both regions (NYS and the Rest of the U.S.) are all statistically significant.

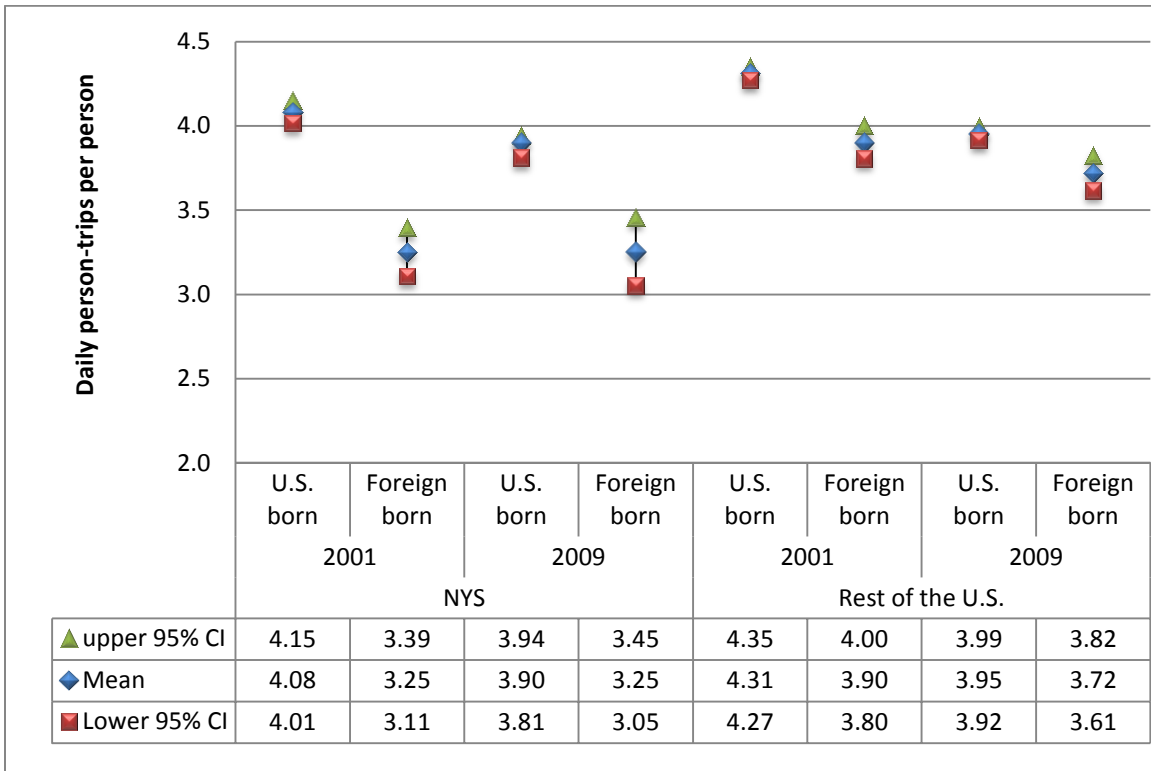


Figure 3-1. Daily number of person-trips per person by birthplace status and region (2001 and 2009 NHTS).

Interestingly, NYS U.S.-born residents reduced their daily travel frequencies significantly over the two NHTS years from an average of 4.08 person-trips in 2001 to 3.9 person-trips in 2009. This is not the case among NYS foreign-born residents, however, where their daily trip frequencies remained the same with an average of 3.25 person-trips over the two survey years. A similar pattern also exists in daily travel frequencies of residents from the Rest of the U.S. region. Here, the average daily person-trips for the U.S.-born declined significantly from 4.31 in 2001 to 3.95 in 2009. The difference between the averages of 3.9 and 3.72 trips in 2001 and 2009, respectively, for the two average daily trip frequencies for the foreign-born that lived outside NYS are not statistically significant.

Across regions, Figure 3-2 shows in 2009 the greatest gaps in the average daily travel frequencies between the U.S.-born and the foreign-born residents of NYS are among those who lived in NYC. Outside NYC, the differences between trip rates for the two groups are less visible.

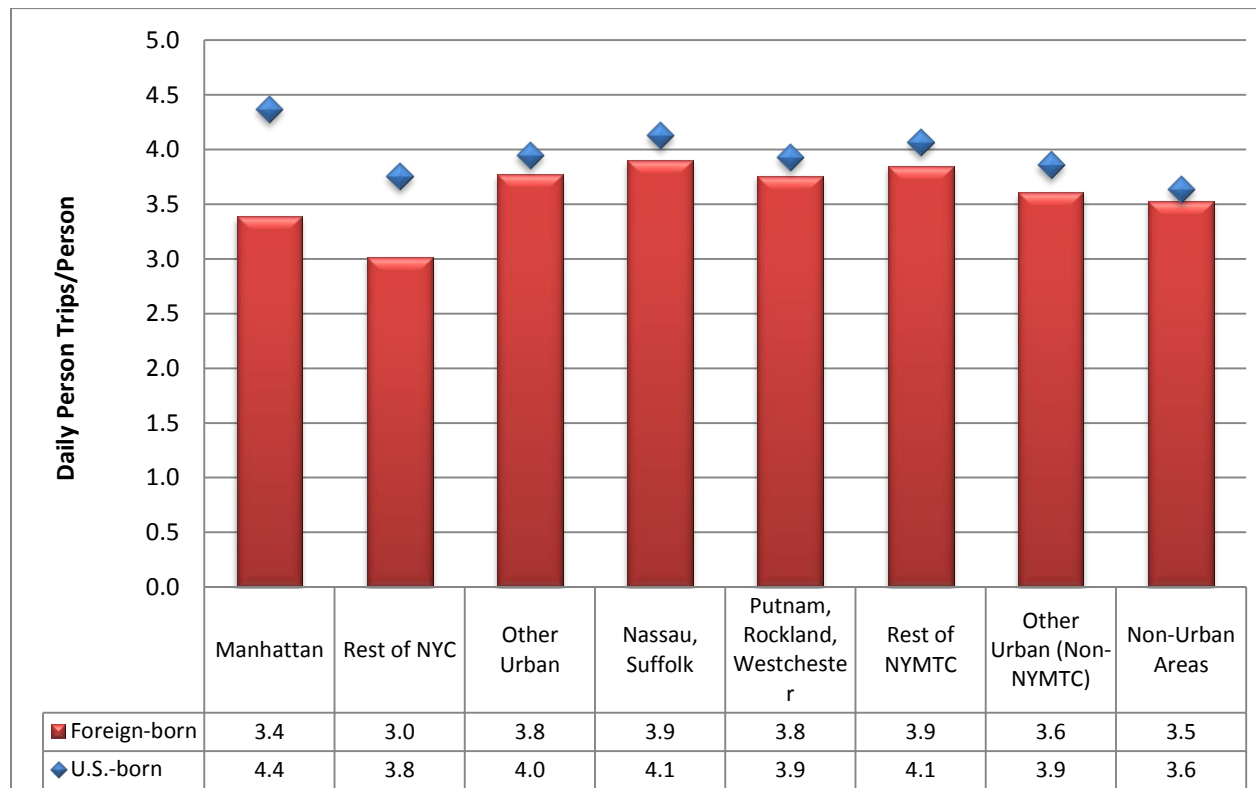


Figure 3-2. Daily person-trips per person in 2009, by birthplace and region (2009 NHTS).

### 3.1.2 Ethnicity Impact on Trip Frequencies

While the foreign-born who lived in NYS as a whole traveled an average of 3.25 person-trips per person per day, the trip rate differs across ethnic groups for these foreign-born NYS residents. In 2009, Figure 3-3 shows the daily person-trip rate for foreign-born NYS residents ranges from 2.9 to 3.4 trips per person, depending on the ethnicity of the travelers. Outside

NYS, the range of trip rates for foreign-born goes from nearly 3.5 trips per person to 4.2 trips per person during 2009.

The mobility of white foreign-born residents, when measured by the daily per-person trip frequency, is generally much closer to trip rates of their U.S.-born counterparts. As seen in Figure 3-3, the 2009 per-person trip rate of the U.S.-born NYS residents is greater than the trip rate of their neighbors in any one of the four foreign-born ethnic groups considered. Note, the difference in 2009 daily person-trip rates among the four ethnic groups of foreign-born NYS residents is inconclusive due to a relatively wide range of uncertainties (i.e., 95% CI) for their estimates (i.e., average trip rates). In addition, no statistically significant differences could be identified over the 2009 daily person-trip rates among ethnic groups of the foreign-born who lived outside NYS, when compared to the trip rates of their U.S.-born neighbors. The only exception is for the Asian foreign-born that lived in the Rest of the U.S., with an average daily trip rate of 3.65 (95% CI range of 3.46-3.85) person-trips versus 3.95 (95% CI range of 3.92-3.99) person-trips among the U.S.-born from the same region.

Considering changes in daily trip frequencies over time (i.e., from 2001 to 2009), NHTS data suggest that there is a significant decline in trip rates for the U.S.-born travelers that lived in each region. However, no significant changes over time on daily trip-rates by ethnic group are visible due to the relatively high sample variations.

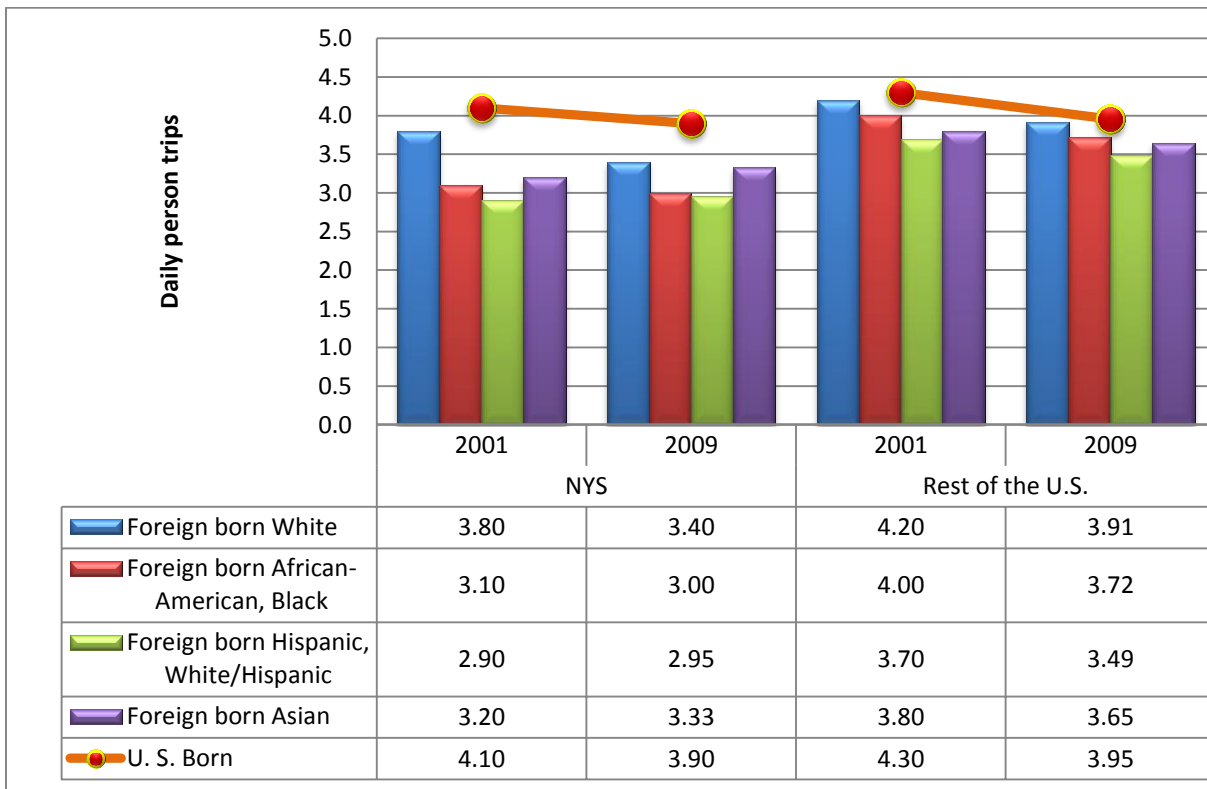


Figure 3-3. Daily person-trips by ethnicity and birthplace status (2001 and 2009 NHTS).

### 3.1.3 Impact of Length in the U.S. on Trip Rates

Data shown in Figure 3-4 confirms the significant difference found in average daily trip rates between the U.S-born and the foreign-born NYS residents, as discussed previously in this report. Based on statistics in Figure 3-4, those who lived in the Rest of the U.S. for both NHTS years, it seems that the longer a foreign-born stays in the U.S., the greater the average daily trip rate is. This pattern is not observed among foreign-born that lived in NYS, however. Nevertheless, when one takes into consideration sample variations, there is no statistically significant difference among the average daily trip rates between any pairs of the length-in-the-U.S. categories. This indicates that a definite impact of length-in-the-U.S. on daily trip rates is lacking based on data from the NHTS surveys.

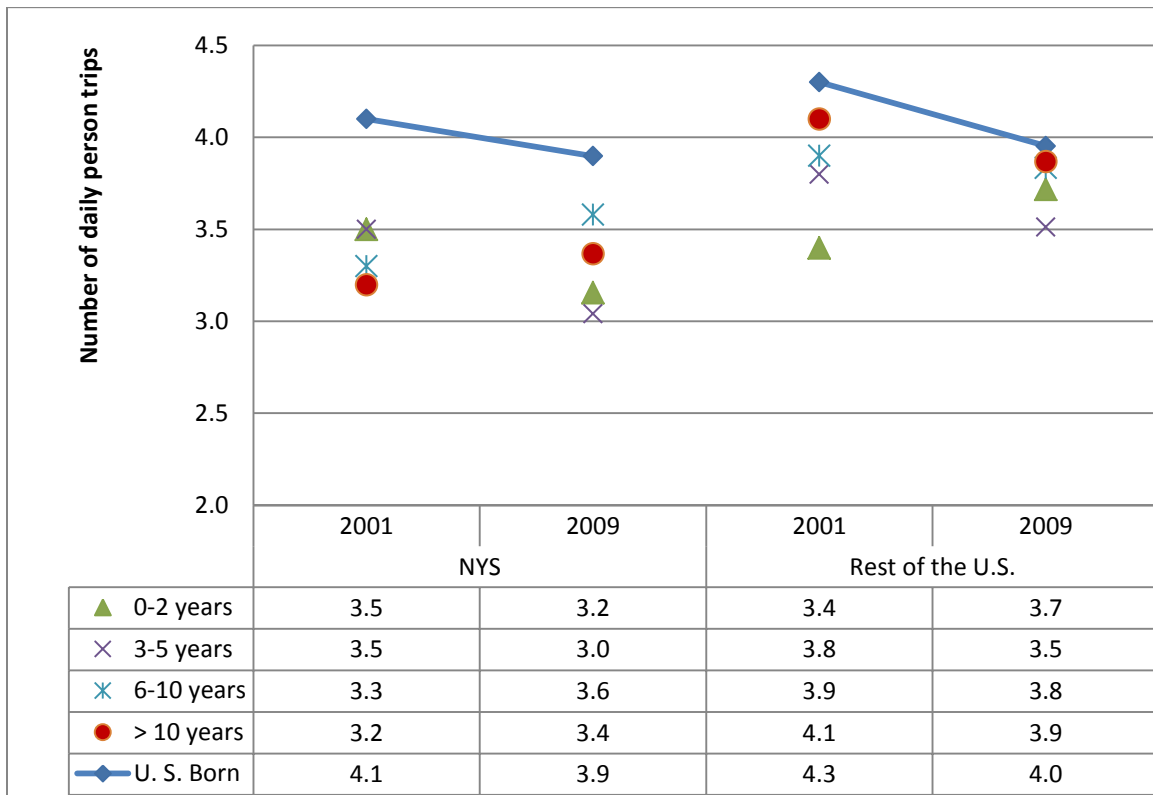


Figure 3-4. Daily person-trip rate per person by length in the U.S. for foreign-born residents (2001 & 2009 NHTS).

### 3.1.4 Influence of Birthplace on Person-Miles Traveled (PMT)

On average, a foreign-born resident of NYS traveled a significantly shorter distance (as measured by daily PMT) when compared to trips made by their U.S.-born neighbors in 2009, with an average of 18 miles of PMT for the foreign-born versus 30 miles by the U.S.-born (Figure 3-5). Among the NYS foreign-born population, those who lived in the U.S. for 3-5 years (with a daily average of 26 miles in PMT during 2009) appear to be more mobile than all other foreign-born NYS residents.

Similarly, the difference in daily PMT per person between the foreign-born and the U.S.-born residents that lived outside NYS is also visible in Figure 3-5. Except for the group of foreign-born who lived 3-5 years in the U.S., it is clear that the longer a foreign-born lived in the U.S. the greater distance he/she traveled on a daily basis as measured in PMT. As in NYS, the foreign-born residents of the Rest of the U.S., who lived 3-5 years in the U.S., appear to have had a greater mobility than all their other foreign-born neighbors in 2009.

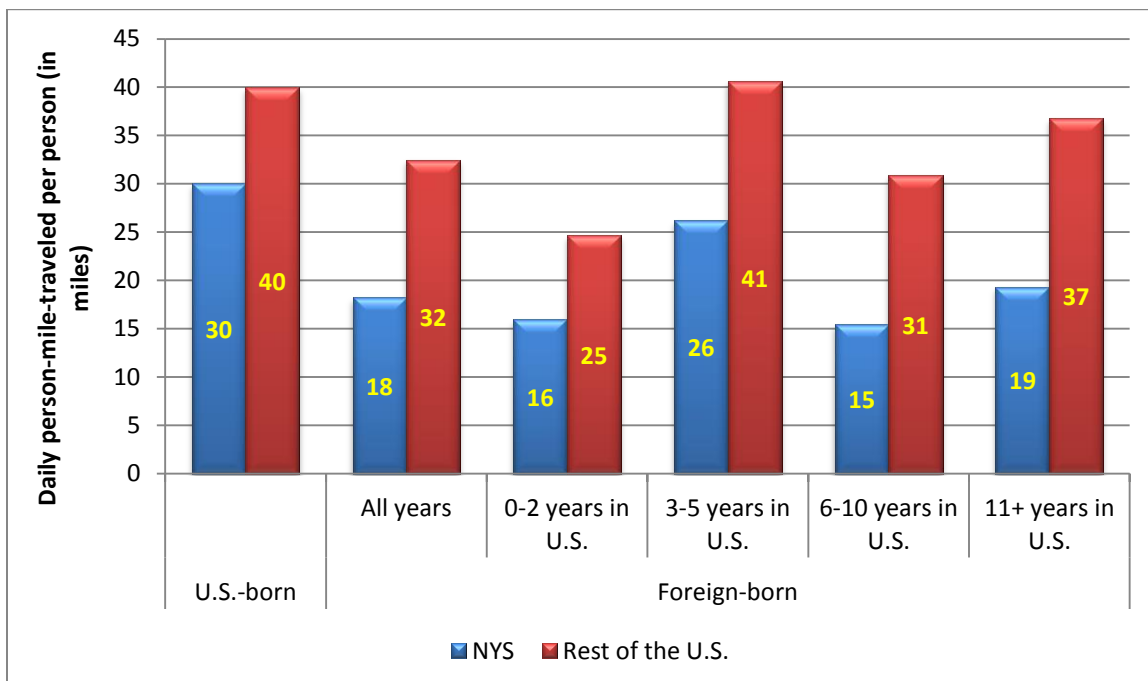


Figure 3-5. Daily person-miles-traveled (in miles) by birthplace status and length in the U.S. (2009 NHTS)

### 3.1.5 Mode Shares by Person Trips

#### *Impacts of Birthplace Status on Mode Choice*

As expected, residents of NYS rely more on public transportation and walking in their daily travel than those who lived outside NYS. Figure 3-6 clearly shows that is more so for the foreign-born NYS residents than their U.S.-born neighbors. Over half of the foreign-born NYS residents chose public transit or walking to conduct their daily activities, while less than 30% of their U.S.-born counterpart neighbors did in 2009. For those who lived outside NYS, where public transit is not as accessible, the difference in mode choices between the two birthplace statuses is much less affected.

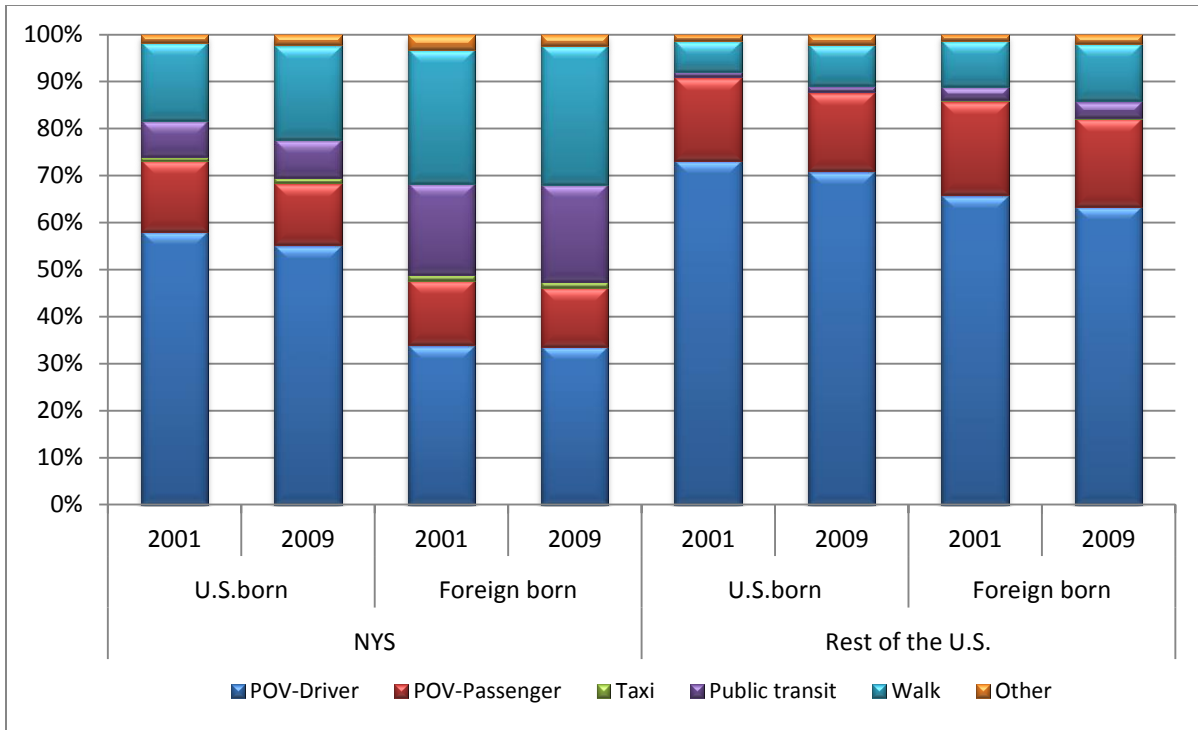


Figure 3-6. Mode shares by birthplace status and region (2001 and 2009 NHTS).

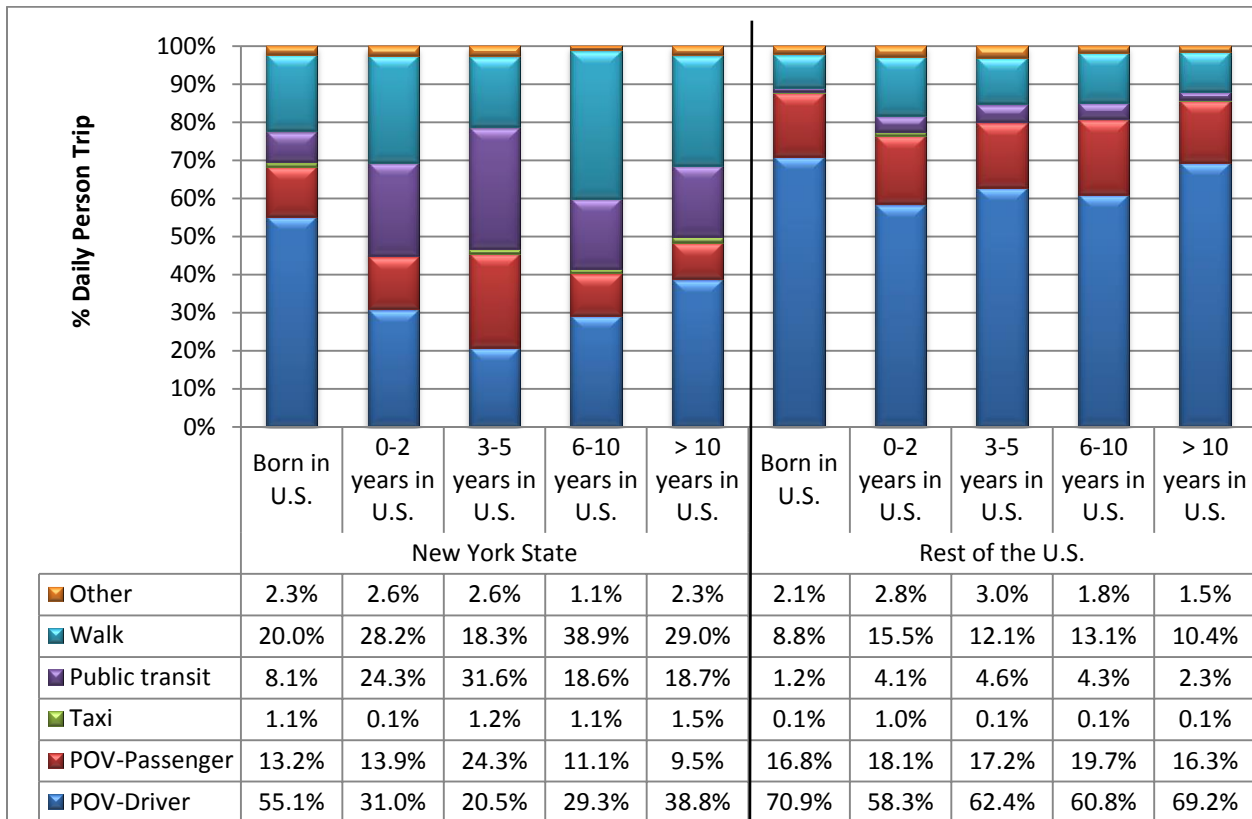


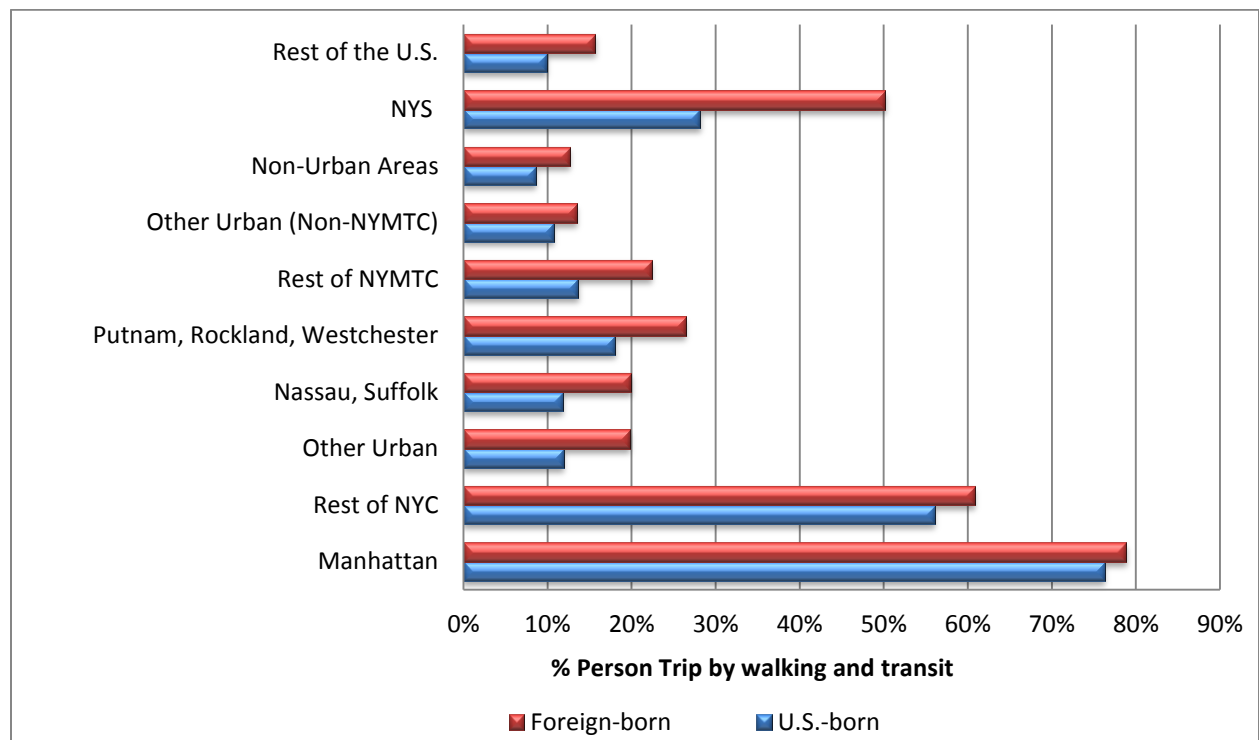
Figure 3-7. Person-trip distribution by mode and the length in U.S. (2009 NHTS).



Figure 3-7 shows in 2009 the use of public transit and walking continue to be the dominate modes of choice on trips made by the foreign-born NYS residents, even after a long period of living in the U.S. Outside NYS, the pattern of mode choices made by the foreign-born moves more toward a similar pattern as their U.S.-born neighbors as their length of time in the U.S. increases.

***Use of Public Transit or Walking by Foreign Born Status***

Figure 3-8 shows the share of public transit use or walking in daily activities during 2009, by birthplace status of the traveler. Not surprising, these modes are the preponderating mode of choice for NYC residents, regardless of their birthplace status. As seen in Figure 3-8, foreign-born individuals had a greater likelihood of using public transit or walking on their daily person-trips than for daily travel made by their U.S.-born neighbors in all regions.



**Figure 3-8. Percent of person-trips by public transit or walking by birthplace status (2009 NHTS).**

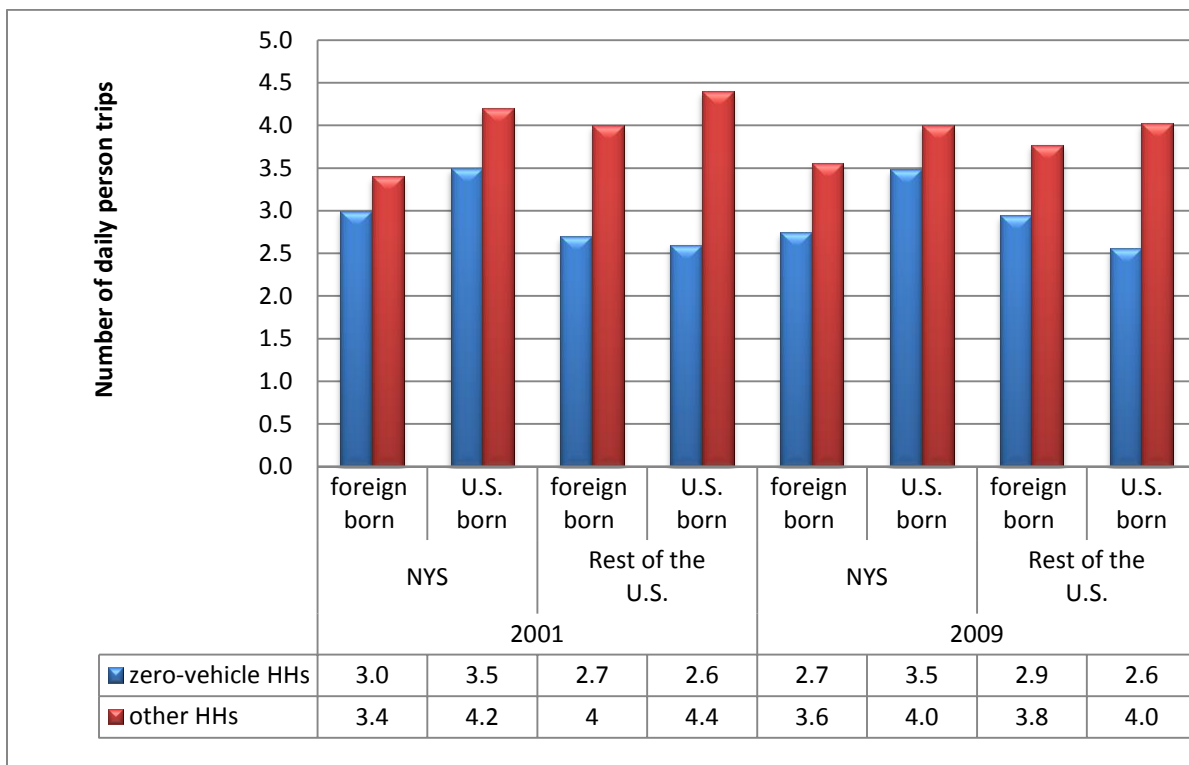
**3.1.6 Zero-Vehicle Household Effect on Mobility**

***Daily Person-Trip Rate***

Among the NYS zero-vehicle households, foreign-born households made significantly fewer trips, on a daily average per person basis, than those of non-zero-vehicle households from the same region during both 2001 and 2009 as shown in Figure 3-9. While a typical NYS resident

from a foreign-born zero-vehicle household made an average of 2.7 person-trips a day during 2009, his/her non-foreign-born counterparts actually traveled at a 33% higher rate (i.e., 3.6 person-trips per day) in the same year (Figure 3-9).

On the other hand, the gap (in daily trip-rates) between the two birthplace-status groups for non-zero-vehicle households in NYS is only about 11% in 2009. That is, an average rate of 3.6 person-trips per person among the foreign-born non-zero-vehicle households versus a daily trip-rate of 4.0 person-trips for the counterpart U.S.-born households. There are no significant changes in daily trip-rates for NYS residents over time (from 2001 to 2009), for a given birthplace status group within a given vehicle-ownership type.



**Figure 3-9. Daily person-trips per person by household (HH) vehicle ownership, birthplace status and region (2001 and 2009 NHTS).**

Outside NYS, the comparisons of daily trip-rates between the two birthplace types of zero-vehicle households are inconclusive, mainly due to a relatively high sample variation in the data associated with the foreign-born zero-vehicle households. Nonetheless, the fact that zero-vehicle households from the Rest of the U.S. traveled significantly less frequently than their counterpart non-zero-vehicle neighbors did is reconfirmed (Figure 3-9). Similar to those in NYS, there is no evidence of any significant changes in daily person-trip rates over time between 2001 and 2009 for households residing in the Rest of the U.S. region, when compared within a given birthplace status group (e.g., foreign-born), or within a given vehicle accessibility category (e.g., zero-vehicle households).

### Total Daily Person-Miles Traveled

In addition to making fewer daily trips, foreign-born zero-vehicle households also traveled shorter distances than their U.S.-born counterparts did, regardless of their vehicle-ownership status. Clearly visible in Figure 3-10, typical foreign-born zero-vehicle households in NYS, on average, traveled about 7 person-miles each day in 2009, while their U.S.-born counterparts made an average of 11 person-miles a day. Similarly, among non-zero-vehicle households, Figure 3-10 also shows that foreign-born households traveled shorter distances than their U.S.-born neighbors did, 25 person-miles versus 34 person-miles, respectively. This again points to an issue of somewhat more limited mobility for foreign-born households, which is more severe for those with no access to any vehicles living in NYS.

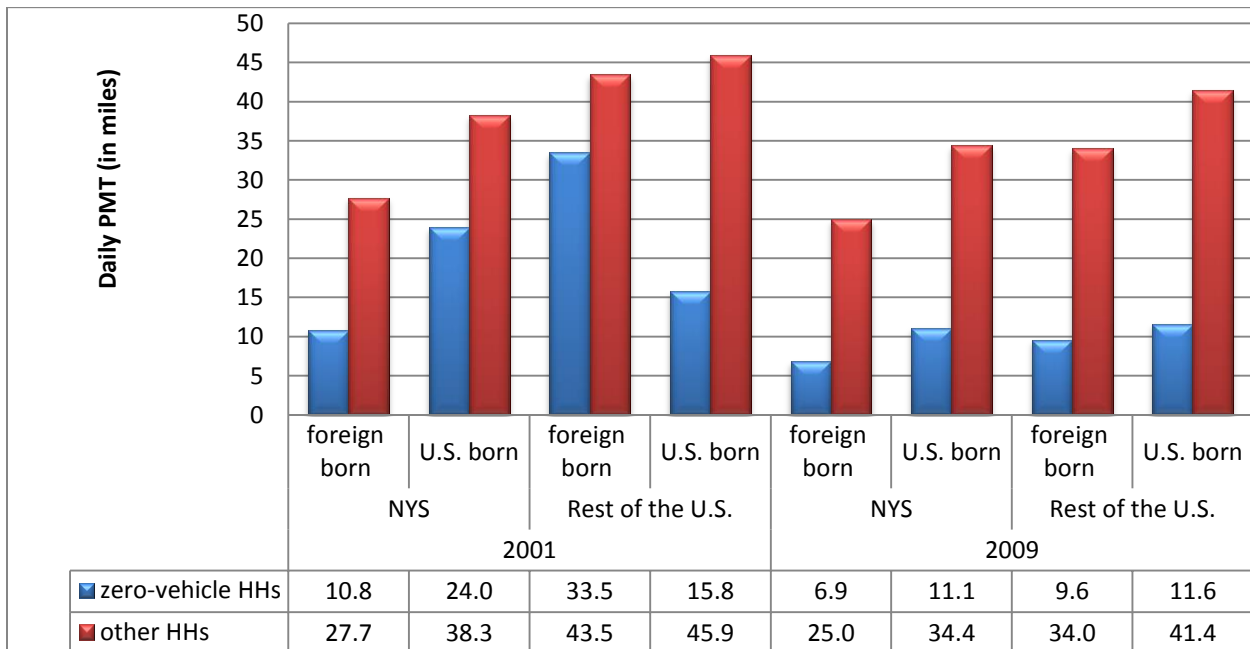


Figure 3-10. Total household (HH) daily PMT by birthplace status, vehicle ownership and region (2001 and 2009 NHTS).

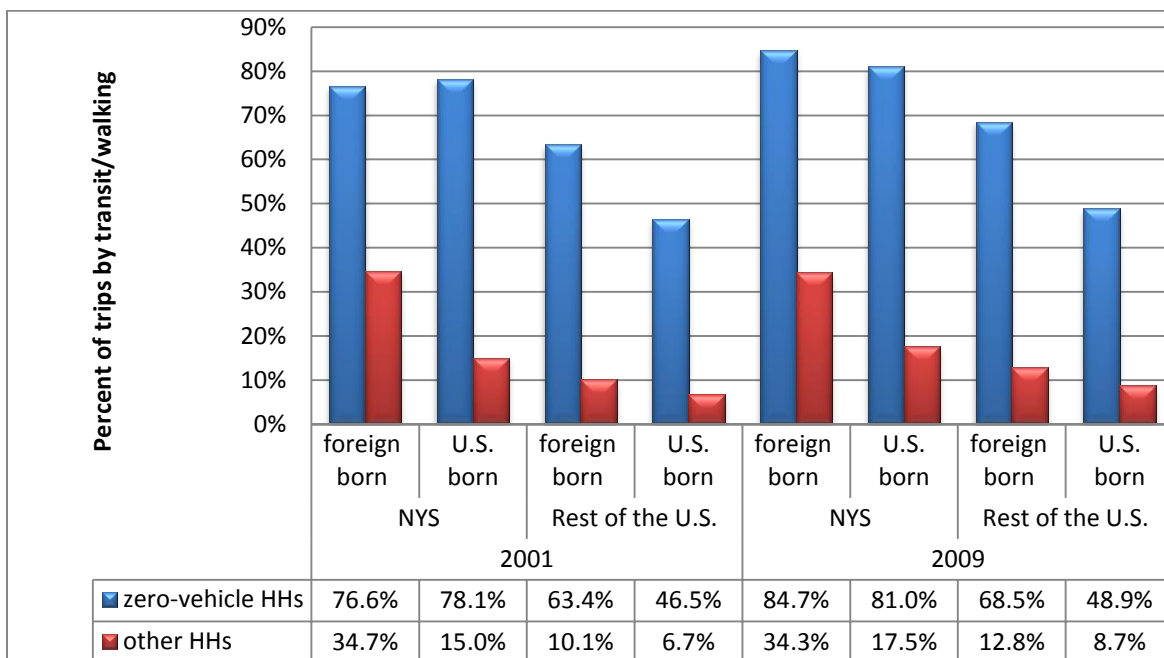
### Use of Public Transit and Walking

Clearly, no access to a vehicle increases the likelihood of using public transit and walking in maintaining one’s mobility significantly. As noted previously, many NYS residents, especially those who lived in NYC, chose not to own vehicles. Benefitting from having an abundant transit network, zero-vehicle NYS residents clearly relied a lot more frequently on public transit and walking for their daily activities than those that lived outside NYS, regardless of their foreign-born status.

Figure 3-11 shows that public transit and walking combined accounted for about 85% of the mode shares (measured by person-trips) for foreign-born zero-vehicle households in NYS during 2009; while it was 81% among their U.S.-born counterparts. The gap in these two mode shares

was not statistically significant, when taking into consideration their sample variations, however. On the other hand, Figure 3-11 illustrates that outside NYS, 69% of the person-trips made by foreign-born zero-vehicle households used public transit and walking in 2009, while a significantly (statistically speaking) lower percent of trips (49%) was made by their U.S.-born counterparts.

In addition, among households owning vehicles, a significantly greater percent of trips taken by foreign-born households are made by public transit or walking when compared to their U.S.-born counterparts in the same region. In Figure 3-11, 34% of person-trips made by NYS foreign-born households owning at least one vehicle in 2009 were taken on public transit or by walking. Only about 18% of trips taken by U.S.-born households of NYS owning at least one vehicle in 2009 did the same; i.e., about half as likely as their foreign-born neighbors. Similarly, among households owning at least one vehicle and residing in the Rest of the U.S., a foreign-born household is also more likely to utilize public transit or walking when conducting daily activities than an U.S.-born household from that region, with mode shares of 13% versus 9% of person-trips, respectively.



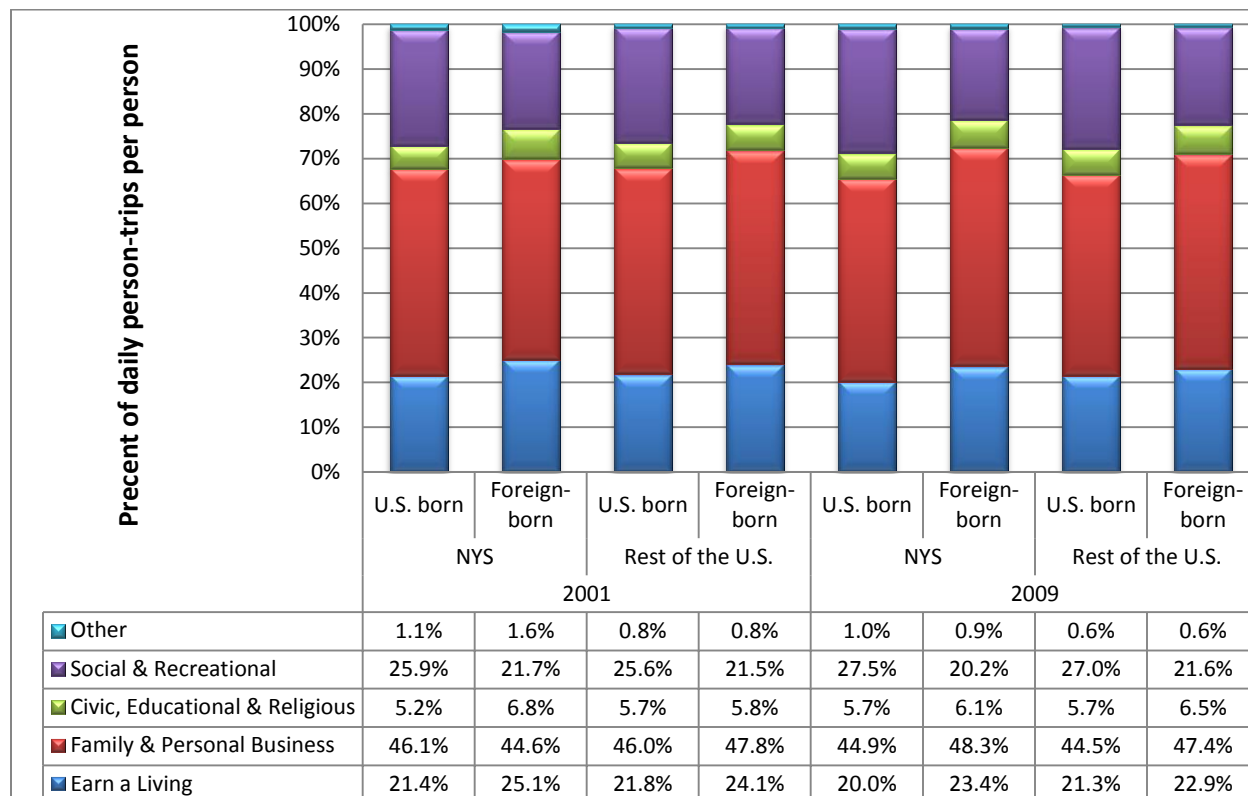
**Figure 3-11. Percent of household (HH) person-trips using public transit or walking by vehicle ownership, birthplace status and region (2001 and 2009 NHTS).**

### 3.1.7 Average Daily Person-Trips by Trip Purpose

One of the most noticeable differences observed in Figure 3-12 is that foreign-born residents traveled significantly less for social and recreational purposes, when compared to trips made by their U.S.-born neighbors. As seen in Figure 3-12, nearly 28% of trips made by the U.S.-born NYS residents in 2009 were for social and recreational activities. Conversely, only one in five trips (20%) made by the foreign-born NYS residents during 2009 was for that same trip purpose.

Similarly, foreign-born residents from the Rest of the U.S. also traveled significantly less for social and recreational activities in 2009 than their U.S.-born neighbors did, with shares of 22% versus 27%, respectively (Figure 3-12).

On the other hand, Figure 3-12 displays a slightly higher percent of person-trips that was made for “earning a living” by the foreign-born residents in both regions (i.e., NYS and the Rest of the U.S.), as compared to the percent of trips made by their U.S.-born counterparts for the same travel reason. Due to sample variations, this difference was not statistically significant based on the 2009 NHTS data, however.



**Figure 3-12. Percent of person-trips per person by trip purpose, birthplace status and region (2001 & 2009 NHTS)**

### 3.1.8 Average Length of Person-Trips

According to the 2009 NHTS, there is no significant travel distance difference between residents born in the U.S. and foreign-born on a per person-trip length base. Figure 3-13 indicates that U.S.-born NYS residents traveled an average of about 8 miles per person-trip while their foreign-born neighbors traveled a little under 7 miles per person-trip in 2009. Similarly, no large differences in the average trip lengths for person-trips were made during 2009 by the U.S.-born and the foreign-born living outside NYS is seen.

When broken down by the length in the U.S. for the foreign-born population, Figure 3-13 shows that a foreign-born person who has lived in the U.S. for three to five years, traveled the farthest distance, on a per person-trip basis in 2009, compared to all other foreign-born residents from the same regions. No apparent reason on why this specific group of foreign-born persons behaved differently from all others can be offered. A similar pattern is also visible in the foreign-born population living outside NYS. With the exception of the “3-5 years in U.S.” group, there is a visible increasing pattern on average PT length of the foreign-born population lived in the Rest of the U.S. as their number of years in the U.S. increased (Figure 3-13).

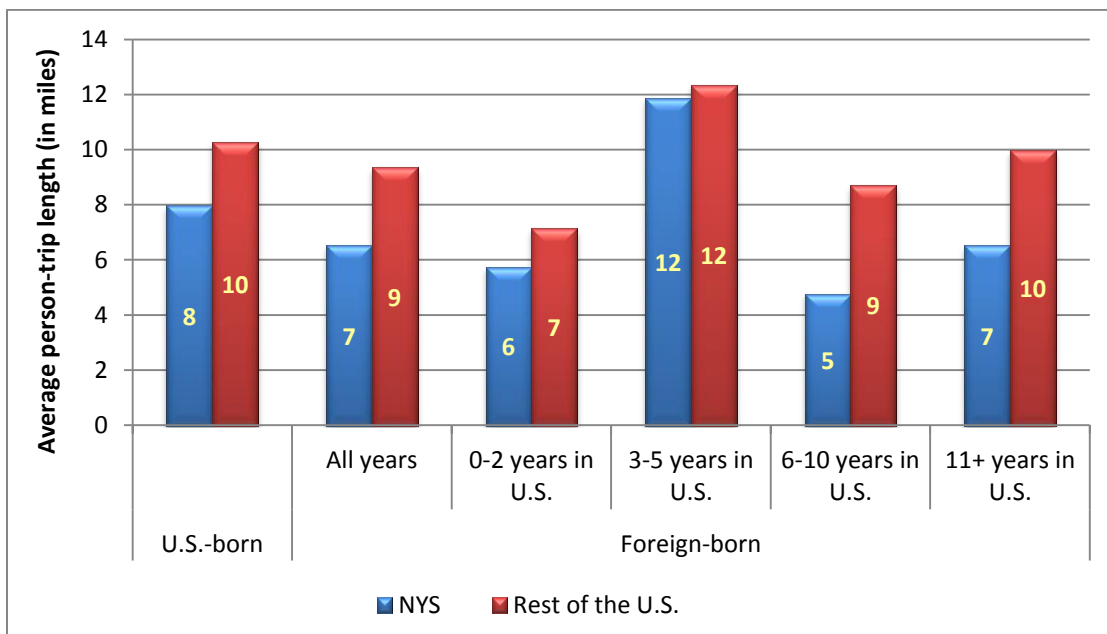
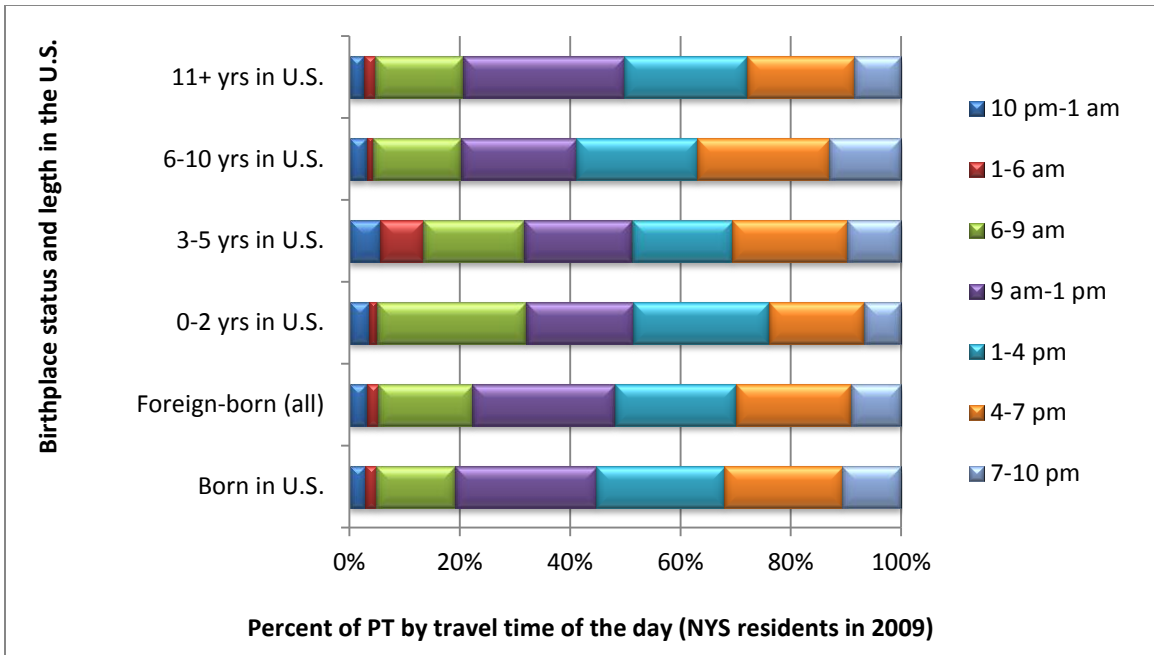


Figure 3-13. Average person-trip distance (miles) by birthplace status and length in the U.S. (2009 NHTS)

### 3.1.9 Daily Person-Trips by Time of Travel

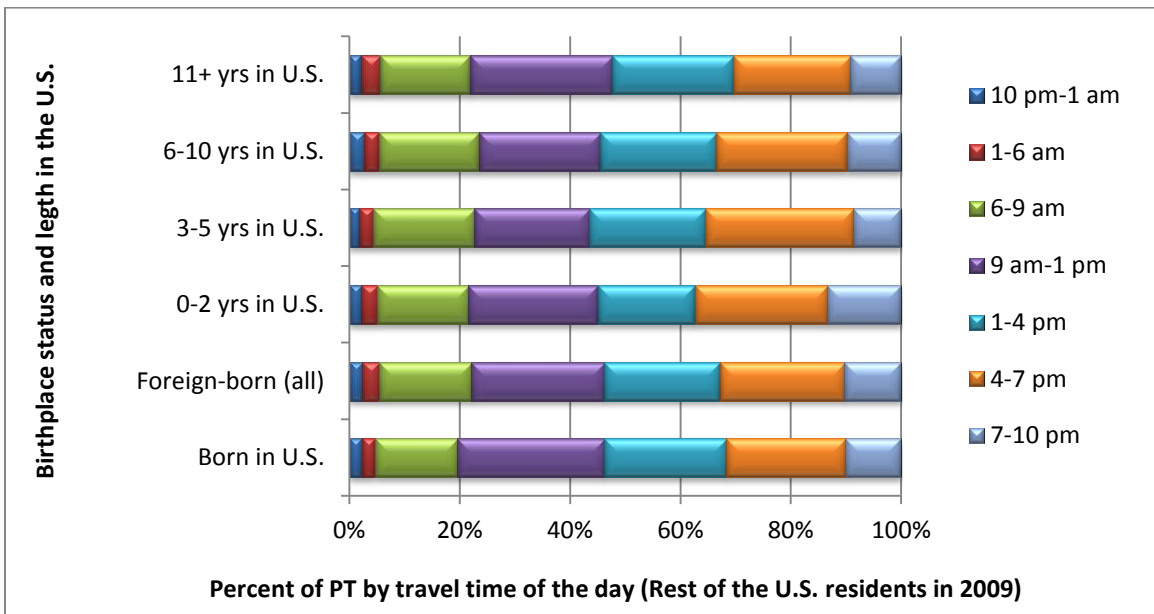
#### *Time of Travel on All Person-Trips*

In terms of the time of travel on person-trips taken by residents of NYS during 2009, the foreign-born population tends to leave earlier for their trips than the U.S.-born NYS residents did. Figure 3-14 shows about 32% of the person-trips began before 9 AM among the foreign-born population who lived five years or less in the U.S., compared to less than 20% of person-trips began at that time for their U.S.-born neighbors. The distribution of person-trips by time of travel for foreign-born NYS residents who lived over ten years in the U.S. is closer to that of the U.S.-born NYS residents.



**Figure 3-14. Distribution of NYS resident person-trips by time of travel, birthplace status and length of time in the U.S. (2009 NHTS).**

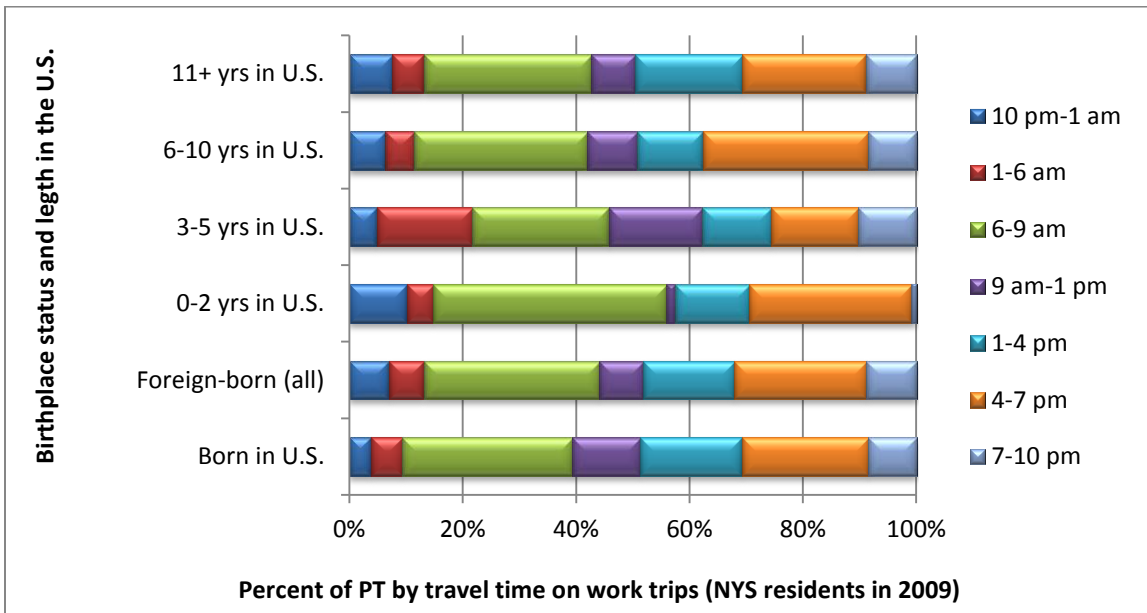
The difference in the distribution of PTs by time of travel between the foreign-born and the U.S.-born population that lived in the Rest of the U.S. was not significant. The length of years in the U.S. did not appear to influence when most trips were taken by a traveler who lived in the Rest of the U.S. (Figure 3-15), although a slightly higher percentage of late afternoon trips were taken by foreign-born who lived 5 years or less in the U.S.



**Figure 3-15. Distribution of person-trips by time of travel, birthplace status and length of time in the U.S. the Rest of the U.S. residents (2009 NHTS).**

***Time of Travel on Work-Related Person-Trips***

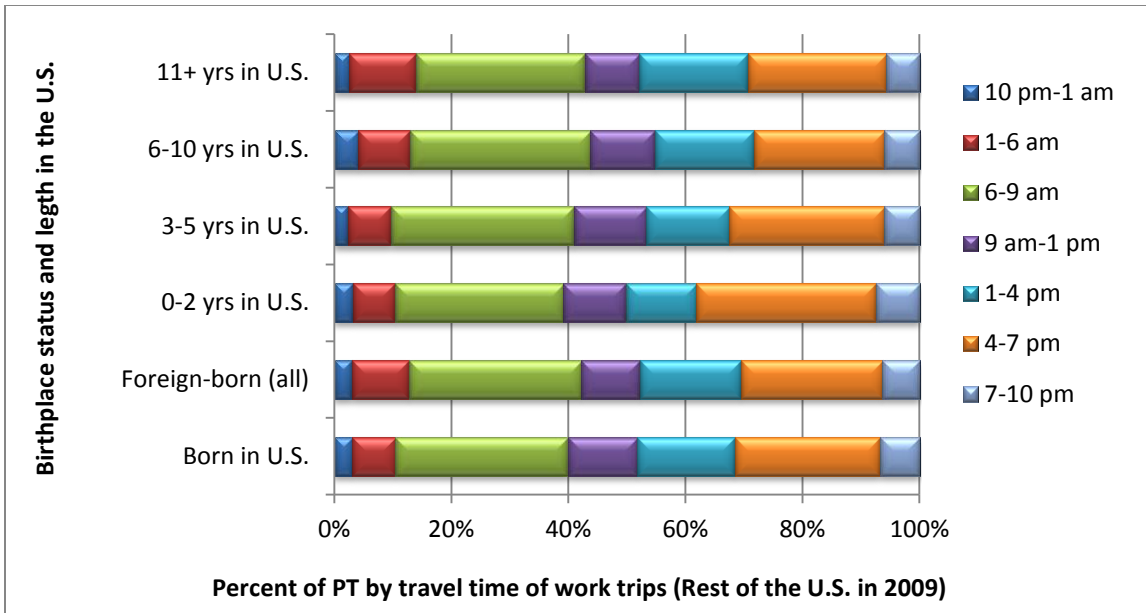
When limited to work trips, foreign-born NYS residents had a higher tendency to arrive earlier at their work place than their U.S.-born counterparts did in 2009. As presented in Figure 3-16, 56% of the work-related person-trips made by the foreign-born NYS residents who have been in the U.S. for less than three years occurred before 9 am, compared to slightly less than 40% of work-related person-trips made by their U.S.-born counterparts during 2009. After 10 years of living in the U.S., the distribution of work-related person-trips for foreign-born NYS residents finally reached a similar pattern as that for their U.S.-born counterpart NYS residents.



**Figure 3-16. Distribution of NYS resident work person-trips by time of travel, birthplace status and length in the U.S. (2009 NHTS).**

Figure 3-17 shows that over 40% of work-related person-trips taken by people living in the Rest of the U.S. occurred before 9 am, regardless of their birthplace status. Similar to what was observed in Figure 3-15, there is a visibly higher percent of work-related person-trips that happened during late afternoon (after 4 pm) among the foreign-born population that lived in the U.S. for less than three years.





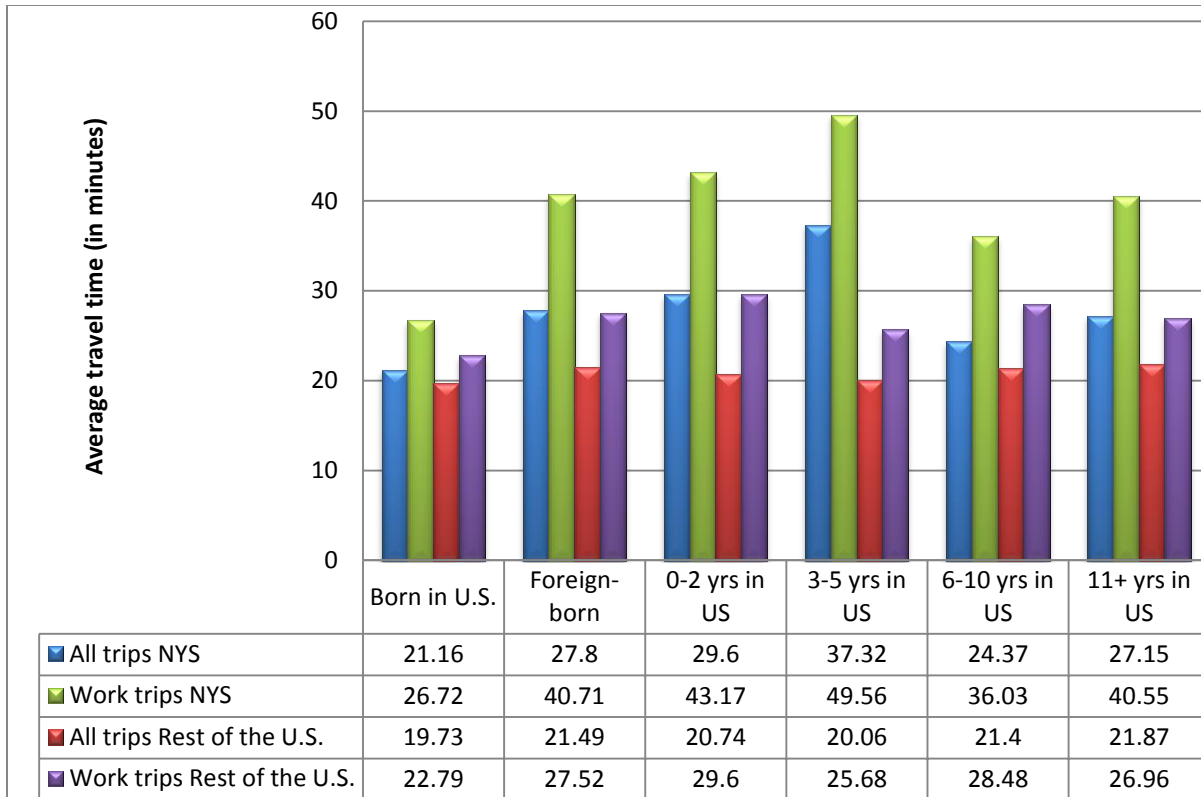
**Figure 3-17. Distribution of work person-trips by time of travel, birthplace status, and length in the U.S., for residents of the Rest of the U.S. during (2009 NHTS).**

### 3.1.10 Average Travel-Time (in Minutes) Per Person-Trip

Figure 3-18 shows that the average travel time (in minutes) on trips made by U.S.-born NYS residents is shorter than for those taken by their foreign-born counterparts in 2009, and more so on work trips than overall trips. On average, a work-related person-trip made by U.S.-born NYS residents took less than 27 minutes in 2009, but a trip to work would take about 41 minutes on average for foreign-born NYS residents during the same year. Outside NYS, Figure 3-18 shows that the difference in travel time to work is less severe between the two population groups.

The NYS residents who lived in the U.S. for 5 years or less traveled a significantly longer time per trip to work than the average travel time made by their U.S.-born neighbors in 2009. Even after living in the U.S. for over 10 years, foreign-born NYS workers still traveled a longer time to reach their workplace than their U.S.-born counterparts from NYS, an average of 41 minutes per trip to work versus 27 minutes per trip to work, respectively (Figure 3-18). With all trips combined, however, the average travel time per trip in 2009 for a foreign-born NYS resident who has lived in the U.S. for over 5 years is closer to the level of travel time that his/her U.S.-born counterpart experienced.

For residents who lived in the Rest of the U.S., no visible difference can be observed in Figure 3-18 the overall average travel time for the foreign-born population with a different length of stay in the U.S. Similarly, there are no noticeable patterns on average travel time for work trips with different length-in-the-U.S. groups of foreign-born residents that lived in the Rest of the U.S.



**Figure 3-18. Average travel time on overall person-trips and work trips (in minutes) by birthplace status and length in the U.S. (2009 NHTS).**

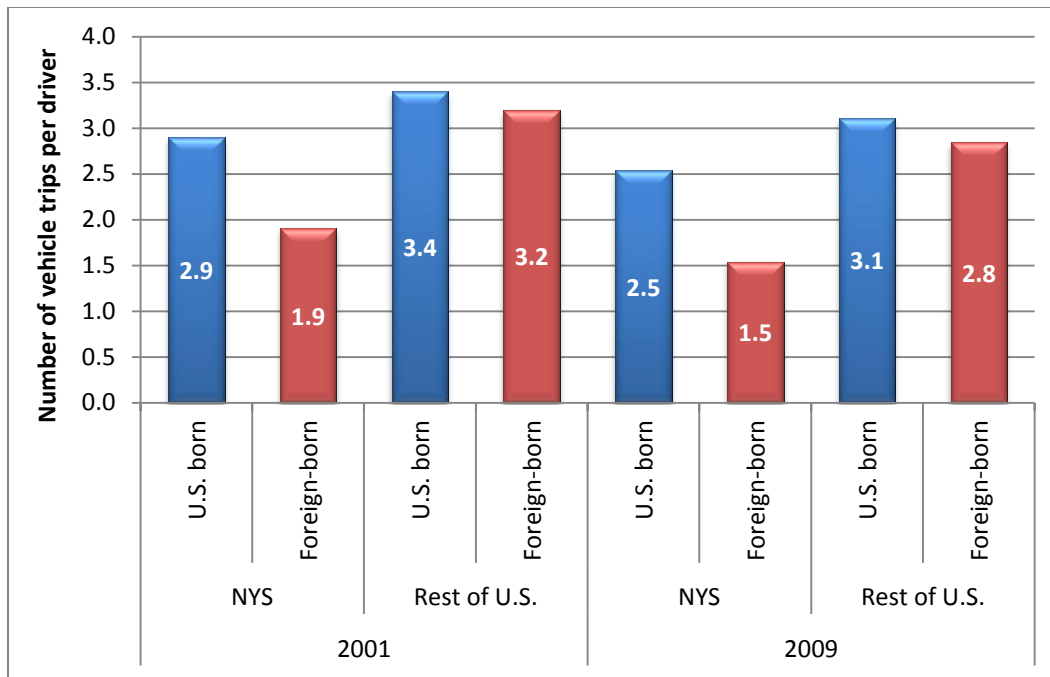
## 3.2 VEHICLE TRAVEL

### 3.2.1 Average Daily Vehicle-Trip Rates

From the perspective of vehicle trips on a per-driver basis, the foreign-born drivers had a propensity of making fewer vehicle trips than the U.S.-born drivers did. As observed in Figure 3-19, a typical NYS foreign-born driver made 1.5 vehicle-trips daily during 2009, while the U.S.-born counterpart made 2.5 vehicle-trips, which is 67% (calculated as  $(2.5-1.5)/1.5=0.67$ ) more on a daily basis during the same year. Such a gap is much smaller for the drivers who lived in the Rest of the U.S., where the foreign-born driver traveled an average of 2.8 vehicle-trips in 2009 while the U.S.-born driver made 11% more vehicle trips (3.1 vehicle-trips) at the same time.

A decline in the average vehicle trips over time (from 2001 to 2009) is visible in Figure 3-19 for both birthplace types and in both regions. This decline is significantly greater among the foreign-born drivers than in their U.S.-born counterparts. Specifically, Figure 3-19 shows that foreign-born drivers from NYS made about 21% fewer vehicle-trips in 2009, a drop from 1.9 in 2001 to 1.5 in 2009. During the same period, their U.S.-born counterpart drivers traveled 14% less in terms of vehicle trips, decreasing from an average of 2.9 trips per driver in 2001 to 2.5

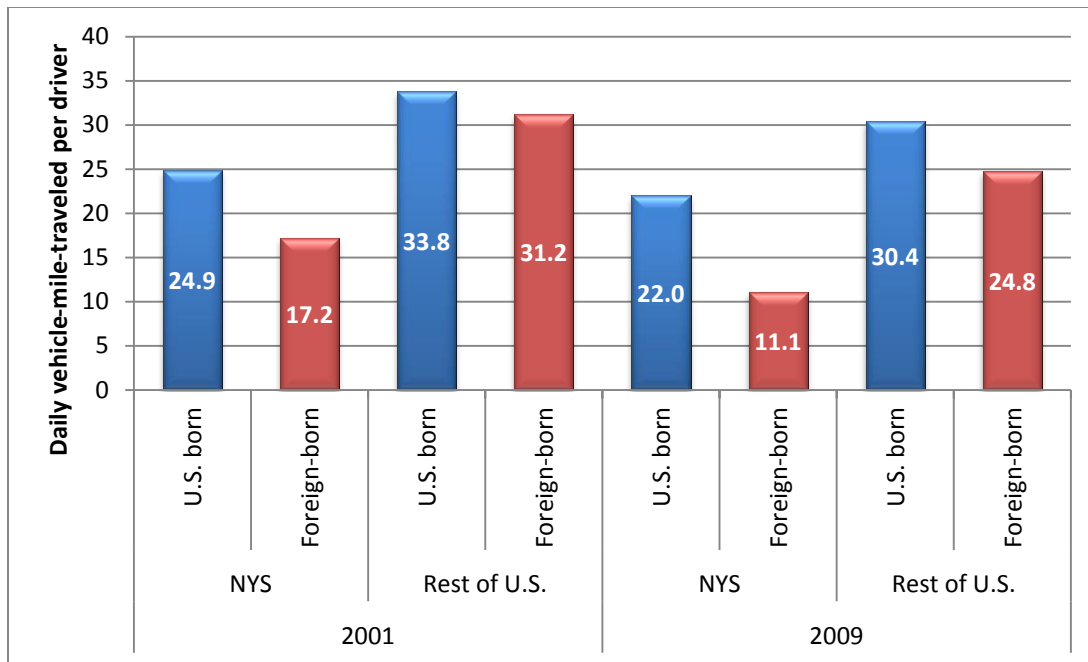
trips per driver in 2009. Similarly, outside NYS, the decline in vehicle-trips (per driver) over the two NHTS years are smaller but still significant, reduced 13% in vehicle trips between the two years for foreign-born drivers, versus only 9% for U.S.-born drivers.



**Figure 3-19. Number of vehicle-trips per driver by birthplace status and region (2001 and 2009 NHTS).**

In respect to vehicle-miles-traveled (VMT) per driver, foreign-born drivers also traveled a significantly shorter distance by vehicle (as measured by VMT) than their U.S.-born counterparts. Figure 3-20 shows that foreign-born drivers from NYS traveled 11.1 VMT per driver in 2009, only about half of the amount driven by their U.S.-born counterparts in that year. Although to a lesser degree, foreign-born drivers that lived in the Rest of the U.S. also traveled significantly fewer vehicle-miles than their U.S.-born counterparts did. On average, foreign-born drivers from this region traveled 25 vehicle-miles per driver in 2009, which is nearly 19% shorter than that made by their U.S.-born counterparts.

As in Figure 3-19, a declining trend in VMT over the two NHTS years is also visible in Figure 3-20, regardless of birthplace status or drivers' household location. For drivers that lived in NYS, the decline in VMT amounts to about 35% for foreign-born drivers, reduced from 17 vehicle-miles in 2001 to only 11 vehicle-miles in 2009. For their U.S.-born counterpart drivers, the reduction of VMT is about 12%, or reduced from 25 vehicle-miles in 2001 to 22 vehicle-miles in 2009. The reduction in VMT over the two NHTS years is smaller for drivers who lived in the Rest of the U.S., about 21% for the foreign-born drivers (dropped from 31 vehicle-miles in 2001 to 25 in 2009) and 10% for the U.S.-born drivers (down from about 34 vehicle-miles in 2001 to 30 in 2009).

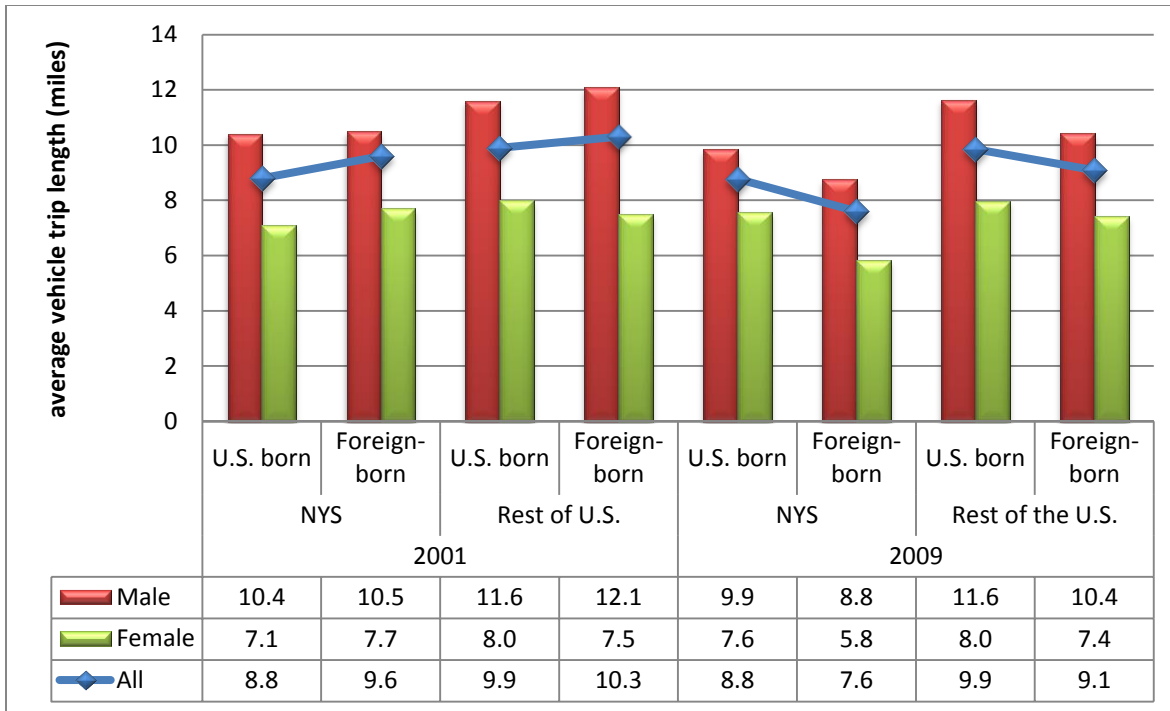


**Figure 3-20. Daily vehicle-miles-traveled per driver by birthplace status and region (2001 and 2009 NHTS).**

### 3.2.2 Average Vehicle-Trip Length

Concerning the average length of vehicle trips made by drivers in 2009, foreign-born drivers made shorter vehicle trips as compared to vehicles trips by their U.S.-born counterparts. As displayed in Figure 3-21, a typical vehicle-trip made by a foreign-born driver in 2009 is about one mile shorter than a vehicle-trip taken by a U.S.-born driver from the same region. The pattern was reversed in 2001, where the average vehicle-trip length is slightly longer in distance for the foreign-born drivers. These vehicle-trip length differences between foreign-born and U.S.-born drivers are not reliable in most cases due to relatively high sample size variations.

By gender, foreign-born female drivers traveled a significantly shorter vehicle trip length in 2009 than a similar trip made by her U.S.-born female counterpart. Seen in Figure 3-21, the average vehicle-trip length made by a female foreign-born driver in NYS is about 5.8 vehicle-miles in 2009, where it is 7.6 vehicle-miles for her U.S.-born counterpart driver for the same year. The trip length difference between the foreign-born and the U.S.-born female drivers in 2001 is inconclusive however. In addition, no significant difference in trip-length can be identified between the two birthplace-types among male drivers in either NHTS years. Nonetheless, gender difference is clearly presented in Figure 3-21, regardless of birthplace status or region for both NHTS years.



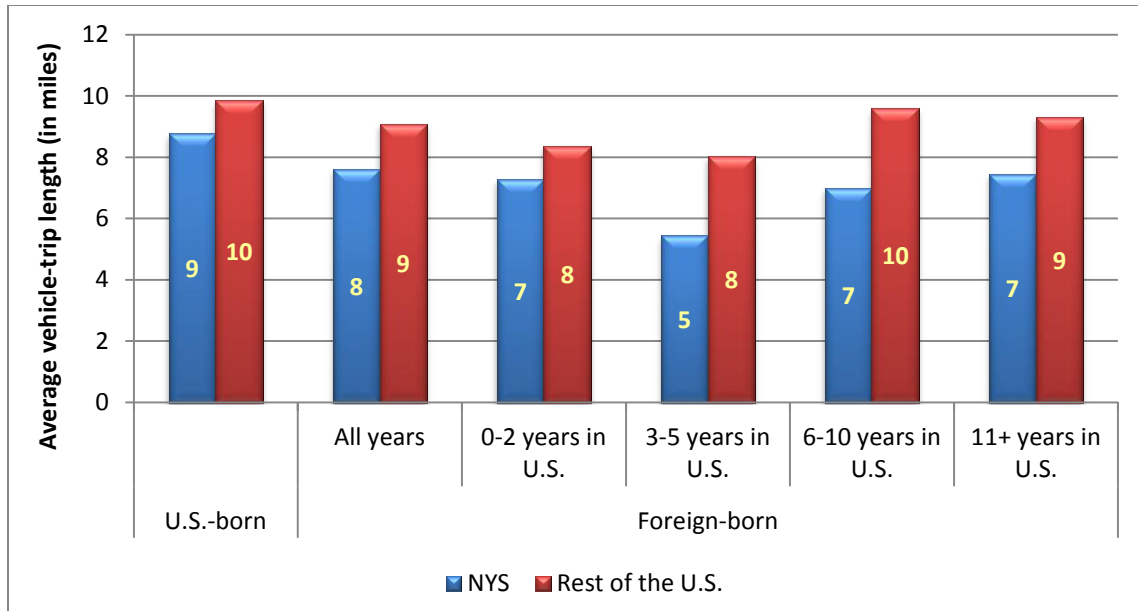
**Figure 3-21. Average length of vehicle trips by birthplace status and region (2001 and 2009 NHTS).**

The distribution of vehicle-trip length summarized in Table 3-1 does not show any significant difference between the foreign-born and U.S.-born drivers. Note that the share of unreported is consistently higher for foreign-born drivers as compared to their U.S.-born counterpart drivers.

**Table 3-1. Distribution of Vehicle-Trip Length by Birthplace Status and Region (2001 and 2009 NHTS)**

Length of vehicle trips	2001				2009			
	NYS		Rest of the U.S.		NYS		Rest of the U.S.	
	U.S. born	Foreign-born	U.S. born	Foreign-born	U.S. born	Foreign-born	U.S. born	Foreign-born
5 or less miles	59.5%	58.0%	56.5%	54.4%	60.4%	58.7%	56.9%	55.7%
6-10 miles	17.2%	15.7%	18.5%	18.0%	17.0%	16.1%	18.7%	17.0%
11-15 miles	8.5%	7.9%	9.1%	8.8%	7.9%	8.0%	8.8%	8.4%
16-20 miles	4.6%	4.0%	4.9%	5.1%	4.6%	5.3%	4.8%	5.1%
21-30 miles	4.2%	5.2%	4.9%	5.1%	4.5%	3.5%	4.9%	5.3%
31 or more miles	4.5%	4.9%	5.3%	5.2%	4.5%	2.9%	5.2%	4.3%
Unreported	1.6%	4.3%	0.8%	3.4%	1.2%	5.4%	0.8%	4.2%
Total	100%	100%	100%	100%	100%	100%	100%	100%

When taking into account the length of time a foreign-born resident lived in the U.S., Figure 3-22 shows a slightly upward trend in the average vehicle-trip length on trips made by the foreign-born NYS residents as they lived longer in the U.S., with an exception on the newest foreign-born population that has been in the U.S. within two years.

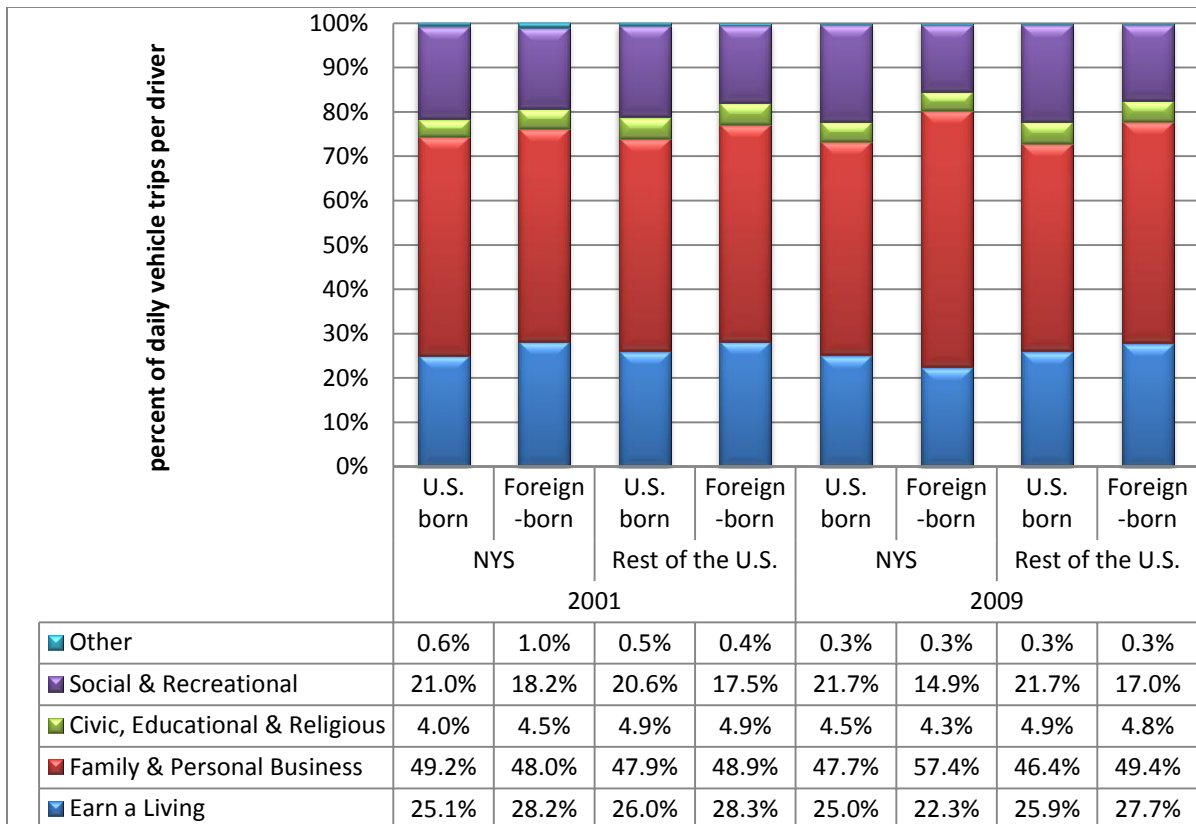


**Figure 3-22. Average vehicle-trip length in distance (miles) by birthplace status and length in the U.S. (2009 NHTS).**

### 3.2.3 Impact of Birthplace on Average Vehicle-Trips by Purpose

Similar to the average person-trips (Figure 3-13), foreign-born drivers tend to travel significantly less in vehicles for social and recreational activities when compared with their U.S.-born counterpart drivers. In 2009, Figure 3-23 shows only about 15% of total vehicle-trips made by foreign-born drivers from NYS were for social/recreational purposes, which is significantly lower than the 22% share among their U.S.-born counterpart drivers from NYS. A consistent pattern is also visible for drivers from the Rest of the U.S. in 2009 where the share of vehicle-trips made for social/recreational activities accounted for 17% and 22% for foreign-born and U.S.-born drivers, respectively (Figure 3-23). Similar conclusions can also be drawn regarding the difference in the vehicle-trip shares of social/recreational trips between drivers from each of the two birthplace statuses, based on the 2001 NHTS data.

Unlike person-trips, foreign-born drivers also exhibit a higher propensity of making vehicle-trips for “family and personal business” purposes in 2009, when compared to their U.S.-born counterpart drivers (Figure 3-23). Among NYS drivers in 2009, over 57% of vehicle trips made by the foreign-born drivers were for conducting family and personal business), while this type accounted for fewer than 48% of vehicle trips taken by the U.S.-born drivers.



**Figure 3-23. Percent of vehicle trips per driver by trip purpose, birthplace status and region (2001 and 2009 NHTS).**

Although the difference in shares of vehicle-trips made for “family/personal business” is not as prominent among drivers from the Rest of the U.S., the over 49% of vehicle-trips made by the foreign-born drivers from outside the NYS region is still significantly higher than the 46% share of vehicle-trips made by the U.S.-born counterpart drivers from this same area. No similar patterns are observed in Figure 3-23 for vehicle-trips made in 2001, though.

### 3.2.4 Effect of Time in the U.S. on Average Daily Vehicle-Trips

It is evident in Figure 3-24 that, generally, the longer a foreign-born driver resided in the U.S., the higher the likelihood of using vehicles for his/her daily activities in 2009. The only exception is for the foreign-born drivers who have only been in the U.S. for two-years or less. The propensity of traveling by vehicles for the foreign-born NYS drivers, however, did not reach the same level for their U.S.-born counterpart drivers even after living in the U.S. for more than ten years. As Figure 3-24 presents, a foreign-born NYS driver who lived in the U.S. for 10 or more years made an average of 1.8 vehicle-trips on a daily basis during 2009, which is only 72% of the average trip rate made by the U.S.-born counterpart driver in the same year. Outside NYS, foreign-born drivers who have been in the U.S. for over 10 years behaved the same as the U.S.-born drivers, in terms of their average daily vehicle trips, based on results from the 2009 NHTS.

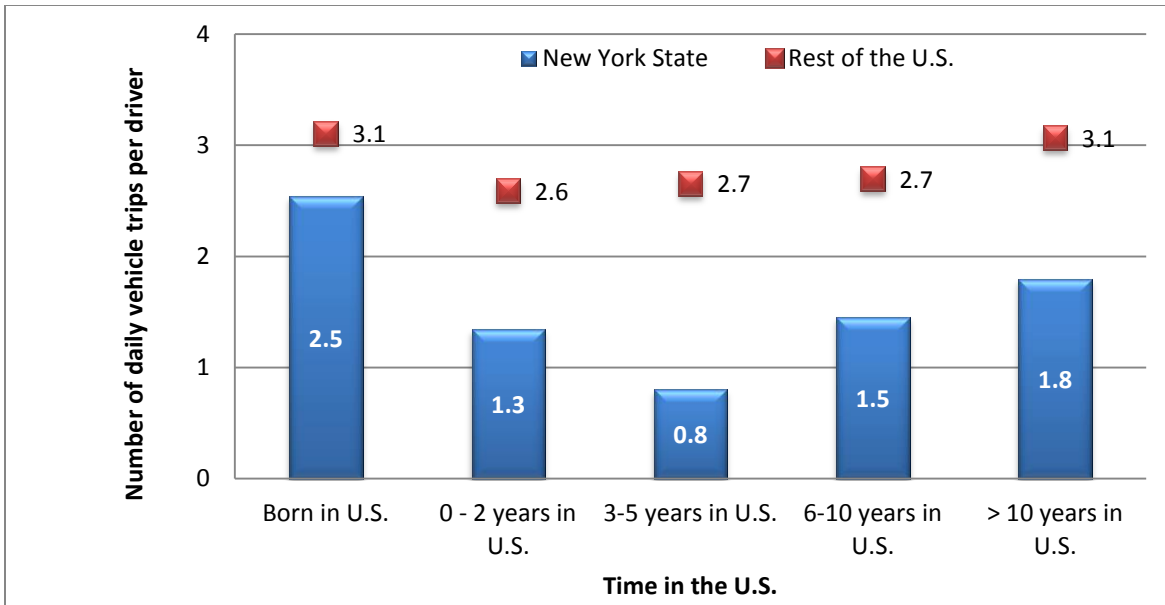
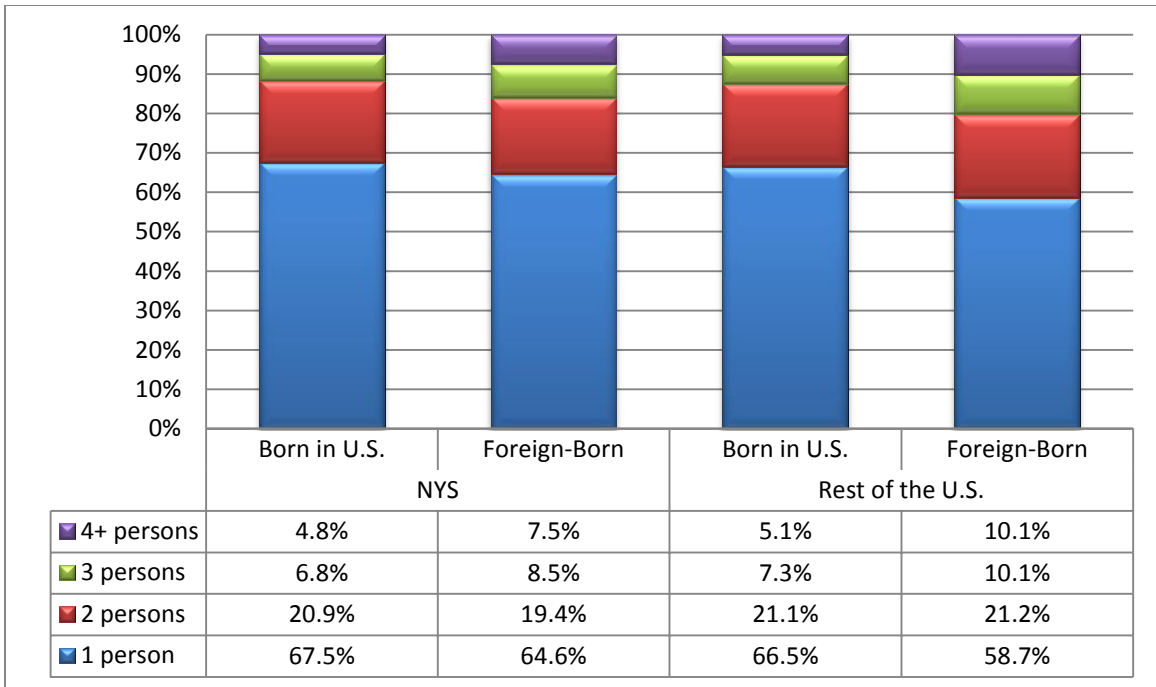


Figure 3-24. Average daily vehicle trips per person by time in the U.S. (2009 NHTS).

### 3.3 SIZE OF TRAVEL PARTY ON TRIPS INVOLVING FOREIGN-BORN

The foreign-born population, particularly those who lived in the Rest of the U.S., was more likely to travel with companions when making vehicle trips in 2009 than their U.S.-born neighbors did. As Figure 3-25 shows, over 35% of total vehicle-trips made by the NYS foreign-born population during 2009 involved two or more persons on the trips, while about 32% of total vehicle-trips taken by their U.S.-born neighbors are the same. For the population that resided outside NYS, the shares of vehicle-trips involving multiple-person are 41% and 33% among the foreign-born and the U.S.-born travelers, respectively.





**Figure 3-25. Distribution of vehicle trips by travel party size, birthplace status and region (2009 NHTS).**

Considering locations within NYS, Table 3-2 shows that the majority (60%) of the vehicle trips made by the foreign-born living in Manhattan during 2009 involved more than one person, while only about half (50%) of the trips taken by their U.S.-born neighbors involved more than one. In other parts of NYC, the foreign-born population was actually more likely to drive alone when traveling in a vehicle during 2009 (67%), than their U.S.-born counterparts did (55%).

**Table 3-2. Vehicle Trips by Travel Party Size, Birthplace Status and Region (2009 NHTS)**

Travel party size	Manhattan	Rest of NYC	Other Urban	Nassau, Suffolk	Putnam, Rockland, Westchester	Rest of NY Metro	Other Urban (Non-NY Metro)	Non-Urban Areas	Rest of the U.S.
<b>U.S. born</b>									
1	50.1%	55.2%	70.3%	71.6%	69.7%	71.1%	69.7%	66.2%	66.5%
2	15.9%	27.2%	19.8%	19.5%	20.1%	19.6%	19.9%	21.5%	21.1%
3	19.9%	10.1%	5.9%	5.1%	7.0%	5.6%	6.1%	7.0%	7.3%
4+	14.1%	7.5%	4.1%	3.8%	3.2%	3.7%	4.3%	5.3%	5.1%
<b>Foreign-born</b>									
1	39.7%	66.8%	64.9%	62.7%	61.4%	62.2%	71.3%	56.8%	58.7%
2	15.1%	18.2%	19.8%	18.7%	21.6%	19.8%	19.8%	34.9%	21.2%
3	2.7%	8.2%	9.4%	14.8%	5.7%	11.4%	4.8%	4.3%	10.1%
4+	42.5%	6.8%	5.9%	3.9%	11.3%	6.6%	4.1%	4.0%	10.1%

Note: yellow-shaded cells are estimates based on a small sample size.



#### **4. VIEWS OF TRANSPORTATION SERVICES BY FOREIGN-BORN POPULATION**

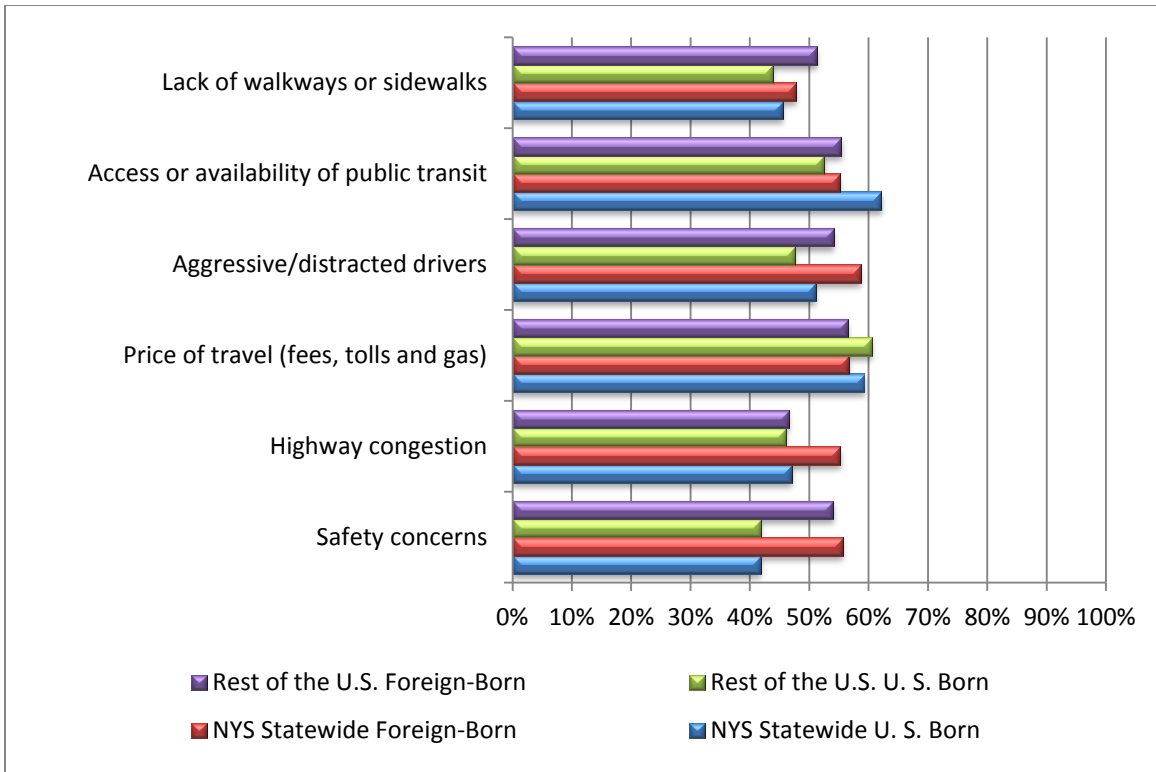
The FHWA included two specific questions in the 2009 NHTS to gather information on perceptions and views of transportation from the survey respondents. The first question asked the survey respondent to select the most important one issue, from a list of six items, associated with the respondent's travel. The six specific issues of interests given are:

- a. Highway congestion,
- b. Access to or availability of public transit,
- c. Lack of walkway or sidewalks,
- d. The price of travel, including things like transit fees, tolls, and the cost of gasoline,
- e. Aggressive or distracted drivers,
- f. Safety concerns, like worrying about being in a traffic accident.

Once the respondent identified an issue being the most important one, a second question was then asked on "how much of an issue the selected item was" to the respondent, with the choices of "a little issue, a moderate issue, or a big issue." Note that the way these 2009 questions were constructed, as well as the choices of issues provided in the survey, is quite different from those used in the 2001 NHTS to gather similar information. Because of that, analysis of changes in perceptions of transportation issues over time is not feasible. Therefore, the summary presented in this report is only based on the 2009 NHTS data.

According to 2009 NHTS, more than half of the foreign-born respondents (~55%) considered "safety concerns" a big issue, while only a little over 40% of their U.S.-born counterparts thought so (Figure 4-1). The difference in this "safety concerns" viewpoint is statistically significant between the two birthplace types of residents. There is no geographic difference between the same type of residents from NYS and the Rest of the U.S. regarding such concern, however.

With respect to the "highway congestion" issue, it is clearly visible in Figure 4-1 that a greater share of the NYS foreign-born population (55%) expressed that this concern is a big issue for them, while only about 47% of all others thought so. The difference in these shares, between the NYS foreign-born population and all other people, is not statistically significant however. The "price of travel" concern was viewed as a big issue by the majority of the people in all groups, regardless where they were born or where they lived in 2009.



**Figure 4-1. Percent of respondents that identified an important issue as a big issue by birthplace status and region (2009 NHTS).**

Figure 4-1 also shows that concern on “aggressive/distracted drivers” was seen as a big issue for a greater percent of the foreign-born persons than of their U.S.-born counterparts. Specifically, over 54% of the foreign-born population living outside NYS considered “aggressive or distracted drivers” is a big issue, which is significantly higher than the 48% share of their U.S.-born neighbors. Due to sample size variations, it is inconclusive to state a difference in the shares of individuals that viewed this problem as a big issue indeed existed between the foreign-born and the U.S.-born NYS residents in 2009. Similarly, no significant differences in shares of perceiving the “lack of walkway or sidewalks,” or the “access of public transit,” as a big issue between the two birthplace-status populations could be drawn, regardless where the individuals lived in 2009.

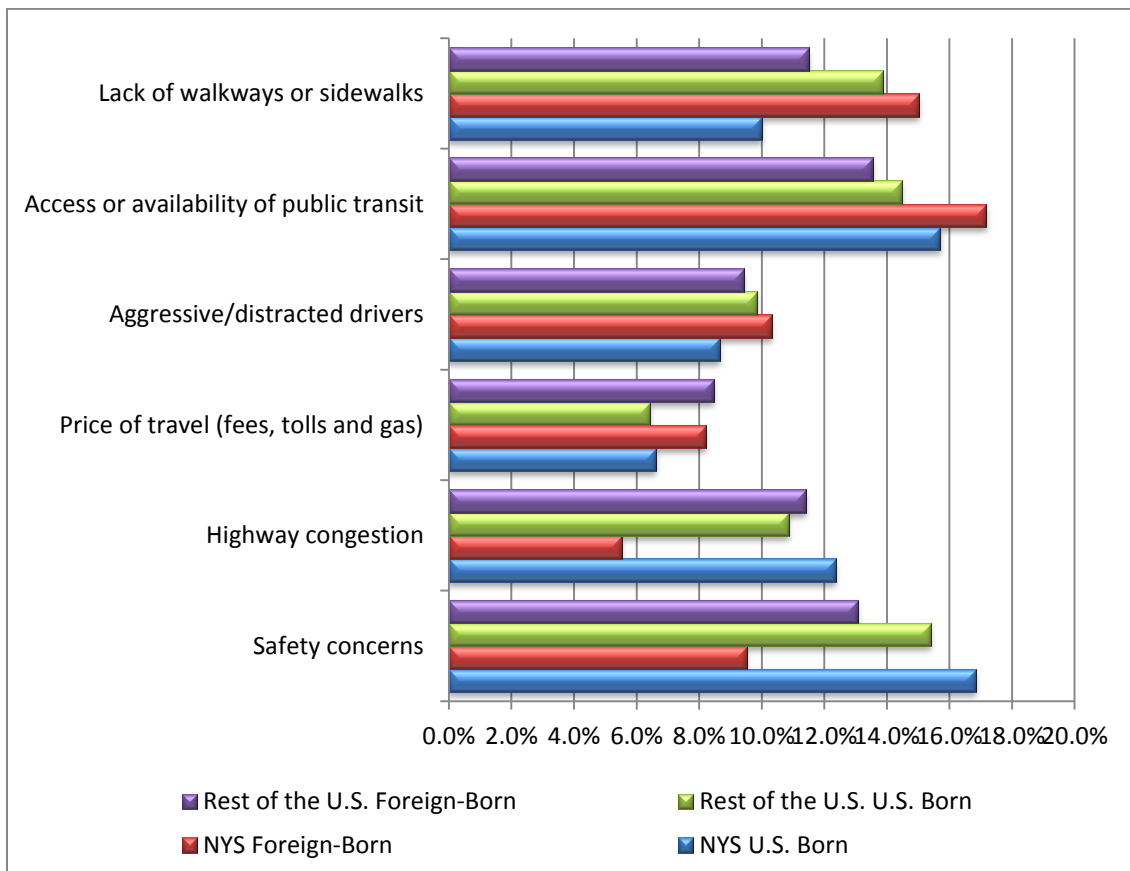
Table 4-1 summarizes the percent of respondents that view a given important issue as “a big issue” (i.e., significant problem) by birthplace status and resident locations. A table showing the associated standard errors for these statistics is given in Appendix B.

**Table 4-1. Percent of 2009 NHTS Respondent Views of *Significant* Transportation Problems by Birthplace Status and Region**

Transportation Concern	Manhattan		Rest of NYC		NYC		Other Urban (non-NYC)		Nassau, Suffolk		Putnam, Rockland, Westchester	
	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born
Safety concerns	33.5%	63.7%	55.9%	54.9%	51.4%	55.8%	38.3%	54.4%	37.7%	53.7%	41.4%	61.9%
Highway congestion	68.7%	80.1%	61.2%	48.1%	62.2%	54.9%	40.7%	55.9%	51.2%	69.5%	42.3%	38.5%
Price of travel (fees, tolls and gas)	63.3%	60.9%	61.5%	60.1%	61.9%	60.2%	57.9%	49.0%	60.1%	52.9%	58.3%	40.2%
Aggressive/distracted drivers	46.0%	96.8%	67.8%	61.0%	64.4%	65.5%	47.6%	42.6%	52.5%	39.6%	50.8%	50.3%
Access or availability of public transit	65.2%	48.0%	66.0%	58.0%	65.6%	56.6%	54.8%	47.0%	77.6%	49.6%	45.0%	31.7%
Lack of walkways or sidewalks	62.7%	17.1%	44.1%	25.0%	46.4%	22.9%	46.8%	53.5%	57.8%	100.0%	52.8%	52.3%
Transportation Concern	NY Metro		Other Urban (non-NY Metro)		ALL Urban		Non-Urban Areas		NYS Statewide		Rest of the U.S.	
	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born	U. S. Born	Foreign -Born
Safety concerns	45.9%	56.3%	38.0%	45.5%	42.8%	55.5%	35.2%	64.4%	41.9%	55.6%	41.8%	54.1%
Highway congestion	54.9%	56.2%	31.3%	33.4%	47.7%	55.2%	37.0%	66.7%	47.0%	55.2%	46.1%	46.6%
Price of travel (fees, tolls and gas)	61.0%	57.8%	57.0%	49.3%	59.3%	56.8%	59.1%	52.2%	59.3%	56.7%	60.5%	56.5%
Aggressive/distracted drivers	58.2%	61.4%	44.2%	36.7%	52.7%	58.9%	38.9%	44.9%	51.1%	58.6%	47.6%	54.2%
Access or availability of public transit	65.4%	55.3%	49.8%	49.2%	62.5%	55.0%	55.0%	73.5%	62.2%	55.2%	52.5%	55.4%
Lack of walkways or sidewalks	49.7%	40.2%	42.8%	52.8%	46.6%	43.9%	35.7%	92.1%	45.5%	47.7%	43.8%	51.4%

Note: yellow-shaded cells are estimates based on a small sample size.

Figure 4-2 presents the percent of respondents that viewed the identified important issue as “a little issue” (i.e., a trivial travel concern). Even though the “price of travel” was selected as the “most important” concern by some 2009 NHTS respondents, nearly 9% of those individuals stated that it is only a trivial issue for them. While less than 10% of the NYS foreign-born population felt the “safety concerns” is trivial, about 17% of their U.S.-born neighbors thought so in 2009. Similarly, as seen in Figure 3-19, only fewer than 6% of the NYS foreign-born respondents viewed “highway congestion” as a little issue, but about twice (~12%) of all other population groups stated “highway congestion” is a trivial issue.



**Figure 4-2. Percent of respondents that view the selected issue as a trivial concern in travel, by birthplace status and region (2009 NHTS).**

## 5. SUMMARY

### 5.1 OVERVIEW

Table 5-1 provides a set of summary statistics on selected mobility measures by residents' birthplace status and region, using 2001 and 2009 NHTS data. Although NYS foreign-born residents accounted for 23% of the total population age 5 years old or older that lived in NYS during 2009, their shares of person-trips, person-miles-traveled, vehicle-trips, and vehicle-miles-traveled are all lower than 23%. These statistics indeed signify the fact that foreign-born NYS residents have more limitations in terms of mobility as compared to the rest of NYS residents.

**Table 5-1. Summary Mobility Statistics by Birthplace Status of Residents in NYS and the Rest of the U.S. (2009 and 2001 NHTS)**

Mobility Statistics	NYS			Rest of the U.S.		
	U.S. Born	Foreign-Born	% foreign born	U.S. Born	Foreign-Born	% foreign born
<b>2009 NHTS</b>						
Number of Persons 5 Years or Older (in thousands)	12,000	3,643	23%	192,384	30,053	14%
Total PT (in thousands)	46,799	11,838	20%	759,915	111,797	13%
Total PMT by Persons 5 Years or Older (in million miles)	131,539	24,248	16%	2,805,922	355,909	11%
Number of Drivers (in thousands)	10,170	2,590	20%	173,472	24,829	13%
Total VT (in thousands)	25,832	3,989	13%	539,499	70,515	12%
Total VMT (in million miles)	81,654	10,468	11%	1,922,795	224,689	10%
<b>2001 NHTS</b>						
Number of Persons 5 Years or Older (in thousands)	10,854	3,664	25%	173,582	23,177	12%
Total PT (in thousands)	44,284	11,908	21%	748,138	91,549	11%
Total PMT by Persons 5 Years or Older (in million miles)	141,908	29,341	17%	2,837,898	361,986	11%
Number of Drivers (in thousands)	8,974	2,161	19%	158,980	18,875	11%
Total VT (in thousands)	26,025	4,106	14%	540,532	60,400	10%
Total VMT (in million miles)	81,573	13,541	14%	1,960,451	214,827	10%

\* Driver status considers only person aged 16 and over.

Major findings from this study are summarized below. For ease of referencing back to a specific section of discussion in this report, table numbers and figure numbers are provided along with each key finding.

### 5.2 KEY FINDING

#### 5.2.1 Population Size of Foreign-Born in NYS

- ❖ According to the Census, the largest increase in U.S. population over the decade between 2000 and 2010 was for the naturalized citizen group (Figure 2-1).

- ❖ The foreign-born population accounted for the population growth seen in NYS during the period 2000 to 2010 based on Census data (Figure 2-1). Nearly 30% of residents from Manhattan in 2010 were foreign-born (including naturalized citizens and non-citizens), while 22% of the 2010 NYS population was foreign-born (Figure 2-2).
- ❖ Based on 2009 NHTS (considering only non-missing responses), the foreign-born population accounted for 26% of NYS population age 5 years old and older, while their counterpart only made up 13% of population living outside of NYS (Table 2-3).

### **5.2.2 Characteristics of the Foreign-Born Households**

- ❖ The foreign-born population in NYS is aging when comparing their age profiles between 2001 and 2009 NHTS data. The foreign-born population 45 years old and older accounted for 52% of the total NYS foreign-born population in 2009, significantly higher from the 38% share in 2001 (Figure 2-5).
- ❖ About 28 % of foreign-born households from Manhattan earned less than \$25,000 in 2009, while only 16% of their counterpart U.S.-born households are in the same income level. The poverty rates for households living in NYC but outside Manhattan are 35% and 24% for foreign-born and U.S. born, respectively (Figure 2-7 and Figure 2-8).
- ❖ Poverty rates among foreign-born households in NYS are significantly higher than the share of their U.S.-born counterparts, regardless of how long they have been living in the U.S. (Figure 2-9).
- ❖ There is a slight disadvantage in employment for the foreign-born NYS residents in 2009, as compared to their U.S.-born counterparts (Figure 2-10).
- ❖ About 80% of Asian living in NYS were foreign-born and roughly 60% of Hispanics in NYS were foreign-born in 2009, no significant changes since 2001 (Table 2-7 and Figure 2-15).
- ❖ In terms of household size, over half of NYS foreign-born households in 2009 contained three or more members in the household, even more so for households from outside NYS where over 60% of foreign-born households were the same size (Figure 2-21).



### **5.2.3 Driving Status of Foreign-Born Population**

- ❖ The driver rate for the foreign-born population is lower than that of their U.S.-born counterpart, regardless of how many years they have lived in the U.S. (Table 2-7).
- ❖ The 2009 driver rates for foreign-born NYS residents have increased dramatically from their 2001 levels in every length in the U.S. categories (Figure 2-17 and Figure 2-18). This might be due to the increased accessibility of vehicles in the world during this period, resulting in more foreign-born entering into the U.S as drivers.
- ❖ Driver rates for NYC foreign-born females have dramatically increased, rising from 37% in 2001 to 69% in 2009 for those who lived in Manhattan and from 38% to 56% for those from the rest of NYC (Table 2-8).
- ❖ Driver rates of foreign-born females that lived in NYS as a whole increased significantly from 48% in 2001 to 63% in 2009 (Table 2-8).
- ❖ The gender gap in driver rates among the NYS foreign-born was significant in both 2001 and 2009. The change from driver rates of 73% versus 48% in 2001, for foreign-born males and females respectively, to 80% versus 63% in 2009 signified a narrowing of the gender gap throughout the eight years (Figure 2-20).

### **5.2.4 Vehicle Ownership/Accessibility for Foreign-Born Households**

- ❖ Nearly 43% of the NYS foreign-born households did not own any vehicles while only 24% of their U.S.-born counterpart neighbors have zero vehicles. Moreover, the majority of NYS foreign-born households that possessed vehicles only had one (Figure 2-25).
- ❖ Outside NYS, there is no difference in the accessibility of vehicles between the foreign-born households and the U.S.-born households (Figure 2-25).
- ❖ Unlike 2001, average vehicle age for foreign-born households from most of the NYS regions were newer in 2009 when compared to those owned by U.S.-born households (Figure 2-27).
- ❖ Only 35% of NYS foreign-born zero-vehicle households contain no drivers within the household in 2009, down from the rate of 55% in 2001 (Figure 2-31).

### **5.2.5 Travel Patterns of Foreign-Born Persons**

- ❖ Over half of the foreign-born NYS residents chose public transit or walking to conduct their daily activities, while less than 30% of their U.S.-born counterparts did in 2009. For those that lived outside NYS, where public transit is not as accessible, the difference in mode choices between the two birthplace-statuses is much less affected (Figure 3-6).
- ❖ The use of public transit and walking continue to be the dominate mode choices for trips made by the foreign-born NYS residents, even after a long period of living in the U.S. (Figure 3-7).

- ❖ Instead of using personally owned vehicles, NYC residents walked and used public transit to fulfill most of their daily travel needs. These two modes of transportation accounted for over 75% of Manhattan residents' total daily trips (Figure 3-8).
- ❖ Public transit and walking combined accounted for about 85% of the person-trips made by NYS foreign-born zero-vehicle households in 2009; while it was 81% among their U.S.-born counterparts (Figure 3-11).
- ❖ The foreign-born residents traveled significantly less for social and recreational purposes, when compared to trips made by their U.S.-born counterparts (Figure 3-12).
- ❖ About 15% of total vehicle-trips made by NYS foreign-born drivers in 2009 were for social/recreational purposes, which is significantly fewer than the 22% share of vehicle-trips made by NYS U.S.-born drivers (Figure 3-23).
- ❖ Among NYS drivers, over 57% of vehicle trips made by foreign-born drivers in 2009 were for family and personal business activities, while the same type of trips accounted for less than 48% of vehicle trips taken by NYS U.S.-born drivers (Figure 3-23).
- ❖ The NYS foreign-born population tends to leave earlier for their trips than the U.S.-born NYS residents do. Specifically, about 32% of the person-trips taken by NYS foreign-born who have lived five years or less in the U.S. occurred before 9 am, compared to less than 20% of trips made by their U.S.-born neighbors (Figure 3-14).
- ❖ About 56% of the work-related person-trips made by the NYS foreign-born who have been in the U.S. for less than three years occurred before 9 am, compared to less than 40% of work trips made by their U.S.-born counterparts in 2009 (Figure 3-16).
- ❖ On average in 2009, a work trip made by a U.S.-born NYS resident took less than 27 minutes, but took 41 minutes on average for the NYS foreign-born (Figure 3-18).

### **5.2.6 Mobility of Foreign-Born Population**

- ❖ On average, NYC residents took fewer daily trips per person than those from other regions. A typical NYS foreign-born resident made 3.25 person-trips every day in 2009, while the U.S.-born counterpart traveled 3.9 person-trips on average during the same year (Figure 3-1).
- ❖ The NYS U.S.-born residents reduced their daily travel frequencies significantly from 4.08 person-trips per person in 2001 to 3.9 person-trips in 2009. The daily travel frequencies of NYS foreign-born residents, however, remained the same at 3.25 person-trips in both NHTS years (Figure 3-1).
- ❖ The NYS foreign-born residents traveled a significantly shorter distance when compared to trips made by their U.S.-born neighbors in 2009, an average of 18 miles of PMT for the foreign-born population versus 30 miles for the U.S.-born (Figure 3-5).
- ❖ A typical NYS resident from a foreign-born zero-vehicle household made an average of 2.7 person-trips a day during 2009, while his/her U.S.-born counterpart traveled at a 33% higher rate (3.6 person-trips daily) during the same year.

- ❖ A typical NYS foreign-born driver made 1.5 vehicle-trips daily during 2009, while his/her U.S.-born counterpart made 67% more vehicle trips (2.5 vehicle-trips) on a daily basis in the same year (Figure 3-19).
- ❖ The NYS foreign-born drivers made about 21% fewer vehicle-trips in 2009, dropping from an average of 1.9 trips per driver in 2001 to 1.5 trips per driver in 2009; the NYS U.S.-born drivers traveled 14% less vehicle-trips, decreasing from an average of 2.9 trips per driver in 2001 to 2.5 trips per driver in 2009 (Figure 3-19).
- ❖ The NYS foreign-born drivers made an average of 11 VMT per driver in 2009, only about half of the amount driven by their U.S.-born counterparts in that year. Outside NYS, foreign-born drivers traveled 25 VMT per driver in 2009, which is nearly 19% shorter than their U.S.-born counterpart drivers (Figure 3-20).
- ❖ The decline in VMT amounts to 35% among NYS foreign-born drivers, reducing from 17 vehicle-miles in 2001 to 11 vehicle-miles in 2009. For NYS U.S.-born drivers, the VMT reduction is about 12% - dropping from 25 vehicle-miles in 2001 to 22 vehicle-miles in 2009 (Figure 3-20).

### **5.3 FINAL REMARKS**

It is important to note that more than 15% of the 2009 NHTS respondents did not report whether they were born in U.S. or not, although this non-response rate has significantly improved since the 2001 NHTS, where this data was missing from around 24% of the survey respondents. This missing rate (15%) certainly raises a concern in this research. The use of Census data in estimating the foreign-born population size (Table 2-3) provides a reasonable source to confirm the population as estimated from the NHTS data. The imprecision in the NHTS data can be attributed to: (1) the NHTS does not include persons less than 5 years old, while the Census includes all populations, and (2) the definitions of foreign-born are somewhat different—mainly on persons born abroad by U.S. citizen parents.

The NHTS sample size limitation should also be used with caution, especially when slicing the data multiple ways (e.g., foreign-born zero-vehicle living in a specific area of NYC). Typically, an estimate that was generated from a small sample size would be subject to a higher uncertainty, making it less reliable. Although it is desirable to examine issues at the most precise detail level in many cases, sample size limitation cannot be ignored.



## APPENDIX A. GLOSSARY

This glossary provides the most commonly used terms in the NHTS and definitions of those terms. These definitions are provided to assist the user in the interpretation of the NHTS data.

<b>Term</b>	<b>Definition</b>
<b>Adult</b>	For NHTS, this is defined as a person 18 years or older.
<b>Block Group</b>	A subdivision of a Census tract that averages 1000 to 1100 people, and approximately 400-500 housing units. The source used for the 2009 NHTS was TeleAtlas MatchMaker (derived from Census 2000 definition).
<b>Census Tract</b>	A small subdivision of a county, containing approximately 4,000 persons. Tracts can range in population from 2,500 to 8,000. The geographic size of the tract may vary considerably, depending on population density. Tracts were designed to be homogeneous in regard to population characteristics, economic status and living conditions when they were first delineated. Since the first tracts were delineated for the 1890 Census, today's tracts may be far from homogeneous. The source used for the 2009 NHTS was TeleAtlas MatchMaker (derived from Census 2000 definition).
<b>Driver</b>	A driver is a person who operates a motorized vehicle. If more than one person drives on a single trip, the person who drives the most miles is classified as the principal driver.
<b>Employed</b>	A person is considered employed if (s)he worked for pay, either full time or part time, during the week before the interview. This includes persons who work at home or persons who have more than one job.
<b>Education Level</b>	The number of years of regular schooling completed in graded public, private, or parochial schools, or in colleges, universities, or professional schools, whether day school or night school. Regular schooling advances a person toward an elementary or high school diploma, or a college, university, or professional school degree.
<b>Household</b>	A group of persons whose usual place of residence is a specific housing unit; these persons may or may not be related to each other. The total of all U.S. households represents the total civilian non-institutionalized population. A household does not include group quarters (i.e., 10 or more persons living together, none of whom are related).

<b>Term</b>	<b>Definition</b>
<b>Household Income</b>	Household income is the money earned by all family members in a household, including those temporarily absent. Annual income consisted of the income earned 12 months preceding the interview. Household income includes monies from all sources, such as wages and salary, commissions, tips, cash bonuses, income from a business or farm, pensions, dividends, interest, unemployment or workmen’s compensation, social security, veterans’ payments, rent received from owned property (minus the operating costs), public assistance payments, regular gifts of money from friends or relatives not living in the household, alimony, child support, and other kinds of periodic money income other than earnings. Household income excludes in-kind income such as room and board, insurance payments, lump-sum inheritances, occasional gifts of money from persons not living in the same household, withdrawal of savings from banks, tax refunds, and the proceeds of the sale of one’s house, car, or other personal property.
<b>Household Members</b>	Household members include all people, whether present or temporarily absent, whose usual place of residence is in the sample unit. Household members also include people staying in the sample unit who have no other usual place of residence elsewhere.
<b>Household Vehicle</b>	A household vehicle is a motorized vehicle that is owned, leased, rented or company-owned and available to be used regularly by household members during the two-week travel period. Household vehicles include vehicles used solely for business purposes or business-owned vehicles, so long as they are driven home and can be used for the home to work trip, (e.g., taxicabs, police cars, etc.). Household vehicles include all vehicles that were owned or available for use by members of the household during the travel period, even though a vehicle may have been sold before the interview. Vehicles excluded from household vehicles are those which were not working and were not expected to be working within 60 days, and vehicles that were purchased or received after the designated travel day.
<b>Journey-to-Work Trips (Commute trips)</b>	Includes travel to and from a place where one reports for work. Does not include any other work-related travel. Does not include any trips for persons who work at home.
<b>Means of Transportation</b>	<p>A mode of travel used for going from one place (origin) to another (destination). A means of transportation includes private and public transit modes, as well as walking.</p> <p>The following transportation modes, grouped by major mode, are included in the NHTS data.</p> <p><b>Private Vehicle</b> – a stipulation for being a private vehicle is that the vehicle is privately owned or operated.</p> <ol style="list-style-type: none"> <li>1. Car. Includes cars and station wagons. Leased and rented cars are included if they are privately operated and not used for picking up passengers in return for fare.</li> <li>2. Van. Includes vans or minivans designed to carry 5 to 13 passengers, or</li> </ol>

## Term

## Definition

- to haul cargo.
3. Sport Utility Vehicle. Includes vehicles that are a hybrid of design elements from a van, a pickup truck and a station wagon. Examples include a Ford Explorer, Jeep Cherokee, or Nissan Pathfinder.
  4. Pickup Truck. Includes vehicles with an enclosed cab that usually accommodates 2-3 passengers, and has an open cargo area in the rear. Late model pickups often have a back seat that allows for total seating of 4 -6 passengers. Pickup trucks usually have the same size of wheel-base as a full-size station wagon. This category also includes pickups with campers.
  5. Other Truck: This category consists of all trucks other than pickup trucks (i.e., dump trucks, trailer trucks, etc.).
  6. RV or Motor Home: An RV or motor home includes a self-powered recreational vehicle that is operated as a unit without being towed by another vehicle (e.g., a Winnebago motor home).
  7. Motorcycle: This category includes large, medium, and small motorcycles and mopeds.
  8. Golf Cart: This includes all electric or gas operated vehicles designed for use on a golf course, but whose use has recently extended to use within smaller, often gated, communities.

**Public Transportation**, as used in FHWA publications and analysis of NHTS data, typically includes the following that are indicated in bold below, mass transit bus, commuter bus, commuter train, subway/elevated rail, and streetcar/trolley.

Bus: This category includes:

9. **mass transit systems**, these are local public transit buses that are available to the general public,
10. **commuter buses**, these are buses used for short-distance public transport purposes (e.g., city bus or public bus), school buses, and
12. charter/tour buses, these are private buses operating on a fixed schedule between population centers, and
13. city to city buses, these are buses that run from one urban center to the other (e.g., Greyhound), and
14. shuttle buses, these are buses that shuttle passengers from one fixed place to another (e.g., airport shuttles).

Train: This category includes:

15. Amtrak/Intercity Train that run from one urban center to another,
16. **Commuter** trains and passenger trains
17. **Subway and elevated rail** (also known as rail rapid transit) is a high capacity system operated on a fixed rail or guide way system on a private right of way, and

<b>Term</b>	<b>Definition</b>
	<p>18. <b>Trolley/streetcars</b> are vehicles that run on a fixed rail system powered by electricity obtained from an overhead power distribution system.</p>
	<p><b>Other Modes</b></p> <p>11. School Buses.</p> <p>19. Taxi. Taxis include the use of a taxicab by a passenger for fare, including limousines. The taxi category does not include rental cars if they are privately operated.</p> <p>20. Ferry. This includes travel by passenger line ferries.</p> <p>21. Airplane. . Airplanes include commercial airplanes and smaller planes that are available for use by the general public in exchange for a fare. Private and corporate planes and helicopters are also included.</p> <p>22. Bicycle: This category includes bicycles of all speeds and sizes that do not have a motor.</p> <p>23. Walk: This category includes walking and jogging.</p> <p>24. Special Transit for People with Disabilities. This includes things like “Dial-A-Ride”</p> <p>97. Other. Includes any type of transportation not previously listed, (e.g. skate boards, roller blades, sailboats, cruise ships, etc).</p>
<b>Metropolitan Statistical Area (MSA)</b>	<p>Except in the New England States, a Metropolitan Statistical Area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or “twin cities” with a combined population of at least 50,000. In addition, contiguous counties are included in an MSA if, according to certain criteria, they are socially and economically integrated with the central city. In the New England States, MSA’s consist of towns and cities instead of counties. The source used for the 2009 NHTS was 1999 Metropolitan Areas: Cartographic Boundary Files. File ma99_99.shp from <a href="http://www.census.gov/geo/www/cob/ma1999.html">http://www.census.gov/geo/www/cob/ma1999.html</a>.</p>
<b>Motorized Vehicle</b>	<p>Motorized vehicles are all vehicles that are licensed for highway driving. Snow mobiles and minibikes are specifically excluded.</p>
<b>New York City</b>	<p>New York City is defined in this report as the five county area: Bronx, Kings, Queens, New York (Manhattan), and Richmond.</p>
<b>New York State Metro Area</b>	<p>The New York State Metro area includes the following three areas: (1) Nassau, Suffolk; (2) New York City, (which includes the following counties: Bronx, Kings, Queens, New York, and Richmond); and (3) Putnam, Rockland, and Westchester.</p>
<b>Passenger</b>	<p>For a specific trip, a passenger is any occupant of a motorized vehicle, other than the driver.</p>
<b>Person Miles of Travel (PMT)</b>	<p>PMT is a primary measure of person travel. When one person travels one mile, one person mile of travel results. Where 2 or more persons travel together in the same vehicle, each person makes the same number of person miles as the vehicle miles. Therefore, four persons traveling 5 miles in the same vehicle results in 20 person miles (4 x 5 = 20).</p>
<b>Person Trip</b>	<p>A person trip is a trip by one or more persons in any mode of transportation.</p>



<b>Term</b>	<b>Definition</b>
	Each person is considered as making one person trip. For example, four persons traveling together in one auto are counted as four person trips.
<b>POV</b>	A privately-owned vehicle or privately-operated vehicle. Either way, the intent here is that this is not a vehicle available to the public for a fee, such as a bus, subway, taxi, etc.
<b>Travel Day</b>	A travel day is a 24-hour period from 4:00 a.m. to 3:59 a.m. designated as the reference period for studying trips and travel by members of a sampled household.
<b>Travel Day Trip</b>	<p>A travel day trip is defined as any time the respondent went from one address to another by private motor vehicle, public transportation, bicycle, walking, or other means. However, a separate trip is not counted in two instances:</p> <ol style="list-style-type: none"> <li>1. When the sole purpose for the trip is to get to another vehicle or mode of transportation in order to continue to the destination.</li> <li>2. Travel within a shopping center, mall or shopping areas of 4-5 blocks is to be considered as travel to one destination.</li> </ol>
<b>Travel Day Trip Purpose</b>	<p>A trip purpose is the main reason that motivates a trip. There are 36 travel day trip purposes used in the 2009 NHTS.</p> <p>Trip purposes were collected using a From-To approach. For each trip, the origin and destination are on the file in specific terms if reported by the respondent (e.g. from work to Bob's Beef Pit). The 36 trip reasons are defined below. The numbers in parentheses represent the value of WHYTO (trip purpose) in the dataset.</p> <ol style="list-style-type: none"> <li>1. To Home (01). Represents a trip to the respondents' primary residence.</li> <li>2. Go to Work (11). This is the first trip to the work location on travel day.</li> <li>3. Return to Work (12). A trip to work that is not the first trip to the workplace on the travel day (e.g., returning to work after lunch).</li> <li>4. Attend Business Meeting/Trip (13). Represents a work related trip whose purpose is to attend a business meeting.</li> <li>5. Other Work Related (14). A work related trip whose purpose is not specified.</li> <li>6. Go to School as a Student (21). Represents a trip whose purpose is to go to school as a student.</li> <li>7. Go to Religious Activity (22). Represents a trip whose purpose is to go to a place to attend a religious activity.</li> <li>8. Go to Library, School Related (23). Represents a trip whose purpose is to go to the library as part of a school related activity.</li> </ol>

**Term****Definition**

9. Go to Daycare/Before or After School Care (24). Represents a trip whose purpose is to attend day care or a supervised before or after school care program
10. Other School/Religious Activity (20). Represents school and religious activities that are not captured in WHYTO 21-24 above.
11. Medical/Dental Services (30). Represents a trip made to obtain medical, dental, or mental health treatment, or other related professional services.
12. Buy Goods: groceries/clothing/hardware store (41). Represents a shopping trip whose purpose is to purchase commodities for use or consumption elsewhere. This purpose also includes all shopping trips even if nothing is purchased.
13. Buy Services: video rentals/dry cleaning/post office/car service/bank (42). This category includes the purchase of services other than medical/dental or other professional services.
14. Buy Gas (43). Represents a trip made specifically to get gas.
15. Shopping/Errands (40). Represents shopping and errand trips that are not captured in WHYTO 41-43 above.
16. Go to the Gym/Exercise/Play Sports (51). Represents a trip made for exercise, to engage in exercise or to participate in a sport.
17. Rest or Relaxation/Vacation (52). Represents a trip made for the purpose of relaxing or taking a vacation, but does not include visiting family.
18. Visit Friends/Relatives (53). Represents the social/recreational trip whose purpose is to visit with family and friends.
19. Go out/Hang out: entertainment/theater/sports event/go to bar (54). Represents trips whose purpose is entertainment related or hanging out with friends. Typically this event takes place in a public venue.
20. Visit Public Place: historical site/museum/park/library (55). Represents a trip purpose that is educational or enlightening.
21. Social/Recreational (50). This category includes social and recreational trips that are not captured in WHYTO 51-55 above.
22. Use Professional Services: attorney/accountant (61). Represents a trip made for to engage professional services other than for medical/dental purposes.

**Term****Definition**

23. Attend Funeral/Wedding (62). Represents a trip whose purpose is to attend a funeral or a wedding.
24. Use Personal Services: grooming/haircut/nails (63). Represents a trip for personal services such as to get a massage or get a haircut.
25. Pet Care: walk the dog/vet visits (64).
26. Attend Meeting: PTA/home owner's association/local government (65). Represents a trip purpose to attend a non-work related meeting, such as a community meeting
27. Family Personal Business/Obligations (60). Represents a trip for 13 personal business but is not captured in WHYTO 61-65 above.
28. Pickup Someone (71). Represents a trip whose purpose was to pick up a passenger.
29. Take and Wait (72). Represents a trip made to take someone to a destination and then wait with or for them at the destination and then depart together.
30. Drop Someone Off (73). Represents a trip whose purpose was to drop off a passenger (but not wait for them).
31. Transport Someone (70). Represents trips with a passenger that are related to picking up or dropping off someone but is not captured in WHYTO 71-73 above.
32. Social Event (81). Represents a trip whose purpose is to attend a social event but eating a meal is not a key component of the event.
33. Get/Eat Meal (82). Represents a trip whose primary purpose is to get and eat a meal.
34. Coffee/Ice Cream/Snacks (83). Represents a trip whose purpose is to get/eat a snack or drink, something less than a meal.
35. Meals (80). Represents a trip whose purpose is to eat or get a meal but is not captured in WHYTO 81-83 above.
36. Other (97). Represents a trip purpose not captured by any of the specific WHYTO categories described above.

<b>Term</b>	<b>Definition</b>
<b>Urbanized Area</b>	<p>An urbanized area consists of the built up area surrounding a central core (or central city), with a population density of at least 1,000 persons per square mile. Urbanized areas do not follow jurisdictional boundaries thus it is common for the urbanized area boundary to divide a county.</p> <p>For the 2009 NHTS, Urban Areas were calculated two ways.</p> <ul style="list-style-type: none"> <li>• Variable URBAN uses the 2000 Urbanized Areas: Cartographic Boundary Files. File ua00_d00.shp from <a href="http://www.census.gov/geo/www/cob/ua2000.html">http://www.census.gov/geo/www/cob/ua2000.html</a>. Two codes are used: 0 = Not in Urban Area, 1 = in Urban Area</li> <li>• Variable URBAN1 uses the 2000 Urbanized Areas: Cartographic Boundary Files. File ua00_d00.shp from <a href="http://www.census.gov/geo/www/cob/ua2000.html">http://www.census.gov/geo/www/cob/ua2000.html</a>. Three codes are used: 0 = Not in Urban Area, 1 = in Urban Cluster, 2 = in Urban Area, 3 = in area surrounded by urban areas.</li> </ul>
<b>Vehicle</b>	<p>In the 2009 NHTS, the term vehicle includes autos, passenger vans, sport utility vehicles, pickups and other light trucks, RV's, motorcycles and mopeds owned or available to the household.</p>
<b>Vehicle Miles of Travel (VMT)</b>	<p>VMT is a unit to measure vehicle travel made by a private vehicle, such as an automobile, van, pickup truck, or motorcycle. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.</p>
<b>Vehicle Occupancy</b>	<p>Vehicle occupancy is the number of persons, including driver and passenger(s) in a vehicle; also includes persons who did not complete a whole trip. NHTS occupancy rates are generally calculated as person miles divided by vehicle miles.</p>
<b>Vehicle Trip</b>	<p>A trip by a single privately-operated vehicle (POV) regardless of the number of persons in the vehicle.</p>
<b>Worker</b>	<p>See "Employed."</p>

## **APPENDIX B. SUPPLEMENTAL STATISTICS FROM 2009 NHTS**

Table B-1. Household Distributions by Household Income by Birthplace Status and Region (2009 and 2001 NHTS)

Household income	Manhattan	Rest of NYC	New York City	Other Urban	Nassau, Suffolk	Putnam, Rockland, Westchester	Rest of NY Metro	Other Urban (Non-NY Metro)	Non-Urban Areas	Rest of the U.S.
<b>U.S.-born Households in 2009</b>										
< \$25,000	16.5%	23.9%	21.5%	20.2%	12.2%	15.5%	13.2%	24.4%	30.9%	24.2%
\$25-50,000	17.0%	22.3%	20.6%	22.8%	15.3%	20.4%	16.9%	26.3%	29.3%	26.1%
\$50-75,000	10.8%	14.9%	13.5%	15.8%	17.5%	10.9%	15.4%	16.1%	17.2%	15.8%
> \$75,000	46.1%	29.6%	35.0%	32.4%	45.5%	43.6%	44.9%	24.9%	17.4%	27.1%
Unreported	9.6%	9.4%	9.4%	8.8%	9.6%	9.7%	9.6%	8.4%	5.1%	6.8%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Foreign-born Households in 2009</b>										
< \$25,000	27.8%	35.1%	34.0%	19.6%	10.3%	27.8%	17.7%	22.7%	24.1%	30.2%
\$25-50,000	17.7%	28.5%	26.9%	20.1%	17.5%	16.7%	17.1%	24.9%	35.6%	22.5%
\$50-75,000	9.7%	11.1%	10.9%	12.3%	13.7%	10.0%	12.1%	12.6%	12.0%	12.6%
> \$75,000	32.6%	16.5%	18.9%	38.6%	46.8%	39.6%	43.7%	30.1%	19.5%	27.9%
Unreported	12.3%	8.8%	9.3%	9.4%	11.8%	5.9%	9.3%	9.7%	8.8%	6.8%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>U.S.-born Households in 2001</b>										
< \$25,000	18.2%	28.7%	25.8%	21.2%	10.4%	13.6%	11.4%	27.6%	31.4%	26.2%
\$25-50,000	22.9%	27.0%	25.9%	26.0%	18.2%	20.6%	18.9%	30.5%	36.2%	31.0%
\$50-75,000	17.5%	14.1%	15.0%	17.1%	19.0%	15.9%	18.0%	16.5%	15.2%	16.5%
> \$75,000	30.9%	16.6%	20.5%	26.4%	41.4%	39.4%	40.8%	17.2%	9.5%	18.5%
Unreported	10.6%	13.7%	12.8%	9.2%	11.0%	10.6%	10.9%	8.2%	7.7%	7.9%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Foreign-born Households in 2001</b>										
< \$25,000	28.7%	41.2%	38.6%	20.7%	19.0%	15.6%	17.5%	27.3%	27.1%	28.1%
\$25-50,000	13.0%	29.3%	26.0%	30.2%	32.5%	30.2%	31.5%	27.3%	33.6%	29.2%
\$50-75,000	10.8%	9.7%	9.9%	11.6%	9.6%	12.6%	10.9%	13.2%	19.1%	13.8%
> \$75,000	29.4%	11.0%	14.7%	26.9%	29.1%	29.9%	29.5%	21.5%	12.4%	19.4%
Unreported	18.2%	8.8%	10.7%	10.6%	9.8%	11.7%	10.6%	10.7%	7.7%	9.4%
All	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Yellow-shaded cells are estimated based on small sample size.

**Table B-2. Census Population Breakdown by Area and Population Status for 1990, 2000, and 2010**

<b>1990 Population Census</b>											
	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>New York City</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NY Metro</b>	<b>Other Urban (Non-NY Metro)</b>	<b>Non-Urban Areas</b>	<b>Statewide (NYS)</b>	<b>Rest of the U.S.</b>
<b>Total population</b>	1,487,536	5,835,028	7,322,564	8,439,377	2,609,212	1,224,282	3,833,494	4,605,883	2,228,514	17,990,455	230,719,418
Native	1,103,670	4,135,963	5,239,633	7,735,490	2,335,690	1,021,217	3,356,907	4,378,583	2,163,471	15,138,594	213,803,963
Foreign born	383,866	1,699,065	2,082,931	703,887	273,522	203,065	476,587	227,300	65,043	2,851,861	16,915,455
Naturalized citizen	152,980	712,436	865,416	390,524	153,185	98,959	252,144	138,380	41,080	1,297,020	6,699,978
Not a citizen	230,886	986,629	1,217,515	313,363	120,337	104,106	224,443	88,920	23,963	1,554,841	10,215,477
<b>2000 Population Census</b>											
	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>New York City</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NY Metro</b>	<b>Other Urban (Non-NY Metro)</b>	<b>Non-Urban Areas</b>	<b>Statewide (NYS)</b>	<b>Rest of the U.S.</b>
<b>Total population</b>	1,537,195	6,471,083	8,008,278	8,703,602	2,753,913	1,305,957	4,059,870	4,643,732	2,264,577	18,976,457	262,445,449
Native	1,084,755	4,052,491	5,137,246	7,775,865	2,356,974	1,037,342	3,394,316	4,381,549	2,195,213	15,108,324	235,205,693
Foreign born	452,440	2,418,592	2,871,032	927,737	396,939	268,615	665,554	262,183	69,364	3,868,133	27,239,756
Naturalized citizen	179,785	1,098,902	1,278,687	466,979	210,183	117,748	327,931	139,048	38,078	1,783,744	10,758,882
Not a citizen	272,655	1,319,690	1,592,345	460,758	186,756	150,867	337,623	123,135	31,286	2,084,389	16,480,874
<b>2010 Census American Community Survey (2008-2015 5-year estimates)</b>											
	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>New York City</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NY Metro</b>	<b>Other Urban (Non-NY Metro)</b>	<b>Non-Urban Areas</b>	<b>Statewide</b>	<b>Rest of the U.S.</b>
<b>Total population</b>	1,596,735	6,602,486	8,199,221	**	2,831,072	1,361,940	4,193,012	**	**	19,398,125	289,740,586
Native	1,141,487	4,033,869	5,175,356	**	2,331,397	1,047,060	3,378,457	**	**	15,130,105	254,224,301
Foreign born	455,248	2,568,617	3,023,865	**	499,675	314,880	814,555	**	**	4,268,020	35,516,285
Naturalized citizen	210,183	1,358,149	1,568,332	**	277,334	156,334	433,668	**	**	2,229,143	15,410,064
Not a citizen	245,065	1,210,468	1,455,533	**	222,341	158,546	380,887	**	**	2,038,877	20,106,221

\*\* Sample size limitations prevented the Census from reporting estimates in certain counties.

**Table B-3. Percent Differences in Population for the periods of 1990-2000 and 2000-2010 by Area and Population Status**

<b>% Differences between 1990 and 2000</b>											
	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>New York City</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NY Metro</b>	<b>Other Urban (Non-NYMTC)</b>	<b>Non-Urban Areas</b>	<b>Statewide</b>	<b>Rest of US</b>
<b>Total population</b>	3.34%	10.90%	9.36%	3.13%	5.55%	6.67%	5.91%	0.82%	1.62%	5.48%	13.75%
Native	-1.71%	-2.02%	-1.95%	0.52%	0.91%	1.58%	1.11%	0.07%	1.47%	-0.20%	10.01%
Foreign born	17.86%	42.35%	37.84%	31.80%	45.12%	32.28%	39.65%	15.35%	6.64%	35.64%	61.03%
Naturalized citizen	17.52%	54.25%	47.75%	19.58%	37.21%	18.99%	30.06%	0.48%	-7.31%	37.53%	60.58%
Not a citizen	18.09%	33.76%	30.79%	47.04%	55.19%	44.92%	50.43%	38.48%	30.56%	34.06%	61.33%
<b>% Differences between 2000 and 2010</b>											
	<b>Manhattan</b>	<b>Rest of NYC</b>	<b>New York City</b>	<b>Other Urban</b>	<b>Nassau, Suffolk</b>	<b>Putnam, Rockland, Westchester</b>	<b>Rest of NY Metro</b>	<b>Other Urban (Non-NY Metro)</b>	<b>Non-Urban Areas</b>	<b>Statewide</b>	<b>Rest of US</b>
<b>Total population</b>	3.87%	2.03%	2.38%	N/A	2.80%	4.29%	3.28%	N/A	N/A	2.22%	10.40%
Native	5.23%	-0.46%	0.74%	N/A	-1.09%	0.94%	-0.47%	N/A	N/A	0.14%	8.09%
Foreign born	0.62%	6.20%	5.32%	N/A	25.88%	17.22%	22.39%	N/A	N/A	10.34%	30.38%
Naturalized citizen	16.91%	23.59%	22.65%	N/A	31.95%	32.77%	32.24%	N/A	N/A	24.97%	43.23%
Not a citizen	-10.12%	-8.28%	-8.59%	N/A	19.05%	5.09%	12.81%	N/A	N/A	-2.18%	22.00%

N/A: Sample size limitations prevented the Census from reporting estimates in certain counties.



**Table B-4. Standard Errors Associated with Percent of Respondents that Views Given Problems as a Big Issue  
by Birthplace Status and Residence Location (2009 NHTS)**

Transportation Concern	Manhattan		Rest of NYC		New York City		Other Urban (Excluding NYC)		Nassau, Suffolk		Putnam, Rockland, Westchester	
	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born
Safety concerns	9.6%	12.5%	5.2%	6.2%	4.8%	5.6%	2.2%	6.0%	5.4%	14.3%	5.3%	9.9%
Highway congestion	9.6%	24.6%	6.4%	9.4%	5.9%	10.4%	2.2%	13.0%	4.6%	17.3%	4.1%	11.7%
Price of travel (fees, tolls and gas)	7.7%	22.7%	4.0%	5.0%	3.5%	4.9%	1.3%	5.8%	3.4%	11.1%	3.9%	8.8%
Aggressive/distracted drivers	9.0%	2.3%	5.6%	9.8%	5.2%	8.3%	1.6%	7.9%	4.1%	16.3%	5.5%	12.6%
Access or availability of public transit	7.8%	13.4%	6.9%	5.3%	5.4%	5.0%	3.2%	8.6%	8.3%	13.7%	8.9%	14.6%
Lack of walkways or sidewalks	21.8%	84.4%	17.7%	14.6%	16.1%	12.4%	3.6%	16.8%	11.8%	0.0%	9.6%	27.1%
	NY Metro Total		Other Urban (Excluding NY Metro)		ALL Urban		Non-Urban Areas		NYS Statewide		Rest of the U.S.	
Transportation Concern	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born	U.S.- Born	Foreign- Born
Safety concerns	3.6%	4.8%	2.0%	7.2%	2.3%	4.6%	3.4%	12.0%	2.1%	4.5%	0.9%	1.7%
Highway congestion	3.4%	8.0%	2.1%	10.3%	2.5%	7.7%	5.9%	25.6%	2.5%	7.7%	0.8%	1.9%
Price of travel (fees, tolls and gas)	2.4%	4.4%	1.3%	6.5%	1.5%	4.0%	1.6%	12.1%	1.3%	3.9%	0.6%	2.1%
Aggressive/distracted drivers	2.8%	7.3%	1.7%	8.8%	1.9%	6.7%	3.5%	23.1%	1.7%	6.7%	0.9%	2.4%
Access or availability of public transit	4.8%	4.7%	3.1%	12.9%	4.0%	4.5%	6.5%	12.1%	3.9%	4.5%	1.3%	2.1%
Lack of walkways or sidewalks	10.6%	16.9%	3.8%	11.6%	6.3%	13.7%	7.2%	8.5%	5.7%	13.2%	2.5%	5.2%

