

NJRTME REVALIDATION REPORT

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**Prepared for NJTPA
By Stantec**

In association with:

**AECOM
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Stantec

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1 INTRODUCTION

This document was prepared to summarize the methodology and results of the North Jersey Regional Transportation Model – Enhanced (NJRTME) Revalidation Project. The revalidation was performed in order to update the model's base year estimation to Year 2008 conditions and to provide a more current validation year as the baseline for the emission estimation process required for the regional SIP/TIP conformity analysis. Federal requirements mandate that the model used to forecast travel for conformity analysis must be calibrated to conditions not more than 10 years prior to the first emission analysis year. For the FY 2011 conformity analysis, the first emissions analysis year is 2014, so the current NJRTME, which was calibrated to Year 2000 conditions, was no longer acceptable for the required analysis.

As part of the revalidation effort, Stantec also implemented a series of minor refinements and modifications to streamline the model's execution. These refinements included updating to transit access coding across the region and modifications to the highway network in selected corridors. There were also modifications to several model components to rectify minor problems that occurred with the model execution that have been identified during the first several years of use.

As a final step, this project also incorporated a series of new reporting features. These features were structured to provide more aggregate level reports for travel characteristics by transit mode and vehicle type, including average travel times and distances between county pairs and MCD pairs. In addition automated procedures to aggregate zonal trip estimates into district level summaries of travel were created. These enhanced reporting features are now included as 'support' applications and are directly accessible from the main NJRTME application.

1.1 Revalidation Issues

There were a series of issues that influenced the approach to the model recalibration. The issues included several economic conditions that influenced travel patterns in the region along with other 'structural' changes to input data terms, most notably employment. During the initial phase of the project, discussions were held with NJTPA staff to outline the options available for the revalidation project and determine the appropriate approach to each of these issues.

The first issue was the selection of a base year for the calibration. Initially the approach was to select the latest year for which all necessary data could be obtained. The proposed years for the calibration included 2007, 2008 and 2009. The year 2009 was assumed to be the more recent year for which the socioeconomic data requirements could be met and there was adequate count data and ridership information available for the calibration and validation analysis

During these discussions there was also an acknowledgment that travel demand models in general do not adequately reflect the impact of near-term economic conditions and significant short-term volatility in key parameters such as fuel costs. Therefore it was deemed necessary to select a calibration year that did not represent overly aggressive growth conditions or conditions heavily influenced by the economic contraction resulting from the recent recession. For the year 2009, given the significant depth of the recession and its impacts on employment and travel, particularly into Manhattan, there were significant concerns that it would not be prudent to calibrate the model to 2009 conditions.

As a result, the years 2007 and 2008 were considered for the base year. Given that the economy was extremely strong for 2007 and travel patterns reflected significant on-going development as well as lower fuel costs, there were concerns that using 2007 conditions as a base year would tend to generate higher travel demand going forward than would likely occur given the economic conditions now facing the region. The year 2008 conditions, though somewhat turbulent with the transition between expansion and contraction, represented a balanced position between the strong growth of the prior period and the slower rate of growth anticipated in the future. Although increased fuel prices during the first half of 2008 resulted in increased transit ridership, overall the year 2008 conditions were deemed the most suitable set of conditions for the model calibration.

The final issue for the model revalidation was related to changes in the employment variables, particularly the use of a different classification system than the system used to estimate the original trip attraction equations. In 2000 calibration, all regions defined their employment categories following the Standard Industrial Classifications (SIC) System. However, since the original model development, NJTPA and NYMTC have changed their employment classification system to the North America Industry Classification System (NAICS). This change in the definition of employment classification introduces an inconsistency between the coefficients derived during the estimation of the attraction equations and the employment variable values used in those equations.

1.2 Calibration Methodology

The NYMTC/NJTPA household survey conducted in 1997 to 1998 was the most recent household survey available for project. Given the significant events that have occurred since 1999, including two recessions and associated market declines as well as the September 11, 2001 terrorist attack, it was anticipated that the patterns of travel in the region would have changed significantly. As an example, the reduction and relocation of employment related to the financial services industry have changed the orientation of work-related travel from lower Manhattan to Midtown as well as well increased employment along the Hudson River waterfront tracts in Jersey City.

Given the assumed changes in travel patterns, a decision was made to combine all of the available data sets in order to assemble a reasonable set of observed travel characteristics for the primary travel markets. While the household survey data was assumed to be reasonable for the majority of intra-New Jersey travel patterns, the more recent NYNJPA survey data collected in 2005 was used to revise travel patterns in the trans-Hudson market. The American Community Survey (ACS) data from the 2006-2008 time period was also used to further revise the existing home-based work trip patterns. By leveraging all of these available data resources along with observed traffic counts and transit ridership data, a set of observed conditions were established for the calibration process.

The approach to the calibration was a function of both the available datasets as well as the project resources. Given these constraints, the calibration methodology was focused primarily on the aggregate travel markets and the major, high capacity facility types and transit modes. As such the majority of the model refinements in the calibration process sought to maximize the replication of these facility types and modes. The calibration effort was also focused on key market segments, such as the trans-Hudson trip market where transit is the dominant transit mode and where reoccurring congestion is significant determinant of trip distribution and highway assignment.

2 DATA SOURCES

Data to support validation and calibration efforts for various model components were gathered from numerous sources, both from New Jersey Agencies as well as other Authorities. Those data included:

- Traffic counts and transit ridership data
- American Community Survey (ACS) data
- Household Survey Data
- Socioeconomic data

The actual 2008 observed data were used whenever they are available. However, due to limited time and budget, some observed data were developed synthetically from non-2008 data sources. The development of synthetic datasets will be discussed in the later sections.

2.1 2008 Traffic Counts and Transit Ridership

Most of the 2008 traffic counts were provided by NJTPA. The traffic counts were provided as a series of data sets, described as follows:

- Traffic counts within New Jersey Region were obtained from NJDOT's count database. NJTPA also provided 2007 and 2009 counts that were used at locations where 2008 counts were not available.
- Authority Counts were provided for the New Jersey Turnpike and Garden State Parkway as well as counts for toll bridges administered by the Delaware River Joint Toll Bridge Commissions (DRJTBC).
- Bridge crossing counts were provided for Trans-Hudson crossing bridges as well as Delaware River Joint Toll Bridge Commission (DRJTBC).
- Traffic counts for Morris County were provided by the County to NJTPA.
- Other counts provided by the counties were also used.

As part of the highway network preparation task, NJTPA staff posted the counts to the network and submitted the network to Stantec for review and comments. Any counts that appeared to be inconsistent were discussed with NJTPA as part of this effort. All of these data sets contained 24-hour counts in AADT format. Counts at the toll bridges as

well as the NJ Turnpike and Garden State Parkway included classification data used to estimate the number of truck trips on these facilities.

The 2008 transit data, both bus ridership and rail station boarding data, were provided by NJ Transit to NJTPA. Stantec also requested from NJ Transit any more recent rail boarding data for new stations that had opened after 2005. Additional observed transit data from the 2005 NJT model validation project were provided by AECOM for comparison purposes.

2.2 2005 NJT Synthetic Mode Choice Trip Table with NJRTME Zonal System

The 2005 NYNJPA trans-Hudson survey data sets were also obtained from NJ Transit for this project. However during the processing of the data, it was determined the number of observations by trip purpose and income market segments were too sparse to be used to establish reasonable share targets for the trip distribution composite impedance term calculation. As a result, a decision was made to use the 2005 NJ synthetic mode choice trip tables to establish shares for the composite impedance term calculation. Since the synthetic mode share trips were originally developed using the 2005 survey data, the estimated share values provide a reasonable approximation of the observed mode shares and therefore could be used for the composite impedance term calculation. Note also that these trip tables were used as observed values of trips from individual MCDs to major CBD destinations such as Manhattan, Newark and Jersey City.

It should be noted that since the 2005 survey occurred prior to the increase in fuel costs in 2008, the synthetic trip tables did not reflect the impact of increased transit usage or the start of recession period in late 2008. Therefore, these synthetic trip tables had some limitations with respect to their use as observed targets for the mode choice calibration process.

2.3 1997/1998 Regional Travel – Household Interview Survey (RT-HIS) Data Set

As discussed previously the trip distribution model component was calibrated to the patterns from the 1999-2000 NJTPA Household Survey dataset since it was the most recent household survey data available for the NJTPA region.

To revise the 2000 Household Survey patterns to reflect 2008 conditions, Stantec adjusted the survey-based trip table using a Fratar method. Growth factors were developed using the change in socioeconomic data between 2000 and 2008. The growth factors were developed as composite values of total population and employment growth.

The adjusted household survey data were then used to develop observed values for county to county trip patterns. In addition, the data were also used to develop the measures of spatial separation for the trip distribution calibration. Continuous distributions by composite impedance interval as well as time and distance intervals for each trip purpose and income group were prepared. It should be noted that, although the survey data were updated to 2008 values to account for growth, they do not reflect the impacts of September 11, 2001 terrorist attack in New York City or the impacts of increased fuel prices and 2008 recession.

2.4 American Census Survey (ACS) 2006-2008 for Aggregate HBW Patterns

The ACS data was obtained to further update the home-based work trip distribution observed patterns. NJTPA provided Stantec with the 2006-2008 three-year rolling data from ACS within NJTPA's thirteen counties and Manhattan. The ACS data were used as refined targets for the HBW county-to-county distribution pattern, replacing the 2000 Census JTW Data that were used in the previous (2000) calibration effort.

3 TRANSPORTATION NETWORK MODIFICATIONS

As part of this project, highway and transit networks were updated and revised to include any project improvements as well as to correct any coding errors in the networks. In addition to network improvements and corrections, speed and capacity definitions were also adjusted as part of calibration efforts. Tables 3-1 and 3-2 list the adjusted speed and capacity, respectively, by facility type and area type.

**Table 3-1
Adjusted Speed by Facility Type and Area Type**

Facility Type	Area Type			
	Manhattan CBD	Urban	Suburban	Rural
Freeways	60	60	75	78
Expressways	50	55	65	65
Principal Arterials Divided	40	45	57	57
Principal Arterials Undivided	40	42	53	53
Major Arterials Divided	35	41	48	50
Major Arterials Undivided	35	41	46	50
Minor Arterials	30	35	42	45
Collectors/Locals	15	20	25	35
High-Speed Ramps	55	55	55	55
Medium-Speed Ramps	40	40	40	40
Low-Speed Ramps	25	25	25	25
Centroid Connectors	10	10	10	10

**Table 3-2
Adjusted Capacity by Facility Type and Area Type**

Facility Type	Area Type			
	Manhattan CBD	Urban	Suburban	Rural
Freeways	2200	2300	2400	2400
Expressways	1900	1900	2100	2200
Principal Arterials Divided	1700	1750	1800	1800
Principal Arterials Undivided	1600	1700	1750	1750
Major Arterials Divided	1500	1650	1700	1700
Major Arterials Undivided	1400	1600	1650	1650
Minor Arterials	1300	1400	1500	1500
Collectors/Locals	1000	1000	1000	1000
High-Speed Ramps	1760	1760	1760	1760
Medium-Speed Ramps	1500	1500	1500	1500
Low-Speed Ramps	1200	1200	1200	1200
Centroid Connectors	9000	9000	9000	9000

3.1 Initial 2008 Highway Network

Stantec used the 2010 Existing & Committed (E&C) highway network as the basis for the 2008 highway network. The 2010 E&C network was selected for the following reasons:

- It included the most up-to-date corrections for the entire region.
- It incorporated additional background network revisions that were augmented as part of the Greater New Brunswick BRT project.
- The impact of the project improvements in 2009 and 2010 were deemed to be not significant at regional level.

Additional network refinements were also applied to the base network to address any inconsistencies. The list of refinements is presented in the following section.

The base transit system was obtained from the Greater New Brunswick BRT project. The transit system includes the actual transit routes as well as other supporting files, such as PNR-access files and station access files, required to properly abstract the transit services. The BRT transit system was originally obtained from the FY 2010 conformity project and included comprehensive refinements to the transit system. The transit network refinements are discussed in the subsequent section of this report.

3.2 Highway Network Refinements

As part of this project, Stantec reviewed any inputs pertaining to inconsistencies in the highway network coding from various agencies and model users. The inputs were then compared to other sources, such as on-line maps and satellite images to confirm the current roadway configurations. Revisions were then made to those roadways that were coded inconsistently. Stantec, with NJTPA's assistance, also contacted transportation agencies to obtain any pertinent information for projects that indirectly have impacted the network coding, such as I-495 Express Bus Lanes (XBL). The list of additional refinements is presented in Table 3-3.

**Table 3-3
Highway Network Refinements**

No	Route	Description
1	I-495 XBL	Refine & Update I-495 XBL links from New Jersey Turnpike to Lincoln Tunnel
2	GSP	- Adding a connection from GSP NB to I-78 WB. - Adding GSP Interchange 89 at CR 528. - Adding a missing entrance and exit for the Garden State Parkway in the vicinity of CR 561. - Adding missing entrance at the service area around CR 18 between interchange 98 and 100. - Adding missing ramp from Metropark to GSP South around exit 131B
3	I-78	I-78 and Diamond Hill Interchange (remove turn prohibition from Summit Rd SB to 22ED and Rt. 22EB to Summitt Rd. NB)
4	New Brunswick Roadways	Refinement of various roadways in the New Brunswick area as part of New Brunswick BRT Project, such as: - George Street (SR 171) and SR 17 realignment in New Brunswick - Hoes Lane/Rt 18 in New Brunswick
5	NJ 5	Realignment of NJ 5 in Edgewater.
6	NJ 31	Correction on NB NJ 31 in Clinton, south of I-78, from two-way link into one-way NB link.
7	NJ 33	Revisions of NJ 33 between CO 527 and NJ 33 Business in Manalapan Township, Monmouth County.
8	SR 15	Adding Berkshire Valley Road in Roxbury from from Dewey Road to SR 15.
9	Route 20 & Route 46	Refinement of Route 20 & Route 46 in the vicinity of East Forth Avenue and Roosevelt Avenue in Clifton City, Passaic County.
10	Summit Rd.	Add turn prohibition from Summitt Rd. SB to Rt. 22 EB to Summitt Rd NB
11	Clay Street/Center Avenue Bridge	Addition of Clay Street/Center Avenue Bridge in Newark
12	Riverton-Belvidere Bridge	Realignment of Riverton-Belvidere Bridge
13	Mill Street	Revision of Mill Street (Just east of CO 612) in Mount Holly, Burlington County
14	US 206	Correction on US 206 South of Dunns Mill Road in Bordentown Township, Burlington County.

3.3 Transit Network Refinements

The refined transit network from the Greater New Brunswick BRT project was used as the basis of the final 2008 transit network. As part of the BRT project, a several refinements were implemented into the transit network including:

- *Rail Station Location Adjustments* - Each rail station locations was checked to ensure the station locations were geographically accurate. Stantec relocated those stations to their exact locations, where necessary.

- *Default Walk-Access Connections* – default walk access transfer links were provided to all rail stations from adjacent arterials whether or not there are bus routes currently serve the stations.

In order to ensure that transit routes files were consistent with the supporting transit access data, Stantec verified, and corrected as necessary, that all the access links are connected to logical transit stop nodes.

There have been several new commuter-rail and light-rail stations opened between 2000 and 2008. Stantec confirmed that those new stations were included in the transit routes and activated those stations in the transit utilization reporting controls. Conversely, there have been a few stations closed between 2000 and 2008. These stations were deactivated in the transit routes and their utilization reports were disabled. Table 3-4 shows the list of these new stations as well as the suspended stations.

**Table 3-4
New and Suspended Stations**

Station Node		Transit Line	Station Name
New	Suspended		
20323		Main/Bergen Line	Route 17
	20367	Main/Bergen Line	Harmon Cove
20600		Newark City Subway	Grove Street
20601		Newark City Subway	Silver Lake
20625		Newark City Subway	NJ PAC/Center St
20624		Newark City Subway	Atlantic St
20622		Newark City Subway	Washington Park
20623		Newark City Subway	Riverfront Stadium
20621		Newark City Subway	Broad Street
20646		Newark City Subway	Newark Penn Station
20647		Newark City Subway	Newark Penn Station
20648		Newark City Subway	Newark Penn Station
	20703	Hudson-Bergen LRT	8th Street
20719		Hudson-Bergen LRT	2nd Street
20720		Hudson-Bergen LRT	9th Street
20721		Hudson-Bergen LRT	Lincoln Harbor
20722		Hudson-Bergen LRT	Port Imperial
20723		Hudson-Bergen LRT	Bergenline Ave
20724		Hudson-Bergen LRT	Tonnelle Ave
20852		Ferry Terminals	Lincoln Harbor
20853		Ferry Terminals	North Hoboken
20855		Ferry Terminals	Harborside
20857		Ferry Terminals	Liberty Harbor

3.4 Network Verification Processing

As part of quality assurance (QA) analysis, Stantec verified the highway network to ensure that the link connectivity and other network characteristics were coded correctly. These tests seek to identify illogical and/or unlikely coding configurations for detailed inspection. A set of tests were performed on the highway network as part of this QA that include:

- Identify major roadways (freeways, expressways, and principal Arterials) with one lane per direction.
- Minor roadways (collectors and locals) with more than one lane per direction.
- Links with “0” number of lanes and zero distance.
- Check directionality of one-way links.
- Freeways cross with roads other than ramps for highway links within the New Jersey region. Note that the highway coding outside New Jersey was less-detailed and most highway ramps were not coded in detail.
- Zonal connectors that were connected directly to freeways – access to freeways within the NJTPA is permitted only via actual ramps. However, for network outside New Jersey, the lack of detail in network coding forced the zonal connectors to be connected directly to freeways.
- Symmetry checks for Facility Type, Area Type, and number of lanes coded in two-way links.
- Symmetry checks for distance and travel time using highway skims.

3.5 Cost Data Revisions

As part of the network refinements all cost terms in the model were updated as necessary. This included the use of the 2008 toll rates and transit fares for all the facilities in the NJTPA region. Parking costs at Park and Ride (PNR) lots and auto mode parking costs for zones at the destination trip end were increased in 2008. The escalated PNR and destination parking costs were provided by NJ Transit and AECOM. The auto mode fuel cost parameter (expressed as cost per mile in the mode choice model) was updated to 2008 conditions.

4 TRIP GENERATION REFINEMENTS

Revisions to the trip generation model were originally not included in the scope of this project. However, during the course of the project, an issue pertaining to the employment classification system emerged. In the original 2000 NJRTME the employment categories were classified using Standard Industrial Classifications (SIC) system and the attraction models were estimated using values determined from that classification system. However, in the 2008 revalidation process, most MPOs including NJTPA have migrated their employment classification system into the North America Industry Classification System (NAICS). The system migration warranted limited revisions for the trip generation models.

4.1 Trip Production & Attraction Adjustments

The trip attractions coefficients for HBO purpose were adjusted to reflect the changes in the employment classifications system. The attraction coefficients were revised for both the New Jersey and New York regions. Table 4-1 shows the trip attraction coefficients used in the revalidated NJRME for New Jersey region, while Table 4-2 shows the coefficients for the New York region.

During the calibration process, the estimated trips and vehicle-miles travelled (VMT) were generally lower than the traffic counts and observed VMT. Since new household survey data was not available, analysis to determine whether current trip generation rates have changed over the last decade was not possible. In order to address this issue, Stantec elected to increase trip production rates by four percent for all trip purposes. The 4 percent increase in trip production rates generated approximately 7.71 person trips per households, increased from 7.56 trips per household. These rates were still on the lower side compared to the rates from other MPOs which mostly fell in a range between 8.00 and 11.00. For a comparison, New York City has a rate of 10.39 trips/ household (*source: TCRP Report 73 –Characteristics of Urban Travel Demand*).

**Table 4-1
Trip Attraction Coefficients for New Jersey Region**

CODE	HBWD	HBWS	HBSH	HBO	WBO	NHNW	VARIABLES
1							POP
2			0.2848	1.1328		1.4623	HH
3	1.1618	0.4167					Total EMP
4				-0.04467	0.9329		EMPBASIC
5					2.0937		EMPRETAIL
6					1.1482		EMPSERVICE
7			1.8239				RETAIL
8							NON_RETAIL
9							AGRICULTURE&MINING
10						42.376	CONSTRUCTION
11							MANUFACTURING
12							TRANSPORTATION
13						-19.209	WHOLESALE
14				2.72877		4.9286	RETAIL
15				-6.7749			F.I.R.E
16				3.1367		1.9825	SERVICE
17				-9.82502			GOVERNMENT
18							MILITARY/OTHER
19							AREA TYPE
20			-0.0096				VICINITY DENSITY
21							HHSIZE
22							HH WITH RETIREE
23							HH WITH CHILDREN
24							HH WITH NO CHILDREN
25							HH Density
26							% HH RETIRED
27							% RETAIL
28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	CONSTANT

**Table 4-2
Trip Attraction Coefficients for New York CBD Region**

CODE	HBWD	HBWS	HBSH	HBO	WBO	NHNW	VARIABLES
1							POP
2			0.0997	0.5586		0.6434	HH
3	1.1	0.3197					Total EMP
4				-0.02198	1.0329		EMPBASIC
5							EMPRETAIL
6							EMPSERVICE
7			0.6387				RETAIL
8							NON_RETAIL
9							AGRICULTURE&MINING
10						18.6456	CONSTRUCTION
11							MANUFACTURING
12							TRANSPORTATION
13						-8.452	WHOLESALE
14				1.34528	1.1015	2.1686	RETAIL
15				-3.34024	-1.7672		F.I.R.E
16				1.54637	2.9003	0.8723	SERVICE
17				-4.84393	-7.0806		GOVERNMENT
18							MILITARY/OTHER
19							AREA TYPE
20			-0.0034				VICINITY DENSITY
21							HHSIZE
22							HH WITH RETIREE
23							HH WITH CHILDREN
24							HH WITH NO CHILDREN
25							HH Density
26							% HH RETIRED
27							% RETAIL
28	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	CONSTANT

4.1.1 Refinements to Socioeconomic Data

The new 2008 socioeconomic (SE) data were provided for NJTPA for the NJTPA Region. In addition, NJTPA also obtained the latest 2008 data from the surrounding MPOs that cover the regions in the model adjacent to the 13-county NJTPA area. The SE Data summary by region is provided in Appendix A. The summary also includes the 2000 SE Data that were used in the original NJRTME model development. Annual growth rates between 2000 and 2008 are also presented in the same table.

4.2 Regional Adjustment

The regional adjustment factors were originally developed to scale the number of trips produced and attracted to the NJRTME's study region from each of the adjacent counties. The scaling factors were generally 1.00 for most counties indicating that the trips produced by and attracted to those counties were destined to and generated by counties within the study region. However, for the counties in the edge of the model region, the scaling factors were generally less than 1.00 indicating that some portion of trip ends in these counties were produced by or attracted to locations outside of the modeled area.

As part of the calibration process, it was deemed necessary to increase the scale factors for Burlington and Atlantic Counties based on the low estimated traffic volumes in the areas directly adjacent to the NJTPA region. This was particularly evident for traffic volumes along the New Jersey Turnpike, and to a lesser extent traffic on Garden State Parkway. It should be noted that these regional adjustment factors for the adjacent counties need to compensate for not only trips from adjacent counties but also areas beyond the modeled region that distribute traffic into the NJTPA region. As an example Bucks county trip generation also represents trips from Philadelphia and Montgomery County that travel into the NJTPA region. While these trips are probably limited in absolute numbers, these trips are mostly likely approach the regional via the major interstate routes, including the NJ Turnpike.

Tables 4-3 and 4-4 show the regional adjustments factors by income group for HBW trip productions and attractions, respectively. Note that only factors for Burlington and Atlantic Counties were adjusted as part of the model recalibration. The remaining factors for the other counties estimated during the original model development were retained.

**Table 4-3
Regional Adjustment Factors for Trip Productions**

COUNTY NAME	CPF1	CPF2	CPF3	CPF4	CPF5
ATLANTIC	0.98	0.98	0.98	0.98	0.98
BERGEN	1.00	1.00	1.00	1.00	1.00
BURLINGTON	0.97	0.97	0.97	0.97	0.97
ESSEX	1.00	1.00	1.00	1.00	1.00
HUDSON	1.00	1.00	1.00	1.00	1.00
HUNTERDON	1.00	1.00	1.00	1.00	1.00
MERCER	1.00	1.00	1.00	1.00	1.00
MIDDLESEX	1.00	1.00	1.00	1.00	1.00
MONMOUTH	1.00	1.00	1.00	1.00	1.00
MORRIS	1.00	1.00	1.00	1.00	1.00
OCEAN	1.00	1.00	1.00	1.00	1.00
PASSAIC	1.00	1.00	1.00	1.00	1.00
SOMERSET	1.00	1.00	1.00	1.00	1.00
SUSSEX	1.00	1.00	1.00	1.00	1.00
UNION	1.00	1.00	1.00	1.00	1.00
WARREN	1.00	1.00	1.00	1.00	1.00
BRONX	1.00	1.00	1.00	1.00	1.00
DUTCHESS	0.99	0.98	0.98	0.99	0.99
KINGS	1.00	1.00	1.00	1.00	1.00
NASSAU	1.00	1.00	1.00	1.00	1.00
MANHATTAN	1.00	1.00	1.00	1.00	1.00
ORANGE	0.85	0.85	0.85	0.85	0.85
PUTNAM	1.00	1.00	1.00	1.00	1.00
QUEENS	1.00	1.00	1.00	1.00	1.00
RICHMOND	1.00	1.00	1.00	1.00	1.00
ROCKLAND	1.00	1.00	1.00	1.00	1.00
SUFFOLK	1.00	1.00	1.00	1.00	1.00
WESTCHESTER	1.00	1.00	1.00	1.00	1.00
BUCKS	0.70	0.60	0.60	0.60	0.60
CARBON	0.94	0.96	0.93	0.93	0.93
LACKAWANNA	0.99	0.99	0.98	0.98	0.98
LEHIGH	0.99	0.98	0.98	0.98	0.98
LUZERNE	0.97	0.96	0.95	0.96	0.96
MONROE	1.00	1.00	1.00	1.00	1.00
NORTHAMPTON	1.00	1.00	1.00	1.00	1.00
PIKE	0.99	1.00	1.00	1.00	1.00
WAYNE	0.96	0.97	0.96	0.95	0.95
SULLIVAN	0.85	0.85	0.85	0.85	0.85
FAIRFIELD	0.50	0.50	0.50	0.50	0.50

**Table 4-4
Regional Adjustment Factors for Trip Attractions**

COUNTY NAME	CAF1	CAF2	CAF3	CAF4	CAF5
ATLANTIC	0.96	0.96	0.96	0.96	0.96
BERGEN	1.00	1.00	1.00	1.00	1.00
BURLINGTON	0.97	0.97	0.97	0.97	0.97
ESSEX	1.00	1.00	1.00	1.00	1.00
HUDSON	1.00	1.00	1.00	1.00	1.00
HUNTERDON	1.00	1.00	1.00	1.00	1.00
MERCER	1.00	1.00	1.00	1.00	1.00
MIDDLESEX	1.00	1.00	1.00	1.00	1.00
MONMOUTH	0.98	0.98	0.98	0.98	0.98
MORRIS	1.00	1.00	1.00	1.00	1.00
OCEAN	1.00	1.00	1.00	1.00	1.00
PASSAIC	1.00	1.00	1.00	1.00	1.00
SOMERSET	1.00	1.00	1.00	1.00	1.00
SUSSEX	1.00	1.00	1.00	1.00	1.00
UNION	1.00	1.00	1.00	1.00	1.00
WARREN	1.00	1.00	1.00	1.00	1.00
BRONX	1.00	1.00	1.00	1.00	1.00
DUTCHESS	0.92	0.92	0.89	0.91	0.91
KINGS	1.00	1.00	1.00	1.00	1.00
NASSAU	1.00	1.00	1.00	1.00	1.00
MANHATTAN	1.00	1.00	1.00	1.00	1.00
ORANGE	0.85	0.85	0.85	0.85	0.85
PUTNAM	1.00	1.00	1.00	1.00	1.00
QUEENS	1.00	1.00	1.00	1.00	1.00
RICHMOND	1.00	1.00	1.00	1.00	1.00
ROCKLAND	1.00	1.00	1.00	1.00	1.00
SUFFOLK	1.00	1.00	1.00	1.00	1.00
WESTCHESTER	1.00	1.00	1.00	1.00	1.00
BUCKS	0.90	0.89	0.90	0.92	0.92
CARBON	0.94	0.95	0.94	0.96	0.96
LACKAWANNA	0.93	0.93	0.93	0.95	0.95
LEHIGH	0.97	0.97	0.96	0.96	0.96
LUZERNE	0.96	0.95	0.94	0.95	0.95
MONROE	1.00	1.00	0.99	1.00	1.00
NORTHAMPTON	1.00	1.00	1.00	1.00	1.00
PIKE	1.00	0.99	0.99	0.99	0.99
WAYNE	0.99	0.99	0.98	0.98	0.98
SULLIVAN	0.85	0.85	0.85	0.85	0.85
FAIRFIELD	0.50	0.50	0.50	0.50	0.50

5 TRIP DISTRIBUTION CALIBRATION

The trip distribution calibration focuses on developing the inter- and intra-zonal travel flows. The estimated travel flows were compared to the observed flows that were developed from various data sources as described in Chapter 2. The primary data sources is the Regional Travel-Household Interview Survey (RT-HIS) conducted in 1997 and 1998. For the purpose of this calibration, the RT-HIS survey data county-to-county travel patterns were adjusted to better represent the likely changes reflected in 2008 conditions as discussed in the introduction of this report. Additional data sources were used including the 2006-2008 American Community Survey Data for HBW trip purpose and the NJT survey derived 2005 trip tables for trans-Hudson trip movements.

5.1 Calibration Methodology

The NJRTME utilizes standard “Gravity Model” procedures to perform the trip distribution process. The objective of the trip distribution calibration is to develop friction-factors and k-factors that properly replicate the observed average trip length and also maintain the observed trip flow pattern. The trip distribution calibration process generally followed the same approach as the calibration in the original 2000 NJRTME.

The trips produced by the gravity model were aggregated into intervals by composite impedance value. The calibration process compares the estimated and observed percentage of trips in each interval and adjusts the friction factors in an iterative process to replicate the observed distribution. If the estimated trips are lower than the observed trips in the current iteration, the adjustment would have the corresponding friction factor increased, and vice versa. The friction factor adjustment process is described in detail in the original 2000 “NJRTME Model Development Report”.

The first phase of the calibration seeks to replicate the distribution by interval and terminates once the estimated average impedance is within one unit of observed average. The second phase then simultaneously adjusts the friction factors and K-factors to better approximate the observed county-county flows. The second phase is conducted across 26 iterations and replication is evaluated by improvement in the Root Mean Square Error (RMSE) term. Note that the friction factors are smoothed by iteration of both calibration phases. Note that the k-factors were constrained to a limited range for the counties within the NJTPA region, most of which still have a value of 1.00 or no adjustment. The HBS k-factor was adjusted to 2.25 partly due to the impact of employment classification change. K-factors for trips flowing to adjacent regions were permitted to have greater variation in order to replicate the target values.

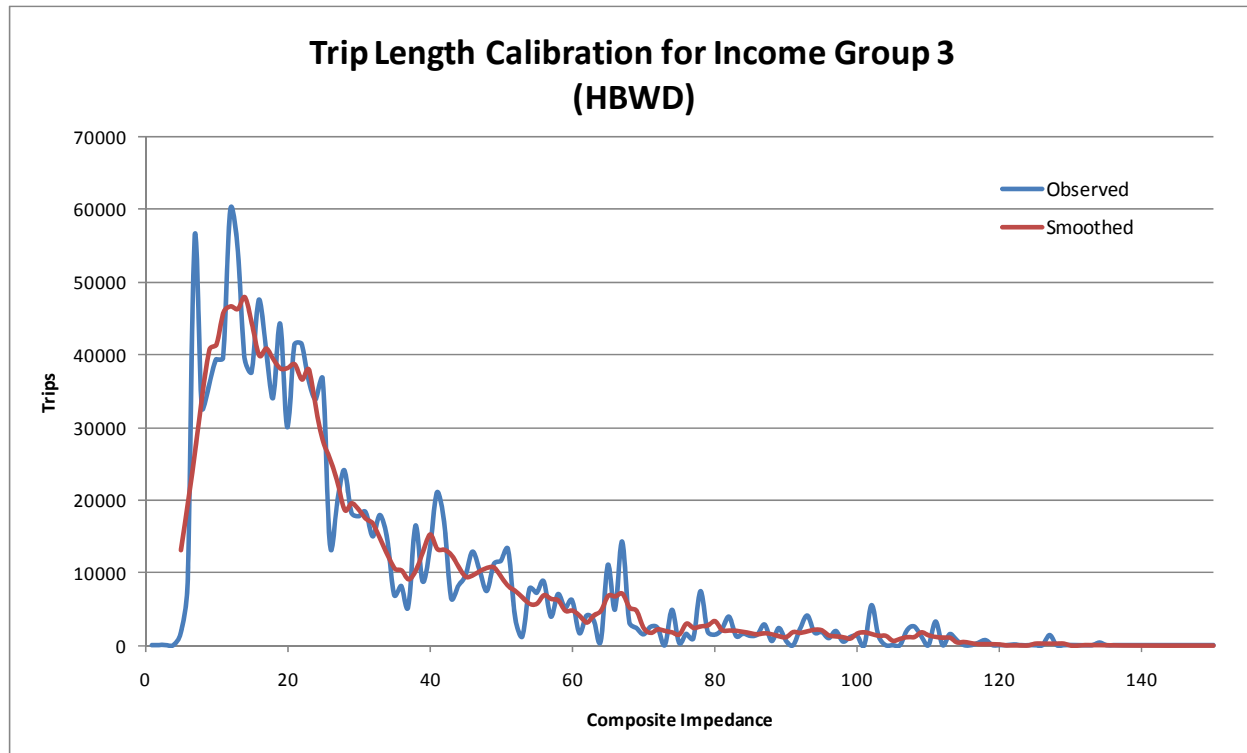
5.1.1 Smoothed Household Observations

The observed trip tables used for the trip distribution calibration were derived from the RT-HIS data. The data were used as the starting point for the friction-factor calibration. The trips were grouped into composite impedance one unit intervals. When the survey data for trips by a given purpose were disaggregated into income-groups the sample data becomes somewhat discontinuous particularly for the lowest and highest income groups. In order to address this limitation, a technique was employed to blend the adjacent observations across a limited range to smooth out the variation caused by minimal amount of observations. To achieve the smoothed targets, Stantec used five-unit interval moving-average approach. Figure 5-1 illustrates this method, and Figure 5-2 displays the allocation of observed trips the before and after smoothing process for HBWD income group-3.

Figure 5-1
Five-Period Moving Average Approach

	Observed	Smoothed
IMP	Trips	trips
28	1480	13,131
29	8045	19,680
30	56130	26,811
31	32744	34,372
32	35658	=SUM(D34:D38)/5
33	39283	41,399
34	39509	45,857
35	59803	46,626
36	55032	46,275
37	39503	47,865
38	37528	44,101
39	47457	39,886
40	40985	40,823
41	33959	39,311
42	44185	38,073
43	29970	38,163
44	41268	38,650

Figure 5-2
Smoothed Observed Trips for HBWD Income Group 3



5.1.2 Two-Phase Calibration Process

After the smoothed targets were created, the initial friction factors were assumed to follow the smoothed target patterns. The trip distribution calibration was performed as a two-phase calibration process as follows:

1. Create initial friction factors that follows the smoothed target patterns
2. This friction factors were then smoothed using regression analysis to follow a gamma function.
3. In the first-phase of the two-phase process, all k-factors were assumed to be equal to 1
4. Distribute the trips using the smoothed friction factors from Step-2.
5. Upon the completion of trip distribution calculation, adjust the friction factors using the following formula:

$$FF_{revised} = FF_{current} * (Observed Trips / Estimated Trips)$$

6. Back to Steps 2-5, perform this process iteratively until the results converge or the maximum number of iterations reached.
7. Start the phase-2 process by adjusting K-factor using the following formula:

$$KF_{revised} = KF_{current} * (Observed Trips / Estimated Trips)$$

8. Back to Steps 2-7. This iterative process will adjust both friction-factors and K-factors.

This process is shown schematically in Figure 5-3. In this revalidation process, Stantec performed manual K-factor adjustments at the conclusion of the two-phase calibration process to refine the trip distribution results.

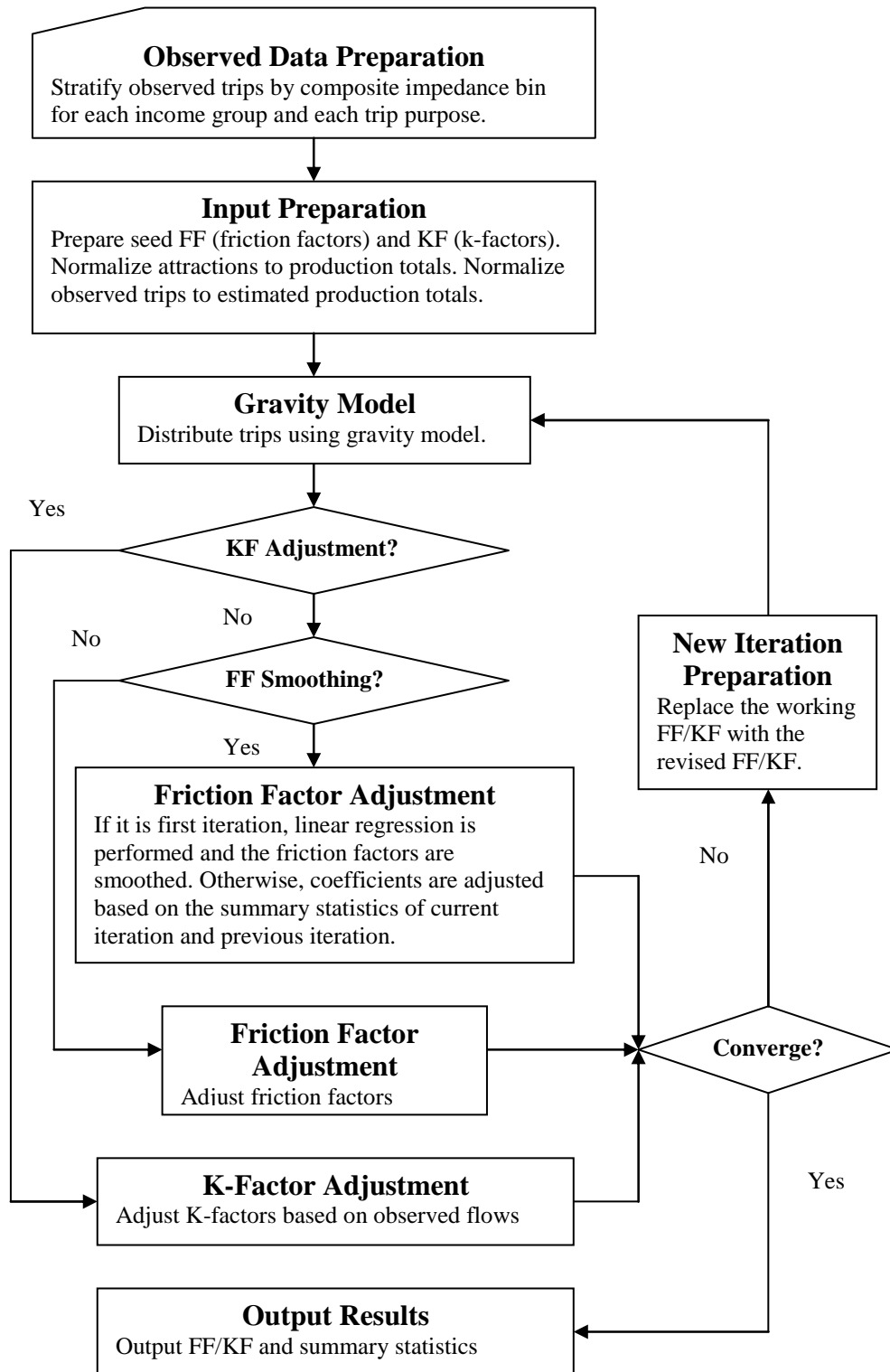
5.2 Calibration Results

The results of trip distribution from the full-model run were summarized for various measures and compared to targets derived from the observed data. The summaries include the regional movement between New Jersey and New York City captured along the Hudson River Crossings. Table 5-1 summarizes this regional movement and compares the estimated person trip crossings with the 2008 data.

**Table 5-1
Trans-Hudson Total Person Trips Comparison**

	2000 Targets	2008 Targets	2008 Estimates
W of Hudson(Less Richmond) to Manhattan	773,568	758,348	746,492
W of Hudson(Less Richmond) to Other E of Hudson	354,345	357,375	374,358
Richmond to Manhattan	99,310	97,301	89,986
Richmond to Other E of Hudson	96,528	92,953	113,386
Manhattan to W of Hudson(Less Richmond)	107,962	126,952	135,397
Manhattan to Richmond	7,125	6,805	4,038
Other E of Hudson to W of Hudson(Less Richmond)	306,939	295,990	280,010
Other E of Hudson to Richmond	69,247	66,695	71,590
TOTAL	1,815,024	1,802,419	1,815,257

Figure 5-3
Trip Distribution Calibration Process



The estimated total person trips of the Trans-Hudson movement were close to their targets. As an additional measure, the estimated trips of the Trans-Hudson movement were disaggregated by trip purpose. The trips by purpose were then compared to the targets as shown in Table 5-2. The results indicated that the estimated Trans-Hudson person trips by purpose were also close to the observed data. This indicates that the NJRTME performed well at regional level.

**Table 5-2
Hudson River Crossing Person Trips by Trip Purpose**

Trip Purpose	OD Format			
	West->East		East->West	
	2008	2008	2008	2008
	Observed	Estimates	Observed	Estimates
HBW	529,920	533,364	528,605	532,005
HBS	21,502	22,824	24,584	26,287
HBO	211,420	212,862	208,993	210,594
NHB	143,812	138,906	133,583	138,417
TOTAL	906,654	907,955	895,765	907,302

Trip Purpose	PA Format			
	West->East		East->West	
	2008	2008	2008	2008
	Observed	Estimates	Observed	Estimates
HBW	857,840	872,300	200,685	193,069
HBS	35,275	38,295	10,812	10,816
HBO	277,632	274,721	142,781	148,735
NHB	143,812	138,906	133,583	138,417
TOTAL	1,314,559	1,324,222	487,861	491,036

Average trip length is an important measure of trip spread or distribution. The average trip length was summarized with respect to composite impedance, travel time, and distance from both model estimates and household survey data. The average trip length by trip purpose for the NJTPA and Manhattan regions was summarized in Table 5-3. It should be noted that the model is solely calibrated using the composite impedance term, which is a blend of both time and costs for all motorized modes. The results indicate that the model provides an excellent replication with respect to these three measures of spatial separation.

Table 5-3
Average Trip Length Comparison by Purpose

Purpose	Composite Impedance		Diff	Diff%
	Observed	Model		
HBWD	31.11	30.81	-0.30	-1.0%
HBWS	29.52	28.88	-0.64	-2.2%
HBSH	15.98	15.82	-0.16	-1.0%
HBO	16.16	16.47	0.31	1.9%
WBO	22.19	21.51	-0.68	-3.1%
NHNW	16.32	16.04	-0.28	-1.7%

Purpose	Travel Time		Distance	
	Observed	Model	Observed	Model
HBWD	29.93	29.93	13.73	13.61
HBWS	28.60	28.18	13.19	12.53
HBSH	15.62	15.56	5.73	5.63
HBO	15.58	15.94	5.76	5.97
WBO	20.88	20.56	9.74	9.15
NHNW	15.83	15.76	5.96	5.55

The more disaggregated measure was developed by comparing the average trip length for each income group by trip purpose. Table 5-4 shows the results of this comparison. As expected, the comparison at disaggregate level of each income group demonstrates more variation. The composite impedance comparison by income group provides an indication of the goodness of fit, with most income groups are well within (+/-) 5 percent range.

**Table 5-4
Average Trip Length by Purpose and Income Group
(Composite Impedance)**

Purpose	Income Group	Observed	Model	Diff	Diff%
HBWD	1	22.24	21.84	-0.40	-1.8%
	2	23.22	22.06	-1.16	-5.0%
	3	29.56	28.68	-0.88	-3.0%
	4	33.50	33.12	-0.38	-1.1%
	5	37.90	39.76	1.86	4.9%
HBWS	1	17.45	17.03	-0.42	-2.4%
	2	22.23	21.08	-1.15	-5.2%
	3	27.63	26.16	-1.47	-5.3%
	4	33.43	33.09	-0.34	-1.0%
	5	32.57	32.67	0.10	0.3%
HBSH	1	14.32	14.26	-0.06	-0.4%
	2	14.19	13.95	-0.24	-1.7%
	3	15.97	16.01	0.04	0.3%
	4	16.69	16.54	-0.15	-0.9%
	5	17.83	17.36	-0.47	-2.6%
HBO	1	15.28	15.28	0.00	0.0%
	2	16.15	16.99	0.84	5.2%
	3	15.97	16.52	0.55	3.4%
	4	16.02	16.10	0.08	0.5%
	5	17.27	17.24	-0.03	-0.2%
WBO	1	20.01	20.30	0.29	1.4%
	2	19.77	19.30	-0.47	-2.4%
	3	20.49	19.69	-0.80	-3.9%
	4	23.12	22.62	-0.50	-2.2%
	5	25.29	24.88	-0.41	-1.6%
NHNW	1	14.31	13.69	-0.62	-4.3%
	2	14.67	14.25	-0.42	-2.9%
	3	16.05	15.74	-0.31	-1.9%
	4	17.01	16.88	-0.13	-0.8%
	5	17.98	17.99	0.01	0.1%

Table 5-4 Continued (Travel Time)

Purpose	Income Group	Observed	Model	Diff	Diff%
HBWD	1	21.69	21.63	-0.06	-0.3%
	2	22.77	21.80	-0.97	-4.3%
	3	28.27	27.96	-0.31	-1.1%
	4	32.23	32.21	-0.02	-0.1%
	5	36.40	37.91	1.51	4.1%
HBWS	1	17.46	16.97	-0.49	-2.8%
	2	21.32	20.87	-0.45	-2.1%
	3	26.69	25.66	-1.03	-3.9%
	4	32.30	32.11	-0.19	-0.6%
	5	31.99	31.73	-0.26	-0.8%
HBSH	1	14.27	14.11	-0.16	-1.1%
	2	14.10	13.82	-0.28	-2.0%
	3	15.60	15.71	0.11	0.7%
	4	16.26	16.21	-0.05	-0.3%
	5	17.15	17.17	0.02	0.1%
HBO	1	14.81	14.38	-0.43	-2.9%
	2	15.59	16.07	0.48	3.1%
	3	15.25	15.98	0.73	4.8%
	4	15.53	15.77	0.24	1.5%
	5	16.69	16.80	0.11	0.7%
WBO	1	19.14	18.94	-0.20	-1.0%
	2	18.52	18.52	0.00	0.0%
	3	19.42	19.00	-0.42	-2.2%
	4	21.77	21.60	-0.17	-0.8%
	5	23.39	23.35	-0.04	-0.2%
NHNW	1	14.02	13.51	-0.51	-3.6%
	2	14.12	14.04	-0.08	-0.6%
	3	15.66	15.47	-0.19	-1.2%
	4	16.43	16.55	0.12	0.7%
	5	17.44	17.69	0.25	1.4%

Additional measures are included in Appendix B which contains:

- County to county distribution shares
- County to county trip distribution
- Comparison of work trips and non-work trips to major destinations, and
- Frequency distribution charts by impedance terms for each trip purpose.

The estimated county-to-county distribution shares generally replicated the observed shares very well at an aggregate level, for all trip purposes combined. A small number of county-to-county travel flows were slightly overestimated, including travel flows from Essex to Hudson, Ocean to Middlesex, and Passaic to Hunterdon. Conversely, the travel flows from Hudson to Manhattan and Richmond to Manhattan were underestimated.

As expected, comparison at a finer level for each trip purpose demonstrates more variation. The travel flows for HBW replicated the observed data reasonably well. The observed data for HBW were obtained from RT-HIS adjusted to 2008 conditions based on socioeconomic growth. Additional observed data were obtained from Census 2000 JTW data, with an update from ACS 2006-2008 for NJTPA Counties and Manhattan. The other purposes also replicated the observed data fairly well. Observed data for these purposes were derived from the RT-HIS data adjusted to 2008 conditions. The county-to-county trip distribution comparison was derived using the same estimated and observed data as the county-to-county distribution shares. However, the comparison was performed at trip-level instead of percent shares.

The comparison of work trips and non-work trips to major destinations were generally reasonably well at an aggregate level. The NJT survey-based trip tables were used as the target for this comparison. The estimated trips from NJTPA's counties crossing the Hudson River to Manhattan, a very important market for the NJ Transit, replicated the observed data very well at the aggregate level. However, the comparison showed more variation at disaggregated level. For the work trips, the travel flows to Upper Manhattan were generally lower than those indicated by the observed data, while the flows to Lower and Mid-Manhattan replicated the observed data very well. For the non-work trips, the estimated travel flows to Upper Manhattan were higher than the observed flows. However, the flows to Lower and Mid-Manhattan replicated the observed flows very well.

Lastly, the trip frequency distributions for the three impedance variables (composite impedance, travel time, and distance) for each trip purpose were also presented in Appendix B. The frequency distributions were indicators to the trip distribution spreads over those impedance variables. The charts showed that the estimated frequency distributions replicated the observed data reasonably well. The observed data were derived from both RT-HIS and 2005 NJT Survey Data.

6 MODE CHOICE CALIBRATION

The mode choice process for the NJRTME was created specifically to address several objectives identified by the client team. The objectives can be generally described as the desire to retain the existing NJT mode choice model process, both in terms of its structure and the software routines used to perform the mode choice model. For the existing model structure, the NJT mode choice model provides a robust and well-specified nested logit model that has been designed specifically to address the complex and competitive transit choice environment that exist in Northern New Jersey. With respect to the software, the existing process uses a Fortran program to perform mode choice and the transit skims are generated with the TRNBUILD routine.

In the mode choice model, the NJRTME was divided into two regions, consistent with the original NJRTME:

- NJT-Controlled Region – covers all trips from west of Hudson River and trips originating from Manhattan with destinations west of the Hudson River. This region utilized the NJT mode choice model process.
- NYMTC-Controlled Region – covers all trips east of Hudson River and trips originating from Manhattan to areas east of Hudson River. These trips relied on shared derived from NYMTC Best-Practices Model (BPM).

6.1 Calibration Methodology

The mode choice model for the NJRTME is adopted from the NJ Transit's North Jersey Travel Demand Forecasting Model (NJTDFM). The mode choice calibration was performed iteratively between Stantec and AECOM. Stantec provided AECOM with trip tables from trip distribution process as well as skim files. AECOM used these trip tables and skim files to calibrate its mode choice parameters (logit parameters). Using the updated logit parameters, Stantec then performed the complete model runs and compared the mode choice estimates to the observed data. This process was performed repetitively until the estimated values were close to the observed data.

To prevent from many moving components, Stantec initially used static composite impedance terms. The static composite impedance terms assumed that the percentages of mode shares used to calculate composite impedances were constant. These shares were developed from the NJ Transit's 2005 validation dataset. This

approach was used assuming that the final modal shares were expected to be similar to the 2005 shares. This approach also reduced variability for this iterative process and, therefore, was expected to converge quicker.

After the mode choice estimates replicated the observed data, the mode shares for the CI terms were then released such that the shares were recalculated during the model execution instead of assumed to be constant in the course of model run. As the results, the mode choice estimates were slightly changed and additional iterations were required to refine the results. The calibration process was ended when the differences between the model estimates and observed data were within reasonable tolerance.

6.2 Calibration Results

The NJ Transit mode choice model performs the choice process separately for market segments defined by geographic locations and density. The 11 segments of regional movements were predefined by the NJ Transit Model as listed in Table 6-1. The results from the NJRTME were summarized by market segment, time period, and travel model and compared to the NJ Transit mode choice model targets. Table 6-2 summarizes the results of this comparison.

At an aggregate level, both total auto and transit shares were compared very well between the observed and estimated data. The percent share differences were mostly within 1% for both peak, off-peak, and one-day periods. In most cases, the differences were even smaller, in a range within 0.5%. The estimated auto and transit shares by modes were also compared extremely well with the observed data.

Table 6-1
Market Segment for NJ Transit Mode Choice Model

Market Segment	Note
1	West of Hudson (Less Staten Island) to Manhattan
2	West of Hudson (Less Staten Island) to Newark
3	West of Hudson (Less Staten Island) to Jersey City/Hoboken
4	West of Hudson (Less Staten Island) to Other CBD's
5	West of Hudson (Less Staten Island) to Other East of Hudson (Other than Manhattan)
6	Non-Dense P's to Non-Dense A's
7	Manhattan to West of Hudson (Less Staten Island)
8	To/From Staten Island
9	Dense P's to Non-Dense A's
10	Non-Dense P's to Dense A's
11	Dense P's to Dense A's

For the intra-New Jersey market (regions 4, 6, 9, 10, and 11), which is the largest market in the model, the mode shares comparisons were also very good. For other market segments the differences were slightly more pronounced, although in most market segments the comparisons between estimated and observed shares were reasonably well.

The mode share comparison by trip purpose and time of day for selected market segments were provided in Appendix C. As expected, the variations became more pronounced at the more disaggregated level.

**Table 6-2
Comparison on Mode Choice Results**

Comparison of NJT Model and Integration Model (Regions 1-11)

MODE	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL					
	NJT Model**		Integration Model		NJT Model**		Integration Model		NJT Model**		Integration Model		Survey	
SOV	7,036,385	54.5%	9,632,960	54.7%	5,187,104	53.1%	7,100,905	52.9%	12,223,489	53.9%	16,733,865	53.9%	12,797,505	52.2%
HOV2	3,188,131	24.7%	4,290,857	24.4%	2,686,255	27.5%	3,760,978	28.0%	5,874,386	25.9%	8,051,835	26.0%	5,666,968	23.1%
HOV3	1,029,632	8.0%	1,454,342	8.3%	1,020,095	10.5%	1,394,549	10.4%	2,049,727	9.0%	2,848,891	9.2%	2,210,104	9.0%
HOV4	1,022,475	7.9%	1,461,697	8.3%	556,391	5.7%	772,183	5.8%	1,578,866	7.0%	2,233,880	7.2%	1,460,099	5.9%
AUTO	12,276,619	95.0%	16,839,853	95.6%	9,449,842	96.8%	13,028,609	97.1%	21,726,461	95.8%	29,868,462	96.3%	22,134,681	90.2%
Wk-Rail	52,877	0.4%	67,964	0.4%	14,416	0.1%	21,934	0.2%	67,293	0.3%	89,898	0.3%	202,026	0.8%
Wk-PATH	103,783	0.8%	115,035	0.7%	61,656	0.6%	70,163	0.5%	165,439	0.7%	185,198	0.6%	139,122	0.6%
Wk-Bus	202,302	1.6%	239,474	1.4%	140,566	1.4%	177,705	1.3%	342,868	1.5%	417,179	1.3%	1,684,945	6.9%
Wk-Ferry	26,877	0.2%	34,616	0.2%	15,734	0.2%	20,704	0.2%	42,611	0.2%	55,320	0.2%	37,251	0.2%
Wk-LRT	8,519	0.1%	13,391	0.1%	4,273	0.0%	4,629	0.0%	12,792	0.1%	18,020	0.1%	9,934	0.0%
Wk-Long Ferry	106	0.0%	81	0.0%	2	0.0%	6	0.0%	108	0.0%	87	0.0%	0	0.0%
Dr-Rail	125,552	1.0%	162,843	0.9%	20,106	0.2%	31,513	0.2%	145,658	0.6%	194,356	0.6%	200,127	0.8%
Dr-PATH	26,074	0.2%	26,695	0.2%	11,893	0.1%	14,025	0.1%	37,967	0.2%	40,720	0.1%	19,112	0.1%
Dr-Bus	63,912	0.5%	67,189	0.4%	22,627	0.2%	27,285	0.2%	86,539	0.4%	94,474	0.3%	92,740	0.4%
Dr-Ferry	26,308	0.2%	32,336	0.2%	17,956	0.2%	21,827	0.2%	44,264	0.2%	54,163	0.2%	19,769	0.1%
Dr-LRT	3,659	0.0%	4,388	0.0%	811	0.0%	1,080	0.0%	4,470	0.0%	5,468	0.0%	0	0.0%
Dr-Long Ferry	2,244	0.0%	2,374	0.0%	20	0.0%	128	0.0%	2,264	0.0%	2,502	0.0%	0	0.0%
TRANSIT	642,215	5.0%	766,390	4.4%	310,059	3.2%	391,012	2.9%	952,274	4.2%	1,157,402	3.7%	2,405,023	9.8%
TOTAL	12,918,840	100.0%	17,606,239	100.0%	9,759,903	100.0%	13,419,622	100.0%	22,678,743	100.0%	31,025,861	100.0%	24,539,706	100.0%

** AECOM/NJT Trip Table

Comparison of NJT Model and Integration Model (Trans-Hudson Regions: 7)

MODE	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL					
	NJT Model**		Integration Model		NJT Model**		Integration Model		NJT Model**		Integration Model		Survey	
SOV	18,575	31.7%	19,673	25.4%	12,367	29.5%	11,114	19.2%	30,942	30.8%	30,787	22.7%	47,051	30.0%
HOV2	4,490	7.7%	6,638	8.6%	7,671	18.3%	9,364	16.2%	12,161	12.1%	16,002	11.8%	18,973	12.1%
HOV3	2,246	3.8%	3,574	4.6%	1,862	4.4%	4,281	7.4%	4,108	4.1%	7,855	5.8%	10,177	6.5%
HOV4	3,083	5.3%	3,047	3.9%	1,162	2.8%	937	1.6%	4,245	4.2%	3,984	2.9%	5,127	3.3%
AUTO	28,394	48.4%	32,932	42.5%	23,061	55.1%	25,694	44.3%	51,455	51.2%	58,626	43.3%	81,330	51.9%
Wk-Rail	1,867	3.2%	5,870	7.6%	601	1.4%	4,312	7.4%	2,468	2.5%	10,182	7.5%	35,173	22.4%
Wk-PATH	20,723	35.3%	26,200	33.8%	15,044	35.9%	18,801	32.4%	35,767	35.6%	45,001	33.2%	16,472	10.5%
Wk-Bus	7,461	12.7%	11,598	15.0%	3,082	7.4%	8,804	15.2%	10,543	10.5%	20,402	15.1%	13,533	8.6%
Wk-Ferry	148	0.3%	277	0.4%	75	0.2%	164	0.3%	223	0.2%	441	0.3%	673	0.4%
Wk-LRT	35	0.1%	561	0.7%	8	0.0%	182	0.3%	43	0.0%	743	0.5%	0	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5,311	3.4%
Dr-PATH	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2,552	1.6%
Dr-Bus	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1,447	0.9%
Dr-Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	280	0.2%
Dr-LRT	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	30,236	51.6%	44,506	57.5%	18,809	44.9%	32,265	55.7%	49,045	48.8%	76,771	56.7%	75,442	48.1%
TOTAL	58,630	100.0%	77,438	100.0%	41,871	100.0%	57,959	100.0%	100,501	100.0%	135,397	100.0%	156,773	100.0%

** AECOM/NJT Trip Table

AUTO ONLY TABLES

Comparison of NJT Model and Integration Model (Trans-Hudson Regions: 7)

MODE	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL					
	NJT Model**		Integration Model		NJT Model**		Integration Model		NJT Model**		Integration Model		Survey	
SOV	18,575	65.4%	19,673	59.7%	12,367	53.6%	11,114	43.3%	30,942	60.1%	30,787	52.5%	47,051	57.9%
HOV2	4,490	15.8%	6,638	20.2%	7,671	33.3%	9,364	36.4%	12,161	23.6%	16,002	27.3%	18,973	23.3%
HOV3	2,246	7.9%	3,574	10.9%	1,862	8.1%	4,281	16.7%	4,108	8.0%	7,855	13.4%	10,177	12.5%
HOV4	3,083	10.9%	3,047	9.3%	1,162	5.0%	937	3.6%	4,245	8.2%	3,984	6.8%	5,127	6.3%
AUTO	28,394	100.0%	32,932	100.0%	23,061	100.0%	25,694	100.0%	51,455	100.0%	58,626	100.0%	81,330	100.0%

IMPLIED
 AUTO OCC 1.31 1.38 1.33
 use NJT

Comparison of NJT Model and Integration Model (West of Hudson to Jersey City CBD: Region 3)

MODE	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL					
	NJT Model**		Integration Model		NJT Model**		Integration Model		NJT Model**		Integration Model		Survey	
SOV	48,997	33.9%	44,716	32.8%	43,203	39.8%	36,154	40.4%	92,200	36.4%	80,870	35.9%	47,613	38.7%
HOV2	35,468	24.5%	23,098	17.0%	29,576	27.2%	21,283	23.8%	65,044	25.7%	44,381	19.7%	25,214	20.5%
HOV3	11,800	8.2%	6,821	5.0%	15,171	14.0%	12,349	13.8%	26,971	10.7%	19,170	8.5%	8,246	6.7%
HOV4	14,418	10.0%	11,004	8.1%	10,398	9.6%	7,578	8.5%	24,816	9.8%	18,582	8.2%	16,514	13.4%
AUTO	110,680	76.6%	85,636	62.9%	98,347	90.5%	77,364	86.5%	209,027	82.6%	163,000	72.3%	97,590	79.3%
Wk-Rail	2,442	1.7%	3,745	2.8%	600	0.6%	756	0.8%	3,042	1.2%	4,501	2.0%	1,725	1.4%
Wk-PATH	8,211	5.7%	9,392	6.9%	2,623	2.4%	2,572	2.9%	10,834	4.3%	11,964	5.3%	9,813	8.0%
Wk-Bus	6,089	4.2%	8,700	6.4%	2,613	2.4%	3,437	3.8%	8,702	3.4%	12,137	5.4%	10,409	8.5%
Wk-Ferry	130	0.1%	344	0.3%	40	0.0%	37	0.0%	170	0.1%	381	0.2%	0	0.0%
Wk-LRT	4,749	3.3%	8,242	6.1%	2,515	2.3%	2,544	2.8%	7,264	2.9%	10,786	4.8%	0	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	7,206	5.0%	11,889	8.7%	611	0.6%	838	0.9%	7,817	3.1%	12,727	5.6%	3,521	2.9%
Dr-PATH	1,564	1.1%	2,508	1.8%	331	0.3%	502	0.6%	1,895	0.7%	3,010	1.3%	0	0.0%
Dr-Bus	801	0.6%	1,609	1.2%	275	0.3%	314	0.4%	1,076	0.4%	1,923	0.9%	0	0.0%
Dr-Ferry	325	0.2%	762	0.6%	112	0.1%	187	0.2%	437	0.2%	949	0.4%	0	0.0%
Dr-LRT	2,292	1.6%	3,313	2.4%	573	0.5%	836	0.9%	2,865	1.1%	4,149	1.8%	0	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	33,807	23.4%	50,507	37.1%	10,294	9.5%	12,023	13.5%	44,101	17.4%	62,530	27.7%	25,469	20.7%
TOTAL	144,488	100.0%	136,143	100.0%	108,642	100.0%	89,388	100.0%	253,130	100.0%	225,531	100.0%	123,058	100.0%

** AECOM/NJT Trip Table

Comparison of NJT Model and Integration Model (West of Hudson to Jersey City CBD: Region 3)

MODE	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL					
	NJT Model**		Integration Model		NJT Model**		Integration Model		NJT Model**		Integration Model		Survey	
SOV	48,997	44.3%	44,716	52.2%	43,203	43.9%	36,154	46.7%	92,200	44.1%	80,870	49.6%	47,613	48.8%
HOV2	35,468	32.0%	23,098	27.0%	29,576	30.1%	21,283	27.5%	65,044	31.1%	44,381	27.2%	25,214	25.8%
HOV3	11,800	10.7%	6,821	8.0%	15,171	15.4%	12,349	16.0%	26,971	12.9%	19,170	11.8%	8,246	8.4%
HOV4	14,418	13.0%	11,004	12.8%	10,398	10.6%	7,578	9.8%	24,816	11.9%	18,582	11.4%	16,514	16.9%
AUTO	110,680	100.0%	85,636	100.0%	98,347	100.0%	77,364	100.0%	209,027	100.0%	163,000	100.0%	97,590	100.0%

IMPLIED
 AUTO OCC 1.50 1.43 1.46
 Use NJT

7 HIGHWAY ASSIGNMENT CALIBRATION

The highway assignment calibration focused both on the standard comparison of volumes and VMT by various classifications and statistical measures fit such as Root Mean Square Errors (RMSE) by volume group. The assignment calibration also focused on replicating delay at major trans-Hudson Crossing Points, such as Lincoln Tunnel, that heavily influence mode choice. The assignment calibration provided summaries for the following comparisons:

- Volumes and VMT by facility type, area type, and sub-regions.
- RMSE by volume group.
- R-squared analysis for observed and estimated Volumes.
- Comparison of observed and estimated speeds.
- Trans-Hudson and Delaware River Bridge Crossings.

7.1 Assignment Modifications

The highway assignment model is very similar to the original model. The volume-delay function was also still the same as previously used in the original model. The only updated parameters were the time and cost coefficients for the toll diversion parameters and hence their corresponding value of times. Table 7-1 shows the updated toll diversion parameters used in the model.

**Table 7-1
Toll Diversion Coefficients**

TRIP PURPOSE	COEFFICIENTS		CONSTANTS		VALUE OF TIME (\$/HR)	EQUIVALENT MINUTES	
	TIME (MIN.)	COST (\$)	TOLL BIAS	ETC BIAS		TOLL BIAS	ETC BIAS
HBW	0.1642	0.4324	-1.9704	-0.9195	\$22.78	12.0	5.6
HBS	0.1182	0.3640	-1.4187	-0.7566	\$19.48	12.0	6.4
HBO	0.0888	0.2971	-1.0656	-0.6571	\$17.93	12.0	7.4
NHB	0.1468	0.3610	-1.7616	-0.8514	\$24.40	12.0	5.8
TRK	0.0933	0.1520	0.9330	0.0000	\$36.83	10.0	0.0

The table also presents the implied value of time (in US\$) and equivalent time penalty (in minutes) for each purpose. The value of time for HBW purpose was increased by 5% compared to the original value of time used in the 2000 NJRTME Validation. Conversely, the value of time for NHB purpose was not adjusted. The value of time for other purposes, including truck, was increased by 15%.

7.2 Calibration Results

The output of highway assignment were validated and compared to the observed data. The highway assignment validation efforts were focused mainly on the NJTPA counties and Mercer County. The assignment results were summarized in various tables to represent different aspects and levels of comparison. Table 7-2 shows the VMT and traffic volume comparison by facility type and area type for NJTPA counties and Mercer County. The estimated VMT is within 1% of the observed data at regional level, while the estimated volume is within 3%. In a more disaggregate level, the variations between estimated and volumes are more pronounced. The comparison by facility type or by area type is generally within ten percent, except for major arterial divided category. This facility type, however, has one of the least observed data.

Table 7-2
VMT and Volume by FT/AT (NJTPA + Mercer)

Observed VMT v.s Estimated VMT by FT/AT

Facility Type	Area Type												Total		
	CBD			Urban			Suburban			Rural			Observed	Estimated	Ratio
	Observed	Estimated	Ratio	Observed	Estimated	Ratio	Observed	Estimated	Ratio	Observed	Estimated	Ratio			
Freeway	123,250	107,407	87%	2,106,546	2,269,011	108%	11,852,164	12,602,986	106%	7,752,521	7,592,162	98%	21,834,481	22,571,566	103%
Expressway	60,454	57,490	95%	1,731,966	1,688,530	97%	1,384,176	1,467,959	106%	184,209	146,229	79%	3,360,805	3,360,208	100%
Principal arterial divided	31,327	31,665	101%	698,180	631,665	90%	3,083,496	3,105,516	101%	514,769	589,052	114%	4,327,772	4,357,898	101%
Principal arterial undivided	54,357	54,187	100%	532,450	586,989	110%	3,434,964	3,441,766	100%	754,995	679,513	90%	4,776,766	4,762,455	100%
Major arterial divided	0	0		0	0		35,979	42,671	119%	0	0		35,979	42,671	119%
Major arterial undivided	4,340	6,686	154%	430,645	393,566	91%	1,914,316	1,751,249	91%	719,002	719,542	100%	3,068,303	2,871,043	94%
Minor arterial	9,764	9,263	95%	197,353	192,371	97%	1,384,062	1,420,458	103%	208,769	146,492	70%	1,799,948	1,768,584	98%
Collector/Local	0	0		739	1,121	152%	8,866	7,704	87%	0	0		9,605	8,825	92%
Total	283,492	266,698	94%	5,697,879	5,763,253	101%	23,098,023	23,840,309	103%	10,134,265	9,872,990	97%	39,213,659	39,743,250	101%

Observed Volume v.s Estimated Volume by FT/AT

Facility Type	Area Type												Total		
	CBD			Urban			Suburban			Rural			Observed	Estimated	Ratio
	Observed	Estimated	Ratio	Observed	Estimated	Ratio	Observed	Estimated	Ratio	Observed	Estimated	Ratio			
Freeway	225,872	250,415	111%	4,038,795	4,423,031	110%	17,743,823	18,832,436	106%	8,363,357	8,054,056	96%	30,371,847	31,559,938	104%
Expressway	217,706	205,937	95%	3,922,426	3,858,438	98%	2,422,039	2,656,508	110%	164,574	130,211	79%	6,726,745	6,851,094	102%
Principal arterial divided	94,108	91,737	97%	1,331,789	1,257,462	94%	4,111,705	4,276,252	104%	394,423	430,467	109%	5,932,025	6,055,918	102%
Principal arterial undivided	125,841	135,904	108%	1,035,279	1,231,763	119%	3,522,305	3,769,569	107%	681,540	571,135	84%	5,364,965	5,708,371	106%
Major arterial divided	0	0		0	0		90,581	106,170	117%	0	0		90,581	106,170	117%
Major arterial undivided	12,766	19,664	154%	935,031	878,484	94%	2,144,686	2,062,036	96%	399,749	395,525	99%	3,492,232	3,355,709	96%
Minor arterial	29,749	28,221	95%	403,285	403,285	100%	1,473,442	1,610,817	109%	132,269	94,755	72%	2,038,745	2,137,078	105%
Collector/Local	0	0		5,936	9,002	152%	8,109	7,046	87%	0	0		14,045	16,048	114%
Total	706,042	731,878	104%	11,672,541	12,061,465	103%	31,516,690	33,320,834	106%	10,135,912	9,676,149	95%	54,031,185	55,790,326	103%

Note:

All links with counts in NJTPA+MERCER area were included for above summary.

Number of Links with Traffic Counts by FT/AT

Facility Type	Area Type				Total
	CBD	Urban	Suburban	Rural	
Freeway	4	89	295	159	547
Expressway	4	104	84	14	206
Principal arterial divided	4	52	183	24	263
Principal arterial undivided	4	102	397	118	621
Major arterial divided	0	0	5	0	5
Major arterial undivided	2	126	342	118	588
Minor arterial	2	67	422	53	544
Collector/Local	0	2	2	0	4
Total	20	542	1,730	486	2,778

VMT comparison by county is shown in Table 7-3. The comparison shows that the estimated and observed VMT ratios at county level are within a reasonable range. Most counties are within ten percent range, although Morris County and Union County are overestimated by 15% and 11%, respectively. Conversely, Sussex County and Ocean County are underestimated by 18% and 16%, respectively.

Table 7-3
VMT and Volume by County (NJTPA+Mercer)

County	VMT			Volume		
	Observed	Estimated	Ratio	Observed	Estimated	Ratio
Bergen	3,171,919	3,274,431	103%	5,669,813	5,850,412	103%
Essex	2,481,657	2,642,324	106%	5,476,208	5,864,808	107%
Hudson	1,381,450	1,312,436	95%	2,060,816	1,972,443	96%
Hunterdon	1,476,056	1,329,997	90%	1,338,201	1,246,016	93%
Mercer	2,061,122	2,171,229	105%	3,358,840	3,421,865	102%
Middlesex	5,211,619	5,642,651	108%	8,905,555	9,814,879	110%
Monmouth	5,707,116	5,397,900	95%	5,698,268	5,376,952	94%
Morris	4,593,874	5,262,078	115%	5,480,194	6,499,345	119%
Ocean	3,554,291	3,000,913	84%	3,382,432	2,852,341	84%
Passaic	1,700,085	1,586,130	93%	3,659,689	3,482,808	95%
Somerset	3,385,755	3,574,818	106%	2,598,402	2,766,988	106%
Sussex	986,012	808,340	82%	781,732	636,363	81%
Union	3,220,700	3,589,842	111%	6,598,250	7,418,113	112%
Warren	917,653	889,039	97%	1,033,416	1,001,578	97%
Total(NJTPA+MERCER)	39,849,309	40,482,128	102%	56,041,816	58,204,911	104%

The regional RMSE by volume group was also compared to the FHWA standard as well as to the 2000 Validation results as shown in Table 7-4. The comparison indicates that the RMSE from the 2008 revalidation is comparable to the results from the 2000 Validation. The RMSE at regional level is 37% which is within the range of FHWA standard and it is lower than the RMSE from most of other models. Figure 7-1 depicts the volume and count plot. FHWA recommended the regional R-Square by facility type to be greater than 88% and the NJRTME revalidation result yields an R-square of 92.3% which satisfies this standard.

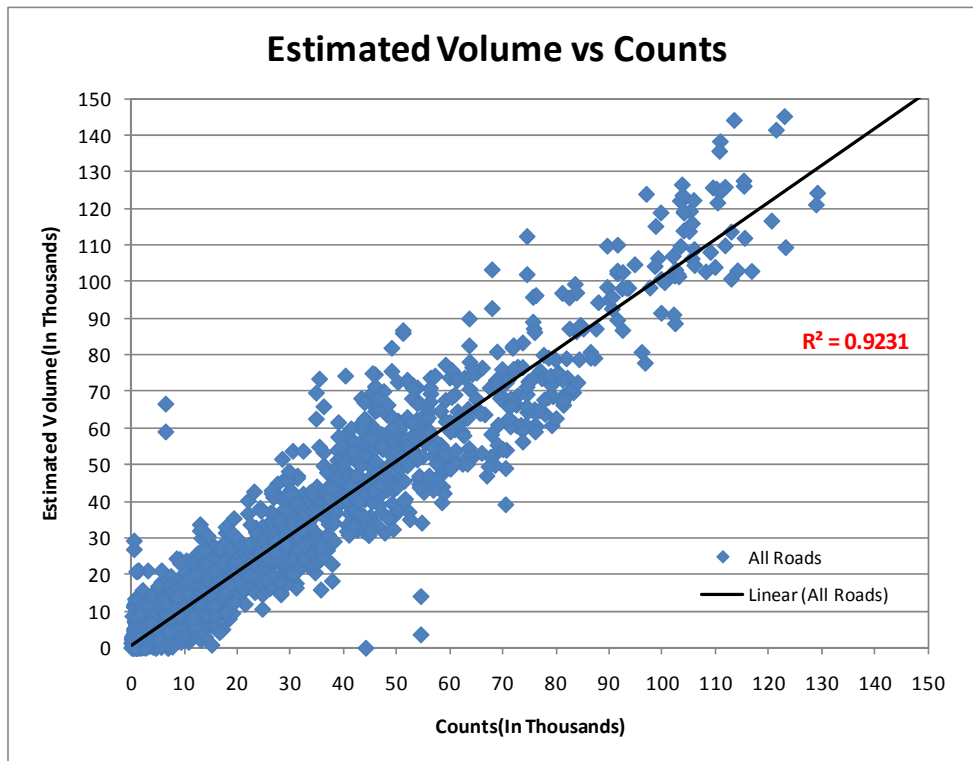
**Table 7-4
RMSE Summary by Volume Group (NJTPA+Mercer)**

RMSE Summary by Volume Group (NJTPA+MERCER)			
Volume Group	Model v.s Desirable Percent Deviation		
	Model	NJRTME 2000	FHWA
>=90,000	13	11	15
80,000-90,000	13	21	16
70,000-80,000	19	17	16
60,000-70,000	19	19	18
50,000-60,000	24	24	20
40,000-50,000	28	28	21
30,000-40,000	29	26	23
20,000-30,000	26	32	25
10,000-20,000	39	44	27
5,000-10,000	63		40-60
0-5,000	123	88	
Total	37	35	35-40

Note:
Percent RMSE from U.S. Models
(Source: Model Validation and Reasonableness Checking Manual - FHWA)

Atlanta	27%
Chicago	47%
Dallas	43%
Norfolk	42%
Phoenix	37%
Tampa	46%
Washington	50%

**Figure 7-1
Estimated Volumes vs. Observed Counts**



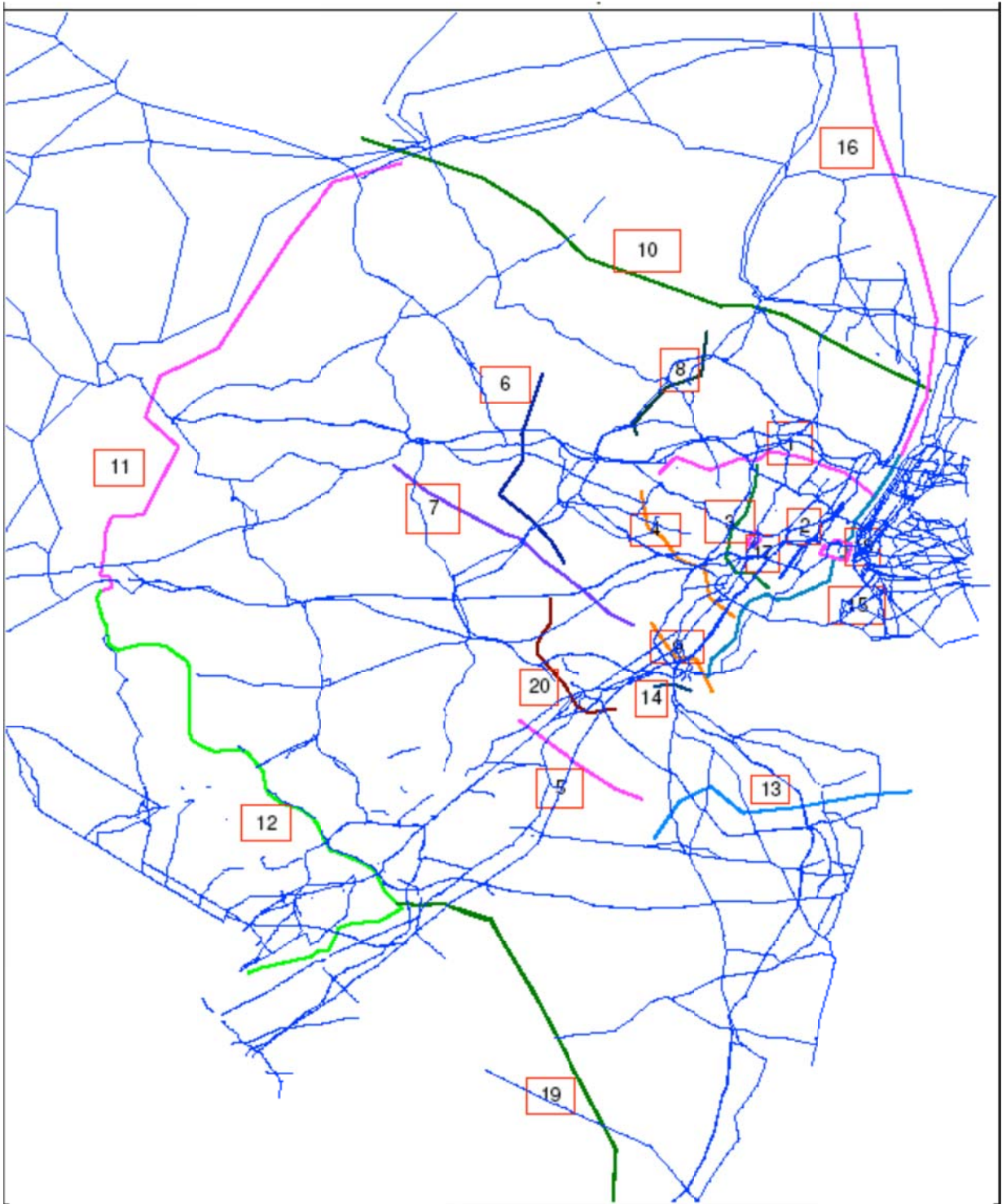
A screenline summary is also presented in Table 7-5 that compares the estimated trips and the observed counts at various screenline locations. The locations of these screenlines are shown in Figure 7-2. The ratio of estimated and observed volume at regional level is at 104%. The 4% difference is lower than FHWA recommendation at a range between 5%-10%.

**Table 7-5
Screenline Summary (NJTPA+Mercer)**

Screenline	Location	%With Counts 2000	%With Counts 2008	Volume			Truck %	
				Observed	Estimated	Ratio	2000	2008
1	Below I-80 (From I-80&I-280 Fork to Hudson River)	27	29	697,231	645,733	93%	6.4%	6.7%
2	East of I-95 (From I-495 to I-78)	89	11	90,058	66,763	74%	5.0%	1.7%
3	East of GSP (From NJ-3 to I-78 then turn to I-95)	47	22	551,035	642,086	117%	7.7%	9.6%
4	Union<-->Middlesex (From I-280 to Goethals Bridge)	39	19	345,398	343,578	99%	7.5%	5.3%
5	Lower Middlesex (NJ-27, US-1, I-95, US-130, CR-535, CR-527)	55	45	244,490	226,149	92%	10.4%	11.0%
6	Morris Cross (From I-80 to I-287)	69	73	133,738	140,832	105%	7.1%	8.2%
7	Morris Cross (From I-80 to I-78 then to NJ-28)	39	43	134,540	119,709	89%	10.4%	2.6%
8	Upper GSP (From GSP, US-202 to I-80)	55	59	148,682	190,861	128%	7.9%	4.8%
9	Upper Middlesex (From GSP to Outerbridge Crossing)	59	26	348,798	339,727	97%	6.8%	8.1%
10	NY<-->NJ Land Border Crossing	70	47	220,196	282,374	128%	9.2%	8.5%
11	Upper Delaware River Crossing	100	86	185,911	207,760	112%	13.0%	13.5%
12	Lower Delaware River Crossing	100	92	233,814	247,573	106%	6.1%	7.1%
13	In between NJ-18 & CR-520 (from CR-527 to Coast)	63	31	216,767	179,288	83%	2.9%	0.4%
14	Middlesex Bay Crossing (GSP+US-9+NJ-35)	100	100	337,190	402,922	119%	3.5%	3.0%
15	NY<-->NJ Hudson River Crossing	100	100	677,894	608,777	90%	5.2%	5.7%
16	NY<-->NY Hudson River Crossing (Three Bridges)	100	100	229,580	259,179	113%	10.4%	8.4%
17	Newark CBD Cordon Line	44	23	177,979	265,329	149%	11.2%	5.7%
19	NJ Other<-->NJTPA+MERCER Border Crossing	53	53	257,878	269,960	105%	10.7%	12.5%
20	Middlesex<-->Somerset Border (partial, from I-78 to I-95)	45	14	255,392	250,479	98%	7.2%	7.5%
Total				5,486,571	5,689,079	104%	6.8%	7.2%

Notes: FHWA recommended the percent deviation of the estimated and observed volumes should be within 5-10%.

Figure 7-2
Screenline Locations



The number of links by V/C ratio is summarized in Table 7-6. This table also includes the aggregated summary of number of links with V/C ratios greater than 1.0, 1.5, and 1.9, separately. Average speeds for these categories are also presented for review.

**Table 7-6
Number of Links by V/C Ratio Summary (NJTPA+Mercer)**

V/C Ratio	AM Period		PM Period		Midday Period		Night Period	
	# Links	Percentage	# Links	Percentage	# Links	Percentage	# Links	Percentage
0.0-0.1	9,049	24%	7,726	20%	12,031	32%	13,314	35%
0.1-0.2	4,877	13%	4,204	11%	6,622	17%	7,634	20%
0.2-0.3	3,621	10%	2,897	8%	5,651	15%	5,906	16%
0.3-0.4	3,230	9%	2,828	7%	4,410	12%	4,413	12%
0.4-0.5	2,941	8%	2,979	8%	3,228	9%	2,888	8%
0.5-0.6	2,676	7%	2,731	7%	2,103	6%	1,692	4%
0.6-0.7	2,253	6%	2,554	7%	1,492	4%	1,052	3%
0.7-0.8	1,976	5%	2,180	6%	1,004	3%	598	2%
0.8-0.9	1,664	4%	2,805	7%	611	2%	345	1%
0.9-1.0	2,656	7%	2,984	8%	481	1%	85	0%
1.0-1.1	1,601	4%	2,083	5%	207	1%	1	0%
1.1-1.2	680	2%	936	2%	59	0%	5	0%
1.2-1.3	287	1%	383	1%	13	0%	1	0%
1.3-1.4	151	0%	220	1%	3	0%	0	0%
1.4-1.5	88	0%	146	0%	9	0%	0	0%
1.5-1.6	54	0%	83	0%	3	0%	0	0%
1.6-1.7	40	0%	66	0%	2	0%	0	0%
1.7-1.8	27	0%	33	0%	1	0%	0	0%
1.8-1.9	16	0%	20	0%	1	0%	0	0%
>=1.9	47	0%	76	0%	3	0%	0	0%
Aggregated Summary								
>1.0	2,991	7.9%	4,046	10.7%	301	0.8%	7	0.0%
>1.5	184	0.5%	278	0.7%	10	0.0%	0	0.0%
>1.9	47	0.1%	76	0.2%	3	0.0%	0	0.0%
Aggregated Summary by FT=1-4								
>1.0 FT=1-4	724	1.9%	898	2.4%	7	0.0%	1	0.0%
>1.5 FT=1-4	19	0.1%	29	0.1%	0	0.0%	0	0.0%
>1.9 FT=1-4	0	0.0%	3	0.0%	0	0.0%	0	0.0%
Total	37,934	100%	37,934	100%	37,934	100%	37,934	100%
Average Speed by V/C Ratio								
>1.0	19		17		12		18	
>1.5	7		7		6			
>1.9	3		4		6			
Aggregated Summary by FT=1-4								
>1.0 FT=1-4	31		33		14		33	
>1.5 FT=1-4	8		13					
>1.9 FT=1-4			10					

The estimated speed was also compared to the observed speed by facility type and by time period as shown in Table 7-7. It should be noted that the observed speed was obtained from the original 2000 NJRTME revalidation. The statistical values, such as mean and standard deviation, were presented in the table. The “Observed Speed (All Runs)” and “Estimated Speed (All Runs)” listed the average speed and standard deviation for the road segments where the speed survey was conducted. The “Estimated Speed (NJTPA+Mercer)” summarized the average speed and standard deviation for roadways within the NJTPA and Mercer County Region.

**Table 7-7
Speed Comparison by Period by Facility Type**

Period	Facility Type	Observed Speed (All Runs)		Estimated Speed (All Runs)		Estimated Speed (NJTPA+MERCER)	
		Mean	Stand. Dev.	Mean	Stand. Dev.	Mean	Stand. Dev.
AM	Freeway	50.15	13.74	58.93	13.77	62.74	12.41
	Expressway	51.43	10.54	55.19	8.06	52.75	9.54
	Principal arterial divided	29.01	12.48	34.81	11.78	45.48	10.84
	Principal arterial undivided	38.56	14.05	45.03	10.91	41.91	11.20
	Major arterial divided	31.79	12.88	38.49	9.67	37.76	10.76
	Major arterial undivided	21.91	11.66	30.42	12.42	35.53	12.26
	Minor arterial	21.26	9.98	27.24	11.36	30.87	10.54
	Collector/Local	32.20	5.21	31.72	3.97	17.09	6.88
	Average	34.57	16.70	45.95	16.94	37.75	15.11
MD	Freeway	57.95	8.77	66.07	7.91	67.36	12.09
	Expressway	48.33	9.39	57.92	6.04	57.49	6.19
	Principal arterial divided	34.96	9.38	38.13	9.68	49.06	9.51
	Principal arterial undivided	39.27	12.24	47.95	10.47	44.03	9.90
	Major arterial divided	27.48	11.99	40.14	8.66	41.30	7.64
	Major arterial undivided	24.24	13.13	33.91	11.32	38.30	9.48
	Minor arterial	23.10	11.20	30.70	8.94	32.77	8.84
	Collector/Local	33.94	4.93	32.69	2.55	18.18	6.08
	Average	36.54	17.56	50.31	16.29	40.37	14.51
PM	Freeway	51.13	10.74	55.72	15.29	61.55	13.01
	Expressway	41.97	9.00	53.89	9.05	51.16	9.92
	Principal arterial divided	25.68	12.82	32.91	13.74	44.61	10.97
	Principal arterial undivided	31.04	13.55	44.44	11.54	41.32	11.29
	Major arterial divided	30.75	12.99	37.17	11.14	35.84	12.60
	Major arterial undivided	25.75	12.96	29.10	13.75	34.55	12.92
	Minor arterial	20.75	9.70	26.63	12.11	29.92	11.34
	Collector/Local	30.74	4.14	32.67	2.55	16.41	7.18
	Average	33.36	16.32	44.20	17.24	36.77	15.51

The estimated average speed for each time period in the NJTPA+Mercer region was consistent with the results from the 2000 NJRTME validation. However, the estimated speeds for all runs were slightly higher compared to the results from the 2000 NJRTME Validation for all time periods. Due to a limited number of road segments included in the survey, it was anticipated that some variations would exist between the speed survey and the NJRTME speed estimates.

Table 7-8 shows the heavy trucks and total traffic by roadway segment for New Jersey Turnpike and Garden State Parkway. In the case of the Garden State Parkway, the comparison was performed at the mainline toll plaza locations. In the system level, the total of heavy trucks along the NJ Turnpike is slightly higher than the observed data. Conversely, the total volume is lower than the counts data. The ratio of estimated and observed data for the segments within NJTPA region is approximately 90%, or difference between estimated and observed data is within 10% tolerance. In the Garden State Parkway, the total of heavy trucks was estimated reasonably well compared to the traffic counts. The total traffic along this facility was also estimated very well. The ratio between estimated and observed data for total traffic is approximately 99.5%. The system level comparison is reasonable.

Additional toll road traffic comparison was also presented in Table 7-9. It should be noted that the traffic volumes along Garden State Parkway include all roadway segments where counts were available, and they were not limited only to mainline toll plazas. Therefore the values are higher than the one presented Table 7-8. In the system level, the estimated traffic for these toll facilities is approximately 92% of the observed data, which is still within reasonable tolerance.

The summaries of traffic crossing Hudson River and Delaware River are presented in Table 7-10 and 7-11, respectively. In the system level, the traffic crossing Hudson River was estimated to be between 95% and 99% of the observed data, while the traffic crossing Delaware River was between 106% and 112% of the observed traffic.

Table 7-12 summarized the delays at Holland Tunnel, Lincoln Tunnel, and George Washington Bridge. The estimated delay for each Tunnel/Bridge is within the target delay.

**Table 7-8
New Jersey Toll Road Volume by Vehicle Type**

Interchanges	Reference	2008 Count (One Way)			Model (Avg. of Both Directions)		
		Heavy	Total	%Heavy	Heavy	Total	%Heavy
4-5	tpk01	3,524	37,895	9.3%	4,067	11,101	36.6%
5-JCT	tpk02	3,729	40,982	9.1%	4,257	19,327	22.0%
JCT-6	tpk03	2,046	20,059	10.2%	1,781	10,240	17.4%
BRIDGE	tpk04	2,350	21,966	10.7%	2,525	16,603	15.2%
JCT-7	tpk05	5,346	56,269	9.5%	5,861	25,399	23.1%
7-7A	tpk06	6,185	61,233	10.1%	6,996	34,864	20.1%
7A-8	tpk07	7,057	67,214	10.5%	7,196	48,136	14.9%
8-8A	tpk08	7,070	69,313	10.2%	7,243	51,940	13.9%
8A-9	tpk09	7,755	80,778	9.6%	7,843	65,586	12.0%
9-10	tpk10	8,191	102,387	8.0%	8,282	89,588	9.2%
10-11	tpk11	7,530	96,541	7.8%	8,326	79,100	10.5%
11-12	tpk12	8,489	116,284	7.3%	9,529	107,160	8.9%
12-13	tpk13	9,151	122,017	7.5%	9,787	112,750	8.7%
13-13A	tpk14	10,078	129,210	7.8%	9,216	122,364	7.5%
13A-14	tpk15	8,755	113,695	7.7%	8,600	101,670	8.5%
14-14A	tpk16	1,351	45,029	3.0%	558	33,381	1.7%
14A-14B	tpk17	352	35,201	1.0%	257	22,325	1.2%
14B-14C	tpk18	201	33,418	0.6%	399	23,596	1.7%
14-M	tpk19	8,615	113,359	7.6%	10,535	108,287	9.7%
15E-JE	tpk20	2,556	51,121	5.0%	992	47,026	2.1%
JE-15X	tpk21	2,914	62,001	4.7%	1,149	64,253	1.8%
15X-16E	tpk22	1,307	59,415	2.2%	970	59,119	1.6%
17-18E	tpk23	2,071	29,593	7.0%	578	19,506	3.0%
JW-15W	tpk24	6,162	64,183	9.6%	10,217	59,533	17.2%
15W-16W	tpk25	6,366	64,301	9.9%	9,935	60,924	16.3%
16W-18W	tpk26	5,166	46,544	11.1%	12,413	65,138	19.1%
Total		134,317	1,740,002	7.7%	149,515	1,458,917	10.2%
Total in NJTPA Area		104,079	1,434,385	7.3%	116,831	1,293,246	9.0%

GSP Summary

Toll Plaza	Reference	2008 Count			2008 Model		
		Both Directions			Both Directions		
		Heavy	Total	%Heavy	Heavy	Total	%Heavy
Pascack Valley	gsp09		87,210		n/a	102,471	n/a
Bergen	gsp08		147,220		n/a	126,254	n/a
Essex	gsp07		160,720		n/a	173,940	n/a
Union	gsp06		208,040		n/a	222,728	n/a
Raritan	gsp05		126,360		n/a	152,171	n/a
Asbury	gsp04	1,129	161,230	0.7%	743	136,449	0.5%
Toms River	gsp03	1,747	97,050	1.8%	1,341	76,154	1.8%
Barneгат	gsp02	1,445	72,240	2.0%	1,738	53,433	3.3%
New Gretna	gsp01	951	45,300	2.1%	1,796	56,037	3.2%
TOTAL		5,272	1,105,370	0.5%	5,618	1,099,637	0.5%

Note:

2008 Heavy Truck Counts were not available, as a proxy used percentage from 2000 Validation

**Table 7-9
Toll Road Comparison**

Road	BEGIN	END	Count	Volume	Ratio	Obs. VMT	Est. VMT	Ratio
NJTPK	Interchange 7	G.S.P. (Interchange 11)	832,462	668,702	0.80	366,983	296,453	0.81
NJTPK	G.S.P. (Interchange 11)	George Washington Bridge	2,226,279	2,014,596	0.90	1,720,782	1,539,848	0.89
G.S.P.	Burlington&Ocean Border	NJTPK	6,073,860	5,598,246	0.92	5,244,954	4,852,561	0.93
G.S.P.	US-22	I-87 (NYS)	4,925,520	4,719,204	0.96	1,854,544	1,766,881	0.95
TOTAL			14,058,121	13,000,749	0.92	9,187,263	8,455,743	0.92

**Table 7-10
Trans-Hudson Vehicle Traffic by Bridge Crossing**

LOCATION	DIRECTION	Observation				Model				
		Auto	Medium	Heavy	TOTAL	Auto	Medium	Heavy	Comm. Veh.	TOTAL
Newburgh-Beacon Bridge	EB	33,416	1,026	4,453	38,895	45,064		4,030		49,094
	WB	33,416	1,026	4,453	38,895	47,134		3,995		51,129
Bear Mountain Bridge	EB	8,953	125	92	9,170	8,676		119		8,795
	WB	8,953	125	92	9,170	8,973		165		9,138
Tappan Zee Bridge	EB	61,252	1,769	6,913	69,934	70,067		5,842		75,909
	WB	55,630	1,608	6,278	63,516	57,384		7,730		65,114
George Washington Bridge	EB	126,047	4,957	9,242	140,246	111,431		12,233		123,664
	WB	134,775	5,301	9,882	149,958	114,798		11,717		126,514
Lincoln Tunnel	EB	50,242	4,059	660	54,961	52,152		0		52,152
	WB	53,626	4,333	704	58,663	52,830		0		52,830
Holland Tunnel	EB	44,802	266	14	45,082	35,819		0		35,819
	WB	46,748	278	14	47,040	45,646		0		45,646
Verrazano-Narrows Bridge	EB	88,455	4,171	6,688	99,314	102,044		4,141		106,184
	WB	80,734	3,808	6,104	90,646	90,160		2,255		92,415
Total	EB	413,167	16,373	28,062	457,602	425,253		26,365		451,618
	WB	413,882	16,479	27,527	457,888	416,924		25,862		442,786
Goethals Bridge	EB	34,337	2,176	3,047	39,560	35,449		4,451		39,900
	WB	31,593	2,002	2,803	36,398	26,712		2,331		29,043
Outerbridge Crossing	EB	39,801	1,284	1,841	42,926	38,338		1,662		40,000
	WB	34,214	1,104	1,582	36,900	37,604		1,709		39,313
Bayonne Bridge	SB	11,073	629	654	12,356	12,696		291		12,988
	NB	8,811	501	520	9,832	10,426		483		10,909
Total	EB/NB	82,949	3,961	5,408	92,318	84,213		6,596		90,809
	WB/SB	76,880	3,735	5,039	85,654	77,012		4,331		81,343

Note:

Medium/Heavy split on Newburgh-Beacon Bridge, Bear Mountain Bridge and Tappan Zee Bridge was taken from 2000 Validation report.
 Medium/Heavy split on Verrazano-Narrows Bridge was taken from 2000 Validation report.
 Medium/Heavy split for all other crossings were from average weekday Oct. 2008.

**Table 7-11
Delaware River Crossing Summary**

Name	Reference	Direction	2008 Count			2008 Model		
			Heavy	Total	%Heavy	Heavy	Total	%Heavy
Trenton-Morrisville Toll Bridge (US-1)	36	WB	487	18,051	2.7%	210	28,929	0.7%
	35	EB	859	31,830	2.7%	3,735	37,184	10.0%
New Hope-Lambertville Toll Bridge (US 202)	48	WB	77	5,112	1.5%	88	4,355	2.0%
	47	EB	88	5,888	1.5%	737	4,388	16.8%
Interstate 78 Toll Bridge	58	WB	5,162	27,026	19.1%	9,264	32,870	28.2%
	57	EB	5,544	29,027	19.1%	10,473	37,249	28.1%
Easton-Phillipsburg Toll Bridge (US 22)	62	WB	597	17,558	3.4%	457	16,653	2.7%
	61	EB	720	21,184	3.4%	496	19,642	2.5%
Portland Columbia Toll Bridge	64	WB	93	3,711	2.5%	300	4,815	6.2%
	63	EB	94	3,752	2.5%	361	5,282	6.8%
Delaware Water Gap Toll Bridge (I-80)	66	WB	3,079	26,544	11.6%	2,928	25,198	11.6%
	65	EB	3,156	27,203	11.6%	3,487	25,717	13.6%
Milford-Montague Toll Bridge (US 206)	70	WB	25	3,573	0.7%	54	3,224	1.7%
	69	EB	34	4,832	0.7%	145	4,306	3.4%
Toll Bridge Total			20,015	225,291	8.9%	32,736	249,814	13.1%

Note: The values in the shaded cells were obtained via using the same percentages for the reverse direction.

Name	Index	Direction	2008 Count			2008 Model		
			Heavy	Total	%Heavy	Heavy	Total	%Heavy
Lower Trenton	38	WB	0	12,951		0	7,880	0.0%
	37	EB	0	5,426		0	7,017	0.0%
Calhoun Street	40	WB	0	9,082		0	10,882	0.0%
	39	EB	0	9,341		0	9,571	0.0%
Scudder Falls (I-95)	42	WB	2,091	29,869	7.0%	7,001	35,317	19.8%
	41	EB	1,277	28,386	4.5%	835	30,449	2.7%
Washington Crossing (Rt 532)	44	WB	0	4,064		0	4,150	0.0%
	43	EB	0	3,024		0	4,247	0.0%
New Hope-Lambertville	46	WB	0	6,554		0	5,084	0.0%
	45	EB	0	7,441		0	6,398	0.0%
Center Bridge-Stockton	50	WB	0	2,038		0	2,346	0.0%
	49	EB	0	2,384		0	2,385	0.0%
Frenchtown-Uhterstown	52	WB	0	1,924		0	2,252	0.0%
	51	EB	0	1,906		0	2,397	0.0%
Milford-Upper black Eddy	54	WB	0	1,605		0	1,304	0.0%
	53	EB	0	1,845		0	1,277	0.0%
Riegelsville	56	WB	0	1,725		0	3,343	0.0%
	55	EB	0	1,628		0	3,210	0.0%
Northampton	60	WB	0	12,302		0	18,340	0.0%
	59	EB	0	9,199		0	14,463	0.0%
Belvidere-Riverton	72	WB	0	1,696		0	2,758	0.0%
	71	EB	0	1,696		0	1,664	0.0%
Dingmans Ferry	68	WB	0	2,946		0	2,381	0.0%
	67	EB	0	2,946		0	1,742	0.0%
Toll-Support Bridge Total			3,368	161,977	2.1%	7,837	180,857	4.3%

Name	Index	Direction	2008 Count			2008 Model		
			Heavy	Total	%Heavy	Heavy	Total	%Heavy
I-276 (Tolled)	34	WB	3,595	23,966	15.0%	1,787	17,012	10.5%
	33	EB	2,995	19,966	15.0%	3,262	16,195	20.1%
Burlington-Bristol Bridge (WB Tolled)	32	WB	664	13,271	5.0%	0	10,904	0.0%
	31	EB	664	13,271	5.0%	0	12,168	0.0%
Total			7,917	70,474	11.2%	5,049	56,278	9.0%
Grand Total			31,300	457,742	6.8%	45,622	486,950	9.4%

Note:

5% and 15% of the daily volume were assumed for medium and heavy truck respectively for I-276.

2% and 5% of the daily volume were assumed for medium and heavy trucks respectively for Burlington-Bristol Bridge.

**Table 7-12
Traffic Congestion Summary (6:00-9:00AM) Inbound Direction**

Bridge	Estimated V/C	Estimated Volume	Target Volume	Estimated Delay	Target Delay
Holland Tunnel	1.51	11,128	9,100	16	9 -- 17
Lincoln Tunnel	1.59	17,629	13,800	17	20 -- 21
Upper Level George Washington Bridge	1.32	14,068	11,800	11	8 -- 11
Lower Level George Washington Bridge	1.36	19,378	15,000	12	8 -- 12
Total		62,203	49,700	56	60

8 TRANSIT ASSIGNMENT

Transit assignment process is used to distribute transit passengers to transit lines in both peak and off peak periods. The parameters for controlling the assignment process are identical to those used in the transit path-building process. The only difference is that in the path-building process, skims are set as the outputs, while in the assignment process, transit trips are added as inputs, and transit volumes by link are added as output.

8.1 Observed Statistics

The 2008 transit ridership and station utilization data were mostly provided by the NJ Transit and NJTPA. In addition, Stantec also conducted its own research to obtain more comprehensive data for certain transit modes, such as Ferry. The sources of the observed data used in this transit validation are as follows:

- Rail – the station utilization data were originally provided by NJTPA. Stantec also received another set of rail utilization data from NJ Transit. Upon the comparison of the two datasets, Stantec found that both datasets were the same. It should be noted that there was a potential that the utilization data for rail stations within the New Jersey region were double-counted, particularly for movements between stations within the region. Therefore, the rail utilization data should be used with caution. The rail utilization data for stations in New York State as well as Metro North Stations were not available.
- Bus – the observed bus ridership data were obtained from the “Bus Ridership and Fare Zone Profile” Report (November 12, 2008) provided by NJ Transit.
- Path – the observed station utilization data for PATH were provided by NJTPA. NJTPA obtained the data from the NJ Transit.
- Light Rail - the observed station utilization data for Light-Rail were also provided by NJTPA. NJTPA obtained the data from the NJ Transit.

- Ferry – the 2008 Ferry ridership data were provided by the NJ Transit. In addition, Stantec also obtained the dataset from NYMTC's website. The two datasets were identical.

AECOM provided additional 2005 ridership and station utilization data from the NJ Transit validation process. This dataset were used for comparison purposes.

8.2 Calibration Results

The weekday station utilization summaries for all NJ Transit's Commuter Rail are shown in Table 8-1 to 8-6 and the 2008 observed data were provided by NJ Transit and NJTPA. In addition, the original 2000 station utilization data and the 2005 data provided by AECOM were also shown for comparison purposes. It has always been a challenge to obtain good replication of the utilization estimates, even in the original 2000 NJRTME validation. In some commuter lines, the difference between estimated and observed utilization reached as high as 50% in the 2000 NJRTME validation.

Table 8-1 shows the weekday station utilization summary for the Main/Bergen/Port Jervis line. The total utilization for the whole system of this commuter rail line was estimated at 36,262 for the stations within the New Jersey region, which was more than 30% higher than the observed data.

The average weekday station utilization summary for the New Jersey Coastline and Northeast Corridor Line was shown in Table 8-2. The estimated utilization for these lines at the system level compared favorably to the observed data. The estimated utilization is approximately 7% higher than the observed data.

Table 8-1
Weekday Station Utilization – Main/Bergen/Port Jervis Line

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Port Jervis	20300	186	271		156	156	NA
Otisville	20301	62	50		49	49	NA
Middletown	20302	706	844		451	451	NA
Campbell Hall	20303	240	322		285	285	NA
Salisbury Mills	20304	898	974		633	633	NA
Harriman	20305	1,614	1,634		668	668	NA
Tuxedo	20306	202	184		59	59	NA
Sloatsburg	20307	102	122		43	43	NA
SUBTOTAL		4,010	4,401	0	2,344	2,344	NA
Suffern	20321	1,626	1,927	1,904	1,977	73	4%
Mahwah	20322	405	459	510	106	-404	-79%
Route 17	20323	0	823	1,423	2,136	713	50%
Ramsey	20324	1,804	1,368	1,468	627	-841	-57%
Allendale	20325	684	693	923	527	-396	-43%
Waldwick	20326	738	694	1,008	1,118	110	11%
Ho-Ho-Kus	20327	853	801	939	993	54	6%
Ridgewood	20328	1,989	2,387	3,146	2,758	-388	-12%
Glen Rock (Main)	20341	294	303	0	374	374	NA
Glen Rock (Bergen)	20361	1,382	1,011	1,987	2,046	59	3%
SUBTOTAL		9,775	10,466	13,308	12,662	-646	-5%
Hawthorne	20342	499	754	1,012	1,334	322	32%
Paterson	20343	181	792	1,205	1,850	645	54%
Clifton	20344	732	904	1,495	1,616	121	8%
Passaic	20345	694	880	1,168	1,805	637	55%
Delawanna	20346	275	630	1,007	1,723	716	71%
Lyndhurst	20347	726	832	1,606	1,722	116	7%
Kingsland	20348	472	508	819	2,642	1,823	222%
SUBTOTAL		3,578	5,300	8,313	12,692	4,379	53%
Radburn	20362	1,861	2,037	2,882	2,757	-125	-4%
Broadway	20363	534	530	578	1,698	1,120	194%
Plauderville	20364	352	304	740	1,872	1,132	153%
Garfield	20365	236	290	468	1,583	1,115	238%
Rutherford	20366	1,307	1,280	2,051	2,998	947	46%
SUBTOTAL		4,290	4,441	6,719	10,908	4,189	62%
TOTAL⁽¹⁾		17,642	20,207	28,340	36,262	7,922	36%

NOTE:

⁽¹⁾ Total excludes stations in New York State, since the 2008 observed data were not available for these stations.

Table 8-2
Weekday Station Utilization – New Jersey Coastline/Northeast Corridor Line

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Bay Head	20000	252	298	629	475	-154	-25%
Pt Pleasant Beach	20001	672	726	869	1,014	145	17%
Manasquan	20002	382	354	527	1,113	586	111%
Spring Lake	20003	364	362	560	1,173	613	109%
Belmar	20004	518	609	804	549	-255	-32%
Bradley Beach	20005	428	427	651	1,181	530	81%
Asbury Park	20006	854	905	1,371	920	-451	-33%
Allenhurst	20007	332	354	421	257	-164	-39%
Elberon	20008	316	274	514	748	234	46%
SUBTOTAL		4,118	4,309	6,345	7,430	1,085	17%
Long Branch	20009/20010	2,030	2,338	2,901	3,930	1,029	35%
Little Silver	20011	1,976	1,751	2,062	3,599	1,537	75%
Red Bank	20012	2,602	2,783	3,378	3,717	339	10%
Middletown	20013	4,266	3,363	3,941	3,875	-66	-2%
Hazlet	20014	1,826	1,747	2,223	2,264	41	2%
Matawan	20015	6,508	5,656	6,612	9,171	2,559	39%
South Amboy	20016	2,356	2,062	2,627	2,612	-15	-1%
Perth Amboy	20017	1,372	1,333	2,316	2,040	-276	-12%
Woodbridge	20018	2,908	2,639	3,715	2,622	-1,093	-29%
Avenel	20019	268	268	351	203	-148	-42%
SUBTOTAL		26,112	23,940	30,126	34,033	3,907	13%
Trenton	20050	8,272	11,236	11,710	10,201	-1,509	-13%
Hamilton	20051	3,220	6,433	10,075	48,432	38,357	381%
Princeton Junction	20054	11,722	13,334	14,965	10,384	-4,581	-31%
Jersey Ave	20055	2,598	3,169	3,627	2,227	-1,400	-39%
New Brunswick	20056	9,416	9,175	12,257	10,658	-1,599	-13%
Edison	20057	5,200	5,487	6,973	2,708	-4,265	-61%
Metuchen	20058	6,634	6,938	8,003	3,991	-4,012	-50%
Metropark	20059	12,730	13,066	15,656	9,615	-6,041	-39%
SUBTOTAL		59,792	68,838	83,267	98,216	14,949	18%
Rahway	20090	4,850	4,682	6,488	3,683	-2,805	-43%
Linden	20091	3,622	3,657	4,666	2,951	-1,715	-37%
Elizabeth	20092	6,406	5,638	8,545	7,331	-1,214	-14%
North Elizabeth	20093	1,152	703	1,046	1,717	671	64%
Newark International Airport	20096	0	3,844	6,074	1,852	-4,222	-70%
SUBTOTAL		16,030	18,524	26,819	17,534	-9,285	-35%
TOTAL		106,052	115,611	146,557	157,213	10,656	7%

The utilization for Pascack Valley Line is summarized in Table 8-3. Overall utilization of these lines was vastly overestimated. The overall utilization for Boonton Line was close to the observed data as shown in Table 8-4. The difference between the observed and estimated data is 6%.

Table 8-3
Weekday Station Utilization – Pascack Valley Line

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Spring Valley	20400	180	144		206	206	NA
Nanuet	20401	1,106	994		1,116	1,116	NA
Pearl River	20402	536	550		1,306	1,306	NA
Montvale	20403	220	287	303	595	292	96%
Park Ridge	20404	320	274	335	609	274	82%
Woodcliff Lake	20405	204	180	200	668	468	234%
Hillsdale	20406	440	368	696	591	-105	-15%
Westwood	20407	580	362	706	1,445	739	105%
Emerson	20408	366	249	408	562	154	38%
Oradell	20409	536	358	579	835	256	44%
River Edge	20410	586	423	971	1,725	754	78%
SUBTOTAL		3,252	2,501	4,199	7,030	2,831	130%
New Bridge Landing	20411	594	564	720	2,255	1,535	213%
Anderson St.	20412	434	528	680	3,252	2,572	378%
Essex St.	20413	348	436	620	2,707	2,087	337%
Teterboro/Williams Ave	20414	180	205	176	1,559	1,383	787%
Woodridge	20415	388	396	525	2,826	2,301	438%
SUBTOTAL		1,944	2,129	2,721	12,599	9,878	363%
TOTAL⁽¹⁾		5,196	4,630	6,920	19,629	12,709	184%

NOTE:

⁽¹⁾ Total excludes stations in New York State, since the 2008 observed data were not available for these stations.

Table 8-4
Weekday Station Utilization – Boonton Line

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Hackettstown	20200	166	174	279	262	-17	-6%
Mount Olive	20201	74	136	107	1	-106	-99%
Netcong (Both Lines)	20202	234	339	473	469	-4	-1%
Lake Hopatcong (Both Lines)	20203	288	269	313	501	188	60%
Dover	20205	2,312	2,186	3,181	4,979	1,798	57%
Denville (Both Lines)	20206	622	928	1,200	1,820	620	52%
SUBTOTAL		3,696	4,032	5,553	8,032	2,479	45%
Mountain Lakes	20211	82	78	87	388	301	348%
Boonton	20212	74	97	200	343	143	72%
Towaco	20213	250	132	282	114	-168	-60%
Lincoln Park	20214	270	174	300	324	24	8%
Mountain View	20215	866	369	603	664	61	10%
SUBTOTAL		1,542	850	1,471	1,833	362	25%
Little Falls	20216	470	288	414	780	366	88%
Great Notch	20217	168	136	41	0	-41	-100%
Montclair St. University	20218	0	572	1,030	547	-483	-47%
Montclair Heights	20219	176	351	530	306	-224	-42%
Mountain Ave	20220	218	222	282	345	63	22%
Upper Montclair	20221	634	967	1,140	913	-227	-20%
Watchung Ave	20222	672	868	1,533	981	-552	-36%
Walnut St	20223	1,040	1,012	2,021	935	-1,086	-54%
SUBTOTAL		4,586	4,416	6,990	4,807	-2,183	-31%
Montclair-Bay St	20231	488	1,052	1,949	1,165	-784	-40%
Glen Ridge	20232	434	1,629	2,143	417	-1,726	-81%
Bloomfield	20233	412	1,595	1,995	2,493	498	25%
Watsessing Ave	20234	80	468	434	473	39	9%
SUBTOTAL		1,414	4,744	6,521	4,548	-1,973	-30%
TOTAL		11,238	14,042	20,536	19,220	-1,316	-6%

The weekday station utilization estimates for Morris/Essex Line and Raritan Valley Line were shown in Tables 8-5 and 8-6, respectively. The overall utilization for each of those two lines was underestimated by approximately 30%.

**Table 8-5
Weekday Station Utilization – Morris/Essex Line**

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Morris Plains	20236	1,172	1,340	1,617	1,762	145	9%
Morristown	20237	2,390	3,096	4,437	3,110	-1,327	-30%
Convent Station	20238	1,740	2,132	2,642	837	-1,805	-68%
Madison	20239	2,576	2,254	3,161	1,526	-1,635	-52%
Chatham	20240	2,158	2,219	3,062	1,473	-1,589	-52%
SUBTOTAL		12,036	13,046	16,927	8,708	-6,211	-40%
Gladstone	20246	470	373	457	701	244	53%
Peapack	20247	278	164	82	118	36	45%
Far Hills	20248	372	271	381	51	-330	-87%
Bernardsville	20249	478	448	457	469	12	3%
Basking Ridge	20250	276	177	249	262	13	5%
Lyons	20251	980	857	1,013	318	-695	-69%
Millington	20252	470	332	355	211	-144	-41%
Stirling	20253	244	224	216	154	-62	-29%
Gillette	20254	390	270	335	339	4	1%
Berkeley Heights	20255	914	798	1,005	592	-413	-41%
Murray Hill	20256	954	839	1,155	516	-639	-55%
New Providence	20257	746	750	1,116	574	-542	-49%
SUBTOTAL		6,572	5,503	6,822	4,305	-2,517	-37%
Summit	20261	5,188	5,897	7,564	4,295	-3,269	-43%
Short Hills	20262	2,256	1,945	2,838	1,008	-1,830	-64%
Millburn	20263	2,282	2,573	3,268	653	-2,615	-80%
Maplewood	20264	3,802	4,254	6,138	1,712	-4,426	-72%
South Orange	20265	2,898	4,296	6,900	5,486	-1,414	-20%
Mountain Station	20266	650	663	646	1,267	621	96%
Highland Avenue	20267	380	330	472	814	342	72%
Orange	20268	620	1,169	2,320	1,185	-1,135	-49%
Brick Church	20269	1,172	2,461	3,013	3,614	601	20%
East Orange	20270	210	252	634	485	-149	-24%
SUBTOTAL		19,458	23,840	33,794	20,519	-13,275	-39%
NEWARK BROAD ST	20271	2,628	3,884	5,057	6,485	1,428	28%
TOTAL		40,694	46,273	62,600	40,017	-20,575	-33%

Table 8-6
Weekday Station Utilization – Raritan Valley Line

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Annandale	20101	94	216	263	251	-12	-5%
Lebanon	20102	36	34	45	33	-12	-26%
White House	20103	146	152	208	338	130	62%
North Branch	20104	128	130	192	378	186	97%
Raritan	20105	960	1,030	1,437	1,315	-122	-8%
Somerville	20106	1,440	1,201	1,496	1,271	-225	-15%
Bridgewater	20107	216	777	1,219	743	-476	-39%
SUBTOTAL		5,020	5,545	6,868	4,329	-531	-8%
Bound Brook	20108	1,056	1,012	1,452	1,123	-329	-23%
Dunellen	20109	1,550	1,568	2,136	2,169	33	2%
Plainfield	20110	1,324	1,257	2,048	3,213	1,165	57%
Netherwood	20111	966	1,049	1,243	1,594	351	28%
Fanwood	20112	1,728	1,247	1,898	1,157	-741	-39%
Westfield	20113	4,516	3,688	4,699	1,548	-3,151	-67%
Garwood	20114	144	184	149	161	12	8%
Cranford	20115	2,014	1,803	2,345	1,115	-1,230	-52%
Roselle Park	20116	1,676	1,564	1,774	789	-985	-56%
SUBTOTAL		14,974	13,372	17,744	12,869	-7,251	-41%
TOTAL		19,994	18,917	24,612	17,198	-7,782	-32%

The ridership for trips west of the Hudson River via the Metro North Hudson Line is listed in Table 8-7. The 2005 and 2008 observed data for these stations were not available, instead the 2000 original NJRTME validation were used as the observed data. The ridership for this particular market segment is small and somewhat underestimated. This route also competes to a degree with the overestimated Main/Bergen Line. The large zonal size may also be factors that contribute to the underestimation of this market segment.

Table 8-8 provides a summary of the ridership for the PATH service for stations both in New Jersey and Manhattan. Overall ridership for this system is slightly overestimated by approximately 13% above the observed values. A few stations both in New Jersey and Manhattan were significantly overestimated including 33rd Street Station and Christopher Street Station in Manhattan, and Journal Square Station and Newark Penn Station in New Jersey.

Table 8-7
Weekday Station Utilization – Metro North Trips West of Hudson

Station Name	Station Node	Observed		Estimated	Diff	% Diff
		2000	2008			
Beacon	20551	950		556	-394	-41%
Peekskill	20552	12		162	150	1250%
Ossining Rail	20553			0	0	NA
Tarrytown	20554	1,662		1,373	-289	-17%
Grand Central Terminal	20599	2,624		2,092	-532	-20%
SUBTOTAL		5,248		4,183	-1,065	-20%
TOTAL		5,248		4,183	-1,065	-20%

Table 8-8
Weekday Station Utilization – PATH System

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
33rd St	20814	59,525	66,432	69,600	82,051	12,451	18%
23rd St	20813	11,314	17,324	15,238	13,402	-1,836	-12%
14th St	20812	11,274	16,758	17,034	18,812	1,778	10%
9th St	20811	8,030	9,452	9,082	11,352	2,270	25%
Christopher St	20810	7,149	7,738	7,728	19,167	11,439	148%
SUBTOTAL		97,292	117,704	118,682	144,784	26,102	22%
WTC	20809	118,913	101,915	99,798	95,274	-4,524	-5%
Hoboken	20806/20805	69,528	54,437	57,918	49,546	-8,372	-14%
Pavonia/Newport	20807	26,734	33,136	34,826	23,231	-11,595	-33%
Exchange Place	20808	30,290	34,947	36,308	27,267	-9,041	-25%
Grove St	20804	23,212	23,853	27,698	24,183	-3,515	-13%
Journal Square	20803/20802	50,500	51,956	53,738	91,634	37,896	71%
Harrison	20801	13,711	12,353	12,824	14,888	2,064	16%
Newark (Path)	20800	70,352	63,038	63,622	98,599	34,977	55%
SUBTOTAL		403,240	375,635	386,732	424,622	37,890	10%
TOTAL		500,532	493,339	505,414	569,406	63,992	13%

The station utilization estimates for Newark City Subway stations is listed in Table 8-9. The estimated utilization for the system is approximated 5% higher than observed data. In the system level, the NJRME estimated the station utilization for the Newark City Subway reasonably well.

**Table 8-9
Weekday Station Utilization – Newark City Subway**

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Grove Street	20600			1,660	1,869	209	13%
Silver Lake	20601			1,115	261	-854	-77%
Branch Brook Park / Heller Parkway	20602	5,704	5,460	5,132	7,084	1,952	38%
Davenport Ave	20603	818	864	1,025	2,325	1,300	127%
Bloomfield Ave	20604	3,210	3,148	2,776	5,560	2,784	100%
Park Ave	20605	2,633	3,148	2,813	1,896	-917	-33%
Orange St	20606	1,848	2,140	1,954	1,899	-55	-3%
Norfolk St	20607	1,162	1,402	1,265	1,195	-70	-5%
Warren St	20608	2,065	2,150	2,436	1,431	-1,005	-41%
Washington St	20609	2,846	2,854	3,114	536	-2,578	-83%
Military Park	20610		4,392	3,841	2,698	-1,143	-30%
NJ PAC/Center St	20625			168	26	-142	-85%
Atlantic St	20624			292	14	-278	-95%
Washington Park	20622			470	307	-163	-35%
Riverfront Stadium	20623			300	16	-284	-95%
Broad Street	20621	4,066		1,116	1,694	578	52%
Newark Penn Station - Broad Inbound	20649	11,880		14,050	17,002	2,953	21%
SUBTOTAL		36,232	25,558	43,526	45,813	2,287	5%
TOTAL		36,232	25,558	43,526	45,813	2,287	5%

The model appears to be underestimating station utilization for the Hudson-Bergen Light Rail (HBLRT) by approximately 35%, as shown in Table 8-10. The most underestimated utilization, in terms of absolute ridership, is the line extending from Liberty State Park to Newport Mall Stations. Table 8-11 provides the utilization estimates at Ferry Terminals. In the system level, the estimated utilization is 1% above the observed data, which is exceptionally well. However, the variations became more pronounced with more disaggregated comparison by each Ferry Terminal.

Finally, Table 8-12 lists station activity at the major transit stations serving Newark and Manhattan. The observed data for Non-PABT Lincoln buses and Holland Tunnel buses were not available for the 2008 data. To be consistent, the estimated utilization also excluded these two buses in its total. In the system level, the estimated utilization replicated the observed data very well, with a difference of 1% for NYC stations/terminals excluding PATH and 4% for all stations/terminals. The rail stations in the New Jersey Urban Core, including Newark Penn Station and Hoboken, were overestimated by close to 30%. The observed data for these stations also decreased significantly from 2000 to 2008 mostly due to the “9-11” incidents, in which employment centers relocated to other places outside Manhattan. These two stations serving mostly ridership from New Jersey to Manhattan suffered as a result.

Table 8-10
Weekday Station Utilization – Hudson-Bergen Light Rail

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
West Side Avenue	20700	868	1,740	3,268	2,292	-976	-30%
MLK Drive	20701	490	1,224	2,074	879	-1,195	-58%
Garfield Avenue	20702	282	656	1,178	877	-301	-26%
SUBTOTAL		1,640	3,620	6,520	4,048	-2,472	-38%
22nd Street	20704		2,282	3,622	0	-3,622	-100%
34th St., Bayonne	20705	1,762	1,814	2,990	2,190	-800	-27%
45th St., Bayonne	20706	768	1,222	1,648	1,386	-262	-16%
Danforth Avenue	20707	330	960	1,438	621	-817	-57%
Richard St., JC	20708	160	690	998	369	-629	-63%
SUBTOTAL		3,020	6,968	10,696	4,566	-6,130	-57%
Liberty State Park	20709	2,476	3,826	5,450	2,701	-2,749	-50%
Jersey Av	20710	124	780	1,396	973	-423	-30%
Marin Blvd	20711	228	674	764	382	-382	-50%
Essex Street	20712	80	1,526	2,306	2,899	593	26%
Exchange Place	20713	4,686	5,706	9,660	5,812	-3,848	-40%
Harborside	20714	770	2,438	3,452	21	-3,431	-99%
Harsimus Cove	20715	116	906	1,586	1,821	235	15%
Newport Mall (Pavonia/Newport)	20716	1,118	5,994	10,894	4,551	-6,343	-58%
SUBTOTAL		9,598	21,850	35,508	19,160	-16,348	-46%
2nd Street	20719			1,708	2,782	1,074	63%
9th Street	20720			4,386	4,410	24	1%
Lincoln Harbor	20721			1,780	938	-842	-47%
Port Imperial	20722			1,568	2,351	783	50%
Bergenline Ave	20723			5,282	4,468	-814	-15%
Tonnelle Ave	20724			1,990	2,206	216	11%
SUBTOTAL		0	0	16,714	17,155	441	3%
TOTAL		14,258	32,438	69,438	44,929	-24,509	-35%

Table 8-11
Weekday Station Utilization – Ferry Terminals

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Staten Island	20875	59,422	60,000	67,936	69,002	1,066	2%
Port Imperial - Midtown and Downtown	20851	10,837	8,216	8,192	11,815	3,623	44%
Hoboken	20854	8,970	8,241	7,052	5,764	-1,288	-18%
Colgate	20856	1,892	4,400	4,682	3,054	-1,628	-35%
Highland (Ferry)	20859	1,398	1,779	2,790	2,038	-752	-27%
Lincoln Harbor	20852		2,468	2,713	1,493	-1,220	-45%
North Hoboken	20853		6,051	1,874	4,365	2,491	133%
Liberty Harbor	20857		978	752	213	-539	-72%
Port Liberte	20858		0	560	227	-333	-59%
TOTAL		82,519	92,133	96,551	97,971	1,420	1%

Table 8-12
Weekday Station Utilization – NJ Urban Core & Manhattan Stations

Station Name	Station Node	Observed			Estimated	Diff	% Diff
		2000	2005	2008			
Newark Penn Station (NJT)	20097 / 14039	76,000	46,168	56,306	81,679	25,373	45%
Hoboken (NJT)	20499/ 14041 / 14043	46,300	36,449	36,222	36,652	430	1%
SUBTOTAL (NJ Urban Core Rail))		122,300	82,617	92,528	118,331	25,803	28%
Existing NY Penn Station (NJT)	20999	97,740	125,335	161,876	164,436	2,560	2%
SUBTOTAL (NY PENN STATION)		97,740	125,335	161,876	164,436	2,560	2%
South Ferry Terminal	20878	59,422	60,000	67,936	69,006	1,070	2%
World Financial Center	20877	11,370	6,482	5,906	3,064	-2,842	-48%
Midtown Ferry Terminal	20876	9,941	11,857	13,065	16,193	3,128	24%
Lower Manhattan Ferry Terminal	20879	2,996	9,169	13,847	6,790	-7,057	-51%
SUBTOTAL (NYC Ferry Terminals)		83,729	87,508	100,754	95,053	-5,701	-6%
Lincoln Tunnel							
PABT	2039620397	162,150	162,150	225,463	151,226	-74,237	-33%
Non- PABT		13,837	13,837				
SUBTOTAL (PABT)		175,987	175,987	225,463	151,226	-74,237	-33%
George Washington Bridge Bus Term	20920	14,655	14,655	18,223	16,344	-1,879	-10%
Holland Tunnel Buses		11,200	11,200				
SUBTOTAL (Other NYC Bus Terminals)		25,855	25,855	18,223	16,344	-1,879	-10%
TOTAL NYC TERMINALS LESS PATH		357,456	388,830	488,093	410,715	-5,946	-1%
TOTAL		479,756	471,447	580,621	529,046	22,662	4%

The utilization estimates for the New York Penn Station replicated the observed data extremely well with a difference of merely 2%. The George Washington Bridge bus terminal has a reasonably lower utilization estimates than the observed data with a difference at approximately 10%. The utilization for Lincoln Tunnel is significantly lower at approximately 30% than the observed data.

The summaries of the intra-New Jersey bus ridership were also prepared and reported in Table 8-13. The 2008 bus ridership data were obtained from the “Bus Ridership and Fare Zone Profile” report dated on November 12, 2008. The report was provided by the New Jersey Transit for this project. The model estimated reasonably well for total PABT ridership at system-level and the Bergen PABT ridership. However, the estimates were significantly higher for Route 9 PABT, Park & Ride PABT, and GWB PABT. Conversely, the estimates were significantly lower for Middlesex/Union PABT, Passaic PABT, and PABT Short Distance lines.

**Table 8-13
Bus Ridership Summary**

	2002 IS SURVEY	2008 OBSERVED	2008 ReCalibrated NJRTME MODEL	
	to/from PABT/GWBT		Count	Pct Diff
BERGEN PABT ROUTES				
160	902	876	121	-86.2%
161/162	4,359	4,580	6,225	35.9%
163/164	7,777	5,448	3,007	-44.8%
165	5,397	6,772	4,580	-32.4%
166	6,605	7,153	6,655	-7.0%
167	6,484	5,028	11,254	123.8%
155	421	286	240	-16.1%
157	364	149	258	73.2%
168	1,665	1,531	1,825	19.2%
144/148	738	667	47	-93.0%
Subtotal	34,712	32,490	34,212	5.3%
ROUTE 9 PABT				
131	512	629	480	-23.7%
133	1,122	562	1,100	95.7%
135	236	371	0	-100.0%
137	1,323	991	3,047	207.5%
138	701	486	99	-79.6%
139	10,150	6,460	10,221	58.2%
Subtotal	14,044	9,499	14,947	57.4%
PABT SHORT DISTANCE				
107	1,720	1,992	888	-55.4%
108	447	679	118	-82.6%
111	153	416	0	-100.0%
121	110	116	0	-100.0%
123		1,214	1,427	17.5%
126	6,195	7,006	2,731	-61.0%
127	1,418	1,024	250	-75.6%
128	3,018	2,792	8,407	201.1%
129	1,537	1,952	306	-84.3%
154	1,260	1,048	259	-75.3%
156	2,463	2,983	1,974	-33.8%
158	2,060	2,554	2,294	-10.2%
159	5,938	4,957	6,204	25.2%
Subtotal	26,319	28,733	24,858	-13.5%
PARK&RIDE				
320	3,609	2,741	2,438	-11.1%
321	1,382	567	2,380	319.8%
322	0		0	
Subtotal	4,991	3,308	4,818	45.6%

Table 8-12
Continued

	2002 IS SURVEY	2008 OBSERVE	2008 ReCalibrated NJRTME MODEL	
	to/from		PABT VOL	
	PABT/GWBT		Count	Pct Diff
MIDDLESEX/UNION PABT				
112	614	1,248	177	-85.8%
113	1,906	2,153	2,616	21.5%
114	2,189	3,133	2,098	-33.0%
115	410	666	629	-5.6%
116	1,206	1,353	970	-28.3%
Subtotal	6,325	8,553	6,490	-24.1%
PASSAIC PABT				
190	6,135	6,000	4,293	-28.5%
191	998	528	172	-67.4%
192	3,496	2,990	1,621	-45.8%
193	1,626	866	2,082	140.4%
194	2,104	805	1,021	26.8%
195	600	494	103	-79.1%
196	1,136	503	967	92.2%
197	1,640	1,190	718	-39.7%
Subtotal	17,735	13,376	10,977	-17.9%
PABT TOTAL	104,126	95,959	96,302	0.4%

	2002 IS SURVEY	2008 OBSERVE	2008 ReCalibrated NJRTME MODEL	
	to/from		PABT VOL	
	PABT/GWBT		Count	Pct Diff
GW BRIDGE				
171	988	785	954	21.5%
175	710	940	1,606	70.9%
178	1,002	1,012	2,101	107.6%
181	792	378	3,676	872.5%
182	998	762	1,832	140.4%
186	1,854	1,289	3,332	158.5%
188	264	510	922	80.8%
GWBT TOTAL	6,608	5,676	14,423	154.1%

9 SENSITIVITY TEST

9.1 Introduction

As part of this project, a series of sensitivity tests were performed to gauge the impact of various policy changes on the model's results. The sensitivity tests that were conducted in this project were mostly focused on the policy changes that impacted the results of the mode choice model components. Three sensitivity tests were selected and performed independently, including:

- Transit fares were systematically increased by 30%.
- Auto operating costs were increased by 30%.
- Selected transit services were reduced.

The impacts of these policy changes were measured on how the mode shares changes, especially between auto and transit modes. In addition, elasticity of the model was also presented for the first two tests. The elasticity is defined as the ratio of percent changes in ridership or trips to percent changes in cost. The daily highway VMT estimates of each scenario were also compared to the base scenario.

9.2 Transit Fare Increased

The first sensitivity trial was to increased transit fares systematically by 30%. Table 9-1 shows the comparison of the bus and commuter rail ridership estimates between base scenario and increased transit fare scenario for three important market segments: Trans-Hudson, Intra-New Jersey, and all market segments. The market segment definition was presented in Table 6-1. The elasticity of each mode was also presented in the table.

For the trans-Hudson market, the bus elasticity was approximately -0.30 and the rail elasticity was approximately -0.16, almost half of the bus' elasticity. These values were consistent with the expected elasticities reported in the "*Transit Pricing and Fares – Traveler Response to Transportation System Changes*" (TCRP Report 95 – Chapter 12). The report indicated that the bus elasticities from various time period and regions was

within a range of -0.20 and -0.43. Rail elasticity was generally lower at a range between -0.12 to -0.31. The bus elasticity in New York City was -0.36 and rail elasticity was -0.15 in 1995. These values are consistent with our results. The bus elasticities are about two times greater than the rail elasticities, one possible explanation for this difference is that rail operates where congestion and parking costs are highest, while offering higher speed advantages.

**Table 9-1
Transit Fare Increased Sensitivity Results**

(a) Trans-Hudson – Inbound Trips

TRANSIT MODES	BASE	INCREASED FARE	DIFFERENCE	%DIFFERENCE	ELASTICITIES
Bus	172,223	156,086	-16,137	-9.4%	-0.312
Commuter Rail	206,211	196,062	-10,149	-4.9%	-0.164

(b) Intra New Jersey Market

TRANSIT MODES	BASE	INCREASED FARE	DIFFERENCE	%DIFFERENCE	ELASTICITIES
Bus	247,490	239,167	-8,323	-3.4%	-0.112
Commuter Rail	31,625	29,655	-1,970	-6.2%	-0.208

(c) All Market Segments (Regions 1-11)

TRANSIT MODES	BASE	INCREASED FARE	DIFFERENCE	%DIFFERENCE	ELASTICITIES
Bus	511,653	486,213	-25,440	-5.0%	-0.166
Commuter Rail	284,254	269,114	-15,140	-5.3%	-0.178

The report also indicated that the 30% bus fare increased would reduce bus ridership by approximately 9-10%. The estimated percent reduction for bus ridership for Trans-Hudson market was also within this range.

For Intra-New Jersey market, the rail ridership was much lower than the bus ridership, this indicated that the commuter rail was not the main travel mode within the New Jersey region. In addition, the level of congestion for travel within the New Jersey region was most likely lower than the level of congestion for travel from New Jersey to New York City. In addition, the parking costs for the area serves by the commuter rail routes

within New Jersey, in general, were not as high as those in New York City. The bus and rail elasticities for all market segments were between the those of the other two market segments.

9.3 Auto Operating Cost Increased

In the second sensitivity test, the auto operating cost was increased by 30%. As expected, there was a reduction in auto VMT for approximately 630,000 VMT in the NJTPA Region as shown in Table 9-2. This translated to approximate 0.5% daily VMT reduction and the elasticity of this is approximately -0.015. A study by Small and Van Dender indicated that short term elasticity of VMT with respect to fuel cost per mile ranged between -0.0216 (with a variance of 0.009) to -0.0452 (with a variance of 0.0048), which was within reasonable tolerance of the estimated VMT elasticity of -0.015 (source: *Fuel Efficiency and Motor Vehicle Travel: The Declining Rebound Effect*).

Table 9-2
Increased Auto Operating Cost Sensitivity Results

BASE VMT	INCREASED AUTO COST VMT	DIFFERENCE	%DIFFERENCE	ELASTICITIES
139,251,458	138,618,501	-632,957	-0.5%	-0.015

9.4 Reduced Transit Frequencies

In this sensitivity test, the Bergen PABT bus headways were systematically increased by 50 percent. This implied that the bus frequencies were reduced by 33%. The same frequency reduction was also systematically applied to New Jersey Coastline/Northeast Corridor Line. Table 9-3 shows the ridership comparison between the base scenario and reduced frequency scenario.

**Table 9-3
Reduced Frequency Sensitivity Results**

TRANSIT MODES	BASE	REDUCED FREQUENCY	DIFFERENCE	%DIFFERENCE	ELASTICITIES ⁽¹⁾
BERGEN PABT BUSES	34,212	24,102	-10,110	-29.6%	-0.520
North Jersey Coastline / Northeast Corridor Line	157,213	137,192	-20,021	-12.7%	-0.204

NOTE:

(1) Elasticity is Mid-Point Arc Elasticity

The bus Mid-Point Arc Elasticity for Bergen PABT is -0.52, comparable to -0.47 from Toronto Study (*Source: Transit Scheduling and Frequency – TCRP Report 95 Chapter 9*). The rail elasticity for NEC/NJCL is approximately -0.204. The low elasticity was possibly due to high demand for trips to New York City and the favorable competition for rail compared to the auto modes, since the parking cost and congestion level for travel to New York City is relatively high.

APPENDIX A – SE DATA SUMMARY BY REGION

REGION	POPULATION			HOUSEHOLD			TOTAL EMPLOYMENT		
	2000	2008	Annual Growth	2000	2008	Annual Growth	2000	2008	Annual Growth
Bergen	884,118	889,915	0.08%	330,817	331,946	0.04%	480,577	463,511	-0.45%
Essex	792,304	767,075	-0.40%	283,736	275,224	-0.38%	396,169	354,084	-1.39%
Hudson	608,975	592,111	-0.35%	230,546	228,210	-0.13%	257,218	233,571	-1.20%
Hunterdon	121,989	129,806	0.78%	43,678	47,160	0.96%	56,787	47,164	-2.29%
Middlesex	750,162	785,324	0.57%	265,815	272,968	0.33%	406,183	417,415	0.34%
Monmouth	615,301	641,864	0.53%	224,236	231,498	0.40%	252,631	249,295	-0.17%
Morris	470,212	486,946	0.44%	169,711	175,351	0.41%	296,086	285,677	-0.45%
Ocean	510,916	569,662	1.37%	200,402	223,776	1.39%	138,878	144,398	0.49%
Passaic	490,377	488,364	-0.05%	163,856	157,496	-0.49%	191,482	181,409	-0.67%
Somerset	297,490	323,160	1.04%	108,984	113,599	0.52%	203,122	175,912	-1.78%
Sussex	144,166	151,431	0.62%	50,831	55,254	1.05%	40,217	37,467	-0.88%
Union	522,540	521,816	-0.02%	186,124	183,224	-0.20%	251,592	239,095	-0.63%
Warren	102,437	109,897	0.88%	38,660	42,333	1.14%	35,711	35,802	0.03%
NJTPA	6,310,987	6,457,371	0.29%	2,297,396	2,338,039	0.22%	3,006,653	2,864,800	-0.60%
Burlington	423,047	445,492	0.65%	154,019	164,667	0.84%	201,928	207,351	0.33%
Mercer	346,727	364,571	0.63%	124,196	127,788	0.36%	216,641	213,976	-0.15%
Bucks	597,640	629,007	0.64%	218,745	231,299	0.70%	267,151	281,499	0.66%
DVRPC	1,367,414	1,439,070	0.64%	496,960	523,754	0.66%	685,720	702,826	0.31%
Atlantic	252,550	270,609	0.87%	91,762	103,376	1.50%	125,735	136,890	1.07%
SJTPO	252,550	270,609	0.87%	91,762	103,376	1.50%	125,735	136,890	1.07%
Bronx	1,285,393	1,324,439	0.37%	463,215	473,969	0.29%	280,938	296,193	0.66%
Dutchess	261,989	281,379	0.90%	99,537	107,240	0.94%	114,343	125,851	1.21%
Kings	2,505,212	2,516,967	0.06%	905,927	904,615	-0.02%	688,401	725,797	0.66%
New York	1,477,362	1,572,634	0.78%	739,256	754,308	0.25%	2,091,512	2,121,400	0.18%
Nassau	1,308,539	1,323,855	0.15%	445,658	445,957	0.01%	552,997	580,519	0.61%
Orange	329,445	367,189	1.37%	115,392	129,092	1.41%	127,781	139,426	1.10%
Putnam	93,581	100,470	0.89%	32,703	35,656	1.09%	23,994	29,017	2.40%
Queens	2,202,513	2,244,020	0.23%	782,575	786,618	0.06%	596,573	637,406	0.83%
Richmond	433,447	467,031	0.94%	155,935	165,016	0.71%	118,126	140,685	2.21%
Rockland	279,108	290,604	0.51%	92,681	95,622	0.39%	100,968	119,807	2.16%
Suffolk	1,391,014	1,477,352	0.76%	469,376	497,378	0.73%	563,229	604,473	0.89%
Westchester	908,248	937,879	0.40%	339,824	343,599	0.14%	403,056	410,764	0.24%
NYMTC	12,475,851	12,903,819	0.42%	4,642,079	4,739,070	0.26%	5,661,918	5,931,338	0.58%
Lehigh	312,090	337,930	1.00%	121,906	133,295	1.12%	210,237	216,384	0.36%
Northampton	267,066	295,954	1.29%	101,541	114,275	1.49%	114,043	121,852	0.83%
LVPC	579,156	633,884	1.14%	223,447	247,570	1.29%	324,280	338,236	0.53%
Carbon	58,802	61,094	0.48%	23,525	24,441	0.48%	16,448	17,913	1.07%
Lackawanna	213,295	216,633	0.19%	86,326	87,425	0.16%	98,909	98,313	-0.08%
Luzerne	319,250	309,142	-0.40%	130,687	126,117	-0.44%	142,266	145,182	0.25%
Monroe	138,687	172,450	2.76%	49,454	61,293	2.72%	51,755	61,409	2.16%
Pike	46,302	64,424	4.22%	17,433	24,110	4.14%	8,069	9,866	2.55%
Wayne	47,722	52,490	1.20%	18,350	20,087	1.14%	17,195	17,709	0.37%
NEPA	824,058	876,234	0.77%	325,775	343,473	0.66%	334,642	350,392	0.58%
Sullivan	73,966	75,533	0.26%	27,661	28,239	0.26%	23,659	24,958	0.67%
Connecticut	882,567	901,264	0.26%	324,403	331,191	0.26%	426,789	445,660	0.54%
TOTAL	22,766,549	23,557,783	0.43%	8,429,483	8,654,712	0.33%	10,589,396	10,795,100	0.24%

APPENDIX B – DISTRIBUTION STATISTICS

B.1 County to County Distribution Shares

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DISTRICT	HWBD																		
	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND
BERGEN	57.00%	4.39%	6.35%	0.03%	0.19%	1.09%	0.24%	0.10%	0.09%	1.00%	0.38%	0.09%	1.30%	0.03%	1.45%	1.03%	16.55%	1.00%	0.17%
	53.46%	2.92%	4.61%	0.00%	0.00%	0.35%	0.00%	1.36%	0.00%	4.41%	0.00%	0.00%	0.49%	0.00%	0.59%	0.31%	13.89%	1.31%	0.00%
	60.54%	5.85%	8.10%	0.17%	0.51%	1.83%	0.58%	3.58%	0.32%	7.84%	0.82%	0.30%	2.11%	0.16%	2.30%	1.76%	19.21%	0.75%	0.46%
	58.12%	4.27%	6.28%	0.11%	0.20%	1.12%	0.31%	2.76%	0.14%	5.92%	0.50%	0.15%	1.36%	0.02%	1.29%	0.94%	15.40%	0.93%	0.15%
	61.00%	3.79%	6.92%	0.03%	0.04%	0.85%	0.07%	1.72%	0.00%	5.32%	0.35%	0.02%	1.23%	0.02%	0.73%	0.43%	16.91%	0.45%	0.11%
ESSEX	6.04%	48.82%	5.18%	0.18%	0.27%	3.22%	0.43%	8.01%	0.15%	4.95%	1.36%	0.13%	7.75%	0.06%	0.27%	0.83%	11.82%	0.35%	0.19%
	3.73%	43.98%	3.04%	0.00%	0.00%	1.51%	0.00%	5.39%	0.00%	2.85%	0.24%	0.00%	5.16%	0.00%	0.00%	0.00%	8.69%	0.00%	0.00%
	8.34%	53.66%	7.33%	0.58%	0.77%	4.93%	1.06%	10.64%	0.52%	7.05%	2.48%	0.47%	10.34%	0.30%	0.78%	1.71%	14.94%	0.92%	0.62%
	5.50%	53.61%	5.16%	0.29%	0.27%	2.68%	0.52%	7.38%	0.13%	4.19%	1.42%	0.20%	7.18%	0.11%	0.27%	0.84%	9.70%	0.35%	0.19%
	6.77%	55.67%	6.46%	0.07%	0.09%	3.10%	0.20%	4.42%	0.00%	5.27%	1.07%	0.03%	6.22%	0.03%	0.29%	0.56%	9.81%	0.31%	0.26%
HUDSON	10.23%	7.17%	37.17%	0.10%	0.26%	2.20%	0.34%	1.98%	0.11%	1.93%	0.57%	0.06%	2.61%	0.03%	0.50%	1.47%	31.84%	0.98%	0.39%
	7.48%	4.78%	32.69%	0.00%	0.00%	0.84%	0.00%	0.69%	0.00%	0.66%	0.00%	0.00%	1.14%	0.00%	0.00%	0.36%	27.52%	0.07%	0.00%
	13.10%	9.55%	41.64%	0.39%	0.72%	3.56%	0.89%	3.27%	0.42%	3.21%	1.27%	0.28%	4.09%	0.21%	1.15%	2.59%	36.15%	1.89%	0.97%
	9.81%	6.84%	47.31%	0.14%	0.28%	1.98%	0.39%	1.62%	0.28%	1.96%	0.66%	0.04%	2.46%	0.02%	0.37%	1.12%	23.71%	0.73%	0.28%
	10.80%	9.28%	42.72%	0.03%	0.06%	1.50%	0.09%	1.21%	0.00%	2.50%	0.41%	0.01%	3.39%	0.01%	0.56%	1.73%	23.78%	1.25%	0.68%
HUNTERDON	0.99%	3.42%	1.06%	37.60%	6.49%	7.85%	0.68%	6.78%	0.16%	0.47%	23.77%	0.11%	5.65%	2.08%	0.01%	0.10%	2.28%	0.20%	0.31%
	0.00%	1.41%	0.00%	32.24%	3.76%	4.87%	0.00%	4.00%	0.00%	0.00%	19.07%	0.00%	3.09%	0.50%	0.00%	0.00%	0.63%	0.00%	0.00%
	2.09%	5.43%	2.19%	42.96%	9.21%	10.82%	1.59%	9.56%	1.60%	1.23%	28.48%	0.47%	8.20%	3.65%	0.14%	0.45%	3.99%	0.70%	0.93%
	1.16%	2.73%	0.81%	45.44%	6.39%	6.64%	0.82%	5.43%	0.31%	0.17%	19.79%	0.31%	4.23%	2.13%	0.00%	0.04%	3.41%	0.07%	0.11%
	1.41%	3.26%	2.35%	39.85%	6.76%	6.92%	0.50%	5.93%	0.03%	1.21%	21.80%	0.15%	3.97%	2.86%	0.06%	0.21%	2.37%	0.00%	0.26%
MERCER	0.58%	1.04%	0.55%	0.84%	72.02%	12.23%	1.76%	0.55%	0.49%	0.14%	3.78%	0.07%	0.92%	0.04%	0.11%	0.32%	4.32%	0.19%	0.05%
	0.00%	0.12%	0.00%	0.01%	67.96%	9.27%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	2.49%	0.00%	0.00%
	1.26%	1.95%	1.22%	1.66%	76.08%	15.19%	2.95%	1.22%	1.13%	0.47%	5.51%	0.30%	1.79%	0.21%	0.42%	0.84%	6.16%	0.58%	0.26%
	0.57%	1.06%	0.56%	0.87%	72.31%	12.01%	1.77%	0.55%	0.48%	0.14%	3.84%	0.07%	0.94%	0.04%	0.11%	0.31%	4.12%	0.18%	0.05%
	0.14%	0.78%	0.89%	0.73%	71.28%	11.59%	1.34%	0.27%	1.55%	0.11%	2.64%	0.00%	0.90%	0.04%	0.06%	0.33%	4.03%	0.17%	0.16%
MIDDLESEX	1.67%	4.46%	2.46%	0.41%	3.71%	53.69%	3.61%	1.93%	0.32%	0.60%	7.72%	0.08%	7.58%	0.07%	0.11%	1.01%	9.34%	0.46%	0.79%
	0.53%	2.63%	1.08%	0.00%	2.04%	49.26%	1.95%	0.71%	0.00%	0.00%	5.36%	0.00%	5.23%	0.00%	0.00%	0.12%	6.76%	0.00%	0.01%
	2.80%	6.29%	3.83%	0.97%	5.39%	58.11%	5.26%	3.14%	0.82%	1.28%	10.09%	0.34%	9.92%	0.29%	0.40%	1.90%	11.92%	1.06%	1.58%
	1.27%	3.99%	3.15%	0.57%	3.82%	56.38%	4.33%	1.83%	0.46%	0.53%	7.08%	0.09%	6.85%	0.10%	0.11%	0.99%	7.47%	0.44%	0.74%
	1.84%	3.83%	3.14%	0.19%	3.29%	57.77%	4.07%	1.08%	0.32%	0.68%	6.81%	0.00%	8.68%	0.02%	0.13%	0.75%	7.72%	0.33%	1.16%
MONMOUTH	1.28%	3.03%	2.23%	0.19%	2.34%	11.36%	58.15%	0.77%	3.90%	0.36%	1.39%	0.04%	3.04%	0.06%	0.12%	1.41%	8.69%	0.40%	1.25%
	0.20%	1.39%	0.81%	0.00%	0.89%	8.32%	53.42%	0.00%	2.04%	0.00%	0.00%	0.00%	1.40%	0.00%	0.00%	0.28%	5.99%	0.00%	0.19%
	2.36%	4.67%	3.64%	0.61%	3.78%	14.40%	62.88%	1.61%	5.79%	0.94%	1.45%	0.22%	4.69%	0.29%	0.46%	2.54%	11.39%	1.00%	2.32%
	1.01%	2.69%	2.27%	0.21%	2.35%	9.20%	62.05%	1.15%	3.63%	0.40%	1.46%	0.05%	2.64%	0.06%	0.11%	1.28%	8.03%	0.35%	1.08%
	1.01%	2.93%	2.96%	0.15%	4.23%	10.55%	55.77%	0.83%	2.38%	0.65%	2.15%	0.01%	5.02%	0.02%	0.16%	1.08%	8.47%	0.54%	1.09%
MORRIS	5.49%	11.10%	2.12%	0.55%	0.35%	1.96%	0.32%	56.37%	0.10%	5.64%	2.96%	1.13%	3.91%	0.71%	0.13%	0.40%	5.49%	0.20%	0.06%
	3.26%	8.03%	0.71%	0.00%	0.00%	0.60%	0.00%	51.51%	0.00%	3.38%	2.06%	0.10%	2.02%	0.00%	0.00%	0.00%	3.26%	0.00%	0.00%
	7.72%	14.18%	3.53%	1.27%	0.93%	3.32%	0.88%	61.22%	0.42%	7.90%	5.87%	2.17%	5.81%	1.53%	0.48%	1.01%	7.72%	0.63%	0.31%
	5.13%	10.35%	2.13%	0.51%	0.35%	1.53%	0.33%	58.31%	0.18%	5.14%	4.01%	1.17%	3.97%	0.85%	0.11%	0.35%	5.34%	0.18%	0.06%
	6.57%	9.28%	4.92%	0.59%	0.21%	3.17%	0.17%	52.76%	0.00%	6.62%	4.66%	0.84%	5.02%	0.84%	0.27%	0.36%	3.25%	0.28%	0.19%
OCEAN	0.83%	1.85%	1.18%	0.10%	3.08%	6.43%	19.41%	0.80%	80.05%	0.42%	0.84%	0.06%	2.34%	0.07%	0.06%	0.36%	1.62%	0.13%	0.37%
	0.00%	0.10%	0.00%	0.00%	0.82%	3.23%	14.25%	0.00%	53.67%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.01%	3.61%	2.58%	0.51%	5.33%	9.63%	24.56%	1.96%	96.44%	1.25%	2.04%	0.39%	4.31%	0.41%	0.39%	1.14%	3.26%	0.61%	1.16%
	1.11%	1.91%	1.10%	0.12%	3.13%	4.57%	19.70%	0.76%	81.45%	0.47%	0.73%	0.02%	1.99%	0.12%	0.06%	0.37%	1.91%	0.13%	0.36%
	0.50%	1.26%	1.55%	0.19%	3.15%	8.50%	23.23%	0.46%	55.55%	0.31%	1.13%	0.00%	2.69%	0.02%	0.09%	0.56%	0.64%	0.34%	0.44%
PASSAIC	26.40%	8.27%	3.15%	0.06%	0.26%	1.09%	0.28%	7.67%	0.08%	41.71%	0.48%	0.27%	1.44%	0.09%	0.25%	0.31%	7.80%	0.28%	0.10%
	21.40%	5.15%	1.17%	0.00%	0.00%	0.00%	0.00%	4.65%	0.00%	36.12%	0.00%	0.00%	0.09%	0.00%	0.00%	0.00%	4.76%	0.00%	0.00%
	31.39%	11.40%	5.14%	0.39%	0.83%	2.27%	0.87%	10.68%	0.39%	47.30%	0.86%	0.86%	2.80%	0.43%	0.62%	0.95%	10.83%	0.87%	0.47%
	24.71%	8.73%	3.51%	0.11%	0.26%	1.10%	0.37%	8.05%	0.34%	45.59%	0.51%	0.41%	1.12%	0.06%	0.20%	0.26%	4.35%	0.22%	0.08%
	21.55%	8.73%	3.35%	0.03%	0.02%	0.95%	0.04%	5.49%	0.00%	48.14%	0.51%	0.06%	1.61%	0.02%	0.35%	0.24%	5.63%	0.22%	0.06%
SOMERSET	1.64%	5.03%	1.54%	2.52%	3.98%	19.35%	0.99%	8.44%	0.14%	0.71%	41.22%	0.18%	8.32%	0.20%	0.07%	0.48%	4.70%	0.19%	0.29%
	0.23%	2.61%	0.18%	0.79%	1.81%	14.98%	0.00%	5.36%	0.00%	0.00%	35.77%	0.00%	5.26%	0.00%	0.00%	0.00%	2.35%	0.00%	0.00%
	3.04%	7.46%	2.91%	4.26%	6.14%	23.73%	2.08%	11.52%	0.56%	1.65%	46.67%	0.65%	11.38%	0.71%	0.35%	1.24%	7.04%	0.66%	0.89%
	1.17%	4.40%	2.12%	2.83%	3.97%	16.87%	0.93%	7.07%	0.32%	0.47%	44.84%	0.14%	8.12%	0.28%	0.07%	0.52%	5.35%	0.20%	0.31%
	1.75%	4.99%	3.29%	1.91%	4.55%	20.48%	0.90%	7.14%	0.04%	1.46%	39.20%	0.06%	8.19%	0.24%	0.11%	0.42%	4.57%	0.21%	0.49%
SUSSEX	7.29%	5.67%	1.66%	0.30%	0.24%	1.12%	0.30%	30.58%	0.14%	6.36%	1.41%	38.44%	1.44%	2.06%	0.15%	0.22%	2.26%	0.25%	0.11%
	4.40%	3.10%	0.24%	0.00%	0.00%	0.00%	0.00%	25.46%	0.00%	3.65%	0.10%	33.03%	0.12%	0.48%	0.00%	0.00%	0.61%	0.00%	0.00%
	10.18%	8.24%	3.08%	0.91%	0.79%	2.28%	0.91%	35.70%	0.55%	9.07%	2.72%	43.84%	2.77%	3.64%	0.58%	0.75%	3.92%	0.80%	0.47%
	5.75%	5.41%	1.73%	0.20%	0.24%	0.80%	0.35%	27.23%	0.08%	6.20%	1.71%	44.17%	1.73%	1.46%	0.14%	0.20%	2.29%	0.23%	0.10%
	7.65%	6.29%	3.85%	0.59%	0.21%	2.04%	0.12%	20.55%	0.00%	6.15%	2.85%	41.72%	2.45%	2.34%	0.31%	0.29%	2.26%	0.77%	0.12%
UNION	2.38%	13.73%	3.55%	0.44%	0.46%	11.73%	0.73%	4.91%	0.20%	1.15%	5.25%	0.06%	43.47%	0.07%	0.20%	0.63%	10.25%	0.38%	0.43%
	0.56%	9.63%	1.34%	0.00%	0.00%	7.90%	0.00%	2.33%	0.00%	0.00%	97.57%	0.00%	0.00%	0.00%	0.00%	0.00%	6.64%	0.00%	0.00%
	4.19%	17.82%	5.75%	1.23%	1.27%	15.56%	1.75%	7.48%	0.74%	2.42%	7.90%	0.36%	49.38%	0.37%	0.72%	1.58%	13.86%	1.11%	1.20%
	1.90%	13.91%	3.31%	0.89%	0.47%	9.69%	1.14%	4.14%	0.19%	1.13%	4.04%	0.05%	50.57%	0.13%	0.17%	0.55%	7.07%	0.32%	0.35%
	2.40%	11.47%	4.10%	0.15%	0.23%	12.67%	0.57%	3.58%	0.00%	1.45%	4.68%	0.02%	49.82%	0.03%	0.17%	0.89%	7.07%	0.32%	0.79%
WARREN	1.79%	3.07%	0.70%	11.70%	0.90%	3.21%	0.27%	21.29%	0.10%	1.24%	8.29%	2.46%	2.25%</						

		HBWS																		
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	
BERGEN	57.00%	4.39%	5.38%	0.04%	0.20%	1.09%	0.24%	2.47%	0.10%	6.12%	0.38%	0.09%	1.30%	0.03%	1.45%	1.03%	16.51%	1.03%	0.17%	
	50.46%	1.68%	3.15%	0.00%	0.00%	0.00%	0.00%	0.42%	0.00%	2.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	11.60%	0.00%	0.00%	
	63.54%	7.10%	9.61%	0.28%	0.78%	2.47%	0.88%	4.53%	0.51%	9.28%	1.19%	0.48%	2.80%	0.27%	3.03%	2.36%	21.42%	2.36%	0.71%	
	58.12%	4.27%	6.28%	0.11%	0.20%	1.12%	0.31%	2.76%	0.14%	5.92%	0.50%	0.15%	1.36%	0.02%	1.29%	0.94%	15.40%	0.93%	0.15%	
ESSEX	61.49%	4.44%	8.03%	0.00%	0.00%	0.27%	0.00%	1.30%	0.00%	7.32%	0.09%	0.00%	0.80%	0.00%	1.00%	0.35%	14.23%	0.64%	0.05%	
	6.03%	48.83%	5.20%	0.18%	0.27%	3.23%	0.43%	8.01%	0.15%	4.94%	1.37%	0.13%	7.77%	0.06%	0.27%	0.82%	11.78%	0.35%	0.19%	
	2.18%	40.75%	1.61%	0.00%	0.00%	0.37%	0.00%	3.62%	0.00%	1.44%	0.00%	0.00%	3.44%	0.00%	0.00%	0.00%	6.56%	0.00%	0.00%	
	9.88%	56.91%	8.79%	0.86%	1.11%	6.09%	1.49%	12.40%	0.77%	8.44%	3.24%	0.70%	12.10%	0.47%	1.12%	2.28%	16.99%	1.30%	0.90%	
HUDSON	5.50%	53.61%	5.16%	0.29%	0.27%	2.68%	0.52%	7.38%	0.13%	4.19%	1.42%	0.20%	7.18%	0.11%	0.27%	0.84%	9.70%	0.35%	0.19%	
	6.98%	57.14%	5.73%	0.01%	0.00%	1.30%	0.00%	6.30%	0.00%	6.59%	0.35%	0.00%	6.13%	0.00%	0.23%	0.33%	8.77%	0.32%	0.12%	
	10.28%	7.17%	37.28%	0.10%	0.20%	2.21%	0.35%	1.98%	0.11%	1.93%	0.58%	0.06%	2.62%	0.03%	0.50%	1.46%	31.73%	0.97%	0.39%	
	5.16%	2.82%	29.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	23.88%	0.00%	0.00%	
HUNTERDON	15.40%	11.52%	45.44%	0.63%	1.11%	4.69%	1.34%	4.33%	0.68%	4.25%	1.85%	0.46%	5.32%	0.35%	1.60%	3.49%	39.58%	2.63%	1.44%	
	9.81%	6.84%	47.31%	0.14%	0.28%	1.98%	0.39%	1.62%	0.28%	1.96%	0.66%	0.04%	2.46%	0.02%	0.37%	1.12%	23.71%	0.73%	0.28%	
	11.30%	8.32%	47.87%	0.00%	0.00%	0.44%	0.00%	0.43%	0.00%	1.97%	0.00%	0.00%	2.60%	0.00%	0.50%	1.43%	22.81%	1.74%	0.52%	
	0.98%	3.40%	1.06%	37.70%	8.49%	7.83%	0.68%	6.74%	0.18%	0.47%	23.79%	0.11%	5.63%	2.09%	0.01%	0.10%	2.26%	0.20%	0.31%	
MERCER	0.00%	0.00%	0.00%	28.01%	1.57%	2.46%	0.00%	1.72%	0.00%	0.00%	15.27%	0.00%	1.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	2.96%	7.02%	3.10%	47.40%	11.42%	13.21%	2.32%	11.75%	0.95%	1.84%	32.30%	0.77%	10.24%	4.94%	0.25%	0.73%	5.24%	1.09%	1.42%	
	1.16%	2.73%	0.81%	45.44%	6.39%	6.64%	0.82%	5.43%	0.31%	0.17%	19.79%	0.31%	4.23%	2.13%	0.00%	0.04%	3.41%	0.07%	0.11%	
	1.93%	3.73%	1.97%	41.79%	4.82%	7.99%	0.08%	5.46%	0.00%	0.93%	23.76%	0.02%	3.53%	2.56%	0.08%	0.23%	0.76%	0.14%	0.23%	
MIDDLESEX	0.57%	1.03%	0.55%	0.84%	72.11%	12.21%	1.76%	0.54%	0.49%	0.14%	3.78%	0.07%	0.92%	0.04%	0.11%	0.32%	4.29%	0.18%	0.05%	
	0.00%	0.00%	0.00%	0.00%	66.22%	7.18%	0.00%	0.00%	0.00%	0.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.18%	0.00%	0.00%	
	1.73%	2.58%	1.68%	2.24%	78.99%	17.23%	3.78%	1.67%	1.57%	0.70%	6.71%	0.47%	2.39%	0.32%	0.63%	1.19%	7.39%	0.84%	0.41%	
	0.57%	1.08%	0.56%	0.87%	72.31%	12.01%	1.77%	0.55%	0.48%	0.14%	3.84%	0.07%	0.94%	0.04%	0.11%	0.31%	4.12%	0.18%	0.05%	
MONMOUTH	0.48%	1.72%	1.53%	1.67%	69.38%	13.96%	1.18%	0.33%	0.17%	0.16%	3.51%	0.00%	1.44%	0.03%	0.16%	0.95%	2.24%	0.78%	0.31%	
	1.66%	4.45%	2.46%	0.41%	3.73%	53.75%	3.61%	1.92%	0.32%	0.59%	7.75%	0.08%	7.57%	0.07%	0.11%	1.00%	9.28%	0.46%	0.79%	
	0.00%	1.06%	0.00%	0.00%	0.61%	45.54%	0.54%	0.00%	0.00%	0.00%	3.35%	0.00%	3.22%	0.00%	0.00%	0.00%	4.51%	0.00%	0.00%	
	3.76%	7.84%	5.00%	1.46%	6.84%	61.95%	6.68%	4.17%	1.25%	1.86%	12.15%	0.56%	11.93%	0.49%	0.65%	2.64%	14.05%	1.56%	2.24%	
MORRIS	1.27%	3.99%	3.15%	0.57%	3.82%	56.38%	4.33%	1.63%	0.49%	0.53%	7.08%	0.09%	6.85%	0.10%	0.11%	0.99%	7.47%	0.44%	0.74%	
	1.90%	2.95%	2.76%	0.09%	2.77%	65.23%	2.49%	0.47%	0.00%	0.35%	3.79%	0.00%	8.61%	0.00%	0.09%	0.57%	7.32%	0.47%	0.74%	
	1.28%	3.02%	2.23%	0.19%	2.35%	11.38%	58.20%	0.77%	3.88%	0.36%	1.40%	0.04%	3.04%	0.06%	0.12%	1.40%	8.64%	0.39%	1.24%	
	0.00%	0.63%	0.17%	0.00%	0.23%	6.94%	51.31%	0.00%	0.19%	0.00%	0.00%	0.00%	0.64%	0.00%	0.00%	0.00%	4.72%	0.00%	0.00%	
OCEAN	2.85%	5.41%	4.29%	0.80%	4.46%	15.81%	65.09%	1.99%	6.60%	1.20%	3.04%	0.30%	5.44%	0.39%	0.61%	3.04%	12.56%	1.27%	2.79%	
	1.01%	2.69%	2.27%	0.21%	2.35%	9.20%	62.05%	1.15%	3.63%	0.40%	1.46%	0.05%	2.64%	0.06%	0.11%	1.28%	8.03%	0.35%	1.08%	
	1.99%	5.09%	2.86%	0.13%	2.81%	12.77%	52.61%	0.64%	2.23%	0.66%	1.95%	0.00%	3.45%	0.00%	0.26%	1.89%	7.40%	1.57%	1.68%	
	5.48%	11.10%	2.13%	0.55%	0.35%	1.97%	0.32%	56.32%	0.10%	5.63%	3.99%	1.15%	3.92%	0.72%	0.13%	0.39%	5.47%	0.20%	0.06%	
PASSAIC	1.66%	5.82%	0.00%	0.00%	0.00%	0.00%	0.00%	47.99%	0.00%	1.78%	0.70%	0.00%	0.66%	0.00%	0.00%	0.00%	1.65%	0.00%	0.00%	
	9.31%	16.38%	4.56%	1.79%	1.35%	4.30%	1.28%	64.66%	0.64%	9.51%	7.28%	2.94%	7.19%	2.14%	0.73%	1.44%	9.29%	0.94%	0.49%	
	5.13%	10.35%	2.13%	0.51%	0.35%	1.53%	0.33%	58.31%	0.18%	5.14%	4.01%	1.17%	3.67%	0.85%	0.11%	0.35%	5.34%	0.18%	0.06%	
	6.21%	7.43%	4.50%	0.91%	0.04%	2.27%	0.03%	53.60%	0.00%	7.93%	4.25%	0.61%	5.31%	0.96%	0.35%	0.44%	4.64%	0.53%	0.16%	
SOMERSET	0.83%	1.85%	1.18%	0.10%	3.09%	6.44%	19.43%	0.80%	60.03%	0.41%	0.85%	0.06%	2.34%	0.07%	0.06%	0.36%	1.61%	0.13%	0.36%	
	0.00%	0.00%	0.00%	0.00%	0.00%	0.89%	10.47%	0.00%	48.95%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	2.88%	4.90%	3.62%	0.81%	7.01%	12.00%	28.38%	2.81%	71.12%	1.87%	2.82%	0.63%	5.76%	0.66%	0.63%	1.71%	4.45%	0.96%	1.73%	
	1.11%	1.91%	1.10%	0.12%	3.13%	4.57%	19.70%	0.76%	61.45%	0.47%	0.73%	0.02%	1.99%	0.12%	0.06%	0.37%	1.91%	0.13%	0.36%	
SUSSEX	1.24%	2.99%	3.66%	0.32%	3.75%	8.78%	13.95%	0.48%	51.62%	0.45%	1.58%	0.00%	5.30%	0.00%	0.23%	1.45%	1.24%	1.51%	1.15%	
	26.40%	8.28%	3.17%	0.08%	0.26%	1.10%	0.28%	0.67%	0.08%	41.67%	0.48%	0.27%	1.45%	0.09%	0.25%	0.31%	7.78%	2.80%	0.10%	
	17.49%	2.71%	0.00%	0.00%	0.00%	0.00%	0.00%	2.29%	0.00%	31.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.36%	0.00%	0.00%	
	35.31%	13.86%	6.71%	0.64%	1.28%	3.20%	1.34%	13.05%	0.64%	51.64%	1.88%	1.33%	3.86%	0.70%	1.27%	1.44%	13.19%	1.34%	0.76%	
UNION	24.71%	8.73%	3.51%	0.11%	0.28%	1.10%	0.37%	8.05%	0.34%	45.99%	0.51%	0.41%	1.12%	0.06%	0.20%	0.26%	4.35%	0.22%	0.08%	
	29.05%	8.87%	4.21%	0.01%	0.00%	0.28%	0.00%	3.81%	0.00%	44.94%	0.17%	0.02%	0.88%	0.00%	0.23%	0.13%	7.11%	0.24%	0.02%	
	1.63%	5.02%	1.54%	2.54%	3.99%	19.35%	0.99%	8.40%	0.14%	0.71%	41.31%	0.18%	8.31%	0.21%	0.07%	0.47%	4.66%	0.19%	0.29%	
	0.00%	1.03%	0.00%	0.00%	0.41%	12.13%	0.00%	3.33%	0.00%	0.00%	32.32%	0.00%	3.26%	0.00%	0.00%	0.00%	0.81%	0.00%	0.00%	
WARREN	3.94%	9.01%	3.79%	5.41%	7.57%	26.58%	2.79%	13.47%	0.83%	2.25%	50.31%	0.95%	13.35%	1.03%	0.53%	1.73%	8.52%	0.99%	1.28%	
	1.17%	4.40%	2.12%	2.83%	3.97%	16.87%	0.93%	7.07%	0.32%	0.47%	44.84%	0.14%	8.12%	0.28%	0.07%	0.52%	5.35%	0.20%	0.31%	
	1.96%	4.13%	2.22%	2.32%	3.36%	21.91%	0.12%	6.13%	0.00%	0.93%	45.02%	0.00%	7.10%	0.08%	0.10%	0.36%	3.06%	0.27%	0.34%	
	7.25%	5.64%	1.66%	0.30%	0.24%	1.11%	0.30%	30.40%	0.14%	6.31%	1.41%	38.76%	1.44%	2.07%	0.15%	0.22%	2.24%	0.25%	0.10%	
BRONX	2.95%	1.82%	0.00%	0.00%	0.00%	0.00%	0.00%	22.78%	0.00%	2.29%	0.00%	30.69%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	11.54%	9.47%	3.77%	1.21%	1.06%	2.85%	1.21%	38.02%	0.75%	10.34%	3.36%	46.83%	3.41%	4.43%	0.79%	1.00%	4.70%	1.07%	0.64%	
	5.75%	5.41%	1.73%	0.20%	0.24%	0.80%	0.35%	27.23%	0.08%	6.20%	1.71%	44.17%	1.73%	1.46%	0.14%	0.20%	2.29%	0.23%	0.10%	
	12.20%	7.57%	3.54%	0.50%	0.01%	0.94%	0.00%	19.63%	0.00%	5.99%	1.66%	41.35%	1.92%	2.27%	0.39%	0.26%	1.28%	0.44%	0.07%	
KINGS	2.37%	13.71%	3.55%	0.44%	0.46%	11.75%	0.74%	4.89%	0.20%	1.14%	5.27%	0.06%	43.52%	0.07%	0.20%	0.63%	10.20%	0.38%	0.42%	
	0.00%	6.96%	0.00%	0.00%	0.00%	5.44%	0.00%	0.67%	0.00%	0.00%	0.89%	0.00%	33.80%	0.00%	0.00%	0.00%	4.27%	0.00%	0.00%	
	5.36%	20.45%	7.18%	1.74%	1.80%	18.06%	2.41%	9.12%	1.08%	3.23%	9.65%	0.56%	53.23%	0.57%	1.06%	2.18%	16.13%	1.58%	1.69%	
	1.90%	13.91%	3.31%	0.89%	0.47%	9.69%	1.14%	4.14%	0.18%	1.13%	4.04%	0.05%	50.57%	0.13%	0.17%	0.55%	7.07%	0.32%	0.35%	
MANHATTAN	3.26%	15.33%	7.21%	0.99%	0.03%	9.85%	0.05%	2.91%	0.00%	1.19%	3.13%	0.00%	46.55%	0.00%	0.17%	0.78%	8.34%	0.46%	0.65%	
	1.78%	3.05%	0.70%	11.73%	0.90%	3.20%	0.27%	21.												

DISTRICT	HBSH																		
	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND
BERGEN	90.39%	0.46%	1.25%	0.00%	0.00%	2.75%	0.44%	0.00%	0.00%	3.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	1.10%	0.00%	0.00%
	87.44%	0.00%	0.14%	0.00%	0.00%	1.11%	0.00%	0.00%	0.00%	1.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%	0.00%	0.00%
	93.35%	1.15%	2.37%	0.00%	0.00%	4.40%	1.11%	0.00%	0.00%	5.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.42%	2.14%	0.00%	0.00%
	84.73%	1.53%	5.54%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	5.14%	0.00%	0.00%	0.17%	0.00%	0.63%	0.02%	1.81%	0.00%	0.00%
ESSEX	3.82%	74.11%	0.71%	0.00%	0.00%	5.12%	0.00%	1.21%	0.00%	13.28%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.57%	0.00%	0.22%
	0.95%	67.54%	0.00%	0.00%	0.00%	1.81%	0.00%	0.00%	0.00%	8.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	6.69%	80.68%	1.96%	0.00%	0.00%	8.42%	0.00%	2.84%	0.00%	18.36%	0.00%	0.00%	2.44%	0.00%	0.00%	0.00%	1.69%	0.00%	0.93%
	3.04%	74.59%	8.34%	0.00%	0.00%	0.26%	0.00%	2.65%	0.00%	4.53%	0.05%	0.00%	5.73%	0.00%	0.05%	0.00%	0.45%	0.00%	0.32%
HUDSON	4.28%	3.86%	77.57%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	1.55%	0.00%	0.00%	1.99%	3.63%	0.00%	0.00%	5.68%	0.00%	0.68%
	0.75%	0.50%	70.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	1.64%	0.00%	0.00%
	7.82%	7.23%	84.85%	2.26%	0.00%	0.00%	0.00%	0.00%	0.00%	3.71%	0.00%	0.00%	4.42%	6.90%	0.00%	0.00%	9.72%	0.00%	2.11%
	4.77%	4.32%	84.30%	0.00%	0.00%	0.03%	0.00%	0.08%	0.00%	0.98%	0.00%	0.00%	1.14%	0.00%	0.14%	0.02%	2.28%	0.00%	1.94%
HUNTERDON	0.00%	0.00%	0.00%	64.34%	3.01%	0.86%	0.00%	3.08%	0.00%	2.24%	8.84%	0.00%	0.00%	17.63%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	56.62%	0.26%	0.00%	0.00%	0.30%	0.00%	0.00%	4.27%	0.00%	0.00%	11.49%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	72.06%	5.77%	2.34%	0.00%	5.86%	0.00%	4.62%	13.42%	0.00%	0.00%	23.76%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.06%	0.59%	0.27%	72.30%	0.87%	1.38%	0.00%	3.18%	0.00%	0.12%	9.08%	0.03%	1.02%	11.00%	0.01%	0.00%	0.05%	0.00%	0.04%
MERCER	0.00%	0.00%	0.00%	0.90%	91.21%	1.75%	5.63%	0.00%	0.28%	0.00%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%
	0.00%	0.00%	0.00%	0.00%	87.83%	0.18%	2.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	2.03%	94.59%	3.31%	8.38%	0.00%	0.00%	0.00%	0.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.80%
	0.01%	0.08%	0.11%	1.25%	91.80%	5.06%	0.25%	0.03%	0.01%	0.00%	0.62%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.38%
MIDDLESEX	0.53%	0.17%	0.47%	0.82%	9.78%	75.90%	1.44%	0.00%	0.32%	0.00%	4.70%	0.00%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	5.89%	70.30%	0.00%	0.00%	0.00%	0.00%	1.93%	0.00%	2.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	1.46%	0.70%	1.37%	2.00%	13.67%	81.50%	3.00%	0.00%	1.05%	0.00%	7.48%	0.00%	8.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.21%	1.79%	1.28%	0.22%	1.95%	79.06%	1.16%	0.46%	0.06%	0.20%	3.03%	0.00%	9.91%	0.04%	0.02%	0.00%	0.00%	0.00%	0.63%
MONMOUTH	0.00%	0.00%	0.00%	0.25%	2.19%	3.55%	91.44%	0.27%	1.19%	0.00%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49%	0.00%	0.46%
	0.00%	0.00%	0.00%	0.00%	0.58%	1.52%	88.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.79%	3.79%	5.59%	94.51%	0.84%	2.38%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	0.00%	1.26%	0.00%	1.20%
	0.17%	0.95%	0.81%	0.05%	0.73%	7.34%	82.61%	0.18%	2.98%	0.15%	0.18%	0.00%	2.99%	0.01%	0.02%	0.00%	0.20%	0.00%	0.64%
MORRIS	0.00%	6.87%	0.00%	0.21%	0.00%	0.34%	0.00%	81.47%	0.00%	3.21%	1.70%	1.31%	0.20%	0.00%	2.80%	0.00%	0.48%	0.00%	1.41%
	0.00%	3.17%	0.00%	0.00%	0.00%	0.00%	0.00%	75.78%	0.00%	0.63%	0.00%	0.00%	0.00%	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%
	0.00%	10.58%	0.00%	0.87%	0.00%	1.20%	0.00%	87.16%	0.00%	5.79%	3.59%	2.98%	0.85%	0.00%	5.22%	0.00%	1.49%	0.00%	3.14%
	1.91%	9.42%	1.53%	0.49%	0.00%	0.37%	0.00%	72.07%	0.00%	5.98%	0.90%	0.60%	3.66%	1.08%	0.05%	0.00%	0.33%	0.00%	1.59%
OCEAN	0.00%	0.00%	0.00%	0.00%	0.00%	2.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.14%	0.00%	94.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	5.51%	0.00%	99.83%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.48%	0.00%	0.00%
	0.01%	0.04%	0.06%	0.02%	0.01%	0.50%	1.57%	0.01%	97.53%	0.01%	0.01%	0.00%	0.17%	0.00%	0.00%	0.00%	0.01%	0.00%	0.05%
PASSAIC	11.99%	0.77%	0.00%	0.00%	0.00%	0.64%	0.00%	4.41%	2.84%	73.31%	1.36%	0.80%	0.00%	0.00%	0.21%	0.00%	1.69%	0.00%	1.97%
	6.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.18%	0.23%	66.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	17.10%	2.15%	0.00%	0.00%	0.00%	1.90%	0.00%	7.64%	5.46%	80.28%	3.18%	2.20%	0.00%	0.00%	0.94%	0.00%	3.72%	0.00%	4.16%
	12.18%	5.41%	2.88%	0.00%	0.00%	0.04%	0.00%	3.47%	0.00%	74.09%	0.01%	0.01%	0.43%	0.00%	0.12%	0.00%	0.67%	0.00%	0.67%
SOMERSET	0.00%	0.78%	1.51%	4.07%	1.57%	14.67%	0.00%	2.30%	0.00%	0.00%	71.29%	0.90%	2.91%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	1.34%	0.00%	9.78%	0.00%	0.23%	0.00%	0.00%	65.04%	0.00%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	1.99%	3.20%	6.80%	3.29%	19.56%	0.00%	4.37%	0.00%	0.00%	77.55%	2.21%	5.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.21%	2.12%	0.76%	4.20%	1.25%	14.74%	0.01%	4.19%	0.00%	0.30%	65.12%	0.01%	6.48%	0.44%	0.01%	0.00%	0.00%	0.00%	0.17%
SUSSEX	0.00%	0.00%	0.00%	0.00%	2.43%	0.00%	0.51%	23.21%	0.00%	0.55%	0.00%	70.50%	0.43%	2.36%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.08%	0.00%	0.00%	16.77%	0.00%	0.00%	0.00%	63.54%	0.00%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	4.78%	0.00%	1.60%	29.65%	0.00%	1.68%	0.00%	77.46%	1.43%	4.68%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.94%	1.70%	0.67%	0.16%	0.00%	0.05%	0.00%	17.61%	0.00%	2.61%	0.10%	73.02%	0.47%	2.36%	0.04%	0.00%	0.25%	0.00%	0.01%
UNION	0.83%	4.38%	0.00%	0.00%	0.00%	10.84%	0.00%	0.60%	0.00%	0.00%	5.27%	0.00%	78.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.95%	0.00%	0.00%	0.00%	5.63%	0.00%	0.00%	0.00%	0.00%	1.53%	0.00%	71.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.36%	7.81%	2.00%	0.00%	0.00%	16.04%	0.00%	1.89%	0.00%	0.00%	9.01%	0.00%	85.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.37%	7.55%	0.60%	0.06%	0.00%	6.05%	0.00%	2.08%	0.00%	0.37%	1.72%	0.00%	78.96%	0.02%	0.02%	0.00%	0.00%	0.00%	0.20%
WARREN	1.06%	0.00%	0.00%	2.35%	0.00%	0.00%	0.00%	3.45%	0.00%	0.00%	0.42%	2.94%	0.77%	89.01%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	0.00%	0.77%	0.00%	0.00%	0.00%	0.46%	0.00%	84.42%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.56%	0.00%	0.00%	4.57%	0.00%	0.00%	0.00%	6.13%	0.00%	0.00%	1.36%	5.42%	2.06%	93.61%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.18%	0.51%	0.20%	4.45%	0.00%	0.04%	0.00%	7.11%	0.00%	0.30%	0.13%	1.09%	0.17%	85.73%	0.01%	0.00%	0.07%	0.00%	0.00%
BRONX	0.00%	0.00%	0.00%	0.00%	1.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	74.70%	0.00%	21.94%	1.50%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.86%	0.00%	12.58%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	4.90%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	84.54%	0.00%	31.31%	4.26%	0.00%
	0.80%	0.02%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.05%	0.00%	0.00%	0.01%	0.00%	82.38%	0.00%	16.43%	0.03%	0.00%
KINGS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	89.52%	9.93%	0.00%	0.00%	0.55%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	85.10%	5.62%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	93.93%	14.25%	0.00%	0.00%	1.61%
	0.29%	0.00%	0.94%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.05%	0.00%	0.00%	0.02%	0.01%	1.01%	4.38%	85.02%	8.25%	0.00%
MANHATTAN	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.57%	80.12%	4.48%	0.00%	0.00%
	1.04%	0.10%	2.27%	0.00%	0.00%	0.00%	0.00%	0.17%	0.00%	0.35%	0.08%	0.00%	0.20%	0.16%					

		HBO																	
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND
BERGEN	86.13%	1.49%	0.79%	0.24%	0.31%	0.22%	0.00%	0.88%	0.05%	4.77%	0.02%	0.00%	0.54%	0.23%	0.29%	0.15%	2.76%	0.87%	0.27%
	84.27%	0.84%	0.31%	0.00%	0.01%	0.00%	0.00%	0.38%	0.00%	3.62%	0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	1.88%	0.37%	0.00%
	87.99%	2.14%	1.27%	0.51%	0.61%	0.47%	0.00%	1.38%	0.17%	5.92%	0.10%	0.00%	0.93%	0.49%	0.57%	0.35%	3.64%	1.37%	0.55%
ESSEX	87.71%	1.78%	1.70%	0.00%	0.00%	0.08%	0.00%	0.16%	0.00%	3.31%	0.00%	0.00%	0.11%	0.00%	1.82%	0.38%	2.43%	0.35%	0.08%
	2.11%	74.82%	4.12%	0.00%	0.00%	2.59%	0.21%	1.98%	0.00%	6.17%	0.10%	0.00%	3.08%	0.00%	0.21%	0.08%	2.84%	0.15%	1.54%
	1.08%	71.70%	2.70%	0.00%	0.00%	1.45%	0.00%	0.98%	0.00%	4.44%	0.00%	0.00%	1.84%	0.00%	0.00%	0.00%	1.65%	0.00%	0.65%
HUDSON	3.14%	77.93%	5.55%	0.00%	0.00%	3.73%	0.54%	2.98%	0.00%	7.90%	0.34%	0.00%	4.33%	0.00%	0.53%	0.29%	4.03%	0.43%	2.42%
	1.16%	80.43%	8.66%	0.00%	0.00%	0.91%	0.00%	0.90%	0.00%	2.24%	0.04%	0.00%	2.53%	0.00%	0.08%	0.05%	2.40%	0.27%	0.32%
	6.30%	13.34%	62.98%	0.16%	0.00%	0.76%	0.29%	0.61%	0.00%	0.75%	0.00%	0.00%	1.43%	0.09%	0.64%	0.00%	10.20%	0.20%	2.26%
HUNTERDON	4.25%	10.48%	58.92%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.43%	0.00%	0.00%	0.00%	7.65%	0.00%	1.01%
	8.34%	16.20%	67.04%	0.50%	0.00%	1.48%	0.73%	1.26%	0.00%	1.48%	0.00%	0.00%	2.43%	0.33%	1.32%	0.00%	12.74%	0.58%	3.51%
	6.82%	13.04%	66.21%	0.00%	0.00%	0.14%	0.00%	0.02%	0.00%	0.33%	0.00%	0.00%	0.41%	0.00%	0.35%	0.28%	8.85%	2.02%	1.54%
MERCER	0.76%	0.52%	0.00%	79.29%	2.71%	0.78%	0.00%	2.09%	0.76%	0.00%	9.45%	0.12%	0.64%	2.74%	0.00%	0.00%	0.15%	0.00%	0.00%
	0.05%	0.00%	0.00%	75.95%	1.37%	0.06%	0.00%	0.91%	0.04%	0.00%	7.04%	0.00%	0.00%	1.40%	0.00%	0.00%	0.00%	0.00%	0.00%
	1.48%	1.11%	0.00%	82.62%	4.04%	1.50%	0.00%	3.26%	1.47%	0.00%	11.86%	0.41%	1.29%	4.09%	0.00%	0.00%	0.47%	0.00%	0.00%
MIDDLESEX	0.15%	1.66%	1.79%	75.48%	2.86%	2.24%	0.02%	2.31%	0.00%	0.19%	7.42%	0.01%	1.83%	1.62%	0.03%	0.03%	1.22%	0.20%	0.93%
	0.00%	1.02%	0.00%	1.36%	90.85%	4.71%	0.49%	0.00%	0.70%	0.00%	0.27%	0.10%	0.09%	0.00%	0.00%	0.00%	0.23%	0.00%	0.18%
	0.00%	0.36%	0.00%	0.59%	88.94%	3.30%	0.03%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MONMOUTH	0.00%	1.69%	0.00%	2.13%	92.77%	6.11%	0.95%	0.00%	1.25%	0.00%	0.62%	0.31%	0.29%	0.00%	0.00%	0.00%	0.54%	0.00%	0.46%
	0.00%	0.01%	0.05%	0.04%	90.94%	7.07%	0.22%	0.00%	0.22%	0.00%	0.24%	0.00%	0.04%	0.00%	0.00%	0.00%	1.03%	0.00%	0.13%
	0.78%	2.75%	0.95%	0.17%	6.10%	76.31%	3.27%	0.09%	0.34%	0.00%	4.36%	0.00%	3.03%	0.00%	0.00%	0.29%	1.57%	0.00%	0.00%
MORRIS	0.17%	1.62%	0.28%	0.00%	4.44%	73.36%	2.04%	0.00%	0.00%	0.00%	2.93%	0.00%	1.84%	0.00%	0.00%	0.00%	0.71%	0.00%	0.00%
	1.38%	3.89%	1.62%	0.46%	7.76%	79.26%	4.50%	0.30%	0.74%	0.00%	5.76%	0.00%	4.22%	0.00%	0.00%	0.67%	2.44%	0.00%	0.00%
	0.06%	1.63%	1.33%	0.00%	3.08%	82.38%	2.28%	0.05%	0.01%	0.03%	3.45%	0.00%	2.56%	0.00%	0.02%	0.02%	1.71%	0.00%	0.92%
SUSSEX	0.63%	1.08%	0.33%	0.00%	4.24%	2.45%	84.90%	0.09%	2.98%	0.00%	0.04%	0.00%	0.88%	0.30%	0.00%	0.62%	1.35%	0.05%	0.05%
	0.16%	0.46%	0.00%	0.00%	3.03%	1.52%	82.76%	0.00%	1.96%	0.00%	0.00%	0.00%	0.32%	0.00%	0.00%	0.15%	0.66%	0.00%	0.00%
	1.11%	1.69%	0.68%	0.00%	5.45%	3.37%	87.05%	0.27%	4.01%	0.00%	0.16%	0.00%	1.44%	0.63%	0.00%	1.09%	2.04%	0.18%	0.18%
OCEAN	0.28%	1.17%	2.48%	0.00%	3.75%	3.01%	78.51%	0.06%	4.90%	0.07%	0.29%	0.00%	2.20%	0.00%	0.04%	0.06%	1.10%	0.17%	1.92%
	1.95%	4.47%	0.13%	0.49%	0.00%	0.00%	0.00%	81.90%	0.00%	1.62%	1.17%	0.72%	4.12%	2.00%	0.00%	0.11%	1.31%	0.00%	0.00%
	0.88%	2.87%	0.00%	0.00%	0.00%	0.00%	0.00%	78.92%	0.00%	0.64%	0.34%	0.07%	2.58%	0.91%	0.00%	0.00%	0.43%	0.00%	0.00%
PASSAIC	3.02%	6.07%	0.41%	1.03%	0.00%	0.00%	0.00%	84.88%	0.00%	2.60%	2.00%	1.38%	5.66%	3.08%	0.00%	0.36%	2.19%	0.00%	0.00%
	1.88%	5.72%	4.35%	0.07%	0.01%	2.70%	0.00%	74.31%	0.00%	4.14%	1.59%	0.23%	2.96%	0.33%	0.14%	0.04%	1.14%	0.09%	0.32%
	0.87%	0.43%	0.00%	0.36%	0.00%	0.34%	5.32%	0.00%	89.90%	0.00%	1.25%	0.00%	0.15%	0.00%	0.00%	0.15%	1.22%	0.00%	0.00%
SOMERSET	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	3.30%	0.00%	67.19%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%
	1.71%	1.02%	0.00%	0.90%	0.00%	0.86%	7.33%	0.00%	92.61%	0.00%	2.25%	0.00%	0.50%	0.00%	0.00%	0.50%	2.21%	0.00%	0.00%
	0.07%	0.08%	0.36%	0.00%	0.06%	3.65%	6.21%	0.00%	88.36%	0.00%	0.02%	0.00%	0.12%	0.00%	0.01%	0.01%	0.44%	0.03%	0.58%
UNION	8.03%	1.56%	0.35%	0.00%	0.38%	0.77%	0.24%	6.90%	0.42%	78.05%	0.12%	1.26%	0.11%	0.00%	0.00%	0.00%	1.82%	0.00%	0.00%
	5.78%	0.53%	0.00%	0.00%	0.00%	0.05%	0.00%	4.80%	0.00%	74.63%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.71%	0.00%	0.00%
	10.29%	2.59%	0.84%	0.00%	0.88%	1.50%	0.64%	8.99%	0.95%	81.48%	0.40%	2.18%	0.38%	0.00%	0.00%	0.00%	2.92%	0.00%	0.00%
WARREN	7.21%	2.60%	1.52%	0.00%	0.00%	0.18%	0.00%	3.65%	0.00%	82.47%	0.01%	0.01%	0.21%	0.00%	0.34%	0.05%	1.49%	0.18%	0.00%
	0.00%	0.19%	0.00%	2.29%	2.74%	6.64%	0.49%	3.89%	0.54%	0.00%	79.69%	0.00%	1.61%	0.00%	0.00%	0.00%	0.92%	0.00%	0.97%
	0.00%	0.00%	0.00%	1.09%	1.43%	4.63%	0.00%	2.33%	0.00%	0.00%	76.45%	0.00%	0.60%	0.00%	0.00%	0.00%	0.15%	0.00%	0.19%
BRONX	0.00%	0.54%	0.00%	3.50%	4.06%	8.64%	1.05%	5.45%	1.14%	0.00%	82.93%	0.00%	2.63%	0.00%	0.00%	0.00%	1.70%	0.00%	1.78%
	0.08%	1.58%	1.11%	0.23%	4.02%	3.17%	0.00%	3.17%	0.00%	0.13%	74.94%	0.00%	4.03%	0.00%	0.02%	0.02%	1.20%	0.08%	0.99%
	0.14%	1.43%	0.14%	0.00%	0.17%	0.00%	0.00%	10.35%	0.07%	1.78%	0.00%	83.79%	0.31%	1.54%	0.00%	0.00%	0.27%	0.00%	0.00%
KINGS	0.00%	0.55%	0.00%	0.00%	0.00%	0.00%	0.00%	8.11%	0.00%	0.81%	0.00%	81.08%	0.00%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.41%	2.30%	0.41%	0.00%	0.47%	0.00%	0.00%	12.59%	0.27%	2.76%	0.00%	86.50%	0.72%	2.45%	0.00%	0.00%	0.68%	0.00%	0.00%
	1.10%	3.51%	2.97%	0.01%	0.00%	0.76%	0.00%	9.65%	0.00%	1.56%	0.29%	78.33%	0.57%	0.49%	0.16%	0.04%	0.26%	0.09%	0.20%
QUEENS	0.46%	3.31%	1.08%	0.00%	0.00%	7.33%	0.24%	3.08%	0.80%	0.55%	0.92%	0.00%	78.62%	1.58%	0.00%	0.00%	1.09%	0.95%	0.00%
	0.00%	1.80%	0.20%	0.00%	0.00%	5.12%	0.00%	1.62%	0.05%	0.00%	0.11%	0.00%	75.15%	0.53%	0.00%	0.00%	0.21%	0.13%	0.00%
	1.03%	4.82%	1.95%	0.00%	0.00%	9.53%	0.65%	4.54%	1.55%	1.18%	1.73%	0.00%	82.09%	2.64%	0.00%	0.00%	1.97%	1.77%	0.00%
RICHMOND	0.09%	5.06%	3.14%	0.00%	0.00%	12.97%	0.00%	0.74%	0.00%	0.12%	0.91%	0.00%	73.78%	0.00%	0.02%	0.02%	1.63%	0.13%	1.38%
	0.69%	0.44%	0.00%	3.24%	0.04%	0.42%	0.00%	3.68%	0.00%	0.59%	0.62%	1.75%	0.00%	87.75%	0.00%	0.00%	0.75%	0.00%	0.00%
	0.00%	0.00%	0.00%	1.75%	0.00%	0.00%	0.00%	2.09%	0.00%	0.00%	0.00%	0.65%	0.00%	84.98%	0.00%	0.00%	0.02%	0.00%	0.00%
MANHATTAN	1.39%	1.01%	0.00%	4.74%	0.22%	0.97%	0.00%	5.27%	0.00%	1.24%	1.29%	2.86%	0.00%	90.52%	0.00%	0.00%	1.48%	0.00%	0.00%
	0.30%	1.45%	1.38%	0.65%	0.03%	2.24%	0.00%	4.03%	0.00%	0.38%	1.13%	0.51%	0.41%	86.41%	0.08%	0.03%	0.66%	0.07%	0.22%
	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	83.17%	0.98%	14.29%	0.97%	0.00%	
SOMERSET	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	79.56%	0.03%	10.92%	0.02%	0.00%
	1.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	86.78%	1.93%	17.67%	1.91%	0.00%
	0.55%	0.04%	0.85%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.						

WBO

DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND
BERGEN	73.07%	5.33%	3.53%	0.00%	0.68%	0.20%	0.77%	2.68%	0.57%	5.97%	1.03%	0.60%	1.48%	0.13%	0.00%	0.00%	3.78%	0.00%	0.16%
	68.51%	3.02%	1.63%	0.00%	0.00%	0.00%	0.00%	1.02%	0.00%	3.53%	0.00%	0.00%	0.24%	0.00%	0.00%	0.00%	1.82%	0.00%	0.00%
	77.63%	7.65%	5.42%	0.00%	1.53%	0.66%	1.67%	4.35%	1.34%	8.41%	2.07%	1.40%	2.73%	0.51%	0.00%	0.00%	5.74%	0.00%	0.58%
ESSEX	79.18%	3.02%	3.32%	0.02%	0.01%	0.52%	0.03%	2.04%	0.00%	6.30%	0.16%	0.09%	0.47%	0.03%	0.62%	0.71%	3.23%	0.21%	0.06%
	4.22%	54.18%	1.73%	0.00%	0.59%	0.33%	2.34%	11.92%	2.12%	3.41%	2.03%	0.56%	6.25%	0.49%	0.57%	1.38%	6.83%	0.06%	0.97%
	1.53%	47.51%	0.00%	0.00%	0.00%	0.00%	0.32%	7.58%	0.19%	0.98%	0.14%	0.00%	3.01%	0.00%	0.00%	0.00%	3.45%	0.00%	0.00%
HUDSON	6.91%	60.86%	3.47%	0.00%	1.61%	1.11%	4.37%	16.26%	4.06%	5.84%	3.92%	1.56%	9.50%	1.43%	1.58%	2.95%	10.21%	0.39%	2.29%
	3.55%	59.61%	6.05%	0.12%	0.08%	3.61%	0.21%	7.99%	0.01%	6.07%	1.06%	0.20%	4.36%	0.10%	0.13%	0.38%	5.95%	0.24%	0.27%
	1.69%	6.23%	47.73%	1.00%	0.13%	3.04%	4.27%	2.98%	2.14%	8.27%	2.77%	0.95%	0.00%	0.00%	0.00%	0.49%	17.67%	0.34%	0.30%
HUNTERDON	0.00%	1.26%	37.47%	0.00%	0.00%	0.00%	0.12%	0.00%	0.00%	2.61%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.83%	0.00%	0.00%
	4.34%	11.19%	57.99%	3.04%	0.86%	6.57%	8.43%	6.47%	5.11%	13.93%	6.15%	2.94%	0.00%	0.00%	0.00%	1.93%	25.50%	1.53%	1.43%
	5.38%	12.99%	44.44%	0.06%	0.07%	2.68%	0.54%	2.84%	0.00%	6.06%	0.53%	0.08%	3.26%	0.04%	0.67%	2.49%	14.66%	2.19%	1.02%
MERCER	0.00%	4.88%	0.00%	74.12%	5.19%	0.00%	0.00%	5.62%	0.00%	0.00%	6.09%	0.00%	0.00%	1.42%	0.00%	0.00%	1.14%	0.00%	1.54%
	0.00%	0.40%	0.00%	65.02%	0.58%	0.00%	0.00%	0.84%	0.00%	0.00%	1.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	9.35%	0.00%	83.22%	9.80%	0.00%	0.00%	10.41%	0.00%	0.00%	11.07%	0.00%	0.00%	3.87%	0.00%	0.00%	3.34%	0.00%	4.10%
MIDDLESEX	0.11%	0.69%	0.15%	66.52%	5.08%	4.88%	0.16%	3.72%	0.01%	0.26%	10.99%	0.20%	0.78%	5.99%	0.00%	0.01%	0.37%	0.02%	0.05%
	0.77%	0.40%	0.72%	3.07%	71.54%	7.95%	1.65%	0.00%	5.91%	3.24%	3.77%	0.59%	0.30%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.67%	65.27%	4.19%	0.00%	0.00%	2.63%	0.00%	0.78%	1.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MONMOUTH	1.99%	1.28%	1.90%	5.46%	77.81%	11.70%	3.42%	0.00%	9.19%	5.70%	6.41%	1.65%	1.05%	0.00%	0.00%	0.00%	0.55%	0.00%	0.00%
	0.01%	0.13%	0.05%	1.44%	72.26%	14.63%	2.04%	0.24%	5.14%	0.03%	3.51%	0.00%	0.23%	0.08%	0.00%	0.00%	0.13%	0.00%	0.06%
	1.00%	1.26%	0.49%	1.11%	5.39%	71.04%	7.71%	0.20%	0.88%	0.00%	5.56%	0.00%	4.08%	0.00%	0.00%	0.26%	0.49%	0.00%	0.54%
MORRIS	0.00%	0.00%	0.00%	0.00%	2.60%	65.44%	4.41%	0.00%	0.00%	0.00%	2.73%	0.00%	1.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.23%	2.63%	1.36%	2.41%	8.17%	76.64%	11.00%	0.76%	2.03%	0.00%	8.38%	0.00%	6.52%	0.00%	0.00%	0.90%	1.36%	0.00%	1.44%
	0.37%	2.19%	0.83%	0.54%	6.06%	66.89%	7.47%	1.61%	0.24%	0.49%	7.23%	0.03%	4.42%	0.12%	0.02%	0.09%	0.53%	0.04%	0.83%
OCEAN	0.00%	0.00%	0.00%	0.00%	1.06%	2.10%	73.75%	1.56%	11.95%	1.90%	1.03%	0.00%	5.09%	0.00%	0.00%	0.00%	0.79%	0.00%	0.77%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	67.18%	0.00%	7.10%	0.00%	0.00%	0.00%	1.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	2.59%	4.25%	80.33%	3.42%	16.80%	3.94%	2.54%	0.00%	8.37%	0.00%	0.00%	0.00%	2.11%	0.00%	2.07%
PASSAIC	0.18%	1.03%	0.40%	0.13%	4.77%	2.55%	76.83%	0.63%	8.70%	0.24%	1.38%	0.01%	1.73%	0.02%	0.01%	0.06%	0.78%	0.02%	0.54%
	3.00%	6.54%	0.28%	0.40%	0.33%	0.90%	0.30%	68.50%	0.00%	5.79%	5.37%	3.98%	1.30%	2.11%	0.00%	0.00%	0.95%	0.00%	0.24%
	1.11%	3.80%	0.00%	0.00%	0.00%	0.00%	63.35%	0.00%	3.20%	2.87%	1.81%	0.04%	0.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SOMERSET	4.89%	9.29%	0.87%	1.10%	0.96%	1.95%	0.90%	73.66%	0.00%	8.38%	7.87%	6.15%	2.55%	3.71%	0.00%	0.00%	2.03%	0.00%	0.77%
	2.82%	9.85%	1.64%	0.77%	0.18%	3.11%	0.17%	62.69%	0.00%	6.46%	3.84%	2.09%	3.26%	1.66%	0.08%	0.12%	1.10%	0.05%	0.11%
	0.00%	3.53%	0.00%	0.00%	1.01%	0.00%	10.84%	0.00%	83.87%	0.00%	0.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%
UNION	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.42%	0.00%	76.27%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	7.34%	0.00%	0.00%	3.07%	0.00%	17.26%	0.00%	91.47%	0.00%	2.01%	0.00%	0.00%	0.00%	0.00%	0.00%	1.23%	0.00%	0.00%
	0.01%	0.09%	0.03%	0.04%	1.10%	3.99%	14.82%	0.06%	79.30%	0.02%	0.20%	0.00%	0.18%	0.00%	0.00%	0.00%	0.08%	0.00%	0.06%
WARREN	12.29%	9.42%	1.00%	0.00%	5.58%	0.00%	0.00%	17.97%	0.00%	48.33%	0.00%	0.72%	1.14%	0.00%	0.00%	0.82%	0.84%	0.00%	1.90%
	5.43%	3.31%	0.00%	0.00%	0.78%	0.00%	0.00%	9.95%	0.00%	37.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	19.15%	15.52%	3.07%	0.00%	10.37%	0.00%	0.00%	26.00%	0.00%	58.77%	0.00%	2.49%	3.35%	0.00%	0.00%	2.70%	2.75%	0.00%	4.75%
BRONX	12.87%	9.10%	7.73%	0.14%	0.30%	2.53%	0.16%	14.69%	0.00%	46.40%	0.97%	0.77%	2.26%	0.20%	0.53%	0.28%	0.67%	0.24%	0.13%
	0.00%	3.24%	1.45%	5.11%	0.96%	13.54%	0.23%	3.20%	0.00%	0.22%	66.56%	0.33%	3.62%	0.42%	0.00%	0.61%	0.51%	0.00%	0.00%
	0.00%	0.75%	0.00%	2.01%	0.00%	8.72%	0.00%	0.72%	0.00%	0.00%	59.92%	0.00%	0.99%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KINGS	0.00%	5.73%	3.13%	8.21%	2.34%	18.35%	0.89%	5.88%	0.00%	8.88%	73.20%	1.14%	6.25%	1.33%	0.00%	1.70%	1.52%	0.00%	0.00%
	0.30%	1.83%	0.42%	3.27%	3.67%	19.01%	0.55%	5.42%	0.03%	0.55%	60.65%	0.15%	2.75%	0.63%	0.01%	0.04%	0.53%	0.03%	0.19%
	1.71%	0.33%	2.05%	0.51%	0.00%	2.33%	0.00%	12.36%	0.00%	2.96%	0.00%	68.63%	4.59%	1.47%	0.00%	0.00%	3.06%	0.00%	0.00%
MANHATTAN	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.47%	0.00%	6.47%	0.00%	0.00%	60.33%	0.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	4.03%	1.36%	4.58%	1.79%	0.00%	5.02%	0.00%	18.25%	0.00%	5.99%	0.00%	76.94%	8.34%	3.62%	0.00%	0.00%	6.14%	0.00%	0.00%
	0.63%	1.46%	0.23%	0.29%	0.02%	0.40%	0.00%	13.99%	0.00%	1.87%	0.70%	75.15%	0.34%	4.08%	0.01%	0.02%	0.79%	0.00%	0.01%
QUEENS	1.10%	6.68%	0.71%	0.96%	0.66%	5.45%	1.55%	6.94%	0.00%	0.57%	4.32%	0.86%	64.21%	0.17%	1.06%	0.14%	0.00%	4.35%	0.26%
	0.00%	2.64%	0.00%	0.00%	0.00%	1.78%	0.00%	2.83%	0.00%	0.00%	1.04%	0.00%	56.46%	0.00%	0.00%	0.00%	0.00%	1.05%	0.00%
	2.79%	10.72%	2.07%	2.54%	1.96%	9.12%	3.54%	11.04%	0.00%	1.79%	7.61%	2.35%	71.96%	0.82%	2.72%	0.76%	0.00%	7.65%	1.09%
RICHMOND	1.05%	7.73%	2.76%	0.24%	0.28%	6.54%	0.72%	4.73%	0.03%	1.33%	2.83%	0.07%	70.47%	0.08%	0.05%	0.22%	0.02%	0.17%	0.67%
	0.00%	4.14%	0.00%	1.27%	0.00%	1.00%	0.00%	18.57%	0.00%	0.00%	0.00%	1.43%	0.00%	72.14%	0.00%	0.00%	1.44%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.04%	0.00%	0.00%	0.00%	0.00%	0.00%	61.16%	0.00%	0.00%	0.00%	0.00%	0.00%
SUSSEX	0.00%	9.03%	0.00%	4.01%	0.00%	3.44%	0.00%	28.10%	0.00%	0.00%	0.00%	4.34%	0.00%	83.12%	0.00%	0.00%	4.36%	0.00%	0.00%
	0.29%	2.11%	0.16%	2.05%	0.44%	1.68%	0.03%	14.42%	0.00%	0.67%	3.34%	4.82%	0.44%	69.01%	0.01%	0.02%	0.50%	0.01%	0.02%
	1.44%	1.05%	0.00%	0.00%	0.00%	0.00%	1.31%	0.00%	0.00%	0.30%	0.00%	0.00%	0.84%	0.00%	74.84%	3.42%	15.71%	1.10%	0.00%
SOMERSET	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.67%	0.00%	7.18%	0.00%	0.00%
	4.23%	3.44%	0.00%	0.00%	0.00%	0.00%	3.97%	0.00%	0.00%	1.57%	0.00%	0.00%	2.98%	0.00%	85.00%	7.68%	24.23%	3.55%	0.00%
	1.74%	0.29%	0.56%	0.00%	0.00%	0.06%	0.00%	0.16%	0.00%	0.45%	0.01%	0.01%	0.06%	0.00%	75.97%	4.17%	15.87%	0.65%	0.00%
UNION	5.17%	0.31%	0.71%	0.00%	0.00%	0.38%	0.00%	1.33%	0.00%	0.32%	0.00%	0.00%	0.00%	0.00%	1.62%	52.34%	22.14%	10.94%	4.73%
	1.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	44.60%	15.71%	6.11%	1.44%	
	8.60%	1.18%	2.02%	0.00%	0.00%	1.32%	0.00%	3.11%	0.00%	1.19%	0.00%	0.00%	0.00%	0.00%	3.58%	60.08%	28.58%	15.78%	8.02%
WARREN	1.38%	0.68%	1.67%	0.01%	0.01%	0.28%	0.16%	0.09%	0.01%	0.68%	0.03%	0.01%	0.27%	0.00%	1.34%	60.35%	16.23%	12.31%	3.87%
	0.54%	0.09%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	9.27%	9.07%	57.99%	8.03%	0.00%
	2.22%	1.26%	2.59%	0.06%	0.10%	0.65%	0.45												

		NHNW																	
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND
BERGEN	88.10%	0.36%	1.37%	0.00%	0.15%	0.00%	0.00%	2.81%	0.00%	3.56%	0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	3.48%	0.00%	0.00%
	84.87%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	1.17%	0.00%	1.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.66%	0.00%	0.00%
	91.32%	0.95%	2.52%	0.00%	0.52%	0.00%	0.00%	4.46%	0.00%	5.40%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	5.31%	0.00%	0.00%
ESSEX	84.10%	2.39%	3.46%	0.00%	0.00%	0.06%	0.00%	0.95%	0.00%	5.05%	0.02%	0.01%	0.37%	0.00%	0.28%	0.11%	3.17%	0.02%	0.00%
	1.95%	78.31%	2.29%	0.00%	0.00%	0.71%	0.00%	1.67%	0.00%	4.44%	0.28%	0.07%	9.18%	0.00%	0.00%	0.00%	1.08%	0.00%	0.02%
	0.19%	73.07%	0.39%	0.00%	0.00%	0.00%	0.00%	0.04%	0.00%	1.82%	0.00%	0.00%	5.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HUDSON	3.71%	83.54%	4.19%	0.00%	0.00%	1.77%	0.00%	3.30%	0.00%	7.06%	0.95%	0.40%	12.85%	0.00%	0.00%	0.00%	2.40%	0.00%	0.18%
	3.14%	74.02%	4.83%	0.02%	0.00%	0.86%	0.04%	3.79%	0.00%	5.37%	0.26%	0.03%	6.93%	0.01%	0.02%	0.03%	0.62%	0.02%	0.03%
	4.96%	4.49%	77.97%	0.00%	0.00%	1.01%	1.66%	0.42%	1.35%	0.00%	0.00%	0.00%	3.15%	0.00%	1.03%	0.00%	3.95%	0.00%	0.00%
HUNTERDON	1.05%	0.75%	70.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.44%	0.00%	0.00%
	8.88%	8.23%	85.45%	0.00%	0.00%	2.81%	3.97%	1.60%	3.43%	0.00%	0.00%	0.00%	6.30%	0.00%	2.86%	0.00%	7.47%	0.00%	0.00%
	7.88%	6.79%	71.03%	0.01%	0.00%	0.62%	0.03%	0.84%	0.00%	4.83%	0.11%	0.01%	4.59%	0.00%	0.25%	0.51%	1.57%	0.52%	0.41%
MERCER	0.00%	0.00%	0.00%	80.00%	4.51%	1.35%	0.00%	0.66%	0.00%	0.00%	8.44%	0.00%	0.50%	4.55%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	73.55%	1.16%	0.00%	0.00%	0.00%	0.00%	0.00%	3.96%	0.00%	0.00%	1.19%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	86.44%	7.85%	3.21%	0.00%	1.96%	0.00%	0.00%	12.92%	0.00%	1.64%	7.90%	0.00%	0.00%	0.00%	0.00%	0.00%
MIDDLESEX	0.01%	0.14%	0.02%	78.85%	1.42%	1.51%	0.04%	2.49%	0.00%	0.06%	10.77%	0.07%	0.78%	3.82%	0.00%	0.00%	0.00%	0.00%	0.01%
	0.00%	0.00%	0.00%	0.83%	85.24%	6.57%	1.70%	0.00%	0.18%	1.32%	2.43%	0.32%	0.00%	0.29%	0.00%	0.00%	1.10%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	81.19%	3.74%	0.22%	0.00%	0.67%	0.02%	0.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MONMOUTH	0.00%	0.21%	0.00%	0.79%	77.25%	0.39%	0.00%	0.00%	0.00%	0.00%	1.05%	0.00%	3.85%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	3.45%	0.00%	0.47%	4.75%	86.54%	3.87%	0.72%	0.93%	0.00%	5.26%	0.00%	9.96%	0.00%	0.00%	0.00%	1.50%	0.00%	0.65%
	0.07%	0.67%	0.19%	0.17%	1.30%	81.02%	1.47%	0.50%	0.09%	0.12%	5.55%	0.00%	8.57%	0.01%	0.00%	0.00%	0.03%	0.00%	0.26%
MORRIS	0.00%	0.00%	0.18%	0.00%	2.03%	1.61%	90.00%	0.00%	3.73%	0.22%	0.13%	0.00%	1.36%	0.29%	0.00%	0.00%	0.37%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.53%	0.27%	86.80%	0.00%	1.71%	0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.63%	0.00%	3.53%	2.95%	93.19%	0.00%	5.75%	0.71%	0.52%	0.40%	2.59%	0.85%	0.00%	0.00%	1.02%	0.00%	0.00%
OCEAN	0.00%	0.06%	0.02%	0.01%	0.41%	1.30%	93.34%	0.03%	4.06%	0.01%	0.12%	0.00%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.04%
	1.28%	6.53%	0.00%	0.00%	0.00%	1.33%	0.00%	70.43%	0.00%	7.89%	2.25%	2.63%	6.87%	0.58%	0.00%	0.00%	0.15%	0.00%	0.07%
	0.00%	3.46%	0.00%	0.00%	0.00%	0.00%	0.00%	64.76%	0.00%	4.54%	0.41%	0.64%	3.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PASSAIC	2.68%	9.59%	0.00%	0.00%	0.00%	2.75%	0.00%	76.10%	0.00%	11.24%	4.09%	4.62%	10.01%	1.51%	0.00%	0.00%	0.62%	0.00%	0.41%
	1.74%	5.78%	0.50%	0.43%	0.00%	0.94%	0.03%	71.93%	0.00%	6.72%	2.86%	2.27%	5.71%	0.88%	0.01%	0.01%	0.17%	0.00%	0.01%
	0.00%	0.00%	0.00%	0.00%	0.42%	0.44%	2.71%	0.00%	96.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%
SOMERSET	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	93.31%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	1.41%	1.44%	5.19%	0.00%	99.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.91%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.42%	0.39%	4.42%	0.00%	94.75%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SUSSEX	9.03%	14.12%	0.37%	1.17%	1.48%	0.00%	0.33%	11.12%	0.00%	60.27%	0.00%	0.00%	0.00%	0.70%	0.00%	0.00%	1.08%	0.00%	0.33%
	5.01%	9.23%	0.00%	0.00%	0.00%	0.00%	6.71%	0.00%	53.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	13.05%	19.01%	1.22%	2.67%	3.18%	0.00%	1.13%	15.54%	0.00%	67.14%	0.00%	0.00%	0.00%	1.87%	0.00%	0.00%	2.54%	0.00%	1.14%
UNION	11.09%	9.52%	2.93%	0.01%	0.00%	0.26%	0.01%	7.71%	0.00%	65.41%	0.11%	0.25%	1.21%	0.01%	0.09%	0.02%	1.35%	0.01%	0.01%
	1.03%	0.15%	0.00%	1.64%	1.38%	9.61%	0.00%	2.98%	0.00%	1.61%	74.77%	0.00%	6.29%	0.30%	0.00%	0.00%	0.24%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	5.56%	0.00%	0.65%	0.00%	0.00%	68.81%	0.00%	2.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WARREN	2.41%	0.69%	0.00%	3.38%	2.98%	13.65%	0.00%	5.32%	0.00%	3.34%	80.73%	0.00%	9.62%	1.05%	0.00%	0.00%	0.92%	0.00%	0.00%
	0.07%	0.71%	0.10%	3.55%	0.95%	15.62%	0.24%	4.97%	0.00%	0.18%	65.98%	0.04%	7.43%	0.10%	0.00%	0.00%	0.02%	0.00%	0.04%
	0.82%	0.00%	0.00%	0.00%	0.42%	0.00%	0.00%	10.65%	0.00%	3.72%	0.56%	81.63%	0.42%	1.76%	0.00%	0.00%	0.00%	0.00%	0.00%
BRONX	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.19%	0.00%	0.99%	0.00%	76.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.13%	0.00%	0.00%	0.00%	1.35%	0.00%	0.00%	15.11%	0.00%	6.46%	1.64%	87.23%	1.36%	3.66%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.14%	0.24%	0.02%	0.06%	0.00%	0.02%	0.00%	11.87%	0.00%	1.22%	0.11%	84.60%	0.12%	1.59%	0.00%	0.00%	0.00%	0.00%	0.00%
KINGS	1.02%	7.43%	1.21%	0.09%	0.00%	5.16%	2.44%	8.23%	0.00%	0.00%	2.88%	0.00%	65.99%	1.17%	0.36%	0.87%	1.54%	0.47%	1.13%
	0.00%	3.84%	0.00%	0.00%	0.00%	2.13%	0.33%	4.47%	0.00%	0.00%	0.59%	0.00%	59.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	2.40%	11.02%	2.70%	0.51%	0.00%	8.19%	4.55%	12.00%	0.00%	0.00%	5.17%	0.00%	72.48%	2.64%	1.19%	2.15%	3.22%	1.41%	2.58%
MANHATTAN	0.95%	11.84%	3.10%	0.16%	0.03%	6.22%	0.77%	6.05%	0.01%	1.20%	4.80%	0.02%	63.85%	0.01%	0.01%	0.03%	0.54%	0.02%	0.39%
	1.33%	0.00%	0.00%	2.02%	0.16%	0.00%	0.00%	2.51%	0.00%	2.12%	0.17%	1.07%	4.99%	85.63%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	1.54%	80.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
QUEENS	3.15%	0.00%	0.00%	4.24%	0.78%	0.00%	0.00%	4.98%	0.00%	4.40%	0.83%	2.71%	8.44%	91.19%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.05%	0.15%	0.01%	6.46%	0.00%	0.10%	0.00%	4.45%	0.00%	0.16%	0.55%	2.01%	0.42%	85.64%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%	86.27%	2.07%	9.78%	1.77%	0.00%
RICHMOND	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.73%	0.00%	5.00%	0.00%	0.00%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	91.82%	4.37%	14.57%	3.90%	0.00%
	0.34%	0.01%	0.06%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	85.74%	0.50%	11.32%	1.98%	0.00%
RICHMOND	0.08%	0.56%	0.13%	0.00%	0.08%	0.00%	0.38%	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	2.20%	80.08%	8.87%	6.53%	0.97%
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	75.60%	5.68%	3.76%	0.00%
	0.35%	1.39%	0.54%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.55								

ALL PERSON TRIPS COMPARISON																				
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	
BERGEN	77.35%	2.42%	2.74%	0.11%	0.18%	0.72%	0.18%	1.62%	0.10%	4.99%	0.23%	0.06%	0.72%	0.11%	0.53%	0.36%	6.88%	0.65%	0.17%	
	75.95%	1.90%	2.19%	0.00%	0.09%	0.43%	0.04%	1.19%	0.00%	4.26%	0.07%	0.00%	0.44%	0.00%	0.29%	0.16%	5.84%	0.38%	0.03%	
	76.75%	2.93%	3.28%	0.22%	0.43%	1.00%	0.33%	2.04%	0.20%	5.71%	0.39%	0.17%	1.00%	0.23%	0.77%	0.57%	7.51%	0.91%	0.31%	
	73.00%	4.26%	4.41%	0.03%	0.05%	0.52%	0.20%	1.48%	0.11%	8.47%	0.16%	0.17%	0.91%	0.03%	0.61%	0.13%	5.22%	0.18%	0.07%	
	78.68%	2.55%	4.01%	0.01%	0.01%	0.29%	0.02%	0.87%	0.00%	4.68%	0.10%	0.01%	0.47%	0.01%	1.13%	0.35%	6.44%	0.30%	0.06%	
ESSEX	3.56%	66.00%	3.68%	0.05%	0.13%	2.57%	0.40%	4.43%	0.22%	6.03%	0.64%	0.09%	5.34%	0.06%	0.21%	0.39%	5.31%	0.17%	0.77%	
	2.73%	63.88%	2.82%	0.00%	0.00%	1.86%	0.12%	3.51%	0.01%	4.97%	0.28%	0.00%	4.33%	0.00%	0.00%	0.11%	4.31%	0.00%	0.38%	
	4.39%	68.11%	4.50%	0.15%	0.28%	3.28%	0.68%	5.35%	0.42%	7.09%	1.00%	0.23%	6.34%	0.17%	0.41%	0.66%	6.31%	0.35%	1.15%	
	5.12%	62.81%	5.24%	0.14%	0.12%	2.08%	0.47%	5.04%	0.19%	4.96%	0.91%	0.25%	7.92%	0.10%	0.12%	0.15%	4.05%	0.07%	0.27%	
	3.44%	70.13%	7.13%	0.03%	0.03%	1.58%	0.07%	3.25%	0.00%	4.22%	0.41%	0.03%	4.72%	0.02%	0.13%	0.20%	4.16%	0.22%	0.25%	
HUDSON	7.36%	8.88%	53.88%	0.22%	0.11%	1.45%	0.65%	1.25%	0.29%	1.71%	0.41%	0.08%	2.01%	0.34%	0.52%	0.63%	18.62%	0.49%	1.08%	
	6.02%	7.42%	51.32%	0.00%	0.00%	0.84%	0.24%	0.68%	0.02%	1.05%	0.08%	0.00%	1.29%	0.04%	0.15%	0.23%	16.63%	0.13%	0.54%	
	8.70%	10.34%	56.44%	0.47%	0.28%	2.06%	1.07%	1.83%	0.57%	2.38%	0.74%	0.23%	2.73%	0.63%	0.89%	1.04%	20.62%	0.85%	1.59%	
	9.96%	9.73%	53.26%	0.09%	0.19%	2.03%	0.71%	1.22%	0.38%	2.70%	0.50%	0.12%	3.73%	0.05%	0.41%	0.38%	13.52%	0.23%	0.80%	
	8.18%	10.00%	58.29%	0.01%	0.02%	0.84%	0.08%	0.78%	0.00%	2.37%	0.18%	0.01%	2.40%	0.01%	0.42%	0.99%	12.99%	1.42%	1.02%	
HUNTERDON	0.59%	1.58%	0.31%	65.17%	4.24%	2.84%	0.20%	3.67%	0.35%	0.99%	13.16%	0.08%	1.95%	4.37%	0.00%	0.03%	0.81%	0.06%	0.21%	
	0.18%	0.91%	0.01%	62.64%	3.17%	1.96%	0.00%	2.67%	0.04%	0.06%	11.36%	0.00%	1.21%	3.28%	0.00%	0.00%	0.33%	0.00%	0.00%	
	1.00%	2.24%	0.60%	67.70%	5.31%	3.72%	0.43%	4.66%	0.66%	0.73%	14.95%	0.23%	2.68%	5.45%	0.04%	0.12%	1.28%	0.19%	0.45%	
	0.20%	0.91%	0.28%	69.08%	5.00%	2.92%	0.36%	3.12%	0.42%	0.18%	8.84%	0.37%	1.20%	6.09%	0.01%	0.08%	0.86%	0.03%	0.04%	
	0.55%	1.86%	1.51%	64.36%	3.75%	3.79%	0.14%	3.55%	0.01%	0.46%	12.70%	0.07%	2.20%	3.15%	0.03%	0.08%	1.16%	0.12%	0.49%	
MERCER	0.21%	0.68%	0.20%	1.26%	83.64%	6.77%	1.70%	0.13%	0.98%	0.57%	1.81%	0.17%	0.28%	0.06%	0.03%	0.44%	1.31%	0.04%	0.11%	
	0.02%	0.34%	0.02%	0.80%	82.11%	5.74%	1.17%	0.00%	0.57%	0.26%	1.26%	0.00%	0.06%	0.00%	0.00%	0.00%	0.84%	0.00%	0.00%	
	0.40%	1.01%	0.38%	1.71%	85.16%	7.81%	2.23%	0.28%	1.39%	0.88%	2.35%	0.33%	0.50%	0.16%	0.09%	0.19%	1.77%	0.13%	0.24%	
	0.11%	0.24%	0.19%	1.48%	84.44%	5.76%	2.12%	0.21%	1.53%	0.03%	2.71%	0.01%	0.29%	0.15%	0.00%	0.12%	0.55%	0.01%	0.07%	
	0.06%	0.28%	0.30%	0.57%	84.75%	8.31%	1.29%	0.10%	0.89%	0.03%	1.34%	0.00%	0.33%	0.02%	0.02%	0.13%	1.33%	0.09%	0.14%	
MIDDLESEX	0.96%	2.74%	1.20%	0.40%	5.39%	69.61%	3.49%	0.65%	0.38%	0.18%	5.39%	0.02%	5.18%	0.02%	0.03%	0.44%	3.49%	0.14%	0.30%	
	0.55%	2.05%	0.75%	0.13%	4.44%	67.67%	2.72%	0.31%	0.12%	0.00%	4.44%	0.00%	4.25%	0.00%	0.00%	0.16%	2.72%	0.00%	0.07%	
	1.37%	3.42%	1.66%	0.66%	6.34%	71.54%	4.27%	0.98%	0.63%	0.35%	6.34%	0.09%	6.11%	0.08%	0.11%	0.72%	4.27%	0.29%	0.54%	
	0.56%	1.90%	0.97%	0.42%	2.74%	75.37%	3.80%	0.81%	0.59%	0.22%	4.68%	0.03%	5.78%	0.09%	0.02%	0.19%	1.28%	0.03%	0.51%	
	0.40%	2.19%	1.60%	0.15%	3.05%	73.87%	2.98%	0.56%	0.12%	0.27%	4.61%	0.00%	6.18%	0.02%	0.04%	0.22%	2.84%	0.13%	0.83%	
MONMOUTH	0.58%	1.20%	0.70%	0.08%	3.03%	4.81%	79.31%	0.36%	3.61%	0.23%	0.45%	0.02%	1.61%	0.18%	0.03%	0.61%	2.84%	0.12%	0.43%	
	0.29%	0.77%	0.38%	0.00%	2.36%	3.79%	77.73%	0.12%	2.88%	0.04%	0.19%	0.00%	1.11%	0.02%	0.00%	0.31%	2.19%	0.00%	0.17%	
	0.88%	1.62%	1.03%	0.19%	3.70%	5.43%	80.89%	0.59%	4.34%	0.42%	0.72%	0.08%	2.10%	0.35%	0.10%	0.91%	3.49%	0.25%	0.69%	
	0.25%	0.53%	0.40%	0.06%	1.20%	4.43%	86.06%	0.18%	4.59%	0.07%	0.39%	0.00%	0.54%	0.02%	0.01%	0.16%	0.94%	0.02%	0.17%	
	0.46%	1.53%	1.86%	0.05%	2.94%	5.17%	75.66%	0.27%	4.19%	0.22%	2.74%	0.00%	2.56%	0.01%	0.07%	0.34%	2.43%	0.28%	1.23%	
MORRIS	2.88%	7.16%	0.72%	0.42%	0.14%	0.88%	0.13%	71.34%	0.03%	4.16%	2.67%	1.49%	3.68%	1.28%	0.30%	0.16%	2.32%	0.06%	0.16%	
	2.13%	6.00%	0.34%	0.13%	0.00%	0.46%	0.00%	69.32%	0.00%	3.26%	1.95%	0.56%	2.84%	0.78%	0.05%	0.00%	1.65%	0.00%	0.00%	
	3.63%	8.31%	1.10%	0.71%	0.31%	1.29%	0.29%	73.36%	0.11%	5.05%	3.39%	2.04%	4.52%	1.79%	0.54%	0.34%	2.99%	0.17%	0.38%	
	2.43%	6.87%	0.89%	0.67%	0.15%	1.22%	0.23%	72.33%	0.14%	4.38%	2.29%	2.67%	3.23%	1.13%	0.06%	0.08%	1.13%	0.04%	0.06%	
	3.30%	7.35%	3.48%	0.40%	0.07%	2.37%	0.06%	66.47%	0.00%	5.68%	2.76%	0.85%	4.03%	0.75%	0.15%	0.14%	1.65%	0.14%	0.34%	
OCEAN	0.58%	0.88%	0.30%	0.18%	0.91%	1.86%	8.62%	0.21%	83.59%	0.11%	0.77%	0.02%	0.67%	0.02%	0.02%	0.16%	0.98%	0.03%	0.09%	
	0.15%	0.34%	0.00%	0.00%	0.37%	1.09%	7.02%	0.00%	81.48%	0.00%	0.27%	0.00%	0.20%	0.00%	0.00%	0.00%	0.42%	0.00%	0.00%	
	1.01%	1.41%	0.62%	0.42%	1.46%	2.63%	10.23%	0.47%	85.71%	0.29%	1.27%	0.09%	1.13%	0.09%	0.09%	0.38%	1.54%	0.14%	0.27%	
	0.17%	0.26%	0.27%	0.09%	1.12%	0.85%	5.73%	0.14%	90.40%	0.04%	0.27%	0.00%	0.15%	0.02%	0.01%	0.11%	0.31%	0.01%	0.05%	
	0.21%	0.49%	0.71%	0.06%	1.01%	4.07%	9.62%	0.13%	81.15%	0.09%	0.35%	0.00%	0.86%	0.00%	0.04%	0.13%	0.40%	0.18%	0.41%	
PASSAIC	13.88%	5.67%	1.12%	0.20%	0.76%	0.68%	0.22%	8.10%	0.50%	63.20%	0.33%	0.72%	0.50%	0.13%	0.09%	0.13%	3.27%	0.08%	0.40%	
	12.07%	4.46%	0.57%	0.00%	0.31%	0.25%	0.00%	6.67%	0.13%	60.67%	0.03%	0.27%	0.13%	0.00%	0.00%	0.00%	2.34%	0.00%	0.07%	
	15.70%	6.89%	1.67%	0.43%	1.22%	1.12%	0.47%	9.54%	0.87%	65.73%	0.63%	1.16%	0.88%	0.32%	0.25%	0.32%	4.21%	0.22%	0.73%	
	16.34%	7.98%	2.30%	0.05%	0.03%	0.41%	0.12%	5.19%	0.05%	62.89%	0.20%	0.49%	1.01%	0.06%	0.20%	0.08%	2.47%	0.08%	0.04%	
	13.08%	6.21%	3.54%	0.02%	0.03%	0.53%	0.02%	5.60%	0.00%	66.59%	0.21%	0.12%	0.89%	0.02%	0.29%	0.10%	2.48%	0.15%	0.13%	
SOMERSET	0.53%	1.80%	0.73%	2.82%	2.54%	11.91%	0.46%	4.62%	0.25%	0.39%	67.09%	0.19%	4.21%	0.13%	0.02%	0.19%	1.61%	0.05%	0.46%	
	0.17%	1.15%	0.32%	2.01%	1.77%	10.33%	0.13%	3.60%	0.01%	0.09%	64.80%	0.00%	3.24%	0.00%	0.00%	0.40%	1.00%	0.00%	0.13%	
	0.25%	2.45%	1.15%	3.62%	3.30%	13.48%	0.79%	5.65%	0.49%	0.70%	69.38%	0.41%	5.19%	0.31%	0.08%	0.00%	2.22%	0.15%	0.79%	
	0.39%	1.94%	0.57%	2.98%	3.03%	10.94%	0.79%	3.60%	0.42%	0.26%	68.44%	0.18%	4.68%	0.53%	0.02%	0.10%	1.01%	0.02%	0.11%	
	0.56%	2.41%	1.37%	1.79%	2.62%	14.84%	0.26%	4.63%	0.01%	0.49%	62.80%	0.03%	5.57%	0.17%	0.04%	0.11%	1.62%	0.09%	0.58%	
SUSSEX	2.33%	2.23%	0.68%	0.12%	0.45%	0.49%	0.14%	17.60%	0.07%	3.24%	0.46%	68.26%	0.97%	1.80%	0.04%	0.06%	0.98%	0.07%	0.03%	
	1.59%	1.51%	0.28%	0.00%	0.12%	0.15%	0.00%	15.75%	0.00%	2.38%	0.13%	66.00%	0.50%	1.15%	0.00%	0.00%	0.50%	0.00%	0.00%	
	3.06%	2.95%	1.07%	0.29%	0.77%	0.82%	0.32%	19.44%	0.20%	4.09%	0.79%	70.52%	1.45%	2.44%	0.14%	0.18%	1.46%	0.20%	0.11%	
	1.11%	1.40%	0.30%	0.32%	0.03%	0.19%	0.02%	10.48%	0.01%	1.61%	0.45%	80.40%	0.44%	2.44%	0.03%	0.05%	0.69%	0.02%	0.01%	
	3.40%	3.80%	1.25%	0.22%	0.05%	0.87%	0.03%	14.21%	0.00%	3.05%	0.95%	67.04%	1.03%	1.54%	0.18%	0.11%	0.78%	0.14%	0.12%	

B.2 County to County Trip Distribution

DISTRICT	ALL PERSON TRIPS COMPARISON																				NJ REGION	NYTMC REGION	TOTAL								
	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND				NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN	CT.		
BERGEN	1,952,632	61,024	69,056	2,750	6,530	18,066	4,663	40,769	2,494	125,871	5,766	1,972	18,170	2,872	2,312,646	13,324	9,203	168,945	16,322	4,323	211,718	66,625	33,691	1,509	1,979	213	2,387,082	241,298	2,628,380		
ESSEX	2,003,155	64,922	102,197	205	259	7,302	447	22,167	3	119,232	2,516	367	11,978	150	2,334,900	28,803	8,794	183,963	7,526	1,624	210,709	176,278	57,184	0	143	872	2,512,944	274,981	2,787,925		
HUDSON	66,212	1,227,005	68,030	952	2,340	47,764	7,423	82,346	4,027	112,072	11,907	1,709	99,260	1,087	1,732,132	3,862	7,181	98,720	3,078	14,233	127,074	778	10,108	2,014	1,031	393	1,750,188	123,342	1,873,530		
HUNTERDON	1,830	4,472	948	109,469	139,112	8,794	848	6,011	11,332	1,078	1,219	40,667	290	6,023	13,507	305,699	12	91	2,501	179	649	456	1,984	15,238	538	324,209	3,777	327,986			
MERCER	1,905	6,493	5,257	224,089	13,065	13,181	491	12,373	34	1,619	44,223	230	7,650	10,981	341,593	113	280	4,055	419	1,720	6,586	452	424	415	34,081	94	378,260	5,384	383,644		
MIDDLESEX	18,495	52,895	23,276	7,656	104,082	1,345,081	67,523	12,468	7,284	3,420	104,116	482	100,085	375	1,847,238	620	8,526	67,535	2,621	5,871	85,174	621	8,431	8,877	8,880	680	1,871,487	88,413	1,959,900		
MONMOUTH	9,101	30,310	36,806	972	58,353	102,602	1,500,860	5,386	83,143	4,340	14,708	30	50,793	137	1,897,541	1,293	6,761	48,278	5,456	24,394	86,182	624	9,529	3,420	316	1,935,508	63,076	1,998,584			
MORRIS	43,040	1,066,827	10,777	6,221	2,153	13,063	1,064,972	460	62,060	39,869	22,306	54,908	19,142	1,447,761	4,406	2,381	34,619	890	2,743	45,040	3,584	20,917	643	3,286	1,076	1,458,017	64,289	1,522,307			
OCEAN	54,775	121,903	57,888	6,587	1,140	39,278	974	1,102,982	11	94,283	45,829	14,161	66,930	12,412	1,619,153	2,543	2,313	27,360	2,373	5,999	40,188	21,271	9,754	8	5,261	1,605	1,651,293	45,948	1,697,241		
PASSAIC	7,439	11,242	3,885	2,275	11,709	23,854	110,553	2,647	1,071,500	1,370	9,920	206	8,550	223	1,265,375	211	1,993	12,568	444	1,210	16,425	2,839	67,696	6,870	0	1,343,990	17,048	1,361,038			
SOMERSET	3,009	6,928	10,016	886	14,198	57,188	135,129	1,783	1,140,083	1,309	4,847	12	12,033	53	1,387,474	511	3,007	5,565	2,571	5,803	17,457	69	382	82,053	3,346	100	1,478,746	12,136	1,490,881		
SUSSEX	142,277	58,159	11,474	2,044	7,819	7,014	2,288	83,061	5,121	647,726	3,347	7,340	5,163	1,348	984,179	943	1,351	33,537	776	4,088	40,705	14,865	503	1,618	0	1,005,262	39,013	1,044,275			
UNION	136,778	64,931	36,971	215	300	5,500	246	58,525	3	696,213	2,241	1,281	9,304	240	1,012,748	266	1,339	14,204	933	1,547	18,289	10	817	266	10	32,628	59,064	29	1,142,961	16,878	1,159,839
WARREN	4,980	17,058	6,937	26,673	24,025	112,803	4,382	43,812	2,373	3,731	635,691	1,829	39,929	1,276	925,498	154	1,774	15,238	449	4,378	21,992	4,094	8,554	3,064	89	939,557	26,258	965,815			
NJTPA-MERCER	5,890	25,509	14,481	18,939	27,637	156,848	2,734	48,950	114	5,229	663,521	322	58,824	1,774	1,030,772	382	1,210	17,104	993	6,109	25,799	1,104	1,015	557	9,414	254	1,047,956	20,959	1,068,915		
BRONX	9,289	8,900	2,701	492	1,788	1,940	560	70,270	282	12,121	1,833	272,588	3,878	7,175	394,614	168	250	3,908	279	118	4,722	8,577	1,339	217	3,801	220	407,326	6,164	413,490		
KINGS	12,937	13,856	9,112	790	175	3,187	97	51,786	1	11,901	3,450	244,339	3,739	5,621	359,653	643	385	2,856	496	429	4,810	50,689	12,185	0	15,313	776	426,085	17,442	443,527		
QUEENS	15,319	95,100	21,905	2,877	2,411	113,203	10,519	60,011	5,327	7,901	40,912	1,248	905,728	11,825	1,294,285	2,661	4,090	45,369	12,909	4,005	69,035	2,839	17,009	1,423	1,256	461	1,303,808	82,500	1,386,308		
MANHATTAN	3,262	3,491	539	14,889	821	3,110	210	25,971	76	2,724	7,353	5,801	4,557	221,587	294,393	9	126	2,123	111	99	2,467	2,809	5,262	280	50,843	0	348,424	2,931	351,355		
PENN	2,891	5,867	3,896	12,344	1,087	1,922	129	21,620	1	2,388	10,311	3,914	3,195	183,646	258,299	201	195	1,810	216	400	2,822	1,443	778	7	75,914	0	336,064	3,313	339,377		
CT.	2,339,266	1,749,574	697,506	294,549	1,096,402	1,859,814	1,642,599	1,515,896	1,176,821	1,005,414	931,593	319,505	1,294,503	297,082	16,188,704	31,575	53,909	705,300	44,708	59,385	894,928	116,991	129,778	140,095	167,604	5,093	16,672,768	970,984	17,643,752		
NY CITY	2,406,522	2,000,450	1,116,182	276,124	1,086,718	2,211,525	1,723,497	1,449,230	1,235,429	1,060,364	947,575	265,590	1,415,573	216,140	17,410,921	46,432	47,869	626,141	46,735	94,581	861,758	292,725	106,923	127,288	211,756	15,887	18,137,270	889,986	19,027,256		
NY OTHER (WEST)	13,606	2,727	4,317	40	2,442	885	1,224	576	271	1,509	250	53	1,701	32	29,631	1,282,412	45,496	469,036	45,991	3,694	1,846,630	3,182	167,707	37	76	0	36,621	2,010,643	2,047,264		
NY OTHER (EAST)	19,358	1,738	11,607	4	8	297	14	504	0	1,986	63	8	478	4	36,072	1,297,929	29,643	479,269	30,478	578	1,837,896	2,896	224,833	0	3	6,968	39,549	2,069,119	2,108,668		
RICHMOND	15,248	6,432	10,054	97	654	3,117	2,695	3,132	277	1,295	1,397	53	2,184	29	46,663	39,147	2,487,789	787,282	204,105	52,021	3,570,346	3,334	92,669	368	115	0	102,501	3,610,992	3,713,493		
QUEENS	9,507	5,138	26,414	55	180	4,418	416	1,168	11	1,642	662	26	3,746	23	53,136	20,559	2,837,681	875,469	252,665	47,964	4,034,338	1,554	273,143	0	9	1,029	102,661	4,260,547	4,363,208		
RICHMOND	28,655	13,875	28,905	291	917	6,009	1,823	3,092	817	9,011	1,450	1,144	4,894	95	100,937	234,133	206,937	2,005,241	135,809	7,742	2,589,861	5,246	109,717	340	426	21,809	114,691	2,713,646	2,828,337		
NY OTHER (WEST)	38,678	11,601	49,483	251	900	5,748	655	3,915	15	6,793	1,106	158	3,572	137	123,043	186,850	198,023	1,930,391	147,596	4,319	2,466,878	9,564	148,291	0	16	5,137	136,641	2,616,287	2,752,928		
NY OTHER (EAST)	11,619	2,807	6,184	15	265	10,765	382	910	2,454	1,023	344	681	14,573	51	52,074	75,375	344,365	778,977	2,247,401	13,340	3,459,458	0	489,804	375	145	2,298	65,934	3,938,220	4,004,154		
NY OTHER (WEST)	4,228	1,590	13,117	16	52	860	102	413	2	945	184	8	863	8	22,388	47,429	409,897	840,792	2,660,928	12,161	3,971,207	604	339,942	0	1	915	35,155	4,299,903	4,335,058		
NY OTHER (EAST)	3,770	5,011	7,448	139	471	9,566	4,225	3,473	368	2,194	2,122	297	5,577	519	45,171	2,894	76,785	109,245	12,199	784,123	2,852	6,480	96	57	3,568	832,299	213,171	1,045,470			
NY OTHER (WEST)	824	2,420	11,548	46	157	11,690	580	447	13	314	704	2	5,511	8	34,264	1,993	84,155	88,179	13,933	983,477	1,171,373	1,053	11,331	53	184	117	1,019,032	199,708	1,218,740		
NY OTHER (EAST)	72,898	30,852	56,907	581	4,749	30,333	10,349	11,153	4,186	15,033	5,653	2,227	28,919	725	274,476	1,633,961	3,161,373	4,149,781	2,645,505	860,920	12,451,540	14,613	868,377	1,216	819	27,675	1,152,045	12,486,672	13,638,718		
NY OTHER (WEST)	72,594	22,517	112,170	371	1,298	22,744	1,768	6,448	41	11,681	2,720	202	14,170	180	268,903	1,554,760	3,559,400	4,214,099	3,105,800	1,048,198	13,482,058	15,672	997,540	53	212	14,166	1,333,038	13,445,565	14,778,603		
NY OTHER (EAST)	67,289	14,371	6,016	1,464	0	3,167	2,018	5,541	163	9,257	690	10,333	3,251	438																	

ALL HBWD PERSON TRIPS COMPARISON																																
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NUTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NUT REGION	NYMTC REGION	TOTAL			
BERGEN	320,808	24,683	35,753	196	1,094	6,117	1,333	13,919	549	34,454	2,127	483	7,306	182	449,005	8,149	5,812	93,146	5,799	943	113,848	2,539	2,942	178	169	0	452,833	115,847	568,680			
ESSEX	337,926	21,010	38,331	153	239	4,718	386	9,556	3	29,452	1,927	118	6,842	84	450,745	4,053	2,410	93,693	2,491	623	103,269	10,146	10,927	0	86	5,135	461,600	118,708	580,308			
HUDSON	25,137	203,307	21,582	733	1,113	13,412	1,792	33,375	611	20,617	5,653	522	32,271	260	360,385	1,134	3,450	49,204	1,448	802	56,038	0	3,806	257	115	0	361,559	59,042	420,601			
HUNTERDON	29,598	243,514	28,264	285	393	13,540	868	19,348	8	23,063	4,680	132	27,212	125	391,030	1,263	2,470	40,151	1,376	1,152	46,413	1,003	1,476	2	94	628	393,282	47,364	440,646			
MERCER	26,514	18,464	95,779	255	659	5,668	888	5,107	291	4,979	1,475	146	6,737	89	167,051	1,283	3,794	82,045	2,513	1,005	90,641	2,666	8130	95	95	0	170,901	97,861	268,761			
MIDDLESEX	30,427	26,154	120,328	73	173	4,227	263	3,418	2	7,033	1,142	21	9,560	25	202,846	1,565	4,862	66,989	3,520	1,912	78,849	643	1,278	0	22	554	205,424	78,768	284,192			
MONMOUTH	666	2,296	712	25,288	4,359	5,272	456	4,556	107	318	15,977	72	3,794	1,396	65,248	9	68	1,534	135	209	1,955	0	456	286	1,834	0	67,557	2,202	69,759			
MORRIS	1,114	2,576	1,854	31,497	5,362	5,470	392	4,684	27	956	17,229	122	3,136	2,259	76,677	50	166	1,873	71	205	2,366	125	190	76	1,861	78	78,945	2,428	81,373			
OCEAN	1,036	1,866	988	1,502	129,527	21,999	3,172	986	889	246	6,800	120	1,662	63	170,857	203	581	7,778	336	97	8,996	0	0	0	0	0	5,615	6,657	0	183,227	8,899	192,126
PASSAIC	273	1,489	1,694	1,397	136,036	22,115	8,279	509	2,961	203	5,039	2	1,717	69	181,784	121	623	7,692	327	308	9,071	2	34	4	1,189	6,306	14	192,588	8,812	201,400		
SOMERSET	7,480	19,993	11,020	1,828	16,653	240,795	16,196	8,635	1,432	2,680	34,648	376	33,981	293	396,000	486	4,538	41,883	2,056	3,558	62,520	0	565	1,136	863	0	401,557	49,627	451,084			
SUSSEX	4,733	17,351	14,270	853	14,949	282,645	18,485	4,924	1,448	3,091	26,397	13	39,468	106	408,735	572	3,427	35,106	1,515	5,276	45,895	128	277	114	412	116	414,662	41,012	455,674			
UNION	3,788	8,941	6,569	561	6,897	33,535	171,657	2,282	11,500	1,071	4,114	107	8,979	168	260,172	369	4,165	25,657	1,167	3,696	35,043	0	542	1,260	459	0	265,586	31,869	297,475			
WARREN	3,192	9,308	9,403	472	13,421	33,467	176,962	2,630	7,537	2,075	6,818	21	15,942	74	281,322	520	3,426	26,862	1,729	3,444	35,980	124	405	592	741	126	286,224	33,067	319,290			
MORRIS	18,180	36,766	7,033	1,805	1,165	6,498	1,066	186,698	339	18,687	13,126	3,753	12,964	2,353	310,432	424	1,310	18,181	657	212	20,785	3,584	2,982	76	263	0	314,567	23,555	338,122			
OCEAN	23,763	33,566	17,811	2,150	777	11,487	620	190,889	5	23,953	16,869	3,044	18,152	3,021	346,106	963	1,315	11,743	1,004	673	15,698	2,774	2,646	2	652	1,063	350,208	18,734	368,941			
PASSAIC	1,994	4,453	2,824	237	7,387	15,447	46,607	1,926	144,210	997	2,027	149	5,615	162	234,034	153	865	3,893	324	882	6,106	0	0	0	0	0	12,741	708	0	248,365	5,224	253,589
SOMERSET	1,324	3,363	4,132	497	8,379	22,610	61,813	1,230	147,811	815	2,996	12	5,560	46	260,588	241	1,498	1,703	900	1,179	5,521	46	240	13,829	1,536	75	277,179	4,656	281,835			
SUSSEX	55,798	17,489	6,688	163	540	2,304	584	16,204	165	88,168	1,013	568	3,052	191	192,905	532	663	16,479	586	222	18,482	3,999	0	68	151	0	197,345	18,260	215,605			
UNION	43,707	17,703	12,887	59	40	1,919	81	11,143	0	97,630	1,032	114	3,272	35	189,619	702	481	11,416	438	129	13,167	2,963	2,186	0	21	1,046	192,732	16,270	209,002			
WARREN	2,699	8,298	2,544	4,161	6,554	31,901	1,626	13,910	234	1,778	67,948	294	13,713	338	155,396	109	787	7,743	318	484	9,440	1,056	0	335	419	0	157,690	8,956	166,647			
MORRIS	3,349	9,530	6,296	3,648	8,691	39,141	1,721	13,647	80	2,796	74,923	119	15,660	452	180,053	208	806	8,743	393	938	11,088	310	456	77	579	178	181,957	10,784	192,741			
OCEAN	5,850	4,395	1,286	234	189	864	235	23,699	107	4,928	1,093	29,788	1,117	1,597	75,184	116	173	1,754	192	82	2,316	2,143	503	30	280	0	77,718	2,738	80,456			
PASSAIC	6,034	4,873	3,025	466	163	1,604	96	16,153	1	4,835	2,241	32,798	1,927	1,843	76,058	240	225	1,789	212	94	2,560	7,228	4,370	0	1,089	612	84,470	7,449	91,918			
SOMERSET	6,174	35,630	9,204	1,139	1,198	30,437	1,906	12,733	526	2,979	13,619	166	112,848	171	228,729	507	1,646	26,608	982	1,104	30,847	0	1,942	184	114	0	230,131	31,685	261,815			
SUSSEX	6,234	29,819	10,658	391	602	33,457	1,489	9,293	12	3,772	10,595	41	129,478	78	235,920	436	2,314	18,364	823	2,057	23,995	249	460	3	61	183	238,290	22,581	260,871			
UNION	972	1,661	380	6,336	486	1,738	148	11,529	54	674	4,490	1,331	1,218	22,170	53,187	7	89	728	78	70	971	180	0	30	3,938	0	59,035	901	59,936			
WARREN	1,551	2,648	1,664	5,363	865	3,426	121	8,968	1	1,314	6,451	1,314	1,952	23,270	58,910	73	113	752	76	101	1,115	365	321	5	3,779	90	63,160	1,424	64,584			
NUTPA-MERCER	476,896	388,243	202,341	44,418	177,821	415,986	247,658	335,558	161,012	191,177	174,110	37,876	245,256	29,433	3,118,584	13,471	27,942	376,621	16,590	13,364	447,988	17,798	21,867	22,259	16,064	95	3,188,070	456,586	3,644,656			
BRONX	493,223	422,903	270,619	47,304	190,500	459,826	271,578	296,393	159,896	200,987	178,340	37,870	279,878	31,488	3,340,394	11,007	24,137	326,876	14,875	18,092	394,986	26,104	25,265	18,891	17,241	9,896	3,420,721	412,055	3,832,776			
KINGS	5,468	1,332	3,117	29	71	639	89	416	195	736	180	38	717	23	13,050	168,965	21,399	207,762	22,377	2,673	423,175	0	36,190	25	38	0	15,785	456,692	472,477			
MANHATTAN	7,814	839	2,521	3	7	176	11	273	0	902	47	2	305	2	12,903	159,516	23,101	209,991	23,592	560	416,750	999	58,299	0	0	2,591	14,453	477,090	491,543			
QUEENS	4,074	2,674	6,944	81	224	2,133	685	951	231	683	603	44	1,824	24	21,174	13,489	396,060	420,996	72,436	11,245	914,227	3,334	20,252	243	57	0	36,052	923,234	959,286			
RICHMOND	3,292	2,204	11,977	39	159	2,952	331	537	9	767	502	8	2,507	11	25,285	11,906	395,502	466,306	68,039	7,712	949,466	424	128,762	0	6	426	33,427	1,070,942	1,104,369			
NY CITY	8,132	3,133	6,004	121	481	2,121	302	1,539	189	1,067	425	252	1,063	59	24,888	22,886	27,013	472,148	22,058	2,742	546,847	1,423	17,625	225	209	9,763	29,487	571,494	600,980			
NY OTHER (WEST)	12,782	5,267	10,316	206	842	3,768	533	1,947	15	1,768	724	121	1,818	116	40,220	28,329	43,356	404,660	36,399	1,730	514,473	4,066	81,084	0	76	2,561	46,032	596,386	642,420			
NY OTHER (EAST)	5,103	2,237	4,925	12	211	1,438	305	725	59	816	274	12	884	40	17,042	21,409	100,271	421,353	358,749	6,123	907,905	0	68,551	248	71	0						

ALL HBWS PERSON TRIPS COMPARISON

DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NJT REGION	NYTMC REGION	TOTAL
BERGEN	88,975	6,853	9,956	55	306	1,705	371	3,861	153	9,546	594	136	2,034	51	124,596	2,264	1,603	26,771	1,603	260	31,501	4,166	0	75	39	128	129,135	31,369	160,504
ESSEX	99,594	7,193	13,001	4	0	433	0	2,106	0	11,862	150	0	1,293	1	135,639	1,613	564	23,042	1,041	74	26,334	4,295	8,006	0	0	150	140,008	34,416	174,424
HUDSON	7,431	60,167	6,406	219	332	3,984	532	9,868	181	6,089	1,683	157	9,574	78	106,699	336	1,015	14,510	427	236	16,623	425	1,511	102	20	0	107,482	17,798	125,280
HUNTERDON	8,579	74,375	7,461	13	1	1,694	3	8,316	0	8,566	451	0	7,979	2	117,440	301	435	11,421	411	157	12,725	101	443	0	0	9	117,698	13,020	130,718
MERCER	8,829	6,155	32,023	86	221	1,896	297	1,701	97	1,656	495	49	2,251	30	55,787	428	1,257	27,254	834	333	30,106	983	3,991	35	13	0	57,152	33,764	90,916
MIDDLESEX	10,425	7,678	44,162	1	0	407	1	399	0	1,815	66	0	2,397	0	67,350	458	1,317	21,046	1,609	481	24,910	67	512	0	0	8	67,897	24,950	92,847
MONMOUTH	221	762	237	8,449	1,455	1,755	152	1,509	35	105	5,330	24	1,261	467	21,762	3	23	507	44	69	646	347	0	103	296	0	22,577	577	23,154
MORRIS	520	1,005	533	11,275	1,300	2,155	21	1,478	0	250	6,410	5	952	692	26,596	21	61	204	37	62	384	18	114	1	272	2	26,949	437	27,387
OCEAN	373	672	357	545	46,952	7,949	1,146	355	321	89	2,463	44	600	23	61,886	73	208	2,790	120	35	3,227	0	548	2,161	1,786	0	65,867	3,740	69,607
PASSAIC	358	1,289	1,149	1,252	51,940	10,449	884	248	124	116	2,629	0	1,075	19	71,532	137	711	1,677	582	230	3,336	1	64	1,584	1,934	0	75,282	3,169	78,451
SOMERSET	2,066	5,527	3,056	510	4,636	66,821	4,489	2,935	397	739	9,636	105	9,418	82	109,865	134	1,247	11,538	566	978	14,463	0	0	452	233	0	111,528	13,485	125,013
SUSSEX	1,654	3,763	3,512	117	3,522	83,093	3,169	2,831	1	450	4,834	0	10,967	1	115,677	113	740	9,325	594	937	11,699	2	85	10	13	2	116,638	10,850	127,488
UNION	1,697	4,010	2,955	254	3,115	15,096	77,222	1,023	5,167	479	1,856	49	4,037	76	117,034	161	1,856	11,465	521	1,648	15,652	0	2,033	509	124	0	119,315	16,036	135,351
WARREN	2,880	7,351	4,130	183	4,061	18,444	75,973	928	3,226	958	2,817	0	4,988	1	125,941	379	2,727	10,686	2,263	2,423	18,478	14	216	498	112	4	128,988	16,275	145,263
BRONX	6,459	13,077	2,509	647	417	2,320	380	66,345	121	6,633	4,696	1,353	4,623	845	110,426	151	463	6,444	233	75	7,366	0	1,974	32	65	0	110,598	9,265	119,863
KINGS	7,899	9,441	5,727	1,161	55	2,886	35	68,151	0	10,089	5,400	777	6,748	1,224	119,594	445	561	5,670	675	204	7,556	871	2,275	0	73	45	120,742	9,672	130,414
MANHATTAN	747	1,670	1,062	90	2,789	5,814	17,532	722	54,181	373	765	57	2,111	61	87,973	58	322	1,451	121	329	2,280	0	0	5,161	191	0	93,654	1,951	95,605
QUEENS	1,238	2,984	3,655	324	3,745	8,763	13,928	483	51,835	449	1,579	0	5,288	3	94,271	230	1,447	1,239	1,505	1,147	5,568	2	118	6,298	302	2	102,020	4,541	106,561
RICHMOND	18,264	5,731	2,192	54	178	758	192	5,305	54	28,830	34	189	1,002	63	63,144	192	216	5,381	191	72	6,034	438	26	32	0	0	63,712	6,592	70,304
NY CITY	19,728	6,025	2,857	5	0	174	0	2,586	0	30,520	116	13	596	2	62,622	195	90	4,827	166	10	5,289	992	1,611	0	0	43	63,624	6,932	70,556
NY OTHER (WEST)	1,115	3,431	1,055	1,735	2,729	13,240	674	5,746	97	486	28,263	123	5,685	141	64,520	45	323	3,190	131	199	3,889	0	1,840	130	58	0	64,908	5,530	70,437
NY OTHER (EAST)	1,564	3,762	1,770	1,853	2,680	17,492	96	4,898	1	742	35,947	3	5,673	66	76,548	82	291	2,441	219	273	3,307	54	26	4	26	4	78,903	3,297	80,200
NJ OTHER	2,535	1,974	579	106	85	390	106	10,635	48	2,209	494	13,559	503	724	33,949	52	77	785	86	36	1,037	1,186	0	11	75	0	35,258	1,000	36,258
PENN.	4,154	2,576	1,204	170	5	319	1	6,682	0	2,038	565	14,076	655	771	33,216	132	88	435	150	23	828	2,339	4,048	0	161	43	35,739	4,897	40,635
CT.	2,204	12,733	3,299	411	431	10,918	683	4,546	188	1,062	4,896	60	40,429	62	81,923	181	584	9,475	349	392	10,983	0	2,645	73	25	0	82,412	13,236	95,648
NJT REGION	3,147	14,784	6,957	82	27	9,500	49	2,807	0	1,148	3,018	0	44,891	4	86,414	160	752	8,039	447	622	10,020	23	231	0	0	3	87,060	9,631	96,691
NYTMC REGION	406	695	159	2,672	205	730	62	4,818	23	281	1,890	564	511	9,362	22,378	3	37	303	33	29	405	0	179	14	1,050	0	23,470	554	24,024
TOTAL	892	1,045	523	3,521	118	811	2	3,339	0	422	1,871	605	558	10,423	24,130	34	44	180	51	28	336	85	245	0	1,340	5	25,583	558	26,141
HOUSEHOLDS	141,321	123,457	65,844	15,831	63,850	133,976	103,839	118,818	61,063	58,578	63,393	16,469	84,037	12,065	1,061,940	4,064	9,232	120,864	5,258	4,693	144,111	7,544	15,350	8,884	4,006	128	1,087,668	154,896	1,242,564
EMPLOYMENT	162,634	143,274	96,641	19,962	67,455	156,620	94,162	103,013	55,188	69,425	65,852	15,480	94,059	13,207	1,156,970	4,299	9,818	100,232	9,750	6,671	130,769	8,865	18,226	8,392	4,234	321	1,185,131	142,645	1,327,776
ATTR/HH	2,097	511	1,200	11	28	246	34	160	75	282	70	15	276	9	5,015	64,936	8,166	79,501	8,553	1,021	162,177	1,775	11,392	3	9	0	7,823	172,549	180,371
ATTR/EMP	3,117	197	615	0	0	14	0	37	0	197	2	0	50	0	4,230	51,313	4,861	72,674	1,687	14	126,149	248	5,940	0	0	426	4,482	132,501	138,983
NY OTHER (WEST)	802	527	1,373	16	44	422	135	187	46	134	120	9	360	5	4,181	2,662	77,591	82,704	14,215	2,205	179,376	0	3,365	30	14	0	6,431	180,536	186,967
NY OTHER (EAST)	846	332	2,291	0	0	248	2	26	0	77	17	0	334	0	4,174	2,194	135,587	117,066	24,126	1,834	280,807	548	36,760	0	0	233	6,555	315,966	322,522
QUEENS	3,149	1,215	2,344	47	188	825	117	596	73	413	166	99	413	23	9,658	8,878	10,405	182,369	8,511	1,057	211,220	1,845	8,996	28	53	1,187	12,641	220,346	232,987
RICHMOND	3,924	1,580	2,487	27	38	1,009	73	518	0	458	189	1	504	7	10,814	10,729	16,759	175,182	15,057	1,244	218,970	2,540	12,094	0	0	856	14,599	230,676	245,275
UNION	1,298	570	1,258	3	54	368	78	185	15	207	70	3	226	10	4,346	5,458	25,381	108,948	90,961	1,551	230,299	0	20,696	31	18	0	5,946	249,444	255,390
WARREN	1,319	210	2,228	0	0	85	1	32	0	137	7	0	112	0	4,131	4,019	22,581	114,617	97,416	1,179	239,812	300	61,378	0	0	235	5,510	300,246	305,856
BRONX	453	656	1,246	30	102	1,256	240	245	25	141	244	20	613	18	5,288	458	11,954	19,161	2,310	33,438	67,321	138	357	8	7	0	38,879	34,240	73,119
KINGS	253	539	1,797	3	5	1,301	12	40	0	46																			

ALL HB5H PERSON TRIPS COMPARISON																													
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NJT REGION	NYTMC REGION	TOTAL
BERGEN	248,788	1,279	3,448	0	0	7,561	1,216	0	0	9,615	0	0	0	271,927	0	283	3,019	0	0	3,302	1,504	13,116	208	249	0	273,887	16,417	290,304	
ESSEX	222,352	4,028	14,526	0	0	27	0	1,084	0	13,483	4	0	456	0	255,960	1,641	47	4,762	0	12	6,462	35,881	3,125	0	23	3,109	291,676	12,685	304,361
HUDSON	6,755	131,046	1,252	0	0	9,047	0	2,134	0	23,476	0	0	1,720	0	17,429	0	0	1,000	0	397	1,398	0	0	219	139	0	176,185	1,000	177,186
HUNTERDON	5,646	138,748	15,509	8	0	477	0	4,924	0	8,419	84	2	10,651	4	184,474	88	6	842	0	601	1,538	611	138	0	76	173	185,762	1,247	187,009
MERCER	2,993	2,608	52,374	509	0	0	0	0	0	1,048	0	0	1,341	2,454	63,227	0	0	3,836	0	459	4,295	0	0	96	103	0	63,885	3,836	67,721
MIDDLESEX	3,453	3,128	60,971	0	0	23	0	59	0	707	2	0	822	0	69,165	105	12	1,646	0	1,400	3,164	147	64	0	5	138	70,716	1,965	72,682
MONMOUTH	0	0	0	22,869	1,071	305	0	1,095	0	796	3,143	0	6,265	35,543	0	0	0	0	0	0	0	0	190	2,078	0	37,811	0	37,811	
MORRIS	14	135	62	16,631	201	318	0	732	0	28	2,088	7	234	2,531	22,982	1	11	0	9	22	49	11	14	18,340	14	41,395	37	41,433	
OCEAN	0	0	0	1,072	108,534	2,080	6,704	0	0	0	334	0	0	118,724	0	0	0	0	0	271	271	0	0	0	0	0	132,210	0	132,210
PASSAIC	9	72	98	1,143	84,113	4,635	240	28	8	10	570	0	312	46	91,284	3	0	0	0	345	348	6	3	4,309	31,241	15	127,185	21	127,206
SOMERSET	1,103	347	984	1,717	20,464	158,836	3,015	0	662	0	9,842	0	12,296	0	209,265	0	0	0	0	0	0	0	0	972	1,238	112	211,478	112	211,588
SUSSEX	464	3,908	2,779	469	4,241	172,256	2,519	993	131	428	6,596	0	21,582	96	216,461	43	1	0	0	1,363	1,408	176	52	210	3,228	142	221,438	238	221,676
UNION	0	0	0	571	5,086	8,264	212,605	631	2,760	0	382	0	0	230,300	0	0	0	1,148	0	1,067	2,216	1,559	0	1,178	667	169	234,771	1,318	236,089
WARREN	412	2,347	1,994	116	1,807	18,152	204,197	440	7,376	363	435	0	7,382	30	245,051	51	4	488	0	1,579	2,122	226	69	836	2,045	184	249,737	797	250,534
BERGEN	0	9,396	0	281	0	471	0	111,361	0	4,385	2,318	1,795	272	0	130,279	3,831	0	656	0	1,926	6,413	0	0	88	401	0	132,695	4,487	137,181
ESSEX	2,935	14,480	2,345	750	1	576	0	110,749	0	9,196	1,385	925	5,631	1,664	150,635	80	2	511	0	2,443	3,036	4,702	520	0	2,817	461	160,597	1,574	162,171
HUDSON	0	0	0	0	0	4,490	0	154,365	0	0	0	0	0	0	158,855	0	0	103	0	0	103	0	0	9,289	984	0	169,128	103	169,231
HUNTERDON	10	72	103	27	14	838	2,614	15	162,478	13	17	0	290	3	166,494	4	0	17	0	78	99	12	3	2,465	1,057	23	170,106	47	170,153
MERCER	13,341	860	0	0	0	716	0	4,904	3,160	81,569	1,508	889	0	106,948	236	0	1,884	0	2,195	4,315	3,303	591	45	205	0	112,696	2,711	115,407	
MIDDLESEX	14,071	6,249	3,328	5	0	47	0	4,009	0	85,601	14	13	496	5	113,837	143	3	779	0	771	1,696	649	0	67	553	0	122,542	2,127	124,669
MONMOUTH	0	907	1,760	4,743	1,834	17,096	0	2,678	0	83,111	1,052	3,393	0	116,574	0	0	0	0	0	0	1,245	0	0	243	444	0	118,505	0	118,505
MORRIS	246	2,536	911	5,029	1,496	17,844	10	5,022	3	362	77,971	10	7,754	529	119,523	16	1	0	0	198	215	362	70	58	7,807	71	127,508	158	128,106
OCEAN	0	0	0	0	1,044	0	219	9,953	0	236	0	30,229	185	1,013	42,879	0	0	0	0	0	603	0	20	449	0	0	43,951	0	43,951
PASSAIC	348	632	249	61	0	19	0	6,545	0	971	37	27,138	174	878	37,052	17	0	92	0	3	112	2,807	1,724	0	3,552	217	43,414	2,050	45,464
SOMERSET	1,004	5,269	0	0	0	13,037	0	722	0	6,341	0	93,917	0	120,290	0	0	0	0	0	0	0	0	0	150	159	0	120,599	0	120,599
SUSSEX	462	9,320	3,213	69	1	7,474	1	2,563	0	457	2,123	0	97,473	20	123,176	24	2	0	241	267	148	38	0	358	62	123,923	126	124,049	
UNION	396	0	0	878	0	0	0	1,290	0	155	1,098	289	33,273	37,380	0	0	0	0	0	0	0	0	48	6,008	0	43,434	0	43,434	
WARREN	33	95	37	833	0	8	0	1,329	0	57	24	203	32	16,026	18,678	3	0	13	0	1	17	380	24	0	23,154	18	42,212	58	42,271
NJTPA-MERCER	274,279	151,712	59,817	32,641	138,032	217,432	228,249	134,768	160,948	121,125	107,136	35,064	113,413	43,005	1,817,621	4,067	283	11,645	0	6,315	22,311	8,214	13,707	16,628	22,454	281	1,671,232	29,984	1,901,215
BRONX	250,455	185,749	106,127	25,141	91,875	222,493	209,580	138,491	169,997	120,096	91,349	28,300	153,287	21,831	1,814,770	2,218	79	9,162	0	9,044	20,504	53,375	6,491	7,892	93,769	5,181	1,978,851	23,311	2,002,162
KINGS	0	0	0	2,343	0	0	0	0	0	0	0	0	0	2,343	94,605	0	27,790	1,903	0	124,298	0	22,527	3	10	0	2,356	146,825	149,181	
MANHATTAN	1,425	40	489	0	0	1	0	7	0	84	0	0	11	0	2,058	146,308	0	29,189	56	0	175,553	83	0	2,495	0	0	2,140	237,770	239,910
QUEENS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	291,239	32,321	0	1,780	325,340	0	9,708	32	15	0	1,826	333,268	335,095
RICHMOND	9	0	26	0	0	0	0	0	0	0	0	0	1	0	36	99	431,582	46,266	955	1,597	480,499	33	27,645	0	254	1,667	506,801	508,468	
NY CITY	300	5	962	0	0	0	13	0	50	3	0	17	12	1,363	1,033	4,465	86,677	8,416	0	100,591	706	143	29	55	2,420	2,153	103,153	105,307	
NY OTHER (WEST)	787	19	773	0	0	0	2	0	48	0	0	19	0	1,647	4,968	3,160	115,494	6,721	2	130,345	21	5,301	0	0	1,474	1,670	137,118	138,788	
NY OTHER (EAST)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,499	4,347	36,811	269,369	0	317,026	0	33,894	33	19	0	51	350,921	350,972	
NJ OTHER	0	0	12	0	0	0	0	0	0	0	0	0	0	12	6,803	3,453	35,502	392,817	15	438,590	6	49,019	0	0	301	34	487,895	487,929	
PENN.	120	0	173	0	0	1,284	1,485	0	126	0	0	0	539	0	3,727	0	296	1,366	0	94,452	96,114	382	2,538	8	7	0	98,577	4,200	102,777
CT.	74	241	2,618	4	1	766	1	30	0	31	17	0	1,085	1	4,869	1	311	120	0	124,807	125,240	0	1,763	0	4	1	129,680	2,197	131,877
NJT REGION	419	5	1,136	0	2,343	1,284	1,485	13	126	50	3	0	557	12	7,433	102,137	300,346	184,966	279,688	96,232	963,369	1,088	68,811	105	105	2,420	104,964	938,367	1,043,332
NYTMC REGION	2,295	300	3,917	4	1	767	1	39	0	163	17	0	1,116	1	8,621	158,178	438,507	226,572	400,550	126,422	1,350,228	142	143,450	0	4	4,525	135,190	1,371,782	1,506,971
TOTAL	17,783	158	369	581	0	0	0	163	0	387	2,129	0	21,570	79															

ALL HBO PERSON TRIPS COMPARISON																														
DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NJT REGION	NYTMC REGION	TOTAL	
BERGEN	879,553	15,167	8,081	2,499	3,181	2,211	0	8,960	511	48,713	216	0	5,489	2,335	976,935	2,911	1,506	28,217	8,921	2,753	44,308	39,589	12,734	609	969	0	1,020,855	54,289	1,075,144	
ESSEX	15,474	549,451	30,291	0	0	19,004	1,533	14,527	0	45,324	761	0	22,655	0	699,026	1,521	3,123	20,835	1,113	11,274	35,356	0	844	436	0	7,115,799	24,081	736,661		
HUDSON	19,387	41,071	193,940	497	0	2,326	878	1,867	0	2,311	0	0	4,410	283	266,950	1,984	0	31,403	821	2,984	1,089	414	0	1,289	290	254	462	274,461	35,740	310,200
HUNTERDON	943	641	0	98,186	3,353	966	0	2,582	935	0	11,705	154	787	3,397	123,648	0	0	187	0	0	187	0	845	6,231	0	130,723	187	130,910		
MERCER	225	2,554	2,764	116,243	4,407	3,454	23	3,563	3	297	11,428	21	2,819	2,495	150,296	40	49	1,879	307	1,427	254	90	124	9,064	0	161,165	2,365	163,531		
MIDDLESEX	0	4,048	0	5,367	359,073	18,598	1,933	0	2,768	0	1,081	401	352	0	393,822	0	0	897	0	697	1,595	380	265	17,835	29,770	0	442,306	1,162	443,468	
MONMOUTH	2	60	214	194	413,535	32,164	981	3	997	1	1,101	0	164	0	449,415	4	2	4,699	22	599	5,327	0	1	4,998	570	0	455,581	4,729	460,311	
MORRIS	5,934	21,069	7,279	1,299	46,673	583,692	25,003	689	2,572	0	33,280	0	23,168	0	750,638	0	2,240	12,036	0	0	14,275	0	470	3,726	4,224	160	758,588	14,805	773,494	
OCEAN	443	12,952	10,583	14	24,408	653,294	18,100	413	74	259	27,378	0	23,465	0	771,381	136	170	13,529	520	7,269	21,624	79	68	111	6	0	778,846	14,423	793,270	
PASSAIC	4,881	8,323	2,573	0	32,828	18,931	656,886	707	23,092	0	309	0	6,816	2,314	757,660	0	4,816	10,455	358	390	16,018	1,899	2,367	4,199	2,324	0	766,471	17,995	784,467	
SOMERSET	2,359	9,757	20,702	1,311	31,406	25,154	656,618	462	40,999	585	2,411	0	18,367	0	808,830	330	526	9,192	1,434	16,091	27,572	251	204	4,737	38	0	829,946	11,686	841,633	
SUSSEX	11,050	25,367	744	2,793	0	0	464,420	0	9,188	6,644	4,101	23,387	11,313	0	559,007	0	608	7,433	0	0	8,041	0	10,666	260	1,656	621	560,922	19,328	580,250	
UNION	12,309	37,520	28,514	457	37	17,717	4	487,544	0	27,192	10,405	1,494	19,448	2,176	644,816	922	242	7,448	614	2,086	11,312	11,637	2,199	0	430	13	658,970	11,438	670,408	
WARREN	4,698	2,331	0	1,948	0	1,825	28,599	0	483,688	0	6,716	0	824	0	530,628	0	806	6,576	0	0	7,382	2,103	821	26,550	3,217	0	562,498	8,203	570,702	
BRONX	431	438	2,103	3	321	21,125	35,951	8	511,203	18	93	0	716	0	572,409	36	60	2,542	166	3,347	6,150	9	18	47,662	27	0	623,454	2,822	626,276	
KINGS	33,650	6,531	1,465	0	1,571	3,236	998	28,877	1,742	326,888	491	5,279	454	0	411,183	0	0	7,612	0	0	7,612	4,944	0	214	758	0	417,089	7,612	424,711	
MANHATTAN	28,589	10,302	6,039	0	0	703	0	14,480	0	327,052	43	29	850	0	388,087	1,354	212	5,910	718	290	8,453	2,357	0	25	6	0	407,481	10,557	418,038	
QUEENS	0	716	0	8,591	10,288	24,886	1,835	14,597	2,043	0	298,828	0	6,045	0	367,830	0	0	3,466	0	3,694	7,160	531	5,554	1,076	1,119	0	374,251	9,020	383,271	
RICHMOND	360	7,094	4,991	1,032	10,161	45,730	95	14,256	3	592	337,538	6	18,138	18	440,014	68	73	5,401	352	4,480	10,374	332	99	81	121	0	445,029	5,993	451,022	
NY CITY	238	2,433	232	0	286	0	0	17,667	127	3,042	0	142,964	533	2,635	170,155	0	0	468	0	0	468	2,283	131	92	1,983	0	174,514	800	175,113	
NY OTHER (WEST)	1,693	5,424	4,589	19	4	1,171	0	14,888	0	2,409	441	120,871	875	754	153,137	252	69	407	133	308	1,169	35,082	1,718	0	8,555	2	197,082	2,581	199,663	
NY OTHER (EAST)	2,647	19,128	6,223	0	0	42,332	1,362	17,813	4,613	3,180	5,337	0	454,342	9,138	566,114	0	0	6,311	5,482	0	11,793	0	599	601	461	0	567,314	21,824	589,137	
PENN.	531	30,051	18,672	6	9	77,049	29	4,382	0	736	5,403	0	438,194	0	575,062	124	144	9,672	762	8,168	18,870	152	77	0	1	0	583,383	10,779	594,162	
CT.	809	520	0	3,788	50	494	0	4,304	0	693	730	2,049	0	102,529	115,965	0	0	878	0	0	878	1,000	384	108	26,182	0	143,255	1,262	144,516	
NJTPA-MERCER	363	1,736	1,646	777	38	2,678	0	4,812	0	459	1,344	605	489	103,111	118,057	90	36	791	89	268	1,274	601	161	0	32,441	0	151,368	1,167	152,535	
BRONX	979,263	696,815	250,828	124,968	457,301	718,501	719,028	577,010	522,082	439,338	366,084	154,948	549,263	133,923	6,689,363	6,416	10,587	136,774	16,494	25,776	196,048	52,729	44,231	57,246	79,723	1,705	6,904,837	216,208	7,121,045	
KINGS	956,869	782,941	404,537	118,755	484,326	888,306	711,802	553,262	553,278	410,590	397,930	123,027	544,985	108,554	7,039,161	24,337	6,753	133,519	17,385	52,660	234,635	182,884	26,127	57,713	51,280	134	7,383,698	208,235	7,591,933	
MANHATTAN	4,833	0	0	0	0	0	0	0	0	0	0	0	0	0	4,833	679,930	7,990	116,849	7,893	0	812,662	0	48,291	6	19	0	4,858	860,953	865,811	
QUEENS	4,754	364	7,353	0	0	45	0	22	0	304	1	0	50	0	12,892	717,890	1,292	132,456	1,050	13	852,660	168	49,725	0	4	4	13,072	902,376	915,448	
RICHMOND	2,320	0	0	0	0	0	0	0	0	0	0	0	0	2,320	9,996	1,245,758	173,979	68,574	24,867	1,622,774	0	49,044	63	29	0	27,279	1,546,951	1,574,231		
NY CITY	211	141	3,273	0	0	29	0	2	0	13	0	0	27	0	3,695	1,794	1,459,675	163,300	86,151	21,841	1,732,760	9	9,869	0	0	0	25,545	1,720,789	1,746,334	
NY OTHER (WEST)	6,040	4,144	6,261	75	133	870	125	160	471	2,073	584	732	1,200	0	22,868	101,430	56,665	645,588	17,057	1,362	822,102	329	20,821	58	109	2,456	24,726	844,017	868,743	
NY OTHER (EAST)	2,964	524	18,472	0	0	24	0	6	0	277	0	0	87	0	22,354	100,514	41,819	710,127	37,671	796	890,926	2,619	46,310	0	19	25,768	936,459	962,228		
PENN.	4,294	0	0	0	0	8,959	0	0	2,042	0	9,740	0	0	0	25,036	28,092	160,695	194,126	1,152,169	5,122	1,630,205	0	293,418	64	37	0	30,259	1,818,500	1,848,760	
CT.	55	96	2,844	0	0	8	0	1	0	9	0	0	27	0	3,039	4,628	205,512	199,920	1,280,512	6,056	1,696,627	1	43,540	0	1	9,097	1,734,112	1,743,208		
RICHMOND	1,377	1,458	838	0	0	1,389	653	960	0	1,017	992	205	1,233	219	10,340	767	13,693	16,776	995	411,571	443,802	1,096	2,075	16	14	0	4,023,037	34,306	457,344	
NY CITY	10	196	2,927	0	1	2,997	4	4	0	6	16	0	431	0	6,594	116	11,347	5,518	1,091	487,535	505,806	2	133	0	0	0	494,131	18,205	512,335	
NY OTHER (WEST)	18,964	5,601	7,099	75	133	11,218	777	1,120	2,512	3,090	1,577	937	12,174	219	65,397	819,814	1,484,800	1,137,318	1,246,689	442,922	5,131,544	1,425	413,649	207	210	2,456	510,161	5,104,727	5,614,888	
NY OTHER (EAST)	7,993	1,322	34,869	0	1	3,103	4	34	0	608	17	0	621	0	48,573	824,939	1,719,606	1,211,321	1,406,475	516,240	5,678,580	1,820	149,576	0	24	567,612	5,311,9			

ALL WBO PERSON TRIPS COMPARISON

DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA-MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NJT REGION	NYTMC REGION	TOTAL	
BERGEN	164,628	12,017	7,943	0	1,537	454	1,743	6,046	1,281	13,447	2,330	1,353	3,341	304	216,424	0	0	8,510	0	366	8,877	4,381	4,007	235	185	85	221,592	12,602	234,194	
ESSEX	174,452	6,649	7,909	43	21	1,138	56	4,489	0	13,882	345	197	1,039	60	209,679	1,367	1,573	7,124	460	122	10,646	5,154	12,573	0	27	157	214,982	23,255	238,237	
HUDSON	6,424	82,500	2,632	0	895	508	3,566	18,154	3,234	5,130	3,095	852	9,524	750	137,324	871	2,103	10,397	90	1,481	14,943	0	3,252	253	113	27	139,171	16,741	155,912	
HUNTERDON	5,870	98,579	10,012	201	131	5,963	348	13,221	9	10,037	1,760	327	7,202	173	153,832	210	628	9,833	404	455	11,530	337	1,236	6	83	14	154,713	12,325	167,038	
MERCER	906	3,336	25,562	535	68	1,628	2,289	1,594	1,145	4,429	1,486	508	0	0	43,486	0	264	9,462	180	162	10,068	0	0	109	89	51	43,845	9,958	53,803	
MIDDLESEX	5,274	12,737	43,569	55	66	2,628	532	2,789	3	5,944	517	75	3,198	39	77,424	655	2,439	14,374	2,147	1,001	20,616	419	2,883	2	16	37	78,663	22,535	101,398	
MONMOUTH	0	1,173	0	17,836	1,248	0	0	1,353	0	0	1,467	0	0	31	23,418	0	0	274	0	371	645	293	0	224	1,738	0	26,043	274	26,317	
MORRIS	26	165	36	15,810	1,206	1,160	39	884	3	63	2,611	47	185	1,424	23,660	1	4	87	4	13	108	4	18	81	1,388	0	25,146	113	25,259	
OCEAN	764	395	714	3,029	70,683	7,850	1,631	0	5,839	3,198	3,723	582	293	0	98,702	0	0	103	0	0	103	0	0	4,494	4,442	0	107,638	103	107,741	
PASSAIC	15	127	51	1,459	73,042	14,786	2,063	240	5,193	27	3,550	4	233	85	100,876	1	3	135	2	63	204	0	7	7,359	5,164	0	113,461	148	113,609	
SOMERSET	1,912	2,393	937	2,117	10,258	135,322	14,678	386	1,668	0	10,584	0	7,767	0	188,022	0	502	941	0	1,021	2,464	621	3,525	1,123	645	217	191,431	5,185	196,617	
SUSSEX	780	4,641	1,765	1,153	12,848	141,795	15,837	3,420	504	1,034	15,317	63	9,375	254	208,786	41	182	1,124	76	1,768	3,191	38	211	942	517	3	212,050	1,637	213,687	
UNION	0	0	0	1,150	2,277	79,889	1,693	12,943	2,060	1,114	0	5,510	0	0	106,636	0	0	851	0	831	1,682	651	736	1,332	351	124	109,801	1,711	111,512	
WARREN	244	1,374	532	171	6,395	3,414	102,916	841	11,649	326	1,847	9	2,318	31	132,067	14	77	1,042	31	723	1,886	9	77	1,613	240	1	134,652	1,240	135,892	
BRONX	5,223	11,384	491	695	571	1,572	518	119,207	0	10,068	9,349	6,933	2,254	3,677	171,941	0	0	1,662	0	410	2,072	0	4,005	99	292	409	172,743	6,077	178,819	
KINGS	4,191	14,640	2,441	1,152	263	4,617	251	93,206	6	9,610	5,705	3,106	4,848	2,461	146,495	114	183	1,633	75	169	2,174	814	1,856	5	827	19	148,311	3,880	152,191	
MANHATTAN	0	2,789	0	0	795	0	8,569	0	66,287	0	413	0	0	0	78,853	0	0	184	0	0	184	736	1,011	5,945	476	0	86,010	1,195	87,205	
QUEENS	6	71	23	31	828	3,007	11,165	46	59,750	14	152	0	138	1	75,233	0	3	64	1	49	116	0	2	4,738	179	0	80,198	70	80,268	
RICHMOND	7,066	5,414	574	0	3,207	0	10,335	0	27,792	0	415	654	0	0	55,457	0	472	483	0	1,091	2,045	659	0	53	160	0	57,420	954	58,374	
SOMERSET	11,164	7,892	6,706	124	260	2,198	142	12,739	3	40,236	837	668	1,960	177	85,107	460	246	580	212	116	1,614	1,787	4,060	2	89	40	87,100	5,598	92,698	
UNION	0	3,532	1,579	5,581	1,053	14,769	246	3,494	0	239	72,630	360	3,949	458	107,889	0	664	562	0	1,226	0	1,160	284	384	89	0	108,557	2,475	111,031	
WARREN	282	1,723	392	3,074	3,455	17,891	519	5,103	24	520	57,081	137	2,584	589	93,373	9	38	494	27	175	743	41	124	197	604	1	94,389	694	95,083	
BRONX	504	98	604	152	0	686	0	3,644	0	872	0	20,233	1,354	432	28,579	0	0	901	0	0	901	1,606	544	23	321	220	30,528	1,665	32,193	
KINGS	106	245	38	48	4	67	0	2,347	0	314	118	12,607	57	685	16,637	2	3	133	0	1	139	2,633	233	0	445	1	19,716	372	20,088	
MANHATTAN	1,312	7,948	845	1,147	782	6,489	1,841	8,253	0	680	5,145	1,022	76,407	196	112,069	1,267	171	0	5,180	313	6,930	379	2,852	173	121	0	113,056	9,469	122,524	
QUEENS	1,266	9,280	3,313	288	337	7,855	865	5,672	32	1,801	3,396	89	84,599	98	118,691	59	268	21	205	801	1,354	75	325	22	54	4	119,644	891	120,525	
RICHMOND	0	615	0	189	0	148	0	2,756	0	0	0	213	0	10,707	14,627	0	2	214	0	214	0	0	54	4,354	0	0	19,036	214	19,250	
SUSSEX	42	306	24	299	65	245	5	2,106	0	97	486	704	64	10,082	14,529	1	2	73	1	3	80	10	25	2	4,849	0	19,392	103	19,495	
UNION	188,739	133,594	41,880	31,280	92,247	171,701	114,971	176,915	92,398	67,975	111,335	32,472	111,654	16,865	1,383,427	2,138	4,176	34,544	5,450	6,046	52,354	9,325	21,092	14,402	13,671	1,222	1,426,870	68,623	1,495,492	
WARREN	203,717	158,431	76,210	23,907	98,920	206,763	134,737	147,105	77,176	83,706	93,724	18,033	117,799	16,159	1,456,389	2,934	5,649	36,716	3,646	5,458	54,402	11,322	23,631	14,968	14,482	277	1,502,617	72,851	1,575,469	
BRONX	1,208	883	0	0	0	1,100	0	0	249	0	707	0	0	0	4,148	62,904	2,873	13,205	926	0	79,907	0	0	0	0	0	0	5,556	95,274	100,830
KINGS	1,649	276	529	1	1	61	3	155	0	422	13	6	55	2	3,175	72,038	3,950	15,048	613	1	91,650	1,200	40,648	0	2	1,387	4,379	133,684	138,063	
MANHATTAN	7,730	466	1,069	0	0	562	0	1,994	0	477	0	0	0	0	12,298	2,425	78,240	33,101	16,359	7,069	137,195	0	4,122	0	0	0	19,368	134,248	153,615	
QUEENS	3,173	2,031	6,102	15	21	846	77	545	2	592	134	16	644	11	14,209	3,246	145,709	39,192	29,723	9,346	227,216	431	63,170	0	2	112	23,989	281,153	305,141	
RICHMOND	7,925	3,885	9,602	35	83	1,583	924	544	61	3,904	196	44	1,579	0	30,366	66,569	65,293	353,829	58,749	591	545,030	218	46,638	0	0	2,513	31,175	593,590	624,764	
SUSSEX	12,992	3,834	13,241	17	21	933	49	1,370	0	3,571	191	36	949	14	37,217	18,221	54,641	291,611	25,855	122	390,450	118	2,880	0	0	200	37,458	393,408	430,865	
UNION	461	0	0	0	0	0	0	0	0	0	0	0	0	0	3,931	3,947	8,962	13,639	137,899	544	164,890	0	23,381	0	0	2,298	4,475	190,255	194,500	
WARREN	434	401	1,701	4	2	99	6	64	0	160	27	1	125	1	3,025	5,426	19,387	17,485	159,217	553	202,068	85	61,264	0	0	111	3,664	262,890	266,554	
BRONX	167	506	0	0	0	425	856	1,375	0	0	0	0	120	0	3,449	0	3,465	308	436	61,423	65,632	784	1,239	0	0	3,568	65,657	9,016	74,673	
KINGS	136	518	1,024	20	76	2,815	245	189	10	86	231	1	780	4	6,136	64	4,949	551	616	62,544	68,724	465	2,035	52	111	74	69,308	8,289	77,597	
MANHATTAN	17,491	5,740																												

ALL NHHW PERSON TRIPS COMPARISON

DISTRICT	BERGEN	ESSEX	HUDSON	HUNTERDON	MERCER	MIDDLESEX	MONMOUTH	MORRIS	OCEAN	PASSAIC	SOMERSET	SUSSEX	UNION	WARREN	NJTPA+MERCER	BRONX	KINGS	MANHATTAN	QUEENS	RICHMOND	NY CITY	NY OTHER (WEST)	NY OTHER (EAST)	NJ OTHER	PENN.	CT.	NJT REGION	NYTMC REGION	TOTAL
BERGEN	249,880	1,015	3,874	0	412	0	0	7,983	0	10,097	498	0	0	0	273,759	0	0	9,882	0	0	9,882	14,447	892	206	368	0	288,779	10,775	299,554
ESSEX	290,768	8,259	11,972	5	0	216	5	3,284	0	17,451	68	51	1,280	4	333,364	953	373	10,965	65	15	12,371	6,934	4,318	0	6	53	340,319	16,726	357,046
HUDSON	4,991	200,534	5,867	0	0	1,809	0	4,289	0	11,377	710	177	23,516	0	253,269	0	0	2,774	0	43	2,916	353	1,540	340	207	367	254,212	4,680	258,892
HUNTERDON	9,672	228,230	14,906	50	1	2,655	115	11,684	0	16,558	795	95	21,357	18	306,133	56	80	1,907	63	102	2,208	113	203	0	12	2	305,360	2,310	308,671
MERCER	3,427	3,100	53,815	0	0	694	1,148	293	930	0	0	0	2,173	0	65,581	713	0	2,728	0	0	3,441	0	3,549	100	148	314	65,828	7,304	73,133
MIDDLESEX	13,441	11,584	121,190	10	0	1,057	44	1,436	0	8,247	181	12	7,839	2	165,043	430	870	2,684	886	707	5,577	207	1,301	0	1	10	165,958	6,181	172,140
MONMOUTH	0	0	0	28,862	1,626	487	0	237	0	0	3,046	0	181	1,641	36,080	0	0	0	0	0	0	0	0	356	3,062	538	40,305	538	40,305
MORRIS	6	58	8	32,633	588	625	16	1,032	2	24	4,456	28	324	1,581	41,381	0	0	2	0	2	5	0	1	119	3,156	0	44,659	3	44,662
OCEAN	0	0	0	1,468	150,079	11,571	2,990	0	323	2,323	4,273	570	0	517	174,114	0	0	1,942	0	0	1,942	0	7,669	12,224	176	194,007	2,118	196,125	
PASSAIC	0	1	0	670	146,419	4,628	1,324	11	257	0	1,453	0	57	2	154,822	0	0	0	0	3	3	0	0	10,189	13,849	0	178,862	0	178,862
SOMERSET	0	3,567	0	184	5,398	159,616	4,152	372	554	0	6,147	0	13,457	0	193,447	0	0	1,137	0	315	1,452	0	3,870	1,467	1,677	191	196,906	5,198	202,105
SUSSEX	189	1,873	533	486	3,649	227,928	4,139	1,401	258	312	15,603	4	24,123	17	280,515	2	4	84	3	724	817	1	10	649	572	0	282,461	104	282,565
UNION	0	0	419	0	4,741	3,770	210,569	0	8,732	508	307	200	3,182	668	233,095	0	0	874	0	0	874	582	1,045	1,569	901	0	236,146	1,918	238,064
WARREN	14	173	46	20	1,263	3,970	284,194	85	12,357	33	379	0	1,795	0	304,330	0	0	8	1	134	144	0	1	1,253	245	0	305,961	11	305,972
BRONX	2,127	10,836	0	0	0	2,202	0	116,940	0	13,098	3,736	4,372	11,409	955	165,676	0	0	244	0	120	363	0	1,290	87	610	45	166,493	1,579	168,071
KINGS	3,678	12,256	1,051	918	8	1,996	64	152,443	0	14,243	6,065	4,816	12,103	1,867	211,506	20	11	354	4	23	412	474	258	0	462	3	212,465	650	213,115
MANHATTAN	0	0	0	0	738	767	4,758	0	168,770	0	0	0	0	0	175,033	0	0	370	0	0	370	0	0	8,010	1,294	0	184,336	370	184,706
QUEENS	0	0	0	4	911	845	9,658	1	207,006	0	12	0	41	0	218,479	0	0	0	0	3	3	0	0	7,061	245	0	225,789	0	225,789
RICHMOND	14,158	22,135	576	1,827	2,323	0	514	17,436	0	94,480	0	0	0	1,094	154,543	0	0	1,698	0	518	2,217	1,522	1,185	96	312	0	156,991	2,883	159,874
SUSSEX	19,520	16,760	5,154	22	0	460	23	13,568	0	115,175	198	443	2,131	22	173,476	151	35	2,380	24	11	2,601	1,803	903	0	33	9	175,324	3,502	178,826
UNION	1,166	174	0	1,862	1,568	10,911	0	3,388	0	1,827	84,911	0	7,143	339	113,289	0	0	277	0	0	277	1,262	0	455	640	0	115,646	277	115,923
WARREN	89	864	121	4,304	1,154	18,950	293	6,024	3	217	80,061	47	9,015	120	121,261	0	2	24	1	45	73	5	6	143	276	0	121,730	34	121,764
BRONX	362	0	0	0	184	0	0	4,671	0	1,634	247	35,811	186	773	43,868	0	0	0	0	0	0	756	161	41	692	0	45,358	161	45,519
KINGS	63	106	7	27	0	7	0	5,172	0	533	49	36,848	52	691	43,554	0	0	2	0	2	599	92	45,665	93	45,758	0	45,665	93	45,758
MANHATTAN	1,978	14,392	2,334	181	0	9,990	4,726	15,943	0	5,573	0	127,785	2,259	185,160	705	1,689	2,975	916	2,196	8,482	2,460	0	244	238	0	190,298	6,287	196,585	
QUEENS	2,173	26,952	7,059	356	59	14,157	1,764	13,760	13	2,729	10,927	53	145,348	27	225,378	25	59	1,225	52	885	2,246	360	90	18	33	1	226,349	1,452	227,801
RICHMOND	679	0	0	1,028	80	0	0	1,274	0	1,076	89	547	2,539	43,546	50,855	0	0	0	0	0	0	0	0	26	9,314	0	60,195	0	60,195
UNION	11	35	2	1,551	1	23	0	1,067	0	39	133	482	100	20,551	23,956	0	0	1	0	0	1	2	1	0	10,350	0	34,348	2	34,350
WARREN	278,767	255,753	66,885	35,410	167,149	201,818	228,856	172,826	179,309	136,420	109,536	41,676	191,571	51,792	2,117,769	1,419	1,689	24,902	916	3,191	32,117	21,381	13,531	20,666	31,685	1,631	2,194,692	44,088	2,238,780
BRONX	339,624	307,153	162,049	41,056	154,052	277,517	301,638	210,967	219,896	175,561	120,379	42,880	225,565	24,901	2,603,238	1,637	1,434	19,637	1,099	2,655	26,462	10,176	7,183	19,433	30,750	78	2,666,252	31,069	2,697,320
KINGS	0	0	0	0	0	0	0	0	242	0	0	0	0	0	242	211,073	5,068	23,930	4,339	0	244,410	0	33,941	0	0	0	242	278,351	278,593
MANHATTAN	599	22	100	0	0	1	0	10	0	77	0	0	6	0	814	150,864	879	19,910	3,480	0	175,133	199	10,500	0	0	65	1,013	185,698	186,711
QUEENS	320	2,765	668	0	386	0	1,875	0	0	675	0	0	0	0	6,689	10,975	398,901	44,180	32,522	4,855	491,432	0	6,178	0	0	0	11,544	492,756	504,300
RICHMOND	1,977	429	2,746	1	0	72	6	58	0	203	9	1	233	0	5,736	1,321	269,626	43,339	43,671	5,634	363,589	109	6,936	0	3	11,479	364,895	376,374	
UNION	3,110	1,494	3,742	13	32	610	355	209	23	1,504	75	16	610	0	11,794	33,338	43,096	264,630	21,018	1,989	364,071	725	15,494	0	0	3,471	14,509	381,047	395,555
WARREN	5,230	408	4,194	0	0	10	0	72	0	673	3	0	195	0	10,790	24,090	38,287	233,317	25,893	125	321,712	201	28,211	0	28	11,115	322,238	333,353	
BRONX	463	0	0	0	0	0	0	0	337	0	0	0	919	0	1,720	10,070	44,710	16,099	238,253	0	309,132	0	49,885	0	0	1,720	358,997	360,717	
KINGS	366	248	2,264	1	0	22	2	17	0	123	6	0	132	0	3,182	7,864	60,713	17,076	383,431	25	469,109	41	32,713	0	0	14	3,247	501,811	505,059
MANHATTAN	0	0	664	0	0	644	123	0	127	522	0	0	845	218	3,141	0	3,545	503	0	102,656	106,703	0	0	0	0	0	105,797	5,776	111,572
QUEENS	31	125	682	3	3	1,321	126	31	1	17	63	0	944	0	3,346	0	3,562	669	139	152,804	157,173	1	1,061	0	2	0	156,153	5,431	161,584
RICHMOND	3,893	4,259	5,074	13	418	1,254	2,353	209	487	2,268	750	16	2,374	218	23,587	265,456	495,320	349,342	296,131	109,500	1,515,749	725	107,206	0	0	3,471	1,133,812	1,516,926	1,650,738
UNION	8,203	1,233	9,986	5	3	1,430	1																						

B.3 Comparison of Work Trips to Major Destinations

County	MCD Name	Newark CBD			Downtown Jersey City			Upper Manhattan			Mid-Manhattan			Lower Manhattan			Manhattan (All)		
		Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT
Bergen	Allendale	27	14	40	41	18	59	93	52	305	329	564	555	177	344	312			
	Alpine	13	14	11	19	14	18	86	176	235	246	340	227	121	142	291			
	Bergenfield	68	186	96	128	142	106	612	1,012	2,639	2,235	1,638	1,236	941	616	544			
	Bogota	27	38	41	46	78	41	155	162	337	432	628	496	187	444	270			
	Carlstadt	40	18	78	105	54	126	96	120	9	522	266	413	257	198	51			
	Cliffside Park	75	150	88	470	332	202	549	820	786	2,458	3,172	2,811	1,221	840	1,034			
	Closter	27	0	32	42	106	49	218	168	130	604	1,002	995	276	226	127			
	Cresskill	31	32	32	50	44	71	247	274	556	857	830	842	366	356	252			
	Demarest	20	14	21	32	24	48	156	240	420	517	816	679	228	228	124			
	Dumont	43	98	55	74	74	82	416	384	758	1,632	1,227	1,185	676	724	195			
	East Rutherford	58	104	111	126	148	157	113	66	43	704	734	1,018	348	272	397			
	Edgewater	32	54	41	286	100	94	305	346	626	1,403	1,977	2,381	662	592	580			
	Elmwood Park	110	138	183	68	18	86	226	146	244	674	690	523	330	228	210			
	Emerson	28	10	37	40	34	38	121	178	328	454	432	636	231	154	96			
	Englewood	125	54	178	198	106	157	1,044	1,066	1,876	3,215	2,342	1,606	1,388	930	794			
	Englewood Cliffs	31	18	32	46	34	38	255	286	385	693	996	995	332	344	255			
	Fair Lawn	182	178	243	175	160	409	480	540	621	1,521	2,532	2,619	746	1,254	1,180			
	Fairview	43	30	66	266	214	366	218	294	252	1,120	1,079	536	552	434	88			
	Fort Lee	131	238	184	472	142	183	1,384	2,077	4,033	3,664	6,218	6,692	1,622	1,944	1,807			
	Franklin Lakes	67	10	66	51	50	56	155	70	251	538	780	1,098	282	290	182			
	Garfield	208	42	281	156	50	146	327	102	361	1,049	418	547	554	276	240			
	Glen Rock	77	84	89	86	50	161	223	214	99	816	1,132	1,279	407	674	620			
	Hackensack	117	168	197	221	132	534	844	736	733	2,481	3,146	2,689	1,105	1,360	766			
	Harrington Park	14	46	18	22	22	34	109	96	53	280	462	480	130	140	20			
	Hasbrouck Heights	59	76	110	77	156	115	190	252	237	562	838	1,001	289	320	402			
	Haworth	12	14	12	23	8	18	86	100	197	317	370	331	142	106	237			
	Hillsdale	39	24	68	55	26	117	191	182	72	609	592	391	318	386	220			
	Ho-Ho-Kus	22	24	56	32	52	47	74	56	101	255	336	409	137	260	148			
	Leonia	37	10	56	67	12	53	284	528	701	845	1,306	1,853	339	446	407			
	Little Ferry	43	48	73	73	46	77	207	132	182	715	734	536	326	222	219			
	Lodi	121	106	313	106	70	247	307	290	231	917	830	691	449	288	325			
	Lyndhurst	192	268	237	332	202	188	254	176	163	1,956	1,054	952	937	520	474			
	Mahwah	89	52	115	141	136	158	374	164	419	1,287	1,160	1,116	634	704	646			
	Maywood	25	16	44	38	56	43	150	150	130	436	564	419	198	246	81			
	Midland Park	33	0	39	43	14	85	93	60	160	329	286	243	171	148	181			
	Montvale	28	0	37	28	0	70	179	90	191	631	278	893	257	156	89			
	Moonachie	11	6	21	43	6	22	46	40	28	263	64	77	126	90	39			
	New Milford	54	42	67	118	24	81	407	662	625	1,707	1,134	1,216	747	390	173			
	North Arlington	279	300	245	325	224	175	149	142	100	1,208	486	746	728	518	329			
	Northvale	10	23	11	17	0	17	89	71	120	213	68	128	100	85	150			
	Norwood	19	18	21	30	24	32	167	112	580	401	576	665	178	86	232			
	Oakland	57	52	60	46	44	51	138	66	198	451	402	392	224	348	212			
	Old Tappan	20	0	21	31	76	59	142	196	164	379	338	183	178	172	18			
	Oradell	33	0	47	59	56	41	183	144	70	735	932	565	345	334	163			
	Palisades Park	71	60	101	153	80	81	491	636	411	1,371	2,120	1,404	549	714	526			
	Paramus	104	76	141	93	162	147	358	466	456	1,044	1,282	878	485	666	476			
	Park Ridge	32	120	43	41	64	51	199	132	50	681	534	416	288	244	131			
	Ramsey	54	36	80	91	40	100	200	136	89	713	552	701	380	386	366			
	Ridgefield	37	192	54	196	136	72	219	184	113	750	1,136	779	385	168	118			
	Ridgefield Park	49	8	80	81	154	82	280	370	173	889	1,174	1,019	398	304	411			
	Ridgewood	132	170	200	159	164	228	392	492	376	1,323	2,578	3,231	688	1,492	1,503			
	River Edge	27	74	65	52	58	153	223	294	340	717	950	648	318	584	205			
	River Vale	32	92	42	33	42	61	187	186	100	538	444	448	246	284	189			
	Rochelle Park	21	32	29	27	14	25	82	60	0	214	176	123	113	98	49			
	Rockleigh	3	23	4	5	0	6	29	71	10	70	68	372	34	85	50			
	Rutherford	207	202	275	267	386	220	247	250	141	1,834	1,886	1,431	884	1,044	678			
	Saddle Brook	77	84	95	58	36	63	196	102	25	665	398	303	282	240	151			
	Saddle River	22	10	21	19	0	20	60	32	89	196	264	82	105	58	164			
	South Hackensack	5	0	7	9	6	6	25	13	0	70	21	0	34	9	0			
	Teaneck	143	124	191	247	114	231	1,101	2,050	3,432	3,570	4,627	4,310	1,494	2,286	2,485			
	Tenafly	70	24	74	115	48	104	521	830	1,727	1,696	2,024	1,674	779	610	753			
	Teterboro	3	0	5	6	6	4	19	13	19	47	21	10	24	9	0			
	Upper Saddle River	32	44	40	49	18	48	154	170	86	617	766	432	273	266	182			
	Waldwick	34	32	72	51	46	49	129	122	126	407	360	258	211	288	241			
	Wallington	98	100	139	117	20	68	131	90	19	751	290	218	366	168	34			
	Washington	47	56	54	46	22	66	154	108	123	465	642	330	218	250	97			
	Westwood	41	18	50	66	54	50	217	124	170	767	632	338	375	366	254			
	Woodcliff Lake	26	30	31	26	42	37	112	164	51	364	504	275	172	220	179			
Wood-Ridge	43	22	58	120	20	62	110	88	34	571	216	542	311	228	334				
Wyckoff	101	96	121	97	66	146	245	192	27	847	1,326	964	444	596	374				
County Total	4,293	4,542	5,937	7,129	5,176	7,132	18,208	20,613	28,934	63,738	70,760	66,531	29,799	30,500	25,130	111,745	121,873	120,585	
Essex	Belleville	1,585	1,468	1,259	341	356	340	157	301	575	1,351	780	1,279	834	488	534			
	Bloomfield	1,890	2,094	1,433	355	292	360	242	304	263	1,951	2,114	2,729	1,059	1,468	1,205			
	Caldwell	253	140	228	48	42	54	39	0	8	273	246	321	137	88	188			
	Cedar Grove	425	410	318	113	58	123	94	112	70	655	642	565	338	294	252			
	City of Orange	1,480	1,839	1,198	226	136	195	103	138	85	1,100	798	490	700	612	276			
	East Orange	3,795	4,394	3,426	507	404	396	224	292	415	2,308	1,458	1,034	1,466	1,164	793			
	Essex Fells	115	48	96	20	14	30	12	10	0	87	150	84	62	118	93			
	Fairfield	151	100	153	43	42	40	48	0	21	263	160	74	143	44	24			
	Glen Ridge	328	140	217	56	54	129	41	130	210	308	1,092	1,192	179	602	551			
	Irvington	3,225	4,008	2,487	417	266	307	137	198	563	1,616	1,587	1,564	1,222	912	619			
	Livingston	1,257	868	1,049	218	108	328	133	202	398	1,128	1,562	1,753	692	1,522	767			
	Maplewood	1,353	1,226	815	225	122	453	94	306	1,344	885	2,154	2,608	660	1,782	1,179			
	Millburn	1,027	400	720	193	170	401	106	158										

Work Trips Attracted To		Newark CBD			Downtown Jersey City			Upper Manhattan			Mid-Manhattan			Lower Manhattan			Manhattan (All)			
County	MCD_Name	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	
Hudson	Bayonne	757	486	585	2,999	2,972	2,689	284	530	539	3,639	2,816	1,210	3,431	2,414	1,174				
	East Newark	100	86	52	37	8	36	12	20	44	125	50	98	74	22	82				
	Guttenberg	51	50	52	264	204	149	147	270	146	1,277	2,041	815	534	984	467				
	Harrison	693	336	448	282	172	334	83	168	599	887	586	884	526	466	841				
	Hoboken	563	554	308	3,282	1,590	2,450	819	1,268	1,737	7,024	14,420	13,436	4,159	9,473	9,531				
	Downtown Jersey City	615	424	365	5,574	2,154	3,839	622	1,106	2,282	7,012	10,303	7,176	6,838	8,918	9,360				
	Other Jersey City	2,792	2,138	2,093	12,803	14,131	8,923	1,232	3,113	3,342	13,770	14,234	11,369	12,121	10,871	10,726				
	Kearny	1,270	1,412	963	683	476	504	145	198	174	1,285	1,290	479	926	950	520				
	North Bergen	290	186	323	1,346	998	569	534	1,032	529	4,147	5,864	3,424	1,993	1,758	1,104				
	Secaucus	145	108	214	346	476	271	139	102	416	1,000	1,466	2,164	491	920	733				
	Union City	290	180	310	1,898	1,356	966	460	766	597	4,346	4,148	3,581	2,251	1,750	1,098				
	Weehawken	88	52	89	595	268	238	231	370	109	2,048	3,302	1,056	909	1,760	294				
	West New York	187	218	226	1,029	550	483	463	396	292	4,013	3,796	3,779	1,757	1,442	1,169				
	County Total	7,840	6,230	6,028	31,137	25,355	21,450	5,173	9,339	10,808	50,572	64,316	49,471	36,011	41,726	37,098	91,756	115,363	97,376	
	Hunterdon	Alexandria	20	34	21	23	0	14	3	0	9	30	10	28	34	24				
		Bethlehem	18	42	20	21	16	15	2	0	7	25	19	75	26	34	11			
		Bloomsbury	4	42	5	5	16	4	0	0	0	6	19	0	6	34	99			
Caillon		6	16	7	7	22	5	0	0	0	9	10	0	10	35	0				
Clinton		12	10	16	15	8	11	2	6	0	21	54	5	20	0	9				
Clinton		81	58	78	94	62	64	12	16	0	128	140	145	124	92	28				
Delaware		14	6	22	20	0	9	3	5	0	44	45	39	30	19	16				
East Amwell		14	18	12	19	16	9	3	0	0	41	16	21	28	14	8				
Flemington		9	0	14	11	0	5	1	28	8	23	12	52	17	14	7				
Franklin		13	12	16	16	0	11	2	14	0	21	16	69	20	42	42				
Frenchtown		5	8	7	5	0	3	0	2	0	8	23	0	6	10	0				
Glen Gardner		11	5	16	15	0	9	1	0	0	19	12	64	19	9	0				
Hampton		7	5	7	9	0	5	0	0	0	11	12	0	12	9	0				
High Bridge		27	10	29	36	28	90	3	0	2	45	90	235	47	32	15				
Holland		18	0	19	21	12	15	2	42	0	26	14	84	24	0	10				
Kingwood		10	8	14	12	0	6	1	2	0	22	23	115	16	10	6				
Lambertville		14	40	11	20	0	10	5	18	0	57	16	24	38	58	16				
Lebanon		13	4	8	16	0	5	1	0	0	21	10	21	4	0	5				
Lebanon		27	16	31	40	22	23	4	0	0	46	10	53	51	35	30				
Millford		4	34	4	4	0	3	0	0	0	3	10	0	3	34	0				
Rantow		81	32	77	99	42	56	17	0	10	204	144	271	146	120	60				
Readington		94	88	80	115	18	88	15	40	6	177	204	134	157	200	109				
Stockton		2	6	2	2	0	1	0	5	0	6	45	0	4	19	0				
Tewksbury		40	66	39	56	0	39	8	32	8	82	152	57	78	102	82				
Union		26	20	28	32	0	21	4	0	0	42	22	17	43	22	28				
West Amwell		10	6	14	15	0	5	2	0	17	34	16	11	18	0	6				
County Total		581	586	596	729	262	524	91	210	67	1,152	1,134	1,529	992	982	609	2,235	2,326	2,205	
Mercer	East Windsor	113	114	140	215	122	103	45	98	10	1,164	1,118	873	273	678	163				
	Ewing	72	54	65	84	10	60	18	36	26	403	306	192	160	26	150				
	Hamilton	318	274	241	419	92	150	114	0	54	1,851	694	510	738	302	210				
	Hightstown	20	38	42	39	24	32	9	12	56	230	60	277	52	36	110				
	Hopewell	5	0	4	7	0	7	1	0	0	29	0	49	11	0	7				
	Hopewell	57	38	37	73	32	32	17	28	125	278	200	221	113	282	107				
	Lawrence	105	44	134	129	48	87	45	62	50	589	548	711	244	264	311				
	Parsippany	9	0	27	11	0	4	3	0	0	48	76	83	49	12	20				
	Princeton	28	10	23	34	10	57	11	80	61	158	202	563	85	106	326				
	Princeton	61	106	68	82	16	58	23	168	29	327	542	251	133	192	158				
	Trenton	103	48	55	118	30	52	20	86	711	633	338	309	221	234	263				
	Washington	54	96	52	82	62	95	20	24	39	406	202	381	118	94	195				
	West Windsor	205	128	221	254	92	143	85	170	298	1,011	2,578	1,984	411	1,398	667				
	County Total	1,151	950	1,109	1,546	538	879	410	764	1,458	7,127	6,865	6,403	2,559	3,624	2,688	10,095	11,253	10,549	
Middlesex	Carteret	315	260	335	282	100	322	97	94	27	1,750	626	452	470	374	465				
	Cranbury	17	12	13	22	0	20	10	0	7	185	242	208	54	54	28				
	Dunellen	75	62	37	76	16	41	25	0	0	271	138	231	175	170	162				
	East Brunswick	196	348	296	357	132	234	154	334	291	3,316	3,038	2,597	767	1,758	1,421				
	Edison	659	1,070	939	663	860	914	318	654	358	3,410	4,912	5,515	1,352	3,898	2,665				
	Helmetta	7	26	9	14	14	8	4	4	0	134	46	28	26	32	9				
	Highland Park	79	134	148	95	72	67	47	190	326	466	276	594	192	336	293				
	Jamesburg	15	0	21	24	0	19	13	0	13	265	112	51	53	114	29				
	Metuchen	101	150	145	107	60	138	57	104	306	546	1,044	1,083	232	568	643				
	Middlesex	72	92	99	71	30	62	27	0	49	303	156	136	141	80	213				
	Milltown	30	80	42	36	48	62	22	0	26	341	142	142	110	42	388				
	Monroe	113	82	110	168	74	79	72	36	36	1,605	780	1,169	332	478	403				
	New Brunswick	151	224	215	176	52	153	99	38	99	1,080	776	753	465	456	453				
	North Brunswick	152	294	261	183	160	208	114	208	140	1,397	1,316	976	584	910	751				
	Old Bridge	415	588	504	1,035	596	382	282	566	436	4,900	3,346	2,816	1,833	2,808	1,741				
	Perth Amboy	268	176	227	141	48	146	104	120	70	1,183	348	351	329	140	102				
	Piscataway	223	262	325	282	146	310	107	164	462	1,259	1,174	1,116	613	836	847				
	Plainsboro	90	108	162	128	76	146	68	98	52	1,029	1,090	1,170	323	1,034	357				
	Sayreville	285	550	387	553	222	217	170	182	149	2,872	2,026	1,716	841	1,212	1,798				
	South Amboy	77	38	67	118	26	33	40	18	24	535	90	206	166	136	128				

County	MCD Name	Newark CBD			Downtown Jersey City			Upper Manhattan			Mid-Manhattan			Lower Manhattan			Manhattan (All)		
		Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT
Morris	Aberdeen	236	186	184	325	142	112	106	118	29	1,429	822	687	462	952	626			
	Allenhurst	8	3	2	8	5	3	3	3	4	34	20	20	16	13	23			
	Allentown	12	0	8	13	0	6	8	4	0	109	16	9	34	4	0			
	Asbury Park	54	68	83	61	74	24	11	40	0	207	250	180	86	74	78			
	Atlantic Highlands	37	14	37	51	16	27	22	18	0	324	332	145	123	186	165			
	Avon-by-the-Sea	15	34	8	16	36	42	6	0	0	61	90	79	29	0	9			
	Belmar	36	14	21	36	16	14	12	18	7	132	120	20	62	78	34			
	Bradley Beach	32	20	30	33	0	12	11	34	3	123	108	65	56	58	45			
	Brielle	33	36	32	54	0	25	16	0	3	177	16	342	89	56	48			
	Colts Neck	65	42	70	92	82	67	37	0	4	437	578	333	173	432	145			
	Deal	11	6	4	11	0	4	5	0	0	48	74	24	21	4	0			
	Eatontown	74	22	96	95	0	48	35	20	5	361	208	113	151	96	117			
	Englishtown	7	0	7	17	4	9	2	0	0	59	56	22	24	56	21			
	Fair Haven	57	78	43	63	44	46	34	0	14	331	342	191	141	218	199			
	Farmingdale	5	8	15	8	0	4	1	8	0	30	2	7	14	0	0			
	Freehold	38	30	29	57	16	19	16	20	18	260	288	145	117	220	131			
	Freehold	162	180	168	260	204	133	85	144	312	1,219	1,438	1,281	526	832	443			
	Hazlet	187	122	204	240	302	141	101	96	157	1,542	1,358	1,469	493	980	654			
	Highlands	27	48	24	43	16	15	16	62	54	257	154	274	89	96	214			
	Holmdel	171	144	165	205	144	113	89	50	33	962	916	1,152	382	856	605			
	Howell	193	354	219	361	188	147	93	150	98	1,474	1,100	983	686	1,212	490			
	Interlaken	10	14	4	10	0	4	4	6	0	41	30	28	19	26	14			
	Keansburg	72	28	66	178	46	31	34	50	52	687	242	276	207	162	108			
	Keyport	77	84	66	117	24	39	39	38	34	522	226	208	172	136	96			
	Little Silver	67	30	49	68	60	71	38	70	16	343	370	213	149	324	139			
	Loch Arbour	4	3	1	3	5	1	1	3	0	14	20	3	6	13	7			
	Long Branch	252	130	192	239	48	130	118	50	50	1,203	514	474	494	252	189			
	Manalapan	195	238	186	412	256	216	100	158	187	1,721	2,170	2,369	695	1,878	1,442			
	Manasquan	50	34	38	73	42	26	21	0	4	225	134	158	123	86	102			
	Marlboro	351	316	329	584	324	275	170	294	351	2,451	3,682	2,724	1,092	2,176	1,454			
	Matawan	126	64	107	177	78	119	54	68	153	759	600	740	251	428	438			
	Middletown	585	540	638	833	662	466	282	294	424	3,749	3,610	3,711	1,410	2,884	2,017			
	Millstone	46	28	43	51	14	48	27	0	0	422	328	82	122	230	58			
	Morristown Beach	33	38	21	40	12	24	20	0	29	199	112	134	90	168	102			
	Neptune	133	194	121	171	60	92	46	56	0	596	224	357	253	144	798			
	Neptune City	34	0	17	31	0	12	12	0	0	136	60	16	57	56	4			
	Ocean	158	182	209	176	72	130	71	12	46	793	678	445	325	322	546			
	Oceanport	47	14	45	50	12	34	25	0	0	242	154	128	101	124	94			
	Red Bank	97	120	79	88	24	67	44	26	25	428	442	495	184	312	264			
	Roosevelt	5	0	5	6	4	3	2	0	108	49	14	7	12	12	38			
	Rumson	67	84	73	76	88	40	44	28	7	429	498	266	192	478	399			
	Sea Bright	18	20	17	22	0	9	11	8	0	132	114	47	51	178	88			
	Sea Girt	21	28	9	29	40	20	11	8	0	103	120	31	56	70	0			
	Shrewsbury	39	34	64	37	26	33	20	24	5	179	170	88	80	118	68			
	Shrewsbury	7	4	10	8	0	7	2	0	0	33	30	9	13	12	0			
	South Belmar	9	20	15	10	6	4	3	0	0	35	12	13	16	8	0			
	Spring Lake	33	0	14	46	0	16	19	18	0	165	120	39	91	58	38			
	Spring Lake Heights	44	0	27	62	0	32	18	0	15	190	132	80	102	148	87			
	Tinton Falls	152	92	138	202	98	74	71	60	6	836	406	194	333	374	165			
	Union Beach	57	0	59	121	40	31	30	28	5	522	236	176	161	56	135			
	Upper Freehold	38	46	15	41	0	35	21	0	0	312	40	143	94	56	37			
	Wall	148	128	148	175	24	142	61	6	34	684	396	339	381	278	111			
West Long Branch	59	18	42	57	8	25	31	48	121	306	162	132	126	92	13				
County Total	4,494	3,940	4,294	6,244	3,362	3,266	2,160	2,136	2,414	28,083	24,334	21,663	11,230	18,082	13,099	41,473	44,551	37,176	
Morris	Boonton	69	74	91	89	14	52	27	20	43	172	144	323	105	86	58			
	Boonton	36	36	51	46	28	29	16	0	4	96	90	59	51	118	6			
	Butler	41	10	45	84	0	41	39	28	5	263	156	206	121	0	41			
	Chatham	158	140	159	200	78	182	33	42	113	314	1,004	840	215	550	261			
	Chatham	187	254	240	246	140	196	35	50	41	353	870	1,020	241	742	400			
	Chester	9	18	13	20	0	9	3	0	0	24	10	0	23	2	36			
	Chester	45	68	48	102	0	42	19	28	11	138	308	207	119	130	36			
	Denville	134	134	172	176	150	188	57	46	15	350	384	117	206	238	203			
	Dover	95	78	109	142	12	61	52	0	7	357	50	150	195	86	99			
	East Hanover	138	302	215	147	60	95	32	74	5	218	136	279	138	216	63			
	Florham Park	125	116	177	136	18	113	26	40	54	219	230	168	142	356	83			
	Hanover	122	180	138	139	46	179	37	20	16	212	314	152	144	120	102			
	Harding	33	12	35	48	26	30	10	0	0	76	212	193	50	128	670			
	Jefferson	136	76	142	231	52	102	75	36	61	480	370	327	254	218	269			
	Kinnelon	54	52	77	102	46	63	40	56	45	227	360	168	117	152	76			
	Lincoln Park	83	128	121	159	64	94	60	10	155	337	232	331	177	136	45			
	Long Hill	111	190	127	177	56	93	20	0	19	216	338	314	189	192	219			
	Madison	211	126	239	277	132	218	47	26	105	431	718	973	297	702	379			
	Mendham	36	66	59	65	24	38	13	12	9	91	116	180	66	132	112			
	Mendham	34	0	40	61	26	33	14	26	0	98	158	167	64	194	12			
	Mine Hill	22	46	26	35	12	24	10	0	0	74	38	24	39	0	13			
	Montville	219	494	393	255	110	225	89	74	101	525	852	802	283	512	306			
	Morris	198	382	273	294	78	207	71	50	36	465	968	522	320	640	195			

Work Trips Attracted To		Newark CBD			Downtown Jersey City			Upper Manhattan			Mid-Manhattan			Lower Manhattan			Manhattan (All)			
County	MCD_Name	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	
Ocean	Barneget	43	18	18	99	0	13	2	0	0	30	14	17	21	62	9				
	Barneget Light	1	0	0	1	0	0	0	0	0	0	0	0	0	5	0				
	Bay Head	15	2	6	31	10	7	1	9	0	16	34	0	8	23	0				
	Beach Haven	3	0	1	4	1	1	0	0	0	1	2	0	1	0	0				
	Beachwood	28	0	23	98	0	11	3	0	0	108	0	25	27	66	23				
	Berkeley	88	82	85	322	40	37	5	24	13	261	244	360	59	46	13				
	Brick	266	270	248	783	260	214	10	98	18	302	804	642	142	324	275				
	Dover	197	278	246	702	144	101	20	20	86	576	574	476	165	610	146				
	Eagleswood	2	0	1	5	0	1	0	0	0	1	0	0	1	0	0				
	Harvey Cedars	2	0	1	2	0	1	0	0	0	1	0	0	0	5	0				
	Island Heights	5	0	4	21	0	2	0	0	0	20	0	24	5	0	0				
	Jackson	180	106	96	449	68	145	9	42	21	253	636	571	120	346	259				
	Lacey	66	26	56	124	24	29	8	0	4	217	22	53	56	66	15				
	Lakehurst	4	0	2	11	0	2	0	0	0	3	0	10	2	8	0				
	Lakewood	107	54	120	297	30	64	3	66	9	154	568	441	62	224	348				
	Lavallette	7	0	5	18	10	8	0	12	0	4	10	11	3	0	0				
	Little Egg Harbor	31	0	16	56	18	15	1	0	0	17	28	9	11	15	4				
	Long Beach	8	0	4	11	1	3	0	0	0	4	2	24	2	17	11				
	Manchester	45	60	44	125	0	21	1	0	4	67	68	27	18	25	54				
	Mantoloking	6	2	3	14	10	3	0	9	4	8	34	8	4	23	11				
	Ocean	21	0	8	42	0	7	1	0	0	13	16	0	9	0	6				
	Ocean Gate	5	0	4	12	32	2	0	0	0	13	36	8	3	14	0				
	Pine Beach	6	16	5	18	8	2	0	0	0	21	0	0	5	6	0				
	Plumsted	44	18	30	84	0	14	2	0	0	54	18	0	21	12	11				
	Point Pleasant	119	38	99	301	44	66	6	12	0	127	164	179	64	76	19				
	Point Pleasant Beach	49	20	23	100	0	18	3	0	8	49	108	79	26	54	17				
	Ship Bottom	3	0	2	5	0	1	0	0	0	2	3	0	1	5	0				
	South Toms River	7	10	7	32	0	3	0	0	0	28	0	0	7	0	0				
	Stafford	45	0	27	87	14	21	2	20	57	28	40	51	21	50	0				
	Surf City	2	0	1	3	0	1	0	0	0	1	3	0	1	5	0				
	Tuckerton	6	0	3	11	0	3	0	0	0	3	0	0	2	0	0				
	County Total	1,410	1,000	1,187	3,867	714	813	78	312	225	2,380	3,428	3,014	867	2,094	1,221	3,325	5,834	4,460	
	Passaic	Bloomington	20	44	24	37	88	21	23	0	123	84	120	72	86	47				
Clifton		475	544	709	596	374	330	310	556	581	2,396	2,204	2,841	1,108	1,040	862				
Haledon		20	34	29	19	0	14	25	22	8	84	48	85	44	48	142				
Hawthorne		57	58	74	57	76	155	96	174	22	369	476	524	163	206	242				
Little Falls		71	180	92	107	18	48	47	64	59	395	504	522	192	270	209				
North Haledon		28	110	29	27	30	42	35	0	10	108	70	63	53	12	29				
Passaic		365	204	588	460	130	253	233	332	307	2,297	1,296	1,923	1,001	518	644				
Paterson		372	370	729	295	114	215	469	140	402	1,673	926	1,151	762	536	272				
Pompton Lakes		17	34	36	46	38	26	32	44	147	209	186	106	99	178	85				
Prospect Park		28	0	24	17	0	11	22	0	57	78	104	3	39	20	12				
Ringwood		26	28	28	24	72	31	52	116	809	157	486	751	57	122	835				
Totowa		38	66	84	56	0	25	36	16	5	226	88	121	106	86	96				
Wanaque		28	0	28	49	30	20	37	64	0	190	228	183	94	132	73				
Wayne		155	478	232	226	192	236	165	438	370	1,011	2,224	1,815	476	1,144	782				
West Milford		60	136	67	90	50	74	109	78	154	409	490	302	171	290	155				
West Paterson		63	212	81	97	84	71	54	32	123	324	424	390	160	102	144				
County Total		1,824	2,498	2,854	2,204	1,296	1,569	1,745	2,076	3,053	10,048	9,838	10,899	4,598	4,790	4,628	16,392	16,704	18,580	
Somerset		Bedminster	80	106	74	105	40	59	20	46	0	212	208	387	118	85				
		Bernards	284	622	263	340	280	244	75	108	268	658	1,014	1,145	587	1,064	640			
		Bernardsville	69	132	68	99	66	100	33	38	20	229	342	198	204	174	126			
	Bound Brook	78	26	45	58	22	38	14	14	12	174	146	84	77	74	12				
	Branchburg	88	94	92	113	38	58	27	20	0	283	320	76	225	130	38				
	Bridgewater	276	324	252	334	184	226	77	44	69	817	868	660	636	676	493				
	Far Hills	8	2	7	11	6	9	2	0	64	24	36	312	21	6	7				
	Franklin	287	452	378	397	102	254	106	200	408	1,474	1,536	1,660	553	974	1,233				
	Green Brook	75	44	72	81	12	53	13	0	0	122	82	246	122	128	46				
	Hillsborough	153	218	184	159	60	136	34	30	107	421	390	493	234	332	303				
	Manville	33	90	32	37	0	17	7	0	10	93	28	21	43	0	16				
	Millstone	1	0	1	1	8	0	0	0	0	4	0	0	1	0	0				
	Montgomery	70	146	103	101	48	43	38	20	35	445	606	470	174	178	182				
	North Plainfield	248	420	220	285	84	116	50	86	19	790	394	365	553	340	161				
	Peapack and Gladstone	25	4	23	45	8	16	10	0	6	102	98	66	90	64	77				
	Raritan	44	58	32	47	14	21	13	14	0	138	42	47	103	64	22				
	Rocky Hill	3	0	2	4	0	2	1	0	0	18	4	19	7	10	0				
	Somerville	75	26	57	74	8	53	16	8	86	219	104	96	113	34	59				
	South Bound Brook	28	0	15	30	0	8	7	0	0	88	52	52	38	46	20				
	Warren	186	240	170	207	76	120	47	64	39	466	356	353	337	442	459				
Watchung	112	134	82	117	82	105	27	0	6	332	224	138	210	12	16					
County Total	2,222	3,138	2,171	2,645	1,138	1,677	617	690	1,150	7,108	6,860	6,887	4,517	4,866	3,998	12,243	12,416	12,034		
Sussex	Andover	4	16	4	5	5	2	0	0	0	3	9	0	0	0					
	Branchville	3	11	3	4	4	6	0	6	0	8	5	0	4	9	0				
	Byram	58	16	61	85	14	64	12	0	0	120	156	34	55	28	169				
	Frankford	19	11	18	27	4	37	3	6	0	46	39	28	23	9	0				
	Franklin	16	14	16	30	10	11	5	16	0	42	10	0	20	26	0				
	Fredon	11	20	11	14	16	7	2	8	2	20	10	51	9	0	0				
	Green	19	54	17	24	6	15	3	0	0	35	8	36	16	34	0				
	Hamburg	11	8	13	18	12	7	3	4	0	34	34	112	13	0</					

Work Trips Attracted To		Newark CBD			Downtown Jersey City			Upper Manhattan			Mid-Manhattan			Lower Manhattan			Manhattan (All)		
County	MCD Name	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT	Model	Census	NJT
Union	Berkeley Heights	179	70	134	141	68	125	37	0	100	401	896	780	316	612	250			
	Clark	181	208	240	109	34	102	27	16	25	309	320	250	174	210	240			
	Cranford	337	554	357	194	224	208	53	118	147	733	1,192	997	384	754	675			
	Elizabeth	2,793	1,411	1,574	1,359	470	650	260	444	444	3,619	1,966	1,930	2,157	1,050	670			
	Fanwood	90	104	59	63	32	65	19	74	9	251	594	716	183	230	485			
	Garwood	66	40	59	44	32	42	13	16	4	231	216	106	96	88	56			
	Hillside	609	1,079	365	297	120	162	63	116	128	909	682	414	624	304	431			
	Kenilworth	110	112	84	53	12	60	12	36	19	129	202	86	115	90	34			
	Linden	615	458	348	304	232	225	84	256	112	934	564	807	364	356	262			
	Mountainside	122	112	93	71	64	55	21	18	6	309	244	244	186	152	146			
	New Providence	169	318	117	137	50	122	40	68	160	455	734	956	344	704	445			
	Plainfield	456	782	313	391	184	249	106	180	77	1,629	664	618	1,286	630	298			
	Rahway	320	364	273	177	188	227	53	54	52	597	816	564	227	338	378			
	Roselle	316	324	253	195	40	136	36	94	138	493	688	818	213	406	381			
	Roselle Park	226	262	165	130	56	108	28	50	92	381	390	383	177	332	285			
	Scotch Plains	314	326	314	220	246	202	64	212	135	1,047	1,420	876	575	1,130	501			
	Springfield	244	478	201	139	76	160	41	66	75	600	714	691	313	356	262			
	Summit	367	306	329	235	204	330	87	94	98	885	1,982	2,279	588	1,675	1,092			
	Union	993	1,579	795	526	440	426	121	198	134	1,972	1,424	1,199	1,143	982	558			
	Westfield	502	644	473	317	258	324	93	166	331	1,269	2,486	2,353	821	1,498	1,119			
Winfield	16	0	13	11	0	7	1	0	0	29	4	0	18	4	0				
County Total		9,025	9,530	6,560	5,112	3,030	3,983	1,258	2,276	2,286	17,181	18,198	17,064	10,303	11,901	8,567	28,742	32,375	27,917
Warren	Allamuchy	38	30	33	49	12	28	8	12	0	61	0	74	34	28	22			
	Alpha	8	0	8	10	0	6	0	0	0	7	18	0	8	0	0			
	Belvidere	8	6	9	9	0	5	1	0	0	10	16	0	6	10	2			
	Blairstown	22	0	20	30	5	15	3	4	112	32	19	80	19	40	11			
	Franklin	11	0	14	14	0	7	0	0	0	9	0	31	9	28	0			
	Frelinghuysen	12	12	12	14	0	7	1	0	0	14	14	54	7	10	0			
	Greenwich	21	40	20	26	26	17	1	12	0	21	100	41	18	40	142			
	Hackettstown	46	70	53	84	8	50	9	42	70	104	56	305	52	0	75			
	Hardwick	15	12	14	18	5	10	1	4	0	20	33	0	10	50	0			
	Harmony	8	0	11	9	0	6	0	0	0	8	0	13	5	0	0			
	Hope	9	7	12	13	3	11	1	7	0	14	35	0	8	1	0			
	Independence	23	48	27	46	0	19	4	48	35	49	52	15	23	14	15			
	Knowlton	12	7	11	16	3	9	1	7	93	19	35	0	10	1	0			
	Liberty	10	7	9	13	3	7	1	7	0	15	35	0	8	1	0			
	Lopatcong	28	0	20	34	0	16	2	0	6	26	40	0	23	16	0			
	Mansfield	25	0	24	47	0	14	4	40	0	42	60	7	29	0	54			
	Oxford	8	12	11	10	0	4	0	6	0	6	18	3	5	0	0			
	Phillipsburg	39	42	41	47	8	30	1	0	2	40	24	53	34	0	4			
	Pohatcong	14	0	15	17	0	12	1	0	0	13	0	11	11	0	0			
	Washington	26	0	37	35	0	18	1	0	0	26	10	36	20	30	20			
	Washington	30	62	29	40	0	21	2	0	0	30	46	30	23	48	13			
	White	13	12	12	16	0	7	1	0	0	13	0	22	9	0	0			
	County Total		424	368	443	597	74	319	45	190	320	577	610	775	368	308	359	990	1,108
GRAND TOTAL	NJTPA+MERCER	89,693	85,774	77,665	80,520	50,797	58,073	37,178	49,016	64,392	264,904	278,095	256,620	139,445	169,364	140,424	441,527	496,475	461,437

B.4 Comparison of Non-Work Trips to Major Destinations

Non-Work Trips Attracted To		Newark CBD		Downtown Jersey City		Upper Manhattan		Mid-Manhattan		Lower Manhattan		Manhattan (All)	
County	MCD_Name	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT
Bergen	Allendale	3	19	2	24	42	0	21	438	8	45		
	Alpine	1	2	1	14	182	327	58	154	26	8		
	Bergenfield	16	19	11	140	892	569	377	283	163	227		
	Bogota	8	6	6	53	275	217	122	34	49	170		
	Carlstadt	37	82	95	160	133	0	117	189	45	43		
	Cliffside Park	21	11	140	255	1,250	1,102	479	1,919	193	378		
	Closter	5	8	4	57	338	307	144	37	62	0		
	Cresskill	7	6	5	53	373	149	163	125	68	12		
	Demarest	4	3	2	38	240	7	88	134	39	30		
	Dumont	10	10	8	112	565	81	253	96	110	210		
	East Rutherford	103	140	108	170	146	22	141	334	56	145		
	Edgewater	15	20	108	190	862	58	353	867	149	266		
	Elmwood Park	79	68	46	95	256	45	116	175	48	873		
	Emerson	4	8	2	31	103	0	50	121	21	60		
	Englewood	52	69	40	285	2,510	381	1,010	1,075	433	483		
	Englewood Cliffs	18	22	14	67	1,053	992	393	278	153	4		
	Fair Lawn	83	83	35	139	399	287	202	996	83	162		
	Fairview	19	22	97	182	562	40	216	63	89	23		
	Fort Lee	48	42	105	283	3,552	1,675	1,463	2,472	589	516		
	Franklin Lakes	20	28	4	31	96	290	50	117	21	8		
	Garfield	136	104	73	159	330	113	140	76	59	135		
	Glen Rock	22	24	4	74	138	511	61	73	26	58		
	Hackensack	119	208	77	292	1,623	817	889	572	382	257		
	Harrington Park	2	3	1	28	91	8	42	133	17	49		
	Hasbrouck Heights	44	35	50	97	268	7	115	379	44	87		
	Haworth	2	3	2	24	127	150	50	0	22	12		
	Hillsdale	4	10	2	29	73	153	38	337	15	420		
	Ho-Ho-Kus	2	15	1	12	39	4	17	4	7	115		
	Leonia	14	12	8	70	758	222	278	306	114	266		
	Little Ferry	24	25	50	157	371	147	124	10	48	112		
	Lodi	74	110	40	130	368	130	148	366	59	30		
	Lyndhurst	300	199	255	388	209	4	307	124	135	49		
	Mahwah	14	25	5	66	84	685	52	327	20	258		
	Maywood	13	15	5	37	150	0	71	268	30	59		
	Midland Park	12	12	3	20	57	3	33	180	14	6		
	Montvale	6	16	4	19	70	0	50	300	19	5		
	Moonachie	18	24	46	76	104	0	58	10	23	39		
	New Millford	8	8	6	74	420	20	192	187	80	24		
	North Arlington	358	166	200	405	95	184	135	357	77	9		
	Northvale	1	1	1	16	65	0	32	377	14	6		
	Norwood	3	5	2	33	113	17	52	230	21	0		
	Oakland	12	16	3	34	62	132	35	137	14	359		
	Old Tappan	1	4	1	26	94	0	42	121	17	16		
	Oradell	6	9	3	29	168	53	79	8	34	27		
	Palisades Park	28	21	19	123	1,122	106	467	518	194	136		
	Paramus	72	145	46	170	783	535	463	350	192	18		
	Park Ridge	3	11	2	26	41	189	25	65	9	128		
	Ramsey	7	19	5	35	66	154	43	406	16	331		
	Ridgefield	21	24	64	162	688	172	296	339	123	322		
	Ridgefield Park	24	29	18	149	553	321	188	80	71	78		
	Ridgewood	32	51	10	93	262	386	133	252	54	514		
	River Edge	7	12	5	36	258	410	123	260	51	150		
	River Vale	3	5	2	29	95	0	47	218	20	5		
	Rochelle Park	11	20	7	29	136	5	76	546	33	68		
	Rockleigh	2	4	2	10	46	15	34	157	12	2		
	Rutherford	242	168	157	306	175	107	208	110	92	82		
	Saddle Brook	42	43	10	57	209	47	110	46	45	94		
	Saddle River	4	8	2	11	34	0	20	48	8	3		
	South Hackensack	2	1	1	9	43	0	12	0	5	0		
	Teaneck	58	53	44	327	2,282	2,246	1,007	898	407	717		
Tenafly	19	20	12	127	1,297	803	451	369	198	78			
Teterboro	15	38	14	57	120	166	91	195	33	0			
Upper Saddle River	2	9	1	17	29	162	16	520	6	4			
Waldwick	5	9	3	31	78	2	40	10	17	40			
Wallington	92	45	61	84	118	0	83	15	38	0			
Washington	4	6	2	21	89	159	39	344	17	3			
Westwood	5	13	3	38	141	60	73	49	31	7			
Woodcliff Lake	4	8	2	17	38	0	22	21	8	11			
Wood-Ridge	46	27	51	83	142	75	79	128	32	0			
Wyckoff	27	31	5	56	151	250	71	163	30	12			
County Total	2,528	2,535	2,223	6,775	28,699	16,283	13,068	20,893	5,439	8,841	47,206	46,017	
Essex	Belleville	1,618	1,079	350	597	486	111	676	71	416	477		
	Bloomfield	1,598	960	237	458	546	28	821	336	398	211		
	Caldwell	152	88	22	44	82	13	94	179	46	12		
	Cedar Grove	308	180	50	103	309	134	328	175	142	77		
	City of Orange	1,406	1,193	153	374	213	0	340	54	212	99		
	East Orange	3,804	4,022	350	789	421	144	692	253	430	156		
	Essex Fells	86	61	9	24	24	4	26	329	18	93		
	Fairfield	212	165	71	98	560	0	401	15	166	7		
	Glen Ridge	176	140	21	54	56	331	102	201	44	57		
	Inglton	2,557	2,736	198	541	260	17	449	194	350	85		
	Livingston	1,373	889	157	326	317	403	443	497	264	708		
	Maplewood	971	601	87	210	139	195	227	456	188	437		
	Millburn	780	489	102	205	182	605	285	714	243	1,967		
	Montclair	1,120	761	194	357	729	558	1,056	715	446	751		
	Newark CBD	14,422	10,130	553	708	470	441	857	620	552	697		
	Other Newark	33,703	27,169	2,774	5,063	2,171	2,670	3,759	1,802	3,024	2,357		
	North Caldwell	107	69	18	48	187	470	165	0	79	134		
	Nutley	755	396	209	324	753	437	1,017	124	437	244		
	Roseland	534	276	67	96	119	0	185	200	102	38		
	South Orange Village	1,015	698	93	237	188	59	308	483	171	613		
Verona	403	280	49	109	185	261	198	183	98	121			
West Caldwell	287	214	40	94	292	0	223	39	101	7			
West Orange	2,542	1,720	254	565	421	963	595	1,193	363	818			
County Total	69,927	54,317	6,056	11,423	9,110	7,842	13,248	8,833	8,290	10,166	30,648	26,840	

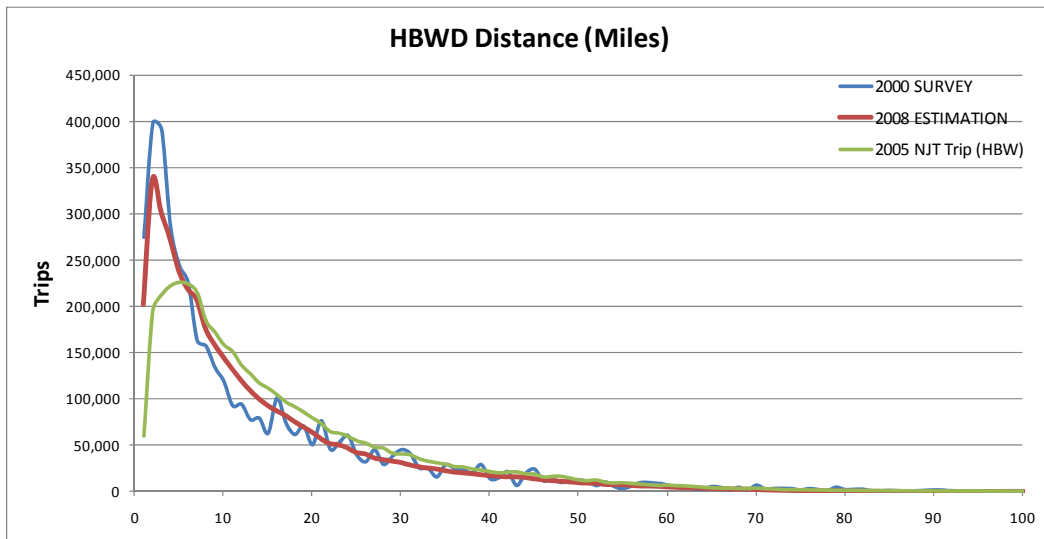
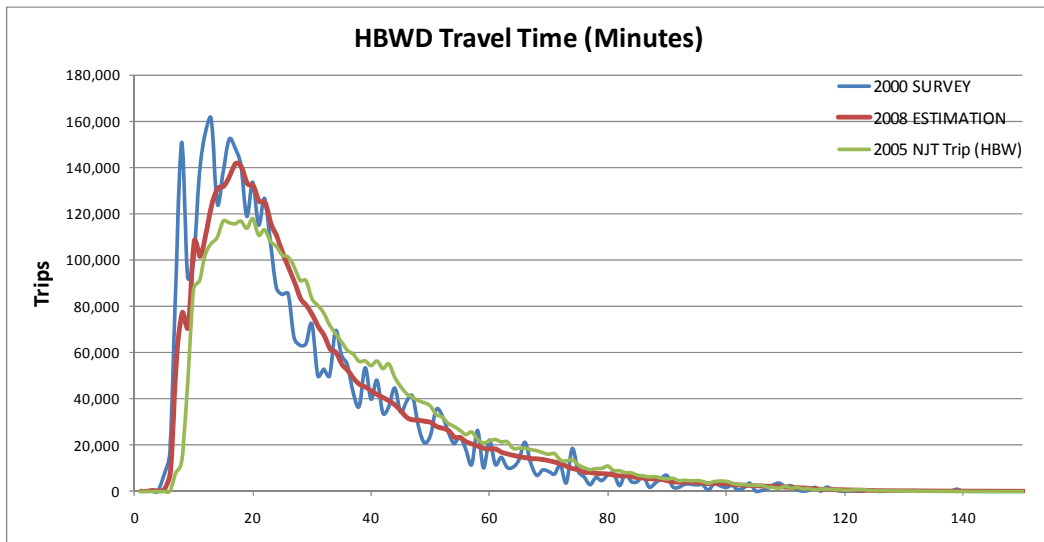
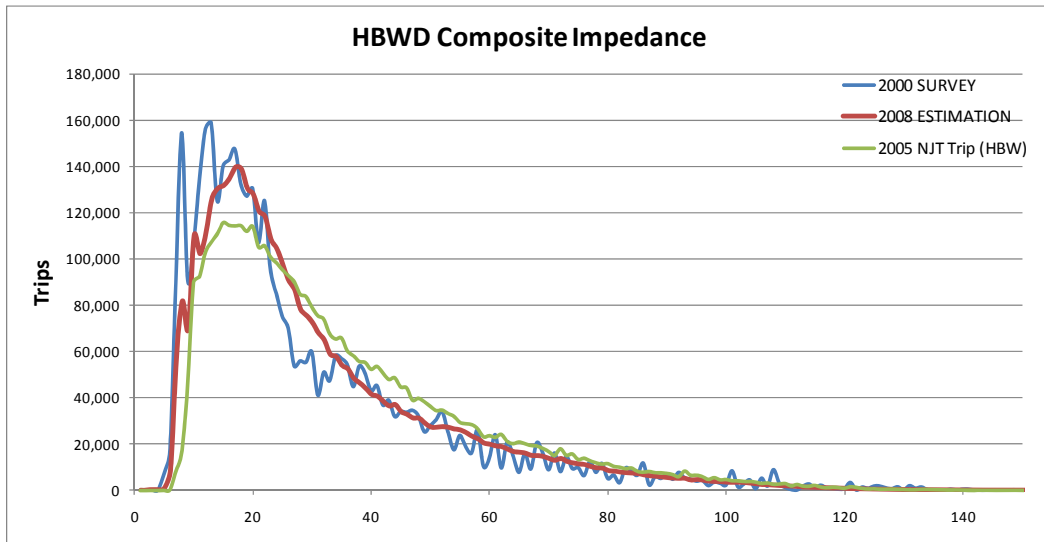
Non-Work Trips Attracted To		Newark CBD		Downtown Jersey City		Upper Manhattan		Mid-Manhattan		Lower Manhattan		Manhattan (All)	
County	MCD_Name	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT
Hudson	Bayonne	472	275	1,990	2,719	372	349	1,067	353	865	339		
	East Newark	246	97	16	51	12	84	22	20	13	36		
	Guttenberg	21	10	96	129	312	76	336	140	139	36		
	Harrison	1,569	708	158	444	99	23	175	1,954	106	558		
	Hoboken	329	446	3,774	4,171	895	879	2,254	2,543	1,063	2,497		
	Downtown Jersey City	911	515	15,521	21,995	1,472	971	3,805	3,369	3,082	5,610		
	Other Jersey City	2,712	1,516	11,713	18,924	1,956	845	5,048	3,770	3,967	4,527		
	Keamy	2,564	1,476	556	918	313	14	507	425	334	153		
	North Bergen	280	175	1,096	1,197	2,751	474	2,538	1,287	1,068	350		
	Secaucus	464	500	1,216	1,209	972	557	1,680	1,116	688	1,081		
	Union City	256	97	1,403	1,593	1,154	130	2,611	788	1,096	605		
	Weehawken	86	72	573	877	512	23	1,097	186	435	59		
	West New York	138	52	609	562	1,175	94	1,692	1,198	707	427		
	County Total		10,048	5,938	38,722	54,789	11,995	4,520	22,834	17,151	13,563	16,278	48,392
Hunterdon	Alexandria	3	3	4	27	13	0	19	15	19	9		
	Bethlehem	6	4	7	27	24	4	39	29	36	0		
	Bloomsbury	1	0	1	3	2	0	4	0	4	0		
	Califon	1	1	2	14	6	0	10	0	10	0		
	Clinton	3	5	3	9	10	0	16	15	15	23		
	Clinton	24	13	30	76	84	0	141	909	141	275		
	Delaware	1	4	2	10	6	114	12	20	11	0		
	East Amwell	2	1	3	20	4	15	8	0	14	0		
	Flemington	1	2	2	6	5	0	11	91	9	0		
	Franklin	3	2	3	13	10	0	16	0	16	0		
	Frenchtown	0	1	1	9	3	0	5	0	5	0		
	Glen Gardner	2	1	4	22	12	0	22	0	22	0		
	Hampton	1	1	3	21	8	0	15	0	15	49		
	High Bridge	7	4	11	43	29	0	60	10	56	0		
	Holland	2	7	2	16	8	0	10	13	11	0		
	Kingwood	1	1	2	19	8	0	16	0	14	3		
	Lambertville	0	0	0	1	0	4	1	11	1	5		
	Lebanon	4	2	6	8	14	0	25	0	25	0		
	Lebanon	4	4	6	49	18	8	32	0	29	0		
	Millford	0	1	0	7	1	0	3	0	3	0		
	Raritan	10	6	15	37	44	7	79	95	74	31		
	Readington	25	17	30	88	80	15	141	19	134	14		
	Stockton	0	0	0	2	0	0	1	0	1	0		
	Tewksbury	13	9	11	33	36	0	47	100	50	2		
Union	6	4	9	39	28	0	46	42	46	2			
West Amwell	0	0	0	6	1	3	3	0	2	0			
County Total		121	95	157	604	454	170	781	1,368	763	414	1,998	1,952
Mercer	East Windsor	6	21	10	108	442	18	736	452	452	53		
	Ewing	2	14	1	34	68	24	105	74	69	34		
	Hamilton	5	58	7	163	392	10	608	204	403	526		
	Hightstown	2	3	3	21	78	6	119	40	77	0		
	Hopewell	0	0	0	4	14	0	19	14	13	111		
	Hopewell	1	6	1	9	50	115	66	18	46	130		
	Lawrence	2	21	2	25	59	20	89	115	57	91		
	Pennington	0	0	0	1	6	0	7	32	5	9		
	Princeton	2	42	2	6	13	188	24	342	14	510		
	Princeton	2	30	2	7	34	230	50	63	33	45		
	Trenton	1	9	1	76	135	82	237	269	148	96		
Washington	2	3	3	30	124	5	182	251	124	19			
West Windsor	6	50	5	25	102	82	167	245	91	249			
County Total		31	258	37	510	1,516	779	2,411	2,119	1,532	1,873	5,458	4,771
Middlesex	Carteret	247	217	180	255	717	0	1,184	38	787	3		
	Cranbury	4	4	3	6	8	184	16	22	9	17		
	Dunellen	11	17	8	19	18	232	27	16	39	21		
	East Brunswick	49	91	43	95	160	254	251	404	152	67		
	Edison	306	344	150	352	413	247	674	749	470	417		
	Helmetta	1	1	2	7	10	0	16	0	11	0		
	Highland Park	8	20	8	24	27	15	42	577	28	43		
	Jamesburg	3	3	4	19	0	34	45	21	0	0		
	Metuchen	29	40	14	37	44	151	71	424	43	347		
	Middlesex	22	31	13	31	38	6	66	9	53	18		
	Milltown	6	5	6	14	25	0	36	390	26	0		
	Monroe	20	12	32	94	161	410	299	1,010	183	118		
	New Brunswick	37	148	32	77	67	68	121	381	69	186		
	North Brunswick	32	47	31	83	100	58	164	124	99	36		
	Old Bridge	72	54	88	261	440	36	865	298	502	71		
	Perth Amboy	67	68	60	151	247	9	406	129	151	86		
	Piscataway	61	106	45	110	127	28	202	373	140	200		
	Plainsboro	6	53	7	33	28	21	50	141	30	94		
	Sayreville	58	48	63	164	301	24	533	218	321	512		
	South Amboy	15	18	14	35	65	0	107	33	63	56		
	South Brunswick	23	44	23	99	98	332	156	176	98	64		
	South Plainfield	55	68	28	78	94	136	145	425	103	116		
	South River	13	8	15	34	70	0	117	45	73	12		
	Spotswood	6	4	7	22	36	0	59	11	39	14		
Woodbridge	418	329	213	349	743	631	1,200	957	731	413			
County Total		1,568	1,778	1,084	2,438	4,059	2,842	6,841	6,996	4,241	2,910	15,141	12,748

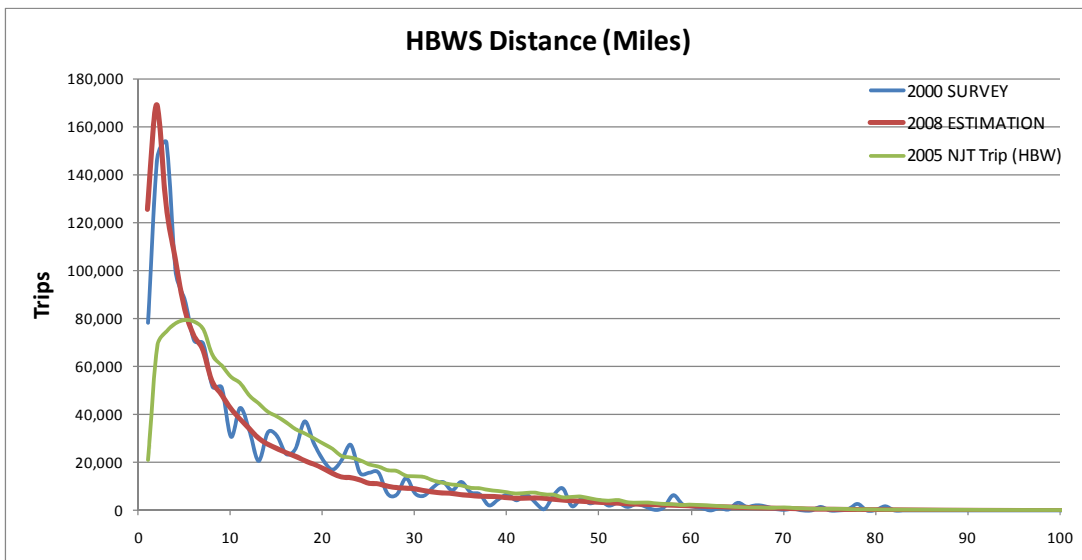
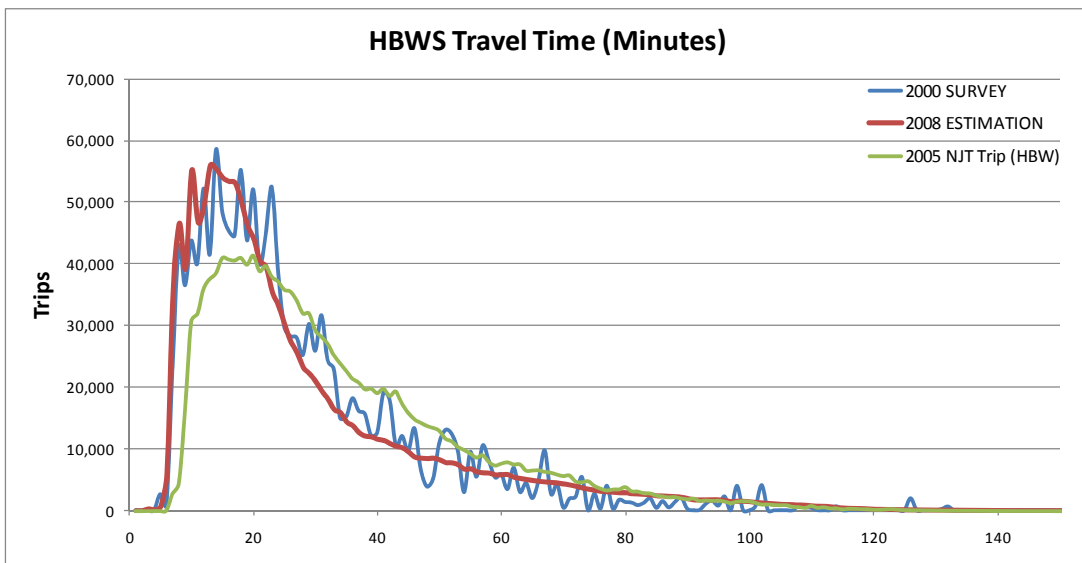
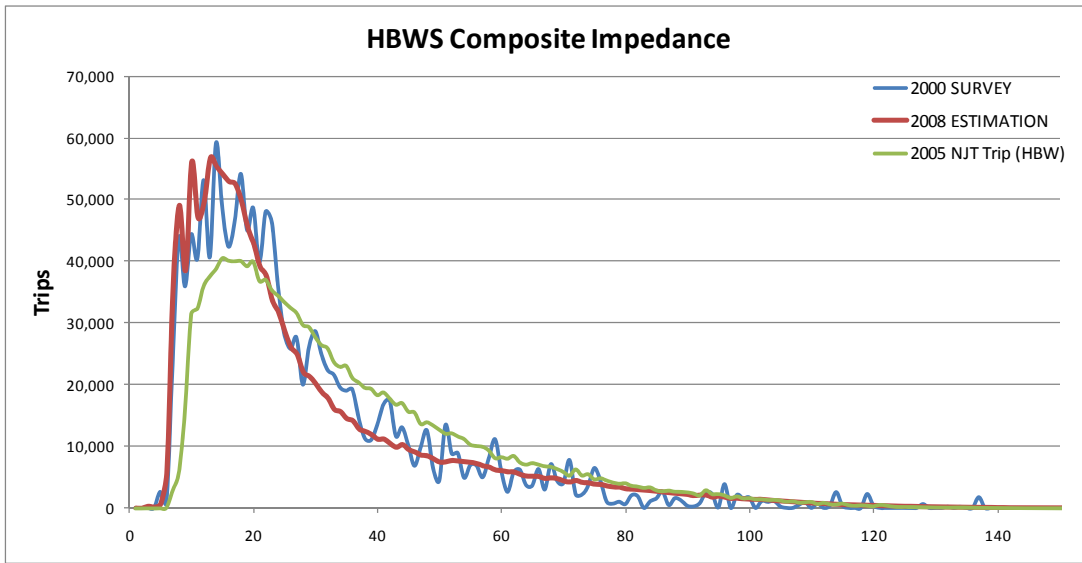
Non-Work Trips Attracted To		Newark CBD		Downtown Jersey City		Upper Manhattan		Mid-Manhattan		Lower Manhattan		Manhattan (All)	
County	MCD_Name	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT
Monmouth	Aberdeen	53	71	82	246	145	63	229	77	143	76		
	Allenhurst	0	0	1	1	0	0	2	9	1	11		
	Allentown	1	2	1	19	1	0	3	0	1	0		
	Asbury Park	4	10	33	67	63	6	206	30	115	33		
	Atlantic Highlands	4	28	10	18	18	8	37	14	20	18		
	Avon-by-the-Sea	0	0	1	3	2	0	6	0	3	11		
	Belmar	1	6	5	17	9	0	29	50	15	17		
	Bradley Beach	1	0	4	8	8	0	24	42	14	23		
	Brielle	1	1	3	10	6	0	19	5	10	95		
	Colts Neck	14	17	21	115	46	38	80	104	49	18		
	Deal	0	0	1	3	1	0	5	7	2	0		
	Eatontown	9	8	16	21	28	6	77	7	41	27		
	Englishtown	3	4	4	30	8	0	17	0	9	0		
	Fair Haven	4	6	8	12	14	4	26	17	15	36		
	Farmingdale	1	1	3	15	6	0	17	0	8	0		
	Freehold	6	8	14	46	24	0	66	34	36	107		
	Freehold	27	32	51	209	107	31	260	71	137	98		
	Hazlet	55	55	90	221	161	55	285	555	165	249		
	Highlands	2	2	8	28	13	0	35	14	19	27		
	Holmdel	57	55	59	95	128	41	202	285	112	39		
	Howell	16	24	59	347	125	79	370	74	188	117		
	Interlaken	0	0	1	2	1	0	3	0	2	0		
	Kearnsburg	18	19	50	170	84	0	161	8	98	0		
	Keypoint	19	14	32	86	53	27	88	0	55	18		
	Little Silver	4	10	6	14	11	0	23	34	13	35		
	Loch Arbour	0	0	0	1	0	0	1	0	1	4		
	Long Branch	11	33	47	107	77	18	245	217	127	158		
	Manalapan	48	82	82	455	168	37	394	385	181	248		
	Manasquan	1	1	5	12	10	6	35	14	16	7		
	Marlboro	88	96	117	465	242	244	475	801	234	223		
	Matawan	36	27	46	153	82	10	131	69	78	29		
	Middletown	100	135	191	466	347	180	720	893	380	465		
	Millstone	4	12	7	100	16	0	31	0	16	0		
	Monmouth Beach	1	8	3	8	5	0	13	26	7	9		
	Neptune	11	15	44	103	80	28	235	54	124	139		
	Neptune City	1	2	8	17	15	0	44	9	24	0		
	Ocean	10	21	35	69	61	0	180	99	95	28		
	Oceanport	3	3	6	12	9	23	26	49	14	0		
	Red Bank	10	17	21	28	32	26	91	91	43	19		
	Roosevelt	0	2	1	22	2	0	3	0	2	0		
	Rumson	4	3	6	9	12	186	23	140	13	90		
	Sea Bright	1	1	2	3	3	1	10	131	5	4		
	Sea Girt	0	0	1	3	1	0	5	6	3	4		
	Shrewsbury	6	28	7	6	13	219	30	32	14	3		
	Shrewsbury	1	0	2	3	2	0	9	0	5	0		
	South Belmar	0	0	1	3	2	0	11	0	5	0		
	Spring Lake	1	5	2	4	3	11	8	4	4	29		
	Spring Lake Heights	1	7	6	17	9	7	26	12	14	40		
	Tinton Falls	14	13	37	69	65	54	157	30	87	66		
	Union Beach	17	13	34	110	60	0	99	37	62	0		
Upper Freehold	2	3	4	38	9	0	18	14	10	13			
Wall	10	9	26	54	52	76	135	82	73	25			
West Long Branch	4	4	10	16	19	20	50	49	24	4			
County Total		684	911	1,316	4,154	2,457	1,503	5,476	4,678	2,932	2,663	10,865	8,844
Morris	Boonton	33	38	30	48	76	0	54	56	26	16		
	Boonton	14	18	14	32	45	72	28	4	14	0		
	Butler	11	13	25	54	119	0	88	21	39	0		
	Chatham	80	88	56	159	39	0	61	93	62	17		
	Chatham	62	110	53	123	44	12	58	125	65	77		
	Chester	3	4	3	9	7	0	5	2	3	4		
	Chester	8	12	9	34	34	5	22	18	15	9		
	Denville	66	76	56	115	155	9	100	56	53	40		
	Dover	30	34	53	183	136	11	127	89	60	22		
	East Hanover	169	152	106	124	120	0	132	13	80	73		
	Floham Park	128	122	66	80	69	13	102	38	61	261		
	Hanover	92	142	60	93	139	20	90	150	62	241		
	Harding	14	27	12	31	12	0	17	31	17	8		
	Jefferson	31	46	67	257	286	7	237	106	109	10		
	Kinnelon	18	23	23	62	158	145	96	6	45	0		
	Lincoln Park	30	28	55	81	258	8	163	14	73	53		
	Long Hill	43	52	41	74	28	12	45	47	49	5		
	Madison	95	126	77	140	52	26	84	353	83	182		
	Mendham	8	17	11	33	30	5	17	165	16	14		
	Mendham	9	13	11	42	38	7	16	0	17	3		
	Mine Hill	6	7	11	36	31	0	26	0	13	10		
	Montville	144	123	94	139	351	29	200	135	98	55		
	Morris	66	101	62	115	138	240	85	212	73	47		
	Morris Plains	26	32	17	42	51	12	37	52	18	12		
	Morristown	87	92	68	76	103	199	83	331	72	117		
	Mountain Lakes	23	25	15	28	50	0	27	322	15	17		
	Mount Arlington	11	14	22	59	63	0	51	0	26	0		
	Mount Olive	26	47	52	233	166	9	154	113	74	22		
	Netcong	5	6	10	38	26	0	24	5	12	25		
	Parsippany-Troy Hills	290	326	206	262	523	176	371	648	177	722		
	Pequanock	35	36	64	84	310	72	197	21	89	9		
	Randolph	46	64	51	137	165	14	114	499	68	63		
	Riverdale	9	10	14	18	58	0	42	43	18	0		
	Rockaway	23	29	22	48	52	0	39	26	19	0		
	Rockaway	79	97	92	194	256	171	183	73	92	69		
	Roxbury	44	56	67	211	203	0	168	13	82	54		
	Victory Gardens	2	2	4	17	10	0	9	5	4	0		
	Washington	11	24	21	125	81	0	59	7	33	7		
	Wharton	11	20	21	65	57	0	49	9	24	94		
	County Total		1,888	2,253	1,741	3,699	4,543	1,275	3,462	3,899	1,953	2,355	9,957

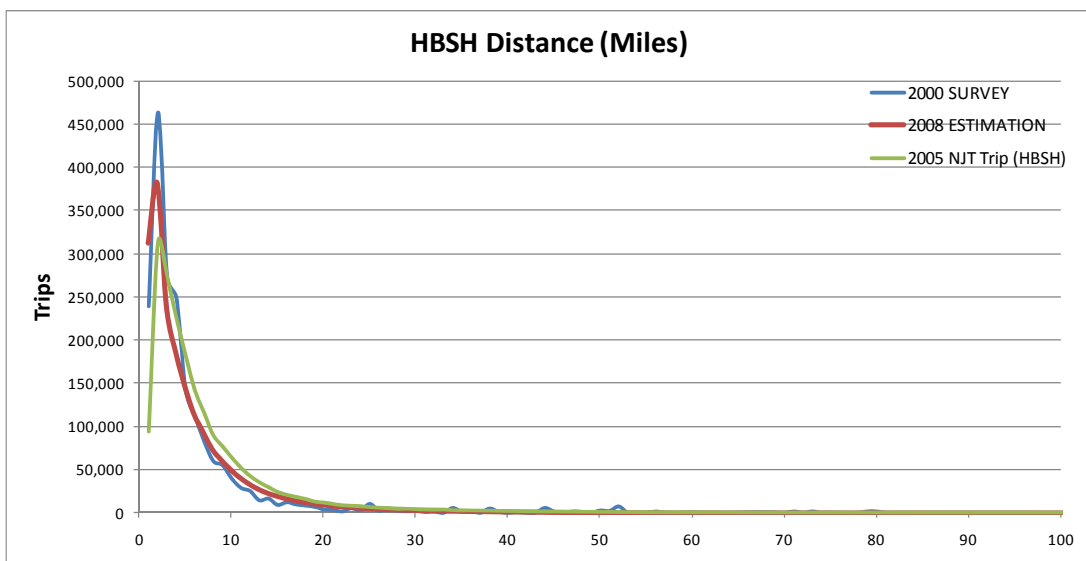
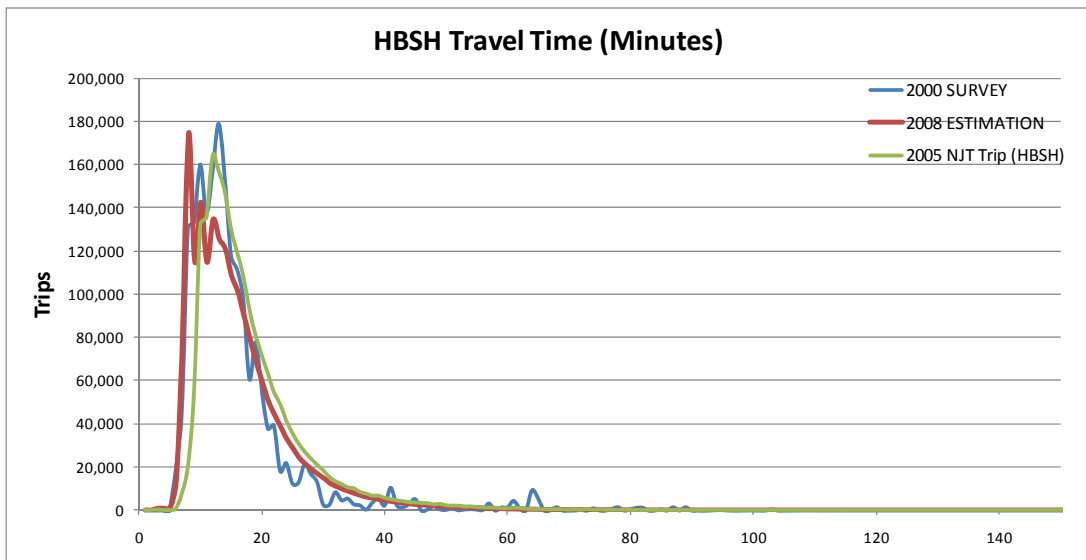
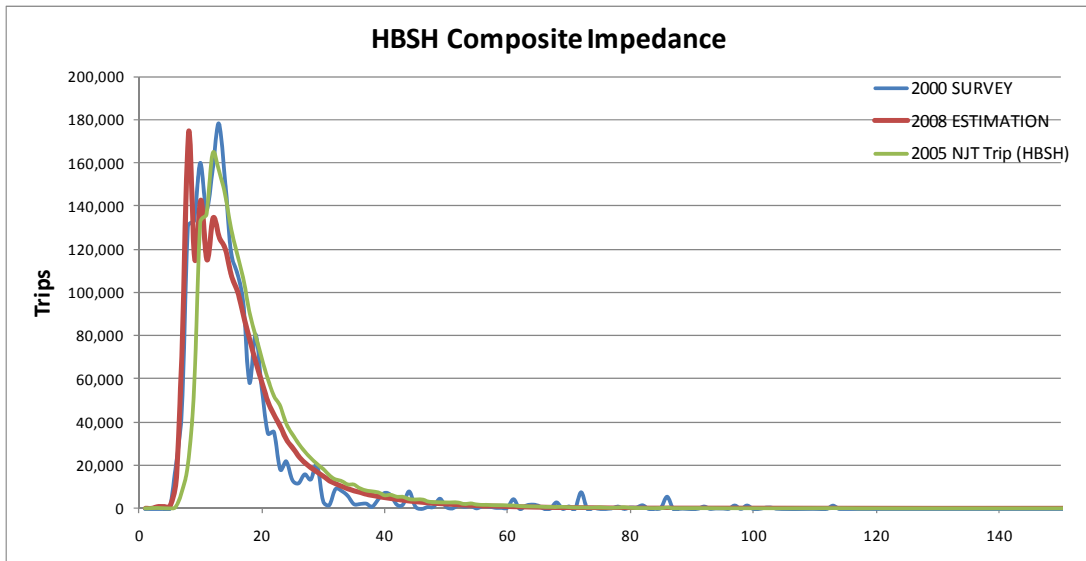
Non-Work Trips Attracted To		Newark CBD		Downtown Jersey City		Upper Manhattan		Mid-Manhattan		Lower Manhattan		Manhattan (All)	
County	MCD Name	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT
Ocean	Barnegat	0	0	1	11	1	10	3	0	2	0		
	Barnegat Light	0	0	0	0	0	0	0	0	0	0		
	Bay Head	0	0	0	1	0	0	2	0	1	0		
	Beach Haven	0	0	0	0	0	0	0	0	0	0		
	Beachwood	0	0	2	23	8	0	26	8	13	0		
	Berkeley	2	2	14	151	58	36	167	24	89	149		
	Brick	7	12	26	125	84	34	232	88	127	166		
	Dover	5	5	20	104	73	79	221	367	119	30		
	Eagleswood	0	0	0	1	0	0	0	0	47	0		
	Harvey Cedars	0	0	0	0	0	0	0	0	0	0		
	Island Heights	0	0	0	2	1	0	3	0	2	0		
	Jackson	6	17	19	246	67	85	162	109	90	15		
	Lacey	1	2	3	43	11	6	23	27	13	0		
	Lakehurst	0	0	1	6	3	0	8	0	5	2		
	Lakewood	6	11	28	125	99	89	309	497	157	59		
	Lavallette	0	0	1	163	2	0	6	0	3	0		
	Little Egg Harbor	0	0	0	8	0	0	0	22	0	4		
	Long Beach	0	0	0	1	0	0	0	0	0	0		
	Manchester	1	1	12	90	49	4	142	34	75	116		
	Mantoloking	0	0	0	0	0	0	0	0	0	3		
	Ocean	0	0	0	6	2	0	4	0	2	0		
	Ocean Gate	0	0	1	7	2	0	7	0	4	7		
	Pine Beach	0	0	0	4	1	0	4	7	2	0		
	Plumsted	1	1	3	29	11	0	23	0	14	0		
	Point Pleasant	1	11	5	20	16	0	45	67	24	104		
	Point Pleasant Beach	1	1	2	4	5	9	16	18	7	0		
	Ship Bottom	0	0	0	0	0	0	0	0	0	0		
	South Toms River	0	0	1	9	4	0	11	0	6	0		
	Stafford	0	1	1	14	1	0	3	4	1	0		
	Surf City	0	0	0	0	0	0	0	0	0	0		
	Tuckerton	0	0	0	2	0	0	0	0	0	0		
	County Total	31	65	139	1,195	499	351	1,417	1,319	755	656	2,671	2,326
Passaic	Bloomingtondale	4	6	7	27	57	392	28	298	13	6		
	Clifton	467	569	558	706	772	1,033	798	974	364	391		
	Haledon	8	14	10	22	71	235	28	339	13	0		
	Hawthorne	31	45	22	59	358	5	190	49	85	461		
	Little Falls	51	65	70	91	103	0	131	37	58	101		
	North Haledon	9	11	13	23	140	3	61	37	27	0		
	Passaic	336	429	329	417	539	319	593	922	266	279		
	Paterson	240	377	287	391	1,722	341	744	216	320	183		
	Pompton Lakes	6	15	12	31	59	0	32	54	15	0		
	Prospect Park	5	7	7	18	72	0	28	0	13	0		
	Ringwood	3	8	2	33	101	0	59	504	26	16		
	Totowa	40	77	75	77	95	0	62	7	26	99		
	Wanaque	6	10	10	38	95	0	46	157	21	0		
	Wayne	137	229	221	242	428	489	255	490	117	51		
	West Milford	9	18	16	135	126	7	83	91	37	5		
	West Paterson	49	64	76	104	189	37	118	309	54	0		
County Total	1,400	1,945	1,715	2,415	4,926	2,861	3,258	4,484	1,456	1,591	9,640	8,935	
Somerset	Bedminster	18	18	15	61	49	13	76	124	75	307		
	Bernards	99	103	77	183	385	0	402	698	428	127		
	Bernardsville	18	16	13	37	174	155	76	30	84	33		
	Bound Brook	12	9	9	19	32	17	51	162	48	52		
	Branchburg	10	22	11	57	33	2	58	17	71	26		
	Bridgewater	51	81	45	142	160	17	252	116	247	71		
	Far Hills	2	2	1	7	6	1	8	1	8	5		
	Franklin	38	82	48	99	209	176	336	757	198	150		
	Green Brook	22	21	14	24	42	41	63	1,231	64	2		
	Hillsborough	16	20	17	110	94	2	166	175	139	41		
	Manville	4	3	3	6	16	0	26	12	17	5		
	Millstone	0	0	0	0	1	0	2	0	1	0		
	Montgomery	5	16	5	41	31	0	40	126	27	107		
	North Plainfield	52	37	47	77	131	0	242	42	244	51		
	Peapack and Gladstone	5	10	5	18	20	0	29	4	29	18		
	Raritan	8	9	8	21	21	0	37	23	34	5		
	Rocky Hill	0	1	0	2	1	6	2	8	1	0		
	Somerville	9	19	6	25	17	4	30	23	34	17		
South Bound Brook	4	17	4	9	19	6	28	13	18	0			
Warren	71	65	49	96	164	115	233	220	236	57			
Watchung	47	35	23	30	63	12	94	25	93	2			
County Total	492	585	400	1,064	1,667	569	2,253	3,806	2,096	1,076	6,017	5,451	
Sussex	Andover	1	1	2	14	1	0	1	0	1	0		
	Andover	7	10	11	94	12	26	12	12	5	0		
	Branchville	0	1	1	16	0	0	1	0	0	0		
	Byram	16	20	22	137	21	0	17	0	8	10		
	Frankford	3	7	4	79	5	0	5	0	2	0		
	Franklin	4	6	7	94	14	8	14	0	5	0		
	Fredon	4	4	6	45	8	0	7	0	3	0		
	Green	5	5	6	46	8	0	6	9	3	9		
	Hamburg	1	3	2	40	5	0	5	159	2	5		
	Hampton	3	5	5	61	5	0	5	4	2	7		
	Hardyston	4	6	10	100	19	56	17	4	7	94		
	Hopatcong	45	35	61	313	60	0	46	14	23	5		
	Lafayette	3	4	3	32	5	0	5	0	2	0		
	Montague	0	0	0	8	0	6	0	0	0	3		
	Newton	4	5	8	74	9	8	12	0	5	0		
	Ogdensburg	4	6	6	51	6	0	6	0	2	0		
	Sandyston	0	2	0	24	0	0	0	0	0	0		
	Sparta	40	45	45	278	60	5	49	4	23	40		
	Stanhope	10	6	12	49	16	0	14	0	6	6		
	Stillwater	2	5	4	66	4	0	4	0	2	0		
	Sussex	0	2	1	32	1	0	1	0	0	0		
	Vernon	3	23	8	413	16	0	15	8	5	6		
	Walpack	0	0	0	1	0	0	0	0	0	0		
Wantage	1	9	2	138	4	0	4	0	1	0			
County Total	159	210	226	2,207	279	107	246	213	107	185	632	505	

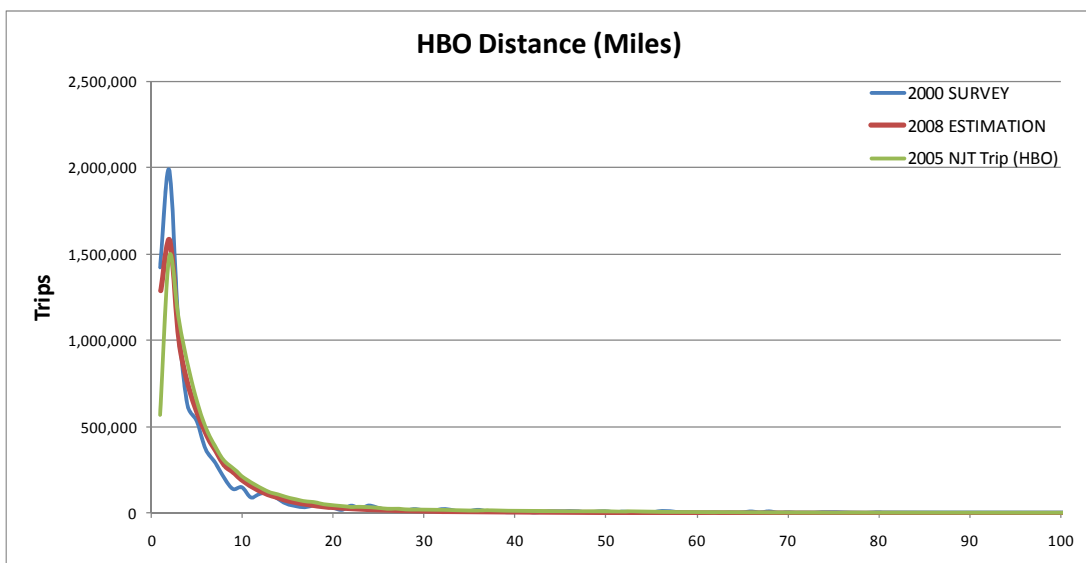
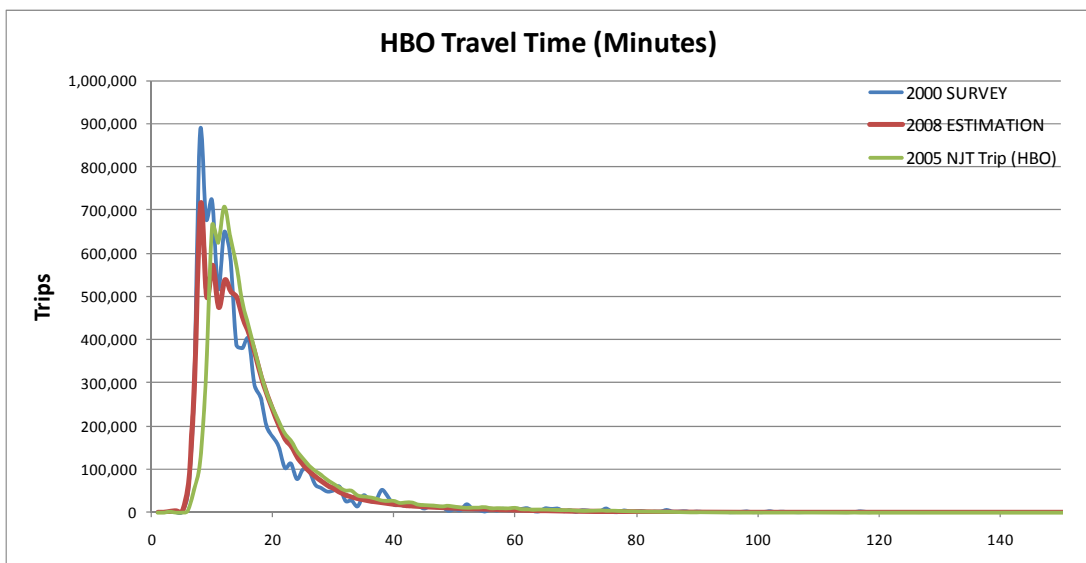
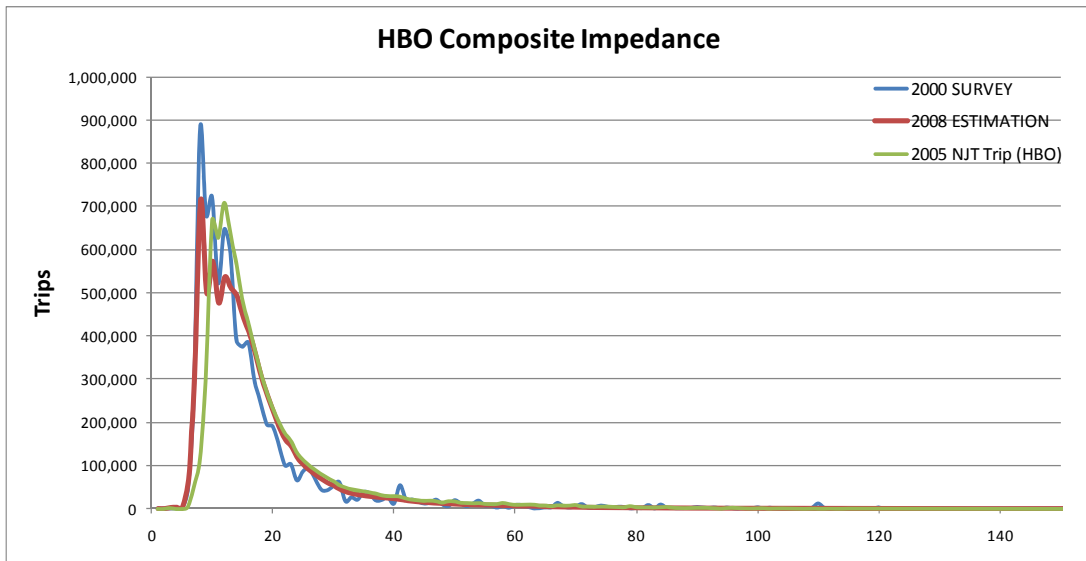
Non-Work Trips Attracted To		Newark CBD		Downtown Jersey City		Upper Manhattan		Mid-Manhattan		Lower Manhattan		Manhattan (All)	
County	MCD_Name	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT	Model	NJT
Union	Berkeley Heights	97	79	52	98	150	37	186	96	207	139		
	Clark	111	84	50	68	67	10	90	198	96	29		
	Cranford	259	164	103	155	129	73	173	214	204	92		
	Elizabeth	1,909	1,853	1,023	971	572	342	970	1,019	1,165	607		
	Fanwood	18	83	9	41	19	151	31	95	29	52		
	Garwood	35	35	17	31	24	0	36	20	39	7		
	Hillside	461	429	197	229	144	7	238	4	280	52		
	Kenilworth	176	178	62	105	34	5	51	149	65	46		
	Linden	311	304	135	210	196	208	279	450	179	126		
	Mountainside	88	77	32	54	44	0	59	67	67	0		
	New Providence	96	116	51	132	121	83	153	132	173	44		
	Plainfield	74	107	51	164	89	12	148	326	156	67		
	Rahway	134	170	69	142	102	9	148	327	102	170		
	Roselle	132	87	62	76	75	7	110	42	119	117		
	Roselle Park	73	65	37	67	41	6	65	110	80	57		
	Scotch Plains	102	98	51	131	114	278	157	155	169	42		
	Springfield	173	140	68	92	75	418	99	80	122	107		
	Summit	258	214	109	214	245	44	298	425	340	148		
	Union	870	665	387	437	281	27	424	516	556	201		
	Westfield	188	143	74	170	165	123	203	562	237	109		
Winfield	5	3	3	5	4	0	7	0	8	15			
County Total	5,572	5,094	2,641	3,594	2,692	1,839	3,924	4,987	4,394	2,228	11,009	9,054	
Warren	Allamuchy	9	9	10	63	46	0	36	0	18	0		
	Alpha	0	0	0	3	0	0	1	0	1	0		
	Belvidere	1	2	2	33	10	0	8	0	4	0		
	Blairstown	6	7	9	62	44	0	33	90	17	0		
	Franklin	1	1	1	13	1	0	3	0	3	0		
	Frelinghuysen	4	5	5	51	26	0	22	0	11	0		
	Greenwich	1	1	1	7	1	0	3	0	3	0		
	Hackettstown	15	16	13	128	63	0	54	18	27	12		
	Hardwick	2	5	3	60	14	0	11	0	5	0		
	Harmony	0	1	0	10	0	0	1	50	1	0		
	Hope	3	3	3	32	17	0	13	4	7	6		
	Independence	5	8	8	98	38	0	30	0	16	0		
	Knowlton	2	3	2	32	12	0	8	0	4	0		
	Liberty	2	3	3	43	14	0	11	0	6	0		
	Lopatcong	1	1	1	6	1	0	3	0	2	0		
	Mansfield	5	8	7	111	36	0	28	0	15	0		
	Oxford	1	2	2	42	11	0	9	56	5	0		
	Phillipsburg	1	0	1	10	0	6	3	34	2	0		
	Pohatcong	1	1	1	4	1	0	3	0	2	0		
	Washington	3	4	4	64	10	82	11	11	10	3		
Washington	3	6	4	47	11	0	10	0	9	3			
White	3	2	4	36	23	0	19	0	10	2			
County Total	70	87	84	954	382	88	320	263	177	25	878	376	
GRAND TOTAL	NJTPA+MERCER	94,519	76,072	56,540	95,820	73,278	41,029	79,538	81,008	47,697	51,261	200,513	173,297

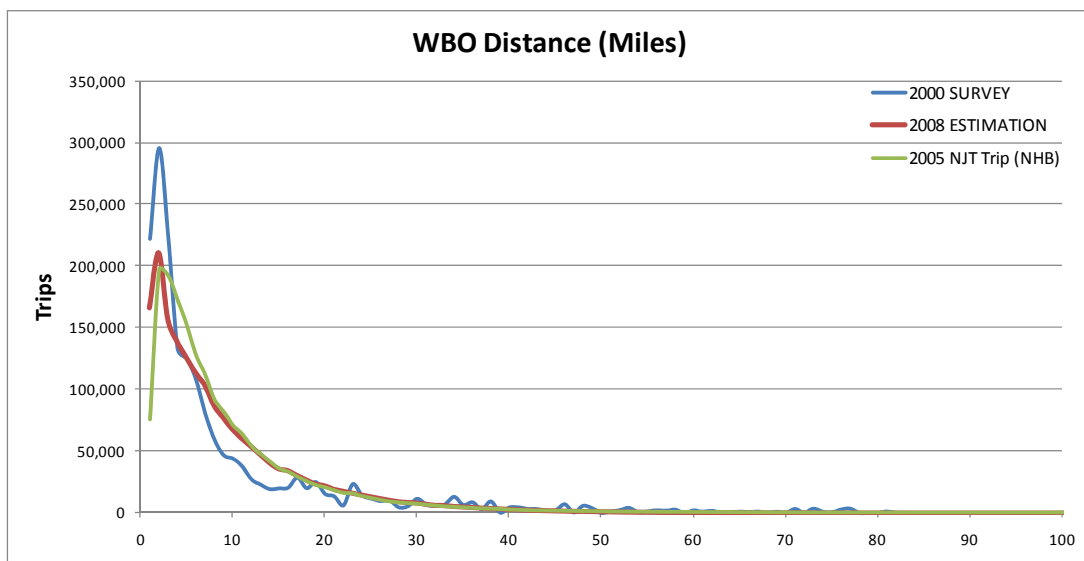
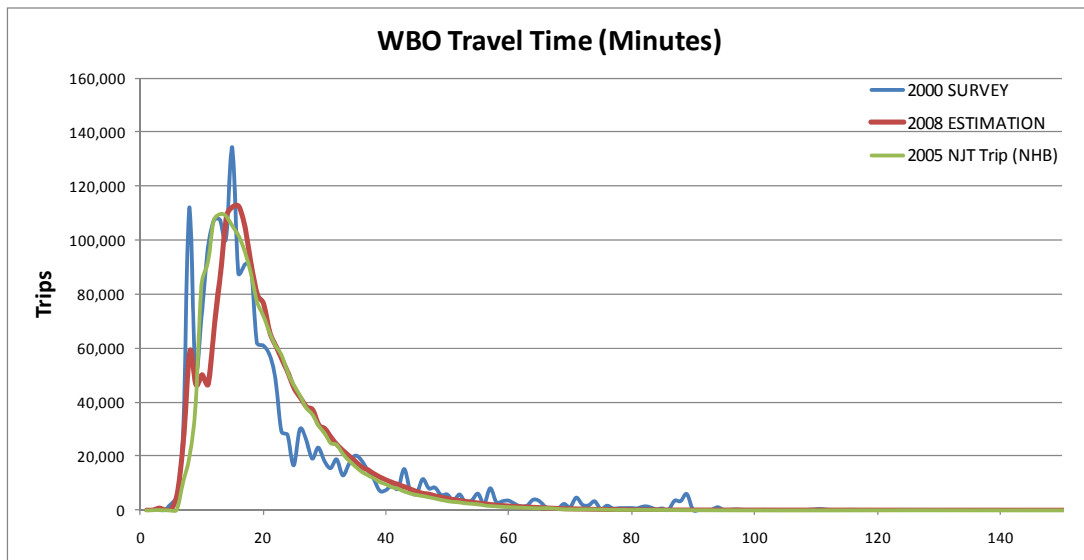
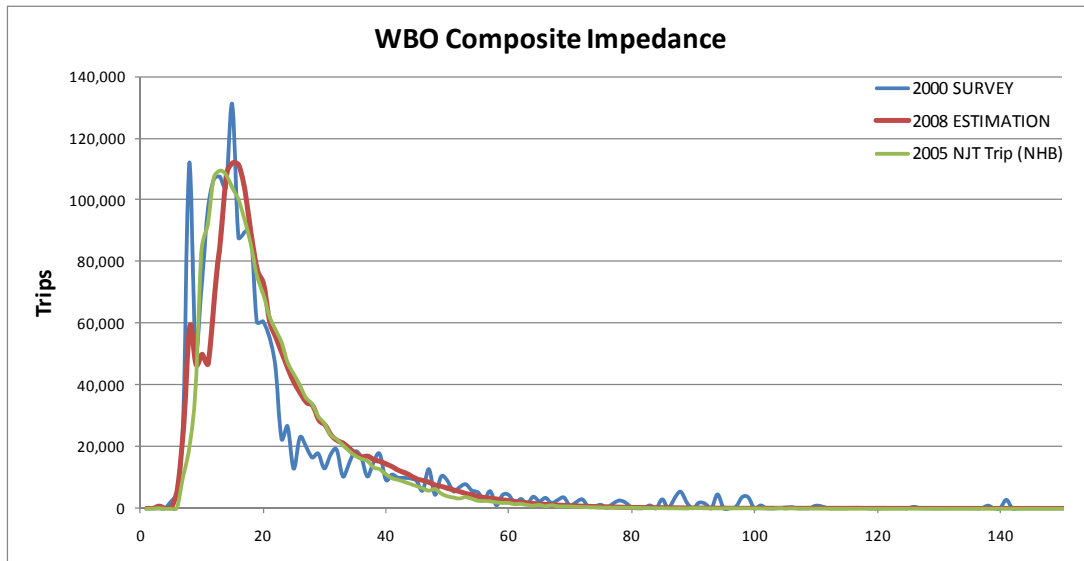
B.5 Frequency Distribution Charts

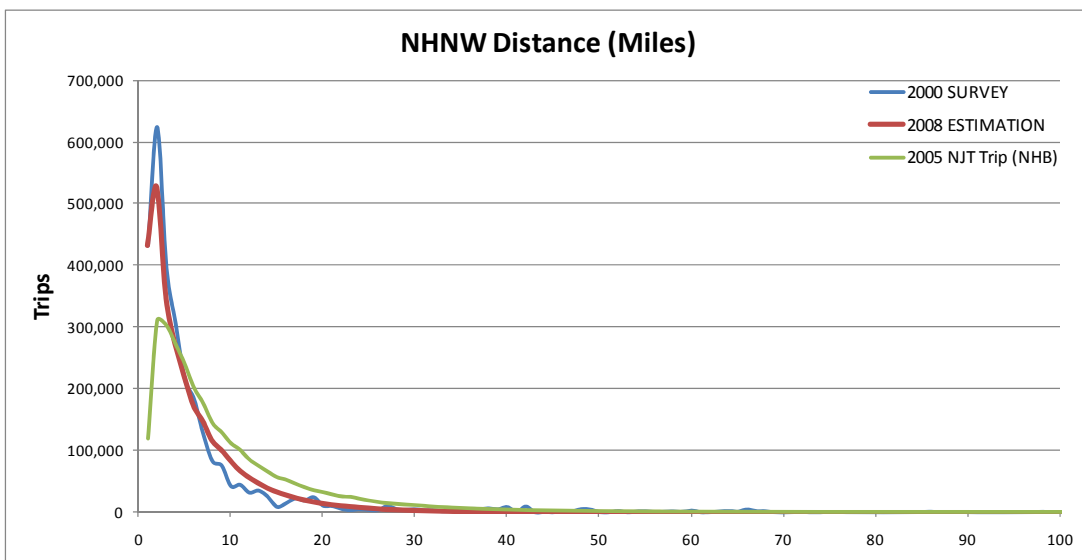
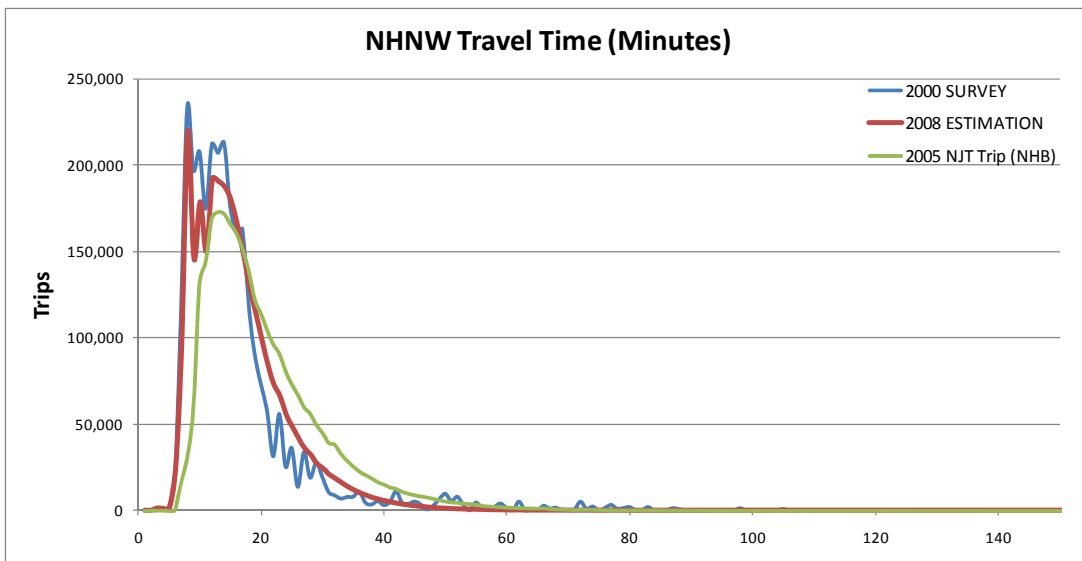
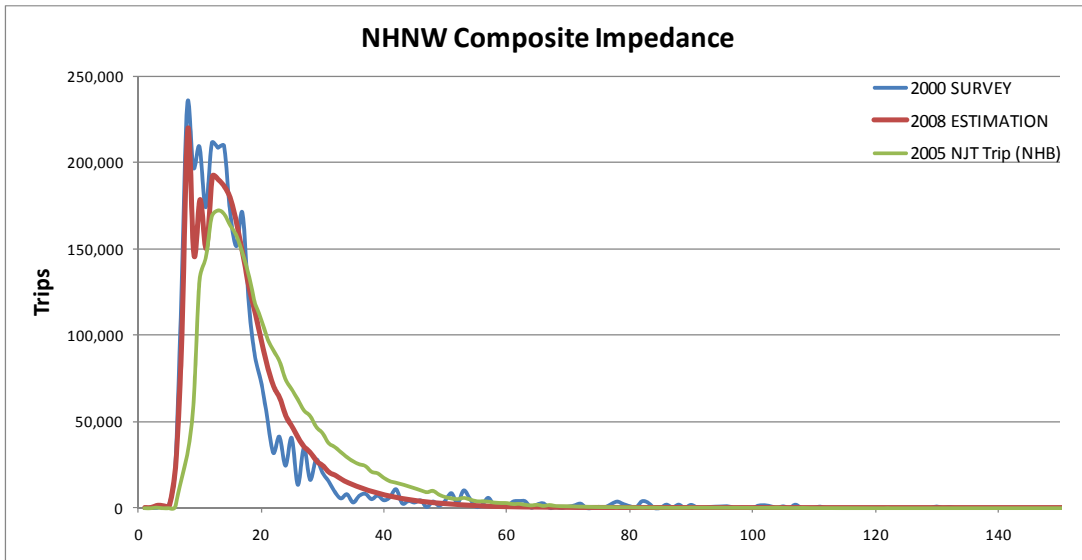












APPENDIX C – MODE CHOICE STATISTICS

C.1 Mode Choice Comparison by Trip Purpose by Regions

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Trip Purpose	West to East and Manhattan to West (Region: 1, 5, 7)											
	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL			
	NJT Model		Integration Model		NJT Model		Integration Model		NJT Model		Integration Model	
	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share
HBW												
SOV	120,014	21.8%	110,990	20.2%	67,726	36.3%	68,678	32.2%	187,740	25.4%	179,668	23.6%
HOV2	41,227	7.5%	39,321	7.2%	20,833	11.2%	23,048	10.8%	62,060	8.4%	62,369	8.2%
HOV3	23,677	4.3%	24,744	4.5%	4,425	2.4%	5,408	2.5%	28,102	3.8%	30,152	4.0%
HOV4	18,872	3.4%	18,499	3.4%	5,381	2.9%	6,209	2.9%	24,253	3.3%	24,708	3.2%
AUTO	203,790	37.0%	193,553	35.3%	98,364	52.7%	103,342	48.4%	302,154	40.9%	296,895	39.0%
Wk-Rail	30,657	5.6%	32,452	5.9%	5,309	2.8%	7,013	3.3%	35,966	4.9%	39,465	5.2%
Wk-PATH	66,366	12.0%	65,147	11.9%	28,211	15.1%	32,030	15.0%	94,577	12.8%	97,177	12.8%
Wk-Bus	73,048	13.2%	65,749	12.0%	23,829	12.8%	26,753	12.5%	96,877	13.1%	92,502	12.1%
Wk-Ferry	10,191	1.8%	7,587	1.4%	1,487	0.8%	1,310	0.6%	11,678	1.6%	8,897	1.2%
Wk-LRT	1,831	0.3%	1,806	0.3%	596	0.3%	570	0.3%	2,427	0.3%	2,376	0.3%
Wk-Long Ferry	94	0.0%	72	0.0%	1	0.0%	5	0.0%	95	0.0%	77	0.0%
Dr-Rail	89,896	16.3%	110,146	20.1%	8,828	4.7%	17,203	8.1%	98,724	13.4%	127,349	16.7%
Dr-PATH	18,461	3.3%	16,940	3.1%	5,681	3.0%	7,245	3.4%	24,142	3.3%	24,185	3.2%
Dr-Bus	49,046	8.9%	48,005	8.8%	12,701	6.8%	16,209	7.6%	61,747	8.4%	64,214	8.4%
Dr-Ferry	5,073	0.9%	4,273	0.8%	1,600	0.9%	1,794	0.8%	6,673	0.9%	6,067	0.8%
Dr-LRT	845	0.2%	512	0.1%	69	0.0%	66	0.0%	914	0.1%	578	0.1%
Dr-Long Ferry	2,054	0.4%	2,056	0.4%	12	0.0%	26	0.0%	2,066	0.3%	2,082	0.3%
TRANSIT	347,564	63.0%	354,745	64.7%	89,324	47.3%	110,227	51.6%	435,888	59.1%	464,972	61.0%
TOTAL	551,354	100.0%	548,301	100.0%	186,687	100.0%	213,568	100.0%	738,041	100.0%	761,869	100.0%
HBS												
SOV	644	9.5%	3,922	27.6%	1,419	12.4%	1,740	11.3%	2,063	11.3%	5,662	19.2%
HOV2	1,017	15.0%	3,180	22.4%	2,215	19.4%	4,169	27.1%	3,232	17.7%	7,349	24.9%
HOV3	354	5.2%	1,087	7.7%	1,023	8.9%	2,351	15.3%	1,377	7.6%	3,438	11.6%
HOV4	84	1.2%	1,171	8.3%	1,637	14.3%	2,830	18.4%	1,721	9.5%	4,001	13.5%
AUTO	2,099	31.0%	9,360	66.0%	6,293	55.0%	11,090	72.1%	8,392	46.1%	20,450	69.2%
Wk-Rail	187	2.8%	620	4.4%	312	2.7%	320	2.1%	499	2.7%	940	3.2%
Wk-PATH	2,092	30.9%	966	6.8%	2,073	18.1%	1,296	8.4%	4,165	22.9%	2,262	7.7%
Wk-Bus	798	11.8%	1,264	8.9%	619	5.4%	1,035	6.7%	1,417	7.8%	2,299	7.8%
Wk-Ferry	296	4.4%	76	0.5%	296	2.6%	123	0.8%	592	3.3%	199	0.7%
Wk-LRT	15	0.2%	146	1.0%	61	0.5%	89	0.6%	76	0.4%	235	0.8%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	217	3.2%	314	2.2%	553	4.8%	337	2.2%	770	4.2%	651	2.2%
Dr-PATH	299	4.4%	532	3.7%	619	5.4%	752	4.9%	918	5.0%	1,284	4.3%
Dr-Bus	49	0.7%	55	0.4%	283	2.5%	154	1.0%	332	1.8%	209	0.7%
Dr-Ferry	709	10.5%	842	5.9%	301	2.6%	162	1.1%	1,010	5.5%	1,004	3.4%
Dr-LRT	0	0.0%	6	0.0%	22	0.2%	12	0.1%	22	0.1%	18	0.1%
Dr-Long Ferry	16	0.2%	10	0.1%	0	0.0%	0	0.0%	16	0.1%	10	0.0%
TRANSIT	4,679	69.0%	4,830	34.0%	5,139	44.9%	4,283	27.9%	9,818	53.9%	9,113	30.8%
TOTAL	6,778	100.0%	14,189	100.0%	11,433	100.0%	15,372	100.0%	18,211	100.0%	29,561	100.0%
HBO												
SOV	21,453	23.2%	36,697	23.9%	29,197	21.3%	24,888	21.5%	50,650	22.0%	61,585	22.9%
HOV2	24,636	26.7%	39,797	25.9%	38,971	28.4%	32,539	28.1%	63,607	27.7%	72,336	26.8%
HOV3	5,713	6.2%	9,121	5.9%	13,968	10.2%	11,574	10.0%	19,681	8.6%	20,695	7.7%
HOV4	9,290	10.1%	15,105	9.8%	19,420	14.1%	16,272	14.0%	28,710	12.5%	31,377	11.6%
AUTO	61,091	66.1%	100,720	65.6%	101,557	73.9%	85,273	73.6%	162,648	70.8%	185,993	69.0%
Wk-Rail	3,051	3.3%	5,996	3.9%	3,035	2.2%	2,797	2.4%	6,086	2.6%	8,793	3.3%
Wk-PATH	9,373	10.1%	16,602	10.8%	12,462	9.1%	10,641	9.2%	21,835	9.5%	27,243	10.1%
Wk-Bus	5,087	5.5%	7,478	4.9%	8,415	6.1%	5,776	5.0%	13,502	5.9%	13,254	4.9%
Wk-Ferry	336	0.4%	498	0.3%	179	0.1%	112	0.1%	515	0.2%	610	0.2%
Wk-LRT	156	0.2%	333	0.2%	104	0.1%	101	0.1%	260	0.1%	434	0.2%
Wk-Long Ferry	10	0.0%	9	0.0%	0	0.0%	1	0.0%	10	0.0%	10	0.0%
Dr-Rail	7,713	8.3%	14,642	9.5%	4,958	3.6%	5,630	4.9%	12,671	5.5%	20,272	7.5%
Dr-PATH	3,098	3.4%	3,969	2.6%	3,392	2.5%	2,800	2.4%	6,490	2.8%	6,769	2.5%
Dr-Bus	1,958	2.1%	2,686	1.7%	3,094	2.3%	2,558	2.2%	5,052	2.2%	5,244	1.9%
Dr-Ferry	374	0.4%	389	0.3%	146	0.1%	85	0.1%	520	0.2%	474	0.2%
Dr-LRT	7	0.0%	6	0.0%	17	0.0%	21	0.0%	24	0.0%	27	0.0%
Dr-Long Ferry	157	0.2%	298	0.2%	4	0.0%	99	0.1%	161	0.1%	397	0.1%
TRANSIT	31,320	33.9%	52,907	34.4%	35,806	26.1%	30,620	26.4%	67,126	29.2%	83,527	31.0%
TOTAL	92,411	100.0%	153,625	100.0%	137,362	100.0%	115,893	100.0%	229,773	100.0%	269,518	100.0%
NHB												
SOV	12,402	25.3%	18,850	27.4%	14,497	27.7%	27,467	26.8%	26,899	26.6%	46,317	27.0%
HOV2	6,269	12.8%	9,303	13.5%	8,918	17.1%	17,284	16.9%	15,187	15.0%	26,587	15.5%
HOV3	4,377	8.9%	8,658	12.6%	7,638	14.6%	16,340	16.0%	12,015	11.9%	24,998	14.6%
HOV4	1,432	2.9%	1,875	2.7%	2,050	3.9%	3,967	3.9%	3,482	3.4%	5,842	3.4%
AUTO	24,481	50.0%	38,685	56.2%	33,101	63.3%	65,056	63.5%	57,582	56.9%	103,741	60.6%
Wk-Rail	3,187	6.5%	4,956	7.2%	1,510	2.9%	5,272	5.1%	4,697	4.6%	10,228	6.0%
Wk-PATH	9,073	18.5%	10,647	15.5%	10,567	20.2%	16,504	16.1%	19,640	19.4%	27,151	15.9%
Wk-Bus	2,642	5.4%	5,788	8.4%	2,475	4.7%	8,700	8.5%	5,117	5.1%	14,488	8.5%
Wk-Ferry	1,171	2.4%	1,038	1.5%	273	0.5%	564	0.6%	1,444	1.4%	1,602	0.9%
Wk-LRT	100	0.2%	436	0.6%	58	0.1%	220	0.2%	158	0.2%	656	0.4%
Wk-Long Ferry	2	0.0%	0	0.0%	1	0.0%	0	0.0%	3	0.0%	0	0.0%
Dr-Rail	5,468	11.2%	4,954	7.2%	2,626	5.0%	3,741	3.7%	8,094	8.0%	8,695	5.1%
Dr-PATH	1,509	3.1%	1,100	1.6%	1,209	2.3%	1,712	1.7%	2,718	2.7%	2,812	1.6%
Dr-Bus	230	0.5%	203	0.3%	158	0.3%	212	0.2%	388	0.4%	415	0.2%
Dr-Ferry	1,106	2.3%	1,002	1.5%	298	0.6%	414	0.4%	1,404	1.4%	1,416	0.8%
Dr-LRT	3	0.0%	3	0.0%	10	0.0%	15	0.0%	13	0.0%	18	0.0%
Dr-Long Ferry	17	0.0%	10	0.0%	4	0.0%	3	0.0%	21	0.0%	13	0.0%
TRANSIT	24,508	50.0%	30,138	43.8%	19,189	36.7%	37,360	36.5%	43,697	43.1%	67,498	39.4%
TOTAL	48,989	100.0%	68,824	100.0%	52,291	100.0%	102,416	100.0%	101,280	100.0%	171,240	100.0%
TOTAL												
SOV	154,513	22.1%	170,459	21.7%	112,839	29.1%	122,773	27.5%	267,352	24.6%	293,232	23.8%
HOV2	73,149	10.5%	91,601	11.7%	70,937	18.3%	77,040	17.2%	144,086	13.3%	168,641	13.7%
HOV3	34,121	4.9%	43,610	5.6%	27,054	7.0%	35,673	8.0%	61,175	5.6%	79,283	6.4%
HOV4	29,678	4.2%	36,650	4.7%	28,488	7.3%	29,278	6.5%	58,166	5.3%	65,928	5.4%
AUTO	291,461	41.7%	342,318	43.6%	239,315	61.7%	264,761	59.2%	530,776	48.8%	607,079	49.3%
Wk-Rail	37,082	5.3%	44,024	5.6%	10,166	2.6%	15,402	3.4%	47,248	4.3%	59,426	4.8%
Wk-PATH	86,904	12.4%	93,362	11.9%	53,313	13.7%	60,471	13.5%	140,217	12.9%	153,833	12.5%
Wk-Bus	81,575	11.7%	80,279	10.2%	35,338	9.						

Trip Purpose	Intra NJ (Region: 4, 6, 9, 10, 11)											
	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL			
	NJT Model		Integration Model		NJT Model		Integration Model		NJT Model		Integration Model	
	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share
HBW												
SOV	3,690,550	84.5%	4,680,795	89.1%	1,421,799	84.3%	1,727,986	83.7%	5,112,349	84.4%	6,408,781	87.6%
HOV2	464,673	10.6%	364,947	6.9%	184,603	10.9%	229,837	11.1%	649,276	10.7%	594,784	8.1%
HOV3	70,426	1.6%	53,430	1.0%	24,844	1.5%	34,707	1.7%	95,270	1.6%	88,137	1.2%
HOV4	53,760	1.2%	42,122	0.8%	15,874	0.9%	24,005	1.2%	69,634	1.1%	66,127	0.9%
AUTO	4,279,408	97.9%	5,141,293	97.8%	1,647,120	97.7%	2,016,532	97.7%	5,926,528	97.9%	7,157,825	97.9%
Wk-Rail	7,479	0.2%	10,255	0.2%	1,249	0.1%	1,702	0.1%	8,728	0.1%	11,957	0.2%
Wk-PATH	3,608	0.1%	5,233	0.1%	1,988	0.1%	2,608	0.1%	5,596	0.1%	7,841	0.1%
Wk-Bus	61,511	1.4%	76,727	1.5%	31,782	1.9%	37,675	1.8%	93,293	1.5%	114,402	1.6%
Wk-Ferry	44	0.0%	10	0.0%	11	0.0%	0	0.0%	55	0.0%	10	0.0%
Wk-LRT	1,067	0.0%	1,564	0.0%	494	0.0%	522	0.0%	1,561	0.0%	2,086	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	6,152	0.1%	7,721	0.1%	614	0.0%	832	0.0%	6,766	0.1%	8,553	0.1%
Dr-PATH	587	0.0%	761	0.0%	170	0.0%	313	0.0%	757	0.0%	1,074	0.0%
Dr-Bus	9,139	0.2%	11,025	0.2%	3,122	0.2%	3,778	0.2%	12,261	0.2%	14,803	0.2%
Dr-Ferry	54	0.0%	170	0.0%	55	0.0%	48	0.0%	109	0.0%	218	0.0%
Dr-LRT	190	0.0%	173	0.0%	25	0.0%	27	0.0%	215	0.0%	200	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	89,833	2.1%	113,640	2.2%	39,509	2.3%	47,500	2.3%	129,342	2.1%	161,140	2.2%
TOTAL	4,369,242	100.0%	5,254,931	100.0%	1,686,629	100.0%	2,064,033	100.0%	6,055,871	100.0%	7,318,964	100.0%
HBS												
SOV	472,413	44.5%	655,570	44.5%	510,701	44.4%	707,729	44.3%	983,114	44.5%	1,363,299	44.4%
HOV2	418,849	39.5%	580,739	39.4%	450,327	39.1%	624,328	39.1%	869,176	39.3%	1,205,067	39.2%
HOV3	83,227	7.8%	116,815	7.9%	89,508	7.8%	125,393	7.9%	172,735	7.8%	242,208	7.9%
HOV4	83,247	7.8%	116,935	7.9%	92,362	8.0%	129,301	8.1%	175,609	7.9%	246,236	8.0%
AUTO	1,057,737	99.7%	1,470,059	99.7%	1,142,899	99.3%	1,586,752	99.4%	2,200,636	99.5%	3,056,811	99.5%
Wk-Rail	67	0.0%	116	0.0%	128	0.0%	204	0.0%	195	0.0%	320	0.0%
Wk-PATH	194	0.0%	274	0.0%	285	0.0%	378	0.0%	479	0.0%	652	0.0%
Wk-Bus	2,348	0.2%	3,033	0.2%	7,045	0.6%	8,940	0.6%	9,393	0.4%	11,973	0.4%
Wk-Ferry	0	0.0%	0	0.0%	1	0.0%	0	0.0%	1	0.0%	0	0.0%
Wk-LRT	158	0.0%	194	0.0%	181	0.0%	199	0.0%	339	0.0%	393	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	74	0.0%	136	0.0%	11	0.0%	25	0.0%	85	0.0%	161	0.0%
Dr-PATH	0	0.0%	1	0.0%	46	0.0%	62	0.0%	46	0.0%	63	0.0%
Dr-Bus	97	0.0%	164	0.0%	172	0.0%	241	0.0%	269	0.0%	405	0.0%
Dr-Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-LRT	4	0.0%	9	0.0%	11	0.0%	13	0.0%	15	0.0%	22	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	2,942	0.3%	3,925	0.3%	7,880	0.7%	10,064	0.6%	10,822	0.5%	13,989	0.5%
TOTAL	1,060,679	100.0%	1,473,984	100.0%	1,150,778	100.0%	1,596,815	100.0%	2,211,457	100.0%	3,070,799	100.0%
HBO												
SOV	1,238,401	31.1%	2,113,404	33.4%	1,534,526	50.7%	2,457,273	51.4%	2,772,927	39.6%	4,570,677	41.1%
HOV2	1,478,080	37.1%	2,267,641	35.8%	951,771	31.4%	1,490,209	31.2%	2,429,851	34.7%	3,757,850	33.8%
HOV3	621,468	15.6%	955,688	15.1%	285,444	9.4%	441,923	9.3%	906,912	12.9%	1,397,611	12.6%
HOV4	622,498	15.6%	958,150	15.1%	227,018	7.5%	345,697	7.2%	849,516	12.1%	1,303,847	11.7%
AUTO	3,960,446	99.4%	6,294,885	99.4%	2,998,757	99.1%	4,735,101	99.1%	6,959,203	99.3%	11,029,966	99.3%
Wk-Rail	1,294	0.0%	2,762	0.0%	930	0.0%	1,799	0.0%	2,224	0.0%	4,561	0.0%
Wk-PATH	1,913	0.0%	2,974	0.0%	1,684	0.1%	2,374	0.0%	3,597	0.1%	5,348	0.0%
Wk-Bus	17,408	0.4%	26,497	0.4%	23,451	0.8%	33,679	0.7%	40,859	0.6%	60,176	0.5%
Wk-Ferry	4	0.0%	6	0.0%	4	0.0%	0	0.0%	8	0.0%	6	0.0%
Wk-LRT	206	0.0%	275	0.0%	177	0.0%	231	0.0%	383	0.0%	506	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	1,267	0.0%	2,423	0.0%	637	0.0%	1,175	0.0%	1,904	0.0%	3,598	0.0%
Dr-PATH	215	0.0%	323	0.0%	155	0.0%	206	0.0%	370	0.0%	529	0.0%
Dr-Bus	746	0.0%	1,182	0.0%	1,108	0.0%	1,679	0.0%	1,854	0.0%	2,861	0.0%
Dr-Ferry	0	0.0%	4	0.0%	4	0.0%	1	0.0%	4	0.0%	5	0.0%
Dr-LRT	19	0.0%	29	0.0%	40	0.0%	42	0.0%	59	0.0%	71	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	23,074	0.6%	36,476	0.6%	28,188	0.9%	41,188	0.9%	51,262	0.7%	77,664	0.7%
TOTAL	3,983,521	100.0%	6,331,361	100.0%	3,026,947	100.0%	4,776,291	100.0%	7,010,468	100.0%	11,107,652	100.0%
NHB												
SOV	1,138,844	55.0%	1,508,793	57.2%	1,353,841	45.8%	1,721,829	46.2%	2,492,685	49.6%	3,230,622	50.8%
HOV2	565,530	27.3%	684,100	25.9%	873,956	29.6%	1,093,942	29.4%	1,439,486	28.7%	1,778,042	27.9%
HOV3	172,656	8.3%	212,321	8.0%	539,283	18.3%	675,367	18.1%	711,939	14.2%	887,688	13.9%
HOV4	172,034	8.3%	211,722	8.0%	165,946	5.6%	209,072	5.6%	337,980	6.7%	420,794	6.6%
AUTO	2,049,066	99.0%	2,616,937	99.1%	2,933,026	99.3%	3,700,209	99.4%	4,982,092	99.2%	6,317,146	99.3%
Wk-Rail	722	0.0%	888	0.0%	367	0.0%	625	0.0%	1,089	0.0%	1,413	0.0%
Wk-PATH	599	0.0%	279	0.0%	1,086	0.0%	478	0.0%	1,685	0.0%	757	0.0%
Wk-Bus	17,523	0.8%	19,450	0.7%	18,342	0.6%	21,018	0.6%	35,865	0.7%	40,468	0.6%
Wk-Ferry	0	0.0%	7	0.0%	10	0.0%	0	0.0%	10	0.0%	7	0.0%
Wk-LRT	118	0.0%	122	0.0%	69	0.0%	101	0.0%	187	0.0%	223	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	604	0.0%	877	0.0%	107	0.0%	185	0.0%	711	0.0%	1,062	0.0%
Dr-PATH	75	0.0%	21	0.0%	44	0.0%	31	0.0%	119	0.0%	52	0.0%
Dr-Bus	966	0.0%	1,131	0.0%	1,051	0.0%	1,271	0.0%	2,017	0.0%	2,402	0.0%
Dr-Ferry	8	0.0%	26	0.0%	5	0.0%	2	0.0%	13	0.0%	28	0.0%
Dr-LRT	36	0.0%	33	0.0%	30	0.0%	28	0.0%	66	0.0%	61	0.0%
Dr-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
TRANSIT	20,650	1.0%	22,835	0.9%	21,110	0.7%	23,639	0.6%	41,760	0.8%	46,474	0.7%
TOTAL	2,069,717	100.0%	2,639,771	100.0%	2,954,137	100.0%	3,723,850	100.0%	5,023,854	100.0%	6,363,621	100.0%
TOTAL												
SOV	6,540,208	57.0%	8,958,562	57.1%	4,820,867	54.7%	6,614,817	54.4%	11,361,075	56.0%	15,573,379	55.9%
HOV2	2,927,132	25.5%	3,897,427	24.8%	2,460,657	27.9%	3,438,316	28.3%	5,387,789	26.5%	7,335,743	26.3%
HOV3	947,777	8.3%	1,338,254	8.5%	939,079	10.6%	1,277,390	10.5%	1,886,856	9.3%	2,615,644	9.4%
HOV4	931,539	8.1%	1,328,929	8.5%	501,200	5.7%	708,075	5.8%	1,432,739	7.1%	2,037,004	7.3%
AUTO	11,346,657	98.8%										

Trip Purpose	TOTAL (Region: 1-11)											
	PEAK PERIOD				OFFPEAK PERIOD				DAILY TOTAL			
	NJT Model		Integration Model		NJT Model		Integration Model		NJT Model		Integration Model	
	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share	Trips	Share
HBW												
SOV	4,011,571	76.3%	5,064,511	80.8%	1,578,358	77.8%	1,900,102	77.0%	5,589,929	76.7%	6,964,613	79.7%
HOV2	545,674	10.4%	458,521	7.3%	223,172	11.0%	275,078	11.2%	768,846	10.5%	733,599	8.4%
HOV3	101,808	1.9%	88,913	1.4%	34,595	1.7%	47,019	1.9%	136,403	1.9%	135,932	1.6%
HOV4	81,700	1.6%	73,757	1.2%	24,355	1.2%	34,451	1.4%	106,055	1.5%	108,208	1.2%
AUTO	4,740,749	90.1%	5,685,701	90.7%	1,860,477	91.7%	2,256,645	91.5%	6,601,226	90.6%	7,942,346	90.9%
Wk-Rail	43,320	0.8%	50,638	0.8%	7,350	0.4%	9,948	0.4%	50,670	0.7%	60,586	0.7%
Wk-PATH	78,140	1.5%	81,582	1.3%	31,838	1.6%	36,727	1.5%	109,978	1.5%	118,309	1.4%
Wk-Bus	148,216	2.8%	161,641	2.6%	64,552	3.2%	76,686	3.1%	212,768	2.9%	238,327	2.7%
Wk-Ferry	24,773	0.5%	27,040	0.4%	12,995	0.6%	15,254	0.6%	37,768	0.5%	42,294	0.5%
Wk-LRT	6,659	0.1%	10,679	0.2%	2,533	0.1%	2,900	0.1%	9,192	0.1%	13,579	0.2%
Wk-Long Ferry	94	0.0%	72	0.0%	1	0.0%	5	0.0%	95	0.0%	77	0.0%
Dr-Rail	108,496	2.1%	136,847	2.2%	10,339	0.5%	19,358	0.8%	118,835	1.6%	156,205	1.8%
Dr-PATH	20,608	0.4%	20,353	0.3%	6,105	0.3%	8,067	0.3%	26,713	0.4%	28,420	0.3%
Dr-Bus	59,662	1.1%	61,469	1.0%	16,383	0.8%	20,686	0.8%	76,045	1.0%	82,155	0.9%
Dr-Ferry	23,872	0.5%	27,999	0.4%	16,316	0.8%	19,537	0.8%	40,188	0.6%	47,536	0.5%
Dr-LRT	3,461	0.1%	4,161	0.1%	610	0.0%	881	0.0%	4,071	0.1%	5,042	0.1%
Dr-Long Ferry	2,054	0.0%	2,056	0.0%	12	0.0%	26	0.0%	2,066	0.0%	2,082	0.0%
TRANSIT	519,357	9.9%	584,539	9.3%	169,034	8.3%	210,076	8.5%	688,391	9.4%	794,615	9.1%
TOTAL	5,280,107	100.0%	6,270,239	100.0%	2,029,511	100.0%	2,466,722	100.0%	7,289,618	100.0%	8,736,961	100.0%
HBS												
SOV	480,210	43.1%	668,984	42.7%	522,201	43.1%	725,278	42.7%	1,002,411	43.1%	1,394,262	42.7%
HOV2	449,434	40.3%	635,672	40.6%	482,931	39.9%	684,829	40.3%	932,365	40.1%	1,320,501	40.4%
HOV3	88,096	7.9%	125,557	8.0%	95,715	7.9%	137,177	8.1%	183,811	7.9%	262,734	8.0%
HOV4	88,628	7.9%	127,275	8.1%	95,411	7.9%	133,888	7.9%	184,039	7.9%	261,163	8.0%
AUTO	1,106,368	99.2%	1,557,487	99.4%	1,196,259	98.7%	1,681,175	99.0%	2,302,627	99.0%	3,238,662	99.2%
Wk-Rail	289	0.0%	777	0.0%	451	0.0%	532	0.0%	740	0.0%	1,309	0.0%
Wk-PATH	2,465	0.2%	1,437	0.1%	2,803	0.2%	1,925	0.1%	5,068	0.2%	3,362	0.1%
Wk-Bus	3,595	0.3%	4,676	0.3%	9,642	0.8%	11,634	0.7%	13,237	0.6%	16,310	0.5%
Wk-Ferry	307	0.0%	123	0.0%	307	0.0%	145	0.0%	614	0.0%	268	0.0%
Wk-LRT	376	0.0%	537	0.0%	444	0.0%	487	0.0%	820	0.0%	1,024	0.0%
Wk-Long Ferry	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Dr-Rail	298	0.0%	455	0.0%	597	0.0%	402	0.0%	895	0.0%	857	0.0%
Dr-PATH	319	0.0%	558	0.0%	660	0.1%	820	0.0%	988	0.0%	1,378	0.0%
Dr-Bus	146	0.0%	219	0.0%	467	0.0%	409	0.0%	613	0.0%	628	0.0%
Dr-Ferry	715	0.1%	876	0.1%	306	0.0%	178	0.0%	1,021	0.0%	1,054	0.0%
Dr-LRT	9	0.0%	15	0.0%	59	0.0%	56	0.0%	68	0.0%	71	0.0%
Dr-Long Ferry	16	0.0%	10	0.0%	0	0.0%	0	0.0%	16	0.0%	10	0.0%
TRANSIT	8,535	0.8%	9,683	0.6%	15,548	1.3%	16,594	1.0%	24,083	1.0%	26,277	0.8%
TOTAL	1,114,905	100.0%	1,567,168	100.0%	1,211,806	100.0%	1,697,766	100.0%	2,326,711	100.0%	3,264,934	100.0%
HBO												
SOV	1,336,433	31.0%	2,288,562	33.2%	1,627,900	48.5%	2,596,013	49.9%	2,964,333	38.6%	4,884,575	40.3%
HOV2	1,598,399	37.1%	2,471,899	35.8%	1,059,198	31.5%	1,632,059	31.3%	2,657,597	34.6%	4,103,958	33.9%
HOV3	652,844	15.1%	1,004,555	14.6%	327,082	9.7%	497,630	9.6%	979,926	12.8%	1,502,185	12.4%
HOV4	663,287	15.4%	1,025,165	14.9%	263,487	7.8%	384,588	7.4%	926,774	12.1%	1,409,753	11.6%
AUTO	4,250,960	98.5%	6,790,182	98.4%	3,277,666	97.6%	5,110,288	98.2%	7,528,626	98.1%	11,900,470	98.3%
Wk-Rail	4,833	0.1%	9,863	0.1%	4,449	0.1%	5,315	0.1%	9,282	0.1%	15,178	0.1%
Wk-PATH	12,165	0.3%	21,084	0.3%	15,233	0.5%	14,267	0.3%	27,398	0.4%	35,351	0.3%
Wk-Bus	27,778	0.6%	44,467	0.6%	41,740	1.2%	54,840	1.1%	69,518	0.9%	99,307	0.8%
Wk-Ferry	340	0.0%	5,719	0.1%	1,909	0.1%	4,249	0.1%	2,249	0.0%	9,968	0.1%
Wk-LRT	937	0.0%	1,027	0.0%	917	0.0%	668	0.0%	1,854	0.0%	1,695	0.0%
Wk-Long Ferry	10	0.0%	9	0.0%	0	0.0%	1	0.0%	10	0.0%	10	0.0%
Dr-Rail	9,860	0.2%	18,445	0.3%	6,206	0.2%	7,522	0.1%	16,066	0.2%	25,967	0.2%
Dr-PATH	3,468	0.1%	4,600	0.1%	3,773	0.1%	3,287	0.1%	7,241	0.1%	7,887	0.1%
Dr-Bus	2,749	0.1%	3,984	0.1%	4,370	0.1%	4,464	0.1%	7,119	0.1%	8,448	0.1%
Dr-Ferry	374	0.0%	1,955	0.0%	908	0.0%	1,490	0.0%	1,282	0.0%	3,445	0.0%
Dr-LRT	122	0.0%	117	0.0%	97	0.0%	93	0.0%	219	0.0%	210	0.0%
Dr-Long Ferry	157	0.0%	298	0.0%	4	0.0%	99	0.0%	161	0.0%	397	0.0%
TRANSIT	62,794	1.5%	111,569	1.6%	79,605	2.4%	96,295	1.8%	142,399	1.9%	207,864	1.7%
TOTAL	4,313,755	100.0%	6,901,750	100.0%	3,357,272	100.0%	5,206,584	100.0%	7,671,027	100.0%	12,108,334	100.0%
NHB												
SOV	1,208,171	54.2%	1,610,903	56.2%	1,458,645	46.1%	1,879,512	46.4%	2,666,816	49.5%	3,490,415	50.5%
HOV2	594,624	26.7%	724,765	25.3%	920,954	29.1%	1,169,012	28.9%	1,515,578	28.1%	1,893,777	27.0%
HOV3	186,884	8.4%	235,317	8.2%	562,703	17.8%	712,723	17.6%	749,587	13.9%	948,040	13.7%
HOV4	188,860	8.5%	235,500	8.2%	173,138	5.5%	219,256	5.4%	361,998	6.7%	454,756	6.6%
AUTO	2,178,542	97.7%	2,906,483	97.9%	3,115,440	98.5%	3,980,501	98.3%	5,293,982	98.2%	6,786,984	98.1%
Wk-Rail	4,435	0.2%	6,686	0.2%	2,166	0.1%	6,139	0.2%	6,601	0.1%	12,825	0.2%
Wk-PATH	11,013	0.5%	10,932	0.4%	11,982	0.4%	17,244	0.4%	22,995	0.4%	28,176	0.4%
Wk-Bus	22,713	1.0%	28,690	1.0%	24,632	0.8%	34,545	0.9%	47,345	0.9%	63,235	0.9%
Wk-Ferry	1,457	0.1%	1,734	0.1%	523	0.0%	1,056	0.0%	1,980	0.0%	2,790	0.0%
Wk-LRT	547	0.0%	1,148	0.0%	379	0.0%	574	0.0%	926	0.0%	1,722	0.0%
Wk-Long Ferry	2	0.0%	0	0.0%	1	0.0%	0	0.0%	3	0.0%	0	0.0%
Dr-Rail	6,898	0.3%	7,096	0.2%	2,964	0.1%	4,231	0.1%	9,862	0.2%	11,327	0.2%
Dr-PATH	1,679	0.1%	1,184	0.0%	1,346	0.0%	1,851	0.0%	3,025	0.1%	3,035	0.0%
Dr-Bus	1,355	0.1%	1,517	0.1%	1,407	0.0%	1,726	0.0%	2,762	0.1%	3,243	0.0%
Dr-Ferry	1,347	0.1%	1,506	0.1%	426	0.0%	622	0.0%	1,773	0.0%	2,128	0.0%
Dr-LRT	67	0.0%	95	0.0%	45	0.0%	50	0.0%	112	0.0%	145	0.0%
Dr-Long Ferry	17	0.0%	10	0.0%	4	0.0%	3	0.0%	21	0.0%	13	0.0%
TRANSIT	51,529	2.3%	60,599	2.1%	45,872	1.5%	68,047	1.7%	97,401	1.8%	128,646	1.9%
TOTAL	2,230,073	100.0%	2,867,082	100.0%	3,161,314	100.0%	4,048,550	100.0%	5,391,387	100.0%	6,915,632	100.0%
TOTAL												
SOV	7,036,385	54.5%	9,632,960	54.7%	5,187,104	53.1%	7,100,905	52.9%	12,223,489	53.9%	16,733,865	53.9%
HOV2	3,188,131	24.7%	4,290,857	24.4%	2,686,255	27.5%	3,760,978	28.0%	5,874,386	25.9%	8,051,835	26.0%
HOV3	1,029,632	8.0%	1,454,342	8.3%	1,020,095	10.5%	1,394,549	10.4%	2,049,727	9.0%	2,948,891	9.2%
HOV4	1,022,475	7.9%	1,461,697	8.3%	556,391	5.7%	772,183	5.8%	1,578,866	7.0%	2,233,880	7.2%
AUTO	12,276,619	95.0%	16,839,853	95.6%								