

# New Jersey Hurricane Evacuation Study Transportation Analysis

## Technical Memorandum



FEMA

June 2007

# **New Jersey Hurricane Evacuation Study Transportation Analysis**

## **Technical Memoranda**

Prepared for

**US Army Corps of Engineers  
Philadelphia District  
Philadelphia, Pennsylvania**

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## EXECUTIVE SUMMARY

### *Purpose*

This Hurricane Evacuation Study, supported by the Army Corps of Engineers, Philadelphia District and FEMA, provides the State of New Jersey with updated local and regional hurricane evacuation clearance times for the 2007 Hurricane Season and includes an Abbreviated Transportation Model to allow emergency managers to vary model inputs in order to update source data and to test alternative evacuation scenarios. The last study, conducted more than 15 years ago, was based on 1990 Census data. Rapid rates of growth, particularly along the State's vulnerable coastline, helped necessitate this study.

Hurricane Evacuation Planning is vitally important to the State of New Jersey. New Jersey is the 11<sup>th</sup> most populous state in the nation and is its most densely populated. New Jersey also enjoys a very high seasonal population based in large part to visitors to the coast. While the state has not received a direct hit from a major hurricane in recent years, a hurricane following some of the historical tracks of those impacting the state over the past 200 years would have catastrophic effects.

Hurricanes that reach the Mid-Atlantic States often tend to have a fast forward speed, placing New Jersey's permanent and seasonal coastal population at risk of serious storm damage.

### *Findings*

This study looked at a range of hurricane evacuation planning issues and developed local and regional hurricane evacuation clearance times for the state. Some of the main findings of the study include:

- At high tourist occupancy (at the height of tourist season), the evacuation clearance times in the Atlantic Coastal counties will range from **25** hours in a Category 1 storm to as high as **44** hours in a Category 4 storm.
- At high tourist occupancy, evacuation clearance times in the non-coastal Northeast counties in minor storm events (Category 1-2) will range between **8** and **15** hours.
- The official NJ State plan to implement a reverse lane strategy along Route 47 will reduce local clearance times for traffic heading west by as much as **8** hours. The reverse lane plan will not reduce overall clearance times for the Atlantic Coastal counties due to bottlenecks occurring north along the Garden State Parkway.
- A complete evacuation of all permanent residents and tourist from all risk zones from Cape May County in a Category 1 event will increase clearance times throughout the state, particularly in Category 1 and 2 events.

## *Recommendations*

Based on the research that went in to developing this report, the results of the Abbreviated Transportation Model, as well as the findings cited herein, the following recommendations may have relevance to future evacuation planning efforts in New Jersey:

- Reduce Volume – Due to the very high State populations, local evacuations should be limited to those individuals at risk from storm inundation in order to limit the number of vehicles loading the regional roadway network.
- Reduce Uncertainty – There is a need for state and county intergovernmental coordination on evacuation implementation, including training and exercises as well as operational support. Local evacuation orders should be pre-scripted by scenario and available for review and comment by neighboring local and state officials.
- Manage Routing – Alternative traffic routing scenarios need to be investigated in addition to or as alternatives to reverse lane strategies (s/a diverting traffic planning to travel westbound from the Garden State Parkway at Rt. 50, Rt. 559, or Rt. 322 to bypass the junction with the Atlantic City Expressway). Directed detouring will alleviate congestion at critical roadway segments.
- Enhance Sheltering – Complete a Statewide shelter survey to identify shelters in all counties. The survey should include Red Cross certifiable structures, non-certifiable “refuge” shelters (including a survey of elevated parking garages), special needs shelters, and shelters accepting pets. Plans should put in place to identify funding to retrofit existing public facilities to make them shelter ready.
- Support Evacuation Implementation – Develop plans to support evacuations, including Maintenance of Traffic, motorist assistance, identification of emergency staging areas (s/a the Rt. 70 / Rt. 72 circle).

## 1.0 INTRODUCTION

### 1.1 OVERVIEW

With a 2005 estimated population of 8.7 million residents, New Jersey is the 11<sup>th</sup> most populated State in the United States. It has the unique distinction of being the most densely populated state, with approximately 1,175 residents per square mile. New Jersey is also home to some of the most beautiful and popular beaches along the Atlantic seaboard. Its thriving beach communities and Atlantic City-based gaming industry help make travel and tourism New Jersey's third largest private employer, generating \$25.7 billion in Gross State Product in 2005. Tourism also swells the State's population, particularly during the summer months. High seasonal populations along the coast make hurricane evacuation planning an issue of critical concern for New Jersey.

With recent devastating storms in Florida and the Gulf Coast attracting national attention, when one thinks of hurricanes, the State of New Jersey is not the first place that comes to mind. But the State of New Jersey has a significant hurricane history. The Great Hurricane of 1821 – a Category 4 storm – struck Cape May and followed the route covered by the Garden State Parkway today, leaving significant destruction in its wake. A number of major hurricanes on tracks paralleling the 1821 storm have affected New Jersey, but all have either come ashore well to the south of the state or passed some distance offshore, thus diminishing their effect on the state (a 1903 hurricane weakened to tropical storm status shortly before making landfall near Atlantic City). Several of these storms, such as the 1889, 1938, 1944 and 1960 hurricanes caused extensive damage and some loss of life. More recently Hurricane Gloria (1985) and Bob (1991) and Tropical Storm Agnes (1972), David (1979), and Bertha (1996) skirted the state causing minor localized impacts. A storm of similar intensity to the 1821 storm following that track today would have catastrophic effects.

#### Recent Notable New Jersey Hurricanes

The **Ash Wednesday Storm** of 1962, a Nor'easter rather than a Hurricane, damaged portions of the Steel Pier in Atlantic City and significantly damaged or destroyed an estimated 45,000 homes.

In 1985 **Hurricane Gloria** paralleled the coast of New Jersey, downing trees leaving an estimated 230,000 without power, necessitating officials to recommend the evacuation of approximately 100,000 coastal residents.

**Hurricane Isabel**, which passed the southwest of the state on September 19, 2003, causing strong storm surges of up to 10.6 feet. Persistent strong waves severely erode beaches along the coast. Isabel caused 1 direct death and 1 indirect death, with damage amounting to \$50 million.

The vulnerability of New Jersey to hurricanes – particularly the Cape May peninsula and the coastal barrier islands – has been noted recently in the popular press. FEMA and the US Army Corps of Engineers have also recognized the vulnerability of New Jersey. The most recent Hurricane Evacuation Study for New Jersey was completed in 1992. This current study was initiated in part to better understand hurricane evacuation in the context of the rapid population growth experienced in the state over the 15 years since the publication of the last study and to take advantage of advances in the field of evacuation planning. This effort also includes state of the art study support tools; an abbreviated transportation model and a consequence management module. Both spreadsheet-based applications are designed to provide local, state and federal decision makers with the opportunity to

better understand the inputs into the evacuation study process as well as a means of testing alternative evacuation scenarios.

In preparing the Hurricane Evacuation Study, a number of primary resources were referenced. To provide a historical perspective on the study area the following documents were referenced:

- *New Jersey Hurricane Evacuation Study – Transportation Model Support Document*, PBS&J, (1992) and
- *New Jersey Hurricane Evacuation Study - Technical Data Report*, PBS&J, (1992).

In support of the guidance included in the project scope of work to document tourist behavior and obtain best available behavioral data, the following sources were utilized:

- *Behavioral Assumptions for Hurricane Planning in the Delmarva Peninsula*, Earl J. Baker (2003),
- *The Tourist Satellite Account Perspective*, Global Insight (2006),
- *New Jersey FY2005p Visitor Profile*, D.K. Shifflet & Associates, Ltd. (2006), and
- *Delmarva Hurricane Evacuation Study Transportation Analysis – Technical Memoranda*, PBS&J (2007).

In support of developing the assumptions included in the transportation modeling process, the following references were used:

- *Analysis and Modeling of Cape May Roadway Elevations and Evacuation Routes*, NJIT (2005), and
- *Using Highways During Evacuation Operations for Events with Advance Notice*, US DOT / FHWA, (2007).

In addition to these documents, newspaper articles and other secondary sources, including *Wikipedia the free encyclopedia* (Wikimedia Foundation, Inc.), were referenced. Citations, where available, are noted in the report.

During a hurricane evacuation, a significant number of vehicles must be moved across the local and regional road network. The number of evacuating vehicles will vary depending upon the magnitude of the hurricane, publicity and warnings provided about the storm, the time of year in which the storm occurs and particular behavioral response characteristics of the vulnerable population. The entry of vehicles onto the evacuation roadway network typically depends on the response of evacuees to an evacuation order. Conversely, vehicles exit the roadway network depending on both the planned destinations of evacuees and the availability of acceptable destinations such as public

shelters, hotel/motel units and the homes of friends or relatives in non-surge prone areas. The speed at which vehicles on the road network can travel from origin to destination is dependent upon the rate of traffic loading on specific roadway segments and the ability of those segments to handle a particular volume of vehicles each hour. In order to produce accurate clearance times, the analysis of the study area must account for the impacts of evacuation traffic generated by all jurisdictions (at the County level and at the State level) using roadways within the study area.

This report documents the basic inputs and findings for the New Jersey Hurricane Evacuation Study Transportation Analysis. Information and data files too extensive for this report are included in appendices. A glossary of terminology is included in Appendix A.

## 1.2 ANALYSIS OBJECTIVES AND SCOPE

Recognizing the importance of accurate clearance times, the US Army Corps of Engineers (USACE), Philadelphia District hired Post, Buckley, Schuh and Jernigan, Inc. (PBS&J) to perform the tasks necessary to conduct an updated Hurricane Evacuation Study for New Jersey. A task order for this work was issued on October 18, 2005. After feedback from a stakeholder meeting conducted in March of 2006, the scope of work was amended on November 17, 2006 to include additional tasks. The major objectives of the study include:

- (1) Develop Traffic Evacuation Zones– Obtain vulnerability data and numbered evacuation zones provided by the USACE Philadelphia District and obtain input / concurrence from NJ State and county emergency management officials.
- (2) Develop Coded Evacuation Network – Identify the existing evacuation roadway network.
- (3) Develop Behavioral Assumptions – Utilize best available data as well as available information on tourist trends to develop behavioral assumptions.
- (4) Conduct Hurricane Evacuation Modeling – Perform trip generation, trip distribution, develop route segment service volumes and trip assignments.
- (5) Estimate Clearance Times – Calculate clearance times for local, county-wide and regional areas for a slow, medium and fast response and low medium and high tourist occupancies for four storm intensity scenarios. Provide clearance times in the appropriate format for updating the Hurrevac model.
- (6) Develop an Automated Transportation Model (ATM) – Develop an automated transportation to allow users to adjust demographic or behavioral data and trip distribution by county to test alternate evacuation scenarios.
- (7) Develop a Consequence Management Module – As part of the ATM, develop a module to show the number of evacuees and vehicles and their potential location if evacuation decisions are made later than what ideal evacuation clearance times would dictate.



### 1.3 STUDY AREA

This study effort provides transportation modeling and calculates clearance times for fifteen New Jersey counties. The selection of these counties was based on the historical study area used for evacuation planning in New Jersey. The counties that are included in this study are grouped into three regions; Southwest, Atlantic Coastal and Northeast. New Jersey includes no unincorporated areas. Each of the study counties is comprised of numerous municipalities. In addition to the primary study area counties, several of the critical roadway segments for which clearance times are calculated are located in insular or “exiting” counties. Reference maps of the primary study counties showing jurisdictional boundaries and municipality names are included in Appendix B.

The Southwest counties include Burlington, Camden, Gloucester, Salem and Cumberland. While Salem and Cumberland counties are coastal, they have smaller permanent populations and significantly smaller seasonal populations than the Atlantic Coastal counties. All five of the Southwest counties include significant westbound through-county evacuation movements from the Atlantic Coastal counties.

The four Atlantic Coastal Counties – Cape May, Atlantic, Ocean and Monmouth – are the principal origination points for evacuation movements in the state. These counties are most highly vulnerable to hurricane impacts due to their proximity to the coast, their high permanent populations, as well as very high seasonal populations. These counties include significant westbound and northbound through-county evacuation movements from within the Atlantic Coastal counties group.

The Northeast counties include Middlesex, Union, Essex, Hudson, Passaic and Bergen. Union, Essex, Hudson and Bergen counties include very minimal storm surge zones directly adjacent to the Hudson River and Newark Bay. Middlesex also has minimal surge risk, with a small coastline fronting the Raritan Bay. Passaic County, although entirely inland, is included in the study for the purposes of calculating clearance times for northbound (New York bound) traffic. All of these counties include westbound and northbound through-county evacuation movements from the Atlantic Coastal Counties.

### 1.4 COORDINATION AND REVIEW ACTIVITIES

This study became a necessity due in large part to the age of the existing available data. The most recent previous study, published in 1992, relied on 1990 census data. The 1990 census population for New Jersey was 7.7 million. By the 2000 census, the official count had jumped to 8.4 million residents, and increase of approximately 9 percent. This rapid growth rate, much of which has occurred in the counties included in this study, coupled with annual increases in tourist numbers, necessitated the reanalysis of hurricane evacuation clearance times for the region.

The study was initiated in October of 2005 and relied heavily on input from State and county government officials. Subsequent to a stakeholder meeting held in March of 2006, modifications to the scope of work project were recommended, including the calculation of additional local clearance times and the development of a consequence assessment module to the Abbreviated Transportation Model. These modifications were included in an additional task order in November of 2006.

In January of 2007 a conference call was held with selected stakeholders, including State of New Jersey officials and those from Cape May County to discuss reverse lane scenarios. Lane reversal or contraflow is a technique that may be utilized during mass evacuations on major limited or controlled access highways to reduce the duration of an evacuation by opening up additional lanes in one direction. As a result of this conference call, two reverse lane (contraflow) scenario analyses were added to the study.

In February 2007, stakeholders from the Atlantic Coastal counties were provided with the draft evacuation zone maps and the socioeconomic data used in the model for comments. A second stakeholder meeting was held in February of 2007 to review the status of the study, to present the framework of the draft abbreviated transportation model, and to illicit feedback from federal, state and local stakeholders. Subsequent to that meeting comments and recommendations from the stakeholders were incorporated into the study where possible.

Key comments that helped guide the clearance time update included:

- The evacuation zone maps developed by the Army Corps of Engineers accurately reflect risk-based evacuation.
- Consequence Management analyses need to focus primarily on areas in South Jersey, including the Pine Barrens.
- Population increases since the 2000 census in some regions, particularly Ocean County may be significant and may need to be reflected in user defined inputs to the ATM.
- Due to local concerns related to isolation, evacuations at levels beyond those based on surge risk may be implemented, specifically in Cape May County, and comparative analysis should be included in this report.
- Shelter data used in the development of the Consequence Management Module is based on preliminary joint State and FEMA surveys and may need to be adjusted through user defined inputs to the ATM.

A listing of key contacts was maintained through the study effort. The information from the key contact log is provided in Table 1-1.

Table 1-1

## New Jersey Hurricane Evacuation Study Contacts

| Unit of Government  | Initial Contact Person                    | Phone/Fax                          | Mailing Address  | Email  |
|---|---|------------------------------------|--|--|
|   | Mariana Leckner                           |                                    |  | <a href="mailto:mleckner@comcast.net">mleckner@comcast.net</a>                       |
| <i>American Red Cross</i>   | Kurt Weirich, Director                    | P: 609.951.2106                    | 707 Alexander Rd., Suite 101<br>Princeton, NJ 08540      | <a href="mailto:weirichk@njredcross.org">weirichk@njredcross.org</a>                 |
|   | Emergency Services                        |                                    |  |  |
|   | Jason Kingsley                            | P: 609.951.2101                    | 707 Alexander Rd., Suite 101<br>Princeton, NJ 08540      | <a href="mailto:kingsleyj@njredcross.org">kingsleyj@njredcross.org</a>               |
| <i>Atlantic County Dept. of<br/>Public Safety, Office of<br/>Emergency Preparedness</i> | Vincent J. Jones, III,<br>Director        | P: 609.407.6742<br>F: 609.407.6745 | 5033 English Creek Ave.<br>Egg Harbor Township, NJ 08234 | <a href="mailto:jones_vincent@aclink.org">jones_vincent@aclink.org</a>               |
|   | Michael Braveis                           | P: 609.407.6767                    | 5033 English Creek Ave.<br>Egg Harbor Township, NJ 08234 | <a href="mailto:braveis_michael@aclink.org">braveis_michael@aclink.org</a>           |
|   | Ed Conover, Deputy<br>Coordinator         | P: 609.407.6742<br>F: 609.407.6745 | 5033 English Creek Ave.<br>Egg Harbor Township, NJ 08234 | <a href="mailto:conover_edward@aclink.org">conover_edward@aclink.org</a>             |
|   |   |                                    |  |  |
| <i>Bergen County</i>  | Lt. Dwayne Razzetti                       | P: 201.634.3100<br>F: 201.599.6091 | 327 East Ridgewood Ave.<br>Paramus, NJ 07652             | <a href="mailto:drazzetti@bcoem.org">drazzetti@bcoem.org</a>                         |
|   | Michael N. Wallace                        | P: 201.634.3100                    | 327 East Ridgewood Ave.<br>Paramus, NJ 07652             | <a href="mailto:Wallace@bcoem.org">Wallace@bcoem.org</a>                             |
|   | Sgt. Barry Leventhal                      | P: 201.634.3100<br>F: 201.599.6091 | 327 East Ridgewood Ave.<br>Paramus, NJ 07652             | <a href="mailto:leventhal@bcoem.org">leventhal@bcoem.org</a>                         |
|   |   |                                    |  |  |
| <i>Burlington County</i>  | Kevin Tuno,<br>Coordinator                | P: 609.518.7200<br>F: 609.518.7214 | 1 Academy Dr.<br>Westampton, NJ 08060                    | <a href="mailto:ktuno@co.burlington.nj.us">ktuno@co.burlington.nj.us</a>             |
|   | William Luckenbill,<br>Deputy Coordinator | P: 609.518.7200<br>F: 609.518.7214 | 1 Academy Dr.<br>Westampton, NJ 08060                    | <a href="mailto:wluckenbill@co.burlington.nj.us">wluckenbill@co.burlington.nj.us</a> |
|   | David Rickert                             | P: 609.265.3720                    |  | <a href="mailto:DRickert@co.burlington.nj.us">DRickert@co.burlington.nj.us</a>       |
|   | Steve King, Deputy 2                      | P: 609.518.7200<br>F: 609.518.7214 | 1 Academy Dr.<br>Westampton, NJ 08060                    | <a href="mailto:sking@co.burlington.nj.us">sking@co.burlington.nj.us</a>             |
|   |   |                                    |  |  |

| Unit of Government                              | Initial Contact Person                       | Phone/Fax                                   | Mailing Address  | Email  |
|---|--|---|--|--|
| <b>Camden County</b>                            | Don Elmer, Coordinator                       | P: 856.783.4808<br>x5420<br>F: 856.782.0466 | Charles J. DePalma Complex<br>Lindenwold, NJ 08021     | <a href="mailto:elmer@camdencounty.com">elmer@camdencounty.com</a>   |
|   | George Martin, Deputy Coordinator            | P: 856.783.4808<br>x5409<br>F: 856.782.0466 | Charles J. DePalma Complex<br>Lindenwold, NJ 08021     | <a href="mailto:gmartin@camdencounty.com">gmartin@camdencounty.com</a>   |
| <b>Cape May County</b>                          | Steve Hampton, Deputy County Administrator   | P: 609.465.6892<br>F: 609-465-6189          | 4 Moore Road<br>Cape May Court House, NJ 08210         | <a href="mailto:shampton@co.cape-may.nj.us">shampton@co.cape-may.nj.us</a>   |
|   | Dale Foster, County Engineer                 | P: 609.465.1035<br>F: 609.465-1418          | 4 Moore Road<br>Cape May Court House, NJ 08210         | <a href="mailto:countyengineer@co.cape-may.nj.us">countyengineer@co.cape-may.nj.us</a>   |
| <b>Cape May County EM Communications Center</b> | Ralph E. Sheets, Jr., Freeholder             | P: 609.463.6570                             | 30 West Mechanic St.<br>Cape May Court House, NJ 08210 | <a href="mailto:mccall@co.cape-may.nj.us">mccall@co.cape-may.nj.us</a>   |
|   | Frank J. McCall, Director                    | P: 609.463.6570<br>F: 609.463.0252          | 30 West Mechanic St.<br>Cape May Court House, NJ 08210 |  |
| <b>Cape May County Prosecutor's Office</b>      | James E. Rybicki, Chief of County Detectives | P: 609.465.1164<br>F: 609.465.4434          | 4 Moore Road, DN-110<br>Cape May Court House, NJ 08210 | <a href="mailto:jrybicki@cmcpros.net">jrybicki@cmcpros.net</a>   |
|   | Jim McGowa                                   | P: 609.465.1135                             | 4 Moore Road, DN-110<br>Cape May Court House, NJ 08210 | <a href="mailto:jmcgowan@cmcpros.net">jmcgowan@cmcpros.net</a>   |
| <b>Cumberland County</b>                        |  |   |  | <a href="mailto:rtaylor@cmcpros.net">rtaylor@cmcpros.net</a>   |
|   | Joe Sever, Coordinator                       | P: 856.455.8770<br>F: 856.455.9515          | 637 Bridgeton Ave.<br>Bridgeton, NJ 08302              | <a href="mailto:josephse@co.cumberland.nj.us">josephse@co.cumberland.nj.us</a>   |
|   | John Laws, Deputy Coordinator                | P: 856.455.8770<br>F: 856.455.9515          | 637 Bridgeton Ave.<br>Bridgeton, NJ 08302              | <a href="mailto:jamesma@co.cumberland.nj.us">jamesma@co.cumberland.nj.us</a>   |
|   | Jim Manski, Deputy Coordinator               | P: 856.455.8770<br>F: 856.455.9515          | 637 Bridgeton Ave.<br>Bridgeton, NJ 08302              |  |
|   | Anthony Bueno                                | P: 856.453.2175                             |  | <a href="mailto:anthonybu@co.cumberland.nj.us">anthonybu@co.cumberland.nj.us</a>   |
|   | Melinda Weisgerber, Deputy Coordinator       | P: 856.455.8770<br>F: 856.455.9515          | 637 Bridgeton Ave.<br>Bridgeton, NJ 08302              | <a href="mailto:melindawe@co.cumberland.nj.us">melindawe@co.cumberland.nj.us</a>   |
| <b>Essex County</b>                             | Armando B. Fontoura, Coordinator             | P: 973.857.3925<br>F: 973.857.8678          | 125 Fairview Ave., Bldg 12<br>Cedar Grove, NJ 07009    | <a href="mailto:ESSEXOEM@aol.com">ESSEXOEM@aol.com</a>   |
|   | Julius Coltre, Deputy Coordinator            | P: 973.395.2572<br>F: 973.857.8678          | 125 Fairview Ave., Bldg 12<br>Cedar Grove, NJ 07009    | <a href="mailto:JColtre@essexsheriff.com">JColtre@essexsheriff.com</a> ,<br><a href="mailto:EssexOEM@aol.com">EssexOEM@aol.com</a> |
|   | Richard Colabelli                            | P: 973.857.3925<br>F: 973.857.8678          | 125 Fairview Ave., Bldg 12<br>Cedar Grove, NJ 07009    |  |
|   |  |   |  |  |

| Unit of Government   | Initial Contact Person   | Phone/Fax                                  | Mailing Address   | Email  |
|--|--|--|---|--|
| <b><i>FEMA Region II, Federal Insurance &amp; Mitigation Division</i></b>                | Bruce J. Swiren,<br>Hazard Identification &<br>Risk Assessment<br>Branch Chief | P: 212.680.3629                            |   | <a href="mailto:bruce.swiren@dhs.gov">bruce.swiren@dhs.gov</a>                   |
| <b><i>Gloucester County</i></b>  | J. Thomas Butts,<br>Coordinator  | P: 856.307.7155<br>F: 856.307.7158         | 1200 North Delsea Dr.<br>Clayton, NJ 08312                                    | <a href="mailto:tbutts@co.gloucester.nj.us">tbutts@co.gloucester.nj.us</a>       |
|  | Len Clark, Deputy<br>Coordinator   | P: 856.307.7155<br>F: 856.307.7158         | 1200 North Delsea Dr.<br>Clayton, NJ 08312                                    | <a href="mailto:leclark@co.gloucester.nj.us">leclark@co.gloucester.nj.us</a>     |
|  | Robert Gould, Deputy<br>Coordinator  | P: 856.589.0911<br>F: 856.307.7158         | 1200 North Delsea Dr.<br>Clayton, NJ 08312                                    |  |
|  | Jack DeAngelo, Deputy<br>Coordinator   | P: 856.589.0911<br>F: 856.307.7158         | 1200 North Delsea Dr.<br>Clayton, NJ 08312                                    | <a href="mailto:jdeangelo@co.gloucester.nj.us">jdeangelo@co.gloucester.nj.us</a> |
| <b><i>Hudson County</i></b>  | Jack Burns,<br>Coordinator   | P: 201.319.3871<br>F: 201.319.3875         | 595 County Ave.<br>Secaucus, NJ 07094   | <a href="mailto:jburns@hudsoncountynj.org">jburns@hudsoncountynj.org</a>         |
|  | Joseph Konopka,<br>Deputy Coordinator  | P: 201.319.3871<br>F: 201.319.3875         | 595 County Ave.<br>Secaucus, NJ 07094   | <a href="mailto:jkonopka@hudsoncountynj.org">jkonopka@hudsoncountynj.org</a>     |
|  | Gerald Drashess,<br>Deputy Coordinator   | P: 201.319.3871<br>F: 201.319.3875         | 595 County Ave.<br>Secaucus, NJ 07094   | <a href="mailto:gdrashess@hudsoncountynj.org">gdrashess@hudsoncountynj.org</a>   |
|  | Jonathan Luk   | P: 201.217.5137                            |   | <a href="mailto:JLuk@hudsoncountynj.org">JLuk@hudsoncountynj.org</a>             |
| <b><i>Humphrey Fellowship Program Bloustein School of Planning and Public Policy</i></b> | Briavel Holcomb,<br>Professor &<br>Coordinator                                 | P: 732.932.4006<br>#688<br>F: 732.932.0934 | 33 Livingston Ave, Suite 100<br>Rutgers University<br>New Brunswick, NJ 08901 | <a href="mailto:holcomb@rci.rutgers.edu">holcomb@rci.rutgers.edu</a>             |
| <b><i>Hunterdon County</i></b>   | George Wagner,<br>Coordinator  | P: 908.788.1196<br>F: 908.782.0057         | 201 Cherryville Rd.<br>Flemington, NJ 08822                                   | <a href="mailto:jail@co.hunterdon.nj.us">jail@co.hunterdon.nj.us</a>             |
|  | William J. Powell,<br>Deputy Coordinator                                       | P: 908.788.1196<br>F: 908.782.0057         | 201 Cherryville Rd.<br>Flemington, NJ 08822                                   | <a href="mailto:bpowell@co.hunterdon.nj.us">bpowell@co.hunterdon.nj.us</a>       |
|  | Frank Veneziale,<br>Deputy Coordinator   | P: 908.788.1196<br>F: 908.782.0057         | 201 Cherryville Rd.<br>Flemington, NJ 08822                                   | <a href="mailto:fveneziale@co.hunterdon.nj.us">fveneziale@co.hunterdon.nj.us</a> |
| <b><i>Mercer County</i></b>  | Dean Raymond,<br>Coordinator   | P: 609.799.8868<br>F: 609.799.7067         | 350 Lawrence Station Rd.<br>Lawrenceville, NJ 08646                           | <a href="mailto:draymond@mercercounty.org">draymond@mercercounty.org</a>         |
|  | Bob Hartman, Deputy<br>Coordinator   | P: 609.799.8868<br>F: 609.799.7067         | 350 Lawrence Station Rd.<br>Lawrenceville, NJ 08646                           | <a href="mailto:bobhartman@mercercounty.org">bobhartman@mercercounty.org</a>     |

| Unit of Government                               | Initial Contact Person                                | Phone/Fax                                      | Mailing Address                                 | Email  |
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| <b>Middlesex County<br/>Emergency Management</b> | Christopher D. Rafano,<br>Freeholder Liaison          | P: 732.745.3506<br>F: 732.745.3110             | New Brunswick                                   |  |
|  | Rory R. Zach,<br>Coordinator                          | P: 732.727.9009<br>Ext 7103<br>F: 732.727.8993 | 1001 Fire Academy Drive<br>Sayreville, NJ 08872 | <a href="mailto:rory.zach@co.middlesex.nj.us">rory.zach@co.middlesex.nj.us</a>         |
|  | John Ferguson, Asst.<br>County Coordinator            | P: 732.727.9009<br>Ext 7104<br>F: 732.727.8993 | 1001 Fire Academy Drive<br>Sayreville, NJ 08872 | <a href="mailto:john.ferguson@co.middlesex.nj.us">john.ferguson@co.middlesex.nj.us</a> |
|  | Jeff Rowland,<br>Volunteer Deputy<br>Coordinator      |  |   |  |
|  | Barry Marcinczyk,<br>Domestic Preparedness<br>Planner |  |   |  |
|  | Lawrence J. Cattano,<br>Bureau Chief                  | P: 732.727.9009<br>Press 1 + Ext<br>7127       | 1001 Fire Academy Drive<br>Sayreville, NJ 08872 |  |
|  | Phyllis Ciszewsk,<br>Secretary                        | P: 732.727.9009<br>Press 1 + Ext<br>7101       | 1001 Fire Academy Drive<br>Sayreville, NJ 08872 |  |
|  | Sherri Carchia-Dailey,<br>Secretary                   | P: 732.727.9009<br>Press 1 + Ext<br>7102       | 1001 Fire Academy Drive<br>Sayreville, NJ 08872 |  |
| <b>Monmouth County</b>                           | Harry Conover,<br>Coordinator                         | P: 732.431.7400<br>F: 732.409.7532             | 300 Halls Mills Road<br>Freehold, NJ 07728      | <a href="mailto:hconover@co.monmouth.nj.us">hconover@co.monmouth.nj.us</a>             |
|  | Gary McTighe, Deputy<br>Coordinator                   | P: 732.431.7400<br>F: 732.409.7532             | 300 Halls Mills Road<br>Freehold, NJ 07728      | <a href="mailto:gmctighe@co.monmouth.nj.us">gmctighe@co.monmouth.nj.us</a>             |
|  | Margaret Murnane,<br>Deputy Coordinator               | P: 732.431.7400<br>F: 732.409.7532             | 300 Halls Mills Road<br>Freehold, NJ 07728      | <a href="mailto:mmurnane@co.monmouth.nj.us">mmurnane@co.monmouth.nj.us</a>             |
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| Unit of Government   | Initial Contact Person | Phone/Fax       | Mailing Address   | Email  |
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| <b>Morris County</b>   | Thomas Zellman,        | P: 973.829.8600 | Courthouse, PO Box 900  | <a href="mailto:tzellman@co.morris.nj.us">tzellman@co.morris.nj.us</a>                 |
|  | Coordinator            | F: 973.829.8604 | Morristown, NJ 07960  |  |
|  | Richard H. Looock,     | P: 973.829.8600 | Courthouse, PO Box 900  | <a href="mailto:rloock@co.morris.nj.us">rloock@co.morris.nj.us</a>                     |
|  | Deputy Coordinator     | F: 973.829.8604 | Morristown, NJ 07960  |  |
|  | Scott DiGiralomo,      | P: 973.829.8600 | Courthouse, PO Box 900  | <a href="mailto:sdigiralomo@co.morris.nj.us">sdigiralomo@co.morris.nj.us</a>           |
|  | Deputy Coordinator     | F: 973.829.8604 | Morristown, NJ 07960  |  |
| <b>New Jersey Board of Public Utilities</b>                    | John Masiello          | P: 973.648.3459 | Two Gateway Center, 8 <sup>th</sup> Floor<br>Newark, NJ 07102 | <a href="mailto:John.masiello@bpu.state.nj.us">John.masiello@bpu.state.nj.us</a>       |
| <b>New Jersey Department of Community Affairs</b>              | Cynthia Wilk           | P: 609.292.7899 | P.O. Box 800<br>Trenton, NJ 08625-0800                        | <a href="mailto:cwilk@dca.state.nj.us">cwilk@dca.state.nj.us</a>                       |
| <b>New Jersey Department of Corrections</b>                    | Kenneth Nelson         | P: 609.292.6042 |   | <a href="mailto:Kenneth.Nelsen@doc.state.nj.us">Kenneth.Nelsen@doc.state.nj.us</a>     |
|  | Joseph Polyi           | P: 609.292.6042 |   | <a href="mailto:Joseph.Polyi@doc.state.nj.us">Joseph.Polyi@doc.state.nj.us</a>         |
|  | James Lutz             | P: 609.292.6042 |   | <a href="mailto:James.Lutz@doc.state.nj.us">James.Lutz@doc.state.nj.us</a>             |
| <b>New Jersey Department of Environmental Protection</b>       | Bob Van Fossen         | P: 609.633.2168 | PO Box 428<br>Trenton, NJ 08625-0428                          | <a href="mailto:Robert.vanfossen@dep.state.nj.us">Robert.vanfossen@dep.state.nj.us</a> |
| <b>New Jersey Department of Health and Senior Services</b>     | Jim Langenbach         | P: 609.341.2008 | PO Box 369<br>Trenton, NJ 08625-0369                          | <a href="mailto:James.langenbach@doh.state.nj.us">James.langenbach@doh.state.nj.us</a> |
| <b>New Jersey Department of Human Services</b>                 | Dennis Dura            | P: 609.633.3967 | PO Box 700<br>Trenton, NJ 08625-0700                          | <a href="mailto:dennis.dura@dhs.state.nj.us">dennis.dura@dhs.state.nj.us</a>           |
|  | William Schaffer       | P: 609.633.8492 | PO Box 700<br>Trenton, NJ 08625-0700                          | <a href="mailto:william.schaffer@dhs.state.nj.us">william.schaffer@dhs.state.nj.us</a> |
| <b>New Jersey Department of Military &amp; Veteran Affairs</b> | Dennis Devery          | P: 609.530.7095 | 131 Eggert Crossing Rd.<br>Lawrenceville, NJ 08648            | <a href="mailto:dennis.devery@us.army.mil">dennis.devery@us.army.mil</a>               |
|  | Lisa Homan             | P: 609.477.8200 | 131 Eggert Crossing Rd.<br>Lawrenceville, NJ 08648            | <a href="mailto:lisa.m.homan@us.army.mil">lisa.m.homan@us.army.mil</a>                 |
|  | Gerald Minchin         | P: 609.530.7064 | 131 Eggert Crossing Rd.<br>Lawrenceville, NJ 08648            | <a href="mailto:gerald.minchin@us.army.mil">gerald.minchin@us.army.mil</a>             |
|  | N. Roy Smith           | P: 609.530.7125 | 131 Eggert Crossing Rd.<br>Lawrenceville, NJ 08648            | <a href="mailto:roy.smith@njdmava.nj.state.us">roy.smith@njdmava.nj.state.us</a>       |
|  | Stephen J. Hines       | P: 609.530.6914 | 131 Eggert Crossing Rd.<br>Lawrenceville, NJ 08648            | <a href="mailto:stephen.hines@nj.ngb.army.mil">stephen.hines@nj.ngb.army.mil</a>       |
| <b>New Jersey Department of Treasury</b>                       | Mike Tyger             | P: 609.633.0813 | State House, 1 <sup>st</sup> Floor<br>Trenton, NJ 08625-0002  | <a href="mailto:michael.tyger@treas.state.nj.us">michael.tyger@treas.state.nj.us</a>   |

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| <i>New Jersey Office of Attorney General</i>     | Thomas Balint Jr.                | P: 609.943.5327                             |  | <a href="mailto:thomas.balint@lps.state.nj.us">thomas.balint@lps.state.nj.us</a>   |
| <i>New Jersey Office of Emergency Management</i> | Mike Augnotyniak                 | P: 609.963.6997                             |  | <a href="mailto:LPPAUGUM@gw.njsp.org">LPPAUGUM@gw.njsp.org</a>   |
| <i>New Jersey State Police</i>                   | John Peacock                     | P: 609.561.1800<br>x3213                    |  | <a href="mailto:Cpp4094@gw.njsp.org">Cpp4094@gw.njsp.org</a>   |
|  | Frank Cuifold                    | P: 609.561.1800<br>x3246                    |  | <a href="mailto:Lpp4032@gw.njsp.org">Lpp4032@gw.njsp.org</a>   |
|  | Rick McDonnell<br>(NJSP-IMU)     |   |  | <a href="mailto:LPP4640@gw.njsp.org">LPP4640@gw.njsp.org</a>   |
|  | Allen Smith (NJSP-OEM)           | P: 609.963.6900<br>x6724                    |  | <a href="mailto:LPPSmithA@gw.njsp.org">LPPSmithA@gw.njsp.org</a>   |
|  | Lance Oram (NJSP-OEM)            | P: 973.227.3072                             |  | <a href="mailto:Oram@gw.njsp.org">Oram@gw.njsp.org</a>   |
|  | Thomas King                      | P: 732.442.8600<br>x7155                    |  | <a href="mailto:LPP3713@gw.njsp.org">LPP3713@gw.njsp.org</a>   |
|  | Patricia Gorman<br>Steve Grillou | P: 609.561.1800<br>P: 732.442.8600<br>x7154 |  | <a href="mailto:LPP5595@gw.njsp.org">LPP5595@gw.njsp.org</a><br><a href="mailto:LPP4109@gw.njsp.org">LPP4109@gw.njsp.org</a> |
| <i>New Jersey Transit</i>                        | Robert Noble                     | P: 973.491.7274                             | 1 Penn Plaza East, 7 <sup>th</sup> Floor<br>Newark, NJ 07105 | <a href="mailto:rnoble@njtransit.com">rnoble@njtransit.com</a>   |
| <i>New Jersey Turnpike Authority</i>             | Elizabeth Johnson                | P: 732.750.5300                             |  | <a href="mailto:bjohnson@turnpike.state.nj.us">bjohnson@turnpike.state.nj.us</a>   |
|  | Cliff Pria                       | P: 732.442.8600                             |  | <a href="mailto:pric@turnpike.state.nj.us">pric@turnpike.state.nj.us</a>   |
|  | Susan Lutin                      | P: 732.750.5300                             |  | <a href="mailto:lutin@turnpike.state.nj.us">lutin@turnpike.state.nj.us</a>   |
|  | Ken McGoldrick<br>(NJTA-GSP)     | P: 732.442.8600<br>x2424                    |  | <a href="mailto:mcgoldrick@turnpike.state.nj.us">mcgoldrick@turnpike.state.nj.us</a>   |
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| Unit of Government   | Initial Contact Person   | Phone/Fax                          | Mailing Address                                   | Email  |
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| <b><i>Ocean County EM</i></b>  | Lt. Michael Osborn,<br>Director  |                                    |   | <a href="mailto:mosborn@co.ocean.nj.us">mosborn@co.ocean.nj.us</a>   |
|  | Rosemarie Chisholm-<br>Cohen, CEM, Deputy<br>Coordinator                             | P: 732.929.2044<br>F: 732.341.9010 | R.J. Miller Air Park<br>Toms River, NJ 08754      | <a href="mailto:rchisholm@co.ocean.nj.us">rchisholm@co.ocean.nj.us</a>   |
|  | Wayne Rupert, Deputy<br>Coordinator  | P: 732.929.2044<br>F: 732.341.9010 | R.J. Miller Air Park<br>Toms River, NJ 08754      | <a href="mailto:wrupert@co.ocean.nj.us">wrupert@co.ocean.nj.us</a>   |
|  | Keith Klements,<br>Deputy Coordinator  | P: 732.929.2044<br>F: 732.341.9010 | R.J. Miller Air Park<br>Toms River, NJ 08754      | <a href="mailto:kklements@co.ocean.nj.us">kklements@co.ocean.nj.us</a>   |
|  | Sheriff William L.<br>Polhemus, EM<br>Coordinator                                    | P: 732.341.3451<br>or 800.331.8152 | R.J. Miller Air Park<br>Toms River, NJ 08754      | <a href="mailto:oceancountyemergencymanagement@co.ocean.nj.us">oceancountyemergencymanagement@co.ocean.nj.us</a> |
|  |  |                                    |   | <a href="mailto:shealey@co.ocean.nj.us">shealey@co.ocean.nj.us</a>   |
| <b><i>Ocean County Sheriff's<br/>Department – Office of<br/>Emergency Management</i></b> | Bob Butkus   | P: 732.341.3451                    | 120 Hooper Ave.<br>Toms River, NJ 08753           | <a href="mailto:rbutkus@co.ocean.nj.us">rbutkus@co.ocean.nj.us</a>   |
|  | Charles Webster  | P: 732.341.3451                    | 120 Hooper Ave.<br>Toms River, NJ 08753           | <a href="mailto:cwebster@co.ocean.nj.us">cwebster@co.ocean.nj.us</a>   |
| <b><i>PA Office of Emergency<br/>Management</i></b>                                      | Ira Forman   | P: 201.595.4694                    |   | <a href="mailto:iforman@panynj.gov">iforman@panynj.gov</a>   |
| <b><i>Passaic County</i></b>   | Robert Lyons,<br>Coordinator   | P: 973.904.3621<br>F: 973.904.3843 | PCCC Public Safety<br>Wayne, NJ 07470             | <a href="mailto:robertl@passaiccountynj.org">robertl@passaiccountynj.org</a>                                     |
|  | Maryann Trommelen,<br>Deputy Coordinator   | P: 973.904.3621<br>F: 973.904.3843 | PCCC Public Safety<br>Wayne, NJ 07470             | <a href="mailto:maryannt@passaiccounty.nj.org">maryannt@passaiccounty.nj.org</a>                                 |
| <b><i>PBS&amp;J</i></b>  | Don Lewis  | P: 850.575.1800<br>F: 850.575.1513 | 1901 Commonwealth Lane<br>Tallahassee, FL 32303   | <a href="mailto:dclewis@pbsj.com">dclewis@pbsj.com</a>   |
|  | Dennis Smith   | P: 850.575.1800<br>F: 850.575.1513 | 1901 Commonwealth Lane<br>Tallahassee, FL 32303   | <a href="mailto:djsmith@pbsj.com">djsmith@pbsj.com</a>   |
| <b><i>Rutgers University</i></b>   | James K. Mitchell,<br>Professor of<br>Geography, Co-Editor:<br>Environmental Hazards | P: 732.445.4103<br>F: 732.445.0006 | 54 Joyce Kilmer Ave.<br>Piscataway, NJ 08854-8045 | <a href="mailto:jmitchel@rci.rutgers.edu">jmitchel@rci.rutgers.edu</a>   |
| <b><i>Salem County</i></b>   | Carl Wentzell,<br>Coordinator  | P: 856.769.2900<br>F: 856.769.4229 | 135 Cemetery Rd.<br>Woodstown, NJ 08908           | <a href="mailto:Carl.Wentzell@salemcountynj.gov">Carl.Wentzell@salemcountynj.gov</a>                             |
|  | John Lake, Deputy<br>Coordinator   | P: 856.769.2900<br>F: 856.769.4229 | 135 Cemetery Rd.<br>Woodstown, NJ 08908           | <a href="mailto:mack.lake@salemcountynj.gov">mack.lake@salemcountynj.gov</a>                                     |

| Unit of Government   | Initial Contact Person  | Phone/Fax                          | Mailing Address                              | Email  |
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| <i>Salvation Army</i>  | Henry Wise  | P: 609.652.6801                    | 4 Gary Road, PO Box 3170<br>Union, NJ 07083  | <a href="mailto:Hwise412@comcast.net">Hwise412@comcast.net</a>                             |
| <i>Somerset County</i>   | LeRoy Gunzelman III,<br>Coordinator   | P: 908.725.5070<br>F: 908.725.5077 | PO Box 3000<br>Somerville, NJ 08876          | <a href="mailto:gunzelman@co.somerset.nj.us">gunzelman@co.somerset.nj.us</a>               |
|  | Tom Bittle, Deputy<br>Coordinator   | P: 908.725.5070<br>F: 908.725.5077 | PO Box 3000<br>Somerville, NJ 08876          | <a href="mailto:bittle@co.somerset.nj.us">bittle@co.somerset.nj.us</a>                     |
|  | Mike Miller, Deputy<br>Coordinator  | P: 908.725.5070<br>F: 908.725.5077 | PO Box 3000<br>Somerville, NJ 08876          | <a href="mailto:millermm@co.somerset.nj.us">millermm@co.somerset.nj.us</a>                 |
|  | Sheriff Robert Untig,<br>Coordinator  | P: 973.579.0380<br>F: 973.579.0389 | Division of Emergency<br>Newton, NJ 07860    | <a href="mailto:runtig@sussexcountysheriff.com">runtig@sussexcountysheriff.com</a>         |
|  | Skip Danielson, Deputy<br>Coordinator   | P: 973.579.0380<br>F: 973.579.0389 | Division of Emergency<br>Newton, NJ 07860    | <a href="mailto:edanielson@sussexcountysheriff.com">edanielson@sussexcountysheriff.com</a> |
| <i>Sussex County</i>   | Mark Vogel, Deputy<br>Coordinator   | P: 973.579.0380<br>F: 973.579.0389 | Division of Emergency<br>Newton, NJ 07860    | <a href="mailto:mvogel@sussexcountysheriff.com">mvogel@sussexcountysheriff.com</a>         |
|  | Ben Laganga,<br>Coordinator   | P: 908.654.9881<br>F: 908.654.9851 | 300 North Avenue East<br>Westfield, NJ 07090 | <a href="mailto:blaganga@ucnj.org">blaganga@ucnj.org</a>                                   |
| <i>Union County</i>  | Chris Scaturo, Deputy<br>Coordinator  | P: 908.654.9881<br>F: 908.654.9851 | 300 North Avenue East<br>Westfield, NJ 07090 | <a href="mailto:cscaturo@ucnj.org">cscaturo@ucnj.org</a>                                   |
|  | Jason F. Miller, P.E.,<br>Chief, Flood Plain<br>Management Services<br>Branch | P: 215.656.6549                    |  | <a href="mailto:jason.f.miller@usace.army.mil">jason.f.miller@usace.army.mil</a>           |
| <i>U.S. Army Corp of<br/>Engineers – Philadelphia<br/>District</i> | Stephen Long  | P: 215.656.6552                    |  | <a href="mailto:stephen.w.long@usace.army.mil">stephen.w.long@usace.army.mil</a>           |
|  | Frank Wheatley,<br>Coordinator  | P: 908.835.2051<br>F: 908.835.2063 | 1024 Route 57<br>Washington, NJ 07882        | <a href="mailto:fwheatley@co.warren.nj.us">fwheatley@co.warren.nj.us</a>                   |
| <i>Warren County</i>   | Pat Rivoli, Deputy<br>Coordinator   | P: 908.835.2040<br>F: 908.835.2063 | 1024 Route 57<br>Washington, NJ 07882        | <a href="mailto:wcoem@co.warren.nj.us">wcoem@co.warren.nj.us</a>                           |

## **2.0 TRANSPORTATION ANALYSIS AND INPUT ASSUMPTIONS**

The hurricane evacuation transportation modeling performed for this study required a number of important data inputs and assumptions regarding anticipated evacuation behavior. All hurricanes differ from one another in some respect. Therefore, it is necessary to set forth clear assumptions about storm characteristics and the expected response from evacuees before this type of transportation modeling can begin. Not only does a storm vary in its track, intensity, and size, but also in the way residents in potentially vulnerable areas perceive it. These factors can cause a wide variance in the behavior of the vulnerable population. Even the time of day at which a storm makes landfall influences the parameters of an evacuation response.

The hurricane evacuation transportation analysis produces clearance times based on a set of assumed conditions and behavioral responses. It is likely that an actual storm will differ from a simulated storm for which clearance times are calculated in this report. Therefore, a sensitivity analysis was performed during the transportation modeling. Those variables having the greatest influence on clearance times were identified and then varied to establish the logical range within which the actual input assumption values may fall.

Key input assumptions guiding the transportation analysis include the following:

1. Identification of Evacuation Zones
2. Housing and Population Data
3. Behavioral Characteristics of the Evacuating Population
4. Roadway Network Assumptions

### **2.1 TRAFFIC EVACUATION ZONES**

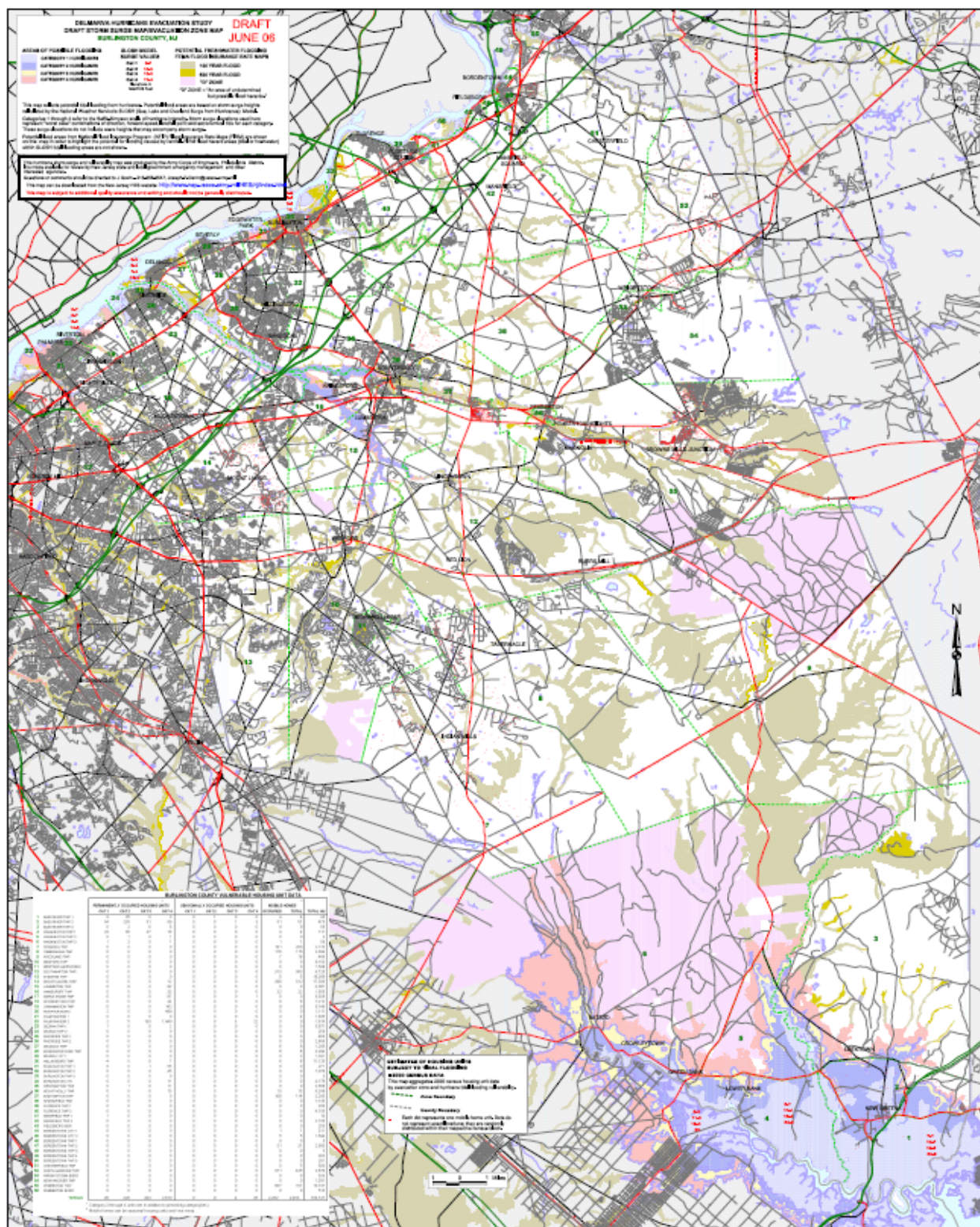
The foundation of the analysis is a system of traffic evacuation zones developed for use by the State of New Jersey and the subject counties by the Army Corps of Engineers. The latest SLOSH model output was mapped against the best available topographic and elevation data for each county. Draft maps of the surge limits by category of hurricane were provided to each county for input into the development of numbered evacuation zones.

Based on an examination of the surge limits, local roadway systems and census tract boundaries, the Army Corps of Engineers followed the approach to delineating evacuation zones most recently used in the Delmarva study area. This approach delineates vulnerability zones by neighborhood or recognizable community but may include areas subject to inundation for different categories of hurricanes. This approach makes it incumbent upon local officials to educate the public about storm surge limits relative to individual communities and encourage local residents to know their elevation above sea level. Figures 2-1 through 2-14 show the numbered evacuation zones and surge areas developed for the study.



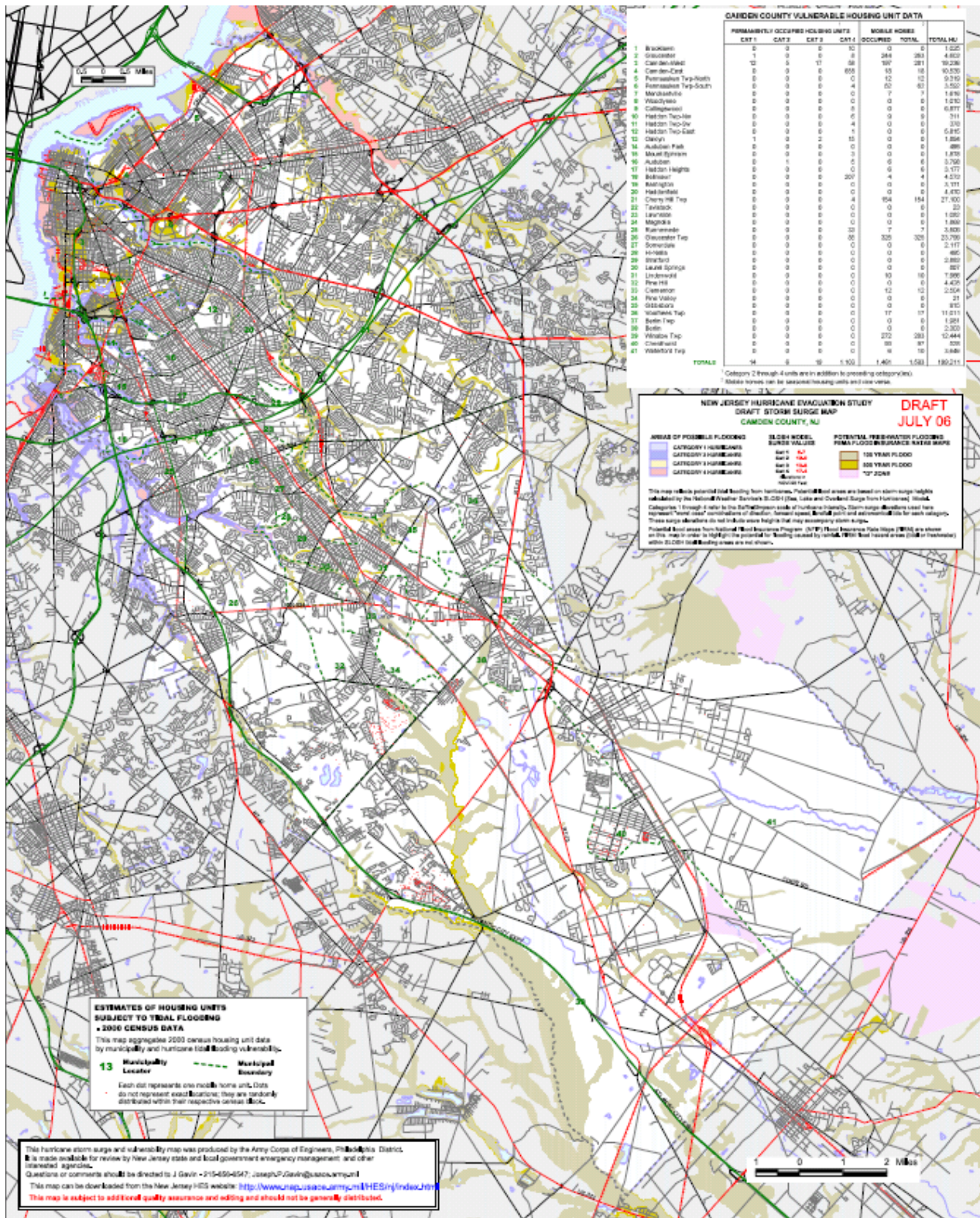
## Traffic Evacuation Zones and Storm Surge Limits

### Southwest Area – Burlington County



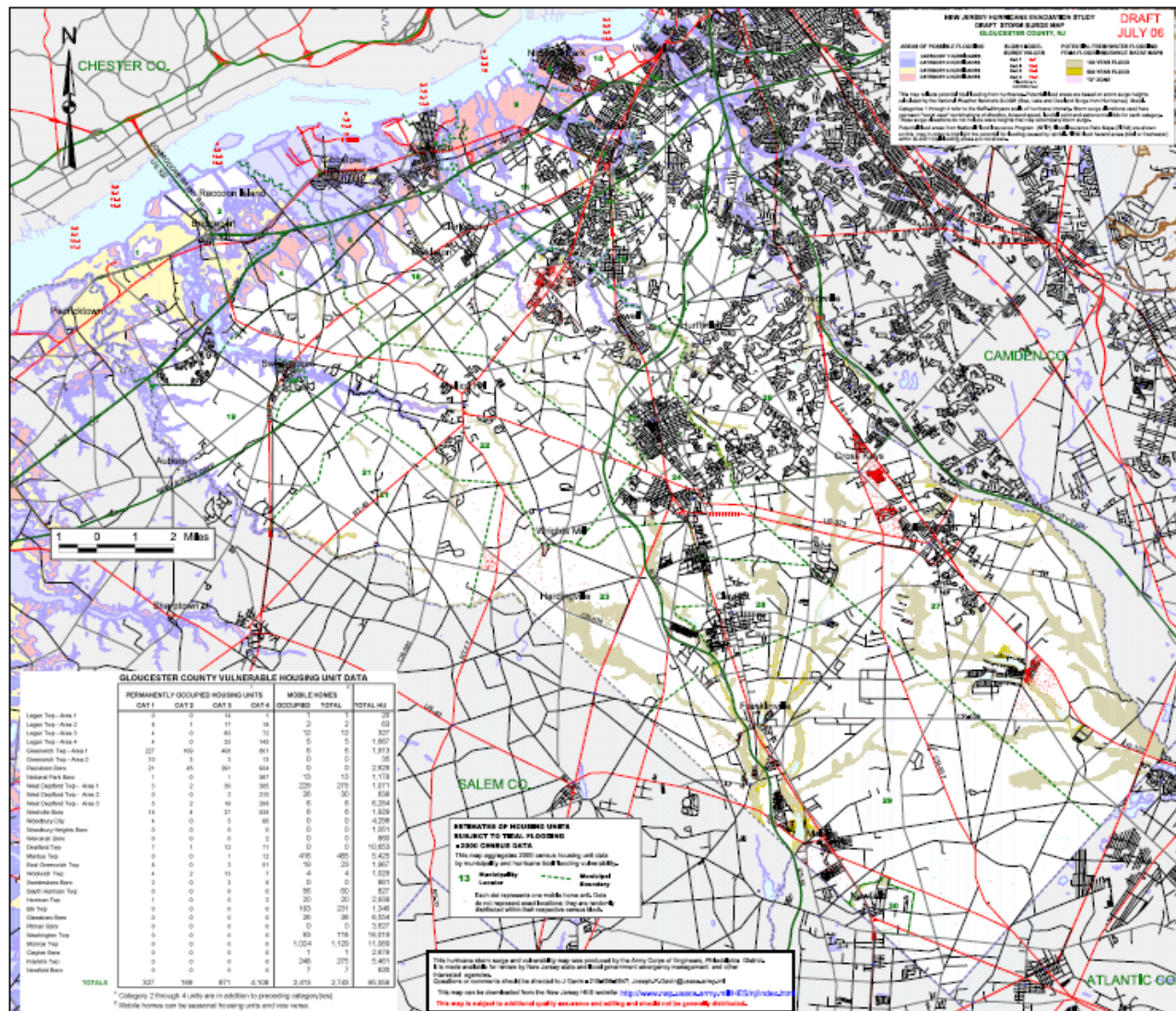


**Figure 2-2**  
**Traffic Evacuation Zones and Storm Surge Limits**  
**Southwest Area – Camden County**



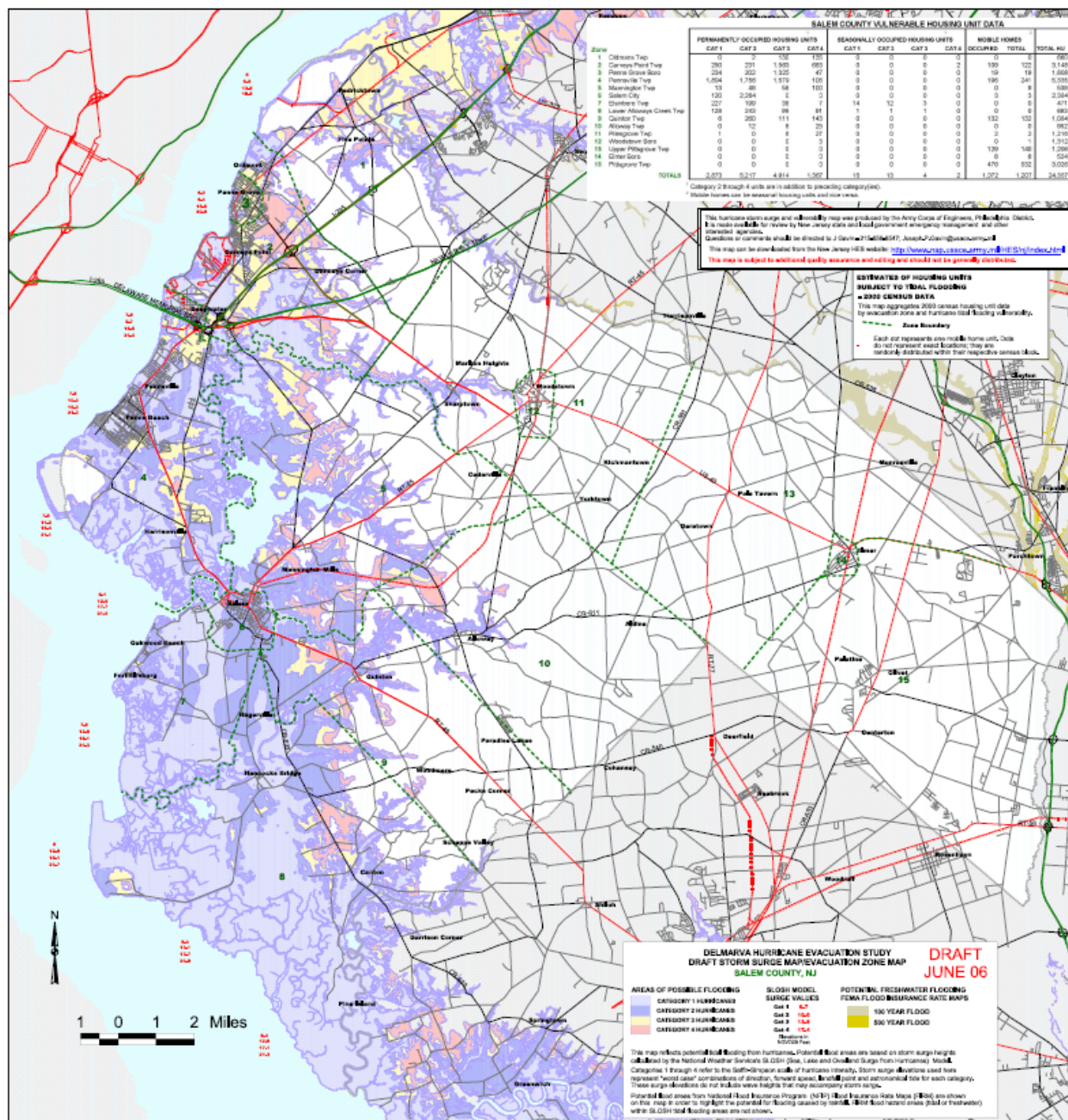


**Figure 2-3**  
**Traffic Evacuation Zones and Storm Surge Limits**  
**Southwest Area – Gloucester County**



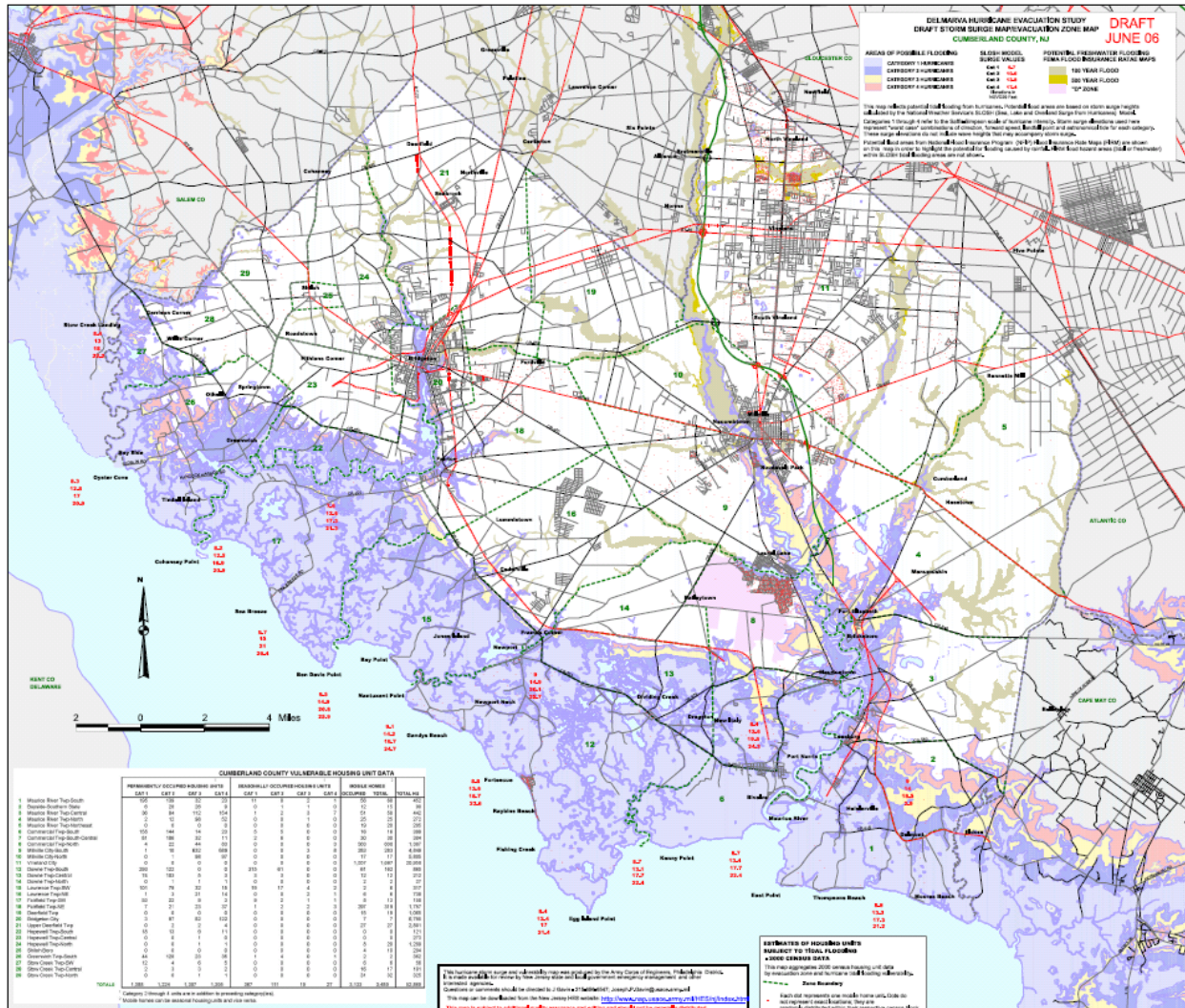


## Southwest Area – Salem County



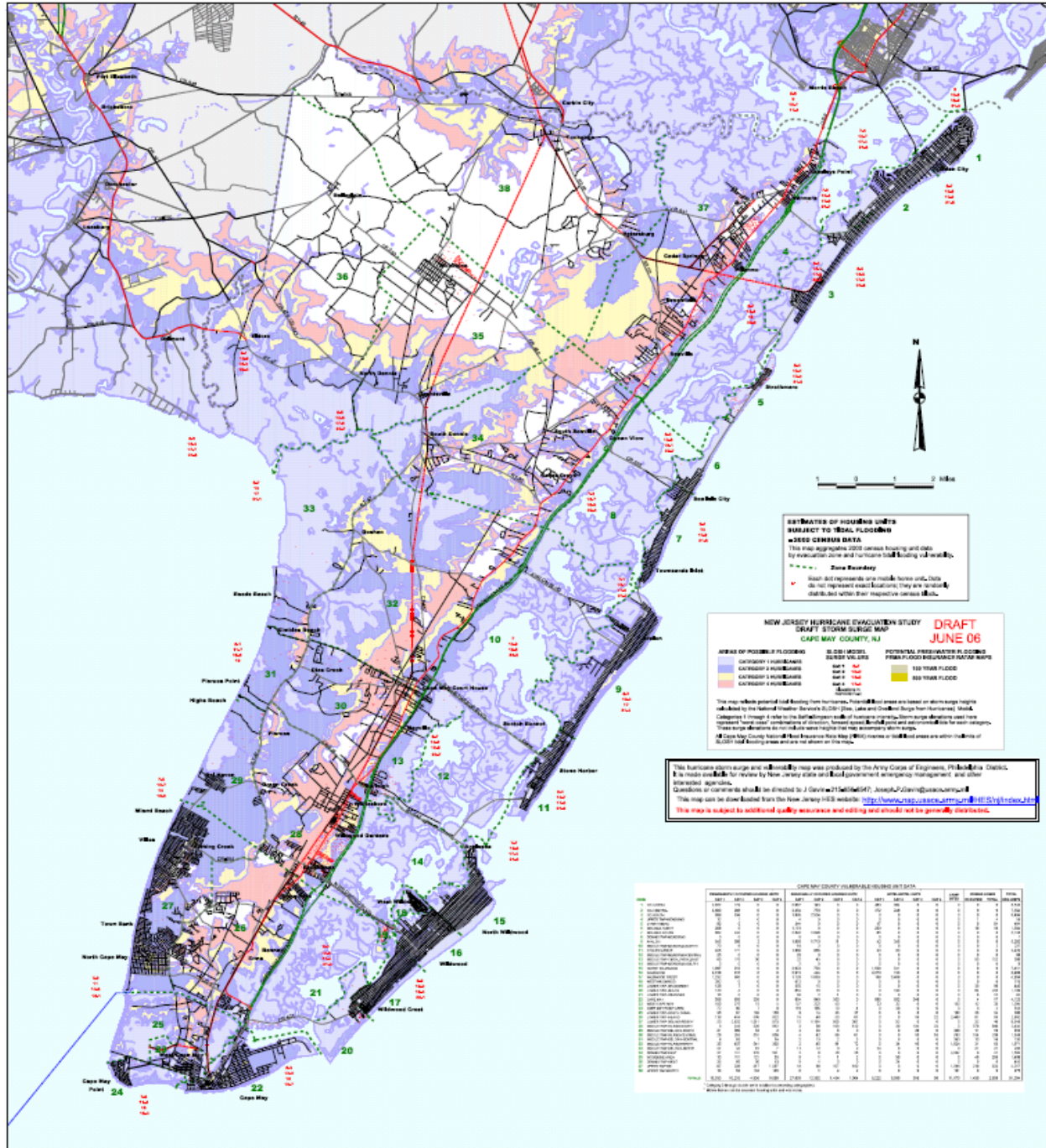


**Figure 2-5**  
**Traffic Evacuation Zones and Storm Surge Limits**  
**Southwest Area – Cumberland County**





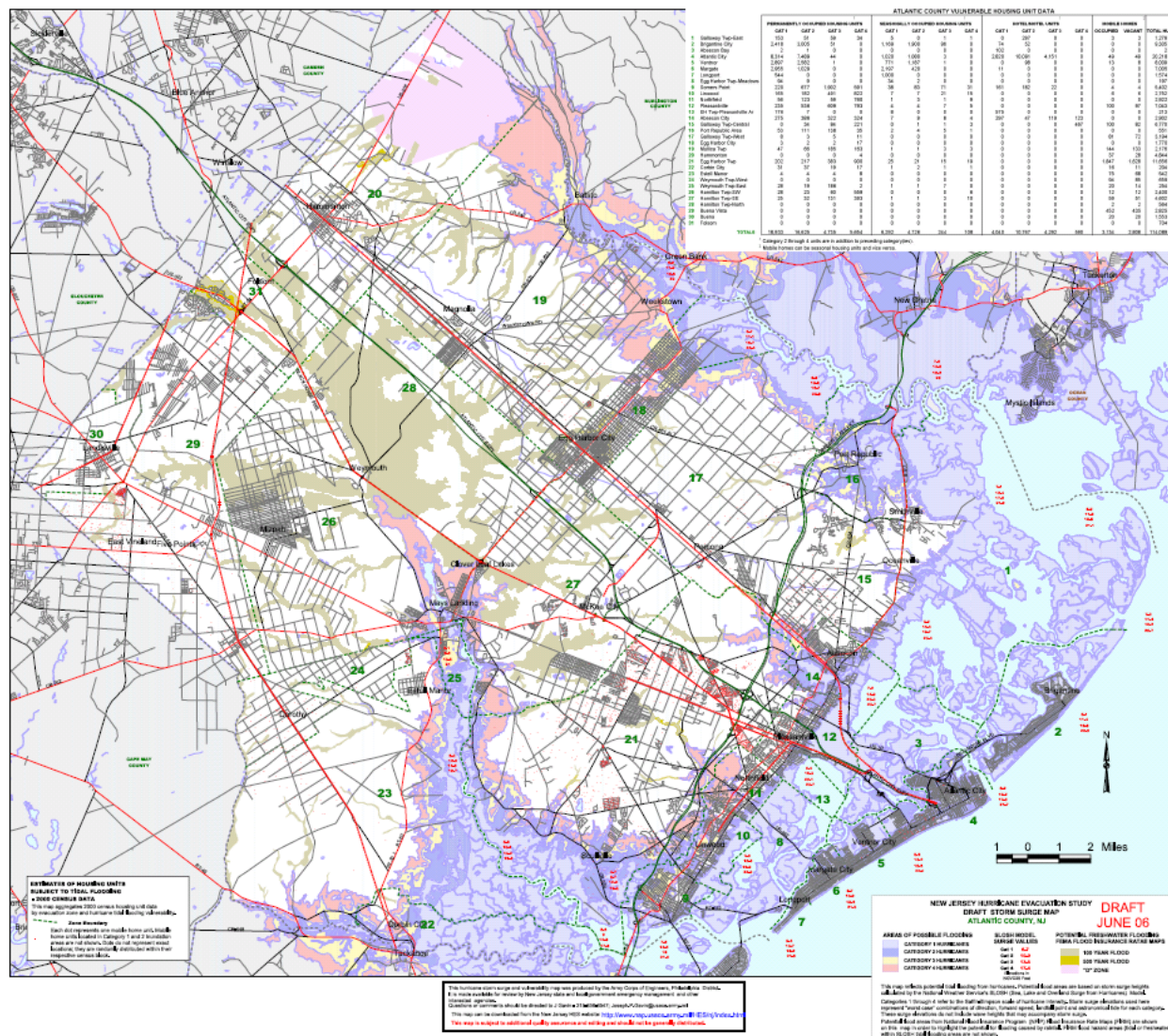
**Figure 2-6**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Atlantic Coastal Area – Cape May County





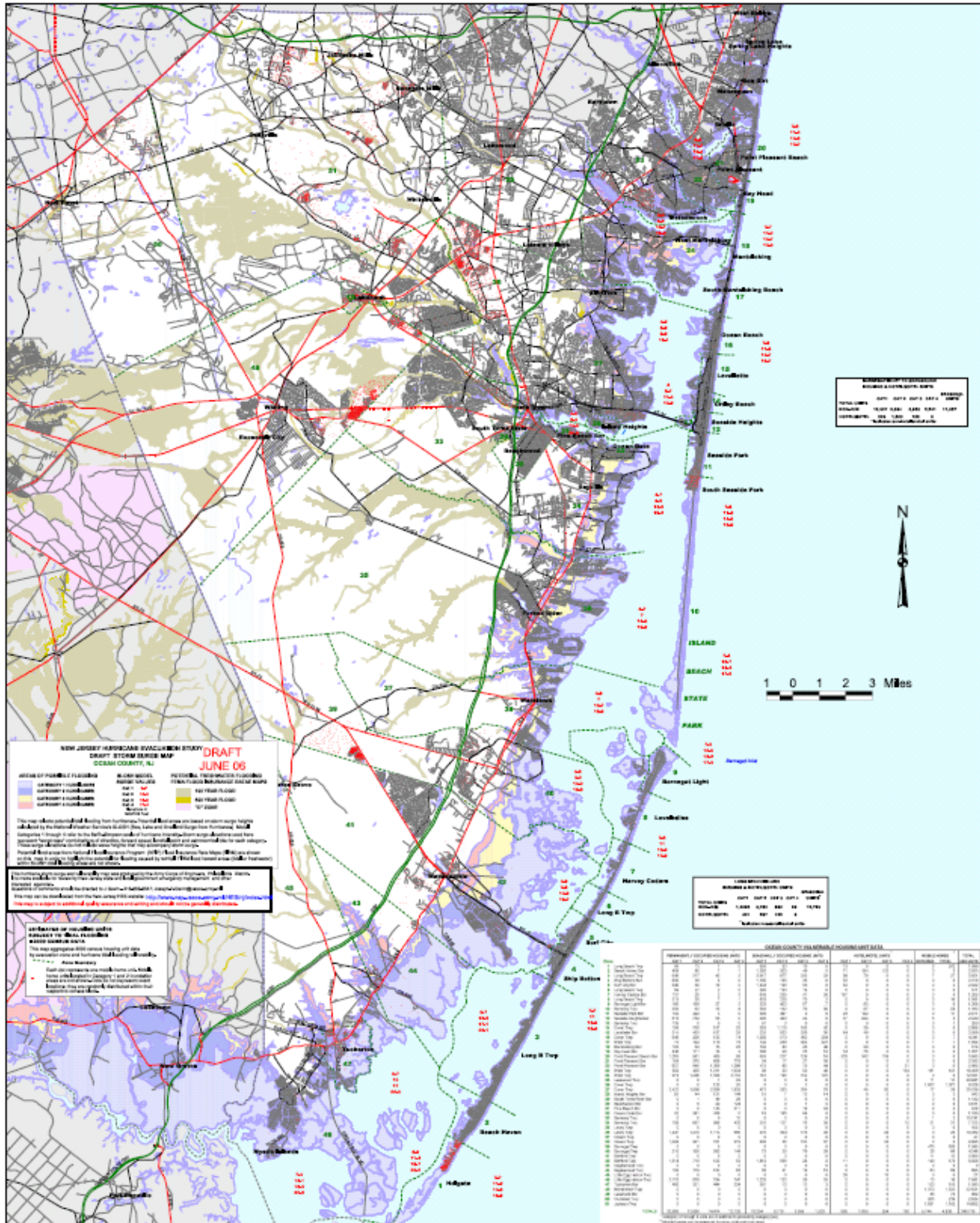
## Traffic Evacuation Zones and Storm Surge Limits

### Atlantic Coastal Area – Atlantic County



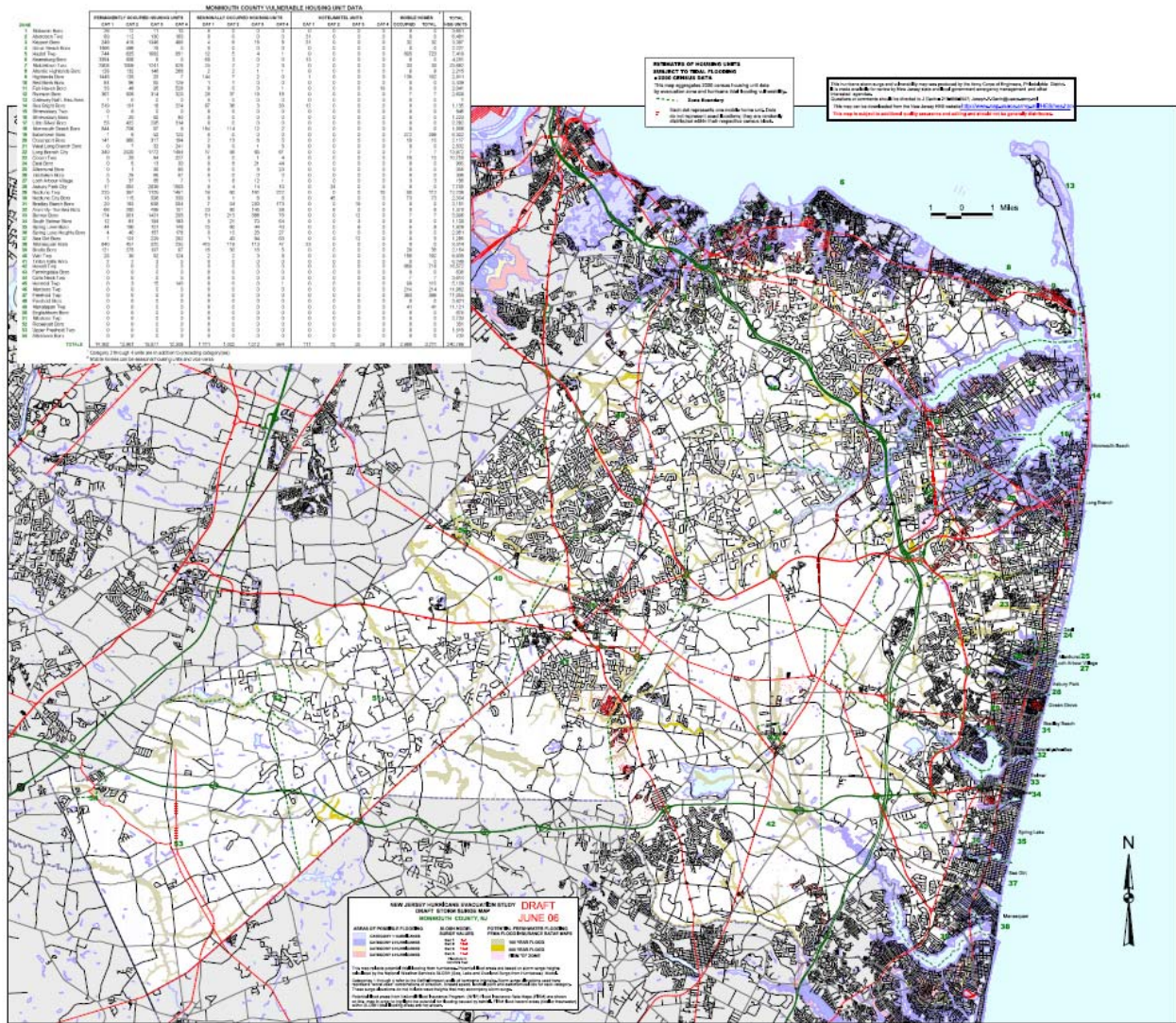


**Figure 2-8**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Atlantic Coastal Area – Ocean County



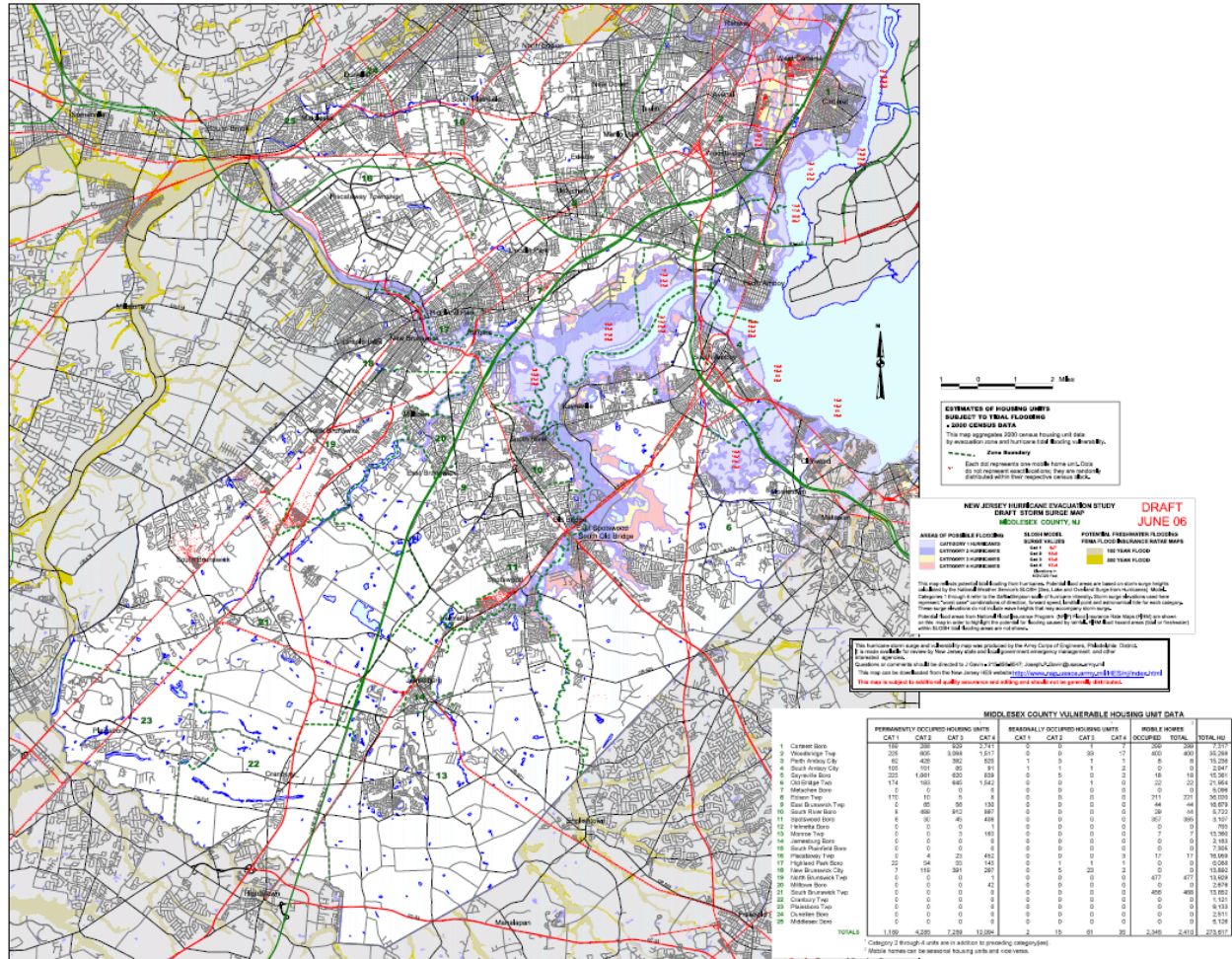


**Figure 2-9**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Atlantic Coastal Area – Monmouth County



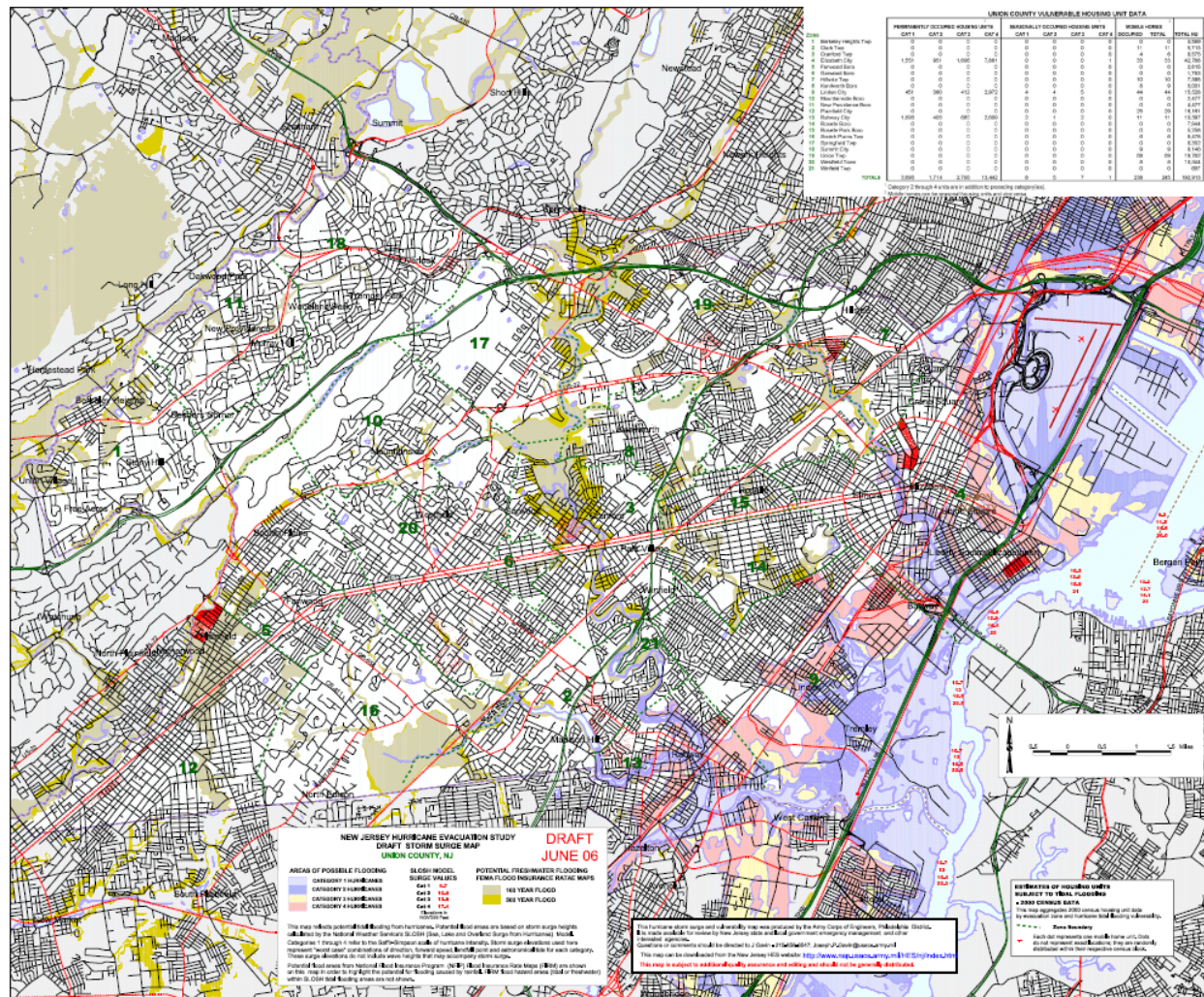


**Figure 2-10**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Northeast Area – Middlesex County



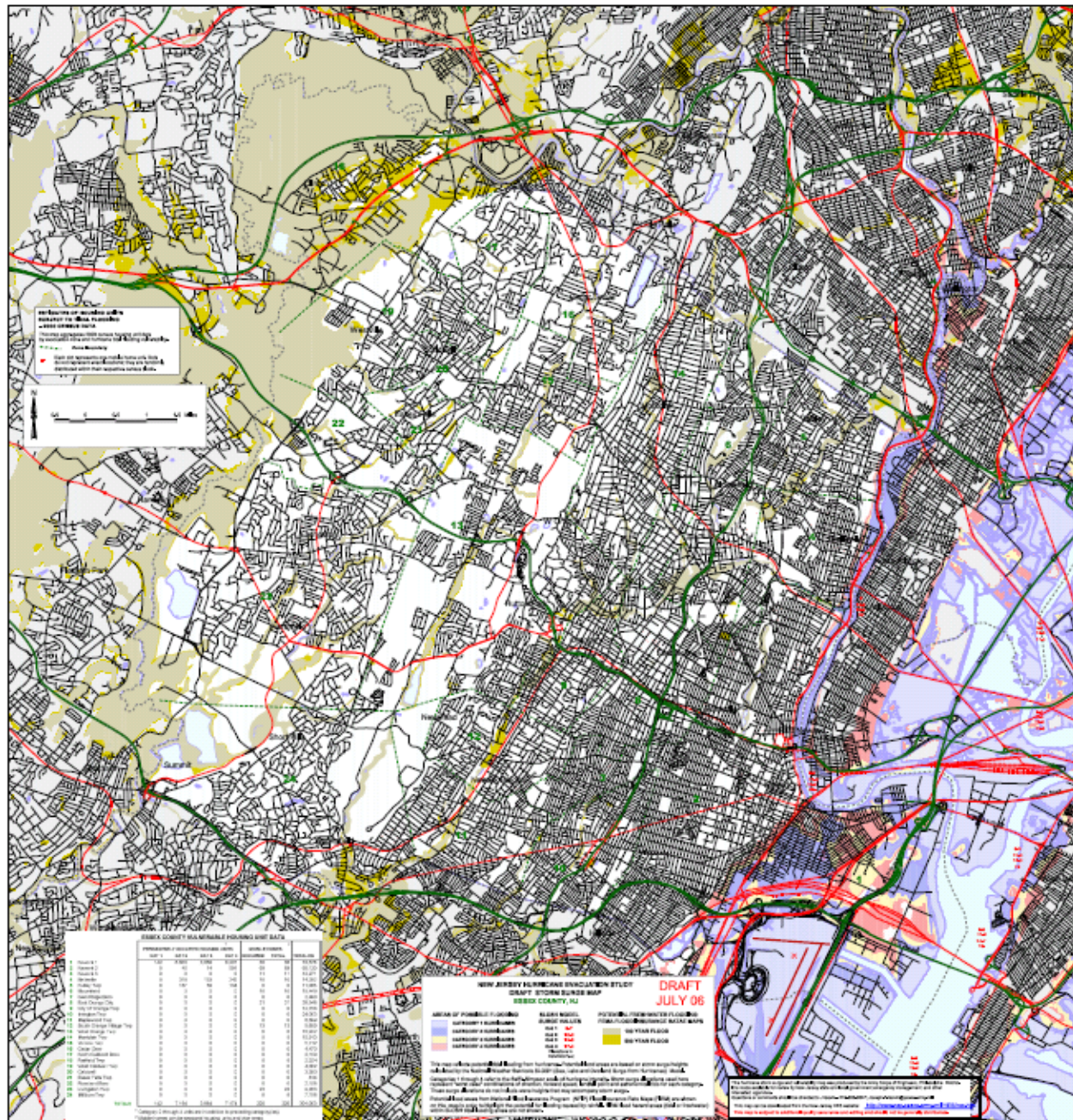


### Northeast Area – Union County



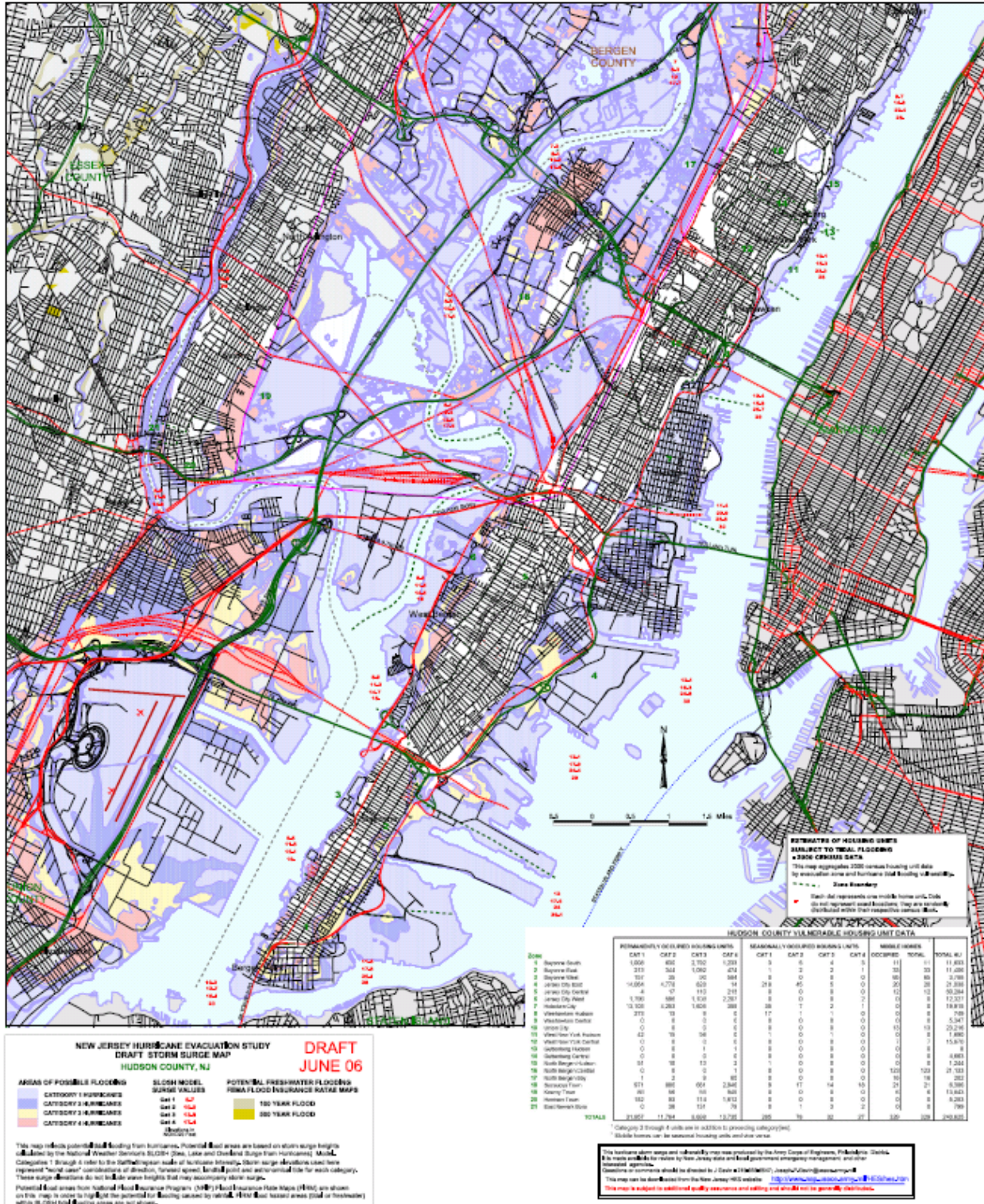


**Figure 2-12**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Northeast Area – Essex County



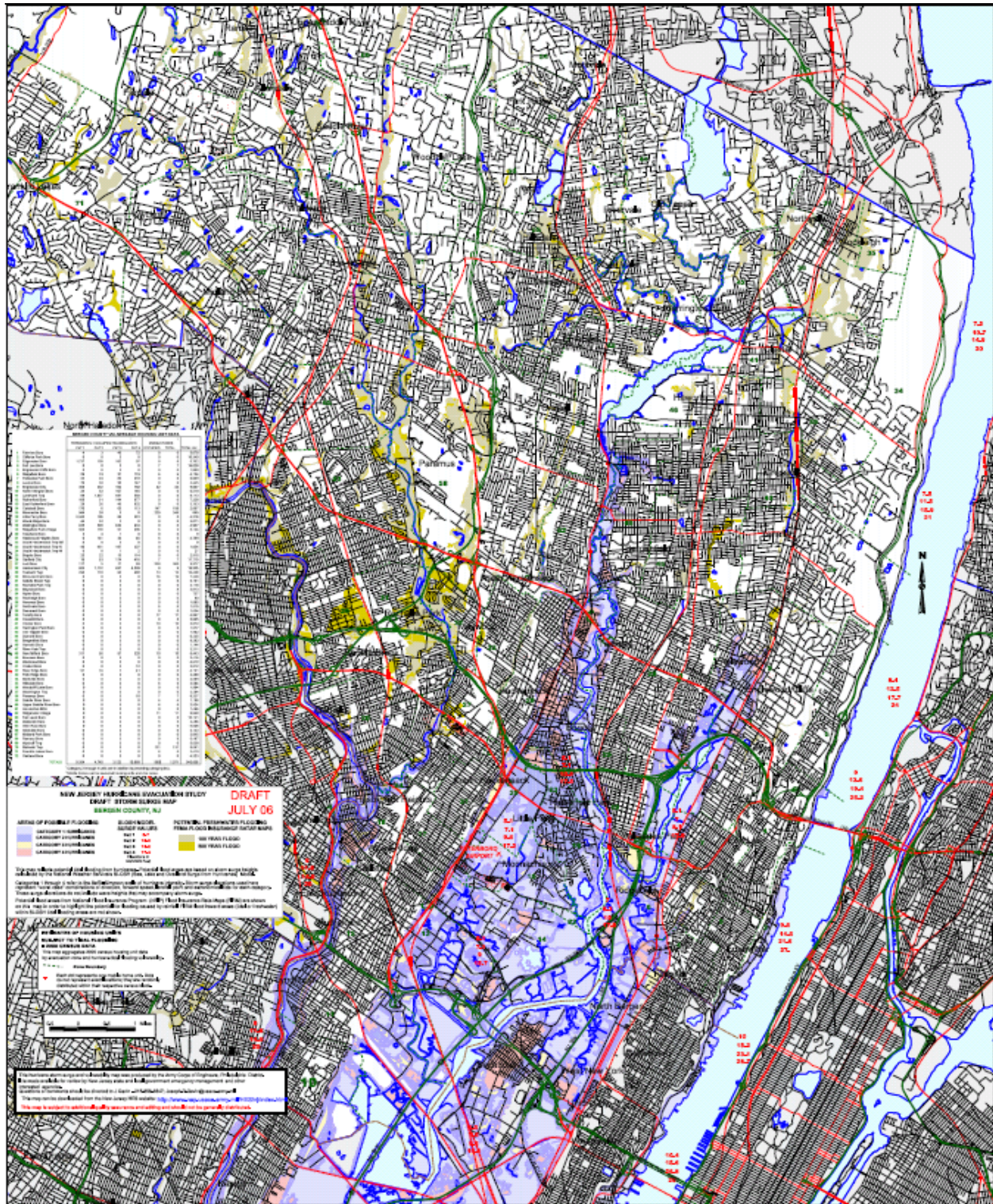


**Figure 2-13**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Northeast Area – Hudson County





**Figure 2-14**  
**Traffic Evacuation Zones and Storm Surge Limits**  
 Northeast Area – Bergen County





## 2.2 SOCIOECONOMIC DATA

Socioeconomic parameters were developed by the Army Corps of Engineers based on 2000 Census data and other available data sources. Separate socioeconomic spreadsheets listing each numbered evacuation zone were developed for those counties that are the principal drivers of an evacuation, including the counties of Cape May, Atlantic, Ocean, Monmouth, and Cumberland. The additional study area counties – Hudson, Salem, Union, Essex and Middlesex are aggregated in a single “North Jersey” spreadsheet (Salem County, although not in North Jersey, is included in this grouping). Passaic and Bergen counties, as they are impacted primarily by evacuation traffic passing through their jurisdictions, are not included in the data entry spreadsheets. Through an extensive process of coordination and interviews with state and local officials these data were vetted and additional data, where appropriate, was added. The Abbreviated Transportation Model (ATM) was developed to allow updates of all demographic data fields.

The abbreviated transportation model includes data on dwelling units, people, vehicles, and tourists for each subject county by numbered evacuation zone. Dwelling units include permanent occupied units, mobile home units and seasonal tourist units. Mobile home units are a subset of permanent occupied units. People include the estimated people per unit for the three types of dwelling units. Vehicles include the estimated vehicles per unit for each of the three types of dwelling units. Tourists include the average percentage of tourists occupying seasonal tourist units in low and high tourist occupancy scenarios.

A complete listing of the socioeconomic data sheets for each county is included in Appendix C.

### Permanent Population Validation

Due to the continuing rapid growth experienced in New Jersey, some stakeholders expressed a concern that demographic data based on the 2000 Census might significantly underestimate population counts and therefore affect clearance time calculations. A data sensitivity analysis was conducted comparing 2000 Census populations with the 2005 population estimates for the primary counties included in the study area. The average rate of change across all of the counties, 3 percent, will have minimal impact on clearance time calculations, even in counties with notable 2000 – 2005 growth. All 2000 based data for study area counties had a variance of less than 10 percent from 2005 population estimates. Since the ATM was developed to allow user inputs, users may adjust data in specific fields based on estimated growth rates as deemed appropriate. Source population validation is presented in Table 2-1, below.

**Table 2-1  
Source Population Comparisons**

**NJ COUNTIES POPULATION COMPARISONS** [1]

| <b>County</b> | <b>[2]<br/>Army Corps ATM<br/>Average People<br/>/ Household</b> | <b>Army Corps ATM<br/>Permanent<br/>Units</b> | <b>[3]<br/>Army Corps ATM<br/>Population<br/>Estimate</b> | <b>[3]<br/>2000<br/>Census<br/>Population</b> | <b>[1]<br/>2005<br/>Population<br/>Estimate</b> | <b>[4]<br/>2005<br/>Percent<br/>Difference</b> |
|---------------|--|---|---|---|---|--|
| Atlantic      | 2.7  | 93,669  | 252,552   | 252,552                                       | 271,015   | -7%  |
| Cape May      | 2.4  | 42,155  | 102,326   | 102,326                                       | 99,286  | 3%   |
| Cumberland    | 3.1  | 47,618  | 146,438   | 146,438                                       | 153,252   | -5%  |
| Essex         | 2.9  | 273,816                                       | 793,633   | 793,633                                       | 791,057   | 0%   |
| Hudson        | 2.6  | 230,551                                       | 608,975   | 608,975                                       | 603,521   | 1%   |
| Middlesex     | 2.8  | 264,936                                       | 750,162   | 750,162                                       | 789,516   | -5%  |
| Monmouth      | 2.8  | 220,552                                       | 615,301   | 615,301                                       | 635,952   | -3%  |
| Ocean         | 2.6  | 198,221                                       | 510,916   | 510,916                                       | 558,341   | -9%  |
| Salem         | 2.7  | 24,189  | 64,285  | 64,285  | 66,346  | -3%  |
| Union         | 3.0  | 171,808                                       | 522,541   | 522,541                                       | 531,457   | -2%  |
|               | 2.8  | 1,567,515                                     | 4,367,129   | 4,367,129                                     | 4,499,743                                       | -3%  |

Notes: 1] Annual Estimates of the Population of Counties of New Jersey: April 1, 200 to July 1, 2005

2] People per household based on county averages from the ATM.

3] Average people per household (times) permanent units from the ATM corresponds with 2000 Census population.

4] Percent differences between the ACE data and the other data sets. **Red** indicates ACE data is less than the comparison set.

## Vehicle Usage Validation

The number of vehicles per permanent unit is derived from the US Census. Through stakeholder review of the draft ATM it was noted that some tourist units in coastal counties at the peak of the tourist season may experience high levels of vehicles. In order to reflect this potential, a weighted average of 1.56 vehicles per tourist unit was calculated to estimate tourists per tourist unit across all numbered evacuation zones. This level of tourist vehicles, on average, accurately reflects the relatively high number of additional vehicles that tourist contribute to the roadway network. These estimations are reflected in Table 2-2, below.

**Table 2-2**  
**Vehicles per Tourist Unit**

| Tourist Unit Type                    | Tourist Unit Capacity | Average Vehicles per Unit | Percentage of Unit types | Weighted Average |
|--------------------------------------|-----------------------|---------------------------|--------------------------|------------------|
| Standard Single Family Hotel / Motel | 1                     | 1                         | 8                        | 8                |
| Standard Single Family Hotel / Motel | 2                     | 1                         | 24                       | 24               |
| Standard Single Family Hotel / Motel | 3                     | 1.1                       | 18                       | 19.8             |
| Standard Single Family House         | 4                     | 1.25                      | 12                       | 15               |
| Standard Single Family House         | 5                     | 1.5                       | 13                       | 19.5             |
| Standard Multi-Family House          | 6                     | 2                         | 13                       | 26               |
| Standard Multi-Family House          | 7                     | 3                         | 8                        | 24               |
| Standard Multi-Family House          | 8                     | 5                         | 4                        | 20               |
| Vehicles / Unit =                    |                       |                           |                          | <b>1.56</b>      |

## Additional Tourist Units

Cape May County requested the inclusion of additional tourist units to reflect the potential for both marinas and campsites to generate evacuation traffic. Source data for campsites and boat slips was provided by the County. Data provided by municipality was proportionately distributed between the numbered evacuation zones included with the specific municipality. Only marinas with bath houses were assumed to account for additional vehicles to avoid double counting. It was assumed that tourists frequenting marinas without bath houses would either represent single day (day tripper) tourists that would not vacation in the event of a storm threat, or longer term tourists staying at other seasonal units. The additional tourist units estimated using this process were included in the Abbreviated Transportation Model. These calculations are reflected in Table 2-3, below.

**Table 2-3**  
**Additional Tourist Units Calculations**  
**Cape May County**

**CAPE MAY COUNTY SOURCE DATA COMPARISONS** [1]

| <b>Municipalities</b> | <sup>[2]</sup><br><b>Dwelling<br/>Units</b> | <b>Hotel / Motel<br/>Units</b> | <sup>[3]</sup><br><b>Campsites</b> | <sup>[4]</sup><br><b>Marina<br/>Slips</b> | <b>Evacuation Zone<br/>ID Numbers</b> | <b>Evacuation<br/>Zone Totals</b> |
|-----------------------|---|--------------------------------|------------------------------------|---|---------------------------------------|-----------------------------------|
| Avalon                | 5,360                                       | 599                            | 0                                  | 146                                       | 9                                     | 1                                 |
| Cape May City         | 4,175                                       | 3,255                          | 0                                  | 200                                       | 22                                    | 1                                 |
| Cape May Point        | 652   | 0                              | 0                                  | 0   | 24                                    | 1                                 |
| Dennis Township       | 2,459                                       | 14                             | 5,400                              | 110                                       | 8, 34, 36                             | 3                                 |
| Lower Township        | 14,447                                      | 268                            | 2,812                              | 2,205                                     | 18, 20, 21, 25-27                     | 6                                 |
| Middle Township       | 8,562                                       | 316                            | 4,140                              | 431                                       | 10, 12-14, 28-33                      | 10                                |
| North Wildwood        | 8,156                                       | 2,302                          | 0                                  | 83  | 15                                    | 1                                 |
| Ocean City            | 20,804                                      | 2,736                          | 0                                  | 70  | 1-3                                   | 3                                 |
| Sea Isle City         | 7,107                                       | 218                            | 0                                  | 159                                       | 6-7                                   | 2                                 |
| Stone Harbor          | 3,431                                       | 233                            | 0                                  | 0   | 11                                    | 1                                 |
| Upper Township        | 5,913                                       | 70                             | 2,417                              | 265                                       | 4, 5, 37, 38                          | 4                                 |
| West Cape May         | 1,047                                       | 14                             | 240                                | 0   | 28                                    | 1                                 |
| West Wildwood         | 799   | 52                             | 0                                  | 96  | 19                                    | 1                                 |
| Wildwood              | 7,278                                       | 4,321                          | 0                                  | 662                                       | 16                                    | 1                                 |
| Wildwood Crest        | 5,444                                       | 4,463                          | 0                                  | 54  | 17                                    | 1                                 |
| Woodbine              | 1,114                                       | 0                              | 538                                | 0   | 35                                    | 1                                 |
| <b>Subtotals</b>      | <b>96,748</b>                               | <b>18,861</b>                  | <b>15,547</b>                      | <b>4,481</b>                              |                                       | <b>38</b>                         |
|                       |   |                                |                                    | <b>896</b>                                | (20% of marinas)                      |                                   |

- Notes:** 1] Relevant portions of the data table from Exhibit A to the Cape May County memorandum (dated March 15, 2007) reviewing Army Corps of Engineers presentation of the draft ATM (dated February 27, 2007) are summarized below.
- 2] Dwelling unit numbers from NJDCA construction records (May include permanent and seasonal dwelling units).
- 3] Camp site numbers from 2005 County Health Department annual report.
- 4] Marina counts from 2006 County Marina Study includes only marinas with bath houses.

## 2.3 BEHAVIORAL ASSUMPTIONS

An evacuation in New Jersey will involve evacuation decision-making by thousands of individuals and households. To determine the magnitude of evacuations in New Jersey, behavioral assumptions were made for residents and tourists in the area. Pursuant to the scope of work for this project, PBS&J reviewed best available previous behavioral analyses, including the study conducted by Hazards Management Group (HMG), which was included in the Delmarva Hurricane Evacuation Study Transportation Analysis (February 2007). This study is included in Appendix D. In addition to this study, PBS&J also reviewed reports on tourist trends to support behavioral assumptions related to tourists including , *The Tourist Satellite Account Perspective*, Global Insight (2006), and *New Jersey FY2005p Visitor Profile*, D.K. Shifflet & Associates, Ltd. (2006). The PBS&J team then used these data sources and nationwide experience to focus the transportation analysis on the following behavioral aspects:

- Participation rates - What percent of the population in different areas will evacuate their dwelling units for future hurricane threats;
- Evacuation response rates - How quickly will evacuees respond to specific protective action instructions from local and or state officials;
- Destination percentages - What percent of the population sub-area will evacuate to local public shelters, local hotel/motels, homes of local friends and relatives, or out of the county entirely; and
- Vehicle usage - Of the vehicles available to evacuating households, what percent of those vehicles will be used in an evacuation.

PBS&J relied on the following sources of input to develop behavioral assumptions by evacuation zone:

- Discussions concerning expected behavioral response with county emergency management staff; and
- National hurricane behavioral trends ascertained by PBS&J and HMG in recent studies.

A great deal of judgment was needed in order to develop the necessary parameters on a zone-by-zone basis. PBS&J has accumulated a wealth of experience in the region (Delmarva and New York) and around the country developing and applying behavioral parameters for evacuation analysis. This experience aided significantly in the process of generating assumptions.

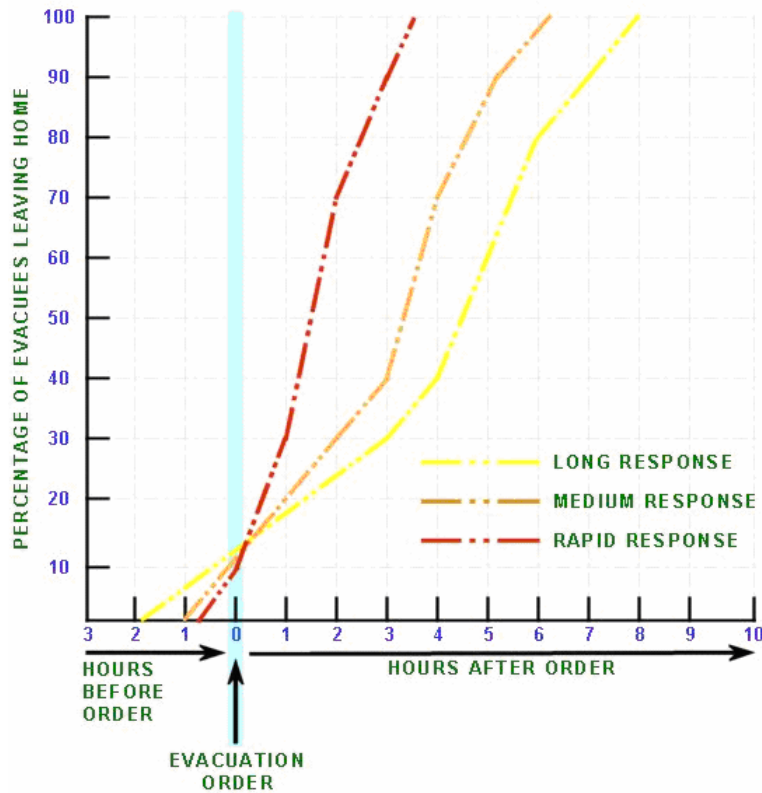
The primary behavioral assumptions made by zone were developed early in the modeling process. The primary participation assumptions are as follows:

- Zones that will be evacuated for storm surge were assumed to have a 100% participation rate. This reflects a mega-participation rate. While responsibly high, these rates reflect a higher shadow participation rate than normally used, and anticipate the potential for fast moving storm events. As a matter of public safety, the clearance times calculated in this study should allow those who are vulnerable to storm surge the opportunity to evacuate whether they choose to or not.
- A portion of the theoretically non-vulnerable population (shadow evacuees) is also assumed to evacuate in the model; in an actual evacuation, the percentages could be higher than the figures used for modeling purposes particularly for more intense hurricanes; this difference however will balance out with less than 100% of surge residents participating in an actual event.
- The mobile home evacuation rate in storm surge vulnerable areas is assumed to be 100 %. In addition, all mobile homes lying in inland zones are assumed to evacuate in Category 3 and 4 events, although in Category 1 and 2 events slightly less than 100% of the residents of mobile homes living outside of the surge risk zones were assumed to evacuate to make the analysis more realistic.

One set of critical behavioral assumptions included in the transportation analysis involves the rapidity of evacuation response by the evacuating population, or establishing how quickly the vulnerable population will respond to an evacuation order or advisory. Behavioral data from past hurricane evacuation research demonstrates that mobilization and actual departures of the evacuating population can occur over a very brief time, or over a period of many hours. To account for this variation, clearance times were tested for three evacuation response rates represented by different behavioral response curves. The response curves in Figure 2-15 reflect rapid, medium and long responses and are designed to include the range of mobilization times that may be experienced in a hurricane evacuation situation.

Figure 2-15

### Evacuation Response Rates



A second essential input into the transportation analysis involved the percentage of evacuees assumed to travel to one of two general destination types by plan. These assumptions include the expected percent of evacuees from each zone traveling to local destinations (such as public shelters, hotel/motel units, the home of a friend or relative) or out of the county entirely. Destination percentages were varied for each traffic evacuation zone in the county depending on the category of risk (distance from the coastline), or special characteristics of a zone such as a high number of mobile home units. Assumptions were also varied for permanent residents versus tourists. One important behavioral aspect built into the rates is that a larger percentage of evacuees will go out of the county for each successive step in storm intensity. In addition, it is assumed that most tourists in all storm events will travel out of county during the evacuation.

The final set of behavioral assumptions concerns vehicle usage rates during an evacuation. Vehicle usage rates pertain to the percentage of vehicles available at the home origin, assumed to be used in the evacuation. New Jersey, unlike many coastal states, has a robust public transportation network. Bus routes serve all of the coastal counties in the study. Major rail links provide significant access to beach communities and tourist destinations in Atlantic and Monmouth counties. Despite the availability of public transit, vehicle usage percentages are relatively high (70% to 80%) for permanent resident and even higher (85% to 95%) for tourists. Any variation in vehicle usage



within storm scenarios relates to the relative risk of storm surge inundation within particular numbered traffic evacuation zones. These assumptions are consistent with other studies along the eastern seaboard of the United States.

Other factors may affect evacuation response rates, including the timing of a hurricane evacuation order. Reaching people when they can be reached is an important factor. Hurricanes are by nature unpredictable. Storms can rapidly intensify or increase their forward motion. Windows of opportunity exist for enhanced or more rapid evacuation responses from the public. During weekdays, evacuation orders issued in the early morning (5 am – 7 am) or during dinner hours (5 pm – 7 pm) may reach a broader audience and result in more rapid responses although during the weekend when less people are at work there may be less of a difference. On any day of the week, the issuance of an evacuation order at 3 am when people are generally asleep may also result in a slower evacuation response rate than one issued at 7 am as people are beginning to start their day. Variations in clearance times for rapid, medium and slow responses to a hurricane evacuation are part of the clearance times estimates included in the report. Clearance times are typically based on a medium response.

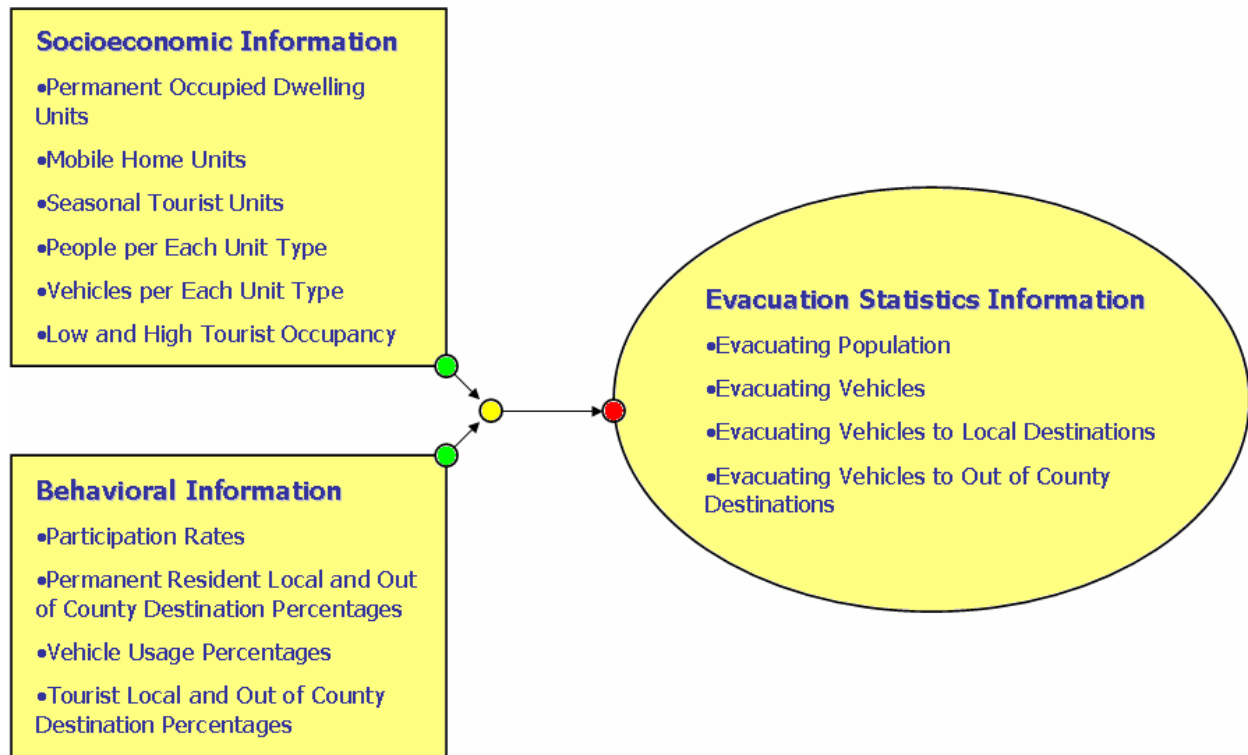
A complete listing of the Behavioral data sheets for each county is included in Appendix E.

## 2.4 EVACUATION STATISTICS

Applying the behavioral assumptions by county, zone and scenario to the socioeconomic data described in Sections 2.2 and 2.3 above yields a number of statistics related to how many people would evacuate, how many vehicles would be used, and how many might seek refuge within the subject county versus evacuating to an out of county destination. Figure 2-16 illustrates and summarizes the key socioeconomic and behavioral assumptions that are combined to produce this information. Appendix F provides a complete listing of the Evacuation Statistics model outputs and tabulations for each county in the study area.

Figure 2-16

### Socioeconomic and Behavioral Inputs to Evacuation Statistics



## 2.5 ROADWAY NETWORK CHARACTERISTICS

A final group of assumptions used for input to the transportation analysis is related to the roadway system chosen for the evacuation network and traffic control measures considered for traffic movement. Although the assumptions developed for the transportation analysis are general, the efforts at the county and municipal level regarding traffic control and roadway selection must be quite detailed. In areas throughout the region most intersections will be controlled by existing traffic signals. However, as resources permit, traffic control officers will be stationed at bottlenecks identified in this study, as well as other local locations of concern. A detailed law enforcement assignment to major bottlenecks involves extensive coordination among local and state officials. This study does not presume to replace those efforts, but seeks to quantify the time elements within such personnel would operate.

Officials from the State of New Jersey and study counties were provided with the opportunity to review draft information regarding the evacuation network maps. A common point of feedback was the need to utilize as many major north and west bound routes as possible. Officials from New Jersey State Police indicated that the evacuation roadway network as proposed would be used, including strategies for reverse lane / contra flow operations along designated segments of State

Route 47 in Cape May County. State and local emergency management officials indicated that there were no current road closures that would affect the evacuation network maps. The roadway network used for the New Jersey Hurricane Evacuation Study is presented in Figure 2-17.

Directional traffic service volumes appropriate for evacuations were established for each link of the evacuation roadway network. This was accomplished by determining number of lanes, facility type, and area type information from highway maps available from state and local government officials, as well as "field checks" performed by PBS&J. Tables were then used to specify a directional evacuation service volume based on link characteristics. The primary link characteristics used were number of lanes by direction and facility type. Figure 2-18 shows the year 2007 directional service volumes for bottlenecks and critical roadway segments used for the evacuation clearance time analysis for New Jersey.

Important assumptions concerning the evacuation road network for the analysis that must be mentioned are:

- The evacuation of all vehicles will occur prior to the arrival of sustained tropical storm force winds (39 mph) and storm inundation of evacuation routes.
- Provisions will be made for the removal of vehicles in distress on the network through aggressive incident management and agreements with tow truck operators.

Figure 2-17

New Jersey Evacuation Roadway Network Map

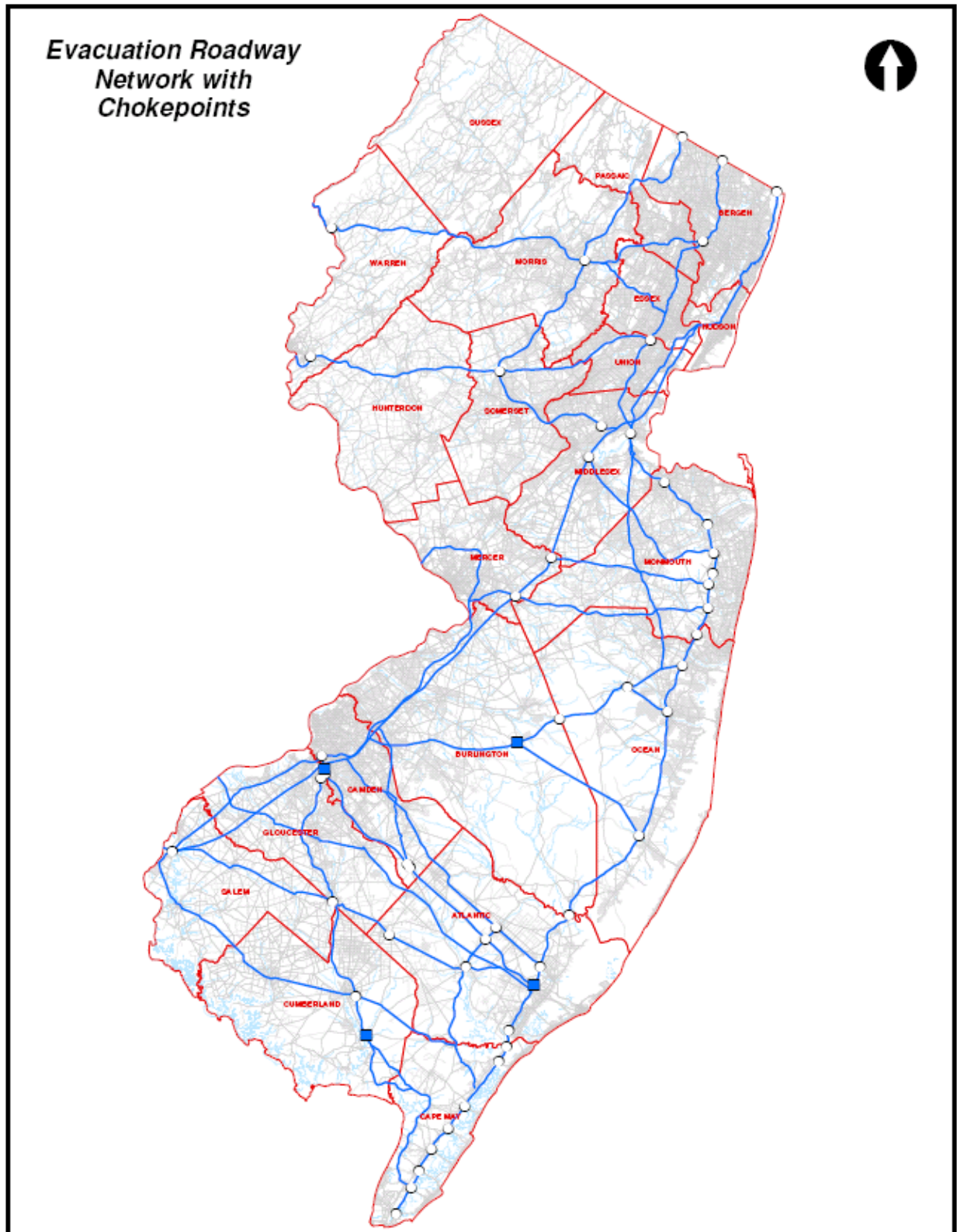
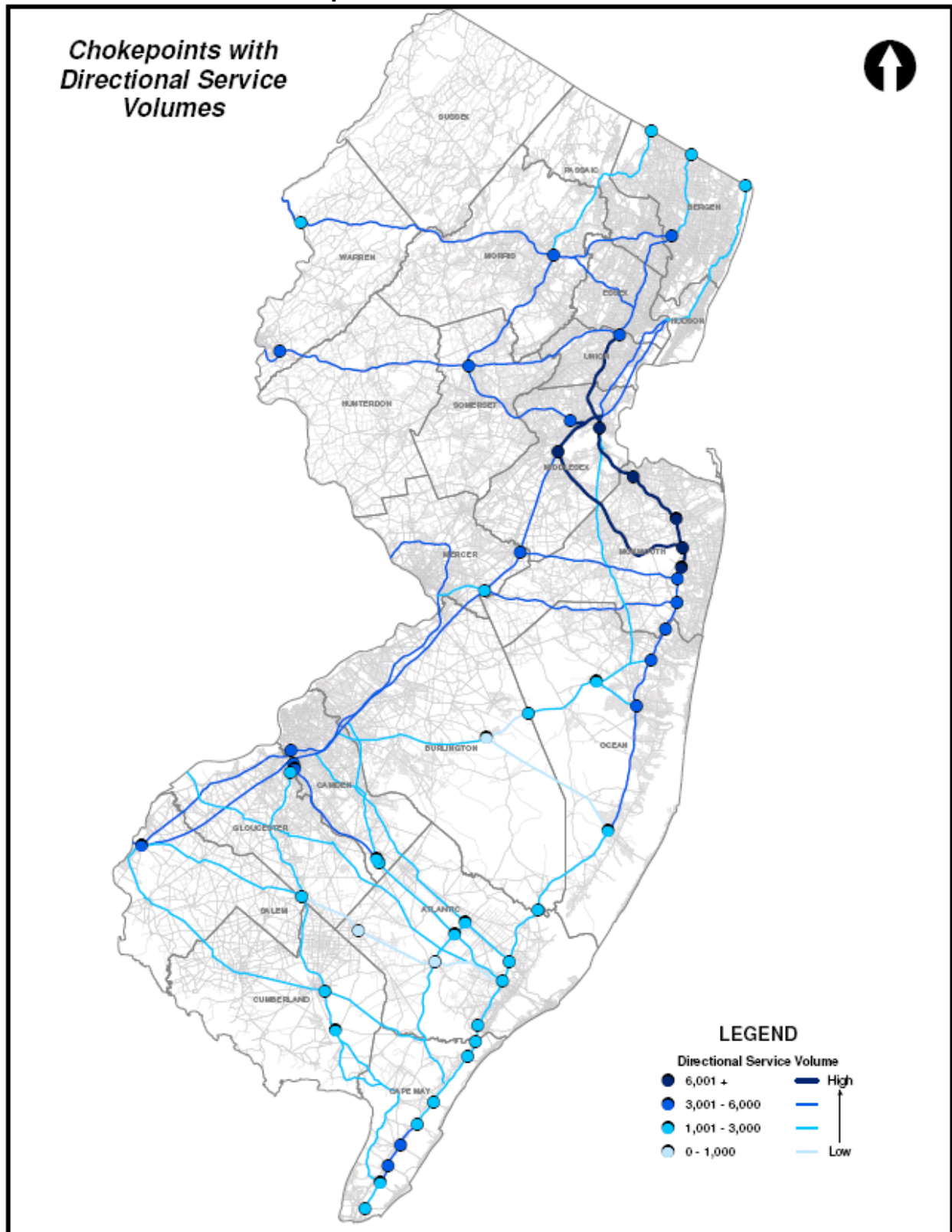


Figure 2-18

Map of Directional Service Volume



### 3.0 EVACUATION CLEARANCE TIME MODEL APPLICATION

The model tool developed for this study is an Abbreviated Transportation Model, or ATM. The ATM allows for users to modify key input parameters to test alternative evacuation scenarios. The modeling process, using the inputs and assumptions discussed in Section 2, produced several key data items and forecasts for hurricane evacuation planning and preparedness, including:

- Evacuating people and vehicle statistics by evacuation zone by storm scenario;
- Traffic volumes and critical roadway segments by scenario; and
- Estimated clearance times by scenario.

Although an extensive amount of data is generated through the transportation analysis, the items listed above constitute the most critical outputs for planning relative to anticipating bottlenecks and defining the timing constraints of an evacuation.

#### 3.1 CLEARANCE TIME MODEL DESCRIPTION

The general philosophy supporting all of PBS&J's hurricane evacuation clearance time work around the country is that the analysis must be technically complex enough to produce reliable estimates of hurricane evacuation clearance times, yet clear enough for the emergency management community to be able to review key modeling assumptions and products. A brief overview of the steps in the modeling process and a description of the computer program framework used in the modeling steps are discussed in this section.

The key modeling steps used in the analysis are as follows:

- Development of Evacuation Zones and Data - Identifies who is vulnerable and who is evacuating;
- Trip Generation - Calculates how many evacuees will move for a particular plan;
- Trip Distribution - Determines where evacuees will go;
- Development of Evacuation Road Network –
  - Establishes which roads can be used for evacuation; and
  - Quantifies the carrying capacity of each evacuation roadway segment; and
- Trip Assignment - Determines what route(s) evacuees will use to get from their point of origin to their destination.
- Calculation of Clearance Time - Determines how much time it will take for all evacuees to clear the evacuation network

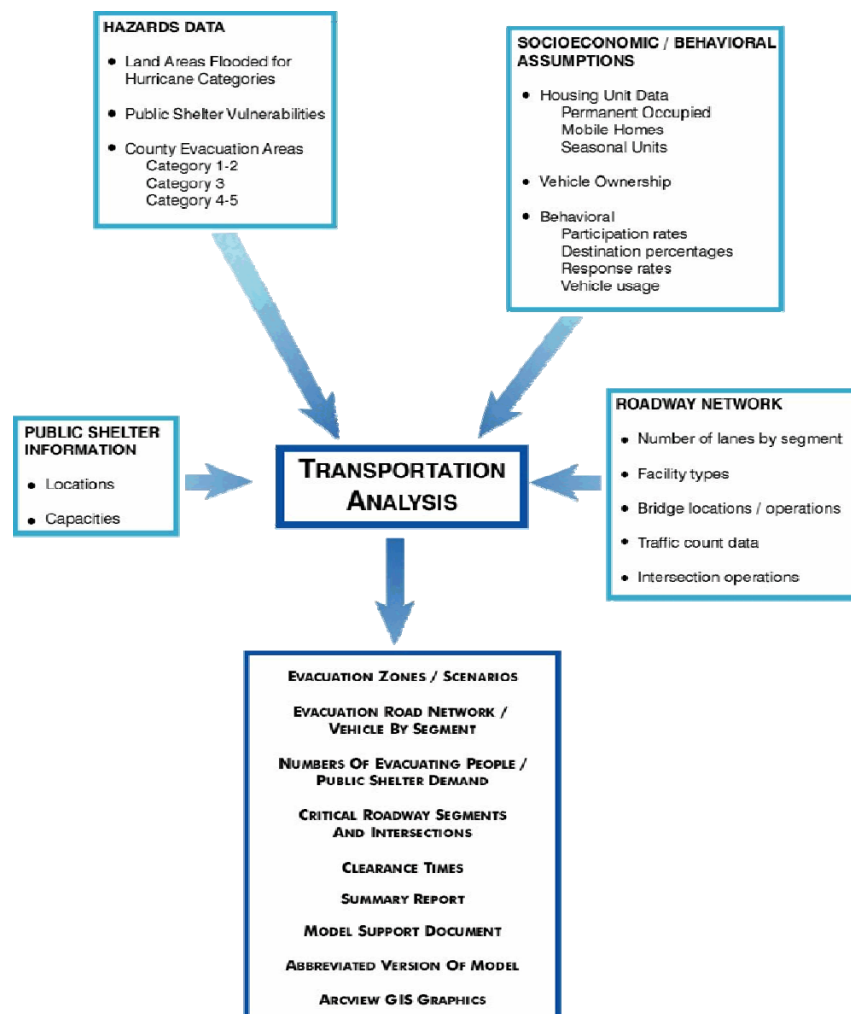
PBS&J developed an in-house set of PC-based applications to facilitate the transportation modeling steps described above. The programs are prepared in a Microsoft Office Excel 2003 environment and were originally developed in the early 1990's by PBS&J. The model was updated dramatically in 2000. As part of the deliverables for this study PBS&J will provide local governments, state agencies, FEMA, and the USACE with the ATM that will allow them to retroactively adjust route capacity and demographic or behavioral inputs by county. This abbreviated model is designed to facilitate analysis of the clearance time impacts caused by growth, development and other changes to evacuation related characteristics in the modeled counties and regions.

One important aspect of operating in the Excel environment for this study is the ability to import compatible data files directly into the program. In addition, the outputs of other programs are easily captured and exported to ArcView GIS for displays and mapping. Overall, the use of GIS by PBS&J significantly enhanced the process of technical data development and documentation in the study.

The major inputs and outputs of the overall process are illustrated in Figure 3-1.

**Figure 3-1**

### **Clearance Times Model Process**





### 3.2 VARIABLE ACCURACY AND CONFIDENCE LIMITS

The accuracy of the clearance times included in this report are limited by the best available data and the levels of confidence associated with other data used in developing the components of a hurricane evacuation study, such as the hurricane evacuation zone maps and the transportation evacuation network. Efforts have been made to obtain the best available input data. This data has been compared, where possible, to data obtained or derived from other sources to assure that they are in the correct range. Reasonable variations in demographic inputs, such as those outlined in Section 2.2, will have relatively minor impact on clearance times, although some changes should be expected. While the accuracy of the clearance times included in this report is supported by years of experience by PBS&J in estimating clearance times, this section identifies the accuracy limits of the various inputs. Even though inputs to PBS&J's modeling process have inherent inaccuracies, post storm studies for actual hurricane evacuations have shown that typically PBS&J's calculations are within 10 percent of the actual experienced clearance time.

In this Hurricane Evacuation Study, PBS&J was provided with a series of evacuation zones by the Army Corps of Engineers that closely approximates the SLOSH model surge flooding results. The SLOSH model, as an example, is accurate to  $\pm 20$  percent. PBS&J also relies on behavioral expert documents that are based on surveying a sample of the public before and after storms to ascertain what their behavior may be. These behavioral studies usually provide results that are  $\pm 8$  percent of the actual values that would be derived if an entire population, rather than a sample, was surveyed. Even if an entire population was to be surveyed, in a given storm people may sometimes act in ways different than what is expected by the experts. In addition, Census data and locally-generated housing unit counts are most likely no more accurate than  $\pm 10$  percent. Finally, roadway service volumes fluctuate greatly during an evacuation sometimes varying by as much as 30 percent less than theoretical maximum.

PBS&J also conducted a number of internal checks to provide substantiation for a range of assumptions included in this study. The comparison of demographic data conducted in Section 2.2 demonstrated that localized population growth occurring subsequent to the base year data will vary by 3 percent on average, a figure that will have limited impact on clearance time calculations. Regarding evacuating traffic, PBS&J researched a number of different reference sources on tourist data. The amount of traffic attenuation (evacuees ending their evacuations within the state) as well as the traffic routed out of the state matches this data very closely and is highlighted in Section 3.6. Finally, while PBS&J uses the specific methodologies described herein to calculate clearance times, we reviewed a clearance time generated for Cape May County by the New Jersey Institute of Technology event as part of their analysis of lane reversal reverse of Route 47. PBS&J, at the request of Cape May County and as part of our sensitivity analysis conducted an alternative clearance times assessment for Cape May County presuming full evacuation in all storm scenarios. In that evaluation, the maximum clearance time for Cape May County at Route 47 – Port Elizabeth in a Category 2, high tourist occupancy, long response is 23.8 hours. In the same storm scenarios, using an alternate methodology, the NJIT time corresponding to the same bottleneck is 24.5 hours, a difference of less than 45 minutes.



### 3.3 EVACUATING PEOPLE AND VEHICLES BY PLAN

Using the trip generation module of PBS&J's Abbreviated Transportation Model, total evacuating people and vehicles produced by each evacuation zone were calculated and split by general destination type (trip purpose). The two general destination types are: in- and out-of- county. This was accomplished for the various storm intensities and for two levels of assumed tourist occupancy. Low tourist occupancy was assumed to be 20 percent and high tourist occupancy was assumed to be 80 percent.

The number of people involved in an actual evacuation will likely total less than the assumed 100 percent participation rate of people from units in storm surge vulnerable areas and mobile homes for each evacuation scenario. Even with door-to-door evacuation notification, it will be difficult to convince all who should leave to do so, even for the most intense storm threats. Participation rates in tropical storm/weak Category 1-2 hurricanes can be quite low even in potential surge areas. Conversely, for Category 3 and 4 hurricanes, continual coverage on the Weather Channel and other media outlets will tend to cause high participation rates from residents that local officials would rather have stay in county, or shelter in place. The recent memory of Hurricane Katrina – even though the storm occurred far from New Jersey – will likely play a role in increasing expected participation rates.

### 3.4 PUBLIC SHELTER DEMAND/CAPACITY CONSIDERATIONS

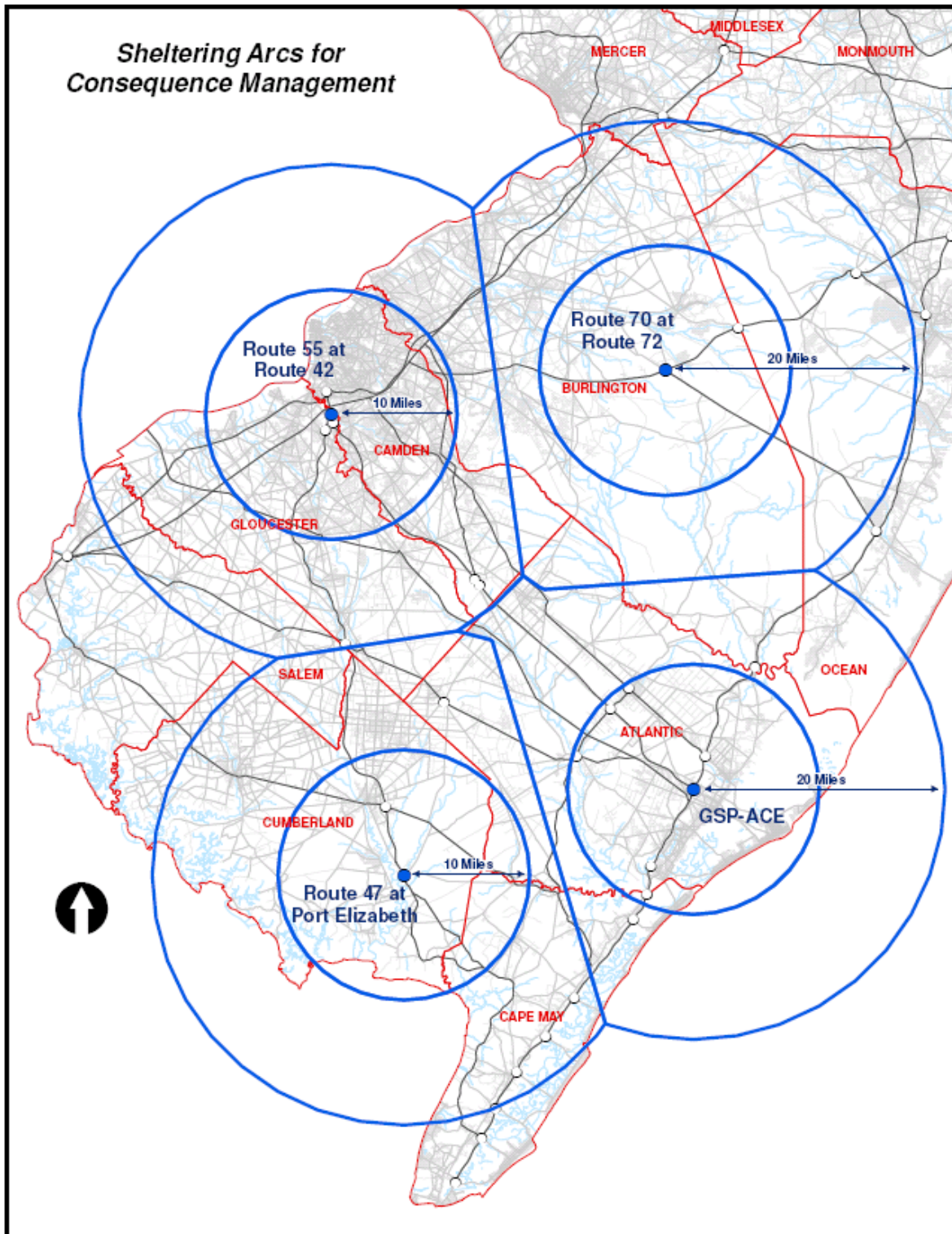
A crucial aspect of hurricane evacuation planning involves the coordination of shelter locations and capacity to meet the shelter demand of evacuees in any given storm plan. Depending upon actual behavioral response, the regional shelter capacity varies between counties in relation to shelter demand. While this Hurricane Evacuation Study does not include an evaluation of shelter demand, the Consequence Management Module described in Section 4 includes a sheltering component.

Available shelter data was provided to PBS&J through the State of New Jersey to assist in developing the Consequence Management Module. The shelter data was derived from preliminary surveys conducted by the State and FEMA. PBS&J took this data and identified shelters within a 10 and 20 mile radius of four designated consequence management points. Based on review comments from Cape May County, it was noted that no shelters are available in-county and any facility identified on the State list was subsequently removed from the analysis.

The Consequence Management Module distributes traffic cued at each of the four consequence management points to shelters in a 10 and 20 mile radius. Users can define available capacity, which is set at 100 percent, as well as density (square feet of sheltering space available per person). The analysis looked at both official ARC capacity as well as host capacity shelters. The ARC capacity captures only those shelters that would meet the safety standards employed by the American Red Cross. The host capacity reflects all additional facilities that might be able to be used as shelters. For the purposes of consequence management, a density of one person per 40 square foot was utilized, although in catastrophic events this factor could reduced to as much as 20 square foot of shelter space per person – which would admittedly be close quarters. The sheltering arcs used for consequence management are illustrated in Figure 3-2.

Figure 3-2

Shelter Arcs of Consequence Management



The purpose for the sheltering component of the Consequence Management Module is to provide decision makers with an opportunity to see on an hour by hour basis how many vehicles are cued behind a specific consequence management point. The assumption is that if an evacuation was called later than what the recommended clearance times would have suggested or must be ended prematurely due to a rapidly intensifying storm, some vehicles would be able to seek refuge at shelters within a reasonable (10 to 20 mile) distance. Backing this population out provides a better picture of vehicles and individuals that might actually be stranded behind a specific consequence management point at a given hour into the evacuation.

One of the behavioral factors influencing evacuations that PBS&J has observed nationally over the last five to ten years is the extremely low public shelter demand that communities are experiencing relative to expected demand from the study processes. Public shelter demand can be expected to increase slightly from low to high tourist occupancy for lesser category storms. This demand between low and high tourist occupancy usually remains the same for more intense storms. A small portion of tourist population generally seeks local public shelters only in lower category storms. There is a tendency for tourists to leave an area during a storm and return home – a phenomenon that should be expected in New Jersey, where the majority of tourists are less than a days drive from their homes. Since mobile home residents typically have a higher propensity to use local public shelter space more than other residents, the high mobile home population may increase the shelter demand. It should also be noted that not all shelters will be opened and available for use during all storms.

### 3.5 EVACUATION TRAFFIC VOLUMES AND CRITICAL ROADWAY SEGMENTS

Road segments with the highest travel demand are considered the “critical links” for a particular evacuation scenario. These congested roadway segments control the flow of evacuation traffic during a hurricane evacuation and are key areas for traffic control and monitoring. Many of these same roadways will be supporting not only the evacuating public, but also the non-evacuating public attempting to gather supplies and fuel for their homes and vehicles. In some cases, depending upon the time of the evacuation, residents may also have to travel from work to home before beginning their evacuation movement.

In some instances, a critical roadway segment or bottleneck may control the clearance time for a county in one evacuation direction, such as north, while another critical roadway segment or bottleneck may control the clearance time for the county in another evacuation direction, such as west. The type of facility or road being traveled on will affect the clearance times, as well. In calculating county-wide clearance times, the worst regional bottleneck is typically referenced, although it is important to review clearance times at each segment as evacuation movements in one direction may clear much faster than those headed in another direction or on a different facility.

The population throughout New Jersey, particularly at the Shore is urbanized and traffic congestion will be widespread. For the purposes of this study, PBS&J identified 35 regional bottlenecks, 4 of which correspond with consequence management points, as well as 18 local bottlenecks. In addition to these local segments, PBS&J, based on the direction of the Army Corps of Engineers, also looked at nine additional shore-based locations. Table 3-1 lists the most critical roadway segments in the region that will control the flow of evacuation traffic. The corresponding critical roadway segment clearance times, in hours, are presented in Table 3-2. Aerial photographs of the local and regional bottlenecks are included in Appendix G.

**Table 3-1**

**Bottleneck Location / Critical Roadway Segment**

| <b>Regional</b>                           | <b>Local</b>           | <b>Local Shore Points</b>  |
|---|------------------------|--|
| I-287 Exit 66                             | GSP Exit 117           | The portion of Point Pleasant Borough east of the Manasquan River-Bay Head canal, Point Pleasant Beach Borough, Bay Head Borough, and the entire spit comprising portions of Bay Head Borough on the north to Island Beach State Park on the south |
| GSP Exit 172                              | GSP Exit 109           | Long Beach Island comprising all municipalities and portions of municipalities from Barnegat Light Borough at the northern end of the island through the portion of Long Beach Township at the southern end (Holgate)                              |
| Palisades Pkwy at US 9W                   | GSP Exit 105           | Brigantine Island  |
| GSP at I-80                               | GSP Exit 102           | Absecon Island comprising Atlantic City, Ventnor, Margate and Longport   |
| I-287 Exit 41 at I-80                     | GSP Exit 100 a-b       | Peck's Beach Island comprising Ocean City  |
| I-80 Exit 4                               | GSP Exit 96            | Ludlam Island comprising Sea Isle City and the portion of Upper Township north of Sea Isle known as Strathmere   |
| I-78 Exit 3                               | GSP Exit 88            | Seven Mile Island comprising Stone Harbor and Avalon   |
| GSP at I-78                               | GSP Exit 82            | Five Mile Island comprising North Wildwood, Wildwood, Wildwood Crest, West Wildwood and the portion of Lower Township south of Wildwood Crest  |
| I-287 Exit 21 at I-78                     | GSP Exit 63            | The area south of the Cape May Canal comprising Cape May Borough, West Cape May, Cape May Point Borough and a portion of Lower Township  |
| I-287 Exit 3                              | GSP Exit 40            |  |
| GSP Exit 127                              | GSP Exit 30            |  |
| NJTP Exit 9                               | GSP Exit 25            |  |
| I-195 Exit 8 MoC-MeC Boundary             | GSP Exit 17            |  |
| NJTP Exit 8                               | GSP Exit 13            |  |
| GSP OC-MoC Boundary                       | GSP Exit 10            |  |
| Route 70 at Route 37                      | GSP Exit 06            |  |
| Route 70 at Route 530                     | GSP Exit 04            |  |
| <b>Consequence - Route 70 at Route 72</b> | Route 109 at GSP Start |  |



**Table 3-1**

**Bottleneck Location / Critical Roadway Segment**  
(continued)

| <b>Regional</b>                                |  |
|--|--|
| I-295 Exits 26 and 27                          |  |
| <b>Consequence - Route 55 at Route 42</b>      |  |
| Route 42 at Route 168                          |  |
| ACE Exit 32                                    |  |
| ACE Exit 31                                    |  |
| GSP Exit 48 AC-OC Boundary                     |  |
| Route 30 at Route 50 - Egg Harbor              |  |
| Route 40 - Buena                               |  |
| ACE Exit 17                                    |  |
| Route 40 at Route 50 - Mays Landing            |  |
| <b>Consequence - GSP-ACE</b>                   |  |
| Route 55 Exit 24                               |  |
| <b>Consequence - Route 47 - Port Elizabeth</b> |  |
| NJTP Exit 1                                    |  |
| Route 55 Exit 56                               |  |
| Route 55 Exit 39                               |  |
| GSP CMC-AC Boundary                            |  |

**Table 3-2**  
**Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND : <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 20px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffccff; border: 1px solid black;"></span> - CAT 4 |                      |                     |                      |                     |                      |                     |                      |
|---|--|--|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
|   | Bottleneck Location / Critical Roadway Segment | Times (in hours)   |                      |                     |                      |                     |                      |                     |                      |
|   |  | Cat 1  | Cat 1                | Cat 2               | Cat 2                | Cat 3               | Cat 3                | Cat 4               | Cat 4                |
|   |  | Evac Veh<br>Low Occ  | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ |
| REGIONAL  | I-287 Exit 66                                  | 5.4  | 10.7                 | 7.1                 | 12.5                 | 9.4                 | 15.2                 | 12.6                | 18.4                 |
|   | GSP Exit 172                                   | 4.9  | 8.5                  | 6.4                 | 10.1                 | 8.7                 | 12.7                 | 12.3                | 16.3                 |
|   | Palisades Pkwy at US 9W                        | 2.6  | 2.6                  | 2.9                 | 3.0                  | 3.7                 | 3.8                  | 4.8                 | 4.9                  |
|   | GSP at I-80                                    | 4.8  | 8.0                  | 6.1                 | 9.4                  | 8.1                 | 11.6                 | 11.1                | 14.6                 |
|   | I-287 Exit 41 at I-80                          | 5.3  | 10.1                 | 7.1                 | 11.9                 | 9.5                 | 14.7                 | 13.0                | 18.3                 |
|   | I-80 Exit 4                                    | 3.5  | 4.2                  | 3.9                 | 4.7                  | 4.6                 | 5.4                  | 5.7                 | 6.5                  |
|   | I-78 Exit 3                                    | 4.0  | 6.0                  | 4.7                 | 6.8                  | 5.8                 | 8.1                  | 7.7                 | 9.9                  |
|   | GSP at I-78                                    | 5.6  | 11.4                 | 7.4                 | 13.3                 | 9.8                 | 16.1                 | 13.1                | 19.4                 |
|   | I-287 Exit 21 at I-78                          | 4.6  | 8.0                  | 5.7                 | 9.2                  | 7.4                 | 11.1                 | 10.1                | 13.8                 |
|   | I-287 Exit 3                                   | 4.5  | 7.8                  | 5.5                 | 9.0                  | 7.0                 | 10.6                 | 8.8                 | 12.4                 |
|   | GSP Exit 127                                   | 6.1  | 13.2                 | 8.3                 | 15.6                 | 11.0                | 18.7                 | 14.4                | 22.1                 |
|   | NJTP Exit 9                                    | 3.5  | 4.4                  | 4.0                 | 4.8                  | 4.6                 | 5.6                  | 5.6                 | 6.6                  |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.3  | 6.9                  | 5.3                 | 8.1                  | 6.9                 | 9.9                  | 8.6                 | 11.7                 |
|   | NJTP Exit 8                                    | 3.4  | 3.7                  | 4.0                 | 4.4                  | 5.1                 | 5.6                  | 6.7                 | 7.3                  |
|   | GSP OC-MoC Boundary                            | 6.9  | 16.9                 | 9.5                 | 19.6                 | 12.4                | 23.0                 | 15.9                | 26.6                 |
|   | Route 70 at Route 37                           | 2.2  | 2.4                  | 2.3                 | 2.7                  | 2.7                 | 3.2                  | 3.3                 | 3.8                  |
|   | Route 70 at Route 530                          | 2.4  | 3.0                  | 2.7                 | 3.5                  | 3.6                 | 4.7                  | 4.8                 | 5.9                  |
|   | <b>Consequence - Route 70 at Route 72</b>      | 5.5  | 15.0                 | 7.1                 | 17.1                 | 9.4                 | 20.0                 | 11.9                | 22.5                 |
|   | I-295 Exits 26 and 27                          | 3.8  | 5.5                  | 4.3                 | 5.5                  | 5.0                 | 6.2                  | 5.8                 | 7.0                  |
|   | <b>Consequence - Route 55 at Route 42</b>      | 4.6  | 8.8                  | 5.5                 | 9.1                  | 6.4                 | 10.2                 | 7.6                 | 11.4                 |
|   | Route 42 at Route 168                          | 4.1  | 7.0                  | 4.8                 | 6.5                  | 5.4                 | 7.2                  | 6.2                 | 8.0                  |
|   | ACE Exit 32                                    | 5.0  | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |
|   | ACE Exit 31                                    | 5.0  | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4  | 20.3                 | 9.8                 | 22.3                 | 11.6                | 24.5                 | 13.8                | 26.8                 |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3  | 2.2                  | 1.6                 | 2.1                  | 1.9                 | 2.4                  | 2.4                 | 2.8                  |
|   | Route 40 - Buena                               | 1.1  | 1.7                  | 1.3                 | 1.3                  | 1.6                 | 1.7                  | 2.5                 | 2.5                  |
|   | ACE Exit 17                                    | 5.0  | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |
|   | Route 40 at Route 50 - Mays Landing            | 1.1  | 1.6                  | 1.2                 | 1.3                  | 1.6                 | 1.6                  | 2.3                 | 2.4                  |
|   | <b>Consequence - GSP-ACE</b>                   | 9.0  | 26.2                 | 12.3                | 27.3                 | 15.1                | 30.4                 | 18.5                | 33.9                 |
|   | Route 55 Exit 24                               | 3.8  | 9.1                  | 4.8                 | 10.6                 | 5.9                 | 11.8                 | 7.2                 | 13.2                 |
|   | <b>Consequence - Route 47 - Port Elizabeth</b> | 5.7  | 17.0                 | 7.7                 | 20.1                 | 9.4                 | 22.2                 | 11.4                | 24.4                 |
|   | NJTP Exit 1                                    | 4.3  | 6.3                  | 5.5                 | 7.2                  | 7.3                 | 9.2                  | 9.6                 | 11.5                 |
|   | Route 55 Exit 56                               | 4.6  | 8.9                  | 5.4                 | 10.2                 | 6.3                 | 11.3                 | 7.5                 | 12.5                 |
|   | Route 55 Exit 39                               | 4.7  | 9.4                  | 5.6                 | 10.8                 | 6.6                 | 12.0                 | 7.9                 | 13.4                 |
|   | GSP CMC-AC Boundary                            | 7.1  | 18.5                 | 8.7                 | 21.3                 | 10.0                | 22.8                 | 11.5                | 24.5                 |

Note: Clearance Times are in hours

Table 3-2

## Critical Roadway Segment Clearance Times (continued)

|                       | Bottleneck Location / Critical Roadway Segment   | Times (in hours)             |                               |                              |                               |                              |                               |                              |                               |
|-----------------------|--|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|                       |  | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
| LOCAL                 | GSP Exit 117   | 6.9                          | 14.2                          | 9.4                          | 16.9                          | 12.3                         | 20.2                          | 15.6                         | 23.5                          |
|                       | GSP Exit 109   | 6.8                          | 15.6                          | 9.5                          | 18.5                          | 12.7                         | 22.1                          | 16.4                         | 25.9                          |
|                       | GSP Exit 105   | 6.7                          | 15.5                          | 9.3                          | 18.3                          | 12.4                         | 21.9                          | 15.9                         | 25.5                          |
|                       | GSP Exit 102   | 6.6                          | 15.4                          | 9.1                          | 18.0                          | 12.1                         | 21.5                          | 15.6                         | 25.1                          |
|                       | GSP Exit 100 a-b   | 7.1                          | 17.2                          | 9.8                          | 20.1                          | 13.1                         | 24.0                          | 17.0                         | 27.9                          |
|                       | GSP Exit 96  | 7.0                          | 17.0                          | 9.6                          | 19.8                          | 12.6                         | 23.3                          | 16.2                         | 27.0                          |
|                       | GSP Exit 88  | 12.1                         | 25.6                          | 17.1                         | 30.8                          | 22.1                         | 36.5                          | 27.6                         | 42.0                          |
|                       | GSP Exit 82  | 10.5                         | 23.1                          | 14.3                         | 27.0                          | 17.8                         | 31.0                          | 20.9                         | 34.2                          |
|                       | GSP Exit 63  | 10.5                         | 26.3                          | 13.8                         | 29.5                          | 16.7                         | 32.8                          | 19.5                         | 35.8                          |
|                       | GSP Exit 40  | 13.7                         | 21.7                          | 17.4                         | 26.4                          | 18.7                         | 27.9                          | 20.3                         | 26.8                          |
|                       | GSP Exit 30  | 12.7                         | 20.2                          | 15.5                         | 23.7                          | 16.6                         | 25.0                          | 18.0                         | 23.7                          |
|                       | GSP Exit 25  | 8.0                          | 17.4                          | 10.5                         | 20.9                          | 11.6                         | 22.2                          | 13.0                         | 23.7                          |
|                       | GSP Exit 17  | 7.1                          | 14.6                          | 9.1                          | 17.5                          | 10.1                         | 18.6                          | 11.2                         | 19.7                          |
|                       | GSP Exit 13  | 6.2                          | 11.7                          | 8.2                          | 14.3                          | 9.0                          | 15.3                          | 9.9                          | 16.2                          |
|                       | GSP Exit 10  | 4.9                          | 7.9                           | 6.0                          | 9.4                           | 6.5                          | 10.0                          | 7.0                          | 10.5                          |
|                       | GSP Exit 06  | 4.6                          | 7.2                           | 5.6                          | 8.5                           | 6.1                          | 9.0                           | 6.5                          | 9.4                           |
|                       | GSP Exit 04  | 3.7                          | 6.4                           | 4.9                          | 8.0                           | 5.4                          | 8.6                           | 5.9                          | 9.1                           |
|                       | Route 109 at GSP Start   | 1.4                          | 2.4                           | 1.7                          | 2.8                           | 1.9                          | 3.0                           | 1.9                          | 3.0                           |
| LOCAL CLEARANCE TIMES | The portion of Point Pleasant Borough east of the Manasquan River-Bay Head canal, Point Pleasant Beach Borough, Bay Head Borough, and the entire spit comprising portions of Bay Head Borough on the north to Island Beach State Park on the south | 2.8                          | 6.4                           | 3.8                          | 7.6                           | 4.1                          | 8.2                           | 4.2                          | 8.3                           |
|                       | Long Beach Island comprising all municipalities and portions of municipalities from Barnegat Light Borough at the northern end of the island through the portion of Long Beach Township at the southern end (Holgate)                              | 5.1                          | 16.3                          | 5.5                          | 17.2                          | 5.6                          | 17.5                          | 5.6                          | 17.5                          |
|                       | Brigantine Island  | 1.5                          | 2.1                           | 1.9                          | 2.4                           | 1.9                          | 2.4                           | 1.9                          | 2.4                           |
|                       | Absecon Island comprising Atlantic City, Ventnor, Margate and Longport   | 2.5                          | 3.4                           | 3.1                          | 4.0                           | 3.1                          | 4.0                           | 3.1                          | 4.0                           |
|                       | Peck's Beach Island comprising Ocean City  | 6.9                          | 12.4                          | 7.4                          | 13.1                          | 7.4                          | 13.1                          | 7.4                          | 13.1                          |
|                       | Ludlam Island comprising Sea Isle City and the portion of Upper Township north of Sea Isle known as Strathmere   | 3.9                          | 7.8                           | 4.1                          | 8.1                           | 4.1                          | 8.1                           | 4.1                          | 8.1                           |
|                       | Seven Mile Island comprising Stone Harbor and Avalon   | 4.6                          | 9.9                           | 5.2                          | 10.7                          | 5.2                          | 10.7                          | 5.2                          | 10.7                          |
|                       | Five Mile Island comprising North Wildwood, Wildwood, Wildwood Crest, West Wildwood and the portion of Lower Township south of Wildwood Crest  | 5.0                          | 9.1                           | 5.4                          | 9.6                           | 5.4                          | 9.6                           | 5.4                          | 9.6                           |
|                       | The area south of the Cape May Canal comprising Cape May Borough, West Cape May, Cape May Point Borough and a portion of Lower Township  | 2.4                          | 4.0                           | 3.3                          | 5.1                           | 3.7                          | 5.5                           | 3.8                          | 5.6                           |

Note: Clearance Times are in hours

### 3.6 EXITING EVACUATION TRAFFIC BY ROUTE AND SCENARIO

An important part of the evacuation modeling process is determining the number of vehicles that will travel along specific portions of the evacuation network. To guide this process, PBS&J, as directed by the Army Corps of Engineers in the scope of work for the project, reviewed a number of sources tourist data to better understand the relationship between tourists that could be categorized as day-trippers and overnight tourists. It is assumed in this study that sufficient media coverage, public information and official warnings will accompany any potential hurricane and that day trip “tourists” will choose not to visit at risk coastal areas.

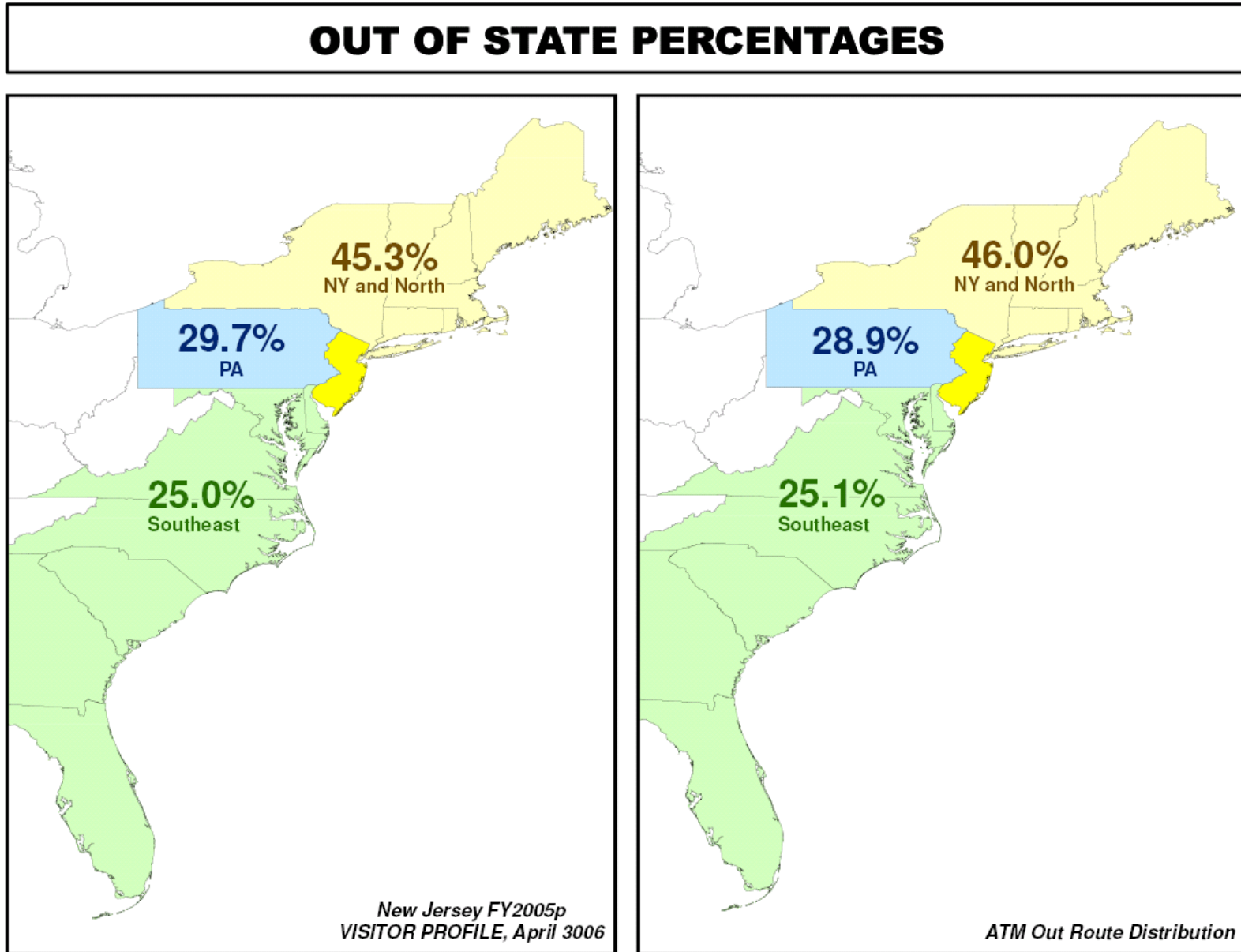
Of the remaining potential tourists (those that would utilize seasonal tourist units), PBS&J was able to determine the percentage of overnight vacationers originating from within New Jersey or from a range of surrounding states along the eastern seaboard of the United States. These data informed the process of determining appropriate out-routes and routing traffic south (through southeast Pennsylvania or Delaware), west (to Pennsylvania), or north (through New York). In all cases, variations in out-of-state percentages are less than 1 percent of the total evacuation traffic. Figure 3-3 compares the out route percentages used in the study with the most recent available official tourist origination data.

Since the evacuation traffic from each New Jersey County is so intermeshed in an evacuation, it is important to recognize the levels of potential evacuation traffic that each local government is contributing. PBS&J prepared a table that shows the levels of traffic that will potentially be placed on specific exiting routes for each storm scenario. This information is presented in Table 3-3.



Figure 3-3

Out-of-State Out-Route Percentages Comparison



**Table 3-3**  
**Critical Roadway Segments Traffic Volume**

| LEGEND :  |   |                   |                   |                   |                   |                   |                   |                   |                   |
|---|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|   |   |                   |                   |                   |                   |                   |                   |                   |                   |
| Bottleneck Location<br>Critical Roadway Segment | Evac Directional Service Volume<br>(Vehicles / Hour) Variable | Cat 1<br>Evac Veh | Cat 1<br>Evac Veh | Cat 2<br>Evac Veh | Cat 2<br>Evac Veh | Cat 3<br>Evac Veh | Cat 3<br>Evac Veh | Cat 4<br>Evac Veh | Cat 4<br>Evac Veh |
| I-287 Exit 66                                   | 3,200   | 6,828             | 22,129            | 11,835            | 27,563            | 18,461            | 35,145            | 27,700            | 44,457            |
| GSP Exit 172                                    | 3,200   | 5,547             | 15,995            | 9,857             | 20,669            | 16,524            | 28,102            | 26,964            | 38,589            |
| Palisades Pkwy at US 9W                         | 3,200   | 1,596             | 1,760             | 2,663             | 2,858             | 4,824             | 5,075             | 8,000             | 8,250             |
| GSP at I-80                                     | 4,800   | 7,776             | 21,630            | 13,535            | 27,834            | 22,208            | 37,467            | 35,068            | 50,390            |
| I-287 Exit 41 at I-80                           | 4,800   | 9,989             | 30,580            | 17,589            | 38,807            | 28,067            | 50,656            | 43,512            | 66,197            |
| I-80 Exit 4                                     | 3,200   | 1,376             | 3,545             | 2,613             | 4,882             | 4,525             | 6,991             | 7,789             | 10,262            |
| I-78 Exit 3                                     | 4,800   | 4,201             | 13,075            | 7,370             | 16,536            | 12,160            | 21,951            | 20,243            | 30,076            |
| GSP at I-78                                     | 6,500   | 15,203            | 49,095            | 25,969            | 60,764            | 40,061            | 76,911            | 59,569            | 96,584            |
| I-287 Exit 21 at I-78                           | 4,800   | 6,824             | 21,516            | 11,860            | 27,004            | 19,134            | 35,260            | 30,735            | 46,932            |
| I-287 Exit 3                                    | 4,800   | 6,416             | 20,948            | 11,034            | 25,956            | 17,131            | 32,938            | 25,096            | 40,972            |
| GSP Exit 127                                    | 7,500   | 21,136            | 69,324            | 35,918            | 85,308            | 54,368            | 106,555           | 77,042            | 129,464           |
| NJTP Exit 9                                     | 9,000   | 4,125             | 11,004            | 7,740             | 15,015            | 13,260            | 21,251            | 21,055            | 29,075            |
| I-195 Exit 8 MoC-MeC Boundary                   | 3,200   | 3,681             | 11,227            | 6,731             | 14,802            | 11,134            | 20,079            | 16,306            | 25,276            |
| NJTP Exit 8                                     | 4,800   | 1,933             | 3,223             | 4,523             | 6,217             | 9,180             | 11,479            | 16,178            | 18,477            |
| GSP OC-MoC Boundary                             | 6,500   | 23,115            | 81,589            | 37,895            | 97,399            | 55,177            | 117,484           | 75,838            | 138,438           |
| Route 70 at Route 37                            | 1,200   | 186               | 487               | 302               | 722               | 730               | 1,335             | 1,389             | 1,995             |
| Route 70 at Route 530                           | 1,200   | 469               | 1,052             | 787               | 1,605             | 1,764             | 2,941             | 3,083             | 4,261             |
| <b>Consequence - Route 70 at Route 72</b>       | 1,000   | 3,149             | 11,700            | 4,590             | 13,619            | 6,655             | 16,242            | 8,964             | 18,555            |
| I-295 Exits 26 and 27                           | 4,800   | 3,290             | 10,837            | 5,728             | 10,886            | 8,570             | 13,898            | 12,038            | 17,378            |
| <b>Consequence - Route 55 at Route 42</b>       | 6,500   | 9,118             | 34,296            | 14,713            | 36,018            | 20,221            | 42,041            | 27,124            | 49,118            |
| Route 42 at Route 168                           | 4,800   | 4,604             | 17,161            | 7,801             | 15,205            | 10,577            | 18,092            | 13,975            | 21,511            |
| ACE Exit 32                                     | 3,200   | 5,826             | 21,884            | 9,993             | 19,095            | 13,634            | 22,876            | 18,105            | 27,375            |
| ACE Exit 31                                     | 3,200   | 5,826             | 21,884            | 9,993             | 19,095            | 13,634            | 22,876            | 18,105            | 27,375            |
| GSP Exit 48 AC-OC Boundary                      | 3,200   | 12,832            | 49,922            | 19,515            | 55,821            | 24,876            | 62,055            | 31,355            | 68,824            |
| Route 30 at Route 50 - Egg Harbor               | 1,800   | 462               | 1,963             | 982               | 1,713             | 1,501             | 2,257             | 2,212             | 2,970             |
| Route 40 - Buena                                | 900   | 104               | 566               | 208               | 248               | 513               | 562               | 1,195             | 1,248             |
| ACE Exit 17                                     | 3,200   | 5,826             | 21,884            | 9,993             | 19,095            | 13,634            | 22,876            | 18,105            | 27,375            |
| Route 40 at Route 50 - Mays Landing             | 1,000   | 104               | 566               | 208               | 248               | 513               | 562               | 1,195             | 1,248             |
| <b>Consequence - GSP-ACE</b>                    | 3,200   | 17,472            | 66,970            | 26,950            | 70,263            | 35,006            | 79,269            | 44,754            | 89,331            |
| Route 55 Exit 24                                | 3,200   | 5,343             | 20,540            | 8,087             | 24,811            | 11,162            | 28,368            | 15,037            | 32,428            |
| <b>Consequence - Route 47 - Port Elizabeth</b>  | 1,200   | 4,064             | 16,267            | 6,154             | 19,638            | 8,023             | 21,921            | 10,196            | 24,251            |
| NJTP Exit 1                                     | 6,500   | 7,492             | 19,414            | 14,560            | 24,789            | 25,157            | 36,516            | 38,481            | 49,884            |
| Route 55 Exit 56                                | 3,200   | 4,514             | 17,135            | 6,912             | 20,813            | 9,643             | 23,948            | 13,149            | 27,607            |
| Route 55 Exit 39                                | 3,200   | 4,906             | 18,625            | 7,513             | 22,623            | 10,482            | 26,031            | 14,293            | 30,007            |
| GSP CMC-AC Boundary                             | 3,200   | 11,837            | 44,691            | 16,441            | 52,775            | 20,181            | 57,334            | 24,661            | 62,092            |

Table 3-3

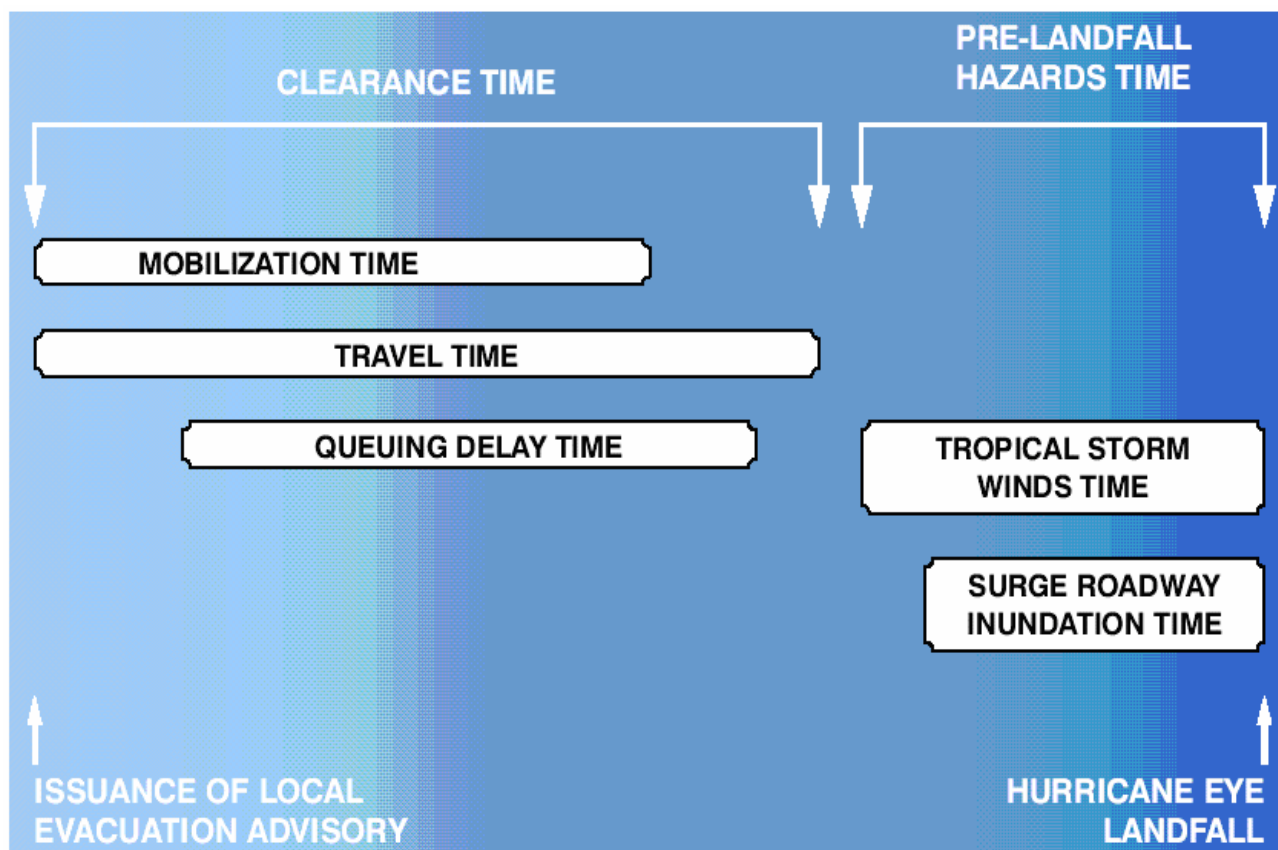
## Critical Roadway Segments Traffic Volume (continued)

| Bottleneck Location<br>Critical Roadway Segment  | Evac Dir. Service Vol.<br>(Vehicles / Hour) | Cat 1<br>Evac Veh | Cat 1<br>Evac Veh | Cat 2<br>Evac Veh | Cat 2<br>Evac Veh | Cat 3<br>Evac Veh | Cat 3<br>Evac Veh | Cat 4<br>Evac Veh | Cat 4<br>Evac Veh |
|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| GSP Exit 117   | 9,000                                       | 31,643            | 91,455            | 52,018            | 113,207           | 75,328            | 139,800           | 102,085           | 166,849           |
| GSP Exit 109   | 7,500                                       | 25,622            | 85,284            | 44,159            | 105,180           | 65,439            | 129,717           | 90,532            | 155,101           |
| GSP Exit 105   | 7,500                                       | 24,950            | 84,519            | 42,796            | 103,708           | 63,576            | 127,729           | 87,704            | 152,148           |
| GSP Exit 102   | 7,500                                       | 24,240            | 83,684            | 41,145            | 101,922           | 61,616            | 125,626           | 85,502            | 149,805           |
| GSP Exit 100 a-b   | 6,500                                       | 23,934            | 83,150            | 39,811            | 100,279           | 59,457            | 123,036           | 82,289            | 146,162           |
| GSP Exit 96  | 6,500                                       | 23,576            | 82,338            | 38,765            | 98,624            | 56,610            | 119,365           | 77,729            | 140,777           |
| GSP Exit 88  | 4,800                                       | 39,495            | 97,836            | 61,072            | 120,475           | 83,019            | 145,053           | 106,740           | 169,063           |
| GSP Exit 82  | 4,800                                       | 32,418            | 87,236            | 48,937            | 104,266           | 64,114            | 121,388           | 77,801            | 135,362           |
| GSP Exit 63  | 3,200                                       | 21,603            | 67,475            | 31,215            | 76,678            | 39,481            | 86,105            | 47,801            | 94,713            |
| GSP Exit 40  | 3,200                                       | 30,984            | 53,980            | 41,711            | 67,562            | 45,525            | 71,867            | 50,110            | 68,665            |
| GSP Exit 30  | 3,200                                       | 28,140            | 49,604            | 36,086            | 59,896            | 39,401            | 63,665            | 43,442            | 59,917            |
| GSP Exit 25  | 3,200                                       | 14,461            | 41,535            | 21,571            | 51,827            | 24,886            | 55,596            | 28,927            | 59,915            |
| GSP Exit 17  | 3,200                                       | 11,720            | 33,591            | 17,776            | 41,843            | 20,643            | 45,120            | 23,585            | 48,292            |
| GSP Exit 13  | 3,200                                       | 9,328             | 25,095            | 14,914            | 32,584            | 17,348            | 35,416            | 19,815            | 38,102            |
| GSP Exit 10  | 4,800                                       | 8,119             | 21,427            | 12,995            | 27,803            | 15,020            | 30,197            | 17,192            | 32,569            |
| GSP Exit 06  | 4,800                                       | 7,093             | 18,177            | 11,474            | 23,834            | 13,232            | 25,937            | 14,965            | 27,846            |
| GSP Exit 04  | 3,200                                       | 4,859             | 12,743            | 8,429             | 17,372            | 9,884             | 19,127            | 11,213            | 20,594            |
| Route 109 at GSP Start   | 3,200                                       | 1,286             | 4,003             | 2,153             | 5,225             | 2,476             | 5,671             | 2,563             | 5,765             |
|  |   |                   |                   |                   |                   |                   |                   |                   |                   |
| The portion of Point Pleasant Borough east of the Manasquan River-<br>Bay Head canal, Point Pleasant Beach Borough, Bay Head<br>Borough, and the entire spit comprising portions of Bay Head<br>Borough on the north to Island Beach State Park on the south | 4,430                                       | 7,401             | 21,471            | 11,082            | 26,478            | 12,287            | 28,753            | 12,668            | 29,134            |
| Long Beach Island comprising all municipalities and portions of<br>municipalities from Barnegat Light Borough at the northern end of<br>the island through the portion of Long Beach Township at the<br>southern end (Holgate)                               | 1,860                                       | 6,841             | 25,768            | 7,616             | 27,166            | 7,767             | 27,641            | 7,779             | 27,651            |
| Brigantine Island  | 10,710                                      | 5,314             | 10,407            | 8,384             | 13,841            | 8,457             | 13,964            | 8,457             | 13,964            |
| Absecon Island comprising Atlantic City, Ventnor, Margate and<br>Longport  | 13,280                                      | 17,600            | 28,670            | 24,727            | 36,159            | 24,749            | 36,183            | 24,749            | 36,183            |
| Peck's Beach Island comprising Ocean City  | 2,570                                       | 13,740            | 26,489            | 14,917            | 28,067            | 14,917            | 28,067            | 14,917            | 28,067            |
| Ludlam Island comprising Sea Isle City and the portion of Upper<br>Township north of Sea Isle known as Strathmere  | 1,710                                       | 4,459             | 10,491            | 4,771             | 10,934            | 4,771             | 10,934            | 4,771             | 10,934            |
| Seven Mile Island comprising Stone Harbor and Avalon   | 1,460                                       | 4,770             | 11,719            | 5,508             | 12,755            | 5,511             | 12,763            | 5,511             | 12,763            |
| Five Mile Island comprising North Wildwood, Wildwood, Wildwood<br>Crest, West Wildwood and the portion of Lower Township south of<br>Wildwood Crest  | 3,300                                       | 11,903            | 24,055            | 13,155            | 25,519            | 13,155            | 25,519            | 13,155            | 25,519            |
| The are south of the Cape May Canal comprising Cape May<br>Borough, West Cape May, Cape May Point Borough and a portion<br>of Lower Township   | 1,710                                       | 2,214             | 4,707             | 3,625             | 6,336             | 4,174             | 7,012             | 4,307             | 7,146             |

### 3.7 ESTIMATED EVACUATION CLEARANCE TIMES

An important product of the transportation analysis is the clearance times based on storm category, or scenario and behavioral characteristics. Clearance time is one of two major considerations involved in issuing an evacuation order or advisory. The other time aspect, which must be weighed, is the arrival of sustained tropical storm winds. Figure 3-4 illustrates these two timing issues of evacuation and their relation.

**Figure 3-4**  
**Components of Clearance Time**



Clearance time is the time required to clear the roadway of all vehicles evacuating in response to a hurricane situation. Clearance time begins when the first evacuating vehicle enters the road network (as defined by a hurricane evacuation behavioral response curve) and ends when the last evacuating vehicle reaches an assumed point of safety. Clearance time includes:

- Mobilization Time - the time required by evacuees to prepare for evacuation and enter the road network;
- Travel Time - the time needed to travel along the road network; and



- Queuing Delay Time – the cumulative times for all stops caused by traffic congestion.

Clearance time does not relate to the time any one vehicle spends traveling on the road network and does not include time needed for local officials to assemble and make a decision to evacuate. As Figure 3-4 illustrates, clearance times are predicated upon all evacuation movements occurring before the advent of tropical storm force winds and storm surge effects. Evacuation movements occurring within the prescribed clearance times would not be impacted by surge related roadway flooding.

Clearance time runs were generated based on differing intensity strengths of hurricanes, levels of background traffic, the rapidity of response by evacuees, and different tourist occupancy levels. The rapidity of response will affect clearance times. As a rule of thumb, standard adjustments can be applied to the calculated medium response clearance times. In this study, 2 hours were added for a long response and 1.5 hours was subtracted for a rapid response.

Clearance times range from 3 hours to 24 hours in the “pass through” counties located in the Southwest and Northeast, and from 6 to 44 hours for Atlantic Coastal counties using the 2000 Census base data. In developing these times, it was assumed that consistent evacuation decisions would be made and coordinated between adjacent jurisdictions and the Emergency Operations Center in West Trenton.

Key critical roadway segments were used in determining county-wide clearance times. As was indicated in Section 3.5, a critical roadway segment or bottleneck may control the clearance time for a county in one evacuation direction, while another critical roadway segment or bottleneck may control the clearance time for the county in another evacuation direction. In calculating county-wide clearance times, the worst regional bottleneck is typically referenced. The critical segment determinants used in this study include:

### **Southwest**

Burlington County critical segment: Consequence - Route 70 at Route 72

Camden County critical segment: Consequence - Route 55 at Route 42

Gloucester County critical segment: Route 55 Exit 39

Salem and Cumberland County critical segment: NJTP Exit 1

### **Atlantic Coastal**

Cape May, Atlantic, and Ocean County critical segment: GSP Exit 63 [Cat 1], GSP Exit 88 [Cat 2-4]

Monmouth County critical segment: GSP Exit 100 a-b

### **Northeast**

Middlesex, Union, and Essex County critical segment: I-287 Exit 41 at I-80

Hudson County critical segment: GSP at I-80

Passaic County critical segment: I-287 Exit 66

Bergen County critical segment: GSP Exit 172

Table 3-4 presents the hurricane evacuation clearance times developed for New Jersey. These times reflect all evacuation movements.

**Table 3-4**  
**2006 New Jersey County Evacuation Clearance Times (in hours)**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|---|--|---------------------------------------|--------|------------|-------|------------|------------------|----------|-------|----------|-----------|-------|-------|--------|---------|--------|
| Evacuation Parameters   |  | County Clearance Times (in hours) (1) |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
| Evacuation Scenario   | Rapidity of Response (2) / Tourist Occupancy | Southwest                             |        |            |       |            | Atlantic Coastal |          |       |          | Northeast |       |       |        |         |        |
|   |  | Burlington                            | Camden | Gloucester | Salem | Cumberland | Cape May         | Atlantic | Ocean | Monmouth | Middlesex | Union | Essex | Hudson | Passaic | Bergen |
| Risk Based Roadway Network Loading  |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
| CATEGORY 1  |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | Low Tourist Occupancy                        |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 4.0                                   | 3.1    | 3.2        | 2.8   | 2.8        | 9.0              | 9.0      | 9.0   | 5.6      | 3.8       | 3.8   | 3.8   | 3.3    | 3.9     | 3.4    |
|   | medium response                              | 5.5                                   | 4.6    | 4.7        | 4.3   | 4.3        | 10.5             | 10.5     | 10.5  | 7.1      | 5.3       | 5.3   | 5.3   | 4.8    | 5.4     | 4.9    |
|   | long response                                | 7.5                                   | 6.6    | 6.7        | 6.3   | 6.3        | 12.5             | 12.5     | 12.5  | 9.1      | 7.3       | 7.3   | 7.3   | 6.8    | 7.4     | 6.9    |
|   | High Tourist Occupancy                       |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 13.5                                  | 7.3    | 7.9        | 4.8   | 4.8        | 24.8             | 24.8     | 24.8  | 15.7     | 8.6       | 8.6   | 8.6   | 6.5    | 9.2     | 7.0    |
|   | medium response                              | 15.0                                  | 8.8    | 9.4        | 6.3   | 6.3        | 26.3             | 26.3     | 26.3  | 17.2     | 10.1      | 10.1  | 10.1  | 8.0    | 10.7    | 8.5    |
|   | long response                                | 17.0                                  | 10.8   | 11.4       | 8.3   | 8.3        | 28.3             | 28.3     | 28.3  | 19.2     | 12.1      | 12.1  | 12.1  | 10.0   | 12.7    | 10.5   |
|   |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
| CATEGORY 2  |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | Low Tourist Occupancy                        |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 5.6                                   | 4.0    | 4.1        | 4.0   | 4.0        | 15.6             | 15.6     | 15.6  | 8.3      | 5.6       | 5.6   | 5.6   | 4.6    | 5.6     | 4.9    |
|   | medium response                              | 7.1                                   | 5.5    | 5.6        | 5.5   | 5.5        | 17.1             | 17.1     | 17.1  | 9.8      | 7.1       | 7.1   | 7.1   | 6.1    | 7.1     | 6.4    |
|   | long response                                | 9.1                                   | 7.5    | 7.6        | 7.5   | 7.5        | 19.1             | 19.1     | 19.1  | 11.8     | 9.1       | 9.1   | 9.1   | 8.1    | 9.1     | 8.4    |
|   | High Tourist Occupancy                       |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 15.6                                  | 7.6    | 9.3        | 5.7   | 5.7        | 29.3             | 29.3     | 29.3  | 18.6     | 10.4      | 10.4  | 10.4  | 7.9    | 11.0    | 8.6    |
|   | medium response                              | 17.1                                  | 9.1    | 10.8       | 7.2   | 7.2        | 30.8             | 30.8     | 30.8  | 20.1     | 11.9      | 11.9  | 11.9  | 9.4    | 12.5    | 10.1   |
|   | long response                                | 19.1                                  | 11.1   | 12.8       | 9.2   | 9.2        | 32.8             | 32.8     | 32.8  | 22.1     | 13.9      | 13.9  | 13.9  | 11.4   | 14.5    | 12.1   |
|   |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
| CATEGORY 3  |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | Low Tourist Occupancy                        |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 7.9                                   | 4.9    | 5.1        | 5.8   | 5.8        | 20.6             | 20.6     | 20.6  | 11.6     | 8.0       | 8.0   | 8.0   | 6.6    | 7.9     | 7.2    |
|   | medium response                              | 9.4                                   | 6.4    | 6.6        | 7.3   | 7.3        | 22.1             | 22.1     | 22.1  | 13.1     | 9.5       | 9.5   | 9.5   | 8.1    | 9.4     | 8.7    |
|   | long response                                | 11.4                                  | 8.4    | 8.6        | 9.3   | 9.3        | 24.1             | 24.1     | 24.1  | 15.1     | 11.5      | 11.5  | 11.5  | 10.1   | 11.4    | 10.7   |
|   | High Tourist Occupancy                       |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 18.5                                  | 8.7    | 10.5       | 7.7   | 7.7        | 35.0             | 35.0     | 35.0  | 22.5     | 13.2      | 13.2  | 13.2  | 10.1   | 13.7    | 11.2   |
|   | medium response                              | 20.0                                  | 10.2   | 12.0       | 9.2   | 9.2        | 36.5             | 36.5     | 36.5  | 24.0     | 14.7      | 14.7  | 14.7  | 11.6   | 15.2    | 12.7   |
|   | long response                                | 22.0                                  | 12.2   | 14.0       | 11.2  | 11.2       | 38.5             | 38.5     | 38.5  | 26.0     | 16.7      | 16.7  | 16.7  | 13.6   | 17.2    | 14.7   |
|   |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
| CATEGORY 4  |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | Low Tourist Occupancy                        |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 10.4                                  | 6.1    | 6.4        | 8.1   | 8.1        | 26.1             | 26.1     | 26.1  | 15.5     | 11.5      | 11.5  | 11.5  | 9.6    | 11.1    | 10.8   |
|   | medium response                              | 11.9                                  | 7.6    | 7.9        | 9.6   | 9.6        | 27.6             | 27.6     | 27.6  | 17.0     | 13.0      | 13.0  | 13.0  | 11.1   | 12.6    | 12.3   |
|   | long response                                | 13.9                                  | 9.6    | 9.9        | 11.6  | 11.6       | 29.6             | 29.6     | 29.6  | 19.0     | 15.0      | 15.0  | 15.0  | 13.1   | 14.6    | 14.3   |
|   | High Tourist Occupancy                       |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |
|   | rapid response                               | 21.0                                  | 9.9    | 11.9       | 10.0  | 10.0       | 40.5             | 40.5     | 40.5  | 26.4     | 16.8      | 16.8  | 16.8  | 13.1   | 16.9    | 14.8   |
|   | medium response                              | 22.5                                  | 11.4   | 13.4       | 11.5  | 11.5       | 42.0             | 42.0     | 42.0  | 27.9     | 18.3      | 18.3  | 18.3  | 14.6   | 18.4    | 16.3   |
|   | long response                                | 24.5                                  | 13.4   | 15.4       | 13.5  | 13.5       | 44.0             | 44.0     | 44.0  | 29.9     | 20.3      | 20.3  | 20.3  | 16.6   | 20.4    | 18.3   |
|   |  |                                       |        |            |       |            |                  |          |       |          |           |       |       |        |         |        |

### 3.8 IMPACT OF REGIONAL ROUTE CONTRAFLOW

The State of New Jersey, Office of Emergency Management, has four official reverse lane plans published in 2004 to assist in reducing the evacuation transit times on specific roadway segments. Developed as a measure of last resort to be used in response to hurricanes as well as other emergency events, these plans detail the basic operational strategy and agency requirements necessary to implement the lane reversal. These plans address the following major roadway segments:

- Route 47 / Route 347
- Atlantic City Expressway
- Route 72
- Interstate 195

PBS&J was asked to review these plans as well as an additional alternate lane reversal scenario for the Garden State Parkway; referred to in this study as the Cape May County Lane Reversal Proposal. Implementing a contraflow or reverse lane strategy requires considerable pre-event and operational coordination as well as a substantial resource commitment, both in terms of time and money. As such, it is assumed that reverse lane strategies would only be implemented in anticipation of a major storm, such as a Category 3 or greater. Maps illustrating the five routes studied are provided in Figure 3-5.

#### Scenario 1 – Route 47 / Route 347

The first scenario reviewed is the Route 47 / Route 347 Lane Reversal Plan. In this plan, lane reversals would begin at the junction of Route 83 in the south and continue along NJ 47 and NJ 347 to the north, ending at the junction of Route 55 and NY 47. The reversal does not include those sections of 47 that are parallel to NJ 347. PBS&J determined that this lane reversal strategy would not affect the overall clearance times for Cape May, Atlantic or Ocean County as these times are limited by bottlenecks along the Garden State Parkway northbound at Exit 88. This strategy would improve clearance times at the Consequence Management point at Route 47 at Port Elizabeth, as is presented in Table 3-5 below.

**Table 3-5**

**Route 47 Lane Reversal Comparison** (times in hours)

| <b>Storm Scenario</b>       | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
|-----------------------------|---------------------------|------------------------|--------------------|
| Category 3 – Low Occupancy  | 9.4                       | 6.6                    | <b>2.8</b>         |
| Category 3 – High Occupancy | 22.2                      | 14.6                   | <b>7.6</b>         |
| Category 4 – Low Occupancy  | 11.4                      | 7.9                    | <b>3.5</b>         |
| Category 4 – High Occupancy | 24.4                      | 16.0                   | <b>8.4</b>         |

As the Consequence Management point at Route 47 at Port Elizabeth is a limiting factor in evacuation movements for out of state traffic heading south, implementing this reverse lane strategy would also improve Category 3 and 4 clearance times for Salem and Cumberland Counties, with the



new medium response clearance times for these counties being the same as those listed in Table 3-5 above. It should be noted that although this strategy does not reduce the overall clearance times for Cape May County, it will provide improvement in westbound traffic flow as much as 8 hours in some scenarios.

### Scenario 2 – Atlantic City Expressway

The second scenario reviewed is the Atlantic City Expressway Lane Reversal Plan. In this plan, lane reversals would begin at Baltic Avenue in Atlantic City, Atlantic County in the east ending at State Highway 42 in Washington Township, Gloucester County. PBS&J determined that this lane reversal strategy would not affect the overall clearance times for Cape May, Atlantic or Ocean County as these times are limited by bottlenecks along the Garden State Parkway northbound at Exit 88. This strategy would improve clearance times at the bottlenecks / critical roadway segments westbound along the Atlantic City Expressway at Exits 17, 31 and 32. The plan would have a significant positive impact on westbound clearance times through the Consequence Management point at the intersection of the Atlantic City Expressway and the Garden State Parkway. It should be noted that the benefits realized at the intersection of the Atlantic City Expressway and the Garden State Parkway are dependant upon a high level of operational support and coordination and relate to westbound traffic only. These findings are presented in Table 3-6 below.

**Table 3-6**

#### **Atlantic City Expressway Lane Reversal Comparison (times in hours)**

| <b>ACE - Exits 17, 31 and 32</b>           |                           |                        |                    |
|--|---------------------------|------------------------|--------------------|
| <b>Storm Scenario</b>                      | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
| Category 3 – Low Occupancy                 | 7.7                       | 5.9                    | <b>1.8</b>         |
| Category 3 – High Occupancy                | 10.9                      | 7.9                    | <b>3.0</b>         |
| Category 4 – Low Occupancy                 | 9.3                       | 6.9                    | <b>2.4</b>         |
| Category 4 – High Occupancy                | 12.5                      | 8.9                    | <b>3.6</b>         |
| <b>ACE at GSP (westbound traffic only)</b> |                           |                        |                    |
| <b>Storm Scenario</b>                      | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
| Category 3 – Low Occupancy                 | 15.1                      | 10.6                   | <b>4.5</b>         |
| Category 3 – High Occupancy                | 30.4                      | 20.1                   | <b>10.3</b>        |
| Category 4 – Low Occupancy                 | 18.5                      | 12.7                   | <b>5.8</b>         |
| Category 4 – High Occupancy                | 33.9                      | 22.3                   | <b>11.6</b>        |

### Scenario 3 – Route 72

The third scenario reviewed is the Route 72 Lane Reversal Plan. In this plan, lane reversals would begin on Long Beach Island in the east and extending west to the western terminus of Route 72, at the intersection with Route 70 (Four-Mile Circle). PBS&J determined that this lane reversal strategy would not affect the overall clearance times for Cape May, Atlantic or Ocean County as these times are limited by bottlenecks along the Garden State Parkway northbound at Exit 88. This strategy would improve clearance times at the Consequence Management point at Route 70 and Route 72 at Four-Mile Circle. These comparisons are presented in Table 3-7 below.

**Table 3-7**

**Route 72 Lane Reversal Comparison (times in hours)**

| <b>Storm Scenario</b>       | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
|-----------------------------|---------------------------|------------------------|--------------------|
| Category 3 – Low Occupancy  | 9.4                       | 6.6                    | <b>2.8</b>         |
| Category 3 – High Occupancy | 20.0                      | 13.2                   | <b>6.8</b>         |
| Category 4 – Low Occupancy  | 11.9                      | 8.2                    | <b>3.7</b>         |
| Category 4 – High Occupancy | 22.5                      | 14.8                   | <b>7.7</b>         |

As the Consequence Management point at Route 70 and Route 72 is a limiting factor in evacuation movements for traffic heading west, implementing this reverse lane strategy would also improve Category 3 and 4 clearance times for Burlington County, with the new medium response clearance times for this county being the same as those listed in Table 3-7 above.

Scenario 4 – Interstate 195

The fourth scenario reviewed is the I-195 Lane Reversal Plan. In this plan, lane reversals would begin at Mile Post 1 at State Road 138, in Monmouth County and end at Mile Post 9 in Mercer County. PBS&J determined that this lane reversal strategy would not affect the overall clearance times for Cape May, Atlantic, or Ocean County as these times are limited by bottlenecks along the Garden State Parkway northbound at Exit 88 nor would it affect the overall clearance times for Monmouth County, which is determined by the bottleneck along the Garden State Parkway northbound at Exit 100 a-b. The plan would have a small, but positive impact on westbound transit times along Interstate 195. These findings are presented in Table 3-8 below.

**Table 3-8**

**I-195 Lane Reversal Comparison (times in hours)**

| <b>Storm Scenario</b>       | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
|-----------------------------|---------------------------|------------------------|--------------------|
| Category 3 – Low Occupancy  | 6.9                       | 5.4                    | <b>1.5</b>         |
| Category 3 – High Occupancy | 9.9                       | 7.3                    | <b>2.6</b>         |
| Category 4 – Low Occupancy  | 8.6                       | 6.5                    | <b>2.1</b>         |
| Category 4 – High Occupancy | 11.7                      | 8.5                    | <b>3.2</b>         |

Scenario 5 – Cape May County Garden State Parkway Lane Reversal Proposal

The fifth scenario was proposed by Cape May County. In the Cape May County proposal, lane reversal would begin at the start of the Garden State Parkway in the south and would continue to the Atlantic City Expressway. A full analysis of this strategy revealed that it would not affect the overall clearance time for Cape May or Atlantic County as these times are limited by bottlenecks along the Garden State Parkway northbound at Exit 88. This strategy would improve local clearance times along the Garden State Parkway northbound. The plan would have a positive impact on

clearance times at the regional critical roadway segment along the Garden State Parkway at the Cape May County – Atlantic County boundary as well as at the Consequence Management point at the intersection of the Atlantic City Expressway and the Garden State Parkway. It should be noted that the benefits realized at the intersection of the Atlantic City Expressway and the Garden State Parkway are dependant upon a high level of operational support and coordination and relate to northbound traffic only. In addition, the benefits realized at the Consequence Management point at the intersection of the Atlantic City Expressway and the Garden State Parkway are the same as those that would be achieved through the implementation of the official Atlantic City Expressway Lane Reversal Plan. These findings are presented in Table 3-9 below.

**Table 3-9**

**Cape May County Garden State Parkway  
Proposed Lane Reversal Comparison (times in hours)**

| <b>GSP at the Cape May – Atlantic County Boundary</b> |                           |                        |                    |
|---|---------------------------|------------------------|--------------------|
| <b>Storm Scenario</b>                                 | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
| Category 3 – Low Occupancy                            | 10.0                      | 7.4                    | <b>2.6</b>         |
| Category 3 – High Occupancy                           | 22.8                      | 15.4                   | <b>7.4</b>         |
| Category 4 – Low Occupancy                            | 11.5                      | 8.3                    | <b>3.2</b>         |
| Category 4 – High Occupancy                           | 24.5                      | 16.4                   | <b>8.1</b>         |
| <b>ACE at GSP (northbound traffic only)</b>           |                           |                        |                    |
| <b>Storm Scenario</b>                                 | <b>Without Contraflow</b> | <b>With Contraflow</b> | <b>Improvement</b> |
| Category 3 – Low Occupancy                            | 15.1                      | 10.6                   | <b>4.5</b>         |
| Category 3 – High Occupancy                           | 30.4                      | 20.1                   | <b>10.3</b>        |
| Category 4 – Low Occupancy                            | 18.5                      | 12.7                   | <b>5.8</b>         |
| Category 4 – High Occupancy                           | 33.9                      | 22.3                   | <b>11.6</b>        |

Tables 3-10 through 3-14 includes the regional clearance times by bottleneck location / critical roadway segment for the five scenarios identified above.

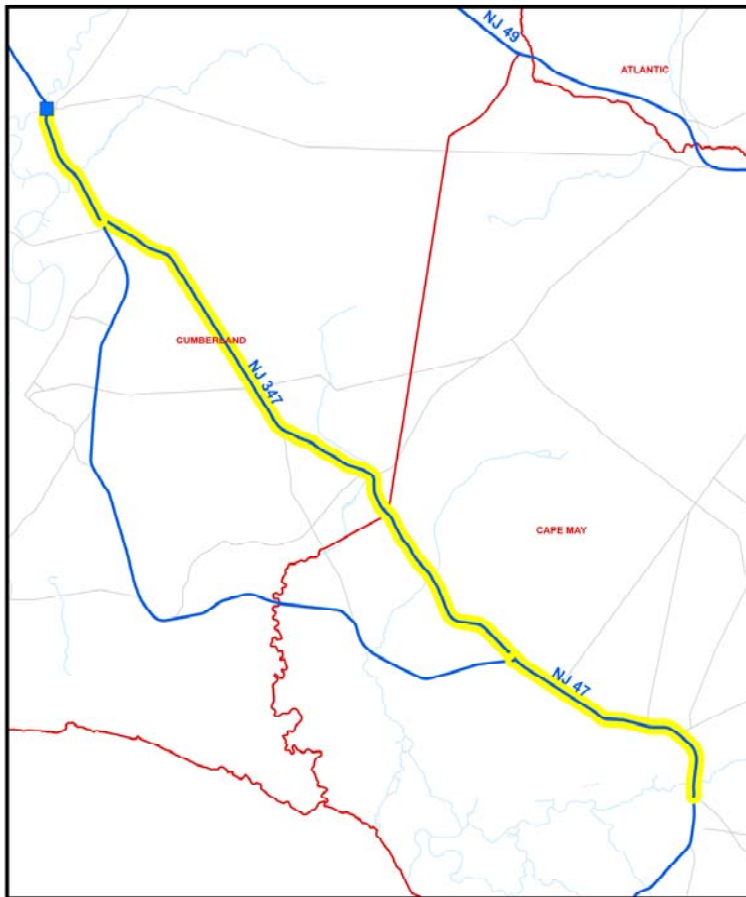
Figure 3-5

Reverse Lane Scenario Descriptions

## LANE REVERSAL SCENARIOS

### *New Jersey State Police Lane Reversal Plan*

NJ State Police Lane Reversal Plan - Begin at the junction of route 83 in the south and continue along NJ 47 and NJ 347 to the north, ending at the junction of Route 55 and NJ 47. The reversal does not include those sections of 47 that are parallel to NJ 347.



### *Atlantic City Expressway Reverse Lane Plan*

Begin at Baltic Avenue in Atlantic City, Atlantic County in the east ending at State Highway 42 in Washington Township, Gloucester County

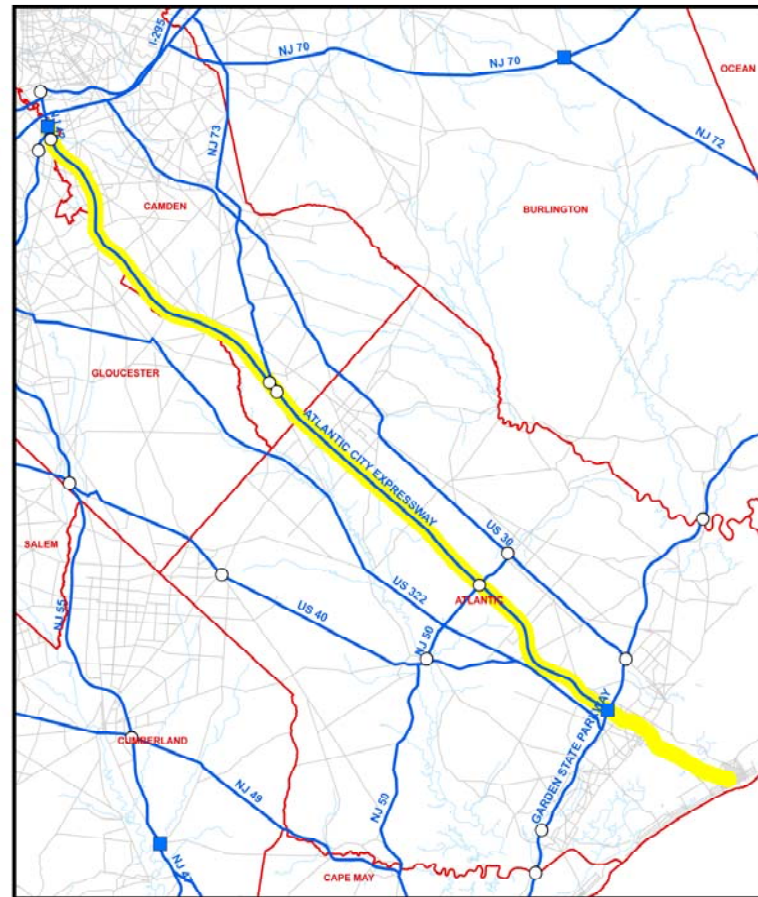


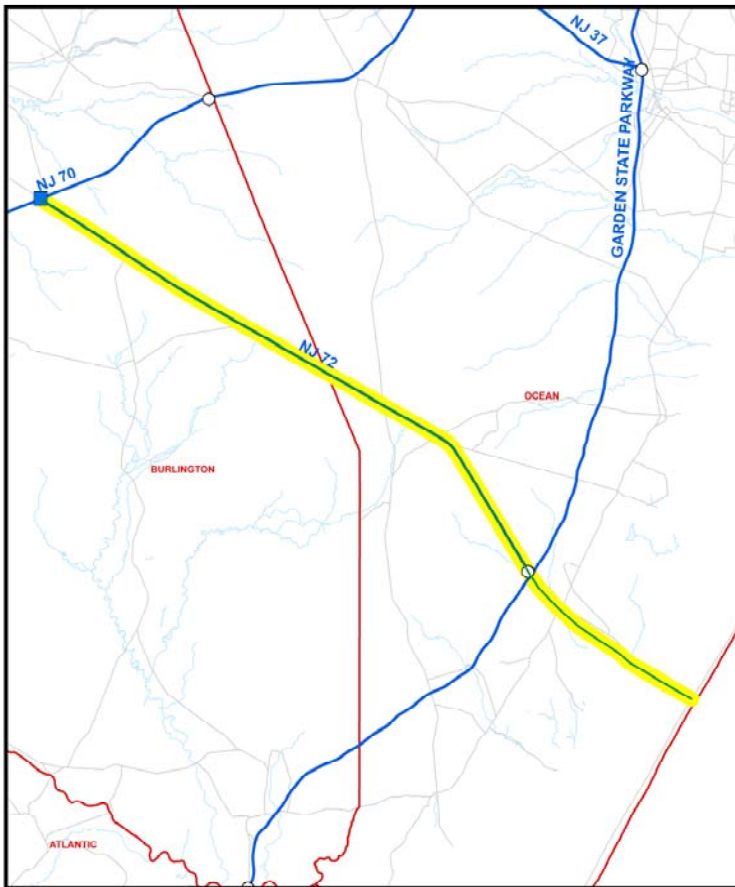


Figure 3-5  
Reverse Lane Scenario Descriptions (continued)

## LANE REVERSAL SCENARIOS

### *Route 72 / Long Beach Island Reverse Lane Plan*

Begin on Long Beach Island in the east and extending west to the western terminus of Route 72, at the intersection with Route 70 (Four-Mile Circle)



### *I-195 Reverse Lane Plan*

Begin at Mile Post 1 at State Road 138, in Monmouth County and end at Mile Post 9 in Mercer County

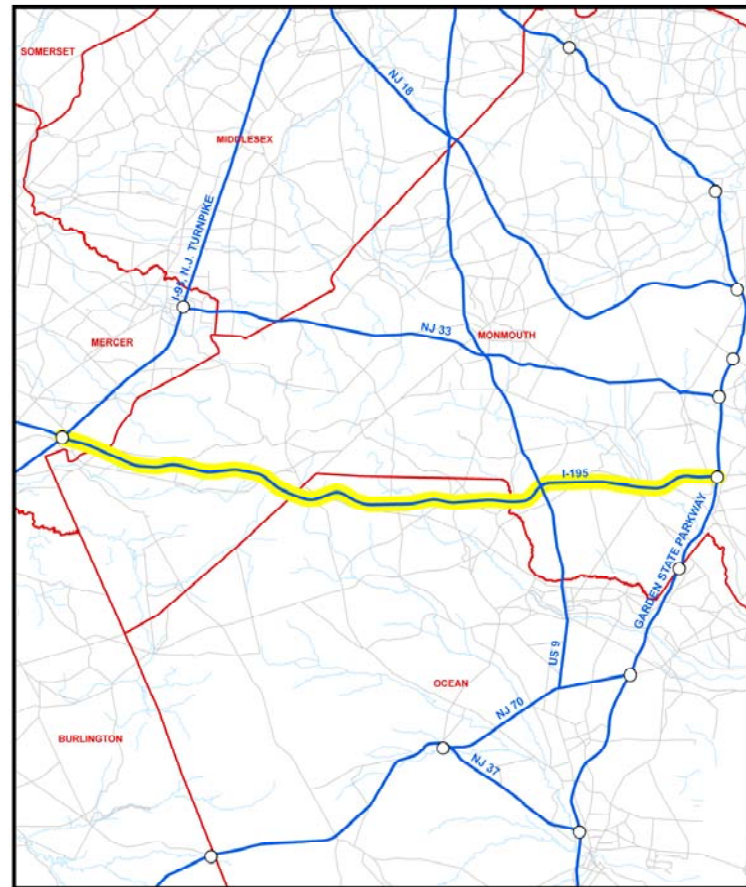


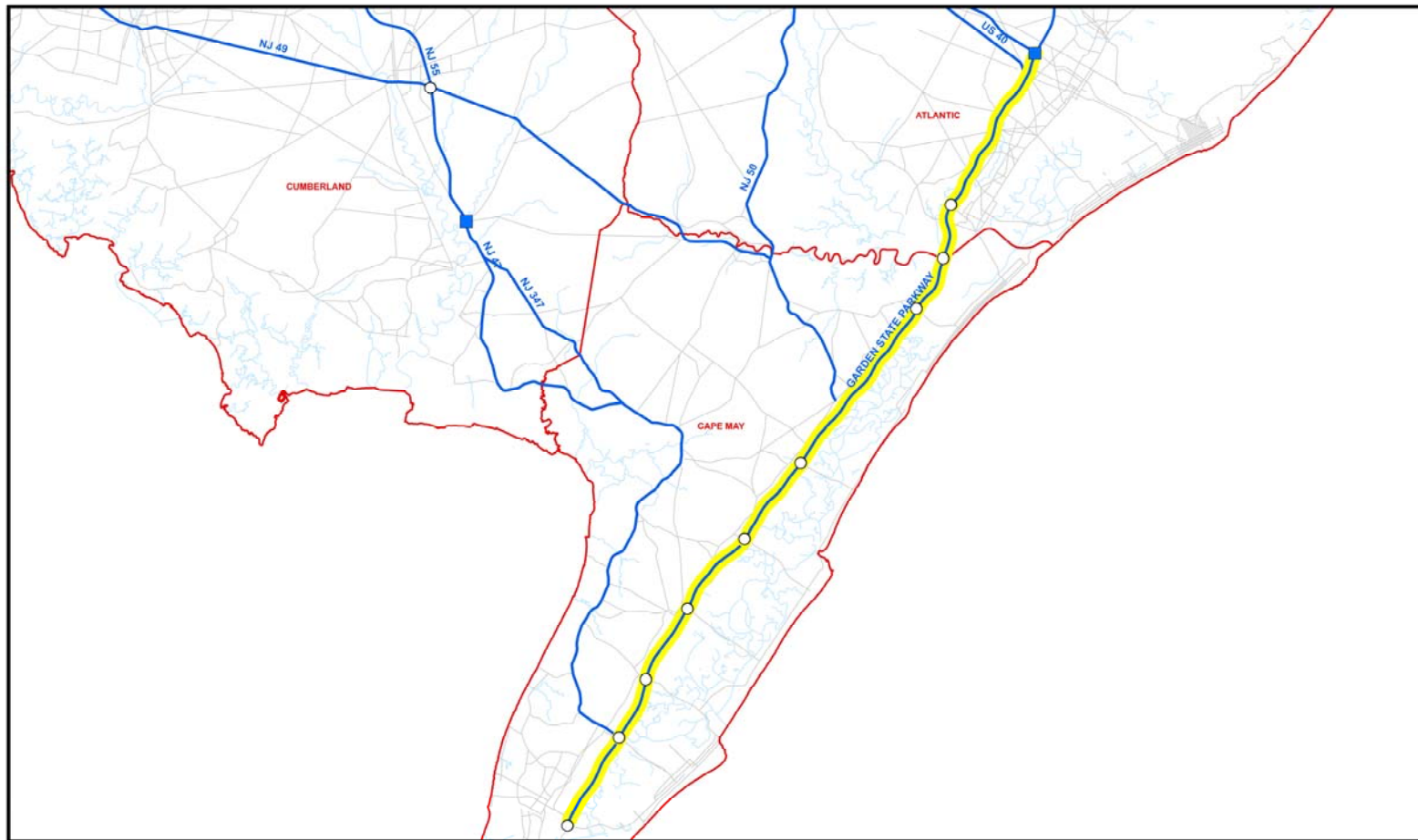
Figure 3-5

Reverse Lane Scenario Descriptions (continued)

## LANE REVERSAL SCENARIOS

### *Cape May Lane Reversal Proposal*

Cape May County Lane Reversal Proposal - Begin at GSP start in the south and continue to the Atlantic City Expressway.



**Table 3-10**  
**Route 47 Reverse Lane Scenario**  
**Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND : <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 15px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 |                               |                              |                               |                              |                               |                              |                               |
|---|--|--|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|   | Route 47 Reverse Lane Scenario                 | Times (in hours)   |                               |                              |                               |                              |                               |                              |                               |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1<br>Evac Veh<br>Low Occ   | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
|   |  |  |                               |                              |                               |                              |                               |                              |                               |
| REGIONAL  | I-287 Exit 66                                  | 5.4  | 10.7                          | 7.1                          | 12.5                          | 9.4                          | 15.2                          | 12.6                         | 18.4                          |
|   | GSP Exit 172                                   | 4.9  | 8.5                           | 6.4                          | 10.1                          | 8.7                          | 12.7                          | 12.3                         | 16.3                          |
|   | Palisades Pkwy at US 9W                        | 2.6  | 2.6                           | 2.9                          | 3.0                           | 3.7                          | 3.8                           | 4.8                          | 4.9                           |
|   | GSP at I-80                                    | 4.8  | 8.0                           | 6.1                          | 9.4                           | 8.1                          | 11.6                          | 11.1                         | 14.6                          |
|   | I-287 Exit 41 at I-80                          | 5.3  | 10.1                          | 7.1                          | 11.9                          | 9.5                          | 14.7                          | 13.0                         | 18.3                          |
|   | I-80 Exit 4                                    | 3.5  | 4.2                           | 3.9                          | 4.7                           | 4.6                          | 5.4                           | 5.7                          | 6.5                           |
|   | I-78 Exit 3                                    | 4.0  | 6.0                           | 4.7                          | 6.8                           | 5.8                          | 8.1                           | 7.7                          | 9.9                           |
|   | GSP at I-78                                    | 5.6  | 11.4                          | 7.4                          | 13.3                          | 9.8                          | 16.1                          | 13.1                         | 19.4                          |
|   | I-287 Exit 21 at I-78                          | 4.6  | 8.0                           | 5.7                          | 9.2                           | 7.4                          | 11.1                          | 10.1                         | 13.8                          |
|   | I-287 Exit 3                                   | 4.5  | 7.8                           | 5.5                          | 9.0                           | 7.0                          | 10.6                          | 8.8                          | 12.4                          |
|   | GSP Exit 127                                   | 6.1  | 13.2                          | 8.3                          | 15.6                          | 11.0                         | 18.7                          | 14.4                         | 22.1                          |
|   | NJTP Exit 9                                    | 3.5  | 4.4                           | 4.0                          | 4.8                           | 4.6                          | 5.6                           | 5.6                          | 6.6                           |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.3  | 6.9                           | 5.3                          | 8.1                           | 6.9                          | 9.9                           | 8.6                          | 11.7                          |
|   | NJTP Exit 8                                    | 3.4  | 3.7                           | 4.0                          | 4.4                           | 5.1                          | 5.6                           | 6.7                          | 7.3                           |
|   | GSP OC-MoC Boundary                            | 6.9  | 16.9                          | 9.5                          | 19.6                          | 12.4                         | 23.0                          | 15.9                         | 26.6                          |
|   | Route 70 at Route 37                           | 2.2  | 2.4                           | 2.3                          | 2.7                           | 2.7                          | 3.2                           | 3.3                          | 3.8                           |
|   | Route 70 at Route 530                          | 2.4  | 3.0                           | 2.7                          | 3.5                           | 3.6                          | 4.7                           | 4.8                          | 5.9                           |
|   | <b>Consequence - Route 70 at Route 72</b>      | 5.5  | 15.0                          | 7.1                          | 17.1                          | 9.4                          | 20.0                          | 11.9                         | 22.5                          |
|   | I-295 Exits 26 and 27                          | 3.8  | 5.5                           | 4.3                          | 5.5                           | 5.0                          | 6.2                           | 5.8                          | 7.0                           |
|   | <b>Consequence - Route 55 at Route 42</b>      | 4.6  | 8.8                           | 5.5                          | 9.1                           | 6.4                          | 10.2                          | 7.6                          | 11.4                          |
|   | Route 42 at Route 168                          | 4.1  | 7.0                           | 4.8                          | 6.5                           | 5.4                          | 7.2                           | 6.2                          | 8.0                           |
|   | ACE Exit 32                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | ACE Exit 31                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4  | 20.3                          | 9.8                          | 22.3                          | 11.6                         | 24.5                          | 13.8                         | 26.8                          |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3  | 2.2                           | 1.6                          | 2.1                           | 1.9                          | 2.4                           | 2.4                          | 2.8                           |
|   | Route 40 - Buena                               | 1.1  | 1.7                           | 1.3                          | 1.3                           | 1.6                          | 1.7                           | 2.5                          | 2.5                           |
|   | ACE Exit 17                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | Route 40 at Route 50 - Mays Landing            | 1.1  | 1.6                           | 1.2                          | 1.3                           | 1.6                          | 1.6                           | 2.3                          | 2.4                           |
|   | <b>Consequence - GSP-ACE</b>                   | 9.0  | 26.2                          | 12.3                         | 27.3                          | 15.1                         | 30.4                          | 18.5                         | 33.9                          |
|   | Route 55 Exit 24                               | 3.8  | 9.1                           | 4.8                          | 10.6                          | 5.9                          | 11.8                          | 7.2                          | 13.2                          |
|   | <b>Consequence - Route 47 - Port Elizabeth</b> | 4.3  | 11.4                          | 5.5                          | 13.3                          | 6.6                          | 14.6                          | 7.9                          | 16.0                          |
|   | NJTP Exit 1                                    | 4.3  | 6.3                           | 5.5                          | 7.2                           | 7.3                          | 9.2                           | 9.6                          | 11.5                          |
|   | Route 55 Exit 56                               | 4.6  | 8.9                           | 5.4                          | 10.2                          | 6.3                          | 11.3                          | 7.5                          | 12.5                          |
|   | Route 55 Exit 39                               | 4.7  | 9.4                           | 5.6                          | 10.8                          | 6.6                          | 12.0                          | 7.9                          | 13.4                          |
|   | GSP CMC-AC Boundary                            | 7.1  | 18.5                          | 8.7                          | 21.3                          | 10.0                         | 22.8                          | 11.5                         | 24.5                          |

Note: Reverse lane segments in yellow, “downstream” segments in green

Table 3-11

**Atlantic City Expressway Reverse Lane Scenario  
Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND : <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 20px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 |                               |                              |                               |                              |                               |                              |                               |
|---|--|--|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|   | ACE Reverse Lane Scenario                      | Times (in hours)   |                               |                              |                               |                              |                               |                              |                               |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1<br>Evac Veh<br>Low Occ   | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
|   |  |  |                               |                              |                               |                              |                               |                              |                               |
| REGIONAL  | I-287 Exit 66                                  | 5.4  | 10.7                          | 7.1                          | 12.5                          | 9.4                          | 15.2                          | 12.6                         | 18.4                          |
|   | GSP Exit 172                                   | 4.9  | 8.5                           | 6.4                          | 10.1                          | 8.7                          | 12.7                          | 12.3                         | 16.3                          |
|   | Palisades Pkwy at US 9W                        | 2.6  | 2.6                           | 2.9                          | 3.0                           | 3.7                          | 3.8                           | 4.8                          | 4.9                           |
|   | GSP at I-80                                    | 4.8  | 8.0                           | 6.1                          | 9.4                           | 8.1                          | 11.6                          | 11.1                         | 14.6                          |
|   | I-287 Exit 41 at I-80                          | 5.3  | 10.1                          | 7.1                          | 11.9                          | 9.5                          | 14.7                          | 13.0                         | 18.3                          |
|   | I-80 Exit 4                                    | 3.5  | 4.2                           | 3.9                          | 4.7                           | 4.6                          | 5.4                           | 5.7                          | 6.5                           |
|   | I-78 Exit 3                                    | 4.0  | 6.0                           | 4.7                          | 6.8                           | 5.8                          | 8.1                           | 7.7                          | 9.9                           |
|   | GSP at I-78                                    | 5.6  | 11.4                          | 7.4                          | 13.3                          | 9.8                          | 16.1                          | 13.1                         | 19.4                          |
|   | I-287 Exit 21 at I-78                          | 4.6  | 8.0                           | 5.7                          | 9.2                           | 7.4                          | 11.1                          | 10.1                         | 13.8                          |
|   | I-287 Exit 3                                   | 4.5  | 7.8                           | 5.5                          | 9.0                           | 7.0                          | 10.6                          | 8.8                          | 12.4                          |
|   | GSP Exit 127                                   | 6.1  | 13.2                          | 8.3                          | 15.6                          | 11.0                         | 18.7                          | 14.4                         | 22.1                          |
|   | NJTP Exit 9                                    | 3.5  | 4.4                           | 4.0                          | 4.8                           | 4.6                          | 5.6                           | 5.6                          | 6.6                           |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.3  | 6.9                           | 5.3                          | 8.1                           | 6.9                          | 9.9                           | 8.6                          | 11.7                          |
|   | NJTP Exit 8                                    | 3.4  | 3.7                           | 4.0                          | 4.4                           | 5.1                          | 5.6                           | 6.7                          | 7.3                           |
|   | GSP OC-MoC Boundary                            | 6.9  | 16.9                          | 9.5                          | 19.6                          | 12.4                         | 23.0                          | 15.9                         | 26.6                          |
|   | Route 70 at Route 37                           | 2.2  | 2.4                           | 2.3                          | 2.7                           | 2.7                          | 3.2                           | 3.3                          | 3.8                           |
|   | Route 70 at Route 530                          | 2.4  | 3.0                           | 2.7                          | 3.5                           | 3.6                          | 4.7                           | 4.8                          | 5.9                           |
|   | <b>Consequence - Route 70 at Route 72</b>      | 5.5  | 15.0                          | 7.1                          | 17.1                          | 9.4                          | 20.0                          | 11.9                         | 22.5                          |
|   | I-295 Exits 26 and 27                          | 3.8  | 5.5                           | 4.3                          | 5.5                           | 5.0                          | 6.2                           | 5.8                          | 7.0                           |
|   | <b>Consequence - Route 55 at Route 42</b>      | 4.6  | 8.8                           | 5.5                          | 9.1                           | 6.4                          | 10.2                          | 7.6                          | 11.4                          |
|   | Route 42 at Route 168                          | 4.1  | 7.0                           | 4.8                          | 6.5                           | 5.4                          | 7.2                           | 6.2                          | 8.0                           |
|   | ACE Exit 32                                    | 4.3  | 7.7                           | 5.2                          | 7.1                           | 5.9                          | 7.9                           | 6.9                          | 8.9                           |
|   | ACE Exit 31                                    | 4.3  | 7.7                           | 5.2                          | 7.1                           | 5.9                          | 7.9                           | 6.9                          | 8.9                           |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4  | 20.3                          | 9.8                          | 22.3                          | 11.6                         | 24.5                          | 13.8                         | 26.8                          |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3  | 2.2                           | 1.6                          | 2.1                           | 1.9                          | 2.4                           | 2.4                          | 2.8                           |
|   | Route 40 - Buena                               | 1.1  | 1.7                           | 1.3                          | 1.3                           | 1.6                          | 1.7                           | 2.5                          | 2.5                           |
|   | ACE Exit 17                                    | 4.3  | 7.7                           | 5.2                          | 7.1                           | 5.9                          | 7.9                           | 6.9                          | 8.9                           |
|   | Route 40 at Route 50 - Mays Landing            | 1.1  | 1.6                           | 1.2                          | 1.3                           | 1.6                          | 1.6                           | 2.3                          | 2.4                           |
|   | <b>Consequence - GSP-ACE</b>                   | 6.8  | 17.5                          | 8.8                          | 18.2                          | 10.6                         | 20.1                          | 12.7                         | 22.3                          |
|   | Route 55 Exit 24                               | 3.8  | 9.1                           | 4.8                          | 10.6                          | 5.9                          | 11.8                          | 7.2                          | 13.2                          |
|   | <b>Consequence - Route 47 - Port Elizabeth</b> | 5.7  | 17.0                          | 7.7                          | 20.1                          | 9.4                          | 22.2                          | 11.4                         | 24.4                          |
|   | NJTP Exit 1                                    | 4.3  | 6.3                           | 5.5                          | 7.2                           | 7.3                          | 9.2                           | 9.6                          | 11.5                          |
|   | Route 55 Exit 56                               | 4.6  | 8.9                           | 5.4                          | 10.2                          | 6.3                          | 11.3                          | 7.5                          | 12.5                          |
|   | Route 55 Exit 39                               | 4.7  | 9.4                           | 5.6                          | 10.8                          | 6.6                          | 12.0                          | 7.9                          | 13.4                          |
|   | GSP CMC-AC Boundary                            | 7.1  | 18.5                          | 8.7                          | 21.3                          | 10.0                         | 22.8                          | 11.5                         | 24.5                          |

Note: Reverse lane segments in yellow, “downstream” segments in green



**Table 3-12**  
**Route 72 Reverse Lane Scenario**  
**Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND : <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 15px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 |                               |                              |                               |                              |                               |                              |                               |
|---|--|--|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|   | Route 72 Reverse Lane Scenario                 | Times (in hours)   |                               |                              |                               |                              |                               |                              |                               |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1<br>Evac Veh<br>Low Occ   | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
|   |  |  |                               |                              |                               |                              |                               |                              |                               |
| REGIONAL  | I-287 Exit 66                                  | 5.4  | 10.7                          | 7.1                          | 12.5                          | 9.4                          | 15.2                          | 12.6                         | 18.4                          |
|   | GSP Exit 172                                   | 4.9  | 8.5                           | 6.4                          | 10.1                          | 8.7                          | 12.7                          | 12.3                         | 16.3                          |
|   | Palisades Pkwy at US 9W                        | 2.6  | 2.6                           | 2.9                          | 3.0                           | 3.7                          | 3.8                           | 4.8                          | 4.9                           |
|   | GSP at I-80                                    | 4.8  | 8.0                           | 6.1                          | 9.4                           | 8.1                          | 11.6                          | 11.1                         | 14.6                          |
|   | I-287 Exit 41 at I-80                          | 5.3  | 10.1                          | 7.1                          | 11.9                          | 9.5                          | 14.7                          | 13.0                         | 18.3                          |
|   | I-80 Exit 4                                    | 3.5  | 4.2                           | 3.9                          | 4.7                           | 4.6                          | 5.4                           | 5.7                          | 6.5                           |
|   | I-78 Exit 3                                    | 4.0  | 6.0                           | 4.7                          | 6.8                           | 5.8                          | 8.1                           | 7.7                          | 9.9                           |
|   | GSP at I-78                                    | 5.6  | 11.4                          | 7.4                          | 13.3                          | 9.8                          | 16.1                          | 13.1                         | 19.4                          |
|   | I-287 Exit 21 at I-78                          | 4.6  | 8.0                           | 5.7                          | 9.2                           | 7.4                          | 11.1                          | 10.1                         | 13.8                          |
|   | I-287 Exit 3                                   | 4.5  | 7.8                           | 5.5                          | 9.0                           | 7.0                          | 10.6                          | 8.8                          | 12.4                          |
|   | GSP Exit 127                                   | 6.1  | 13.2                          | 8.3                          | 15.6                          | 11.0                         | 18.7                          | 14.4                         | 22.1                          |
|   | NJTP Exit 9                                    | 3.5  | 4.4                           | 4.0                          | 4.8                           | 4.6                          | 5.6                           | 5.6                          | 6.6                           |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.3  | 6.9                           | 5.3                          | 8.1                           | 6.9                          | 9.9                           | 8.6                          | 11.7                          |
|   | NJTP Exit 8                                    | 3.4  | 3.7                           | 4.0                          | 4.4                           | 5.1                          | 5.6                           | 6.7                          | 7.3                           |
|   | GSP OC-MoC Boundary                            | 6.9  | 16.9                          | 9.5                          | 19.6                          | 12.4                         | 23.0                          | 15.9                         | 26.6                          |
|   | Route 70 at Route 37                           | 2.2  | 2.4                           | 2.3                          | 2.7                           | 2.7                          | 3.2                           | 3.3                          | 3.8                           |
|   | Route 70 at Route 530                          | 2.4  | 3.0                           | 2.7                          | 3.5                           | 3.6                          | 4.7                           | 4.8                          | 5.9                           |
|   | <b>Consequence - Route 70 at Route 72</b>      | 4.2  | 10.1                          | 5.2                          | 11.4                          | 6.6                          | 13.2                          | 8.2                          | 14.8                          |
|   | I-295 Exits 26 and 27                          | 3.8  | 5.5                           | 4.3                          | 5.5                           | 5.0                          | 6.2                           | 5.8                          | 7.0                           |
|   | <b>Consequence - Route 55 at Route 42</b>      | 4.6  | 8.8                           | 5.5                          | 9.1                           | 6.4                          | 10.2                          | 7.6                          | 11.4                          |
|   | Route 42 at Route 168                          | 4.1  | 7.0                           | 4.8                          | 6.5                           | 5.4                          | 7.2                           | 6.2                          | 8.0                           |
|   | ACE Exit 32                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | ACE Exit 31                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4  | 20.3                          | 9.8                          | 22.3                          | 11.6                         | 24.5                          | 13.8                         | 26.8                          |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3  | 2.2                           | 1.6                          | 2.1                           | 1.9                          | 2.4                           | 2.4                          | 2.8                           |
|   | Route 40 - Buena                               | 1.1  | 1.7                           | 1.3                          | 1.3                           | 1.6                          | 1.7                           | 2.5                          | 2.5                           |
|   | ACE Exit 17                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | Route 40 at Route 50 - Mays Landing            | 1.1  | 1.6                           | 1.2                          | 1.3                           | 1.6                          | 1.6                           | 2.3                          | 2.4                           |
|   | <b>Consequence - GSP-ACE</b>                   | 9.0  | 26.2                          | 12.3                         | 27.3                          | 15.1                         | 30.4                          | 18.5                         | 33.9                          |
|   | Route 55 Exit 24                               | 3.8  | 9.1                           | 4.8                          | 10.6                          | 5.9                          | 11.8                          | 7.2                          | 13.2                          |
|   | <b>Consequence - Route 47 - Port Elizabeth</b> | 5.7  | 17.0                          | 7.7                          | 20.1                          | 9.4                          | 22.2                          | 11.4                         | 24.4                          |
|   | NJTP Exit 1                                    | 4.3  | 6.3                           | 5.5                          | 7.2                           | 7.3                          | 9.2                           | 9.6                          | 11.5                          |
|   | Route 55 Exit 56                               | 4.6  | 8.9                           | 5.4                          | 10.2                          | 6.3                          | 11.3                          | 7.5                          | 12.5                          |
|   | Route 55 Exit 39                               | 4.7  | 9.4                           | 5.6                          | 10.8                          | 6.6                          | 12.0                          | 7.9                          | 13.4                          |
|   | GSP CMC-AC Boundary                            | 7.1  | 18.5                          | 8.7                          | 21.3                          | 10.0                         | 22.8                          | 11.5                         | 24.5                          |

Note: Reverse lane segment in yellow

**Table 3-13**  
**Interstate 195 Reverse Lane Scenario**  
**Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND : <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 15px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 15px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 |                               |                              |                               |                              |                               |                              |                               |
|---|--|--|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|   | I-195 Reverse Lane Scenario                    | Times (in hours)   |                               |                              |                               |                              |                               |                              |                               |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1<br>Evac Veh<br>Low Occ   | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
|   |  |  |                               |                              |                               |                              |                               |                              |                               |
| REGIONAL  | I-287 Exit 66                                  | 5.4  | 10.7                          | 7.1                          | 12.5                          | 9.4                          | 15.2                          | 12.6                         | 18.4                          |
|   | GSP Exit 172                                   | 4.9  | 8.5                           | 6.4                          | 10.1                          | 8.7                          | 12.7                          | 12.3                         | 16.3                          |
|   | Palisades Pkwy at US 9W                        | 2.6  | 2.6                           | 2.9                          | 3.0                           | 3.7                          | 3.8                           | 4.8                          | 4.9                           |
|   | GSP at I-80                                    | 4.8  | 8.0                           | 6.1                          | 9.4                           | 8.1                          | 11.6                          | 11.1                         | 14.6                          |
|   | I-287 Exit 41 at I-80                          | 5.3  | 10.1                          | 7.1                          | 11.9                          | 9.5                          | 14.7                          | 13.0                         | 18.3                          |
|   | I-80 Exit 4                                    | 3.5  | 4.2                           | 3.9                          | 4.7                           | 4.6                          | 5.4                           | 5.7                          | 6.5                           |
|   | I-78 Exit 3                                    | 4.0  | 6.0                           | 4.7                          | 6.8                           | 5.8                          | 8.1                           | 7.7                          | 9.9                           |
|   | GSP at I-78                                    | 5.6  | 11.4                          | 7.4                          | 13.3                          | 9.8                          | 16.1                          | 13.1                         | 19.4                          |
|   | I-287 Exit 21 at I-78                          | 4.6  | 8.0                           | 5.7                          | 9.2                           | 7.4                          | 11.1                          | 10.1                         | 13.8                          |
|   | I-287 Exit 3                                   | 4.5  | 7.8                           | 5.5                          | 9.0                           | 7.0                          | 10.6                          | 8.8                          | 12.4                          |
|   | GSP Exit 127                                   | 6.1  | 13.2                          | 8.3                          | 15.6                          | 11.0                         | 18.7                          | 14.4                         | 22.1                          |
|   | NJTP Exit 9                                    | 3.5  | 4.4                           | 4.0                          | 4.8                           | 4.6                          | 5.6                           | 5.6                          | 6.6                           |
|   | <b>I-195 Exit 8 MoC-MeC Boundary</b>           | 3.8  | 5.4                           | 4.5                          | 6.2                           | 5.4                          | 7.3                           | 6.5                          | 8.5                           |
|   | NJTP Exit 8                                    | 3.4  | 3.7                           | 4.0                          | 4.4                           | 5.1                          | 5.6                           | 6.7                          | 7.3                           |
|   | GSP OC-MoC Boundary                            | 6.9  | 16.9                          | 9.5                          | 19.6                          | 12.4                         | 23.0                          | 15.9                         | 26.6                          |
|   | Route 70 at Route 37                           | 2.2  | 2.4                           | 2.3                          | 2.7                           | 2.7                          | 3.2                           | 3.3                          | 3.8                           |
|   | Route 70 at Route 530                          | 2.4  | 3.0                           | 2.7                          | 3.5                           | 3.6                          | 4.7                           | 4.8                          | 5.9                           |
|   | <b>Consequence - Route 70 at Route 72</b>      | 5.5  | 15.0                          | 7.1                          | 17.1                          | 9.4                          | 20.0                          | 11.9                         | 22.5                          |
|   | I-295 Exits 26 and 27                          | 3.8  | 5.5                           | 4.3                          | 5.5                           | 5.0                          | 6.2                           | 5.8                          | 7.0                           |
|   | <b>Consequence - Route 55 at Route 42</b>      | 4.6  | 8.8                           | 5.5                          | 9.1                           | 6.4                          | 10.2                          | 7.6                          | 11.4                          |
|   | Route 42 at Route 168                          | 4.1  | 7.0                           | 4.8                          | 6.5                           | 5.4                          | 7.2                           | 6.2                          | 8.0                           |
|   | ACE Exit 32                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | ACE Exit 31                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4  | 20.3                          | 9.8                          | 22.3                          | 11.6                         | 24.5                          | 13.8                         | 26.8                          |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3  | 2.2                           | 1.6                          | 2.1                           | 1.9                          | 2.4                           | 2.4                          | 2.8                           |
|   | Route 40 - Buena                               | 1.1  | 1.7                           | 1.3                          | 1.3                           | 1.6                          | 1.7                           | 2.5                          | 2.5                           |
|   | ACE Exit 17                                    | 5.0  | 10.6                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |
|   | Route 40 at Route 50 - Mays Landing            | 1.1  | 1.6                           | 1.2                          | 1.3                           | 1.6                          | 1.6                           | 2.3                          | 2.4                           |
|   | <b>Consequence - GSP-ACE</b>                   | 9.0  | 26.2                          | 12.3                         | 27.3                          | 15.1                         | 30.4                          | 18.5                         | 33.9                          |
|   | Route 55 Exit 24                               | 3.8  | 9.1                           | 4.8                          | 10.6                          | 5.9                          | 11.8                          | 7.2                          | 13.2                          |
|   | <b>Consequence - Route 47 - Port Elizabeth</b> | 5.7  | 17.0                          | 7.7                          | 20.1                          | 9.4                          | 22.2                          | 11.4                         | 24.4                          |
|   | NJTP Exit 1                                    | 4.3  | 6.3                           | 5.5                          | 7.2                           | 7.3                          | 9.2                           | 9.6                          | 11.5                          |
|   | Route 55 Exit 56                               | 4.6  | 8.9                           | 5.4                          | 10.2                          | 6.3                          | 11.3                          | 7.5                          | 12.5                          |
|   | Route 55 Exit 39                               | 4.7  | 9.4                           | 5.6                          | 10.8                          | 6.6                          | 12.0                          | 7.9                          | 13.4                          |
|   | GSP CMC-AC Boundary                            | 7.1  | 18.5                          | 8.7                          | 21.3                          | 10.0                         | 22.8                          | 11.5                         | 24.5                          |

Note: Reverse lane segment in yellow

Table 3-14

**Cape Map County – Garden State Parkway Proposed Reverse Lane Scenario  
Critical Roadway Segment Clearance Times**

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND :            |                      | - CAT 1             | - CAT 2              | - CAT 3             | - CAT 4              |                     |                      |  |
|---|--|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|--|
| REGIONAL  | GSP Reverse Lane Scenario                      |                     | Times (in hours)     |                     |                      |                     |                      |                     |                      |  |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1               | Cat 1                | Cat 2               | Cat 2                | Cat 3               | Cat 3                | Cat 4               | Cat 4                |  |
|   |  | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ |  |
|   | I-287 Exit 66                                  | 5.4                 | 10.7                 | 7.1                 | 12.5                 | 9.4                 | 15.2                 | 12.6                | 18.4                 |  |
|   | GSP Exit 172                                   | 4.9                 | 8.5                  | 6.4                 | 10.1                 | 8.7                 | 12.7                 | 12.3                | 16.3                 |  |
|   | Palisades Pkwy at US 9W                        | 2.6                 | 2.6                  | 2.9                 | 3.0                  | 3.7                 | 3.8                  | 4.8                 | 4.9                  |  |
|   | GSP at I-80                                    | 4.8                 | 8.0                  | 6.1                 | 9.4                  | 8.1                 | 11.6                 | 11.1                | 14.6                 |  |
|   | I-287 Exit 41 at I-80                          | 5.3                 | 10.1                 | 7.1                 | 11.9                 | 9.5                 | 14.7                 | 13.0                | 18.3                 |  |
|   | I-80 Exit 4                                    | 3.5                 | 4.2                  | 3.9                 | 4.7                  | 4.6                 | 5.4                  | 5.7                 | 6.5                  |  |
|   | I-78 Exit 3                                    | 4.0                 | 6.0                  | 4.7                 | 6.8                  | 5.8                 | 8.1                  | 7.7                 | 9.9                  |  |
|   | GSP at I-78                                    | 5.6                 | 11.4                 | 7.4                 | 13.3                 | 9.8                 | 16.1                 | 13.1                | 19.4                 |  |
|   | I-287 Exit 21 at I-78                          | 4.6                 | 8.0                  | 5.7                 | 9.2                  | 7.4                 | 11.1                 | 10.1                | 13.8                 |  |
|   | I-287 Exit 3                                   | 4.5                 | 7.8                  | 5.5                 | 9.0                  | 7.0                 | 10.6                 | 8.8                 | 12.4                 |  |
|   | GSP Exit 127                                   | 6.1                 | 13.2                 | 8.3                 | 15.6                 | 11.0                | 18.7                 | 14.4                | 22.1                 |  |
|   | NJTP Exit 9                                    | 3.5                 | 4.4                  | 4.0                 | 4.8                  | 4.6                 | 5.6                  | 5.6                 | 6.6                  |  |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.3                 | 6.9                  | 5.3                 | 8.1                  | 6.9                 | 9.9                  | 8.6                 | 11.7                 |  |
|   | NJTP Exit 8                                    | 3.4                 | 3.7                  | 4.0                 | 4.4                  | 5.1                 | 5.6                  | 6.7                 | 7.3                  |  |
|   | GSP OC-MoC Boundary                            | 6.9                 | 16.9                 | 9.5                 | 19.6                 | 12.4                | 23.0                 | 15.9                | 26.6                 |  |
|   | Route 70 at Route 37                           | 2.2                 | 2.4                  | 2.3                 | 2.7                  | 2.7                 | 3.2                  | 3.3                 | 3.8                  |  |
|   | Route 70 at Route 530                          | 2.4                 | 3.0                  | 2.7                 | 3.5                  | 3.6                 | 4.7                  | 4.8                 | 5.9                  |  |
|   | Consequence - Route 70 at Route 72             | 5.5                 | 15.0                 | 7.1                 | 17.1                 | 9.4                 | 20.0                 | 11.9                | 22.5                 |  |
|   | I-295 Exits 26 and 27                          | 3.8                 | 5.5                  | 4.3                 | 5.5                  | 5.0                 | 6.2                  | 5.8                 | 7.0                  |  |
|   | Consequence - Route 55 at Route 42             | 4.6                 | 8.8                  | 5.5                 | 9.1                  | 6.4                 | 10.2                 | 7.6                 | 11.4                 |  |
|   | Route 42 at Route 168                          | 4.1                 | 7.0                  | 4.8                 | 6.5                  | 5.4                 | 7.2                  | 6.2                 | 8.0                  |  |
|   | ACE Exit 32                                    | 5.0                 | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |  |
|   | ACE Exit 31                                    | 5.0                 | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |  |
|   | GSP Exit 48 AC-OC Boundary                     | 7.4                 | 20.3                 | 9.8                 | 22.3                 | 11.6                | 24.5                 | 13.8                | 26.8                 |  |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3                 | 2.2                  | 1.6                 | 2.1                  | 1.9                 | 2.4                  | 2.4                 | 2.8                  |  |
|   | Route 40 - Buena                               | 1.1                 | 1.7                  | 1.3                 | 1.3                  | 1.6                 | 1.7                  | 2.5                 | 2.5                  |  |
|   | ACE Exit 17                                    | 5.0                 | 10.6                 | 6.5                 | 9.6                  | 7.7                 | 10.9                 | 9.3                 | 12.5                 |  |
| Route 40 at Route 50 - Mays Landing   | 1.1  | 1.6                 | 1.2                  | 1.3                 | 1.6                  | 1.6                 | 2.3                  | 2.4                 |                      |  |
| Consequence - GSP-ACE   | 6.8  | 17.5                | 8.8                  | 18.2                | 10.6                 | 20.1                | 12.7                 | 22.3                |                      |  |
| Route 55 Exit 24  | 3.8  | 9.1                 | 4.8                  | 10.6                | 5.9                  | 11.8                | 7.2                  | 13.2                |                      |  |
| Consequence - Route 47 - Port Elizabeth   | 5.7  | 17.0                | 7.7                  | 20.1                | 9.4                  | 22.2                | 11.4                 | 24.4                |                      |  |
| NJTP Exit 1   | 4.3  | 6.3                 | 5.5                  | 7.2                 | 7.3                  | 9.2                 | 9.6                  | 11.5                |                      |  |
| Route 55 Exit 56  | 4.6  | 8.9                 | 5.4                  | 10.2                | 6.3                  | 11.3                | 7.5                  | 12.5                |                      |  |
| Route 55 Exit 39  | 4.7  | 9.4                 | 5.6                  | 10.8                | 6.6                  | 12.0                | 7.9                  | 13.4                |                      |  |
| GSP CMC-AC Boundary   | 5.6  | 12.7                | 6.6                  | 14.4                | 7.4                  | 15.4                | 8.3                  | 16.4                |                      |  |

Note: Reverse lane segments in yellow, “downstream” westbound segments in green, northbound segments in tan.

**Table 3-14**

**Cape Map County – Garden State Parkway Proposed Reverse Lane Scenario  
Critical Roadway Segment Clearance Times (continued)**

| LOCAL | Bottleneck Location / Critical Roadway Segment | Times (in hours)    |                      |                     |                      |                     |                      |                     |                      |
|-------|--|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
|       |  | Cat 1               | Cat 1                | Cat 2               | Cat 2                | Cat 3               | Cat 3                | Cat 4               | Cat 4                |
|       |  | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ | Evac Veh<br>Low Occ | Evac Veh<br>High Occ |
|       | GSP Exit 117                                   | 6.9                 | 14.2                 | 9.4                 | 16.9                 | 12.3                | 20.2                 | 15.6                | 23.5                 |
|       | GSP Exit 109                                   | 6.8                 | 15.6                 | 9.5                 | 18.5                 | 12.7                | 22.1                 | 16.4                | 25.9                 |
|       | GSP Exit 105                                   | 6.7                 | 15.5                 | 9.3                 | 18.3                 | 12.4                | 21.9                 | 15.9                | 25.5                 |
|       | GSP Exit 102                                   | 6.6                 | 15.4                 | 9.1                 | 18.0                 | 12.1                | 21.5                 | 15.6                | 25.1                 |
|       | GSP Exit 100 a-b                               | 7.1                 | 17.2                 | 9.8                 | 20.1                 | 13.1                | 24.0                 | 17.0                | 27.9                 |
|       | GSP Exit 96                                    | 7.0                 | 17.0                 | 9.6                 | 19.8                 | 12.6                | 23.3                 | 16.2                | 27.0                 |
|       | GSP Exit 88                                    | 12.1                | 25.6                 | 17.1                | 30.8                 | 22.1                | 36.5                 | 27.6                | 42.0                 |
|       | GSP Exit 82                                    | 10.5                | 23.1                 | 14.3                | 27.0                 | 17.8                | 31.0                 | 20.9                | 34.2                 |
|       | GSP Exit 63                                    | 10.5                | 26.3                 | 13.8                | 29.5                 | 16.7                | 32.8                 | 19.5                | 35.8                 |
|       | GSP Exit 40                                    | 13.7                | 21.7                 | 17.4                | 26.4                 | 18.7                | 27.9                 | 20.3                | 26.8                 |
|       | GSP Exit 30                                    | 9.1                 | 13.7                 | 10.8                | 15.9                 | 11.5                | 16.8                 | 12.4                | 16.0                 |
|       | GSP Exit 25                                    | 6.1                 | 12.0                 | 7.7                 | 14.2                 | 8.4                 | 15.0                 | 9.3                 | 16.0                 |
|       | GSP Exit 17                                    | 5.5                 | 10.3                 | 6.8                 | 12.0                 | 7.5                 | 12.8                 | 8.1                 | 13.4                 |
|       | GSP Exit 13                                    | 5.0                 | 8.4                  | 6.2                 | 10.0                 | 6.8                 | 10.7                 | 7.3                 | 11.2                 |
|       | GSP Exit 10                                    | 4.2                 | 6.1                  | 4.9                 | 7.0                  | 5.2                 | 7.4                  | 5.5                 | 7.7                  |
|       | GSP Exit 06                                    | 4.0                 | 5.6                  | 4.7                 | 6.4                  | 4.9                 | 6.7                  | 5.2                 | 7.0                  |
|       | GSP Exit 04                                    | 3.1                 | 4.8                  | 3.8                 | 5.8                  | 4.1                 | 6.1                  | 4.4                 | 6.5                  |
|       | Route 109 at GSP Start                         | 1.3                 | 1.9                  | 1.5                 | 2.1                  | 1.5                 | 2.2                  | 1.6                 | 2.2                  |

Note: Reverse lane segments in yellow, “downstream” northbound segments in tan.



### 3.9 CAPE MAY COUNTY – ALTERNATE EVACUATION ANALYSIS

PBS&J recommends using the behavioral assumptions that are included in the Abbreviated Transportation Model (ATM) for the purposes of estimating clearance times. The ATM is open to user defined inputs and state and local government officials may test alternate evacuation scenarios based on varying socioeconomic and behavioral assumptions. It is critically important that clearance times generated through the Hurricane Evacuation Study process not underestimate the time required for all vehicles to reach their final destinations. Failure to accurately estimate this could influence emergency managers in calling for an evacuation later than one is needed, potentially leaving vehicles on the road after the onset of tropical storm force winds and individuals in harms way. It is also just as important that clearance times not grossly overestimate the time required to clear an area. Clearance times that are inaccurately long may force decision makers to call evacuations prematurely and unnecessarily load the evacuation roadway network, presenting equally compelling risks to public safety.

As was outlined in Section 2.3, PBS&J models zones that will be evacuated for storm surge at a 100 percent participation rate. While responsibly high, these rates reflect high shadow participation and anticipate the potential for fast moving storm events. A portion of the theoretically non-vulnerable population (shadow evacuees) is also assumed to evacuate in the model. Shadow evacuations are modeled at relatively high levels for tourists and mobile home residents. Permanent residents are assumed to have a lower effect on shadow evacuation. Finally, while the mobile home evacuation rate in storm surge vulnerable areas is assumed to be 100 percent, all mobile homes lying in inland zones are assumed to evacuate in Category 3 and 4 events. As was noted previously, in the interest of public safety, the clearance times calculated in this study allow those who are vulnerable to storm surge the opportunity to evacuate whether they choose to or not.

Through stakeholder coordination with Cape May County, due to national media attention associated with potential regional vulnerabilities and local concerns associated with storm risks including building safety and the potential isolation of evacuation routes, Cape May County intends to call an evacuation order for the entire permanent and seasonal population in all storm events. In order to model this scenario, PBS&J used the behavioral assumption employed in the Category 4 storm scenario for Cape May County to the Category 1 event. This proposed strategy would be to load 100 percent of the expected evacuating vehicles from Cape May onto the evacuation roadway network in a Category 1 event. While this strategy would have no impact on clearance times in a Category 4 event, it would have significant impacts on local and regional clearance times in Category 1-3 events. The most significant increases in clearance times would occur along the Garden State Parkway and Westbound via Route 47 and Route 55. Successful implementation of this scenario would require extensive intergovernmental coordination with neighboring counties, the State Office of Emergency Management and FEMA.

Table 3-15 illustrates the clearance time increases associated with a Cape May County Category 1 storm event total evacuation. Blocks in pink identify segment clearance times that will increase as a result of this strategy. Blocks in red identify segments that will have clearance time increases greater than one hour.

Table 3-15

## Cape May County– Alternate Evacuation Analysis

| ALL COUNTIES<br>CLEARANCE TIMES<br>New Jersey Hurricane Evacuation ReStudy 2006 |  | LEGEND :                     |                               | - CAT 1                      | - CAT 2                       | - CAT 3                      | - CAT 4                       |                              |                               |  |
|---|--|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|--|
| REGIONAL  | CAPE MAY - Category 1 Total Evacuation         |                              | Times (in hours)              |                              |                               |                              |                               |                              |                               |  |
|   | Bottleneck Location / Critical Roadway Segment | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |  |
|   | I-287 Exit 66                                  | 5.7                          | 11.3                          | 7.3                          | 12.8                          | 9.5                          | 15.3                          | 12.6                         | 18.4                          |  |
|   | GSP Exit 172                                   | 5.2                          | 9.0                           | 6.6                          | 10.3                          | 8.8                          | 12.8                          | 12.3                         | 16.3                          |  |
|   | Palisades Pkwy at US 9W                        | 2.6                          | 2.6                           | 2.9                          | 3.0                           | 3.7                          | 3.8                           | 4.8                          | 4.9                           |  |
|   | GSP at I-80                                    | 5.0                          | 8.4                           | 6.2                          | 9.6                           | 8.2                          | 11.7                          | 11.1                         | 14.6                          |  |
|   | I-287 Exit 41 at I-80                          | 5.6                          | 10.7                          | 7.2                          | 12.2                          | 9.6                          | 14.8                          | 13.0                         | 18.3                          |  |
|   | I-80 Exit 4                                    | 3.5                          | 4.3                           | 3.9                          | 4.7                           | 4.6                          | 5.4                           | 5.7                          | 6.5                           |  |
|   | I-78 Exit 3                                    | 4.1                          | 6.3                           | 4.8                          | 6.9                           | 5.9                          | 8.1                           | 7.7                          | 9.9                           |  |
|   | GSP at I-78                                    | 6.0                          | 12.1                          | 7.7                          | 13.7                          | 10.0                         | 16.3                          | 13.1                         | 19.4                          |  |
|   | I-287 Exit 21 at I-78                          | 4.8                          | 8.4                           | 5.9                          | 9.4                           | 7.5                          | 11.2                          | 10.1                         | 13.8                          |  |
|   | I-287 Exit 3                                   | 4.7                          | 8.3                           | 5.7                          | 9.2                           | 7.0                          | 10.7                          | 8.8                          | 12.4                          |  |
|   | GSP Exit 127                                   | 6.6                          | 14.2                          | 8.6                          | 16.0                          | 11.2                         | 19.0                          | 14.4                         | 22.1                          |  |
|   | NJTP Exit 9                                    | 3.6                          | 4.4                           | 4.0                          | 4.9                           | 4.7                          | 5.6                           | 5.6                          | 6.6                           |  |
|   | I-195 Exit 8 MoC-MeC Boundary                  | 4.4                          | 7.2                           | 5.4                          | 8.2                           | 6.9                          | 10.0                          | 8.6                          | 11.7                          |  |
|   | NJTP Exit 8                                    | 3.4                          | 3.7                           | 4.0                          | 4.4                           | 5.1                          | 5.6                           | 6.7                          | 7.3                           |  |
|   | GSP OC-MoC Boundary                            | 7.6                          | 18.2                          | 9.9                          | 20.1                          | 12.7                         | 23.3                          | 15.9                         | 26.6                          |  |
|   | Route 70 at Route 37                           | 2.2                          | 2.4                           | 2.3                          | 2.7                           | 2.7                          | 3.2                           | 3.3                          | 3.8                           |  |
|   | Route 70 at Route 530                          | 2.4                          | 3.0                           | 2.7                          | 3.5                           | 3.6                          | 4.7                           | 4.8                          | 5.9                           |  |
|   | Consequence - Route 70 at Route 72             | 5.5                          | 15.0                          | 7.1                          | 17.1                          | 9.4                          | 20.0                          | 11.9                         | 22.5                          |  |
|   | I-295 Exits 26 and 27                          | 3.8                          | 5.6                           | 4.3                          | 5.5                           | 5.0                          | 6.2                           | 5.8                          | 7.0                           |  |
|   | Consequence - Route 55 at Route 42             | 4.9                          | 9.5                           | 5.7                          | 9.4                           | 6.6                          | 10.3                          | 7.6                          | 11.4                          |  |
|   | Route 42 at Route 168                          | 4.1                          | 7.1                           | 4.8                          | 6.5                           | 5.4                          | 7.2                           | 6.2                          | 8.0                           |  |
|   | ACE Exit 32                                    | 5.1                          | 10.8                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |  |
|   | ACE Exit 31                                    | 5.1                          | 10.8                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |  |
|   | GSP Exit 48 AC-OC Boundary                     | 8.8                          | 23.0                          | 10.6                         | 23.4                          | 12.2                         | 25.1                          | 13.8                         | 26.8                          |  |
|   | Route 30 at Route 50 - Egg Harbor              | 1.3                          | 2.2                           | 1.6                          | 2.1                           | 1.9                          | 2.4                           | 2.4                          | 2.8                           |  |
|   | Route 40 - Buena                               | 1.1                          | 1.7                           | 1.3                          | 1.3                           | 1.6                          | 1.7                           | 2.5                          | 2.5                           |  |
|   | ACE Exit 17                                    | 5.1                          | 10.8                          | 6.5                          | 9.6                           | 7.7                          | 10.9                          | 9.3                          | 12.5                          |  |
| Route 40 at Route 50 - Mays Landing   | 1.1  | 1.6                          | 1.2                           | 1.3                          | 1.6                           | 1.6                          | 2.3                           | 2.4                          |                               |  |
| Consequence - GSP-ACE   | 10.5   | 29.1                         | 13.2                          | 28.4                         | 15.7                          | 31.1                         | 18.5                          | 33.9                         |                               |  |
| Route 55 Exit 24  | 4.7  | 10.6                         | 5.3                           | 11.3                         | 6.2                           | 12.2                         | 7.2                           | 13.2                         |                               |  |
| Consequence - Route 47 - Port Elizabeth   | 7.8  | 20.6                         | 8.9                           | 21.8                         | 10.2                          | 23.1                         | 11.4                          | 24.4                         |                               |  |
| NJTP Exit 1   | 4.4  | 6.5                          | 5.5                           | 7.3                          | 7.3                           | 9.3                          | 9.6                           | 11.5                         |                               |  |
| Route 55 Exit 56  | 5.3  | 10.2                         | 5.8                           | 10.8                         | 6.6                           | 11.6                         | 7.5                           | 12.5                         |                               |  |
| Route 55 Exit 39  | 5.5  | 10.8                         | 6.1                           | 11.5                         | 7.0                           | 12.4                         | 7.9                           | 13.4                         |                               |  |
| GSP CMC-AC Boundary   | 8.6  | 21.4                         | 9.5                           | 22.4                         | 10.5                          | 23.5                         | 11.5                          | 24.5                         |                               |  |

**Table 3-15**

**Cape May County– Alternate Evacuation Analysis (continued)**

|       | Bottleneck Location / Critical Roadway Segment | Times (in hours)             |                               |                              |                               |                              |                               |                              |                               |
|-------|--|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|
|       |  | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ |
| LOCAL | GSP Exit 117                                   | 7.4                          | 15.2                          | 9.7                          | 17.3                          | 12.5                         | 20.4                          | 15.6                         | 23.5                          |
|       | GSP Exit 109                                   | 7.4                          | 16.7                          | 9.9                          | 19.0                          | 12.9                         | 22.4                          | 16.4                         | 25.9                          |
|       | GSP Exit 105                                   | 7.3                          | 16.6                          | 9.7                          | 18.8                          | 12.6                         | 22.1                          | 15.9                         | 25.5                          |
|       | GSP Exit 102                                   | 7.2                          | 16.5                          | 9.4                          | 18.5                          | 12.3                         | 21.8                          | 15.6                         | 25.1                          |
|       | GSP Exit 100 a-b                               | 7.8                          | 18.5                          | 10.2                         | 20.6                          | 13.4                         | 24.3                          | 17.0                         | 27.9                          |
|       | GSP Exit 96                                    | 7.7                          | 18.4                          | 10.0                         | 20.3                          | 12.9                         | 23.7                          | 16.2                         | 27.0                          |
|       | GSP Exit 88                                    | 13.0                         | 27.4                          | 17.7                         | 31.5                          | 22.5                         | 36.9                          | 27.6                         | 42.0                          |
|       | GSP Exit 82                                    | 11.4                         | 24.9                          | 14.9                         | 27.8                          | 18.2                         | 31.4                          | 20.9                         | 34.2                          |
|       | GSP Exit 63                                    | 11.9                         | 29.0                          | 14.6                         | 30.6                          | 17.2                         | 33.4                          | 19.5                         | 35.8                          |
|       | GSP Exit 40                                    | 19.0                         | 28.0                          | 20.0                         | 29.2                          | 20.1                         | 29.4                          | 20.3                         | 26.8                          |
|       | GSP Exit 30                                    | 18.0                         | 26.5                          | 18.0                         | 26.5                          | 18.0                         | 26.5                          | 18.0                         | 23.7                          |
|       | GSP Exit 25                                    | 13.0                         | 23.7                          | 13.0                         | 23.7                          | 13.0                         | 23.7                          | 13.0                         | 23.7                          |
|       | GSP Exit 17                                    | 11.2                         | 19.7                          | 11.2                         | 19.7                          | 11.2                         | 19.7                          | 11.2                         | 19.7                          |
|       | GSP Exit 13                                    | 9.9                          | 16.2                          | 9.9                          | 16.2                          | 9.9                          | 16.2                          | 9.9                          | 16.2                          |
|       | GSP Exit 10                                    | 7.0                          | 10.5                          | 7.0                          | 10.5                          | 7.0                          | 10.5                          | 7.0                          | 10.5                          |
|       | GSP Exit 06                                    | 6.5                          | 9.4                           | 6.5                          | 9.4                           | 6.5                          | 9.4                           | 6.5                          | 9.4                           |
|       | GSP Exit 04                                    | 5.9                          | 9.1                           | 5.9                          | 9.1                           | 5.9                          | 9.1                           | 5.9                          | 9.1                           |
|       | Route 109 at GSP Start                         | 1.9                          | 3.0                           | 1.9                          | 3.0                           | 1.9                          | 3.0                           | 1.9                          | 3.0                           |

## 4.0 CONSEQUENCE MANAGEMENT

As part of the Scope of Work for the New Jersey Hurricane Evacuation Study, PBS&J developed a Consequence Management Module (CMM) as part of the Abbreviated Transportation Model. The Consequence Management Module is an Excel spreadsheet-based application that interfaces with the Abbreviated Transportation Model used for estimating the clearance times that are published in this report. The Consequence Management Module was designed to aid emergency managers in understanding where traffic might be on an hour by hour basis during an evacuation at critical regional consequence management points.

The crucial roadway segments identified as Consequence Management points include:

|                   |  |
|-------------------|--|
| Burlington County | Route 70 at Route 72                                     |
| Camden County     | Route 55 at Route 42                                     |
| Atlantic County   | The Garden State Parkway at the Atlantic City Expressway |
| Cumberland County | Port Elizabeth   |

The Consequence Management module uses evacuating vehicle data for the bottleneck from a worst case scenario Category 4 storm event from the Abbreviated Transportation Model. The Average Daily Trips for the roadway segment were obtained through Google Earth Pro. While it is recommended that the default data be used, the module allows users to define either of these figures in the event that a lower intensity scenario is being tested or updated information on background traffic is obtained.

The module further allows users to define the average population per vehicle, the level of service (LOS) D hourly volume for the segment, as well as the primary input lanes. The persons per vehicle and the roadway service volumes correspond with input data used in the ATM and will likely not be modified by the user. Primary input lane figures can be increased to reflect a reverse lane strategy or decreased to reflect construction or other lane reductions.

The Consequence Management module uses these input data to meter background traffic and evacuating vehicles through the consequence management point. On an hour by hour basis, up to 36 hours, the module identifies the number of vehicles (both evacuees as well as background traffic) that have passed through the point as well as the number that remain in the cue. The module provides a table that identified the longest cue length – in vehicles and miles – as well as the cue length at 12, 18, 24 and 36 hours.

Another feature of the module is that it provides emergency managers with a tool to help manage what to do about individuals remaining in the cue at any given hour – whether they can be redirected to a shelter or whether they may be stranded “upstream” of the consequence management point and may require some form of sheltering of last resort. The sheltering component looks at two types of shelter – ARC and Host shelters. ARC shelters have been evaluated and meet the safety requirements of the American Red Cross while the host shelters either have not been evaluated or represent structures that may be relied upon as shelters in certain circumstances.



Users can adjust the number of available shelter spaces that fall within 10 and 20 miles from the consequence management point in each of the two categories of shelters. Users can also adjust the availability of spaces based on real time operational data, as well as the sheltering density (the amount of shelter space assigned to an individual). The module then identifies the shelter surplus (or deficit) at a given hour if everyone in cue is assumed to be escorted or otherwise directed to shelters.

## **Appendix A**

## APPENDIX A

### Glossary of Terms

This report uses a range of terms that are commonplace in reports associated with hurricane planning and emergency management. While these terms are in general use, they may be unfamiliar to the general public. This appendix does not seek to provide an exhaustive compendium of terminology, but rather includes descriptions of key terms used in the report. A good source of terminology on hurricanes is available on the FEMA website, at [http://www.fema.gov/hazard/hurricane/hu\\_terms.shtm](http://www.fema.gov/hazard/hurricane/hu_terms.shtm). For individuals seeking more information on terminology, an extremely comprehensive glossary and acronyms of emergency management terms was prepared under contract between the U.S. Department of Energy and Oak Ridge Associated Universities, and is available at <http://www.ornl.gov/emi/products/glossary.pdf>. Some of the more commonly used terms are listed below.

**Tropical Depression:**

An organized system of clouds and thunderstorms with a defined surface circulation and maximum sustained winds of 38 MPH (33 knots) or less. Sustained winds are defined as one-minute average wind measured at about 33 ft (10 meters) above the surface.

**Tropical Storm:**

An organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39–73 MPH (34–63 knots).

**Hurricane:**

An intense tropical weather system of strong thunderstorms with a well-defined surface circulation and maximum sustained winds of 74 MPH (64 knots) or higher.

**Storm Surge:**

A dome of water pushed onshore by hurricane and tropical storm winds. Storm surges can reach 25 feet high and be 50–1000 miles wide.

**Storm Tide:**

A combination of storm surge and the normal tide (i.e., a 15-foot storm surge combined with a 2-foot normal high tide over the mean sea level created a 17-foot storm tide).

**Hurricane/Tropical Storm Watch:**

Hurricane/tropical storm conditions are possible in the specified area, usually within 36 hours.

**Hurricane/Tropical Storm Warning:**

Hurricane/tropical storm conditions are expected in the specified area, usually within 24 hours.

**Short Term Watches and Warnings:**

These warnings provide detailed information about specific hurricane threats, such as flash floods and tornadoes.

**Traffic Evacuation Model:**

An analytical tool used that relies upon a range of inputs, including demographic data, behavioral assumptions and roadway characteristics, to determine evacuation clearance times, shelter demand and other evacuation characteristic.

**Evacuation Zones:**

Areas designated for evacuation under varying storm scenarios. The development of evacuation zones is based on consideration of risk (such as storm surge), definable geographic features (such as major roadways), and ease of communication.

**Traffic Evacuation Zones:**

Geographic units that make up evacuation zones and provide the basis for organizing the data used in traffic evacuation modeling.

**Evacuation Clearance Times:**

An estimate, typically presented in hours, that quantifies the time it takes to affect an evacuation from when the first vehicle leaves an area until the last vehicle departs an area prior to the onset of tropical storm force winds.



## **Appendix B**

## Atlantic County, New Jersey Municipalities

| By Index Number |                                      |
|-----------------|--------------------------------------|
| Index           | Name                                 |
| 1               | <a href="#">Estell Manor</a>         |
| 2               | <a href="#">Corbin City</a>          |
| 3               | <a href="#">Somers Point</a>         |
| 4               | <a href="#">Longport</a>             |
| 5               | <a href="#">Linwood</a>              |
| 6               | <a href="#">Margate City</a>         |
| 7               | <a href="#">Northfield</a>           |
| 8               | <a href="#">Ventnor City</a>         |
| 9               | <a href="#">Pleasantville</a>        |
| 10              | <a href="#">Atlantic City</a>        |
| 11              | <a href="#">Absecon</a>              |
| 12              | <a href="#">Brigantine</a>           |
| 13              | <a href="#">Port Republic</a>        |
| 14              | <a href="#">Egg Harbor City</a>      |
| 15              | <a href="#">Hammonton</a>            |
| 16              | <a href="#">Folsom</a>               |
| 17              | <a href="#">Buena</a>                |
| 18              | <a href="#">Buena Vista Township</a> |
| 19              | <a href="#">Weymouth Township</a>    |
| 20              | <a href="#">Hamilton Township</a>    |
| 21              | <a href="#">Egg Harbor Township</a>  |
| 22              | <a href="#">Galloway Township</a>    |
| 23              | <a href="#">Mullica Township</a>     |



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## Bergen County, New Jersey Municipalities



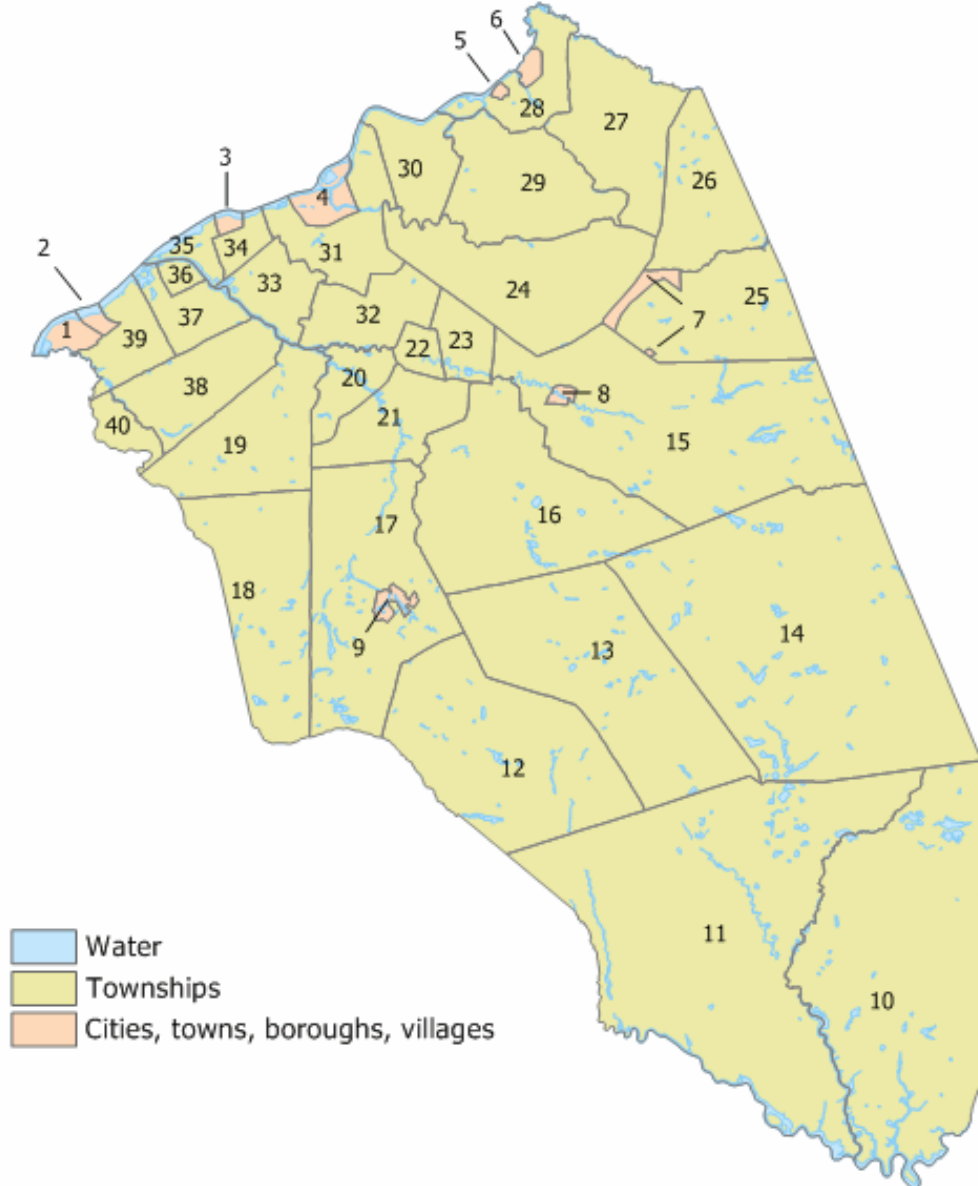
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## [Burlington County](#), New Jersey Municipalities

| By Index Number |                                       |       |   |
|-----------------|---------------------------------------|-------|---|
| Index           | Name                                  | Index | Name                                    |
| 1               | <a href="#">Palmyra</a>               | 24    | <a href="#">Springfield Township</a>    |
| 2               | <a href="#">Riverton</a>              | 25    | <a href="#">New Hanover Township</a>    |
| 3               | <a href="#">Beverly</a>               | 26    | <a href="#">North Hanover Township</a>  |
| 4               | <a href="#">Burlington</a>            | 27    | <a href="#">Chesterfield Township</a>   |
| 5               | <a href="#">Fieldsboro</a>            | 28    | <a href="#">Bordentown Township</a>     |
| 6               | <a href="#">Bordentown</a>            | 29    | <a href="#">Mansfield Township</a>      |
| 7               | <a href="#">Wrightstown</a>           | 30    | <a href="#">Florence Township</a>       |
| 8               | <a href="#">Pemberton</a>             | 31    | <a href="#">Burlington Township</a>     |
| 9               | <a href="#">Medford Lakes</a>         | 32    | <a href="#">Westampton Township</a>     |
| 10              | <a href="#">Bass River Township</a>   | 33    | <a href="#">Willingboro Township</a>    |
| 11              | <a href="#">Washington Township</a>   | 34    | <a href="#">Edgewater Park Township</a> |
| 12              | <a href="#">Shamong Township</a>      | 35    | <a href="#">Delanco Township</a>        |
| 13              | <a href="#">Tabernacle Township</a>   | 36    | <a href="#">Riverside Township</a>      |
| 14              | <a href="#">Woodland Township</a>     | 37    | <a href="#">Delran Township</a>         |
| 15              | <a href="#">Pemberton Township</a>    | 38    | <a href="#">Moorestown Township</a>     |
| 16              | <a href="#">Southampton Township</a>  | 39    | <a href="#">Cinnaminson Township</a>    |
| 17              | <a href="#">Medford Township</a>      | 40    | <a href="#">Maple Shade Township</a>    |
| 18              | <a href="#">Evesham Township</a>      |       |   |
| 19              | <a href="#">Mount Laurel Township</a> |       |   |
| 20              | <a href="#">Hainesport Township</a>   |       |   |
| 21              | <a href="#">Lumberton Township</a>    |       |   |
| 22              | <a href="#">Mount Holly Township</a>  |       |   |
| 23              | <a href="#">Eastampton Township</a>   |       |   |



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## [Camden County](#), New Jersey Municipalities

| By Index Number |                                 |       |                                      |
|-----------------|---------------------------------|-------|--------------------------------------|
| Index           | Name                            | Index | Name                                 |
| 1               | <a href="#">Merchantville</a>   | 24    | <a href="#">Gibbsboro</a>            |
| 2               | <a href="#">Camden</a>          | 25    | <a href="#">Clementon</a>            |
| 3               | <a href="#">Collingswood</a>    | 26    | <a href="#">Pine Hill</a>            |
| 4               | <a href="#">Woodlynne</a>       | 27    | <a href="#">Pine Valley</a>          |
| 5               | <a href="#">Gloucester City</a> | 28    | <a href="#">Berlin</a>               |
| 6               | <a href="#">Audubon Park</a>    | 29    | <a href="#">Chesilhurst</a>          |
| 7               | <a href="#">Oaklyn</a>          | 30    | <a href="#">Winslow Township</a>     |
| 8               | <a href="#">Haddonfield</a>     | 31    | <a href="#">Waterford Township</a>   |
| 9               | <a href="#">Audubon</a>         | 32    | <a href="#">Berlin Township</a>      |
| 10              | <a href="#">Mount Ephraim</a>   | 33    | <a href="#">Gloucester Township</a>  |
| 11              | <a href="#">Brooklawn</a>       | 34    | <a href="#">Voorhees Township</a>    |
| 12              | <a href="#">Bellmawr</a>        | 35    | <a href="#">Cherry Hill Township</a> |
| 13              | <a href="#">Haddon Heights</a>  | 36    | <a href="#">Haddon Township</a>      |
| 14              | <a href="#">Tavistock</a>       | 36    | <a href="#">Haddon Township</a>      |
| 15              | <a href="#">Lawnside</a>        | 37    | <a href="#">Pennsauken Township</a>  |
| 16              | <a href="#">Barrington</a>      |       |                                      |
| 17              | <a href="#">Runnemede</a>       |       |                                      |
| 18              | <a href="#">Magnolia</a>        |       |                                      |
| 19              | <a href="#">Somerdale</a>       |       |                                      |
| 20              | <a href="#">Hi-Nella</a>        |       |                                      |
| 21              | <a href="#">Stratford</a>       |       |                                      |
| 22              | <a href="#">Laurel Springs</a>  |       |                                      |
| 23              | <a href="#">Lindenwold</a>      |       |                                      |



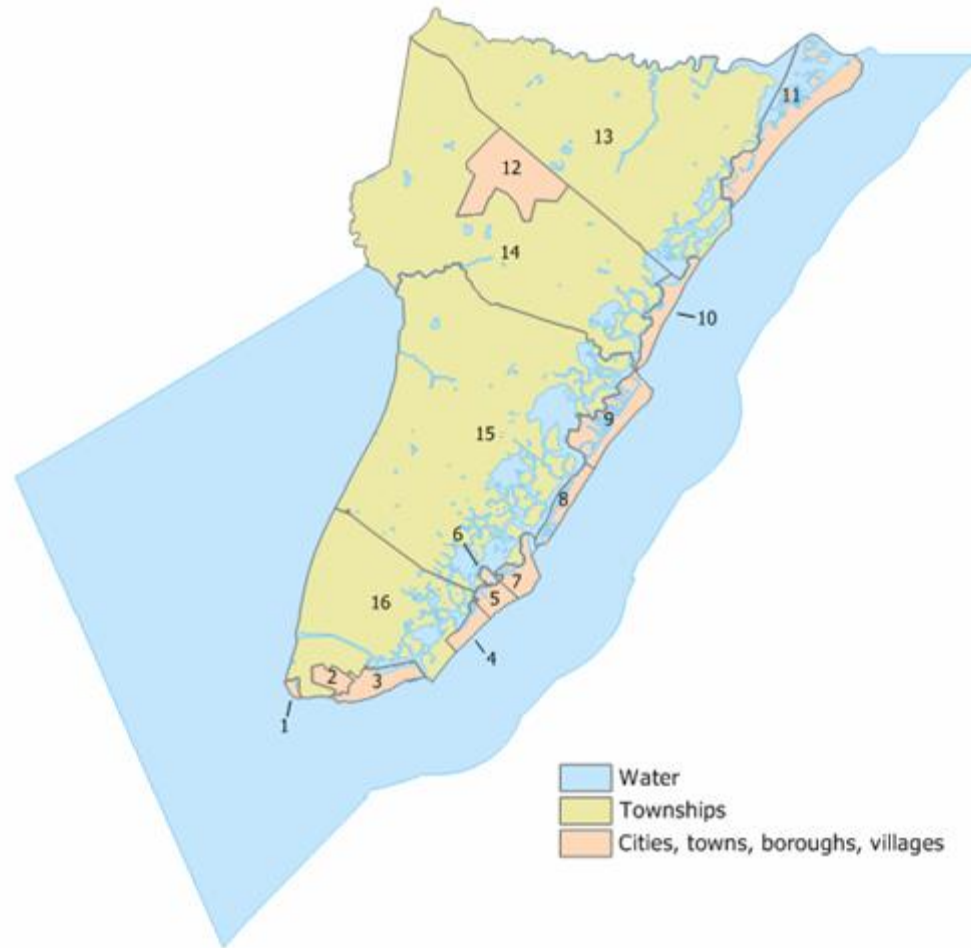
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## Cape May County, New Jersey Municipalities

| By Index Number |                                 |
|-----------------|---------------------------------|
| Index           | Name                            |
| 1               | <a href="#">Cape May Point</a>  |
| 2               | <a href="#">West Cape May</a>   |
| 3               | <a href="#">Cape May</a>        |
| 4               | <a href="#">Wildwood Crest</a>  |
| 5               | <a href="#">Wildwood</a>        |
| 6               | <a href="#">West Wildwood</a>   |
| 7               | <a href="#">North Wildwood</a>  |
| 8               | <a href="#">Stone Harbor</a>    |
| 9               | <a href="#">Avalon</a>          |
| 10              | <a href="#">Sea Isle City</a>   |
| 11              | <a href="#">Ocean City</a>      |
| 12              | <a href="#">Woodbine</a>        |
| 13              | <a href="#">Upper Township</a>  |
| 14              | <a href="#">Dennis Township</a> |
| 15              | <a href="#">Middle Township</a> |
| 16              | <a href="#">Lower Township</a>  |



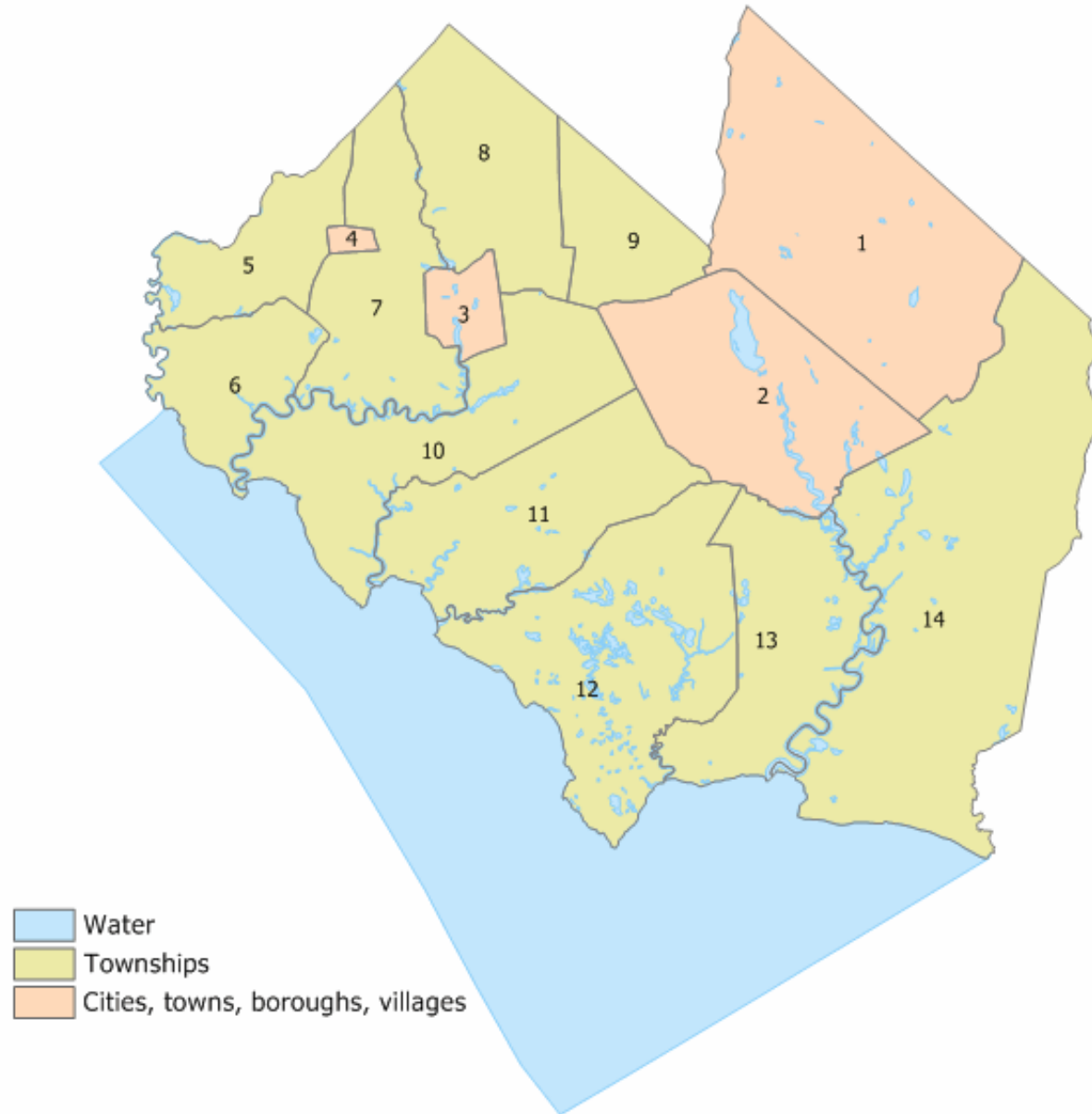
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## Cumberland County, New Jersey Municipalities

| By Index Number |  |
|-----------------|--|
| Index           | Name                                     |
| 1               | <a href="#">Vineland</a>                 |
| 2               | <a href="#">Millville</a>                |
| 3               | <a href="#">Bridgeton</a>                |
| 4               | <a href="#">Shiloh</a>                   |
| 5               | <a href="#">Stow Creek Township</a>      |
| 6               | <a href="#">Greenwich Township</a>       |
| 7               | <a href="#">Hopewell Township</a>        |
| 8               | <a href="#">Upper Deerfield Township</a> |
| 9               | <a href="#">Deerfield Township</a>       |
| 10              | <a href="#">Fairfield Township</a>       |
| 11              | <a href="#">Lawrence Township</a>        |
| 12              | <a href="#">Downe Township</a>           |
| 13              | <a href="#">Commercial Township</a>      |
| 14              | <a href="#">Maurice River Township</a>   |



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## Essex County, New Jersey Municipalities

| By Index Number |   |
|-----------------|---|
| Index           | Name  |
| 1               | <a href="#">Newark</a>                        |
| 2               | <a href="#">East Orange</a>                   |
| 3               | <a href="#">Glen Ridge</a>                    |
| 4               | <a href="#">Roseland</a>                      |
| 5               | <a href="#">Essex Fells</a>                   |
| 6               | <a href="#">Caldwell</a>                      |
| 7               | <a href="#">North Caldwell</a>                |
| 8               | <a href="#">Fairfield Township</a>            |
| 9               | <a href="#">West Caldwell Township</a>        |
| 10              | <a href="#">Cedar Grove Township</a>          |
| 11              | <a href="#">Verona Township</a>               |
| 12              | <a href="#">Montclair Township</a>            |
| 13              | <a href="#">Bloomfield Township</a>           |
| 14              | <a href="#">Nutley Township</a>               |
| 15              | <a href="#">Belleville Township</a>           |
| 16              | <a href="#">City of Orange Township</a>       |
| 17              | <a href="#">West Orange Township</a>          |
| 18              | <a href="#">Livingston Township</a>           |
| 19              | <a href="#">Millburn Township</a>             |
| 20              | <a href="#">Maplewood Township</a>            |
| 21              | <a href="#">South Orange Village Township</a> |
| 22              | <a href="#">Irvington Township</a>            |



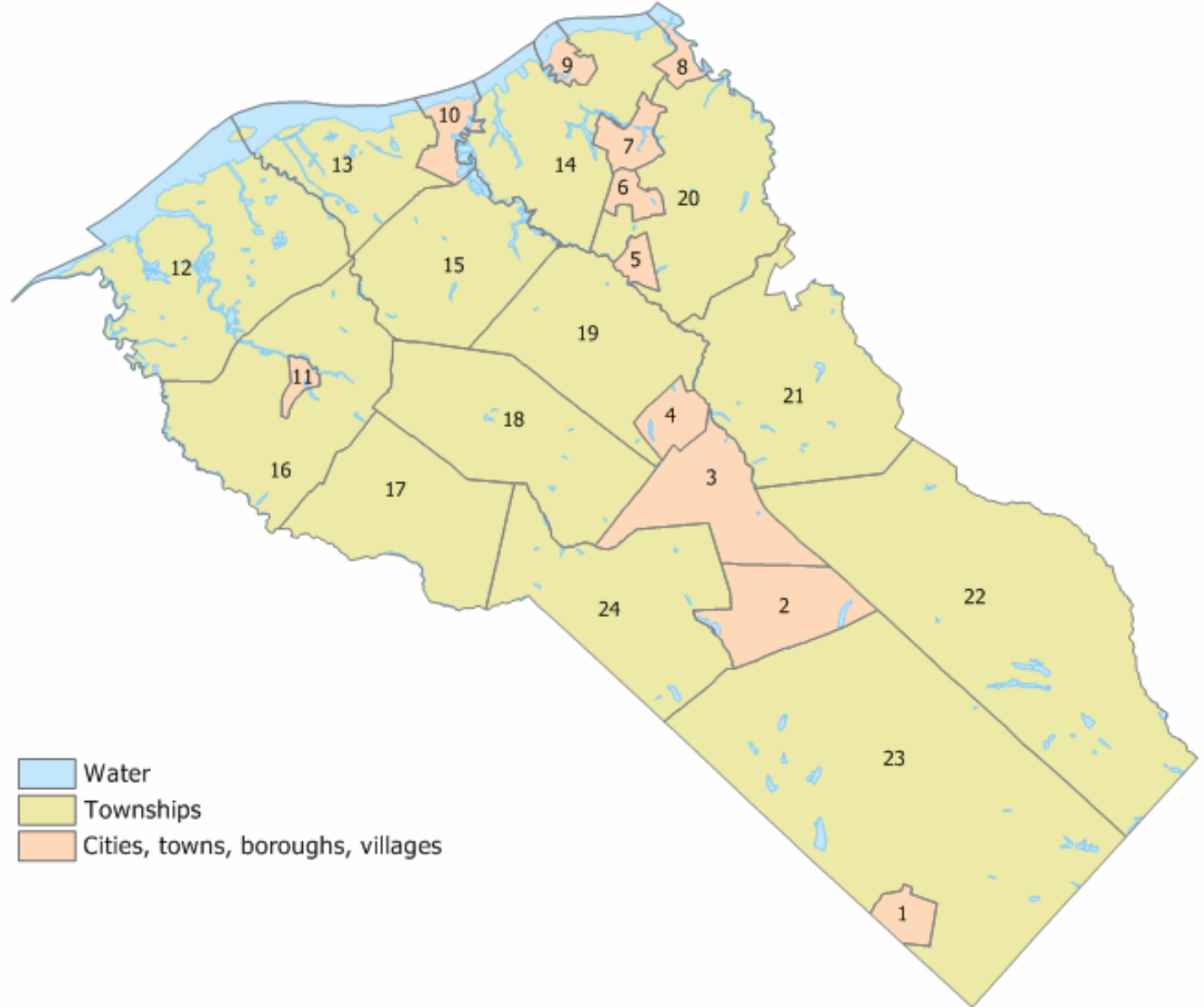
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## Gloucester County, New Jersey Municipalities

| By Index Number |   |
|-----------------|---|
| Index           | Name                                    |
| 1               | <a href="#">Newfield</a>                |
| 2               | <a href="#">Clayton</a>                 |
| 3               | <a href="#">Glassboro</a>               |
| 4               | <a href="#">Pitman</a>                  |
| 5               | <a href="#">Wenonah</a>                 |
| 6               | <a href="#">Woodbury Heights</a>        |
| 7               | <a href="#">Woodbury</a>                |
| 8               | <a href="#">Westville</a>               |
| 9               | <a href="#">National Park</a>           |
| 10              | <a href="#">Paulsboro</a>               |
| 11              | <a href="#">Swedesboro</a>              |
| 12              | <a href="#">Logan Township</a>          |
| 13              | <a href="#">Greenwich Township</a>      |
| 14              | <a href="#">West Deptford Township</a>  |
| 15              | <a href="#">East Greenwich Township</a> |
| 16              | <a href="#">Woolwich Township</a>       |
| 17              | <a href="#">South Harrison Township</a> |
| 18              | <a href="#">Harrison Township</a>       |
| 19              | <a href="#">Mantua Township</a>         |
| 20              | <a href="#">Deptford Township</a>       |
| 21              | <a href="#">Washington Township</a>     |
| 22              | <a href="#">Monroe Township</a>         |
| 23              | <a href="#">Franklin Township</a>       |
| 24              | <a href="#">Elk Township</a>            |



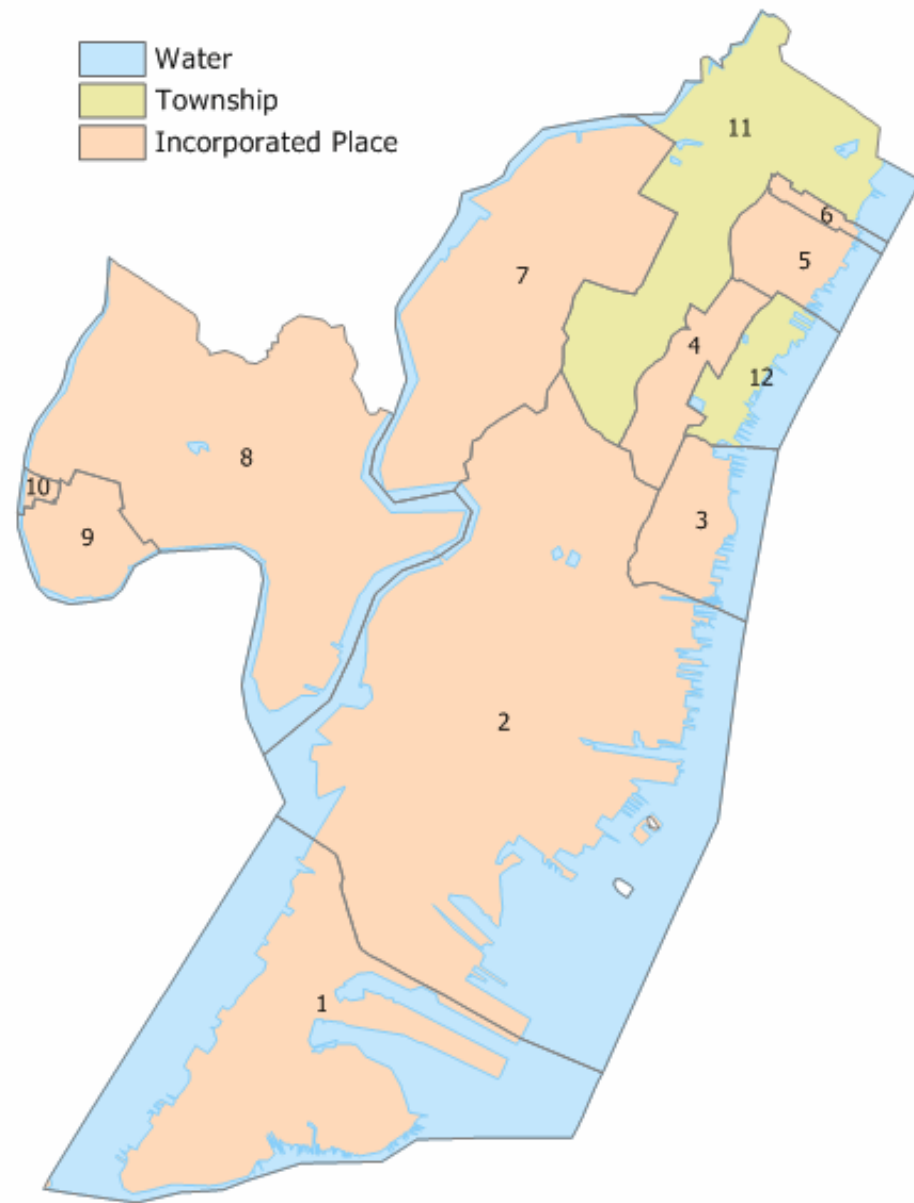
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## Hudson County, New Jersey Municipalities

| By Index Number |                                       |
|-----------------|---------------------------------------|
| Index           | Name                                  |
| 1               | <a href="#">Bayonne</a>               |
| 2               | <a href="#">Jersey City</a>           |
| 3               | <a href="#">Hoboken</a>               |
| 4               | <a href="#">Union City</a>            |
| 5               | <a href="#">West New York</a>         |
| 6               | <a href="#">Guttenberg</a>            |
| 7               | <a href="#">Secaucus</a>              |
| 8               | <a href="#">Kearny</a>                |
| 9               | <a href="#">Harrison</a>              |
| 10              | <a href="#">East Newark</a>           |
| 11              | <a href="#">North Bergen Township</a> |
| 12              | <a href="#">Weehawken Township</a>    |



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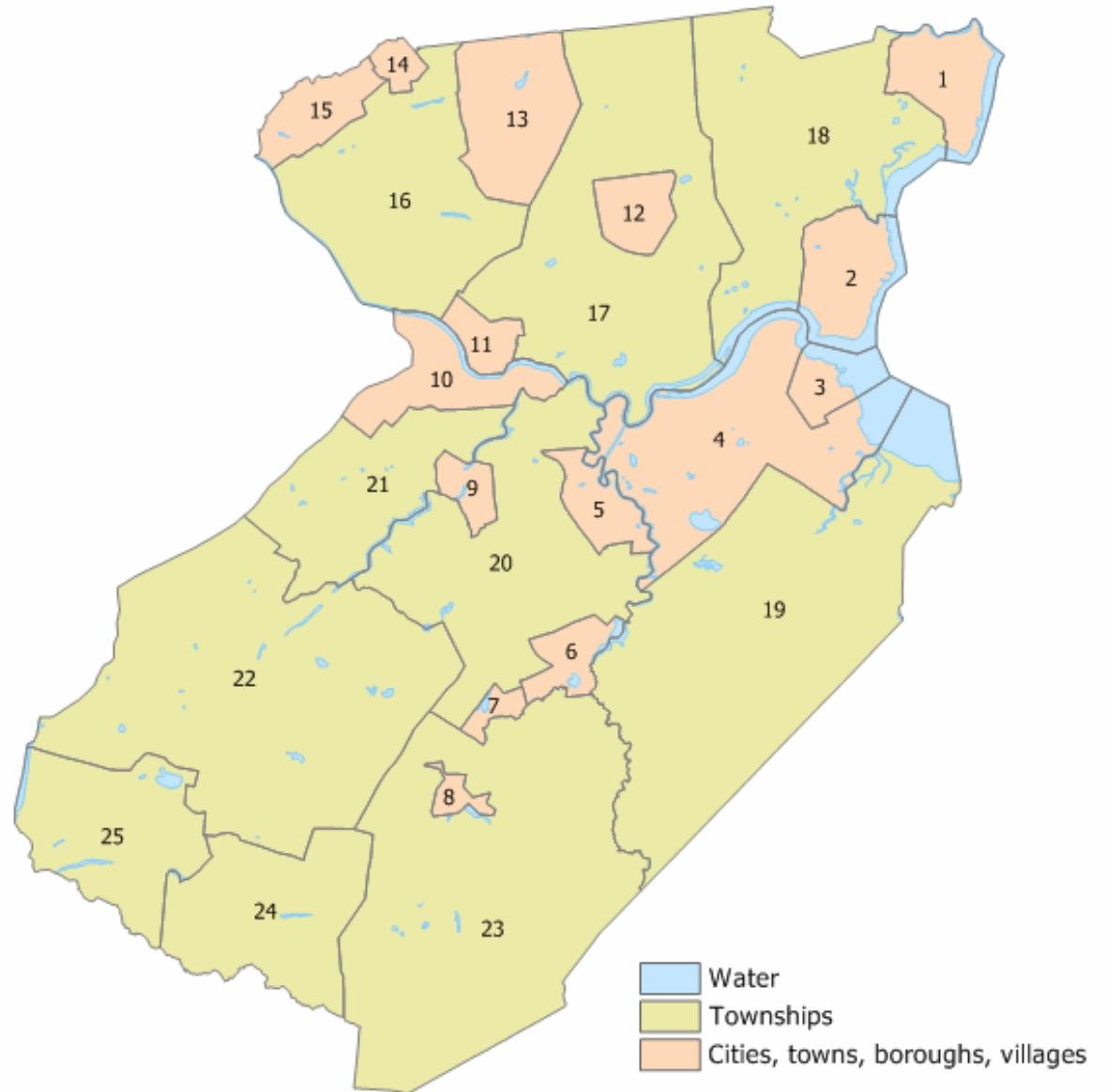
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## Middlesex County, New Jersey Municipalities

| By Index Number |  |       |                                     |
|-----------------|--|-------|-------------------------------------|
| Index           | Name                                     | Index | Name                                |
| 1               | <a href="#">Carteret</a>                 | 24    | <a href="#">Cranbury Township</a>   |
| 2               | <a href="#">Perth Amboy</a>              | 25    | <a href="#">Plainsboro Township</a> |
| 3               | <a href="#">South Amboy</a>              |       |                                     |
| 4               | <a href="#">Sayreville</a>               |       |                                     |
| 5               | <a href="#">South River</a>              |       |                                     |
| 6               | <a href="#">Spotswood</a>                |       |                                     |
| 7               | <a href="#">Helmetta</a>                 |       |                                     |
| 8               | <a href="#">Jamesburg</a>                |       |                                     |
| 9               | <a href="#">Milltown</a>                 |       |                                     |
| 10              | <a href="#">New Brunswick</a>            |       |                                     |
| 11              | <a href="#">Highland Park</a>            |       |                                     |
| 12              | <a href="#">Metuchen</a>                 |       |                                     |
| 13              | <a href="#">South Plainfield</a>         |       |                                     |
| 14              | <a href="#">Dunellen</a>                 |       |                                     |
| 15              | <a href="#">Middlesex</a>                |       |                                     |
| 16              | <a href="#">Piscataway Township</a>      |       |                                     |
| 17              | <a href="#">Edison Township</a>          |       |                                     |
| 18              | <a href="#">Woodbridge Township</a>      |       |                                     |
| 19              | <a href="#">Old Bridge Township</a>      |       |                                     |
| 20              | <a href="#">East Brunswick Township</a>  |       |                                     |
| 21              | <a href="#">North Brunswick Township</a> |       |                                     |
| 22              | <a href="#">South Brunswick Township</a> |       |                                     |
| 23              | <a href="#">Monroe Township</a>          |       |                                     |



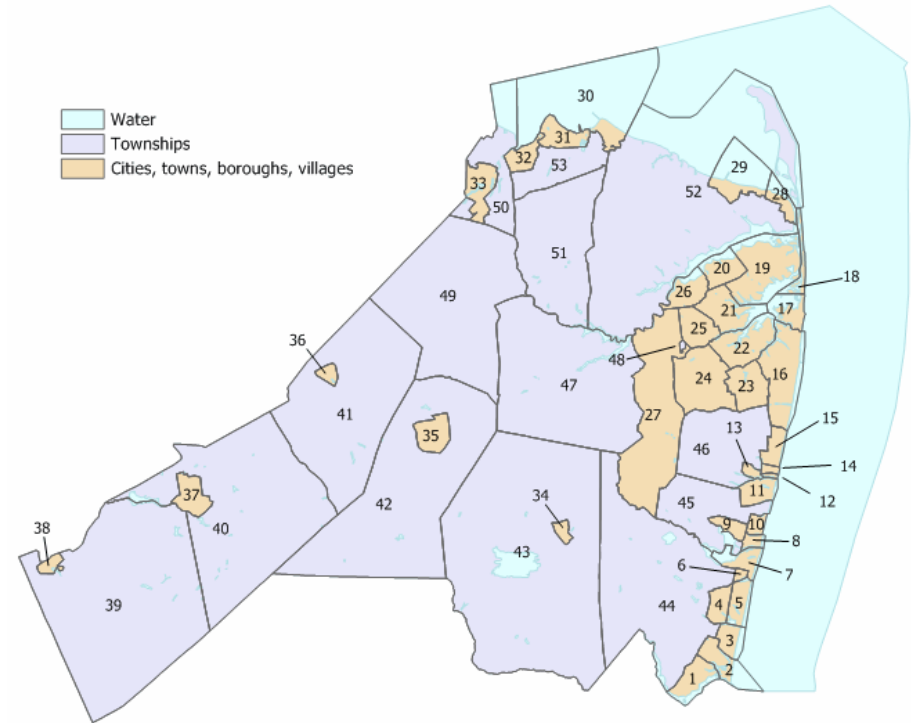
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## Monmouth County, New Jersey Municipalities

| By Index Number |                                     |       |   |       |                                     |
|-----------------|-------------------------------------|-------|---|-------|-------------------------------------|
| Index           | Name                                | Index | Name                                    | Index | Name                                |
| 1               | <a href="#">Brielle</a>             | 22    | <a href="#">Oceanport</a>               | 43    | <a href="#">Howell Township</a>     |
| 2               | <a href="#">Manasquan</a>           | 23    | <a href="#">West Long Branch</a>        | 44    | <a href="#">Wall Township</a>       |
| 3               | <a href="#">Sea Girt</a>            | 24    | <a href="#">Eatontown</a>               | 45    | <a href="#">Neptune Township</a>    |
| 4               | <a href="#">Spring Lake Heights</a> | 25    | <a href="#">Shrewsbury</a>              | 46    | <a href="#">Ocean Township</a>      |
| 5               | <a href="#">Spring Lake</a>         | 26    | <a href="#">Red Bank</a>                | 47    | <a href="#">Colts Neck Township</a> |
| 6               | <a href="#">Lake Como</a>           | 27    | <a href="#">Tinton Falls</a>            | 48    | <a href="#">Shrewsbury Township</a> |
| 7               | <a href="#">Belmar</a>              | 28    | <a href="#">Highlands</a>               | 49    | <a href="#">Marlboro Township</a>   |
| 8               | <a href="#">Avon-by-the-Sea</a>     | 29    | <a href="#">Atlantic Highlands</a>      | 50    | <a href="#">Aberdeen Township</a>   |
| 9               | <a href="#">Neptune City</a>        | 30    | <a href="#">Keansburg</a>               | 51    | <a href="#">Holmdel Township</a>    |
| 10              | <a href="#">Bradley Beach</a>       | 31    | <a href="#">Union Beach</a>             | 52    | <a href="#">Middletown Township</a> |
| 11              | <a href="#">Asbury Park</a>         | 32    | <a href="#">Keyport</a>                 | 53    | <a href="#">Hazlet Township</a>     |
| 12              | <a href="#">Loch Arbour</a>         | 33    | <a href="#">Matawan</a>                 |       |                                     |
| 13              | <a href="#">Interlaken</a>          | 34    | <a href="#">Farmingdale</a>             |       |                                     |
| 14              | <a href="#">Allenhurst</a>          | 35    | <a href="#">Freehold</a>                |       |                                     |
| 15              | <a href="#">Deal</a>                | 36    | <a href="#">Englishtown</a>             |       |                                     |
| 16              | <a href="#">Long Branch</a>         | 37    | <a href="#">Roosevelt</a>               |       |                                     |
| 17              | <a href="#">Monmouth Beach</a>      | 38    | <a href="#">Allentown</a>               |       |                                     |
| 18              | <a href="#">Sea Bright</a>          | 39    | <a href="#">Upper Freehold Township</a> |       |                                     |
| 19              | <a href="#">Rumson</a>              | 40    | <a href="#">Millstone Township</a>      |       |                                     |
| 20              | <a href="#">Fair Haven</a>          | 41    | <a href="#">Manalapan Township</a>      |       |                                     |
| 21              | <a href="#">Little Silver</a>       | 42    | <a href="#">Freehold Township</a>       |       |                                     |



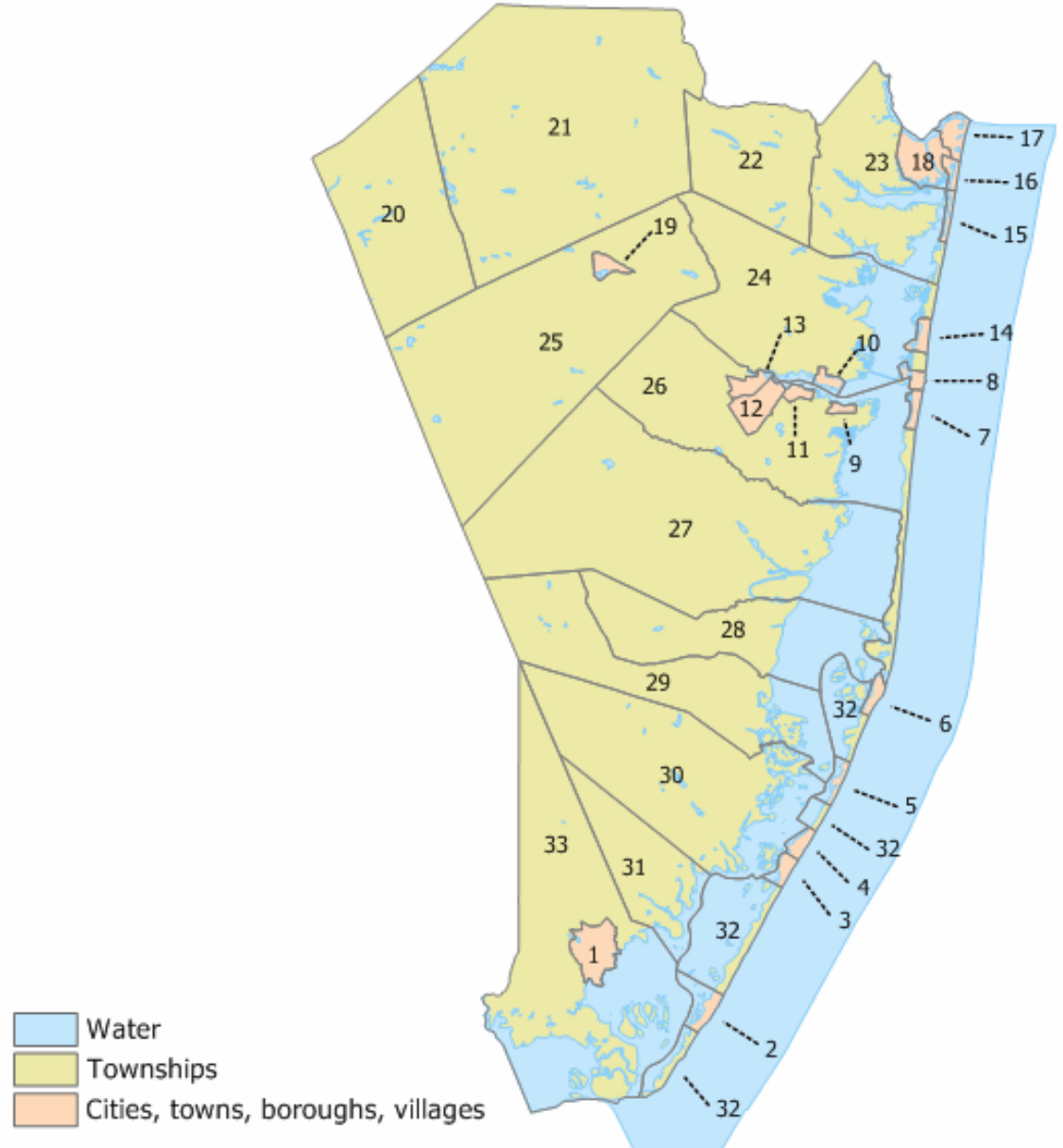
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## [Ocean County](#), New Jersey Municipalities

| By Index Number |                                      |       |  |
|-----------------|--------------------------------------|-------|--|
| Index           | Name                                 | Index | Name                                       |
| 1               | <a href="#">Tuckerton</a>            | 24    | <a href="#">Toms River Township</a>        |
| 2               | <a href="#">Beach Haven</a>          | 25    | <a href="#">Manchester Township</a>        |
| 3               | <a href="#">Ship Bottom</a>          | 26    | <a href="#">Berkeley Township</a>          |
| 4               | <a href="#">Surf City</a>            | 27    | <a href="#">Lacey Township</a>             |
| 5               | <a href="#">Harvey Cedars</a>        | 28    | <a href="#">Ocean Township</a>             |
| 6               | <a href="#">Barnegat Light</a>       | 29    | <a href="#">Barnegat Township</a>          |
| 7               | <a href="#">Seaside Park</a>         | 30    | <a href="#">Stafford Township</a>          |
| 8               | <a href="#">Seaside Heights</a>      | 31    | <a href="#">Eagleswood Township</a>        |
| 9               | <a href="#">Ocean Gate</a>           | 32    | <a href="#">Long Beach Township</a>        |
| 10              | <a href="#">Island Heights</a>       | 33    | <a href="#">Little Egg Harbor Township</a> |
| 11              | <a href="#">Pine Beach</a>           |       |  |
| 12              | <a href="#">Beachwood</a>            |       |  |
| 13              | <a href="#">South Toms River</a>     |       |  |
| 14              | <a href="#">Lavallette</a>           |       |  |
| 15              | <a href="#">Mantoloking</a>          |       |  |
| 16              | <a href="#">Bay Head</a>             |       |  |
| 17              | <a href="#">Point Pleasant Beach</a> |       |  |
| 18              | <a href="#">Point Pleasant</a>       |       |  |
| 19              | <a href="#">Lakehurst</a>            |       |  |
| 20              | <a href="#">Plumsted Township</a>    |       |  |
| 21              | <a href="#">Jackson Township</a>     |       |  |
| 22              | <a href="#">Lakewood Township</a>    |       |  |
| 23              | <a href="#">Brick Township</a>       |       |  |



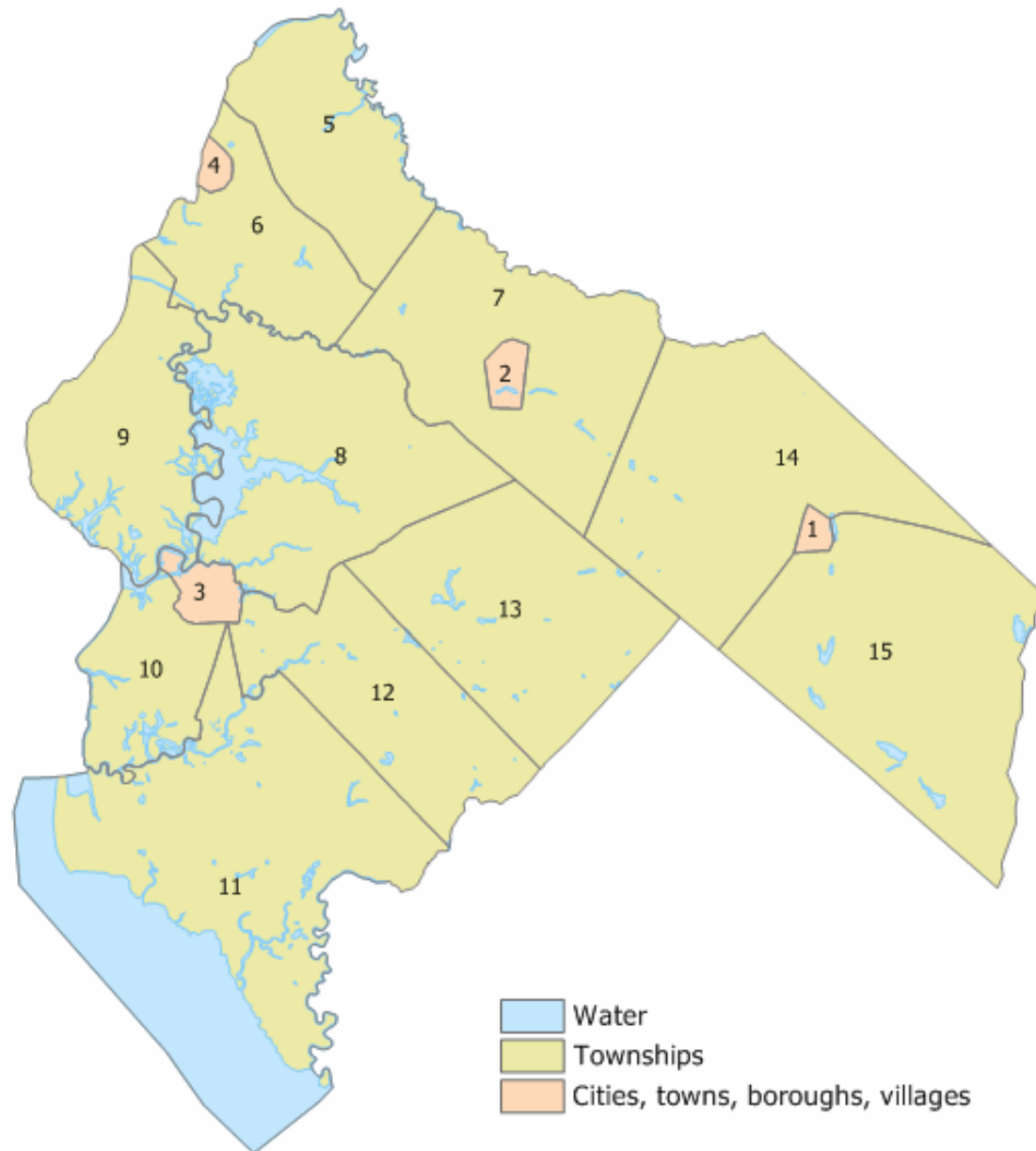
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## Salem County, New Jersey Municipalities

| By Index Number |   |
|-----------------|---|
| Index           | Name  |
| 1               | <a href="#">Elmer</a>                         |
| 2               | <a href="#">Woodstown</a>                     |
| 3               | <a href="#">Salem</a>                         |
| 4               | <a href="#">Penns Grove</a>                   |
| 5               | <a href="#">Oldmans Township</a>              |
| 6               | <a href="#">Carneys Point Township</a>        |
| 7               | <a href="#">Pilesgrove Township</a>           |
| 8               | <a href="#">Mannington Township</a>           |
| 9               | <a href="#">Pennsville Township</a>           |
| 10              | <a href="#">Elsinboro Township</a>            |
| 11              | <a href="#">Lower Alloways Creek Township</a> |
| 12              | <a href="#">Quinton Township</a>              |
| 13              | <a href="#">Alloway Township</a>              |
| 14              | <a href="#">Upper Pittsgrove Township</a>     |
| 15              | <a href="#">Pittsgrove Township</a>           |



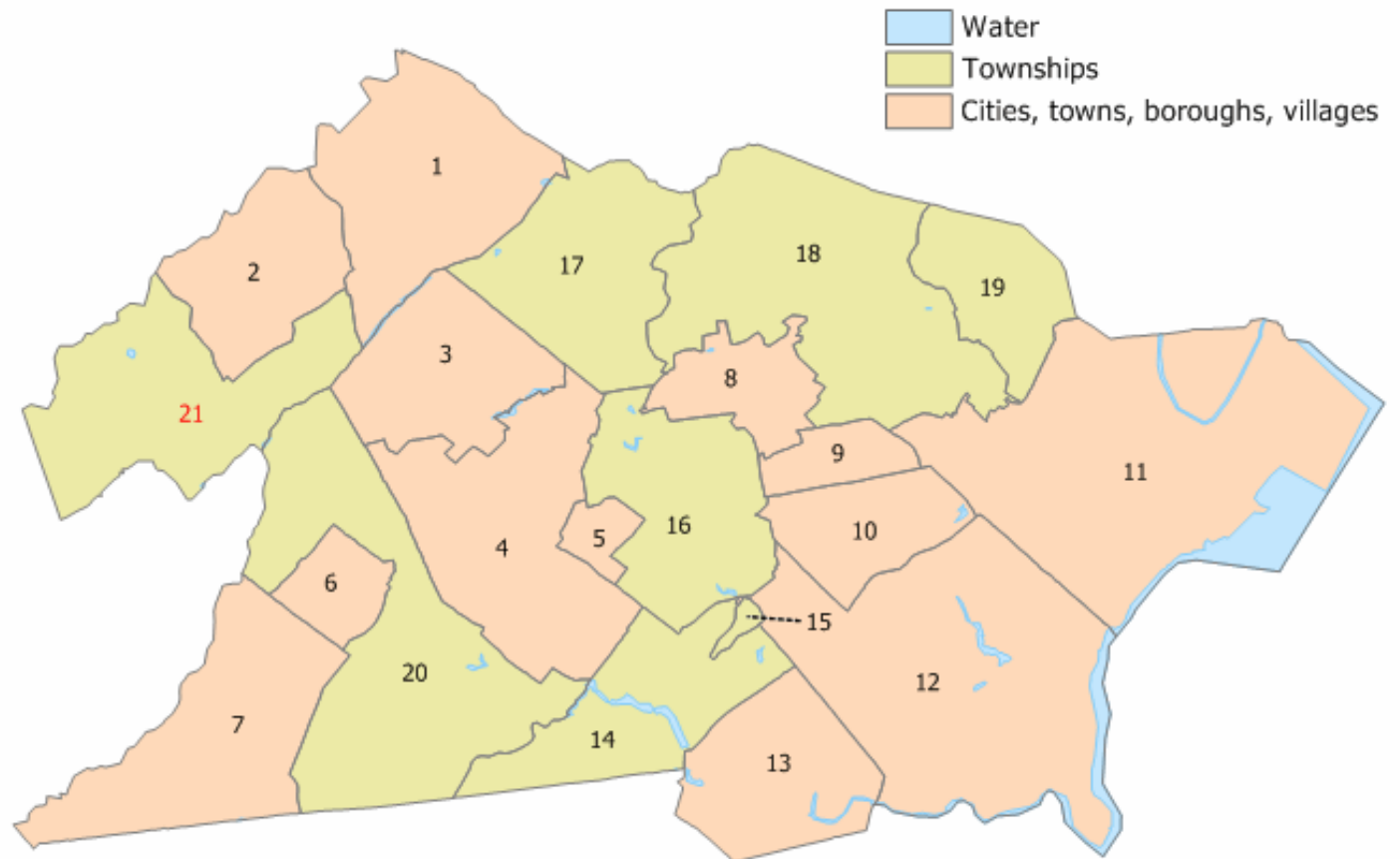
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## [Union County](#), New Jersey Municipalities

| By Index Number |   |
|-----------------|---|
| Index           | Name                                      |
| 1               | <a href="#">Summit</a>                    |
| 2               | <a href="#">New Providence</a>            |
| 3               | <a href="#">Mountainside</a>              |
| 4               | <a href="#">Westfield</a>                 |
| 5               | <a href="#">Garwood</a>                   |
| 6               | <a href="#">Fanwood</a>                   |
| 7               | <a href="#">Plainfield</a>                |
| 8               | <a href="#">Kenilworth</a>                |
| 9               | <a href="#">Roselle Park</a>              |
| 10              | <a href="#">Roselle</a>                   |
| 11              | <a href="#">Elizabeth</a>                 |
| 12              | <a href="#">Linden</a>                    |
| 13              | <a href="#">Rahway</a>                    |
| 14              | <a href="#">Clark Township</a>            |
| 15              | <a href="#">Winfield Township</a>         |
| 16              | <a href="#">Cranford Township</a>         |
| 17              | <a href="#">Springfield Township</a>      |
| 18              | <a href="#">Union Township</a>            |
| 19              | <a href="#">Hillside Township</a>         |
| 20              | <a href="#">Scotch Plains Township</a>    |
| 21              | <a href="#">Berkeley Heights Township</a> |



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## Appendix C

| CAPE MAY COUNTY<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                          |                   | LEGEND : <span style="display: inline-block; width: 20px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 20px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 20px; height: 10px; background-color: #d8bfd8; border: 1px solid black;"></span> - CAT 4 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffffff; border: 1px solid black;"></span> - INLAND |                           |                             |                         |                             |                               |                           |                       |                        |
|---|--------------------------|-------------------|---|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
| EVACUATION AREAS  | Units                    |                   |   | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|   | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units  | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1   | 2,827                    | 0                 | 2,892   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| OC-NORTH  | 179                      | 0                 | 143   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| 2   | 2,660                    | 6                 | 3,259   | 2.0                       | 2.0                         | 2.0                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| OC-CENTRAL  | 266                      | 3                 | 770   | 2.0                       | 2.0                         | 2.0                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| 3   | 999                      | 0                 | 2,000   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| OC-SOUTH  | 534                      | 0                 | 2,504   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| 4   | 12                       | 1                 | 622   | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 15%                   | 80%                    |
| UPPER TWP-MEADOWS   | 1                        | 0                 | 0   | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 15%                   | 80%                    |
| 5   | 93                       | 0                 | 962   | 1.9                       | 1.9                         | 1.9                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| STRATHMERE  | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| 6   | 268                      | 10                | 1,167   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| SEA ISLE-NORTH  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| 7   | 862                      | 0                 | 2,708   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| SEA ISLE-SOUTH  | 240                      | 0                 | 1,098   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| 8   | 0                        | 0                 | 1,807   | 0.0                       | 0.0                         | 0.0                     | 1.0                         | 1.0                           | 1.6                       | 15%                   | 80%                    |
| DENNIS TWP-MEADOWS  | 0                        | 0                 | 0   | 0.0                       | 0.0                         | 0.0                     | 1.0                         | 1.0                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 0.0                       | 0.0                         | 0.0                     | 1.0                         | 1.0                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 0.0                       | 0.0                         | 0.0                     | 1.0                         | 1.0                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 0.0                       | 0.0                         | 0.0                     | 1.0                         | 1.0                           | 1.6                       | 15%                   | 80%                    |

|                            |       |    |       |     |     |     |     |     |     |     |     |
|----------------------------|-------|----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 9                          | 645   | 0  | 2,025 | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| AVALON                     | 399   | 0  | 1,710 | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 2     | 0  | 11    | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 10                         | 70    | 0  | 484   | 2.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| MIDDLE TWP-MEADOWS-NORTH   | 6     | 0  | 2     | 2.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 11                         | 425   | 0  | 1,680 | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| STONE HARBOR               | 171   | 0  | 865   | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 12                         | 25    | 0  | 448   | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| MIDDLE TWP-MEADOWS-CENTRAL | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| 13                         | 63    | 10 | 445   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| MIDDLE TWP-CMCH PKWY EAST  | 176   | 48 | 45    | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 30    | 5  | 6     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 14                         | 0     | 0  | 425   | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 15% | 80% |
| MIDDLE TWP-MEADOWS-SOUTH   | 0     | 0  | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 15% | 80% |
| 15                         | 1,997 | 0  | 3,940 | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| NORTH WILDWOOD             | 312   | 0  | 703   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| 16                         | 2,018 | 0  | 3,047 | 2.3 | 2.3 | 2.3 | 1.0 | 1.0 | 1.6 | 15% | 80% |
| WILDWOOD                   | 315   | 0  | 424   | 2.3 | 2.3 | 2.3 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.3 | 2.3 | 2.3 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.3 | 2.3 | 2.3 | 1.0 | 1.0 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.3 | 2.3 | 2.3 | 1.0 | 1.0 | 1.6 | 15% | 80% |
| 17                         | 1,232 | 0  | 1,737 | 2.2 | 2.2 | 2.2 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| WILDWOOD CREST             | 597   | 0  | 1,053 | 2.2 | 2.2 | 2.2 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 18                         | 202   | 0  | 1,054 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| WEST WILDWOOD              | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 15% | 80% |

|                        |       |    |       |     |     |     |     |     |     |     |     |
|------------------------|-------|----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 19                     | 128   | 32 | 374   | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| LOWER TWP-SHAWCREST    | 7     | 1  | 15    | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| 20                     | 120   | 77 | 1,396 | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| LOWER TWP-BEACH        | 4     | 7  | 76    | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| 21                     | 13    | 5  | 592   | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| LOWER TWP-MEADOWS      | 0     | 0  | 2     | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 1     | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.5 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| 22                     | 556   | 2  | 844   | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| CAPE MAY               | 959   | 1  | 949   | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                        | 339   | 1  | 350   | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| 23                     | 153   | 2  | 397   | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| WEST CAPE MAY          | 276   | 6  | 222   | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 74    | 4  | 40    | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 4     | 0  | 1     | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| 24                     | 72    | 1  | 161   | 1.9 | 1.9 | 1.9 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| CAPE MAY POINT AREA    | 90    | 2  | 185   | 1.9 | 1.9 | 1.9 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                        | 7     | 0  | 10    | 1.9 | 1.9 | 1.9 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 4     | 1.9 | 1.9 | 1.9 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                        | 0     | 0  | 0     | 1.9 | 1.9 | 1.9 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 25                     | 35    | 3  | 551   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| LOWER TWP-SOUTH CANAL  | 61    | 4  | 14    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                        | 104   | 7  | 23    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                        | 118   | 8  | 27    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                        | 18    | 1  | 4     | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 26                     | 119   | 2  | 558   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| LOWER TWP-INLAND       | 414   | 13 | 48    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                        | 505   | 24 | 50    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                        | 922   | 29 | 87    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                        | 572   | 13 | 51    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| 27                     | 20    | 0  | 554   | 2.4 | 2.4 | 2.4 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| LOWER TWP-DELAWARE BAY | 2,923 | 27 | 1,164 | 2.4 | 2.4 | 2.4 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 1,311 | 4  | 505   | 2.4 | 2.4 | 2.4 | 1.4 | 1.4 | 1.6 | 15% | 80% |
|                        | 973   | 1  | 387   | 2.4 | 2.4 | 2.4 | 1.4 | 1.4 | 1.6 | 15% | 80% |

|                            |     |     |       |     |     |     |     |     |     |     |     |
|----------------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
|                            | 897 | 0   | 394   | 2.4 | 2.4 | 2.4 | 1.4 | 1.4 | 1.6 | 15% | 80% |
| 28                         | 9   | 4   | 426   | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| MIDDLE TWP-INLAND-SOUTH    | 346 | 148 | 88    | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 526 | 238 | 139   | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 812 | 182 | 140   | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                            | 254 | 4   | 16    | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 29                         | 21  | 0   | 426   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| MIDDLE TWP-DEL BAY-SOUTH   | 589 | 11  | 93    | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 53  | 0   | 8     | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 2   | 0   | 0     | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                            | 0   | 0   | 0     | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 30                         | 26  | 3   | 427   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| MIDDLE TWP-INLAND-CENTRAL  | 257 | 28  | 42    | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 331 | 43  | 69    | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 636 | 67  | 81    | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 105 | 13  | 15    | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 31                         | 6   | 1   | 425   | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| MIDDLE TWP-DEL BAY-CENTRAL | 53  | 9   | 13    | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 7   | 1   | 2     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 15  | 2   | 3     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 0   | 0   | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 32                         | 35  | 0   | 425   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| MIDDLE TWP-INLAND-NORTH    | 437 | 12  | 45    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 541 | 9   | 81    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 392 | 9   | 72    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                            | 76  | 1   | 21    | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 33                         | 47  | 8   | 434   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| MIDDLE TWP-DEL BAY-NORTH   | 44  | 9   | 12    | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 15  | 2   | 3     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 7   | 2   | 2     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 0   | 0   | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 34                         | 27  | 0   | 1,809 | 2.9 | 2.9 | 2.9 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| DENNIS TWP-EAST            | 111 | 0   | 8     | 2.9 | 2.9 | 2.9 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 370 | 0   | 26    | 2.9 | 2.9 | 2.9 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 501 | 0   | 36    | 2.9 | 2.9 | 2.9 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                            | 450 | 0   | 32    | 2.9 | 2.9 | 2.9 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 35                         | 13  | 0   | 538   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| WOODBINE AREA              | 111 | 0   | 1     | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                            | 121 | 0   | 1     | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                            | 53  | 0   | 2     | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                            | 779 | 45  | 264   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| 36                         | 35  | 0   | 1,807 | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| DENNIS TWP-WEST            | 66  | 0   | 1     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                            | 50  | 0   | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                            | 13  | 0   | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                            | 232 | 0   | 2     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| 37                         | 87  | 9   | 634   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 15% | 80% |



|                              |        |       |        |     |     |     |     |     |     |     |     |
|------------------------------|--------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| UPPER TWP-NE                 | 236    | 43    | 86     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                              | 317    | 25    | 107    | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                              | 1,087  | 69    | 160    | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                              | 1,501  | 73    | 358    | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| 38                           | 13     | 0     | 618    | 3.0 | 3.0 | 3.0 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| UPPER TWP-NORTH              | 53     | 0     | 1      | 3.0 | 3.0 | 3.0 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 133    | 0     | 2      | 3.0 | 3.0 | 3.0 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 145    | 0     | 2      | 3.0 | 3.0 | 3.0 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 589    | 0     | 8      | 3.0 | 3.0 | 3.0 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| CAPE MAY TOTALS AND AVERAGES | 42,155 | 1,430 | 60,078 |     |     |     |     |     |     |     |     |

| ATLANTIC COUNTY<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                          |                   | LEGEND : <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 20px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffffff; border: 1px solid black;"></span> - INLAND |                           |                             |                         |                             |                               |                           |                       |                        |
|---|--------------------------|-------------------|---|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
| EVACUATION AREAS  | Units                    |                   |   | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|   | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units  | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1   | 153                      | 0                 | 5   | 2.6                       | 2.6                         | 2.6                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
| Galloway Twp-East   | 51                       | 0                 | 0   | 2.6                       | 2.6                         | 2.6                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
|   | 59                       | 0                 | 1   | 2.6                       | 2.6                         | 2.6                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
|   | 34                       | 0                 | 1   | 2.6                       | 2.6                         | 2.6                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
|   | 900                      | 3                 | 39  | 2.6                       | 2.6                         | 2.6                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
| 2   | 2,418                    | 0                 | 1,169   | 2.3                       | 2.3                         | 2.3                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| Brigantine City   | 3,005                    | 0                 | 1,900   | 2.3                       | 2.3                         | 2.3                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 51                       | 0                 | 96  | 2.3                       | 2.3                         | 2.3                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.3                       | 2.3                         | 2.3                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.3                       | 2.3                         | 2.3                     | 1.4                         | 1.4                           | 1.6                       | 15%                   | 80%                    |
| 3   | 2                        | 0                 | 0   | 3.0                       | 3.0                         | 3.0                     | 1.1                         | 1.1                           | 1.6                       | 15%                   | 80%                    |
| Absecon Bay   | 1                        | 0                 | 0   | 3.0                       | 3.0                         | 3.0                     | 1.1                         | 1.1                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 3.0                       | 3.0                         | 3.0                     | 1.1                         | 1.1                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 3.0                       | 3.0                         | 3.0                     | 1.1                         | 1.1                           | 1.6                       | 15%                   | 80%                    |
| 4   | 0                        | 0                 | 0   | 3.0                       | 3.0                         | 3.0                     | 1.1                         | 1.1                           | 1.6                       | 15%                   | 80%                    |
|   | 8,314                    | 24                | 1,020   | 2.5                       | 2.5                         | 2.5                     | 0.7                         | 0.7                           | 1.6                       | 15%                   | 80%                    |
| Atlantic City   | 7,489                    | 25                | 1,080   | 2.5                       | 2.5                         | 2.5                     | 0.7                         | 0.7                           | 1.6                       | 15%                   | 80%                    |
|   | 44                       | 0                 | 3   | 2.5                       | 2.5                         | 2.5                     | 0.7                         | 0.7                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.5                       | 2.5                         | 2.5                     | 0.7                         | 0.7                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.5                       | 2.5                         | 2.5                     | 0.7                         | 0.7                           | 1.6                       | 15%                   | 80%                    |
| 5   | 2,897                    | 6                 | 771   | 2.4                       | 2.4                         | 2.4                     | 1.3                         | 1.3                           | 1.6                       | 15%                   | 80%                    |
| Ventnor   | 2,582                    | 2                 | 1,187   | 2.4                       | 2.4                         | 2.4                     | 1.3                         | 1.3                           | 1.6                       | 15%                   | 80%                    |
|   | 1                        | 0                 | 1   | 2.4                       | 2.4                         | 2.4                     | 1.3                         | 1.3                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.4                       | 2.4                         | 2.4                     | 1.3                         | 1.3                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.4                       | 2.4                         | 2.4                     | 1.3                         | 1.3                           | 1.6                       | 15%                   | 80%                    |
| 6   | 2,955                    | 0                 | 2,197   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| Margate   | 1,029                    | 0                 | 420   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| 7   | 544                      | 0                 | 1,000   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
| Longport  | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 15%                   | 80%                    |
| 8   | 94                       | 0                 | 34  | 2.0                       | 2.0                         | 2.0                     | 2.1                         | 2.1                           | 1.6                       | 15%                   | 80%                    |
| Egg Harbor Twp-Meadows  | 9                        | 0                 | 2   | 2.0                       | 2.0                         | 2.0                     | 2.1                         | 2.1                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 2.1                         | 2.1                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 2.1                         | 2.1                           | 1.6                       | 15%                   | 80%                    |
|   | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 2.1                         | 2.1                           | 1.6                       | 15%                   | 80%                    |
| 9   | 220                      | 0                 | 38  | 2.3                       | 2.3                         | 2.3                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
| Somers Point  | 677                      | 1                 | 83  | 2.3                       | 2.3                         | 2.3                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 1,902                    | 2                 | 71  | 2.3                       | 2.3                         | 2.3                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 591                      | 0                 | 31  | 2.3                       | 2.3                         | 2.3                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |
|   | 1,532                    | 1                 | 107   | 2.3                       | 2.3                         | 2.3                     | 1.5                         | 1.5                           | 1.6                       | 15%                   | 80%                    |

|                         |       |    |     |     |     |     |     |     |     |     |     |
|-------------------------|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 10                      | 165   | 1  | 7   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Linwood                 | 182   | 0  | 7   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 491   | 2  | 21  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 822   | 3  | 15  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 988   | 0  | 31  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 11                      | 56    | 0  | 1   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Northfield              | 123   | 0  | 3   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 59    | 0  | 1   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 760   | 0  | 9   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 1,826 | 0  | 21  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 12                      | 235   | 0  | 4   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| Pleasantville           | 536   | 3  | 4   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                         | 609   | 6  | 7   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                         | 793   | 8  | 5   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 15% | 80% |
|                         | 4,229 | 80 | 62  | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 15% | 80% |
| 13                      | 176   | 0  | 8   | 2.6 | 2.6 | 2.6 | 1.2 | 1.2 | 1.6 | 15% | 80% |
| EH Twp-Pleasantville Ar | 7     | 0  | 0   | 2.6 | 2.6 | 2.6 | 1.2 | 1.2 | 1.6 | 15% | 80% |
|                         | 0     | 0  | 0   | 2.6 | 2.6 | 2.6 | 1.2 | 1.2 | 1.6 | 15% | 80% |
|                         | 0     | 0  | 0   | 2.6 | 2.6 | 2.6 | 1.2 | 1.2 | 1.6 | 15% | 80% |
|                         | 0     | 0  | 0   | 2.6 | 2.6 | 2.6 | 1.2 | 1.2 | 1.6 | 15% | 80% |
| 14                      | 275   | 0  | 7   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Absecon City            | 386   | 0  | 9   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 322   | 0  | 8   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 324   | 0  | 4   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 1,467 | 0  | 19  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 15                      | 0     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| Galloway Twp-Central    | 34    | 0  | 1   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 84    | 0  | 1   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 221   | 5  | 3   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 5,986 | 77 | 136 | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| 16                      | 53    | 0  | 2   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| Port Republic Area      | 111   | 0  | 4   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 138   | 0  | 5   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 35    | 0  | 1   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                         | 187   | 0  | 7   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| 17                      | 8     | 0  | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Galloway Twp-West       | 3     | 0  | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 5     | 0  | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 11    | 1  | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                         | 2,983 | 70 | 25  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 18                      | 3     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| Egg Harbor City         | 2     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                         | 2     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                         | 17    | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                         | 1,587 | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 19                      | 47    | 5  | 1   | 2.9 | 2.9 | 2.9 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| Mullica Twp             | 66    | 5  | 1   | 2.9 | 2.9 | 2.9 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                         | 185   | 4  | 3   | 2.9 | 2.9 | 2.9 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                         | 163   | 15 | 3   | 2.9 | 2.9 | 2.9 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                         | 1,454 | 91 | 29  | 2.9 | 2.9 | 2.9 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| 20                      | 0     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Hammonton               | 0     | 0  | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |

|                    |       |       |     |     |     |     |     |     |     |     |     |
|--------------------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                    | 0     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 4     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 4,334 | 25    | 21  | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 21                 | 202   | 11    | 25  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Egg Harbor Twp     | 217   | 10    | 21  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 383   | 10    | 15  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 900   | 15    | 19  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 9,168 | 1,580 | 143 | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 22                 | 31    | 2     | 1   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| Corbin City        | 37    | 2     | 2   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 19    | 1     | 1   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 17    | 1     | 1   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 66    | 5     | 3   | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 23                 | 4     | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| Estell Manor       | 4     | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 4     | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 8     | 1     | 0   | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 495   | 66    | 7   | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 24                 | 0     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| Weymouth Twp-West  | 0     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
|                    | 612   | 84    | 10  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 15% | 80% |
| 25                 | 28    | 2     | 1   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| Weymouth Twp-East  | 19    | 1     | 1   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 186   | 11    | 7   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 2     | 0     | 0   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.6 | 2.6 | 2.6 | 1.6 | 1.6 | 1.6 | 15% | 80% |
| 26                 | 28    | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Hamilton Twp-SW    | 23    | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 60    | 1     | 0   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 559   | 2     | 6   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 1,490 | 9     | 6   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 27                 | 25    | 0     | 1   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| Hamilton Twp-SE    | 32    | 0     | 1   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                    | 131   | 3     | 3   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                    | 393   | 5     | 10  | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
|                    | 3,532 | 40    | 50  | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 15% | 80% |
| 28                 | 0     | 0     | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| Hamilton Twp-North | 0     | 0     | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 15% | 80% |
|                    | 441   | 2     | 5   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 15% | 80% |
| 29                 | 0     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| Buena Vista        | 0     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
|                    | 2,515 | 408   | 18  | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 15% | 80% |
| 30                 | 0     | 0     | 0   | 2.6 | 2.6 | 2.6 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| Buena              | 0     | 0     | 0   | 2.6 | 2.6 | 2.6 | 1.5 | 1.5 | 1.6 | 15% | 80% |
|                    | 0     | 0     | 0   | 2.6 | 2.6 | 2.6 | 1.5 | 1.5 | 1.6 | 15% | 80% |

|                              |        |       |        |     |     |     |     |     |     |     |     |
|------------------------------|--------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
|                              | 1,446  | 20    | 0      | 2.6 | 2.6 | 2.6 | 1.5 | 1.5 | 1.6 | 15% | 80% |
| 31                           | 0      | 0     | 0      | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| Folsom                       | 0      | 0     | 0      | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 0      | 0     | 0      | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 0      | 0     | 0      | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
|                              | 484    | 0     | 2      | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 15% | 80% |
| ATLANTIC TOTALS AND AVERAGES | 93,669 | 2,757 | 12,111 |     |     |     |     |     |     |     |     |



| OCEAN COUNTY<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                          |                   | LEGEND : <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 1 <span style="display: inline-block; width: 20px; height: 10px; background-color: #00bfff; border: 1px solid black;"></span> - CAT 2 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span> - CAT 3 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ccccff; border: 1px solid black;"></span> - CAT 4 <span style="display: inline-block; width: 20px; height: 10px; background-color: #ffffff; border: 1px solid black;"></span> - INLAND |                           |                             |                         |                             |                               |                           |                       |                        |
|--|--------------------------|-------------------|---|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
| EVACUATION AREAS   | Units                    |                   |   | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|  | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units  | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1  | 88                       | 6                 | 880   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| Long Beach township  | 13                       | 0                 | 93  | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 1                        | 0                 | 10  | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 1.9                       | 1.9                         | 1.9                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| 2  | 499                      | 0                 | 1,292   | 2.2                       | 2.2                         | 2.2                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
| Beach Haven borough  | 80                       | 0                 | 303   | 2.2                       | 2.2                         | 2.2                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 7                        | 0                 | 49  | 2.2                       | 2.2                         | 2.2                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 1                        | 0                 | 5   | 2.2                       | 2.2                         | 2.2                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.2                       | 2.2                         | 2.2                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
| 3  | 949                      | 5                 | 2,617   | 2.0                       | 2.0                         | 2.0                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| Long Beach township  | 217                      | 1                 | 877   | 2.0                       | 2.0                         | 2.0                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 42                       | 1                 | 232   | 2.0                       | 2.0                         | 2.0                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 2                        | 0                 | 23  | 2.0                       | 2.0                         | 2.0                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| 4  | 630                      | 0                 | 1,105   | 2.1                       | 2.1                         | 2.1                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| Ship Bottom borough  | 26                       | 0                 | 135   | 2.1                       | 2.1                         | 2.1                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 8                        | 0                 | 35  | 2.1                       | 2.1                         | 2.1                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |
| 5  | 646                      | 0                 | 1,434   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |
| Surf City borough  | 50                       | 0                 | 196   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |
|  | 10                       | 0                 | 55  | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |
| 6  | 69                       | 0                 | 290   | 2.1                       | 2.1                         | 2.1                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |
| Long Beach township  | 27                       | 0                 | 143   | 2.1                       | 2.1                         | 2.1                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |
|  | 2                        | 0                 | 18  | 2.1                       | 2.1                         | 2.1                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |
| 7  | 137                      | 0                 | 645   | 2.2                       | 2.2                         | 2.2                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |
| Harvey Cedars borough  | 25                       | 0                 | 235   | 2.2                       | 2.2                         | 2.2                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |
|  | 2                        | 0                 | 47  | 2.2                       | 2.2                         | 2.2                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |
|  | 3                        | 0                 | 38  | 2.2                       | 2.2                         | 2.2                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.2                       | 2.2                         | 2.2                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |
| 8  | 213                      | 0                 | 833   | 2.0                       | 2.0                         | 2.0                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
| Long Beach township  | 35                       | 0                 | 229   | 2.0                       | 2.0                         | 2.0                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 7                        | 0                 | 73  | 2.0                       | 2.0                         | 2.0                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 1                        | 0                 | 2   | 2.0                       | 2.0                         | 2.0                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.0                       | 2.0                         | 2.0                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
| 9  | 185                      | 0                 | 323   | 2.1                       | 2.1                         | 2.1                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
| Barnegat Light borough   | 158                      | 0                 | 402   | 2.1                       | 2.1                         | 2.1                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 27                       | 0                 | 97  | 2.1                       | 2.1                         | 2.1                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 2                        | 0                 | 7   | 2.1                       | 2.1                         | 2.1                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |
|  | 0                        | 0                 | 0   | 2.1                       | 2.1                         | 2.1                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |

|                            |       |   |       |     |     |     |     |     |     |     |     |
|----------------------------|-------|---|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| 10                         | 256   | 0 | 583   | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| Berkeley township          | 62    | 0 | 192   | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 15    | 0 | 70    | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 8     | 0 | 36    | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.0 | 2.0 | 2.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| 11                         | 702   | 0 | 593   | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| Seaside Park borough       | 422   | 0 | 497   | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                            | 3     | 0 | 2     | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 12                         | 616   | 1 | 205   | 2.2 | 2.2 | 2.2 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| Seaside Heights borough    | 738   | 4 | 423   | 2.2 | 2.2 | 2.2 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 55    | 0 | 24    | 2.2 | 2.2 | 2.2 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| 13                         | 135   | 0 | 87    | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| Berkeley township          | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 14                         | 198   | 0 | 283   | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| Dover township             | 705   | 0 | 1,119 | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                            | 107   | 0 | 183   | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                            | 32    | 0 | 42    | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 1.9 | 1.9 | 1.9 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 15                         | 211   | 0 | 232   | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| Lavallette borough         | 493   | 0 | 652   | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 137   | 0 | 220   | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 33    | 0 | 56    | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 16                         | 643   | 0 | 1,392 | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| Dover township             | 206   | 0 | 573   | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 133   | 0 | 463   | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 74    | 0 | 264   | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 1.9 | 1.9 | 1.9 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 17                         | 75    | 0 | 142   | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Brick township             | 142   | 1 | 238   | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 170   | 3 | 364   | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 79    | 3 | 321   | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.0 | 2.0 | 2.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 18                         | 105   | 0 | 132   | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Mantoloking borough        | 62    | 0 | 80    | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 15    | 0 | 25    | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 23    | 0 | 49    | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 19                         | 448   | 0 | 296   | 2.1 | 2.1 | 2.1 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Bay Head borough           | 111   | 0 | 96    | 2.1 | 2.1 | 2.1 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 18    | 0 | 25    | 2.1 | 2.1 | 2.1 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 9     | 0 | 18    | 2.1 | 2.1 | 2.1 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 0     | 0 | 0     | 2.1 | 2.1 | 2.1 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 20                         | 1,263 | 0 | 583   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| Point Pleasant Beach borou | 561   | 0 | 227   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |

|                            |        |     |     |     |     |     |     |     |     |     |     |
|----------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                            | 400    | 0   | 126 | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 98     | 0   | 16  | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                            | 0      | 0   | 0   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 21                         | 164    | 0   | 34  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Point Pleasant Beach borou | 370    | 0   | 17  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 606    | 0   | 27  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 778    | 0   | 38  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 220    | 0   | 12  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 22                         | 907    | 0   | 175 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Point Pleasant borough     | 946    | 0   | 86  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 1,369  | 0   | 75  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 1,388  | 0   | 44  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 809    | 0   | 30  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 23                         | 302    | 4   | 38  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Brick township             | 405    | 5   | 20  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 1,011  | 10  | 52  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 1,604  | 29  | 48  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 14,334 | 133 | 271 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 24                         | 979    | 0   | 161 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Brick township             | 1,290  | 0   | 196 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 1,580  | 0   | 154 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 3,152  | 0   | 191 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 4,379  | 0   | 130 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 25                         | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 10% | 80% |
| Lakewood township          | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                            | 1      | 0   | 0   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                            | 22     | 0   | 0   | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                            | 19,303 | 11  | 304 | 2.9 | 2.9 | 2.9 | 1.3 | 1.3 | 1.6 | 10% | 80% |
| 26                         | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Dover township             | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 125    | 5   | 1   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 20     | 1   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 8,705  | 995 | 168 | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 27                         | 2,422  | 5   | 471 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Dover township             | 1,856  | 4   | 293 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 2,556  | 3   | 254 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 1,839  | 2   | 76  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 13,962 | 3   | 184 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 28                         | 81     | 0   | 15  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Island Heights borough     | 44     | 0   | 7   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 121    | 0   | 13  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 144    | 0   | 14  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 423    | 3   | 40  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 29                         | 0      | 0   | 0   | 3.4 | 3.4 | 3.4 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| South Toms River borough   | 1      | 0   | 0   | 3.4 | 3.4 | 3.4 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 49     | 0   | 0   | 3.4 | 3.4 | 3.4 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 28     | 0   | 0   | 3.4 | 3.4 | 3.4 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 992    | 0   | 6   | 3.4 | 3.4 | 3.4 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 30                         | 0      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| Beachwood borough          | 6      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                            | 22     | 0   | 1   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                            | 124    | 0   | 5   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |

|                    |        |     |     |     |     |     |     |     |     |     |     |
|--------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                    | 3,312  | 0   | 17  | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 31                 | 0      | 0   | 0   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Pine Beach borough | 0      | 0   | 0   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 143    | 0   | 19  | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 311    | 1   | 34  | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 291    | 1   | 20  | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 32                 | 32     | 0   | 18  | 2.5 | 2.5 | 2.5 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| Ocean Gate borough | 381    | 0   | 165 | 2.5 | 2.5 | 2.5 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                    | 416    | 0   | 88  | 2.5 | 2.5 | 2.5 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 33                 | 0      | 0   | 0   | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 | 1.6 | 10% | 80% |
| Berkeley township  | 0      | 0   | 0   | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 | 1.6 | 10% | 80% |
|                    | 8      | 0   | 0   | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 | 1.6 | 10% | 80% |
|                    | 10     | 0   | 0   | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 | 1.6 | 10% | 80% |
|                    | 12,699 | 1   | 143 | 1.6 | 1.6 | 1.6 | 1.0 | 1.0 | 1.6 | 10% | 80% |
| 34                 | 798    | 2   | 251 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Berkeley township  | 667    | 2   | 127 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 986    | 4   | 76  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 429    | 2   | 38  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 3,449  | 11  | 97  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 35                 | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 2.7 | 2.7 | 1.6 | 10% | 80% |
| Lacey township     | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 2.7 | 2.7 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 2.7 | 2.7 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.9 | 2.9 | 2.9 | 2.7 | 2.7 | 1.6 | 10% | 80% |
|                    | 155    | 0   | 0   | 2.9 | 2.9 | 2.9 | 2.7 | 2.7 | 1.6 | 10% | 80% |
| 36                 | 1,447  | 0   | 376 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Lacey township     | 1,375  | 0   | 304 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 1,774  | 0   | 170 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 980    | 0   | 38  | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 3,516  | 0   | 155 | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 37                 | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Ocean township     | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                    | 42     | 0   | 0   | 3.2 | 3.2 | 3.2 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 38                 | 1,029  | 0   | 236 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Ocean township     | 221    | 0   | 46  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                    | 721    | 0   | 134 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                    | 279    | 0   | 37  | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                    | 186    | 0   | 3   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 39                 | 0      | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| Barneget township  | 0      | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                    | 0      | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                    | 1,459  | 465 | 86  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 40                 | 210    | 0   | 73  | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| Barneget township  | 105    | 0   | 29  | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 362    | 1   | 79  | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 144    | 0   | 29  | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                    | 3,117  | 25  | 95  | 3.0 | 3.0 | 3.0 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 41                 | 0      | 0   | 0   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |

|                            |        |       |       |     |     |     |     |     |     |     |     |
|----------------------------|--------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| Stafford township          | 0      | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                            | 4,724  | 11    | 95    | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 42                         | 1,514  | 14    | 1,812 | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Stafford township          | 718    | 7     | 566   | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 123    | 4     | 28    | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 52     | 2     | 8     | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 1,454  | 116   | 104   | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 43                         | 0      | 0     | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 10% | 80% |
| Eagleswood township        | 0      | 0     | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.6 | 10% | 80% |
| 44                         | 100    | 19    | 35    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Eagleswood township        | 119    | 12    | 21    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 104    | 10    | 19    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 83     | 9     | 15    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 141    | 14    | 26    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 45                         | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| Little Egg Harbor township | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                            | 21     | 0     | 1     | 2.9 | 2.9 | 2.9 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| 46                         | 2,170  | 10    | 1,225 | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Little Egg Harbor township | 978    | 0     | 122   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 794    | 0     | 39    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 747    | 0     | 25    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 1,441  | 0     | 49    | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 47                         | 460    | 15    | 387   | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| Tuckerton borough          | 321    | 27    | 10    | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 444    | 44    | 12    | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 234    | 28    | 3     | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                            | 39     | 6     | 1     | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 48                         | 0      | 0     | 0     | 1.8 | 1.8 | 1.8 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| Manchester township        | 0      | 0     | 0     | 1.8 | 1.8 | 1.8 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 1.8 | 1.8 | 1.8 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 1.8 | 1.8 | 1.8 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                            | 20,238 | 1,346 | 620   | 1.8 | 1.8 | 1.8 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| 49                         | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| Lakehurst borough          | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                            | 861    | 56    | 4     | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 50                         | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| Plumsted township          | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                            | 2,270  | 190   | 25    | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 51                         | 0      | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| Jackson township           | 0      | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                            | 0      | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |



|                           |         |       |        |     |     |     |     |     |     |     |     |
|---------------------------|---------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|
|                           | 0       | 0     | 0      | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                           | 13,853  | 1,050 | 88     | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| OCEAN TOTALS AND AVERAGES | 198,221 | 4,743 | 35,626 |     |     |     |     |     |     |     |     |

| MONMOUTH COUNTY<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                                | LEGEND : <div></div> - CAT 1 <div></div> - CAT 2 <div></div> - CAT 3 <div></div> - CAT 4 <div></div> - INLAND |                              |                                 |                                   |                               |                                   |                                     |                                 |                             |                              |     |
|---|--------------------------------|---|------------------------------|---------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------------|---------------------------------|-----------------------------|------------------------------|-----|
| EVACUATION AREAS  | Units                          |   |                              | People                          |                                   |                               | Vehicles                          |                                     |                                 | Tourists                    |                              |     |
|   | Permanent<br>Occupied<br>Units | Mobile<br>Home<br>Units   | Seasonal<br>Tourist<br>Units | People Per<br>Permanent<br>Unit | People Per<br>Mobile Home<br>Unit | People Per<br>Tourist<br>Unit | Vehicles Per<br>Permanent<br>Unit | Vehicles Per<br>Mobile Home<br>Unit | Vehicles Per<br>Tourist<br>Unit | Low<br>Occupancy<br>Tourist | High<br>Occupancy<br>Tourist |     |
| 1   | 26                             | 0   | 0                            | 2.5                             | 2.5                               | 2.5                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
| MATAWAN BORO  | 12                             | 0   | 0                            | 2.5                             | 2.5                               | 2.5                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 11                             | 0   | 0                            | 2.5                             | 2.5                               | 2.5                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 10                             | 0   | 0                            | 2.5                             | 2.5                               | 2.5                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 3,470                          | 0   | 0                            | 2.5                             | 2.5                               | 2.5                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 89                             | 0   | 0                            | 2.7                             | 2.7                               | 2.7                           | 1.8                               | 1.8                                 | 1.6                             | 10%                         | 80%                          |     |
|   | ABERDEEN TWP                   | 112   | 0                            | 0                               | 2.7                               | 2.7                           | 2.7                               | 1.8                                 | 1.8                             | 1.6                         | 10%                          | 80% |
|   |                                | 130   | 0                            | 0                               | 2.7                               | 2.7                           | 2.7                               | 1.8                                 | 1.8                             | 1.6                         | 10%                          | 80% |
| 100   |                                | 0   | 0                            | 2.7                             | 2.7                               | 2.7                           | 1.8                               | 1.8                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 5,808                          | 0   | 3                            | 2.7                             | 2.7                               | 2.7                           | 1.8                               | 1.8                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 249                            | 1   | 4                            | 2.3                             | 2.3                               | 2.3                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | KEYPORT BORO                   | 418   | 4                            | 6                               | 2.3                               | 2.3                           | 2.3                               | 1.3                                 | 1.3                             | 1.6                         | 10%                          | 80% |
|   |                                | 1,346   | 20                           | 15                              | 2.3                               | 2.3                           | 2.3                               | 1.3                                 | 1.3                             | 1.6                         | 10%                          | 80% |
| 406   |                                | 2   | 5                            | 2.3                             | 2.3                               | 2.3                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 841                            | 5   | 7                            | 2.3                             | 2.3                               | 2.3                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 1,466                          | 0   | 0                            | 3.1                             | 3.1                               | 3.1                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | UNION BEACH BORO               | 596   | 0                            | 0                               | 3.1                               | 3.1                           | 3.1                               | 1.9                                 | 1.9                             | 1.6                         | 10%                          | 80% |
|   |                                | 79  | 0                            | 0                               | 3.1                               | 3.1                           | 3.1                               | 1.9                                 | 1.9                             | 1.6                         | 10%                          | 80% |
| 0   |                                | 0   | 0                            | 3.1                             | 3.1                               | 3.1                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 0                              | 0   | 0                            | 3.1                             | 3.1                               | 3.1                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 744                            | 164   | 12                           | 2.9                             | 2.9                               | 2.9                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | HAZLET TWP                     | 625   | 70                           | 5                               | 2.9                               | 2.9                           | 2.9                               | 1.9                                 | 1.9                             | 1.6                         | 10%                          | 80% |
|   |                                | 1,082   | 191                          | 4                               | 2.9                               | 2.9                           | 2.9                               | 1.9                                 | 1.9                             | 1.6                         | 10%                          | 80% |
| 651   |                                | 47  | 1                            | 2.9                             | 2.9                               | 2.9                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 4,056                          | 217   | 16                           | 2.9                             | 2.9                               | 2.9                           | 1.9                               | 1.9                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 3,354                          | 0   | 60                           | 2.7                             | 2.7                               | 2.7                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | KEANSBURG BORO                 | 506   | 0                            | 3                               | 2.7                               | 2.7                           | 2.7                               | 1.4                                 | 1.4                             | 1.6                         | 10%                          | 80% |
|   |                                | 5   | 0                            | 0                               | 2.7                               | 2.7                           | 2.7                               | 1.4                                 | 1.4                             | 1.6                         | 10%                          | 80% |
| 0   |                                | 0   | 0                            | 2.7                             | 2.7                               | 2.7                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 0                              | 0   | 0                            | 2.7                             | 2.7                               | 2.7                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 2,908                          | 9   | 25                           | 2.9                             | 2.9                               | 2.9                           | 2.0                               | 2.0                                 | 1.6                             | 10%                         | 80%                          |     |
|   | MIDDLETOWN TWP                 | 1,059   | 2                            | 2                               | 2.9                               | 2.9                           | 2.9                               | 2.0                                 | 2.0                             | 1.6                         | 10%                          | 80% |
|   |                                | 1,241   | 2                            | 2                               | 2.9                               | 2.9                           | 2.9                               | 2.0                                 | 2.0                             | 1.6                         | 10%                          | 80% |
| 926   |                                | 2   | 3                            | 2.9                             | 2.9                               | 2.9                           | 2.0                               | 2.0                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 16,767                         | 18  | 120                          | 2.9                             | 2.9                               | 2.9                           | 2.0                               | 2.0                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 128                            | 0   | 2                            | 2.3                             | 2.3                               | 2.3                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | ATLANTIC HIGHLANDS BO          | 132   | 0                            | 2                               | 2.3                               | 2.3                           | 2.3                               | 1.7                                 | 1.7                             | 1.6                         | 10%                          | 80% |
|   |                                | 146   | 1                            | 1                               | 2.3                               | 2.3                           | 2.3                               | 1.7                                 | 1.7                             | 1.6                         | 10%                          | 80% |
| 266   |                                | 2   | 1                            | 2.3                             | 2.3                               | 2.3                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 1,447                          | 5   | 24                           | 2.3                             | 2.3                               | 2.3                           | 1.7                               | 1.7                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 1,445                          | 86  | 144                          | 2.1                             | 2.1                               | 2.1                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | HIGHLANDS BORO                 | 126   | 3                            | 7                               | 2.1                               | 2.1                           | 2.1                               | 1.4                                 | 1.4                             | 1.6                         | 10%                          | 80% |
|   |                                | 26  | 0                            | 2                               | 2.1                               | 2.1                           | 2.1                               | 1.4                                 | 1.4                             | 1.6                         | 10%                          | 80% |
| 7   |                                | 1   | 0                            | 2.1                             | 2.1                               | 2.1                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 840                            | 46  | 46                           | 2.1                             | 2.1                               | 2.1                           | 1.4                               | 1.4                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 84                             | 0   | 1                            | 2.2                             | 2.2                               | 2.2                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | RED BANK BORO                  | 96  | 0                            | 1                               | 2.2                               | 2.2                           | 2.2                               | 1.3                                 | 1.3                             | 1.6                         | 10%                          | 80% |
|   |                                | 65  | 0                            | 0                               | 2.2                               | 2.2                           | 2.2                               | 1.3                                 | 1.3                             | 1.6                         | 10%                          | 80% |
| 129   |                                | 0   | 0                            | 2.2                             | 2.2                               | 2.2                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 4,815                          | 0   | 35                           | 2.2                             | 2.2                               | 2.2                           | 1.3                               | 1.3                                 | 1.6                             | 10%                         | 80%                          |     |
|   | 33                             | 0   | 0                            | 3.0                             | 3.0                               | 3.0                           | 2.0                               | 2.0                                 | 1.6                             | 10%                         | 80%                          |     |
|   | FAIR HAVEN BORO                | 46  | 0                            | 0                               | 3.0                               | 3.0                           | 3.0                               | 2.0                                 | 2.0                             | 1.6                         | 10%                          | 80% |

|                        |       |     |     |     |     |     |     |     |     |     |     |
|------------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                        | 95    | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 526   | 0   | 1   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 1,302 | 0   | 6   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 12                     | 367   | 2   | 20  | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| RUMSON BORO            | 505   | 3   | 37  | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 314   | 1   | 19  | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 320   | 1   | 15  | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 940   | 0   | 24  | 2.9 | 2.9 | 2.9 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 13                     | 1     | 0   | 0   | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.6 | 10% | 80% |
| GATEWAY NAT'L REC AREA | 0     | 0   | 0   | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.6 | 10% | 80% |
| 14                     | 519   | 0   | 87  | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| SEA BRIGHT BORO        | 191   | 0   | 36  | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                        | 18    | 0   | 3   | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                        | 224   | 0   | 33  | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 1.8 | 1.8 | 1.8 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 15                     | 0     | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 10% | 80% |
| SHREWSBURY TWP         | 0     | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 10% | 80% |
|                        | 521   | 0   | 0   | 2.1 | 2.1 | 2.1 | 1.3 | 1.3 | 1.6 | 10% | 80% |
| 16                     | 1     | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| SHREWSBURY BORO        | 20    | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 60    | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 90    | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 1,031 | 0   | 15  | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 17                     | 53    | 0   | 0   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| LITTLE SILVER BORO     | 422   | 0   | 0   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 295   | 0   | 0   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 314   | 0   | 0   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                        | 1,131 | 0   | 0   | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 18                     | 844   | 0   | 184 | 2.2 | 2.2 | 2.2 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| MONMOUTH BEACH BORO    | 708   | 0   | 114 | 2.2 | 2.2 | 2.2 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                        | 97    | 0   | 12  | 2.2 | 2.2 | 2.2 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                        | 9     | 0   | 2   | 2.2 | 2.2 | 2.2 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                        | 0     | 0   | 0   | 2.2 | 2.2 | 2.2 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 19                     | 1     | 0   | 0   | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| EATONTOWN BORO         | 6     | 0   | 0   | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                        | 52    | 0   | 0   | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                        | 120   | 0   | 0   | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                        | 5,158 | 271 | 44  | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 20                     | 141   | 1   | 2   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| OCEANPORT BORO         | 960   | 4   | 13  | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 317   | 2   | 6   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 194   | 2   | 5   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                        | 434   | 1   | 3   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 21                     | 0     | 0   | 0   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| WEST LONG BRANCH BORO  | 7     | 0   | 0   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                        | 32    | 0   | 1   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                        | 241   | 0   | 5   | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                        | 2,150 | 0   | 55  | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 22                     | 340   | 1   | 17  | 2.5 | 2.5 | 2.5 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| LONG BRANCH CITY       | 2,520 | 5   | 56  | 2.5 | 2.5 | 2.5 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                        | 1,772 | 1   | 65  | 2.5 | 2.5 | 2.5 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                        | 1,484 | 0   | 61  | 2.5 | 2.5 | 2.5 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                        | 6,459 | 0   | 657 | 2.5 | 2.5 | 2.5 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 23                     | 0     | 0   | 0   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |

|                      |       |    |     |     |     |     |     |     |     |     |     |
|----------------------|-------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| OCEAN TWP            | 29    | 0  | 0   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                      | 84    | 0  | 1   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                      | 227   | 0  | 4   | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                      | 8,999 | 10 | 234 | 2.6 | 2.6 | 2.6 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 24                   | 0     | 0  | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| DEAL BORO            | 5     | 0  | 8   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                      | 13    | 0  | 21  | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                      | 30    | 0  | 44  | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                      | 389   | 0  | 422 | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 25                   | 0     | 0  | 0   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| ALLENHURST BORO      | 1     | 0  | 0   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 36    | 0  | 8   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 95    | 0  | 23  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 148   | 0  | 42  | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 26                   | 5     | 0  | 0   | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| INTERLAKEN BORO      | 28    | 0  | 0   | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 69    | 0  | 0   | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 97    | 0  | 0   | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                      | 187   | 0  | 1   | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 27                   | 3     | 0  | 1   | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| LOCH ARBOUR VILLAGE  | 37    | 1  | 8   | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                      | 65    | 2  | 12  | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                      | 7     | 0  | 1   | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                      | 9     | 0  | 2   | 2.3 | 2.3 | 2.3 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 28                   | 11    | 0  | 0   | 2.5 | 2.5 | 2.5 | 0.9 | 0.9 | 1.6 | 10% | 80% |
| ASBURY PARK CITY     | 654   | 0  | 4   | 2.5 | 2.5 | 2.5 | 0.9 | 0.9 | 1.6 | 10% | 80% |
|                      | 2,039 | 0  | 14  | 2.5 | 2.5 | 2.5 | 0.9 | 0.9 | 1.6 | 10% | 80% |
|                      | 1,565 | 0  | 10  | 2.5 | 2.5 | 2.5 | 0.9 | 0.9 | 1.6 | 10% | 80% |
|                      | 2,505 | 0  | 20  | 2.5 | 2.5 | 2.5 | 0.9 | 0.9 | 1.6 | 10% | 80% |
| 29                   | 225   | 0  | 18  | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| NEPTUNE TWP          | 397   | 1  | 60  | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 1,129 | 10 | 161 | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 1,481 | 20 | 222 | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 7,654 | 59 | 244 | 2.5 | 2.5 | 2.5 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 30                   | 13    | 0  | 0   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| NEPTUNE CITY BORO    | 115   | 1  | 1   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 398   | 3  | 8   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 339   | 5  | 6   | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 1,317 | 64 | 17  | 2.3 | 2.3 | 2.3 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 31                   | 20    | 0  | 7   | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| BRADLEY BEACH BORO   | 183   | 0  | 64  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 868   | 0  | 283 | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 684   | 0  | 173 | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 558   | 0  | 18  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 32                   | 66    | 0  | 23  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| AVON-BY-THE-SEA BORO | 265   | 0  | 80  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 469   | 0  | 145 | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 151   | 0  | 38  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 77    | 0  | 15  | 2.1 | 2.1 | 2.1 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 33                   | 174   | 1  | 51  | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| BELMAR BORO          | 901   | 1  | 213 | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 1,401 | 3  | 366 | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 295   | 1  | 76  | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                      | 175   | 1  | 50  | 2.1 | 2.1 | 2.1 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 34                   | 12    | 0  | 5   | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| SOUTH BELMAR BORO    | 81    | 0  | 21  | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 194   | 0  | 70  | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 193   | 0  | 64  | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                      | 344   | 0  | 70  | 2.2 | 2.2 | 2.2 | 1.4 | 1.4 | 1.6 | 10% | 80% |

|                       |        |     |     |     |     |     |     |     |     |     |     |
|-----------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35                    | 44     | 0   | 15  | 2.4 | 2.4 | 2.4 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| SPRING LAKE BORO      | 190    | 1   | 60  | 2.4 | 2.4 | 2.4 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 151    | 1   | 44  | 2.4 | 2.4 | 2.4 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 146    | 1   | 40  | 2.4 | 2.4 | 2.4 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 932    | 5   | 221 | 2.4 | 2.4 | 2.4 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 36                    | 4      | 0   | 0   | 2.0 | 2.0 | 2.0 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| SPRING LAKE HEIGHTS B | 40     | 0   | 10  | 2.0 | 2.0 | 2.0 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                       | 157    | 0   | 23  | 2.0 | 2.0 | 2.0 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                       | 178    | 0   | 27  | 2.0 | 2.0 | 2.0 | 1.4 | 1.4 | 1.6 | 10% | 80% |
|                       | 2,133  | 0   | 264 | 2.0 | 2.0 | 2.0 | 1.4 | 1.4 | 1.6 | 10% | 80% |
| 37                    | 1      | 0   | 1   | 2.3 | 2.3 | 2.3 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| SEA GIRT BORO         | 101    | 0   | 43  | 2.3 | 2.3 | 2.3 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 229    | 0   | 94  | 2.3 | 2.3 | 2.3 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 202    | 0   | 63  | 2.3 | 2.3 | 2.3 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 409    | 0   | 86  | 2.3 | 2.3 | 2.3 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 38                    | 840    | 0   | 415 | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| MANASQUAN BORO        | 457    | 0   | 119 | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 325    | 0   | 113 | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 235    | 0   | 47  | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 668    | 0   | 6   | 2.4 | 2.4 | 2.4 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 39                    | 121    | 0   | 15  | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| BRIELLE BORO          | 275    | 0   | 30  | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 197    | 1   | 16  | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 97     | 1   | 5   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 1,281  | 18  | 45  | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 40                    | 28     | 0   | 2   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| WALL TWP              | 30     | 0   | 2   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                       | 52     | 2   | 3   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                       | 124    | 3   | 8   | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                       | 9,030  | 150 | 320 | 2.6 | 2.6 | 2.6 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 41                    | 2      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| TINTON FALLS BORO     | 2      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 3      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 5      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                       | 5,794  | 0   | 22  | 2.5 | 2.5 | 2.5 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 42                    | 0      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| HOWELL TWP            | 0      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                       | 15,839 | 657 | 73  | 3.0 | 3.0 | 3.0 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 43                    | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| FARMINGDALE BORO      | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                       | 566    | 0   | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 44                    | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| COLTS NECK TWP        | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                       | 3,354  | 7   | 42  | 3.2 | 3.2 | 3.2 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| 45                    | 0      | 0   | 0   | 3.1 | 3.1 | 3.1 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| HOLMDEL TWP           | 3      | 0   | 0   | 3.1 | 3.1 | 3.1 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                       | 15     | 0   | 0   | 3.1 | 3.1 | 3.1 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                       | 140    | 0   | 1   | 3.1 | 3.1 | 3.1 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                       | 4,732  | 99  | 64  | 3.1 | 3.1 | 3.1 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 46                    | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| MARLBORO TWP          | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.2 | 3.2 | 3.2 | 2.1 | 2.1 | 1.6 | 10% | 80% |



|                              |         |       |       |     |     |     |     |     |     |     |     |
|------------------------------|---------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|
|                              | 11,282  | 210   | 51    | 3.2 | 3.2 | 3.2 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 47                           | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| FREEHOLD TWP                 | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 10,613  | 358   | 15    | 2.8 | 2.8 | 2.8 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 48                           | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| FREEHOLD BORO                | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 3,695   | 0     | 2     | 3.0 | 3.0 | 3.0 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 49                           | 0       | 0     | 0     | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| MANALAPAN TWP                | 0       | 0     | 0     | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 10,509  | 40    | 114   | 3.1 | 3.1 | 3.1 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 50                           | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| ENGLISHTOWN BORO             | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                              | 561     | 0     | 1     | 2.7 | 2.7 | 2.7 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 51                           | 0       | 0     | 0     | 3.3 | 3.3 | 3.3 | 2.3 | 2.3 | 1.6 | 10% | 80% |
| MILLSTONE TWP                | 0       | 0     | 0     | 3.3 | 3.3 | 3.3 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.3 | 3.3 | 3.3 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.3 | 3.3 | 3.3 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 2,596   | 0     | 4     | 3.3 | 3.3 | 3.3 | 2.3 | 2.3 | 1.6 | 10% | 80% |
| 52                           | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| ROOSEVELT BORO               | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                              | 337     | 0     | 5     | 2.8 | 2.8 | 2.8 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 53                           | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
| UPPER FREEHOLD TWP           | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
|                              | 1,411   | 0     | 0     | 3.0 | 3.0 | 3.0 | 2.3 | 2.3 | 1.6 | 10% | 80% |
| 54                           | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| ALLENTOWN BORO               | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 0       | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                              | 670     | 0     | 0     | 2.7 | 2.7 | 2.7 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| MONMOUTH TOTALS AND AVERAGES | 220,552 | 2,930 | 8,137 |     |     |     |     |     |     |     |     |

| CUMBERLAND COUNTY<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                          | LEGEND : <div></div> - CAT 1 <div></div> - CAT 2 <div></div> - CAT 3 <div></div> - CAT 4 <div></div> - INLAND |                        |                           |                             |                         |                             |                               |                           |                       |                        |  |
|---|--------------------------|---|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|--|
| EVACUATION AREAS  | Units                    |   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |  |
|   | Permanent Occupied Units | Mobile Home Units   | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |  |
| 1   | 195                      | 29  | 11                     | 2.8                       | 2.8                         | 2.8                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |  |
| MAURICE RIVER TWP-South   | 139                      | 20  | 8                      | 2.8                       | 2.8                         | 2.8                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |  |
|   | 32                       | 4   | 2                      | 2.8                       | 2.8                         | 2.8                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |  |
|   | 23                       | 3   | 1                      | 2.8                       | 2.8                         | 2.8                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.8                       | 2.8                         | 2.8                     | 1.7                         | 1.7                           | 1.6                       | 10%                   | 80%                    |  |
| 2   | 6                        | 1   | 0                      | 2.5                       | 2.5                         | 2.5                     | 2.0                         | 2.0                           | 1.6                       | 10%                   | 80%                    |  |
| BAYSIDE-SOUTHERN STATE  | 28                       | 4   | 1                      | 2.5                       | 2.5                         | 2.5                     | 2.0                         | 2.0                           | 1.6                       | 10%                   | 80%                    |  |
|   | 26                       | 4   | 1                      | 2.5                       | 2.5                         | 2.5                     | 2.0                         | 2.0                           | 1.6                       | 10%                   | 80%                    |  |
|   | 9                        | 1   | 0                      | 2.5                       | 2.5                         | 2.5                     | 2.0                         | 2.0                           | 1.6                       | 10%                   | 80%                    |  |
|   | 13                       | 2   | 0                      | 2.5                       | 2.5                         | 2.5                     | 2.0                         | 2.0                           | 1.6                       | 10%                   | 80%                    |  |
| 3   | 36                       | 4   | 1                      | 2.5                       | 2.5                         | 2.5                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
| MAURICE RIVER TWP-Central   | 84                       | 10  | 2                      | 2.5                       | 2.5                         | 2.5                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 112                      | 13  | 3                      | 2.5                       | 2.5                         | 2.5                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 154                      | 20  | 7                      | 2.5                       | 2.5                         | 2.5                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 31                       | 4   | 1                      | 2.5                       | 2.5                         | 2.5                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
| 4   | 2                        | 0   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| MR TWP-PORT ELIZ-MANUMUSKIN   | 12                       | 1   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 98                       | 11  | 1                      | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 52                       | 5   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 85                       | 8   | 1                      | 2.6                       | 2.6                         | 2.6                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| 5   | 0                        | 0   | 0                      | 3.0                       | 3.0                         | 3.0                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| MAURICE RIVER TWP-NE  | 0                        | 0   | 0                      | 3.0                       | 3.0                         | 3.0                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 3.0                       | 3.0                         | 3.0                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 3.0                       | 3.0                         | 3.0                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 185                      | 18  | 2                      | 3.0                       | 3.0                         | 3.0                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| 6   | 155                      | 4   | 5                      | 2.9                       | 2.9                         | 2.9                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
| COMMERCIAL TWP-SOUTH  | 144                      | 2   | 5                      | 2.9                       | 2.9                         | 2.9                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 14                       | 4   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 23                       | 6   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.8                         | 1.8                           | 1.6                       | 10%                   | 80%                    |  |
| 7   | 81                       | 8   | 2                      | 2.9                       | 2.9                         | 2.9                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| COMMERCIAL TWP-SOUTH-CENTRAL  | 186                      | 9   | 6                      | 2.9                       | 2.9                         | 2.9                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 32                       | 7   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 11                       | 2   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
|   | 19                       | 4   | 0                      | 2.9                       | 2.9                         | 2.9                     | 1.9                         | 1.9                           | 1.6                       | 10%                   | 80%                    |  |
| 8   | 4                        | 1   | 0                      | 2.8                       | 2.8                         | 2.8                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
| COMMERCIAL TWP-NORTH  | 22                       | 6   | 0                      | 2.8                       | 2.8                         | 2.8                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 44                       | 11  | 0                      | 2.8                       | 2.8                         | 2.8                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 83                       | 40  | 3                      | 2.8                       | 2.8                         | 2.8                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 1,029                    | 496   | 87                     | 2.8                       | 2.8                         | 2.8                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
| 9   | 1                        | 0   | 0                      | 2.7                       | 2.7                         | 2.7                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
| MILLVILLE CITY-SOUTH  | 10                       | 1   | 0                      | 2.7                       | 2.7                         | 2.7                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 632                      | 55  | 3                      | 2.7                       | 2.7                         | 2.7                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 689                      | 20  | 8                      | 2.7                       | 2.7                         | 2.7                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
|   | 3,185                    | 205   | 18                     | 2.7                       | 2.7                         | 2.7                     | 1.6                         | 1.6                           | 1.6                       | 10%                   | 80%                    |  |
| 10  | 0                        | 0   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.4                         | 1.4                           | 1.6                       | 10%                   | 80%                    |  |
| MILLVILLE CITY-NORTH  | 1                        | 0   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.4                         | 1.4                           | 1.6                       | 10%                   | 80%                    |  |
|   | 98                       | 0   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.4                         | 1.4                           | 1.6                       | 10%                   | 80%                    |  |
|   | 97                       | 0   | 0                      | 2.6                       | 2.6                         | 2.6                     | 1.4                         | 1.4                           | 1.6                       | 10%                   | 80%                    |  |
|   | 4,994                    | 16  | 21                     | 2.6                       | 2.6                         | 2.6                     | 1.4                         | 1.4                           | 1.6                       | 10%                   | 80%                    |  |
| 11  | 0                        | 0   | 0                      | 2.7                       | 2.7                         | 2.7                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |  |
| VINELAND CITY   | 0                        | 0   | 0                      | 2.7                       | 2.7                         | 2.7                     | 1.5                         | 1.5                           | 1.6                       | 10%                   | 80%                    |  |

|                     |        |       |     |     |     |     |     |     |     |     |     |
|---------------------|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                     | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 10% | 80% |
|                     | 19,044 | 1,256 | 130 | 2.7 | 2.7 | 2.7 | 1.5 | 1.5 | 1.6 | 10% | 80% |
| 12                  | 293    | 50    | 315 | 2.3 | 2.3 | 2.3 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| DOWNE TWP-SOUTH     | 122    | 11    | 61  | 2.3 | 2.3 | 2.3 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.3 | 2.3 | 2.3 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.3 | 2.3 | 2.3 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.3 | 2.3 | 2.3 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 13                  | 74     | 5     | 3   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| DOWNE TWP-CENTRAL   | 103    | 7     | 3   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 5      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 3      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 5      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 14                  | 0      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| DOWNE TWP-NORTH     | 1      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 1      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 1      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 24     | 2     | 1   | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 15                  | 101    | 1     | 19  | 2.8 | 2.8 | 2.8 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| LAWRENCE TWP-SW     | 79     | 1     | 17  | 2.8 | 2.8 | 2.8 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 32     | 0     | 4   | 2.8 | 2.8 | 2.8 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 15     | 0     | 2   | 2.8 | 2.8 | 2.8 | 1.6 | 1.6 | 1.6 | 10% | 80% |
|                     | 31     | 0     | 4   | 2.8 | 2.8 | 2.8 | 1.6 | 1.6 | 1.6 | 10% | 80% |
| 16                  | 1      | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| LAWRENCE TWP-NE     | 3      | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 21     | 0     | 2   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 14     | 0     | 1   | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 638    | 6     | 22  | 3.0 | 3.0 | 3.0 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 17                  | 53     | 5     | 9   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| FAIRFIELD TWP-SW    | 22     | 1     | 2   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 9      | 1     | 1   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 3      | 0     | 1   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 15     | 1     | 2   | 2.6 | 2.6 | 2.6 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 18                  | 7      | 0     | 1   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| FAIRFIELD TWP-NE    | 21     | 1     | 2   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 23     | 1     | 2   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 37     | 3     | 3   | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 1,552  | 290   | 50  | 2.8 | 2.8 | 2.8 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 19                  | 0      | 0     | 0   | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| DEERFIELD TWP       | 0      | 0     | 0   | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 0      | 0     | 0   | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 963    | 15    | 15  | 2.9 | 2.9 | 2.9 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 20                  | 3      | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| BRIDGETON CITY      | 97     | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                     | 82     | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                     | 122    | 0     | 0   | 3.0 | 3.0 | 3.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
|                     | 5,785  | 7     | 9   | 3.0 | 3.0 | 3.0 | 1.2 | 1.2 | 1.6 | 10% | 80% |
| 21                  | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| UPPER DEERFIELD TWP | 2      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 2      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 4      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                     | 2,698  | 26    | 9   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 22                  | 18     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| HOPEWELL TWP-SOUTH  | 13     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 9      | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 11     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 10% | 80% |
|                     | 61     | 0     | 0   | 2.8 | 2.8 | 2.8 | 1.8 | 1.8 | 1.6 | 10% | 80% |
| 23                  | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |

|                                |        |       |     |     |     |     |     |     |     |     |     |
|--------------------------------|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| HOPEWELL TWP-CENTRAL           | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                                | 1      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                                | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
|                                | 251    | 0     | 0   | 2.7 | 2.7 | 2.7 | 1.7 | 1.7 | 1.6 | 10% | 80% |
| 24                             | 0      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| HOPEWELL TWP-NORTH             | 0      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                                | 1      | 0     | 0   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
|                                | 1,214  | 8     | 9   | 2.5 | 2.5 | 2.5 | 1.9 | 1.9 | 1.6 | 10% | 80% |
| 25                             | 0      | 0     | 0   | 2.8 | 2.8 | 2.8 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| SHILOH BORO                    | 0      | 0     | 0   | 2.8 | 2.8 | 2.8 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                                | 0      | 0     | 0   | 2.8 | 2.8 | 2.8 | 2.2 | 2.2 | 1.6 | 10% | 80% |
|                                | 194    | 4     | 3   | 2.8 | 2.8 | 2.8 | 2.2 | 2.2 | 1.6 | 10% | 80% |
| 26                             | 44     | 0     | 1   | 2.6 | 2.6 | 2.6 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| GREENWICH TWP-SOUTH            | 128    | 1     | 4   | 2.6 | 2.6 | 2.6 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                                | 23     | 0     | 0   | 2.6 | 2.6 | 2.6 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                                | 35     | 0     | 1   | 2.6 | 2.6 | 2.6 | 2.0 | 2.0 | 1.6 | 10% | 80% |
|                                | 97     | 1     | 3   | 2.6 | 2.6 | 2.6 | 2.0 | 2.0 | 1.6 | 10% | 80% |
| 27                             | 12     | 1     | 0   | 2.5 | 2.5 | 2.5 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| STOW CREEK TWP-SW              | 4      | 0     | 0   | 2.5 | 2.5 | 2.5 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 6      | 1     | 0   | 2.5 | 2.5 | 2.5 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 5      | 1     | 0   | 2.5 | 2.5 | 2.5 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 26     | 3     | 0   | 2.5 | 2.5 | 2.5 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 28                             | 2      | 0     | 0   | 2.6 | 2.6 | 2.6 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| STOW CREEK TWP-CENTRAL         | 3      | 0     | 0   | 2.6 | 2.6 | 2.6 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 3      | 0     | 0   | 2.6 | 2.6 | 2.6 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 2      | 0     | 0   | 2.6 | 2.6 | 2.6 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 159    | 16    | 2   | 2.6 | 2.6 | 2.6 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| 29                             | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| STOW CREEK TWP-NORTH           | 0      | 0     | 0   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 1      | 0     | 0   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 1      | 0     | 0   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
|                                | 306    | 30    | 5   | 2.7 | 2.7 | 2.7 | 2.1 | 2.1 | 1.6 | 10% | 80% |
| CUMBERLAND TOTALS AND AVERAGES | 47,618 | 2,815 | 918 |     |     |     |     |     |     |     |     |

| NORTH JERSEY COUNTIES<br>SOCIOECONOMIC DATA<br>New Jersey Hurricane Evacuation ReStudy 2006 |                          | LEGEND : <div></div> - CAT 1 <div></div> - CAT 2 <div></div> - CAT 3 <div></div> - CAT 4 <div></div> - INLAND |                        |                           |                             |                         |                             |                               |                           |                       |                        |  |
|---|--------------------------|---|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|--|
| HUDSON EVACUATION AREAS   | Units                    |   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |  |
|   | Permanent Occupied Units | Mobile Home Units   | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |  |
| 1   | 1,008                    | 0   | 3                      | 2.48                      | 2.48                        | 2.48                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| Bayonne South   | 630                      | 0   | 5                      | 2.48                      | 2.48                        | 2.48                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 2,792                    | 0   | 4                      | 2.48                      | 2.48                        | 2.48                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 1,233                    | 2   | 3                      | 2.48                      | 2.48                        | 2.48                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 5,390                    | 9   | 36                     | 2.48                      | 2.48                        | 2.48                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| 2   | 213                      | 0   | 1                      | 2.42                      | 2.42                        | 2.42                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| Bayonne East  | 344                      | 1   | 2                      | 2.42                      | 2.42                        | 2.42                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 1,092                    | 12  | 2                      | 2.42                      | 2.42                        | 2.42                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 474                      | 8   | 1                      | 2.42                      | 2.42                        | 2.42                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 8,729                    | 12  | 22                     | 2.42                      | 2.42                        | 2.42                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| 3   | 157                      | 1   | 0                      | 2.22                      | 2.22                        | 2.22                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
| Bayonne West  | 35                       | 3   | 0                      | 2.22                      | 2.22                        | 2.22                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 90                       | 7   | 0                      | 2.22                      | 2.22                        | 2.22                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 584                      | 27  | 0                      | 2.22                      | 2.22                        | 2.22                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 2,775                    | 27  | 0                      | 2.22                      | 2.22                        | 2.22                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
| 4   | 14,064                   | 8   | 218                    | 2.24                      | 2.24                        | 2.24                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
| Jersey City East  | 4,778                    | 0   | 45                     | 2.24                      | 2.24                        | 2.24                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 828                      | 12  | 5                      | 2.24                      | 2.24                        | 2.24                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 14                       | 0   | 0                      | 2.24                      | 2.24                        | 2.24                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 122                      | 0   | 0                      | 2.24                      | 2.24                        | 2.24                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
| 5   | 4                        | 0   | 0                      | 2.78                      | 2.78                        | 2.78                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
| Jersey City Central   | 17                       | 0   | 0                      | 2.78                      | 2.78                        | 2.78                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 110                      | 0   | 0                      | 2.78                      | 2.78                        | 2.78                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 213                      | 0   | 0                      | 2.78                      | 2.78                        | 2.78                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 56,722                   | 12  | 161                    | 2.78                      | 2.78                        | 2.78                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
| 6   | 1,799                    | 0   | 0                      | 2.88                      | 2.88                        | 2.88                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| Jersey City West  | 596                      | 0   | 0                      | 2.88                      | 2.88                        | 2.88                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 1,108                    | 0   | 0                      | 2.88                      | 2.88                        | 2.88                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 2,207                    | 0   | 2                      | 2.88                      | 2.88                        | 2.88                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
|   | 6,050                    | 0   | 20                     | 2.88                      | 2.88                        | 2.88                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| 7   | 13,103                   | 0   | 35                     | 1.92                      | 1.92                        | 1.92                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
| Hoboken City  | 4,253                    | 0   | 7                      | 1.92                      | 1.92                        | 1.92                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 1,605                    | 0   | 2                      | 1.92                      | 1.92                        | 1.92                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 355                      | 0   | 1                      | 1.92                      | 1.92                        | 1.92                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
|   | 102                      | 0   | 0                      | 1.92                      | 1.92                        | 1.92                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |  |
| 8   | 273                      | 0   | 17                     | 2.10                      | 2.10                        | 2.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |  |
| Weehawken Hudson  | 13                       | 0   | 1                      | 2.10                      | 2.10                        | 2.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |  |
|   | 9                        | 0   | 1                      | 2.10                      | 2.10                        | 2.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.10                      | 2.10                        | 2.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |  |
|   | 433                      | 0   | 1                      | 2.10                      | 2.10                        | 2.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |  |
| 9   | 0                        | 0   | 0                      | 2.28                      | 2.28                        | 2.28                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
| Weehawken Central   | 0                        | 0   | 0                      | 2.28                      | 2.28                        | 2.28                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.28                      | 2.28                        | 2.28                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.28                      | 2.28                        | 2.28                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
|   | 5,183                    | 0   | 5                      | 2.28                      | 2.28                        | 2.28                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |  |
| 10  | 0                        | 0   | 0                      | 2.91                      | 2.91                        | 2.91                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
| Union City  | 0                        | 0   | 0                      | 2.91                      | 2.91                        | 2.91                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.91                      | 2.91                        | 2.91                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 0                        | 0   | 0                      | 2.91                      | 2.91                        | 2.91                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
|   | 22,362                   | 13  | 72                     | 2.91                      | 2.91                        | 2.91                    | 0.70                        | 0.70                          | 0.70                      | 10%                   | 80%                    |  |
| 11  | 42                       | 0   | 1                      | 1.71                      | 1.71                        | 1.71                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |
| West New York Hudson  | 15                       | 0   | 0                      | 1.71                      | 1.71                        | 1.71                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |  |

|                        | 56                       | 0                 | 1                      | 1.71                      | 1.71                        | 1.71                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|------------------------|--------------------------|-------------------|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
|                        | 0                        | 0                 | 0                      | 1.71                      | 1.71                        | 1.71                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 1,506                    | 0                 | 8                      | 1.71                      | 1.71                        | 1.71                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| 12                     | 0                        | 0                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
| West New York Central  | 0                        | 0                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 15,100                   | 7                 | 85                     | 2.85                      | 2.85                        | 2.85                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
| 13                     | 0                        | 0                 | 0                      | 2.30                      | 2.30                        | 2.30                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| Guttenberg Hudson      | 0                        | 0                 | 0                      | 2.30                      | 2.30                        | 2.30                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 1                        | 0                 | 0                      | 2.30                      | 2.30                        | 2.30                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 1                        | 0                 | 0                      | 2.30                      | 2.30                        | 2.30                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 5                        | 0                 | 0                      | 2.30                      | 2.30                        | 2.30                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| 14                     | 0                        | 0                 | 0                      | 2.38                      | 2.38                        | 2.38                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
| Guttenberg Central     | 0                        | 0                 | 0                      | 2.38                      | 2.38                        | 2.38                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.38                      | 2.38                        | 2.38                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.38                      | 2.38                        | 2.38                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 4,505                    | 0                 | 30                     | 2.38                      | 2.38                        | 2.38                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
| 15                     | 51                       | 0                 | 1                      | 1.58                      | 1.58                        | 1.58                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| North Bergen Hudson    | 10                       | 0                 | 0                      | 1.58                      | 1.58                        | 1.58                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 13                       | 0                 | 0                      | 1.58                      | 1.58                        | 1.58                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 2                        | 0                 | 0                      | 1.58                      | 1.58                        | 1.58                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 1,124                    | 0                 | 13                     | 1.58                      | 1.58                        | 1.58                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| 16                     | 0                        | 0                 | 0                      | 2.78                      | 2.78                        | 2.78                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| North Bergen Central   | 0                        | 0                 | 0                      | 2.78                      | 2.78                        | 2.78                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.78                      | 2.78                        | 2.78                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 1                        | 0                 | 0                      | 2.78                      | 2.78                        | 2.78                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 20,405                   | 123               | 66                     | 2.78                      | 2.78                        | 2.78                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| 17                     | 1                        | 0                 | 0                      | 3.28                      | 3.28                        | 3.28                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| North Bergen Bay       | 2                        | 0                 | 0                      | 3.28                      | 3.28                        | 3.28                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 9                        | 1                 | 0                      | 3.28                      | 3.28                        | 3.28                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 65                       | 6                 | 0                      | 3.28                      | 3.28                        | 3.28                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 110                      | 9                 | 0                      | 3.28                      | 3.28                        | 3.28                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| 18                     | 971                      | 0                 | 9                      | 2.41                      | 2.41                        | 2.41                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
| Secaucus Town          | 886                      | 1                 | 17                     | 2.41                      | 2.41                        | 2.41                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 681                      | 1                 | 14                     | 2.41                      | 2.41                        | 2.41                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 2,946                    | 18                | 18                     | 2.41                      | 2.41                        | 2.41                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 732                      | 1                 | 10                     | 2.41                      | 2.41                        | 2.41                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
| 19                     | 89                       | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| Kearny Town            | 56                       | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 59                       | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 949                      | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 12,356                   | 6                 | 16                     | 2.80                      | 2.80                        | 2.80                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| 20                     | 182                      | 0                 | 0                      | 2.81                      | 2.81                        | 2.81                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| Harrison Town          | 93                       | 0                 | 0                      | 2.81                      | 2.81                        | 2.81                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 114                      | 0                 | 0                      | 2.81                      | 2.81                        | 2.81                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 1,612                    | 0                 | 0                      | 2.81                      | 2.81                        | 2.81                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 3,165                    | 0                 | 0                      | 2.81                      | 2.81                        | 2.81                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| 21                     | 0                        | 0                 | 0                      | 3.10                      | 3.10                        | 3.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| East Newark Boro       | 36                       | 0                 | 1                      | 3.10                      | 3.10                        | 3.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 131                      | 0                 | 3                      | 3.10                      | 3.10                        | 3.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 79                       | 0                 | 2                      | 3.10                      | 3.10                        | 3.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 521                      | 0                 | 3                      | 3.10                      | 3.10                        | 3.10                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| SALEM EVACUATION AREAS | Units                    |                   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|                        | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1                      | 0                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
| OLDMANS TWP            | 2                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |



|                         |       |    |    |      |      |      |      |      |      |     |     |
|-------------------------|-------|----|----|------|------|------|------|------|------|-----|-----|
|                         | 130   | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.00 | 2.00 | 1.56 | 10% | 80% |
|                         | 135   | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.00 | 2.00 | 1.56 | 10% | 80% |
|                         | 388   | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.00 | 2.00 | 1.56 | 10% | 80% |
| 2                       | 250   | 6  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.56 | 10% | 80% |
| CARNEYS POINT TWP       | 231   | 0  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 1,563 | 28 | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 683   | 40 | 2  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 418   | 35 | 3  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.56 | 10% | 80% |
| 3                       | 234   | 0  | 0  | 2.67 | 2.67 | 2.67 | 1.20 | 1.20 | 1.20 | 10% | 80% |
| PENNS GROVE BORO        | 202   | 2  | 0  | 2.67 | 2.67 | 2.67 | 1.20 | 1.20 | 1.20 | 10% | 80% |
|                         | 1,325 | 17 | 0  | 2.67 | 2.67 | 2.67 | 1.20 | 1.20 | 1.20 | 10% | 80% |
|                         | 47    | 0  | 0  | 2.67 | 2.67 | 2.67 | 1.20 | 1.20 | 1.20 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.67 | 2.67 | 2.67 | 1.20 | 1.20 | 1.20 | 10% | 80% |
| 4                       | 1,894 | 59 | 0  | 2.47 | 2.47 | 2.47 | 1.80 | 1.80 | 1.56 | 10% | 80% |
| PENNSVILLE TWP          | 1,756 | 40 | 0  | 2.47 | 2.47 | 2.47 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 1,579 | 90 | 0  | 2.47 | 2.47 | 2.47 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 106   | 7  | 0  | 2.47 | 2.47 | 2.47 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.47 | 2.47 | 2.47 | 1.80 | 1.80 | 1.56 | 10% | 80% |
| 5                       | 13    | 0  | 0  | 2.63 | 2.63 | 2.63 | 1.90 | 1.90 | 1.56 | 10% | 80% |
| MANNINGTON TWP          | 48    | 0  | 0  | 2.63 | 2.63 | 2.63 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 58    | 0  | 0  | 2.63 | 2.63 | 2.63 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 100   | 0  | 0  | 2.63 | 2.63 | 2.63 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 318   | 0  | 0  | 2.63 | 2.63 | 2.63 | 1.90 | 1.90 | 1.56 | 10% | 80% |
| 6                       | 120   | 0  | 0  | 2.43 | 2.43 | 2.43 | 1.10 | 1.10 | 1.10 | 10% | 80% |
| SALEM CITY              | 2,264 | 3  | 0  | 2.43 | 2.43 | 2.43 | 1.10 | 1.10 | 1.10 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.43 | 2.43 | 2.43 | 1.10 | 1.10 | 1.10 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.43 | 2.43 | 2.43 | 1.10 | 1.10 | 1.10 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.43 | 2.43 | 2.43 | 1.10 | 1.10 | 1.10 | 10% | 80% |
| 7                       | 227   | 0  | 14 | 2.33 | 2.33 | 2.33 | 1.80 | 1.80 | 1.56 | 10% | 80% |
| ELSINBORO TWP           | 199   | 0  | 12 | 2.33 | 2.33 | 2.33 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 38    | 0  | 3  | 2.33 | 2.33 | 2.33 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 7     | 0  | 0  | 2.33 | 2.33 | 2.33 | 1.80 | 1.80 | 1.56 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.33 | 2.33 | 2.33 | 1.80 | 1.80 | 1.56 | 10% | 80% |
| 8                       | 128   | 0  | 1  | 2.67 | 2.67 | 2.67 | 2.00 | 2.00 | 1.56 | 10% | 80% |
| LOWER ALLOWAYS CREEK TW | 243   | 0  | 1  | 2.67 | 2.67 | 2.67 | 2.00 | 2.00 | 1.56 | 10% | 80% |
|                         | 98    | 0  | 1  | 2.67 | 2.67 | 2.67 | 2.00 | 2.00 | 1.56 | 10% | 80% |
|                         | 91    | 0  | 0  | 2.67 | 2.67 | 2.67 | 2.00 | 2.00 | 1.56 | 10% | 80% |
|                         | 133   | 0  | 0  | 2.67 | 2.67 | 2.67 | 2.00 | 2.00 | 1.56 | 10% | 80% |
| 9                       | 6     | 0  | 0  | 2.56 | 2.56 | 2.56 | 1.90 | 1.90 | 1.56 | 10% | 80% |
| QUINTON TWP             | 260   | 86 | 0  | 2.56 | 2.56 | 2.56 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 111   | 24 | 0  | 2.56 | 2.56 | 2.56 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 143   | 16 | 0  | 2.56 | 2.56 | 2.56 | 1.90 | 1.90 | 1.56 | 10% | 80% |
|                         | 564   | 6  | 0  | 2.56 | 2.56 | 2.56 | 1.90 | 1.90 | 1.56 | 10% | 80% |
| 10                      | 0     | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |
| ALLOWAY TWP             | 12    | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 6     | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 25    | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 884   | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |
| 11                      | 1     | 0  | 0  | 2.91 | 2.91 | 2.91 | 2.10 | 2.10 | 1.56 | 10% | 80% |
| PILESGROVE TWP          | 0     | 0  | 0  | 2.91 | 2.91 | 2.91 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 6     | 0  | 0  | 2.91 | 2.91 | 2.91 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 27    | 0  | 0  | 2.91 | 2.91 | 2.91 | 2.10 | 2.10 | 1.56 | 10% | 80% |
|                         | 1,163 | 2  | 3  | 2.91 | 2.91 | 2.91 | 2.10 | 2.10 | 1.56 | 10% | 80% |
| 12                      | 0     | 0  | 0  | 2.39 | 2.39 | 2.39 | 1.60 | 1.60 | 1.56 | 10% | 80% |
| WOODSTOWN BORO          | 0     | 0  | 0  | 2.39 | 2.39 | 2.39 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 0     | 0  | 0  | 2.39 | 2.39 | 2.39 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 3     | 0  | 0  | 2.39 | 2.39 | 2.39 | 1.60 | 1.60 | 1.56 | 10% | 80% |
|                         | 1,276 | 0  | 0  | 2.39 | 2.39 | 2.39 | 1.60 | 1.60 | 1.56 | 10% | 80% |
| 13                      | 0     | 0  | 0  | 2.80 | 2.80 | 2.80 | 2.10 | 2.10 | 1.56 | 10% | 80% |

|                        |                          |                   |                        |                           |                             |                         |                             |                               |                           |                       |                        |
|------------------------|--------------------------|-------------------|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
| UPPER PITTSBORO TWP    | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.10                        | 2.10                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.10                        | 2.10                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.10                        | 2.10                          | 1.56                      | 10%                   | 80%                    |
|                        | 1,189                    | 128               | 1                      | 2.80                      | 2.80                        | 2.80                    | 2.10                        | 2.10                          | 1.56                      | 10%                   | 80%                    |
| 14                     | 0                        | 0                 | 0                      | 2.61                      | 2.61                        | 2.61                    | 1.80                        | 1.80                          | 1.56                      | 10%                   | 80%                    |
| ELMER BORO             | 0                        | 0                 | 0                      | 2.61                      | 2.61                        | 2.61                    | 1.80                        | 1.80                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.61                      | 2.61                        | 2.61                    | 1.80                        | 1.80                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.61                      | 2.61                        | 2.61                    | 1.80                        | 1.80                          | 1.56                      | 10%                   | 80%                    |
|                        | 488                      | 6                 | 0                      | 2.61                      | 2.61                        | 2.61                    | 1.80                        | 1.80                          | 1.56                      | 10%                   | 80%                    |
| 15                     | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
| PITTSBORO TWP          | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
|                        | 2,997                    | 474               | 7                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.56                      | 10%                   | 80%                    |
| UNION EVACUATION AREAS | Units                    |                   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|                        | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1                      | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
| BERKELEY HEIGHTS TWP   | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 3,828                    | 0                 | 33                     | 2.90                      | 2.90                        | 2.90                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
| 2                      | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| CLARK TWP              | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 5,303                    | 11                | 13                     | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| 3                      | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| CRANFORD TWP           | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 6,449                    | 2                 | 19                     | 2.60                      | 2.60                        | 2.60                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| 4                      | 1,551                    | 1                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| ELIZABETH CITY         | 951                      | 1                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 1,696                    | 1                 | 0                      | 2.90                      | 2.90                        | 2.90                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 7,861                    | 10                | 20                     | 2.90                      | 2.90                        | 2.90                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                        | 28,357                   | 20                | 113                    | 2.90                      | 2.90                        | 2.90                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| 5                      | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
| FANWOOD BORO           | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
|                        | 2,574                    | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 2.00                        | 2.00                          | 1.10                      | 10%                   | 80%                    |
| 6                      | 0                        | 0                 | 0                      | 2.40                      | 2.40                        | 2.40                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| GARWOOD BORO           | 0                        | 0                 | 0                      | 2.40                      | 2.40                        | 2.40                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.40                      | 2.40                        | 2.40                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.40                      | 2.40                        | 2.40                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 1,503                    | 0                 | 3                      | 2.40                      | 2.40                        | 2.40                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| 7                      | 0                        | 0                 | 0                      | 3.00                      | 3.00                        | 3.00                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| HILLSDALE TWP          | 0                        | 0                 | 0                      | 3.00                      | 3.00                        | 3.00                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 3.00                      | 3.00                        | 3.00                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 3.00                      | 3.00                        | 3.00                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                        | 6,838                    | 9                 | 16                     | 3.00                      | 3.00                        | 3.00                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| 8                      | 0                        | 0                 | 0                      | 2.70                      | 2.70                        | 2.70                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| KENILWORTH BORO        | 0                        | 0                 | 0                      | 2.70                      | 2.70                        | 2.70                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.70                      | 2.70                        | 2.70                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.70                      | 2.70                        | 2.70                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 2,488                    | 8                 | 12                     | 2.70                      | 2.70                        | 2.70                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| 9                      | 451                      | 0                 | 4                      | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |

|                     |        |    |    |      |      |      |      |      |      |     |     |
|---------------------|--------|----|----|------|------|------|------|------|------|-----|-----|
| LINDEN CITY         | 360    | 0  | 4  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 412    | 0  | 5  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 2,972  | 22 | 9  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 10,697 | 22 | 2  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 10                  | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| MOUNTAINSIDE BORO   | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                     | 2,364  | 0  | 0  | 2.60 | 2.60 | 2.60 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| 11                  | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| NEW PROVIDENCE BORO | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 4,238  | 0  | 6  | 2.70 | 2.70 | 2.70 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 12                  | 0      | 0  | 0  | 3.10 | 3.10 | 3.10 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| PLAINFIELD CITY     | 0      | 0  | 0  | 3.10 | 3.10 | 3.10 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 3.10 | 3.10 | 3.10 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 3.10 | 3.10 | 3.10 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 11,599 | 25 | 20 | 3.10 | 3.10 | 3.10 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 13                  | 1,693  | 0  | 2  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| RAHWAY CITY         | 403    | 0  | 1  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 685    | 0  | 2  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 2,609  | 1  | 6  | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 4,556  | 10 | 14 | 2.60 | 2.60 | 2.60 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 14                  | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| ROSELLE BORO        | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                     | 6,226  | 0  | 7  | 2.80 | 2.80 | 2.80 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 15                  | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| ROSELLE PARK BORO   | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.60 | 2.60 | 2.60 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 4,456  | 0  | 9  | 2.60 | 2.60 | 2.60 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 16                  | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| SCOTCH PLAINS TWP   | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 6,925  | 6  | 30 | 2.70 | 2.70 | 2.70 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| 17                  | 0      | 0  | 0  | 2.40 | 2.40 | 2.40 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| SPRINGFIELD TWP     | 0      | 0  | 0  | 2.40 | 2.40 | 2.40 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.40 | 2.40 | 2.40 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.40 | 2.40 | 2.40 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 5,043  | 0  | 29 | 2.40 | 2.40 | 2.40 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 18                  | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| SUMMIT CITY         | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 7,757  | 9  | 24 | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 19                  | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| UNION TWP           | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                     | 17,689 | 69 | 63 | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 20                  | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| WESTFIELD TOWN      | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0      | 0  | 0  | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 10,580 | 7  | 52 | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |

|                        |                          |                   |                        |                           |                             |                         |                             |                               |                           |                       |                        |
|------------------------|--------------------------|-------------------|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
| 21                     | 0                        | 0                 | 0                      | 2.20                      | 2.20                        | 2.20                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
| WINFIELD TWP           | 0                        | 0                 | 0                      | 2.20                      | 2.20                        | 2.20                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.20                      | 2.20                        | 2.20                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.20                      | 2.20                        | 2.20                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
|                        | 694                      | 0                 | 0                      | 2.20                      | 2.20                        | 2.20                    | 1.40                        | 1.40                          | 1.10                      | 10%                   | 80%                    |
| ESSEX EVACUATION AREAS | Units                    |                   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|                        | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1                      | 142                      | 0                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| NEWARK 1               | 6,603                    | 28                | 4                      | 2.85                      | 2.85                        | 2.85                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 3,658                    | 5                 | 5                      | 2.85                      | 2.85                        | 2.85                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 6,207                    | 2                 | 4                      | 2.85                      | 2.85                        | 2.85                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 1,058                    | 1                 | 0                      | 2.85                      | 2.85                        | 2.85                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| 2                      | 0                        | 0                 | 0                      | 2.83                      | 2.83                        | 2.83                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
| NEWARK 2               | 46                       | 0                 | 0                      | 2.83                      | 2.83                        | 2.83                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 14                       | 0                 | 0                      | 2.83                      | 2.83                        | 2.83                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 591                      | 0                 | 0                      | 2.83                      | 2.83                        | 2.83                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
|                        | 61,318                   | 69                | 161                    | 2.83                      | 2.83                        | 2.83                    | 0.80                        | 0.80                          | 0.80                      | 10%                   | 80%                    |
| 3                      | 0                        | 0                 | 0                      | 2.98                      | 2.98                        | 2.98                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| NEWARK 3               | 0                        | 0                 | 0                      | 2.98                      | 2.98                        | 2.98                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.98                      | 2.98                        | 2.98                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.98                      | 2.98                        | 2.98                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 11,350                   | 11                | 0                      | 2.98                      | 2.98                        | 2.98                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| 4                      | 0                        | 0                 | 0                      | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| BELLEVILLE             | 378                      | 0                 | 1                      | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 153                      | 0                 | 2                      | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 242                      | 0                 | 2                      | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 12,696                   | 10                | 28                     | 2.60                      | 2.60                        | 2.60                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| 5                      | 0                        | 0                 | 0                      | 2.51                      | 2.51                        | 2.51                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| NUTLEY TWP             | 167                      | 0                 | 0                      | 2.51                      | 2.51                        | 2.51                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                        | 59                       | 0                 | 0                      | 2.51                      | 2.51                        | 2.51                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                        | 134                      | 0                 | 0                      | 2.51                      | 2.51                        | 2.51                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                        | 9,869                    | 0                 | 13                     | 2.51                      | 2.51                        | 2.51                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| 6                      | 0                        | 0                 | 0                      | 2.48                      | 2.48                        | 2.48                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| BLOOMFIELD             | 0                        | 0                 | 0                      | 2.48                      | 2.48                        | 2.48                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.48                      | 2.48                        | 2.48                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.48                      | 2.48                        | 2.48                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
|                        | 17,611                   | 10                | 23                     | 2.48                      | 2.48                        | 2.48                    | 1.50                        | 1.50                          | 1.10                      | 10%                   | 80%                    |
| 7                      | 0                        | 0                 | 0                      | 2.95                      | 2.95                        | 2.95                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| GLEN RIDGE BORO        | 0                        | 0                 | 0                      | 2.95                      | 2.95                        | 2.95                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.95                      | 2.95                        | 2.95                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.95                      | 2.95                        | 2.95                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                        | 2,420                    | 0                 | 5                      | 2.95                      | 2.95                        | 2.95                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| 8                      | 0                        | 0                 | 0                      | 2.64                      | 2.64                        | 2.64                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
| EAST ORANGE CITY       | 0                        | 0                 | 0                      | 2.64                      | 2.64                        | 2.64                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.64                      | 2.64                        | 2.64                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.64                      | 2.64                        | 2.64                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
|                        | 25,797                   | 21                | 69                     | 2.64                      | 2.64                        | 2.64                    | 0.90                        | 0.90                          | 0.90                      | 10%                   | 80%                    |
| 9                      | 0                        | 0                 | 0                      | 2.73                      | 2.73                        | 2.73                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| CITY OF ORANGE TWP     | 0                        | 0                 | 0                      | 2.73                      | 2.73                        | 2.73                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.73                      | 2.73                        | 2.73                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.73                      | 2.73                        | 2.73                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
|                        | 10,724                   | 0                 | 46                     | 2.73                      | 2.73                        | 2.73                    | 1.00                        | 1.00                          | 1.00                      | 10%                   | 80%                    |
| 10                     | 0                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
| IRVINGTON TWP          | 0                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 0                        | 0                 | 0                      | 2.74                      | 2.74                        | 2.74                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |
|                        | 21,514                   | 0                 | 44                     | 2.74                      | 2.74                        | 2.74                    | 1.10                        | 1.10                          | 1.10                      | 10%                   | 80%                    |

|                          |        |    |    |      |      |      |      |      |      |     |     |
|--------------------------|--------|----|----|------|------|------|------|------|------|-----|-----|
| 11                       | 0      | 0  | 0  | 2.82 | 2.82 | 2.82 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| MAPLEWOOD TWP            | 0      | 0  | 0  | 2.82 | 2.82 | 2.82 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.82 | 2.82 | 2.82 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.82 | 2.82 | 2.82 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 8,241  | 0  | 3  | 2.82 | 2.82 | 2.82 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 12                       | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| SOUTH ORANGE VILLAGE TWP | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 5,409  | 13 | 30 | 2.70 | 2.70 | 2.70 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 13                       | 0      | 0  | 0  | 2.66 | 2.66 | 2.66 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| WEST ORANGE TWP          | 0      | 0  | 0  | 2.66 | 2.66 | 2.66 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.66 | 2.66 | 2.66 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.66 | 2.66 | 2.66 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                          | 15,601 | 6  | 87 | 2.66 | 2.66 | 2.66 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 14                       | 0      | 0  | 0  | 2.53 | 2.53 | 2.53 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| MONTCLAIR TWP            | 0      | 0  | 0  | 2.53 | 2.53 | 2.53 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.53 | 2.53 | 2.53 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.53 | 2.53 | 2.53 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                          | 14,276 | 5  | 43 | 2.53 | 2.53 | 2.53 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 15                       | 0      | 0  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| VERONA TWP               | 0      | 0  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                          | 5,480  | 0  | 66 | 2.42 | 2.42 | 2.42 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 16                       | 0      | 0  | 0  | 2.57 | 2.57 | 2.57 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| CEDAR GROV               | 0      | 0  | 0  | 2.57 | 2.57 | 2.57 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.57 | 2.57 | 2.57 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.57 | 2.57 | 2.57 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                          | 4,364  | 0  | 0  | 2.57 | 2.57 | 2.57 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 17                       | 0      | 0  | 0  | 3.02 | 3.02 | 3.02 | 2.30 | 2.30 | 1.10 | 10% | 80% |
| NORTH CALDWELL BORO      | 0      | 0  | 0  | 3.02 | 3.02 | 3.02 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 3.02 | 3.02 | 3.02 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 3.02 | 3.02 | 3.02 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 2,046  | 0  | 20 | 3.02 | 3.02 | 3.02 | 2.30 | 2.30 | 1.10 | 10% | 80% |
| 18                       | 0      | 0  | 0  | 3.04 | 3.04 | 3.04 | 2.30 | 2.30 | 1.10 | 10% | 80% |
| FAIRFIELD TWP            | 0      | 0  | 0  | 3.04 | 3.04 | 3.04 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 3.04 | 3.04 | 3.04 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 3.04 | 3.04 | 3.04 | 2.30 | 2.30 | 1.10 | 10% | 80% |
|                          | 582    | 4  | 0  | 3.04 | 3.04 | 3.04 | 2.30 | 2.30 | 1.10 | 10% | 80% |
| 19                       | 0      | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.10 | 2.10 | 1.10 | 10% | 80% |
| WEST CALDWELL TWP        | 0      | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.74 | 2.74 | 2.74 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                          | 3,768  | 0  | 5  | 2.74 | 2.74 | 2.74 | 2.10 | 2.10 | 1.10 | 10% | 80% |
| 20                       | 0      | 0  | 0  | 2.16 | 2.16 | 2.16 | 1.40 | 1.40 | 1.10 | 10% | 80% |
| CALDWELL                 | 0      | 0  | 0  | 2.16 | 2.16 | 2.16 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.16 | 2.16 | 2.16 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.16 | 2.16 | 2.16 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                          | 3,306  | 0  | 12 | 2.16 | 2.16 | 2.16 | 1.40 | 1.40 | 1.10 | 10% | 80% |
| 21                       | 0      | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
| ESSEX FIELDS TWP         | 0      | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
|                          | 760    | 0  | 0  | 2.98 | 2.98 | 2.98 | 2.20 | 2.20 | 1.10 | 10% | 80% |
| 22                       | 0      | 0  | 0  | 2.48 | 2.48 | 2.48 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| ROSELAND BORO            | 0      | 0  | 0  | 2.48 | 2.48 | 2.48 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.48 | 2.48 | 2.48 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                          | 0      | 0  | 0  | 2.48 | 2.48 | 2.48 | 1.90 | 1.90 | 1.10 | 10% | 80% |

|                            |                          |                   |                        |                           |                             |                         |                             |                               |                           |                       |                        |
|----------------------------|--------------------------|-------------------|------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------------|---------------------------|-----------------------|------------------------|
|                            | 2,046                    | 0                 | 28                     | 2.48                      | 2.48                        | 2.48                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| 23                         | 0                        | 0                 | 0                      | 2.93                      | 2.93                        | 2.93                    | 2.10                        | 2.10                          | 1.10                      | 10%                   | 80%                    |
| LIVINGSTON TWP             | 0                        | 0                 | 0                      | 2.93                      | 2.93                        | 2.93                    | 2.10                        | 2.10                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.93                      | 2.93                        | 2.93                    | 2.10                        | 2.10                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.93                      | 2.93                        | 2.93                    | 2.10                        | 2.10                          | 1.10                      | 10%                   | 80%                    |
|                            | 8,810                    | 23                | 42                     | 2.93                      | 2.93                        | 2.93                    | 2.10                        | 2.10                          | 1.10                      | 10%                   | 80%                    |
| 24                         | 0                        | 0                 | 0                      | 2.82                      | 2.82                        | 2.82                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| MILLBURN TWP               | 0                        | 0                 | 0                      | 2.82                      | 2.82                        | 2.82                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.82                      | 2.82                        | 2.82                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.82                      | 2.82                        | 2.82                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                            | 6,376                    | 8                 | 35                     | 2.82                      | 2.82                        | 2.82                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| MIDDLESEX EVACUATION AREAS | Units                    |                   |                        | People                    |                             |                         | Vehicles                    |                               |                           | Tourists              |                        |
|                            | Permanent Occupied Units | Mobile Home Units | Seasonal Tourist Units | People Per Permanent Unit | People Per Mobile Home Unit | People Per Tourist Unit | Vehicles Per Permanent Unit | Vehicles Per Mobile Home Unit | Vehicles Per Tourist Unit | Low Occupancy Tourist | High Occupancy Tourist |
| 1                          | 189                      | 0                 | 0                      | 2.88                      | 2.88                        | 2.88                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| CARTERET BORO              | 288                      | 1                 | 0                      | 2.88                      | 2.88                        | 2.88                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 929                      | 24                | 1                      | 2.88                      | 2.88                        | 2.88                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 2,741                    | 129               | 7                      | 2.88                      | 2.88                        | 2.88                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 2,890                    | 145               | 4                      | 2.88                      | 2.88                        | 2.88                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| 2                          | 225                      | 1                 | 0                      | 2.71                      | 2.71                        | 2.71                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
| WOODBIDGE TWP              | 605                      | 3                 | 0                      | 2.71                      | 2.71                        | 2.71                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 3,098                    | 217               | 33                     | 2.71                      | 2.71                        | 2.71                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 1,517                    | 69                | 17                     | 2.71                      | 2.71                        | 2.71                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 28,933                   | 110               | 115                    | 2.71                      | 2.71                        | 2.71                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
| 3                          | 62                       | 0                 | 1                      | 3.20                      | 3.20                        | 3.20                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| PERTH AMBOY CITY           | 426                      | 0                 | 3                      | 3.20                      | 3.20                        | 3.20                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                            | 392                      | 0                 | 1                      | 3.20                      | 3.20                        | 3.20                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                            | 820                      | 0                 | 1                      | 3.20                      | 3.20                        | 3.20                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
|                            | 12,862                   | 8                 | 48                     | 3.20                      | 3.20                        | 3.20                    | 1.20                        | 1.20                          | 1.10                      | 10%                   | 80%                    |
| 4                          | 103                      | 0                 | 1                      | 2.65                      | 2.65                        | 2.65                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| SOUTH AMBOY CITY           | 151                      | 0                 | 1                      | 2.65                      | 2.65                        | 2.65                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 85                       | 0                 | 1                      | 2.65                      | 2.65                        | 2.65                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 91                       | 0                 | 2                      | 2.65                      | 2.65                        | 2.65                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
|                            | 2,380                    | 0                 | 20                     | 2.65                      | 2.65                        | 2.65                    | 1.60                        | 1.60                          | 1.10                      | 10%                   | 80%                    |
| 5                          | 223                      | 1                 | 0                      | 2.68                      | 2.68                        | 2.68                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| SAYREVILLE BORO            | 1,861                    | 2                 | 5                      | 2.68                      | 2.68                        | 2.68                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 620                      | 3                 | 0                      | 2.68                      | 2.68                        | 2.68                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 839                      | 4                 | 2                      | 2.68                      | 2.68                        | 2.68                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 11,533                   | 8                 | 16                     | 2.68                      | 2.68                        | 2.68                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| 6                          | 174                      | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
| OLD BRIDGE TWP             | 183                      | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 645                      | 0                 | 1                      | 2.80                      | 2.80                        | 2.80                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 1,542                    | 0                 | 0                      | 2.80                      | 2.80                        | 2.80                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
|                            | 18,899                   | 22                | 24                     | 2.80                      | 2.80                        | 2.80                    | 1.80                        | 1.80                          | 1.10                      | 10%                   | 80%                    |
| 7                          | 0                        | 0                 | 0                      | 2.57                      | 2.57                        | 2.57                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| METUCHEN BORO              | 0                        | 0                 | 0                      | 2.57                      | 2.57                        | 2.57                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.57                      | 2.57                        | 2.57                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 0                        | 0                 | 0                      | 2.57                      | 2.57                        | 2.57                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 4,978                    | 0                 | 7                      | 2.57                      | 2.57                        | 2.57                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| 8                          | 170                      | 0                 | 0                      | 2.72                      | 2.72                        | 2.72                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| EDISON TWP                 | 10                       | 0                 | 0                      | 2.72                      | 2.72                        | 2.72                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 5                        | 0                 | 0                      | 2.72                      | 2.72                        | 2.72                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 8                        | 0                 | 0                      | 2.72                      | 2.72                        | 2.72                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
|                            | 34,618                   | 209               | 52                     | 2.72                      | 2.72                        | 2.72                    | 1.70                        | 1.70                          | 1.10                      | 10%                   | 80%                    |
| 9                          | 0                        | 0                 | 0                      | 2.84                      | 2.84                        | 2.84                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
| EAST BRUNSWICK TWP         | 65                       | 0                 | 0                      | 2.84                      | 2.84                        | 2.84                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                            | 56                       | 0                 | 0                      | 2.84                      | 2.84                        | 2.84                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |
|                            | 130                      | 0                 | 0                      | 2.84                      | 2.84                        | 2.84                    | 1.90                        | 1.90                          | 1.10                      | 10%                   | 80%                    |



|                       |        |     |     |      |      |      |      |      |      |     |     |
|-----------------------|--------|-----|-----|------|------|------|------|------|------|-----|-----|
|                       | 16,137 | 44  | 28  | 2.84 | 2.84 | 2.84 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| 10                    | 8      | 0   | 0   | 2.72 | 2.72 | 2.72 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| SOUTH RIVER BORO      | 489    | 7   | 0   | 2.72 | 2.72 | 2.72 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 912    | 9   | 0   | 2.72 | 2.72 | 2.72 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 897    | 5   | 0   | 2.72 | 2.72 | 2.72 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 3,253  | 8   | 0   | 2.72 | 2.72 | 2.72 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 11                    | 6      | 0   | 0   | 2.53 | 2.53 | 2.53 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| SPOTSWOOD BORO        | 30     | 0   | 0   | 2.53 | 2.53 | 2.53 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 45     | 0   | 0   | 2.53 | 2.53 | 2.53 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 408    | 7   | 0   | 2.53 | 2.53 | 2.53 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 2,560  | 350 | 0   | 2.53 | 2.53 | 2.53 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 12                    | 0      | 0   | 0   | 2.44 | 2.44 | 2.44 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| HELMETTA BORO         | 0      | 0   | 0   | 2.44 | 2.44 | 2.44 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.44 | 2.44 | 2.44 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 1      | 0   | 0   | 2.44 | 2.44 | 2.44 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 742    | 0   | 0   | 2.44 | 2.44 | 2.44 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 13                    | 0      | 0   | 0   | 2.16 | 2.16 | 2.16 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| MONROE TWP            | 0      | 0   | 0   | 2.16 | 2.16 | 2.16 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 3      | 0   | 0   | 2.16 | 2.16 | 2.16 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 163    | 0   | 0   | 2.16 | 2.16 | 2.16 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 12,442 | 7   | 453 | 2.16 | 2.16 | 2.16 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 14                    | 0      | 0   | 0   | 2.69 | 2.69 | 2.69 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| JAMESBURG BORO        | 0      | 0   | 0   | 2.69 | 2.69 | 2.69 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.69 | 2.69 | 2.69 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.69 | 2.69 | 2.69 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                       | 2,100  | 0   | 0   | 2.69 | 2.69 | 2.69 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 15                    | 0      | 0   | 0   | 3.01 | 3.01 | 3.01 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| SOUTH PLAINFIELD BORO | 0      | 0   | 0   | 3.01 | 3.01 | 3.01 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.01 | 3.01 | 3.01 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 3.01 | 3.01 | 3.01 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 7,149  | 0   | 0   | 3.01 | 3.01 | 3.01 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| 16                    | 0      | 0   | 0   | 2.84 | 2.84 | 2.84 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| PISCATAWAY TWP        | 4      | 0   | 0   | 2.84 | 2.84 | 2.84 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 23     | 0   | 0   | 2.84 | 2.84 | 2.84 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 452    | 0   | 3   | 2.84 | 2.84 | 2.84 | 2.00 | 2.00 | 1.10 | 10% | 80% |
|                       | 16,020 | 17  | 29  | 2.84 | 2.84 | 2.84 | 2.00 | 2.00 | 1.10 | 10% | 80% |
| 17                    | 22     | 0   | 0   | 2.38 | 2.38 | 2.38 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| HIGHLAND PARK BORO    | 54     | 0   | 1   | 2.38 | 2.38 | 2.38 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                       | 55     | 0   | 1   | 2.38 | 2.38 | 2.38 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                       | 145    | 0   | 1   | 2.38 | 2.38 | 2.38 | 1.50 | 1.50 | 1.10 | 10% | 80% |
|                       | 5,594  | 0   | 64  | 2.38 | 2.38 | 2.38 | 1.50 | 1.50 | 1.10 | 10% | 80% |
| 18                    | 7      | 0   | 0   | 3.23 | 3.23 | 3.23 | 1.40 | 1.40 | 1.10 | 10% | 80% |
| NEW BRUNSWICK CITY    | 119    | 0   | 5   | 3.23 | 3.23 | 3.23 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                       | 391    | 0   | 23  | 3.23 | 3.23 | 3.23 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                       | 297    | 0   | 2   | 3.23 | 3.23 | 3.23 | 1.40 | 1.40 | 1.10 | 10% | 80% |
|                       | 12,121 | 0   | 19  | 3.23 | 3.23 | 3.23 | 1.40 | 1.40 | 1.10 | 10% | 80% |
| 19                    | 0      | 0   | 0   | 2.58 | 2.58 | 2.58 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| NORTH BRUNSWICK TWP   | 0      | 0   | 0   | 2.58 | 2.58 | 2.58 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.58 | 2.58 | 2.58 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                       | 1      | 0   | 0   | 2.58 | 2.58 | 2.58 | 1.70 | 1.70 | 1.10 | 10% | 80% |
|                       | 13,585 | 477 | 34  | 2.58 | 2.58 | 2.58 | 1.70 | 1.70 | 1.10 | 10% | 80% |
| 20                    | 0      | 0   | 0   | 2.66 | 2.66 | 2.66 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| MILLTOWN BORO         | 0      | 0   | 0   | 2.66 | 2.66 | 2.66 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.66 | 2.66 | 2.66 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 42     | 0   | 0   | 2.66 | 2.66 | 2.66 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                       | 2,583  | 0   | 0   | 2.66 | 2.66 | 2.66 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 21                    | 0      | 0   | 0   | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| SOUTH BRUNSWICK TWP   | 0      | 0   | 0   | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                       | 0      | 0   | 0   | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |

|                     |         |       |       |      |      |      |      |      |      |     |     |
|---------------------|---------|-------|-------|------|------|------|------|------|------|-----|-----|
|                     | 0       | 0     | 0     | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 13,411  | 456   | 28    | 2.80 | 2.80 | 2.80 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| 22                  | 0       | 0     | 0     | 2.92 | 2.92 | 2.92 | 2.10 | 2.10 | 1.10 | 10% | 80% |
| CRANBURY TWP        | 0       | 0     | 0     | 2.92 | 2.92 | 2.92 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.92 | 2.92 | 2.92 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.92 | 2.92 | 2.92 | 2.10 | 2.10 | 1.10 | 10% | 80% |
|                     | 1,091   | 0     | 0     | 2.92 | 2.92 | 2.92 | 2.10 | 2.10 | 1.10 | 10% | 80% |
| 23                  | 0       | 0     | 0     | 2.30 | 2.30 | 2.30 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| PLAINSBORO TWP      | 0       | 0     | 0     | 2.30 | 2.30 | 2.30 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.30 | 2.30 | 2.30 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.30 | 2.30 | 2.30 | 1.60 | 1.60 | 1.10 | 10% | 80% |
|                     | 8,742   | 0     | 72    | 2.30 | 2.30 | 2.30 | 1.60 | 1.60 | 1.10 | 10% | 80% |
| 24                  | 0       | 0     | 0     | 2.75 | 2.75 | 2.75 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| DUNELLEN BORO       | 0       | 0     | 0     | 2.75 | 2.75 | 2.75 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.75 | 2.75 | 2.75 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.75 | 2.75 | 2.75 | 1.80 | 1.80 | 1.10 | 10% | 80% |
|                     | 2,442   | 0     | 8     | 2.75 | 2.75 | 2.75 | 1.80 | 1.80 | 1.10 | 10% | 80% |
| 25                  | 0       | 0     | 0     | 2.71 | 2.71 | 2.71 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| MIDDLESEX BORO      | 0       | 0     | 0     | 2.71 | 2.71 | 2.71 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.71 | 2.71 | 2.71 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 0       | 0     | 0     | 2.71 | 2.71 | 2.71 | 1.90 | 1.90 | 1.10 | 10% | 80% |
|                     | 5,044   | 0     | 0     | 2.71 | 2.71 | 2.71 | 1.90 | 1.90 | 1.10 | 10% | 80% |
| TOTALS AND AVERAGES | 965,300 | 1,846 | 2,314 |      |      |      |      |      |      |     |     |

|                               |         |       |       |  |  |  |  |  |  |  |  |
|-------------------------------|---------|-------|-------|--|--|--|--|--|--|--|--|
| HUDSON TOTALS AND AVERAGES    | 230,551 | 327   | 970   |  |  |  |  |  |  |  |  |
| SALEM TOTALS AND AVERAGES     | 24,189  | 1,069 | 48    |  |  |  |  |  |  |  |  |
| UNION TOTALS AND AVERAGES     | 171,808 | 234   | 518   |  |  |  |  |  |  |  |  |
| ESSEX TOTALS AND AVERAGES     | 273,816 | 216   | 778   |  |  |  |  |  |  |  |  |
| MIDDLESEX TOTALS AND AVERAGES | 264,936 | 2,343 | 1,134 |  |  |  |  |  |  |  |  |

## **Appendix D**

**Behavioral Assumptions for  
Hurricane Evacuation Planning in the  
Delmarva Peninsula**

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**Introduction**

Hurricane evacuation outcomes depend upon many factors, including how the public responds to the threat. The public responses having the greatest impact upon an evacuation are:

1. The number of households which evacuate.
2. How promptly evacuees leave.
3. The number of evacuees who seek refuge in public shelters.
4. The number of evacuees who leave or attempt to leave the local area and where they go.
5. The number of vehicles used.

### Deriving Correct Assumptions

There are at least three basic ways to derive behavioral assumptions:

1. Conduct interviews with people in a large number of locations asking what they did in multiple hurricane threats, documenting patterns of behavior under various conditions (general response model).
2. Conduct interviews asking people what they did in one particular evacuation (single event survey).
3. Conduct interviews asking people what they would do during a hurricane threat (intended response survey).

### An Integrated Approach

*Building a Quantitative General Response Model.* A response model can be constructed to indicate quantitative values of specific responses, given a set of circumstances which the planner specifies. For each of the behaviors to be anticipated, the model predicts a value, depending upon specific situations and circumstances of interest. The extent of shadow evacuation in hurricanes, for example, can be forecast by specifying the severity of the storm, hazardousness of the neighborhood, vulnerability perceptions of the public, and actions taken by public officials.

The model is simply a set of empirical patterns observed in actual evacuations in many locations under a variety of circumstances. This is the way science is conducted, and this is the heart of the approach used in this analysis in formulating behavioral assumptions for hurricane evacuation planning for the Delmarva Peninsula.

A concern sometimes expressed about the general response model is that it is based upon responses of people in "other places" and that "our people are different."

Actually the strength of the general model is that it accounts for differences in responses as they vary due to demographic characteristics of the population, actions by emergency management personnel, physical hazardousness of the study area, and so forth. Evidence of the model's validity lies in its history of accurately explaining and forecasting actual response behavior observed in a variety of places. Nevertheless, it is important to be aware of factors that could cause behavior on the Delmarva Peninsula to vary from patterns normally predicted by the general response model.

*Single Event Actual Response Data.* One way to supplement the general response model is to collect data on what residents on the Delmarva Peninsula have actually done in past hurricane evacuations. It is dangerous to overgeneralize from a single evacuation in a location. Even the same people will respond differently in different circumstances. If an evacuation occurs late at night, for example, and the evacuation is urgent, those circumstances tend to lead to fewer people leaving the local area than normal. Thus, if the single event was a late night, urgent evacuation, it might provide an indication of the "worst case" to expect in that location for certain types of behaviors.

Single events also provide opportunities to validate the use of the general response model for forecasting in a specific location. Actual behavior in a single event can be documented and compared to that which would have been predicted by the general response model. Its "fit" gives a clue to how much the model might need to be adjusted to work best for the specific location and hazard.

Fortunately for residents of the peninsula, but unfortunately for behavioral analysts, hurricane evacuations are uncommon in the region. The only actual response data was collected following hurricane Gloria in 1985 at selected locations. Not only



might the response be particular to the nature of the threat posed by Gloria, it reflects the population, road network, and warning systems in place nearly 20 years ago.

*Intended Responses.* Although hypothetical response data can rarely be used literally for quantitative forecasts, it does have certain uses. It can also be very misleading, however. There are consistent biases in some sorts of hypothetical response data, for example. People are more likely to say they would evacuate in "low risk" situations than they usually do, more likely to say they would leave early than they usually do, and more likely to say they would use public shelters than they usually do. Hypothetical response data can be adjusted to account for those sorts of known biases. Hypothetical data in one location can be compared with that collected elsewhere for an indication of relative variation between the samples. If more people in one location say they would refuse to leave than in another, they probably really are more likely to refuse. At least more effort will be required to have them move. So, although the magnitude of people saying they wouldn't leave might not be quantitatively valid, it at least gives a relative indication. This can be particularly useful when actual response data is also available in the second location.

A major component of this current behavioral analysis involved a sample survey documenting residents' beliefs about their exposure to hurricanes, their intentions to respond in future hurricane threats, and demographic information which could be related to their behavior.

#### Delmarva 2002 Sample Survey

In November and December of 2002 almost 700 residents of the Delmarva Peninsula were interviewed by telephone. Respondents were asked how they would

respond to certain hypothetical hurricane threats, how they perceived their vulnerability to hurricanes, and information about other variables often found to be associated with evacuation behavior. The complete questionnaire used in the survey appears as Appendix I.

The sample was structured to provide a certain number of responses in each of several geographical locations, shown in Table 1. The surge vulnerability of respondents in each location was also determined from maps prepared by the Philadelphia District of the U.S. Army Corps of Engineers.

Table 1. Sample size by interview location and risk area

| <b>LOCATION</b>                        | <b>Cat 1</b> | <b>Cat 2</b> | <b>Cat 3</b> | <b>Cat 4</b> | <b>Non-Surge</b> | <b>TOTAL</b> |
|--|--------------|--------------|--------------|--------------|------------------|--------------|
| <b>Delaware Bay, North of Rehobeth</b> | 35           | 32           | 22           | 17           | 0                | <b>106</b>   |
| <b>Delaware Atlantic Beaches</b>       | 16           | 24           | 17           | 8            | 0                | <b>65</b>    |
| <b>Delaware Atlantic Mainland</b>      | 20           | 32           | 27           | 10           | 0                | <b>89</b>    |
| <b>Ocean City Beaches</b>              | 12           | 36           | 2            | 0            | 0                | <b>50</b>    |
| <b>Ocean City Mainland</b>             | 17           | 16           | 19           | 2            | 0                | <b>54</b>    |
| <b>Southern Peninsula</b>              | 41           | 26           | 12           | 23           | 0                | <b>102</b>   |
| <b>Chesapeake Bay</b>                  | 24           | 22           | 22           | 32           | 0                | <b>100</b>   |
| <b>Non-surge Inland</b>                | 0            | 0            | 0            | 0            | 112              | <b>112</b>   |
| <b>TOTAL</b>                           | <b>165</b>   | <b>188</b>   | <b>121</b>   | <b>92</b>    | <b>112</b>       | <b>678</b>   |

The interview locations were defined as follows and are depicted in Figure 1:

- Delaware Bay, North of Rehoboth – surge-prone coastal areas along Delaware Bay north of Cape Henlopen State Park
- Delaware Atlantic Beaches – beaches along the Atlantic Ocean in Delaware, between Cape Henlopen and the Maryland border
- Delaware Atlantic Mainland – surge-prone Atlantic coastal areas in Delaware not part of the beach locations (e.g., along Rehoboth Bay and Indian River Bay)
- Ocean City Beach – Ocean City, Maryland
- Ocean City Mainland – surge-prone areas west of Ocean City, along the bays and intracoastal waterway
- Southern Peninsula – surge-prone coastal areas of Northampton and Accomack Counties, Virginia (along Chesapeake Bay and the Atlantic Ocean)
- Chesapeake Bay – surge-prone coastal areas along the eastern shore of Chesapeake Bay, north of Accomack County, Virginia
- Non-surge – areas of the Delmarva peninsula not subject to inundation in category 4 hurricanes

The general sampling scheme was to provide 100 interviews in each of six locations: Delaware Bay, Delaware Atlantic, Ocean City, Southern Peninsula, Chesapeake Bay, non-surge. Delaware Atlantic and Ocean City were apportioned to provide approximately 50 completions in both beach and mainland areas of those locations. Inadvertent oversampling resulted in more than the targeted number of interviews in most locations, most notably in the Delaware Atlantic location.

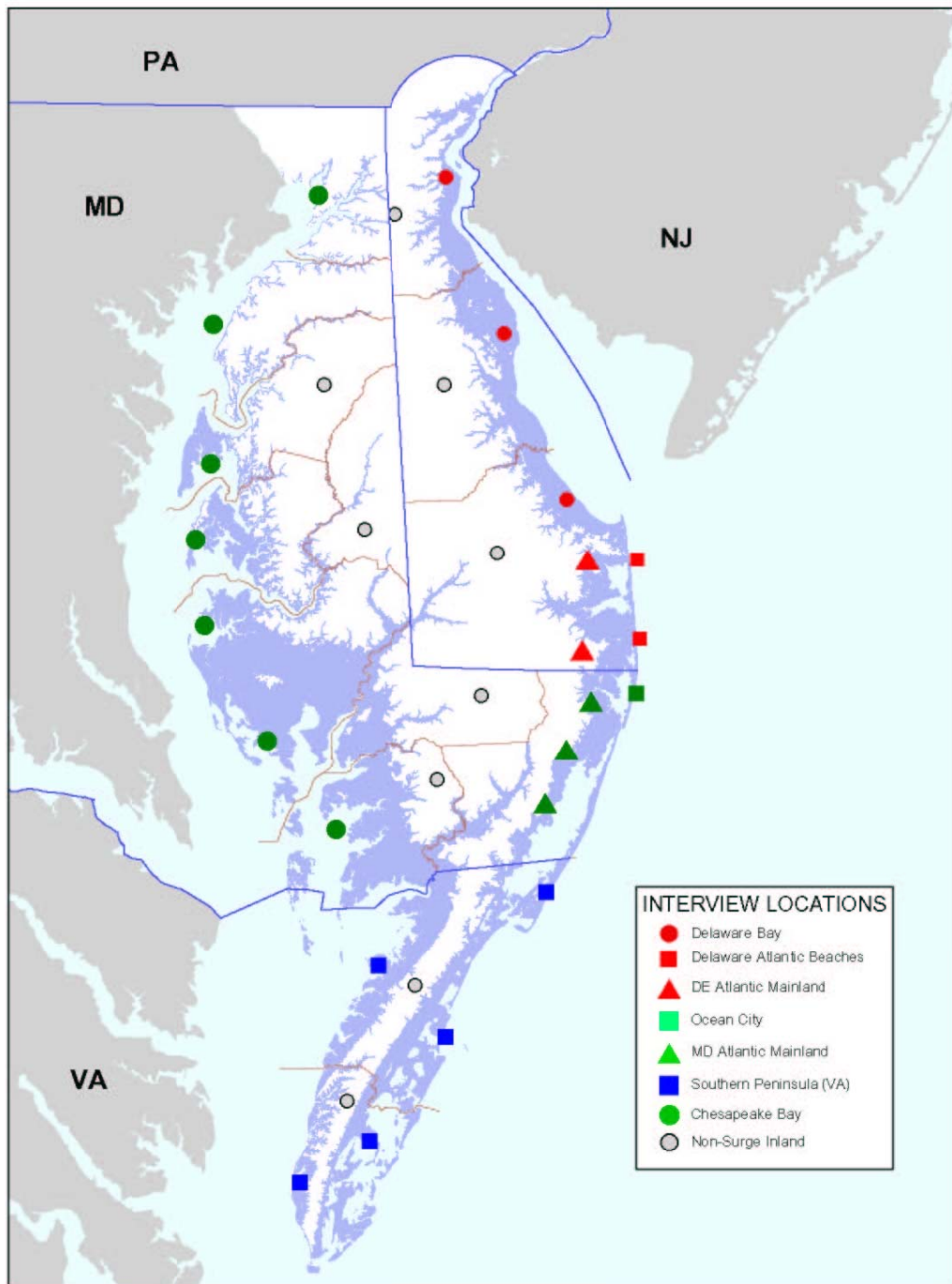


Figure 1. Delmarva interview locations (Philadelphia District, USACE)

### Statistical Reliability of Survey Results

Figures reported in the survey cited in this report are based upon samples taken from larger populations. The sample values provide estimates of the values of the larger populations from which they were selected, but are usually not precisely the same as the true population values. In general, the larger the number of people in the sample, the closer the sample value is likely to be to the true population value. A sample of 100 will provide estimates which one can be 90% "confident" are within 5 to 8 percentage points of the true population values. With a sample of 50, one can be 90% "confident" of being within 7 to 11 percentage points of the actual population value. A sample of 25 is 90% "accurate" only within 10 to 17 percentage points.

The ranges (e.g., "10 to 17") stem from the fact that the reliability of an estimate depends not only on the size of the sample but also upon how much agreement there is among the responses. Having 90% of the respondents give a particular answer means almost everyone agreed. By the same reasoning, if only 10% gave a particular response, almost everyone agreed (i.e., 90% disagreed with the 10% but agreed with one another). The maximum disagreement is for the responses to be split 50-50. If 90% (or 10%) of a sample of 100 give a particular response, that estimate will be within 5 percentage points of the true population value 90% of the time. If 75% (or 25%) of a sample of 100 give a particular response, that estimate will be within 7 percentage points 90% of the time. If 50% of a sample of 100 give a particular response, that estimate will be within 8 percentage points 90% of the time. Table 2 summarizes the reliability values for samples of various sizes and response distributions. For example, suppose we interviewed 200 people in the category 1 surge zone of the Delmarva Peninsula and 50% of those 200

people said they believed their home would flood in a hurricane. We can be 90% “confident” that between 44% (50% - 6%) and 56% (50% + 6%) of *all* the people who live in the Delmarva Peninsula category 1 surge zone believe their homes would flood. In order to increase confidence to 95% or 99% the confidence intervals would increase in width.

Table 2. Approximate sample reliabilities for 90% confidence intervals, as a function of sample size and distribution of responses (i.e., variance)

| <b>Sample Size</b> | <b>Percent Giving Response</b> |                   |                   |
|--------------------|--------------------------------|-------------------|-------------------|
|                    | <b>50%</b>                     | <b>25% or 75%</b> | <b>10% or 90%</b> |
| <b>25</b>          | ± 17%                          | ± 15%             | ± 10%             |
| <b>50</b>          | ± 12%                          | ± 10%             | ± 7%              |
| <b>75</b>          | ± 10%                          | ± 8%              | ± 6%              |
| <b>100</b>         | ± 8%                           | ± 7%              | ± 5%              |
| <b>200</b>         | ± 6%                           | ± 5%              | ± 4%              |
| <b>700</b>         | ± 3%                           | ± 2.5%            | ± 2%              |

### Assessing Differences

Differences of a few percentage points in sample results do not necessarily mean the populations from which the samples were drawn are different. An approximation for comparing results is to add and subtract values in Table 2 to and from of the two values being compared and seeing whether the ranges overlap. If there is overlap in the ranges created by adding and subtracting from the sample estimates, one should be reluctant to conclude that the population values differ. For example, suppose two samples of 100 yielded values of 50% and 40%. From Table 2 we see that the 50% value for the population might actually be as low as 42%, and the 40% value might actually be as high as 48%. The 42% to 50% and 40% to 48% ranges overlap.



A more accurate method of assessing whether sample differences are large enough to imply population differences involves “tests of statistical significance.” In general the following guidelines can be used. For samples of 50 in each group, the sample differences must be at least 20% (20 percentage points); samples of 100 must differ by at least 15%; samples of 200 must differ by at least 10%. Those rules-of-thumb apply in cases in which both sample estimates are near 50% (55% vs. 45%, for example). In cases where the estimates are much higher or lower (90% vs. 80% or 10% vs. 20%) slightly smaller sample differences are required to conclude that population differences also exist.

Although sample sizes do not always yield estimates as precise as one might prefer, it is important to remember that the survey data provides only one piece of the puzzle when deriving assumptions about how the public will actually respond. The cornerstone of the predictive methodology is the general response model, which is obtained from analysis of response patterns documented in many actual hurricane evacuations in numerous locations over a period of decades. The survey data is used to apply the model to the study location and to refine the model’s predictions.

#### Aggregation of Risk Areas and Survey Locations

The sample was stratified to ensure inclusion of specified numbers of respondents in each risk area in each location. Therefore the sample over-represents some locations and under-represents others intentionally. This is not a problem when analyzing each subgroup but can lead to erroneous impressions when the subgroups are lumped together if an over-represented subgroup differs in its responses significantly from other

subgroups. A weighting scheme would need to be employed in order to describe the general population accurately with the sample generated for this analysis.

## Evacuation Participation Rates

### *Intention to Evacuate*

Residents were presented with three hypothetical hurricane threats and asked whether they would leave their homes to go someplace safer in each. The storms were a category 1 hurricane with 80 MPH winds, a category 2 hurricane with 100 MPH winds, and a category 3 hurricane with winds of 125 MPH. In each instance the category and wind velocity was provided, and it was indicated that a hurricane warning was in effect for the respondent's community and for all of the Delmarva Peninsula. Each time the storm category was given, interviewees were told that the scale has five categories of intensity. For the category 3 storm they were also told that meteorologists referred to that as a major hurricane. Finally, they were told that officials had called for the evacuation of all areas that would be flooded by the respective category of hurricane, plus all mobile homes.

Table 3 summarizes responses to the three hypothetical hurricanes. The percent intending to evacuate increases with the category of storm, from 42% in a category 1 storm, to 68% in a category 3 storm.

Table 3. Percent of Respondents Saying They Would Evacuate in Cat 1, 2, and 3 Storms (N=678)

|               | In Cat 1 Storm | In Cat 2 Storm | In Cat 3 Storm |
|---------------|----------------|----------------|----------------|
| Evacuate Home | 42             | 53             | 68             |
| Stay Home     | 52             | 42             | 26             |
| Don't Know    | 6              | 5              | 6              |

It's more important that people evacuate from the more vulnerable locations, and Table 4 breaks responses down by risk zone. Cat 1 risk zone, for example, refers to areas that would flood in at least some category 1 hurricanes. Cat 4 risk zones would flood only in some category 4 storms. Non-surge zones would not flood even in category 4 hurricanes. There is some variation in evacuation intentions by risk zone, but not a great deal. For a category 1 hurricane, 48% of the residents living in category 1 surge areas said they would evacuate, compared to 46% living in category 3 surge areas. For a category 3 hurricane, 77% of those in category 1 areas say they would leave, compared to 66% of those in category 4 areas. In general there appears to be under-response in the most dangerous locations and over-response in the safer locations. The problem for the Delmarva Peninsula is comparable to that which has been documented in many places: convincing those who are at greatest risk that they need to go while also coping with the shadow evacuation occurring in areas that have not been told by officials to evacuate.

Table 4. Percent of Respondents Intending to Evacuate in Cat 1, 2, and 3 Storms, by Risk Zone

| Category of Storm | From Cat 1 Risk Zone | From Cat 2 Risk Zone | From Cat 3 Risk Zone | From Cat 4 Risk Zone | From Non-Surge Zone |
|-------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
|                   | (N=165)              | (N=188)              | (N=121)              | (N=92)               | (N=112)             |
| In Cat 1          | 48                   | 43                   | 46                   | 38                   | 31                  |
| In Cat 2          | 60                   | 58                   | 53                   | 51                   | 38                  |
| In Cat 3          | 77                   | 73                   | 70                   | 66                   | 47                  |

Table 5 breaks the evacuation intentions down by survey location. Recall, however, that smaller samples are inherently less reliable, and the sample size for each location is provided in Table 5. There are too few respondents to provide a break down of risk zones for each survey location. In general it appears that Atlantic residents are slightly more likely to say they would evacuate than their counterparts on Chesapeake

and Delaware Bays. In strong storms there is little if any difference among beach and mainland responses in Delaware and Ocean City.

Table 5. Intention to Evacuate in Cat 1, 2, and 3 Storms by Survey Site (percent of respondents)

|               | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|---------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|               | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Evac in Cat 1 | 43            | 29             | 57              | 54              | 48                 | 44            | 36           | 31            |
| Evac in Cat 2 | 48            | 54             | 66              | 72              | 70                 | 52            | 47           | 38            |
| Evac in Cat 3 | 63            | 75             | 78              | 84              | 80                 | 77            | 63           | 47            |

### *Perceived Vulnerability*

Intention to evacuate is not always a good predictor of how people eventually respond in actual hurricane threats. A generally useful predictor is whether people believe their own home would be safe in a hurricane. Respondents were asked whether they believed their homes would flood in each of three categories of hurricane, but not quite the same three asked about previously. In these questions the storms were category 2 (100 MPH), 3 (125 MPH), and 4 storms (155 MPH). Table 6 displays the percentage of respondents who said their homes would flood. Responses ranged from a low of 25% in category 2 storms to a high of 55% in category 4 storms.

Table 6. Percent of Respondents Saying Their Homes Would Flood by Category of Storm

|                 | In Cat 2 Storm | In Cat 3 Storm | In Cat 4 Storm |
|-----------------|----------------|----------------|----------------|
| Would Flood     | 25             | 39             | 55             |
| Would Not Flood | 65             | 49             | 34             |
| Don't Know      | 11             | 12             | 11             |

Of those who expect flooding, a large majority expect the flooding to be severe enough to pose a danger to their safety (Table 7). In a category 4 storm, 90% of those who expect flooding expect that it would be dangerous to their safety. This translates to

about 50% of the entire sample that expects dangerous flooding in a category 4 hurricane (55% from Table 6 x 90% from Table 7).

Table 7. Percent of Respondents Expecting Flooding Who Believe the Flooding Would Be Dangerous to Their Safety in Cat 2, 3, and 4 Storms (N=678)

|               | In Cat 2 Storm | In Cat 3 Storm | In Cat 4 Storm |
|---------------|----------------|----------------|----------------|
| Dangerous     | 71             | 85             | 90             |
| Not Dangerous | 22             | 12             | 8              |
| Don't Know    | 7              | 3              | 2              |

By risk zone, people in category 1 surge zones appear to believe they are most vulnerable to dangerous flooding, and those in non-surge zones the least (Table 8). However, there are no discernible differences among category 2, category 3, and category 4 areas. Even in the category 1 zone, only 62% of the respondents believe their homes would flood dangerously in a category 4 hurricane.

Table 8. Percent of Respondents Believing their Homes Would Flood Dangerously in Cat 2, 3, and 4 Storms, by Risk Zone

| Category of Storm | In Cat 1 Risk Zone<br>(N=165) | In Cat 2 Risk Zone<br>(N=188) | In Cat 3 Risk Zone<br>(N=121) | In Cat 4 Risk Zone<br>(N=92) | In Non-Surge Zone<br>(N=112) |
|-------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|
| Cat 2 Storm       | 30                            | 15                            | 17                            | 12                           | 6                            |
| Cat 3 Storm       | 45                            | 33                            | 35                            | 37                           | 14                           |
| Cat 4 Storm       | 62                            | 54                            | 53                            | 48                           | 24                           |

Among survey locations, perceived vulnerability to dangerous flooding is fairly similar, except for non-surge locations, where people see themselves as considerably safer (Table 9).



Table 9. Believe Home Would Flood Dangerously in Cat 2, 3, 4 Storms by Survey Location (percent of respondents)

|                | Del. North | Del Beaches | Del Mainland | O City Bches | O City Mainland | So. Pnsula | Ches. Bay | Non-Surge |
|----------------|------------|-------------|--------------|--------------|-----------------|------------|-----------|-----------|
|                | (N=106)    | (N=65)      | (N=89)       | (N=50)       | (N=54)          | (N=102)    | (n=100)   | (N=112)   |
| Flood in Cat 2 | 19         | 17          | 25           | 28           | 13              | 20         | 16        | 6         |
| Flood in Cat 3 | 32         | 38          | 43           | 44           | 37              | 38         | 34        | 14        |
| Flood in Cat 4 | 50         | 60          | 62           | 66           | 48              | 53         | 51        | 20        |

Respondents were also asked whether it would be safe to stay in their homes in category 2, 3, and 4 hurricanes, considering both wind and water. Almost half said their homes would be safe in category 2 hurricanes, and 33% said their homes would be safe in a category 4 storm with winds of 155 MPH (Table 10).

Table 10. Percent of Respondents Who Believe It Would Be Safe To Stay in Their Home, Considering Both Wind and Water in Cat 2, 3, and 4 Storms (N=678)

|            | In Cat 2 Storm | In Cat 3 Storm | In Cat 4 Storm |
|------------|----------------|----------------|----------------|
| Safe       | 47             | 37             | 33             |
| Not Safe   | 42             | 52             | 56             |
| Don't Know | 11             | 11             | 11             |

There is little variation among risk zones with respect to whether people believe it would be safe to stay in their homes (Table 11). In category 1 surge zones 34% of the respondents believe it would be safe to stay in a strong category 4 storm, compared to 30% in non-surge zones.

Table 11. Percent of Respondents Who Believe It Would Be Safe to Stay in Their Home in Cat 2, 3, and 4 Storms, by Risk Zone

| Category of Storm | In Cat 1 Risk Zone | In Cat 2 Risk Zone | In Cat 3 Risk Zone | In Cat 4 Risk Zone | In Non-Surge Zone |
|-------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
|                   | (N=165)            | (N=188)            | (N=121)            | (N=92)             | (N=112)           |
| Cat 2 Storm       | 42                 | 50                 | 50                 | 37                 | 57                |
| Cat 3 Storm       | 34                 | 39                 | 38                 | 35                 | 39                |
| Cat 4 Storm       | 34                 | 31                 | 43                 | 28                 | 30                |

Among survey locations Ocean City beach residents were less likely than most others to believe they would be safe (Table 12). Respondents in non-surge areas were more likely than those in most but not all of the other locations to say they would be safe.

Table 12. Believe Home Would be Safe to Stay in During Cat 2, 3, 4 Storms, Considering Wind and Water, by Survey Location (percent of respondents)

|               | Del.<br>North<br>(N=106) | Del<br>Beaches<br>(N=65) | Del<br>Mainland<br>(N=89) | O City<br>Bches<br>(N=50) | O City<br>Mainland<br>(N=54) | So.<br>Pnsula<br>(N=102) | Ches.<br>Bay<br>(n=100) | Non-<br>Surge<br>(N=112) |
|---------------|--------------------------|--------------------------|---------------------------|---------------------------|------------------------------|--------------------------|-------------------------|--------------------------|
| Safe in Cat 2 | 51                       | 46                       | 51                        | 28                        | 46                           | 48                       | 40                      | 57                       |
| Safe in Cat 3 | 41                       | 31                       | 48                        | 26                        | 24                           | 39                       | 35                      | 39                       |
| Safe in Cat 4 | 35                       | 29                       | 47                        | 20                        | 22                           | 36                       | 36                      | 30                       |

The importance of perceived safety is depicted in Table 13. It compares intention to evacuate for people who believe their homes would and would not be safe. If people think their home would not be safe in a category 2 hurricane, 71% said they would evacuate in a category 2 hurricane, compared to just 36% who think their home would be safe in that category of storm. The differences are less pronounced for stronger storms. This is consistent with studies conducted following hurricane evacuations in other parts of the United States.

Table 13. Percent of Respondents Intending to Evacuate in Cat 1, 2, and 3 Storms, by Belief Their Home Would be Safe

|                      | Intend to Evacuate<br>in Cat 1 Storm | Intend to Evacuate<br>in Cat 2 Storm | Intend to Evacuate<br>in Cat 3 Storm |
|----------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| If Safe in Cat 2     | 31                                   | 36                                   | 59                                   |
| If Not Safe in Cat 2 | 55                                   | 71                                   | 80                                   |
|                      |                                      |                                      |                                      |
| If Safe in Cat 3     | 32                                   | 37                                   | 51                                   |
| If Not Safe in Cat 3 | 52                                   | 69                                   | 84                                   |
|                      |                                      |                                      |                                      |
| If Safe in Cat 4     | 45                                   | 50                                   | 64                                   |
| If Not Safe in Cat 4 | 44                                   | 60                                   | 77                                   |

### *Anticipation of Evacuation Orders*

Hearing evacuation notices from public officials is usually a strong predictor of whether residents evacuate, but many people living in areas told to evacuate don't seem to comprehend that the evacuation notices apply to them – that is, many people say they didn't hear that they were supposed to evacuate. Interviewees were asked whether officials in their county would issued a mandatory evacuation order requiring that the respondent evacuate his or her home. The question was asked for category 2, 3, and 4 hurricanes. Overall 44% believe they would be told to evacuate in a category 2 storm and 79% in a category 4 storm (Table 14).

Table 14. Percent of Respondents Who Believe They Would be Ordered by Officials to Evacuate in Cat 2, 3, and 4 Storms (N=678)

|                   | In Cat 2 Storm | In Cat 3 Storm | In Cat 4 Storm |
|-------------------|----------------|----------------|----------------|
| Order Expected    | 44             | 62             | 79             |
| No Order Expected | 31             | 17             | 8              |
| Don't Know        | 25             | 21             | 6              |

There were variations among risk zones, but the differences were rather small (Table 15). In general too few people in high-risk areas expect to be told to leave, and too many in low risk areas expect to be told.

Table 15. Percent of Respondents Who Believe They Would be Told by Officials to Evacuate in Cat 2, 3, and 4 Storms, by Risk Zone

| Category of Storm | In Cat 1 Risk Zone<br>(N=165) | In Cat 2 Risk Zone<br>(N=188) | In Cat 3 Risk Zone<br>(N=121) | In Cat 4 Risk Zone<br>(N=92) | In Non-Surge Zone<br>(N=112) |
|-------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|
| Cat 2             | 52                            | 42                            | 48                            | 42                           | 33                           |
| Cat 3             | 72                            | 66                            | 60                            | 53                           | 53                           |
| Cat 4             | 87                            | 80                            | 83                            | 67                           | 69                           |

Among interview locations, respondents living along the Atlantic were more likely to say they expected to be told to evacuate than people living on Chesapeake or Delaware Bay (Table 16). A majority of people in non-surge locations expect to be told to evacuate in category 3 and 4 hurricanes.

Table 16. Expect to Hear Evacuation Order from Officials in Cat 2, 3, 4 Storms, by Survey Location (percent of respondents)

|                | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|----------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
| Expect:        | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Order in Cat 2 | 32            | 42             | 53              | 64              | 43                 | 54            | 43           | 33            |
| Order in Cat 3 | 51            | 65             | 73              | 80              | 67                 | 71            | 54           | 53            |
| Order in Cat 4 | 76            | 85             | 88              | 92              | 82                 | 86            | 63           | 69            |

The importance of this expectation is shown in Table 17 which crosstabulates intention to evacuate with expectation of hearing evacuation orders from officials. People who expect officials to tell them they must evacuate in a category 3 hurricane are almost 3 times as likely as others to say they would leave in a category 3 storm, for example.

Table 17. Percent of Respondents Intending to Evacuate in Cat 1, 2, and 3 Storms, by Belief Officials Would Tell Them to Evacuate

|                                      | Intend to Evacuate<br>in Cat 1 Storm | Intend to Evacuate<br>in Cat 2 Storm | Intend to Evacuate<br>in Cat 3 Storm |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| If Expect Evac<br>Notice in Cat 2    | 61                                   | 73                                   | 84                                   |
| If Expect No Evac<br>Notice in Cat 2 | 21                                   | 31                                   | 52                                   |
|                                      |                                      |                                      |                                      |
| If Expect Evac<br>Notice in Cat 3    | 56                                   | 69                                   | 84                                   |
| If Expect No Evac<br>Notice in Cat 3 | 12                                   | 18                                   | 31                                   |
|                                      |                                      |                                      |                                      |
| If Expect Evac<br>Notice in Cat 4    | 48                                   | 60                                   | 78                                   |
| If Expect No Evac<br>Notice in Cat 4 | 11                                   | 9                                    | 17                                   |

### *Other Considerations*

Approximately half the respondents said they would have some concern about being trapped on roads while attempting to evacuate (Table 18). People in Ocean City beach locations were more likely than others to express the concern (Table 19). However, the concern was not a deterrent to one's intention to evacuate. Those expressing the concern were more likely than others to say they would evacuate.

Table 18. Percent of Respondents Saying They Would Be Concerned about Being Trapped on the Road While Evacuating (N=678)

|               |    |
|---------------|----|
| Concerned     | 46 |
| Not Concerned | 43 |
| Don't Know    | 12 |

Table 19. Percent of Respondents Concerned about Being Trapped on Road During Evacuation, by Survey Location

|           | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|-----------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|           | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Concerned | 44            | 43             | 51              | 66              | 44                 | 40            | 43           | 43            |

Those who expressed concern about being trapped on a roadway during an evacuation were asked if they would be more likely to evacuate if officials could monitor evacuating traffic to ensure that they would have sufficient time to reach safety, and 87% replied affirmatively (Table 20). The response was similar in all interview locations.

Table 20. Percent of Respondents Concerned about Being Trapped on Roadway Saying They Would Be More Likely to Evacuate if Officials Could Monitor Traffic (N=312)

|                                |    |
|--------------------------------|----|
| Yes, More Likely to Evacuate   | 87 |
| No, No More Likely to Evacuate | 7  |
| Don't Know                     | 6  |

Interviewees were asked whether they and their families had definite plans for how they would respond in a hurricane threat. Less than half said they did (Table 21). Residents on the southern peninsula were more likely than others to say they had a definite plan (Table 22). However, having a definite plan was generally not related to intentions to evacuate.

Table 21. Percent of Respondents Saying They Have a Definite Plan for Responding to a Hurricane Threat (N=678)

|                            |    |
|----------------------------|----|
| Yes, Have a Definitie Plan | 39 |
| No, Have No Definite Plan  | 55 |
| Not Very Definite          | 7  |

Table 22. Percent of Respondents Saying They Have a Definite Plan for Responding to Hurricane Threats, by Survey Location

|           | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|-----------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|           | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Have Plan | 29            | 35             | 35              | 40              | 48                 | 60            | 32           | 35            |

Overall about 20% of the sample indicated they owned a boat that would need tending in a hurricane threat, of which 67% said the boat was at their residence. The largest incidence of homes with boats was on the Chesapeake (Table 23). Having a boat was not related to intention to evacuate.

Table 23. Percent of Respondents Saying They Have a Boat Needing Attention During a Hurricane Threat, by Survey Location

|             | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|-------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|             | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Have a Boat | 17            | 15             | 11              | 14              | 17                 | 26            | 31           | 23            |



Three-fourths of the respondents said they had identified the safest place in their homes to ride out a hurricane if they need to do so. There was little variation among survey locations (Table 24).

Table 24. Percent of Respondents Saying They Have Identified Safest Place in Their Home to Ride Out a Storm, by Survey Location

|            | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|            | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Identified | 87            | 69             | 78              | 74              | 70                 | 82            | 78           | 77            |

Several demographic variables were measured as tested for their relationship to evacuation intentions:

- People with pets were more likely to say they would leave in weak storms, but there was no difference in strong storms. Slightly more than half the households had pets.
- Blacks were more likely than others to say they would evacuate.
- Residents in mobile homes and in manufactured housing were more likely than others to say they would evacuate.
- Intention to evacuate was *not* related to
  - Children in the home
  - Damage experienced in coastal storms
  - Income
  - Education
  - Years lived on the Delmarva Peninsula (except for those having lived there for more than 40 years being slightly less likely to evacuate).

### Type of Refuge

Interviewees were asked what sort of refuge they would seek if they evacuated, and the results are given in Table 25. Intended refuges varied little among storm intensity scenarios. More than a third said they would go to public shelters, with just slightly more saying they would go to the homes of friends and relatives. Only 10% to 12% said they would go to hotels and motels.

Table 25. Percent Intending to Use Various Types of Refuge in Cat 1, 2, and 3 Storms (percent of respondents planning to evacuate)

|                 | Cat 1 Storm<br>(N=285) | Cat 2 Storm<br>(N=359) | Cat 3 Storm<br>(n=503) |
|-----------------|------------------------|------------------------|------------------------|
| Public Shelter  | 36                     | 37                     | 36                     |
| Friend/Relative | 39                     | 37                     | 41                     |
| Hotel/Motel     | 12                     | 12                     | 10                     |
| Other           | 7                      | 7                      | 5                      |
| Don't Know      | 7                      | 8                      | 8                      |

There were variations in intended refuge by interview location (Table 26). Public shelter use was lowest in the Delaware beach area (21%) and highest in non-surge areas (48%).

Table 26. Intended Type of Refuge in a Category 3 Storm, by Survey Location (percent of respondents intending to evacuate)

|                    | Del.<br>North<br>(N=77) | Del<br>Beaches<br>(N=52) | Del<br>Mainland<br>(N=71) | O City<br>Bches<br>(N=44) | O City<br>Mainland<br>(N=48) | So.<br>Pnsula<br>(N=80) | Ches.<br>Bay<br>(n=71) | Non-<br>Surge<br>(N=60) |
|--------------------|-------------------------|--------------------------|---------------------------|---------------------------|------------------------------|-------------------------|------------------------|-------------------------|
| Public Shelter     | 39                      | 21                       | 32                        | 27                        | 27                           | 41                      | 42                     | 48                      |
| Friend/Relative    | 38                      | 50                       | 44                        | 48                        | 50                           | 39                      | 34                     | 37                      |
| Hotel/Motel        | 4                       | 14                       | 13                        | 11                        | 15                           | 13                      | 10                     | 7                       |
| Other              | 12                      | 4                        | 4                         | 2                         | 0                            | 4                       | 4                      | 3                       |
| Don't Know/Depends | 8                       | 12                       | 7                         | 11                        | 8                            | 4                       | 10                     | 5                       |

The great majority of people planning to go to a public shelter expect it to be located in their own neighborhood (Table 27). An additional 19% expect it to be elsewhere in their own county. Most evacuees going to the homes of friends and relatives expect the locations to be in their own counties.

Table 27. Anticipated Location of Intended Refuge in a Category 3 Hurricane (percent of respondents going to each type of refuge)

|                  | To Own Neighborhood | To Other Place in Own County | To Other Place on Delmarva | To Place Off Delmarva |
|------------------|---------------------|------------------------------|----------------------------|-----------------------|
| Pub Shlt (N=166) | 71                  | 19                           | 6                          | 1                     |
| Frnd/Rel (N=189) | 17                  | 37                           | 19                         | 27                    |
| Hotel (N=46)     | 10                  | 31                           | 26                         | 33                    |
| Other (N=23)     | 17                  | 22                           | 17                         | 44                    |
| DK (N=37)        | 39                  | 11                           | 22                         | 28                    |

All respondents were asked to suppose that officials arranged for public shelter space to be provided for evacuees from the respondent's community in an inland location off the Delmarva Peninsula, in a different location than the respondent would normally prefer to evacuate to. They were asked whether they would be likely to go to that location to take advantage of the shelter being provided. More than half said they would (Table 28). Only among Delaware beach respondents did a minority reply affirmatively (Table 29).

Table 28. Percent of Respondents Saying They Would Be Willing to Use a Public Shelter Off the Delmarva Peninsula (N=678)

|  |    |
|--|----|
| Yes, Would Use Shelter Off Delmarva    | 55 |
| No, Would Not Use Shelter Off Delmarva | 32 |
| Don't Know                             | 12 |

Table 29. Percent of Respondents Being Willing to Use Public Shelter Off Delmarva, by Survey Location

|                | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|----------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|                | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Willing to Use | 62            | 39             | 53              | 54              | 57                 | 60            | 55           | 55            |

About half the respondents said they know the location of the public shelter closest to their own home (Table 30). The figure was highest in the southern peninsula sample and lowest along Delaware Bay (Table 31). Overall, among those who said they would go to a public shelter, 65% said they know the location of the closest one.

Table 30. Percent of Respondents Saying they Know the Closest Public Shelter to Their Home (N=678)

|                                 |    |
|---------------------------------|----|
| Yes, Know Closest Shelter       | 48 |
| No, Do Not Know Closest Shelter | 47 |
| Unsure                          | 5  |

Table 31. Percent of Respondents Saying they Know the Closest Public Shelter to Their Home, by Survey Location

|              | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|--------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|              | (N=106)       | (N=65)         | (N=89)          | (N=50)          | (N=54)             | (N=102)       | (n=100)      | (N=112)       |
| Know Shelter | 35            | 39             | 49              | 48              | 59                 | 69            | 36           | 53            |

Half the people saying they would go to public shelters own pets, and 89% of those people said they would take the pets with them to their destination (Table 32). Over 90% of the people planning to go to friends and relatives say they would take their pets, as would 100% of those going to hotels and motels. Slightly more than half the people planning to go to public shelters said they were aware of the Red Cross policy not allowing pets in public shelters.

Table 32. Plans for Dealing with Pets, by Type of Intended Refuge

|                       | Public Shelter | Friend/Relative | Hotel/Motel |
|-----------------------|----------------|-----------------|-------------|
| Take to Destination   | 89             | 91              | 100         |
| Leave at Home         | 4              | 4               | 0           |
| Board                 | 1              | 0               | 0           |
| Leave Some, Take Some | 1              | 2               | 0           |
| Don't Know            | 3              | 2               | 0           |
| Refused               | 0              | 1               | 0           |
| Other                 | 1              | 0               | 0           |

### Location of Refuge

Most people planning to evacuate don't anticipate going very far from home (Table 33). Roughly 40% said they would go someplace in their own neighborhood, and about 65% said they would stay in their own county. Over 80% said they would go someplace on the Delmarva Peninsula. There was essentially no variation with respect to intensity of storm.

Table 33. Percent Intending to Go to Various Geographical Destinations in Cat 1, 2, and 3 Storms (percent of respondents planning to evacuate)

|                                   | In Cat 1 Storm<br>(N=285) | In Cat 2 Storm<br>(N=359) | In Cat 3 Storm<br>(N=451) |
|-----------------------------------|---------------------------|---------------------------|---------------------------|
| To Place in Own Neighborhood      | 38                        | 41                        | 38                        |
| To Other Place in Own County      | 27                        | 27                        | 27                        |
| Other Place on Delmarva Peninsula | 16                        | 14                        | 10                        |
| Place Off Delmarva Peninsula      | 19                        | 18                        | 19                        |

Beach residents were less likely than others to say they would go to locations in their own neighborhoods and more likely than others to say they would go to places off the peninsula (Table 34). Respondents in non-surge areas were most likely to say they would go to destinations in their own neighborhood.

Of those who said they would evacuate off the peninsula, half would go to destinations in Maryland, followed by Pennsylvania and Delaware (Table 35).

Table 34. Intended Destination in a Category 3 Storm, by Survey Location (percent of respondents intending to evacuate, excluding “don’t know” responses)

|                  | Del.<br>North | Del<br>Beaches | Del<br>Mainland | O City<br>Bches | O City<br>Mainland | So.<br>Pnsula | Ches.<br>Bay | Non-<br>Surge |
|------------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|--------------|---------------|
|                  | (N=72)        | (N=41)         | (N=61)          | (N=42)          | (N=44)             | (N=76)        | (n=64)       | (N=51)        |
| Neighborhood     | 40            | 23             | 48              | 21              | 31                 | 42            | 46           | 64            |
| Other Own County | 30            | 37             | 24              | 37              | 37                 | 29            | 23           | 8             |
| Other Delmarva   | 15            | 10             | 16              | 11              | 11                 | 20            | 4            | 15            |
| Off Delmarva     | 15            | 30             | 12              | 31              | 21                 | 9             | 27           | 13            |

Table 35. State Destinations of Respondents Intending to Evacuate in a Cat 3 Storm to Locations Not on the Delmarva Peninsula (N=84)

|              |    |
|--------------|----|
| Delaware     | 13 |
| Maryland     | 51 |
| Virginia     | 4  |
| DC           | 2  |
| Pennsylvania | 19 |
| Other        | 8  |
| Don’t Know   | 2  |



### Transportation

Evacuating households plan to take 65% of the vehicles available to them, averaging 1.31 vehicles per evacuating household. Seven percent of the evacuating households plan to pull a trailer or take a motor home or camper. Table 36 indicates the variations among interview locations.

Table 36. Vehicles to Be Used by Evacuating Households

|                            | Del.<br>North<br>(N=106) | Del<br>Beaches<br>(N=65) | Del<br>Mainland<br>(N=89) | O City<br>Bches<br>(N=50) | O City<br>Mainland<br>(N=54) | So.<br>Pnsula<br>(N=102) | Ches.<br>Bay<br>(n=100) | Non-<br>Surge<br>(N=112) |
|----------------------------|--------------------------|--------------------------|---------------------------|---------------------------|------------------------------|--------------------------|-------------------------|--------------------------|
| Percent of Avail. Vehicles | 60                       | 76                       | 69                        | 78                        | 68                           | 61                       | 61                      | 59                       |
| Vehicles per Household     | 1.34                     | 1.48                     | 1.24                      | 1.27                      | 1.28                         | 1.37                     | 1.24                    | 1.27                     |
| Trailers, Motorhomes       | 12                       | 2                        | 2                         | 2                         | 4                            | 7                        | 5                       | 15                       |

Seven percent of the respondents said someone in their household would require assistance to evacuate. In some of the interview locations the figure was as high as 10%, and in one as low as 2% (Table 37). The type of assistance required was evenly divided between transportation and medical care. In most cases respondents said the assistance would not need to come from government agencies. Twenty-six percent of those saying someone in their household need evacuation assistance said they were aware of special needs evacuation centers in their community.

Table 37. Percent of Households with Someone Needing Assistance in Order to Evacuate

|             | Del.<br>North<br>(N=106) | Del<br>Beaches<br>(N=65) | Del<br>Mainland<br>(N=89) | O City<br>Bches<br>(N=50) | O City<br>Mainland<br>(N=54) | So.<br>Pnsula<br>(N=102) | Ches.<br>Bay<br>(n=100) | Non-<br>Surge<br>(N=112) |
|-------------|--------------------------|--------------------------|---------------------------|---------------------------|------------------------------|--------------------------|-------------------------|--------------------------|
| Need Assist | 10                       | 5                        | 10                        | 4                         | 2                            | 7                        | 7                       | 5                        |

Respondents were asked to specify the roads they would take when evacuating, but they were also asked whether they would be willing to take a route other than the one they would normally use in order to avoid congestion, even if the recommended route required them to drive farther than normal. The great majority said they would (Table 38), and responses were essentially the same in all survey locations (Table 39).

Table 38. Percent of Respondents Saying They Would Be Willing to Use an Alternate Evacuation Route if Urged by Officials

|                                   |    |
|-----------------------------------|----|
| Yes, Would Use Alternate Route    | 88 |
| No, Would Not Use Alternate Route | 5  |
| Don't Know                        | 7  |

Table 39. Percent of Respondents Saying They Would Be Willing to Use Evacuation Routes Urged by Officials

|                | Del.<br>North<br>(N=106) | Del<br>Beaches<br>(N=65) | Del<br>Mainland<br>(N=89) | O City<br>Bches<br>(N=50) | O City<br>Mainland<br>(N=54) | So.<br>Pnsula<br>(N=102) | Ches.<br>Bay<br>(n=100) | Non-<br>Surge<br>(N=112) |
|----------------|--------------------------|--------------------------|---------------------------|---------------------------|------------------------------|--------------------------|-------------------------|--------------------------|
| Willing to Use | 83                       | 86                       | 83                        | 86                        | 85                           | 81                       | 80                      | 85                       |

## Planning Assumptions for Residents

### Evacuation Participation Rate

Residents of the Delmarva Peninsula suffer from some of the same misconceptions about vulnerability and evacuation orders as people who live in many other coastal locations. Those misconceptions tend to result in under response from high-risk locations and over-response from low-risk locations. There is little difference among category 2, 3 and 4 surge area residents with respect to their perceptions of vulnerability and evacuation intentions. Tables 40 and 41 indicate the most probable participation rates for three categories of hurricane for each risk zone. *It assumes that officials issue mandatory evacuation orders for areas that would be inundated by the respective storm and for all mobile homes and that the evacuation orders are communicated aggressively.* Participation rates could be lower than average along the Chesapeake and Delaware Bays.

Table 40. Evacuation Participation Rate Planning Assumptions for Residents in Housing Other Than Mobile Homes (percent of residents)

| <b>Risk Zone</b> | <b><i>Cat 1 Storm</i></b> | <b><i>Cat 2 Storm</i></b> | <b><i>Cat 3 Storm</i></b> |
|------------------|---------------------------|---------------------------|---------------------------|
| Non-surge        | 30                        | 40                        | 45                        |
| Cat 2-4          | 40                        | 50                        | 70                        |
| Cat 1            | 50                        | 60                        | 80                        |

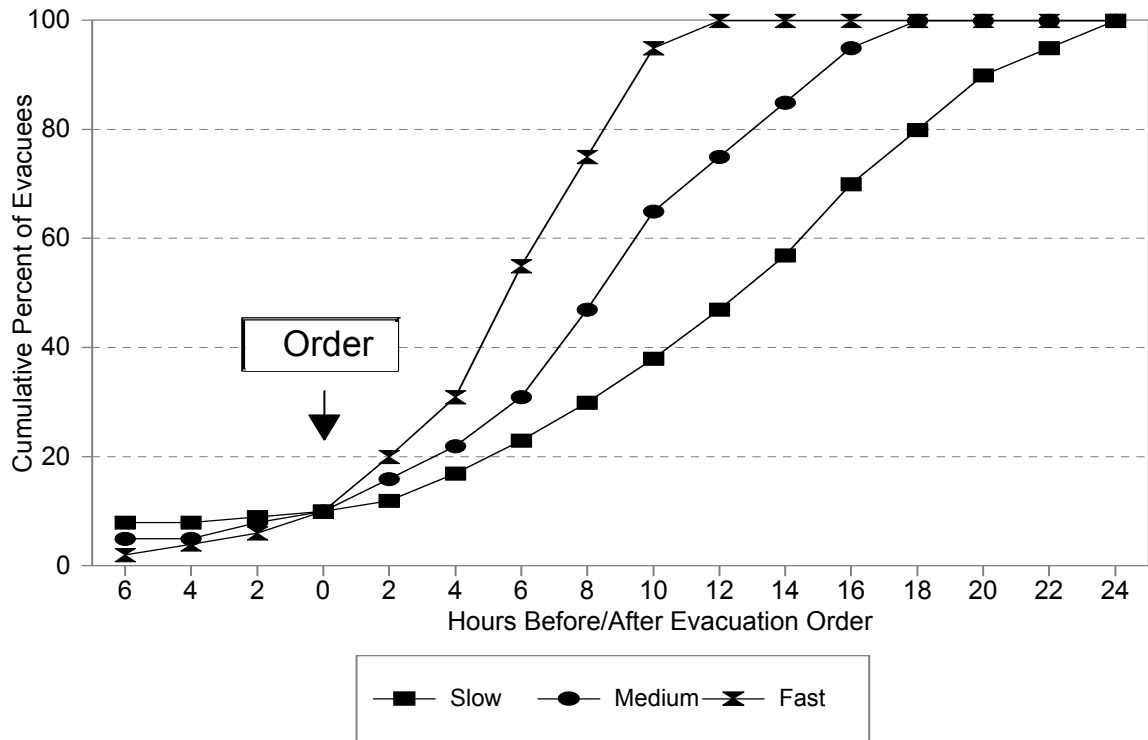
Table 41. Evacuation Participation Rate Planning Assumptions for Residents in Mobile Homes (percent of residents)

| <b>Risk Zone</b> | <b><i>Cat 1 Storm</i></b> | <b><i>Cat 2 Storm</i></b> | <b><i>Cat 3 Storm</i></b> |
|------------------|---------------------------|---------------------------|---------------------------|
| Non-surge        | 50                        | 60                        | 65                        |
| Cat 2-4          | 60                        | 70                        | 80                        |
| Cat 1            | 65                        | 75                        | 95                        |

### Evacuation Timing

Relatively few evacuees (fewer than 20%) typically leave before officials issue an evacuation notice. People do not leave in substantial numbers until someone in a position of authority tells them, and then they will leave as promptly as they believe they must. The urgency of evacuations varies because of the error inherent in hurricane forecasting and the reluctance of public officials to have residents leave unnecessarily. If a storm intensifies, increases forward speed, or changes course unexpectedly, it usually becomes more necessary for evacuees to leave quickly, for example.

Regardless of the proficiency of emergency management officials, circumstances are going to arise sometimes in which very prompt evacuation is necessary. In other cases the notice will be issued earlier, and evacuation can proceed more gradually. For planning, at least three different timing response curves such as those shown in Figure 1 should be evaluated, because eventually the region will experience all three. The flattest of the three curves assumes that evacuation orders were issued at least 24 hours before landfall. In each threat scenario occupants of low risk areas will tend to wait longer to evacuate than those living in more hazardous locations.



**Figure 1. Cumulative evacuation response curves for planning**

If officials issue evacuation notices more than 24 hours prior to anticipated landfall, evacuation departures will be distributed over a period longer than 24 hours. Some evacuees will leave shortly after the evacuation notice during daylight hours, then departures will essentially stop on the evening of the first day, and then resume on the morning of the second day.

### Type of Refuge

People tend to overstate the likelihood that they will go to public shelters when they evacuate, and the 36% figure in the Delmarva survey is almost certainly too high. In

most instances only half as many people go to shelters as planned. The extent to which people go to public shelters as well as other destinations will depend on the actual availability of those options. If shelters are not opened locally, shelter use will be substantially lower. Reliance on hotels and motels could also depend on the extent to which they are available, particularly on the Peninsula. Although most respondents indicated a willingness to go to public shelters off the Delmarva Peninsula, that would be unusual. Most people who go to public shelters go to shelters in their own community. Table 42 contains average figures to be used for planning. Public shelter use in Atlantic survey locations will be lower than other locations.

Table 42. Type of Refuge to Be Used by Evacuees

|                 |       |
|-----------------|-------|
| Public Shelter  | 15-20 |
| Friend/Relative | 40-50 |
| Hotel/Motel     | 20-25 |
| Other           | 15-20 |

### Location of Refuge

Delmarva evacuees don't anticipate going very far when they evacuate. However, if the options they assume will be available nearby don't exist, they will have to travel farther than planned. Local emergency management policies will have a significant effect on how far evacuees travel. The figures in Table 43 project that evacuees will not find some of the options they anticipate being available locally. Residents of non-surge areas will travel less far than evacuees from other locations, and beach evacuees will travel farther. For those evacuees going to destinations off the Peninsula, the breakdown by state in Table 35 should be used for planning.

Table 43. Destinations of Evacuees (percent of evacuees)

|                  |    |
|------------------|----|
| Own Neighborhood | 20 |
| Other Own County | 25 |
| Other Delmarva   | 25 |
| Off Delmarva     | 30 |

### Vehicle Use

Between 65% and 70% of the vehicles available to evacuating households will be used in an evacuation, averaging 1.3 vehicles per evacuating household. Seven percent of the evacuating households will pull a trailers or take motor homes or campers.



### Vacationer Response

Compared to residents, there is relatively little data documenting how vacationers respond to hurricane threats, and no survey was conducted with vacationers to Delmarva to ascertain their intentions. Behavioral assumptions for tourists are derived from intended-response survey findings with visitors to other locations and from the existing data on how vacationers have responded. Surveys have been conducted with visitors to beach areas in Delaware and Maryland on the Delmarva Peninsula and in Virginia Beach. The following documents provided information about visitor characteristics which helped predict likely response in a hurricane threat.

“1995 Southern Delaware Beach Region Visitor Profile Study,” by E. Jacobson, A. Droskoski, and C. Smith, University of Delaware, for the Delaware Tourism Office.

“2000 Ocean City, Maryland Visitor Survey,” and “2001 Ocean City, Maryland Visitor Survey,” by Ocean City Public Relations, Marketing Office.

“Summer 2001 Virginia Beach Overnight Visitor Profile,” by G. R. Yochum, and V. B. Agarwal, Old Dominion University, Bureau of Research, College of Business and Public Administration.

### Evacuation Participation Rates

There is no evidence that vacationers are reluctant to evacuate when a hurricane interrupts their visit to a coastal community. Based on observations of vacationer behavior in other locations, surveys in other locations concerning intended responses, and survey data regarding vacationer characteristics on the Delmarva Peninsula, it is reasonable to assume that 90% to 95% of vacationers will evacuate their accommodations *if evacuation orders are issued*.

### Evacuation Timing

Tourists leave at least as early as residents. The same curves used for residents should be used for tourists.

### Type of Refuge

Officials sometimes report a large number of vacationers in certain shelters, but they represent a very small percentage of the total visitor population. The great majority of vacationers to Delmarva traveled in their own vehicles and live just a few hours away. Fewer than 5% will go to public shelters, and 5% will seek hotels or motels. The remainder will return home.

### Destinations

At least 90% of vacationers will return home when they evacuate. Table 44 indicates the percentage of vacationers to Delmarva beaches who come from various states. Virginia Beach visitors are included in Table 44 to account for the impact they might have on evacuees from Delmarva.

Table 44. Destinations of Vacationers Evacuating Home from Delaware, Maryland, and Virginia Beaches

|                | Delaware | Maryland | Virginia |
|----------------|----------|----------|----------|
| Pennsylvania   | 32       | 30       | 15       |
| Maryland       | 28       | 36       | 8        |
| Delaware       | 14       | 3        |          |
| DC/Virginia    | 10       | 5        | 28       |
| New York       | 4        | 9        | 7        |
| New Jersey     | 3        | 4        | 4        |
| Ohio           |          | 3        | 9        |
| North Carolina |          |          | 3        |

Vehicle Use

More than 95% of the vacationers to Delmarva drive from homes. They will use their own vehicles when evacuating.

## Appendix I

### Delmarva Hurricane Questionnaire

## Delmarva Response Questionnaire

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of the U.S. Army Corps of Engineers, the *[Maryland Emergency Management Agency (or) Delaware Emergency Management Agency (or) Virginia Department of Emergency Management]*, and your county emergency management office. I'm conducting a telephone survey of residents so that we can improve hurricane evacuation plans for people who live on the Delmarva Peninsula. This is a very important issue concerning public safety. May I please speak with the **(ROTATE)**:

1. Youngest male over 18
2. Oldest male
3. Youngest female over 18
4. Oldest female in your household?

My questions will only take a few minutes. Your responses are important to us so that we may have accurate information about hurricane preparedness. Before we begin, let me assure you everything you say will remain strictly confidential.

1. Do you live at this residence year-round?




- \_\_\_ Yes (**GO TO Q3**)  
 \_\_\_ No  
 \_\_\_ Other

2. Do you live here at least part of the time during the summer or fall?



- \_\_\_ Yes  
 \_\_\_ No (**THANK & TERMINATE**)  
 \_\_\_ Other (**THANK & TERMINATE**)

**IF "NO," TERMINATE THE INTERVIEW BY RESPONDING "THANK YOU FOR YOUR TIME, BUT WE ARE LOOKING FOR PEOPLE WHO ARE IN THIS REGION DURING THAT TIME FRAME. THANK YOU AGAIN. GOODBYE."**

3.  How many vehicles would be available in your household that you could use to evacuate?

\_\_\_ Number of vehicles (**IF 0, SKIP TO Q6; OTHERWISE GO TO Q4**)  
**(33 = DK) (RECORD "0" IF NO VEHICLES ARE AVAILABLE)**

4. How many vehicles would your household take if you evacuated? (**33 = DK**)  
**(RECORD "0" IF NO VEHICLES WOULD BE TAKEN)**

\_\_\_ Number of vehicles

5. If you evacuated, would you take a motor home or pull a trailer, boat, or camper?
- ☐ Yes  
☐ No  
☐ Other, (specify) \_\_\_\_\_  
☐ Don't know
6. In an evacuation would you or anyone in your household require assistance in evacuating?
- ☐ Yes  
☐ No **(SKIP TO Q10)**  
☐ Not sure **(SKIP TO Q10)**
7. Would the person just need transportation, or do they have a disability or medical problem that would require special assistance?
- ☐ Transportation only  
☐ Special need (disability or medical problem)  
☐ Both  
☐ Other, (specify) \_\_\_\_\_  
☐ Don't know
8. Would that assistance be provided by someone within your household, or by an outside agency, or by a friend or relative outside your household?
- ☐ Within household  
☐ Friend/relative (outside)  
☐ Outside agency  
☐ Other, (specify) \_\_\_\_\_  
☐ Don't know
9. Are you aware of any Special Needs Evacuation Centers where people from your community with certain handicaps or medical requirements could go during an evacuation?
- ☐ Yes  
☐ No  
☐ Other, (specify) \_\_\_\_\_  
☐ Don't know
10. In decided whether to evacuate outside your county when a hurricane threatened, would you have any concerns that you might try to evacuate but have the storm arrive while you were caught on the road because of heavy traffic?
- ☐ Yes  
☐ No **(SKIP TO Q12a)**  
☐ Don't Know/Depends  
☐ Other  
☐ (Specify) \_\_\_\_\_

11. If emergency management officials were able to monitor traffic on the roads so that they could reassure you that if you left at a certain time you would still have enough time to reach your destination before the storm arrived, would that make you more likely to leave?
- ☐ Yes  
☐ No  
☐ Don't Know/Depends  
☐ Other  
 (Specify) \_\_\_\_\_

I would like to describe three different hurricanes to you and have you tell me whether you think you would be affected by each of them.

- 12a. First I would like you to consider a hurricane with winds of 100 MPH. That would be a category 2 hurricane on the Saffir-Simpson scale used to rate hurricanes, and the scale has five categories, with five being the strongest. If a category 2 hurricane with 100 MPH winds made landfall near your location, do you believe storm surge or waves from the hurricane would cause water to enter your home?
- ☐ Yes (**Go to Q.12b**)  
☐ No (**Skip to Q. 12c**)  
☐ Don't Know/Depends (**Skip to Q.12c**)
- 12b. In a storm like that, a category 2 storm with winds of 100 MPH, do you believe the storm surge or waves reaching your home would be severe enough to pose a serious danger to your safety?
- ☐ Yes  
☐ No  
☐ Don't Know/Depends
- 12c. Considering both wind and water, do you think it would be safe for you to stay in your home if a category 2 hurricane with 100 MPH winds hit near your location?
- ☐ Yes  
☐ No  
☐ Don't Know/Depends
- 12d. In a category 2 hurricane with winds of 100 MPH, do you believe public safety officials in your county would issue a mandatory evacuation order requiring you to evacuate your home?
- ☐ Yes



- ☐ No
- ☐ Don't Know/Depends

- 13a. Now I would like you to consider a hurricane with winds of 125 MPH. That's a category 3 storm on the Saffir-Simpson hurricane intensity scale, which meteorologists would consider a dangerous, major hurricane. If a strong category 3 storm with winds of 125 MPH made landfall near your location, do you believe storm surge or waves from the hurricane would cause water to enter your home?

- ☐ Yes (**Go to Q.13b**)
- ☐ No (**Skip to Q.13c**)
- ☐ Don't Know/Depends (**Skip to Q.13c**)

- 13b. In a storm like that, a category 3 storm with winds of 125 MPH, do you believe the storm surge or waves reaching your home would be severe enough to pose a serious danger to your safety?

- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends

- 13c. Considering both wind and water, do you think it would be safe for you to stay in your home if a category 3 hurricane hit near your location with winds of 125 MPH?

- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends

- 13d. In a category 3 hurricane with winds of 125 MPH, do you believe public safety officials in your county would issue a mandatory evacuation order requiring you to evacuate your home?

- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends

- 14a. Finally, I would like you to consider a very strong hurricane with winds of 155 MPH. That would be a category 4 hurricane on the Saffir-Simpson scale, but it would be an extremely dangerous storm, and would almost be a category 5 on the scale. If a storm like that, a strong category 4 hurricane with winds of 155 MPH, made landfall near your location, do you believe storm surge or waves from the hurricane would cause water to enter your home?

- ☐ Yes (**Go to Q.14b**)
- ☐ No (**Skip to Q.14c**)
- ☐ Don't Know/Depends (**Skip to Q.14c**)

- 14b. In a storm like that, a strong category 4 storm with winds of 155 MPH, do you believe the storm surge or waves reaching your home would be severe enough to pose a serious danger to your safety?

- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends

14c. Considering both wind and water, do you think it would be safe for you to stay in your home if a strong category 4 hurricane with winds of 155 MPH hit near your location?


- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends

14d. In a strong category 4 storm with winds of 155 MPH, do you believe public safety officials in your county would issue a mandatory evacuation order requiring you to evacuate your home?

- ☐ Yes
- ☐ No
- ☐ Don't Know/Depends


**I would like for you to consider a possible situation that might exist in the future. With that in mind, please tell me what you would do in the following situations:**

15a. Suppose there's a **category 1** hurricane approaching from southeast of here. That's a category 1 storm on a scale that goes up to 5. The storm has **winds of 80 MPH**, and there's a hurricane WARNING in effect for your community and all of the Delmarva Peninsula. Officials have called for evacuation of all areas that would be flooded by a category 1 hurricane and also for all mobile homes. In that situation, do you think you would leave your home to go someplace safer?

- ☐ Yes
-  ☐ No (**SKIP TO Q16a**)
- ☐ Depends/Don't Know
- ☐ Other (specify) \_\_\_\_\_

15b. If you did evacuate, would you go to a public shelter, the home of a friend or relative, a hotel, or someplace else?

- ☐ Public shelter
- ☐ Friend or Relative
- ☐ Hotel/Motel
- ☐ Other Place (specify) \_\_\_\_\_
- ☐ Depends/Don't Know


15c.  Would that be located in your own neighborhood, or someplace else?

- ☐ Neighborhood (**SKIP TO Q16**)
- ☐ Somewhere Else
- ☐ Don't Know (**SKIP TO Q16**)




15d. In what city would that be located? **(If they cannot name a specific city, WRITE "NOT SURE")**

\_\_\_\_\_

15e. Is that **(ANSWER FROM Q15b)** located in your county?

-  \_\_\_\_\_ Yes **(SKIP TO Q16a)**  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know

15f. Is it located on the Delmarva Peninsula?

-  \_\_\_\_\_ Yes  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know


15g. In what state is that located?

- \_\_\_\_\_ Delaware  
 \_\_\_\_\_ Maryland  
 \_\_\_\_\_ Virginia  
 \_\_\_\_\_ D.C.  
 \_\_\_\_\_ Pennsylvania  
 \_\_\_\_\_ Other (specify) \_\_\_\_\_  
 \_\_\_\_\_ Don't Know

15h. What main highway (s) would you use when you evacuated? **(DO NOT READ, ACCEPT UP TO 3)**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ Don't Know

16a. Now suppose there's a strong **category 2** hurricane approaching from southeast of here; that's a category 2 storm on a scale that goes up to 5. The storm has **winds of 100 MPH**, and there's a hurricane WARNING in effect for all your community and all of the Delmarva Peninsula. Officials have called for the evacuation of all areas that would be flooded by a category 2 hurricane and also all mobile homes. In that situation, do you think you would leave your home to go someplace safer?

- \_\_\_\_\_ Yes  
 \_\_\_\_\_ No **(SKIP TO Q17a)**  
 \_\_\_\_\_ Depends/Don't Know  
 \_\_\_\_\_ Other (specify) \_\_\_\_\_

16b. If you did evacuate, would you go to a public shelter, the home of a friend or relative, a hotel, or someplace else?

- \_\_\_\_\_ Public shelter  
 \_\_\_\_\_ Friend or Relative

- ☐ Hotel/Motel  
☐ Other Place (specify) \_\_\_\_\_  
☐ Depends/Don't Know

16c. Would that be located in your own neighborhood, or someplace else?



- ☐ Neighborhood (**SKIP TO Q17a**)  
☐ Somewhere Else  
☐ Don't Know (**SKIP TO Q17a**)

16d. In what city would that be located? (**If they cannot name a specific city, WRITE "NOT SURE"**)

\_\_\_\_\_

16e. Is that (**ANSWER FROM Q16a**) located in your county?



- ☐ Yes (**SKIP TO Q17a**)  
☐ No  
☐ Don't Know

16f. Is it located on the Delmarva Peninsula?



- ☐ Yes  
☐ No  
☐ Don't Know

16g. In what state is that located?

- ☐ Delaware  
☐ Maryland  
☐ Virginia  
☐ D.C.  
☐ Pennsylvania  
☐ Other (specify) \_\_\_\_\_  
☐ Don't Know

16h. What main highway (s) would you use when you evacuated? (**ACCEPT UP TO 3**)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ Don't Know

- 17a. What if a **strong category 3** hurricane were approaching from southeast of here. That's a category 3 storm on a scale that goes up to 5. Meteorologists refer to a category 3 hurricane as a **major** hurricane. The storm has **winds of 125 MPH**, and there's a hurricane WARNING in effect for your community and for all of the Delmarva Peninsula. Officials have called for the evacuation of all areas that would be flooded by a category 3 hurricane and also for all mobile homes. In that situation, do you think you would leave your home to go someplace safer?



☐ Yes  
☐ No (**SKIP TO Q18**)  
☐ Depends/Don't Know  
☐ Other (specify) \_\_\_\_\_

- 17b. If you did evacuate, would you go to a public shelter, the home of a friend or relative, a hotel, or someplace else?

☐ Public shelter  
☐ Friend or Relative  
☐ Hotel/Motel  
☐ Other Place (specify) \_\_\_\_\_  
☐ Depends/Don't Know

- 17c. Would that be located in your own neighborhood, or someplace else?



☐ Neighborhood (**SKIP TO Q18**)  
☐ Somewhere Else  
☐ Don't Know (**SKIP TO Q18**)

- 17d. In what city would that be located? (**If they cannot name a specific city, WRITE "NOT SURE"**)

\_\_\_\_\_

- 17e. Is that (**ANSWER FROM Q17a**) located in your county?



☐ Yes (**SKIP TO Q18**)  
☐ No  
☐ Don't Know

- 17f. Is it located on the Delmarva Peninsula?



☐ Yes  
☐ No  
☐ Don't Know

- 17g. In what state is that located?

☐ Delaware  
☐ Maryland  
☐ Virginia  
☐ D.C.  
☐ Pennsylvania  
☐ Other (specify) \_\_\_\_\_

\_\_\_\_\_ Don't Know

- 17h. What main highway (s) would you use when you evacuated? **(ACCEPT UP TO 3)**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_ Don't Know

18. Suppose public safety officials arranged for public shelter space to be provided for evacuees from your community in an inland location off the Delmarva Peninsula, but in a different location than you would normally prefer to evacuate to. Would you be likely to go to that location to take advantage of the shelter being provided?

\_\_\_\_\_ Yes  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know/Depends  
 \_\_\_\_\_ Not Applicable – Wouldn't Evacuate  
 \_\_\_\_\_ Other (specify)\_\_\_\_\_

19. Do you know the location of the nearest public shelter to your home, where your household could take shelter in an evacuation **IF** you chose to do that?

\_\_\_\_\_ Yes  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know/Depends/Not Sure  
 \_\_\_\_\_ Other (specify)\_\_\_\_\_

20. Have you identified the safest location in your home to ride out a strong hurricane if you had to?

\_\_\_\_\_ Yes  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know/Not Sure

21. If officials advised you to use an evacuation route other than the one you would normally plan to use, in order to avoid congestion, would you be willing to do that, even if the recommended route required you to drive farther than you would normally drive to reach your destination?

\_\_\_\_\_ Yes  
 \_\_\_\_\_ Plan to do that anyhow  
 \_\_\_\_\_ No  
 \_\_\_\_\_ Don't Know/Depends  
 \_\_\_\_\_ Not Applicable – Wouldn't Evacuate  
 \_\_\_\_\_ Other (specify)\_\_\_\_\_

22. Do you and your family currently have a definite plan for deciding whether to evacuate and where to go if a hurricane threatened?

☐ Yes  
☐ No  
☐ Not very definite  
☐ Don't Know  
☐ Other (specify) \_\_\_\_\_

23. We're interested in how you would get most of your information about a hurricane that could threaten this area - where the storm was; when it was going to hit; how severe it was. I'm going to list a number of different ways you might get information, and I'd like you to tell me whether you would rely upon that source none at all (0), a little (1), a fair amount (2), or a great deal (3). **(READ & ROTATE)**

|   | None | Little | Fair<br>Amount | Great<br>Deal |   |
|---|------|--------|----------------|---------------|---|
| a | 0    | 1      | 2              | 3             | Local radio stations                                |
| b | 0    | 1      | 2              | 3             | Local television stations                           |
| c | 0    | 1      | 2              | 3             | CNN on cable or satellite                           |
| d | 0    | 1      | 2              | 3             | The Weather Channel on cable or satellite           |
| e | 0    | 1      | 2              | 3             | Other TV stations on cable or satellite             |
| f | 0    | 1      | 2              | 3             | The Internet  |
| g | 0    | 1      | 2              | 3             | Services like America Online (AOL) or<br>Compuserve |
| h | 0    | 1      | 2              | 3             | Word of mouth                                       |

24. Do you have any kind of window protection such as storm shutters, security film, or plywood sheets designed to protect your windows during a strong hurricane?

☐ Yes  
☐ No **(SKIP TO Q27)**  
☐ Don't Know/Not Sure **(SKIP TO Q28)**

25. What kind of protection is it? **(ACCEPT UP TO 3 ANSWERS)**

☐ Permanent roll-down metal panels  
☐ Removable metal panels  
☐ Plywood sheets  
☐ Security Film  
☐ Impact-resistant glass  
☐ Other (specify) \_\_\_\_\_  
☐ Don't Know/Not Sure



26. About what percentage of the total window and sliding glass door area of your home is protected?
- ☐ Less than half (less than 50%)
  - ☐ About half (50%)
  - ☐ More than half, but not all (51% to 99%)
  - ☐ All (100%)
  - ☐ Other (specify) \_\_\_\_\_
  - ☐ Don't know

**➡ IF ANSWERING Q26, SKIP TO Q28**

27. If not, why not? (**CATEGORIZE**)
- ☐ Don't need it
  - ☐ Too expensive
  - ☐ Don't think it works
  - ☐ Don't have enough time to do it
  - ☐ Other (specify) \_\_\_\_\_
  - ☐ Don't know
28. About how much do you think window protection such as storm shutters would cost per window? (**PAUSE - READ IF NECESSARY**)
- ☐ Under \$10
  - ☐ \$10 to \$50
  - ☐ \$51 to \$100
  - ☐ \$101 to \$200
  - ☐ \$201 to \$500
  - ☐ Over \$500
  - ☐ Don't Know/Not Sure
29. Do you believe window protection like that would mainly just prevent the windows from breaking and reduce the danger of flying glass, or do you believe they would also significantly reduce the total damage your house would suffer in other ways?
- ☐ Mainly Windows
  - ☐ Total Damage Also
  - ☐ Don't Know/Not Sure
30. Other than window protection, what permanent improvements, if any, have you made to your home to reduce the damage to your property in a hurricane? (**CATEGORIZE**) (**PROBE UP TO 2**)
- a ☐ Roof/truss Strengthening
  - b ☐ Door/Garage Door Protection
  - c ☐ Flood proofing/Elevation on Pilings/Stilts
  - d ☐ Other (specify) \_\_\_\_\_
  - e ☐ None
  - f ☐ Don't Know/Not Sure
31. Is your home or building elevated on pilings, a special foundation, or fill material to raise it above flood water?
- ☐ Yes
  - ☐ No
  - ☐ Don't Know/Not Sure

32. How much money have you spent on changes to your home to make it stronger or safer from hurricanes and other coastal storms? **(99999=DK)**  
\$ \_\_\_\_\_ .00
33. If your homeowners insurance company offered to reduce the price of your insurance premium by 15% if you were to make your home stronger by installing permanent window protection such as storm shutters, would you be willing to do it?  
**(IF NO, PROBE WHY NOT)**  
☐ Yes  
☐ No, already have window protection  
☐ No, would cost more than it saved  
☐ No, would look unattractive  
☐ No, don't need them in this area  
☐ No, don't own home  
☐ No, other (specify) \_\_\_\_\_  
☐ Depends on Cost/Savings  
☐ Don't Know
34. What was the most damage, in dollars, you've ever experienced to your property as the result of a hurricane or other coastal storm?  
☐ None  
☐ Less than \$1,000  
☐ \$1,000 to \$4,999  
☐ \$5,000 to \$9,999  
☐ \$10,000 to \$24,999  
☐ \$25,000 to \$49,999  
☐ \$50,000 or more  
☐ Don't Know/Refused



**NOW WE HAVE JUST A FEW MORE QUESTIONS FOR BACKGROUND PURPOSES ONLY.**

35. Which of the following types of structures do you live in? Do you live in a:  
**(READ)**  
☐ Detached single family home?  
☐ Duplex, triplex, quadraplex home?  
☐ Multi-family building -- 4 stories or less? (Apartment/condo)  
☐ Multi-family building -- more than 4 stories (Apartment/condo)  
☐ Mobile home  
☐ Manufactured house  
☐ Some other type of structure (specify) \_\_\_\_\_  
☐ Don't Know  
☐ Refused

**➡ IF ANSWER IS NOT MOBILE HOME OR MANUFACTURED HOUSE, GO TO Q 36**

- 35a. In what year did you buy your Mobile Home or Manufactured House?  
**(2222=Don't Know)**

\_\_\_\_\_

36. How old were you on your last birthday?  
 \_\_\_\_ Number of years (**111 = DK**) (**112=REFUSED**)
37. How long have you lived in your present home? (**ROUND UP**) (**111 = DK**)  
 (**112=REFUSED**)  
 \_\_\_\_ Number of years
38. How long have you lived on the Delmarva Peninsula? (**ROUND UP**) (**111 = DK**) (**112=REFUSED**)  
 \_\_\_\_ Number of years
39. How many people live in your household, including yourself? (**33 = DK**)  
 (**34=REFUSED**)  
 \_\_\_\_ Number of people (**IF 1, SKIP TO Q41**)
40. How many of these are children, 17 or younger? (**33 = DK**) (**34=REFUSED**)  
 \_\_\_\_ Number of children
41. Do you own your home or rent?  
 \_\_\_\_ Own  
 \_\_\_\_ Rent  
 \_\_\_\_ Other (specify)\_\_\_\_\_
42. Do you have any pets?  
 \_\_\_\_ Yes  
 \_\_\_\_ No (**SKIP TO Q43**)  
 \_\_\_\_ Refused (**SKIP TO Q43**)
- 42a. What would you do with your pets during a hurricane evacuation?  
 \_\_\_\_ Stay behind with them  
 \_\_\_\_ Take them to our destination with us  
 \_\_\_\_ Leave them at home  
 \_\_\_\_ Board them  
 \_\_\_\_ Leave them with a friend  
 \_\_\_\_ Leave some, take some  
 \_\_\_\_ Don't know  
 \_\_\_\_ Refused  
 \_\_\_\_ Other (specify)\_\_\_\_\_
- 42b. Are you aware that public shelters don't allow pets inside?  
 \_\_\_\_ Yes  
 \_\_\_\_ No

43. Do you own a boat that you would need to move or secure if a hurricane threatened this area?

☐ Yes  
☐ No **(SKIP TO Q44)**  
☐ Refused **(SKIP TO Q44)**

- 43a. Do you keep it on your property where you live or is it stored or docked someplace else?

☐ On property  
☐ Someplace else  
☐ DK/Refused

44. Which race or ethnic background best describes you? **(READ)**

☐ African American or Black  
☐ Asian  
☐ Caucasian or White  
☐ Hispanic  
☐ American Indian  
☐ Other (specify) \_\_\_\_\_  
☐ Refused

45. Which of the following ranges best describes your total household income for the year 2001? **(READ)**

☐ Less than \$12,000  
☐ \$12,000 to \$24,999  
☐ \$25,000 to \$39,999  
☐ \$40,000 to \$79,999  
☐ Over \$80,000  
☐ Refused

46. Which category best describes your education level?

☐ Some high school  
☐ High school graduate  
☐ Some college  
☐ College graduate  
☐ Post graduate  
☐ Refused

**Thank you so much. In case my supervisor would like to check on my work, may I get your first name only?**

47. \_\_\_\_\_

#### **RECORD INTERVIEW INFORMATION ON RESPONDENT DISPOSITION SHEET**

48. Sex of respondent ☐ Male ☐ Female

49. Interviewer Name \_\_\_\_\_
50. Date of survey \_\_\_\_\_
51. Phone number \_\_\_\_\_
52. Risk Zone \_\_\_\_\_ 1= Cat 1  
2= Cat 2  
3= Cat 3  
4= Cat 4  
5=Non-surge
53. State  
1=Delaware  
2=Maryland  
3=Virginia
54. Survey Location  
1=Delaware Bay, N. of Rehoboth B.  
2=Delaware Atlantic Beaches  
3=Delaware Atlantic Mainland  
4=Ocean City Beaches  
5=Ocean City Mainland  
6=Southern Peninsula (Crisfield to Chincoteague, south)  
7=Chesapeake Bay (N. of Crisfield)  
8=Non-surge

**Interviewer please record gender, risk zone, state, survey location, your name, & date completed on back.**

## Appendix E





[illegible]



[illegible]



|    |                            |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |    |    |    |     |     |      |      |
|----|----------------------------|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|----|----|----|-----|-----|------|------|
|    |                            |  | 1%   | 50%  | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 60%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 25 | South Toms River borough   |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 60%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 26 | Beachwood borough          |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 60%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 34 | Pine Beach borough         |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 32 | Ocean Gate borough         |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 33 | Berkeley township          |  | 2%   | 70%  | 50%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 34 | Berkeley township          |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 2%   | 70%  | 50%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90% | 1% | 1% | 0% | 0%  | 99% | 99%  | 100% |
| 35 | Lacey township             |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 36 | Lacey township             |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 37 | Ocean township             |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 38 | Ocean township             |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 39 | Barnegat township          |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 40 | Barnegat township          |  | 2%   | 70%  | 50%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 41 | Stafford township          |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 2%   | 70%  | 50%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 42 | Stafford township          |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 43 | Englewood township         |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 44 | Englewood township         |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 100% | 100% | 80%  | 70%  | 60%  | 50%  | 20%  | 30%  | 40%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
| 45 | Little Egg Harbor township |  | 1%   | 50%  | 50%  | 2%   | 70%  | 70%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75%  | 65%  | 50%  | 40%  | 25%  | 35%  | 45%  | 50%  | 70%  | 90%  | 1%  | 1% | 0% | 0% | 99% | 99% | 100% | 100% |
|    |                            |  | 1%   | 50%  | 50%  | 1%   | 70%  | 70%  | 2%   | 100% | 100% | 100% | 100% | 1    |      |      |      |      |      |      |      |      |      |      |      |     |    |    |    |     |     |      |      |



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|                      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |     |      |      |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|------|------|
|                      | 1%   | 50%  | 33%  | 5%   | 70%  | 47%  | 100% | 100% | 100% | 100% | 100% | 100% | 70% | 60% | 50% | 40% | 20% | 30% | 40% | 50% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
|                      | 1%   | 50%  | 33%  | 1%   | 70%  | 47%  | 2%   | 100% | 50%  | 100% | 100% | 100% | 80% | 70% | 60% | 50% | 20% | 30% | 40% | 50% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
| 29                   | 1%   | 50%  | 33%  | 1%   | 70%  | 47%  | 2%   | 100% | 50%  | 100% | 100% | 100% | 80% | 70% | 60% | 50% | 15% | 20% | 30% | 40% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
|                      | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 70% | 60% | 50% | 40% | 30% | 20% | 50% | 80% | 80% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
| STOW CREEK TWP-NORTH | 2%   | 70%  | 50%  | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 70% | 60% | 50% | 40% | 20% | 30% | 40% | 50% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
|                      | 1%   | 50%  | 33%  | 5%   | 70%  | 47%  | 100% | 100% | 100% | 100% | 100% | 100% | 70% | 60% | 50% | 40% | 20% | 30% | 40% | 50% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
|                      | 1%   | 50%  | 33%  | 1%   | 70%  | 47%  | 2%   | 100% | 50%  | 100% | 100% | 100% | 80% | 70% | 60% | 50% | 20% | 30% | 40% | 50% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |
|                      | 1%   | 50%  | 33%  | 1%   | 70%  | 47%  | 2%   | 100% | 50%  | 100% | 100% | 100% | 80% | 70% | 60% | 50% | 10% | 20% | 30% | 40% | 70% | 90% | 1% | 1% | 0% | 0% | 90% | 90% | 100% | 100% |



|    |                         |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|----|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1  | ELMSBRO TWP             | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 70%    | 5%     | 5%     | 5%     | 30%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 70%    | 5%     | 5%     | 5%     | 30%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 70%    | 5%     | 5%     | 5%     | 30%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 70%    | 5%     | 5%     | 5%     | 30%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 2  | LOWER ALLOWAYS CREEK TW | 2%     | 10%    | 80%    | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 5%     | 70%    | 47%    | 47%    | 100%   | 100%   | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 3  | QUINTON TWP             | 2%     | 10%    | 80%    | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 4  | ALLOWAY TWP             | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5  | PLESGROVE TWP           | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 6  | WOODSTOWN BORO          | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 7  | UPPER PITTSBURGH TWP    | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 8  | ELMER BORO              | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 9  | PITTSBURGH TWP          | 2%     | 10%    | 80%    | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|    |                         | 1%     | 50%    | 33%    | 1%     | 70%    | 47%    | 2%     | 100%   | 50%    | 100%   | 100%   | 100%   | 95%    | 95%    | 95%    | 95%    | 10%    | 15%    | 15%    | 25%    | 35%    | 70%    | 95%    | 1%     | 1%     | 0%     | 0%     | 99%    | 99%    | 100%   | 100%   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 10 | UNION EVACUATION AREAS  | Part 1 | Part 1 | Part 1 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 | Part 2 |

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## **Appendix F**

| CAPE MAY COUNTY<br>EVACUATION STATISTICS DATA<br>New Jersey Hurricane Evacuation Reentry 2005 |                          | LEGEND:                   | - CAT 1                  | - CAT 2                   | - CAT 3                  | - CAT 4                   | - INLAND                 |                           |                          |                           |                          |                           |                          |                           |                          |                           |                                    |                              |                             |                              |                             |                              |                             |                              |                             |                              |                             |                              |                                   |                                    |                                   |                                    |                                   |                                    |                                   |                                    |       |       |  |
|---|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|------------------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------------------|-----------------------------------|------------------------------------|-------|-------|--|
| EVACUATION AREAS  | Evacuating People        |                           |                          |                           |                          |                           |                          |                           | Evacuating Vehicles      |                           |                          |                           |                          |                           |                          |                           | Eve Vehicles to Local Destinations |                              |                             |                              |                             |                              |                             |                              |                             |                              |                             |                              | Eve Vehicles to Out of County     |                                    |                                   |                                    |                                   |                                    |                                   |                                    |       |       |  |
|   | Cat 1<br>Evac Pop<br>Low | Cat 1<br>Evac Pop<br>High | Cat 2<br>Evac Pop<br>Low | Cat 2<br>Evac Pop<br>High | Cat 3<br>Evac Pop<br>Low | Cat 3<br>Evac Pop<br>High | Cat 4<br>Evac Pop<br>Low | Cat 4<br>Evac Pop<br>High | Cat 1<br>Evac Veh<br>Low | Cat 1<br>Evac Veh<br>High | Cat 2<br>Evac Veh<br>Low | Cat 2<br>Evac Veh<br>High | Cat 3<br>Evac Veh<br>Low | Cat 3<br>Evac Veh<br>High | Cat 4<br>Evac Veh<br>Low | Cat 4<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low        | Low Dest<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low | Low Dest<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low | Low Dest<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low | Low Dest<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low | Low Dest<br>Evac Veh<br>High | Low Dest<br>Evac Veh<br>Low | Low Dest<br>Evac Veh<br>High | Out of County<br>Veh Cat 1<br>Low | Out of County<br>Veh Cat 1<br>High | Out of County<br>Veh Cat 2<br>Low | Out of County<br>Veh Cat 2<br>High | Out of County<br>Veh Cat 3<br>Low | Out of County<br>Veh Cat 3<br>High | Out of County<br>Veh Cat 4<br>Low | Out of County<br>Veh Cat 4<br>High |       |       |  |
| 1   | 36                       | 152                       | 421                      | 616                       | 421                      | 616                       | 421                      | 616                       | 22                       | 100                       | 206                      | 336                       | 206                      | 336                       | 336                      | 206                       | 336                                | 2,252                        | 2,249                       | 1,508                        | 1,507                       | 1,563                        | 1,563                       | 1,563                        | 1,563                       | 1,563                        | 1,563                       | 1,563                        | 1,563                             | 1,563                              | 1,563                             | 1,563                              | 1,563                             | 1,563                              | 1,563                             | 1,563                              | 1,563 | 1,563 |  |
| OC-NORTH  | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                                  | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0     |       |  |
| OC-CENTRAL  | 6,172                    | 10,323                    | 6,172                    | 10,323                    | 6,172                    | 10,323                    | 6,172                    | 10,323                    | 3,685                    | 6,639                     | 3,685                    | 6,639                     | 3,685                    | 6,639                     | 3,685                    | 6,639                     | 3,685                              | 6,639                        | 2,292                       | 2,292                        | 1,794                       | 1,794                        | 1,794                       | 1,794                        | 1,794                       | 1,794                        | 1,794                       | 1,794                        | 1,794                             | 1,794                              | 1,794                             | 1,794                              | 1,794                             | 1,794                              | 1,794                             | 1,794                              | 1,794 |       |  |
| OC-SOUTH  | 2,592                    | 5,145                     | 2,592                    | 5,145                     | 2,592                    | 5,145                     | 2,592                    | 5,145                     | 1,620                    | 3,445                     | 1,620                    | 3,445                     | 1,620                    | 3,445                     | 1,620                    | 3,445                     | 1,620                              | 3,445                        | 943                         | 862                          | 724                         | 742                          | 599                         | 600                          | 480                         | 480                          | 480                         | 480                          | 480                               | 480                                | 480                               | 480                                | 480                               | 480                                | 480                               | 480                                | 480   |       |  |
| UPPER TWP-MEADOWS   | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                                  | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0     |       |  |
| STRATHMERE  | 446                      | 1,621                     | 446                      | 1,621                     | 446                      | 1,621                     | 446                      | 1,621                     | 307                      | 1,184                     | 307                      | 1,184                     | 307                      | 1,184                     | 307                      | 1,184                     | 307                                | 1,184                        | 75                          | 92                           | 92                          | 73                           | 52                          | 52                           | 42                          | 42                           | 42                          | 42                           | 42                                | 42                                 | 42                                | 42                                 | 42                                | 42                                 | 42                                | 42                                 | 42    |       |  |
| SEA ISLE-NORTH  | 944                      | 2,559                     | 944                      | 2,559                     | 944                      | 2,559                     | 944                      | 2,559                     | 546                      | 1,611                     | 546                      | 1,611                     | 546                      | 1,611                     | 546                      | 1,611                     | 546                                | 1,611                        | 213                         | 223                          | 163                         | 163                          | 150                         | 150                          | 120                         | 120                          | 120                         | 120                          | 120                               | 120                                | 120                               | 120                                | 120                               | 120                                | 120                               | 120                                |       |       |  |
| SEA ISLE-SOUTH  | 2,600                    | 6,038                     | 2,600                    | 6,038                     | 2,600                    | 6,038                     | 2,600                    | 6,038                     | 1,036                    | 3,076                     | 1,036                    | 3,076                     | 1,036                    | 3,076                     | 1,036                    | 3,076                     | 1,036                              | 3,076                        | 4,076                       | 730                          | 760                         | 827                          | 851                         | 916                          | 917                         | 474                          | 474                         | 474                          | 474                               | 474                                | 474                               | 474                                | 474                               | 474                                | 474                               | 474                                | 474   |       |  |
| DENNIS TWP-MEADOWS  | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                                  | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0     |       |  |
| AVAILON   | 352                      | 1,899                     | 1,244                    | 3,622                     | 1,344                    | 3,622                     | 1,344                    | 3,622                     | 224                      | 1,161                     | 779                      | 2,340                     | 779                      | 2,340                     | 779                      | 2,340                     | 779                                | 2,340                        | 8                           | 19                           | 276                         | 282                          | 230                         | 231                          | 188                         | 189                          | 216                         | 1143                         | 563                               | 2,048                              | 549                               | 2,169                              | 551                               | 2,151                              | 551                               | 2,151                              |       |       |  |
| MIDDLE TWP-MEADOWS-NORTH  | 310                      | 1,070                     | 310                      | 1,070                     | 310                      | 1,070                     | 310                      | 1,070                     | 208                      | 600                       | 208                      | 600                       | 208                      | 600                       | 208                      | 600                       | 208                                | 600                          | 75                          | 80                           | 107                         | 107                          | 83                          | 83                           | 64                          | 64                           | 64                          | 64                           | 64                                | 64                                 | 64                                | 64                                 | 64                                | 64                                 | 64                                | 64                                 | 64    |       |  |
| STONE HARBOR  | 1280                     | 3,343                     | 1,280                    | 3,343                     | 1,280                    | 3,343                     | 1,280                    | 3,343                     | 864                      | 2,397                     | 864                      | 2,397                     | 864                      | 2,397                     | 864                      | 2,397                     | 864                                | 2,397                        | 361                         | 376                          | 310                         | 325                          | 255                         | 255                          | 204                         | 204                          | 204                         | 204                          | 204                               | 204                                | 204                               | 204                                | 204                               | 204                                | 204                               | 204                                |       |       |  |
| MIDDLE TWP-MEADOWS-CENTRAL  | 195                      | 812                       | 195                      | 812                       | 195                      | 812                       | 195                      | 812                       | 134                      | 543                       | 134                      | 543                       | 134                      | 543                       | 134                      | 543                       | 134                                | 543                          | 29                          | 33                           | 25                          | 29                           | 20                          | 20                           | 16                          | 16                           | 16                          | 16                           | 16                                | 16                                 | 16                                | 16                                 | 16                                | 16                                 | 16                                | 16                                 |       |       |  |
| MIDDLE TWP-CMCH, PKWY. EAST   | 346                      | 1,118                     | 346                      | 1,118                     | 346                      | 1,118                     | 346                      | 1,118                     | 174                      | 580                       | 174                      | 580                       | 174                      | 580                       | 174                      | 580                       | 174                                | 580                          | 57                          | 61                           | 49                          | 53                           | 40                          | 40                           | 32                          | 32                           | 32                          | 32                           | 32                                | 32                                 | 32                                | 32                                 | 32                                | 32                                 | 32                                | 32                                 | 32    |       |  |
| MIDDLE TWP-MEADOWS-SOUTH  | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                                  | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0     |       |  |
| NORTH WILDWOOD  | 148                      | 795                       | 1,011                    | 1,871                     | 893                      | 1,871                     | 893                      | 1,871                     | 96                       | 479                       | 432                      | 1,074                     | 432                      | 1,074                     | 432                      | 1,074                     | 432                                | 1,074                        | 186                         | 193                          | 156                         | 157                          | 128                         | 128                          | 98                          | 98                           | 98                          | 98                           | 98                                | 98                                 | 98                                | 98                                 | 98                                | 98                                 | 98                                | 98                                 | 98    |       |  |
| WILDWOOD  | 5,693                    | 10,249                    | 5,693                    | 10,249                    | 5,693                    | 10,249                    | 5,693                    | 10,249                    | 2,256                    | 5,037                     | 2,256                    | 5,037                     | 2,256                    | 5,037                     | 2,256                    | 5,037                     | 2,256                              | 5,037                        | 1,136                       | 1,164                        | 975                         | 1,003                        | 807                         | 807                          | 646                         | 646                          | 646                         | 646                          | 646                               | 646                                | 646                               | 646                                | 646                               | 646                                | 646                               | 646                                | 646   |       |  |
| WILDWOOD CREST  | 230                      | 1,118                     | 1,631                    | 3,109                     | 1,631                    | 3,109                     | 1,631                    | 3,109                     | 146                      | 723                       | 880                      | 1,861                     | 880                      | 1,861                     | 880                      | 1,861                     | 880                                | 1,861                        | 11                          | 17                           | 436                         | 446                          | 367                         | 367                          | 300                         | 301                          | 135                         | 796                          | 554                               | 1,405                              | 563                               | 1,484                              | 580                               | 1,560                              | 580                               | 1,560                              |       |       |  |
| WEST WILDWOOD   | 759                      | 2,321                     | 759                      | 2,321                     | 759                      | 2,321                     | 759                      | 2,321                     | 464                      | 1,426                     | 464                      | 1,426                     | 464                      | 1,426                     | 464                      | 1,426                     | 464                                | 1,426                        | 171                         | 181                          | 147                         | 157                          | 121                         | 121                          | 97                          | 97                           | 97                          | 97                           | 97                                | 97                                 | 97                                | 97                                 | 97                                | 97                                 | 97                                | 97                                 | 97    |       |  |
| LOWER TWP-SHAWCREST   | 307                      | 629                       | 307                      | 629                       | 307                      | 629                       | 307                      | 629                       | 222                      | 584                       | 222                      | 584                       | 222                      | 584                       | 222                      | 584                       | 222                                | 584                          | 101                         | 105                          | 97                          | 97                           | 72                          | 72                           | 57                          | 57                           | 57                          | 57                           | 57                                | 57                                 | 57                                | 57                                 | 57                                | 57                                 | 57                                | 57                                 | 57    |       |  |
| LOWER TWP-BEACH   | 721                      | 2,709                     | 721                      | 2,709                     | 721                      | 2,709                     | 721                      | 2,709                     | 428                      | 1,703                     | 428                      | 1,703                     | 428                      | 1,703                     | 428                      | 1,703                     | 428                                | 1,703                        | 110                         | 93                           | 97                          | 87                           | 68                          | 53                           | 54                          | 331                          | 1,593                       | 345                          | 1,606                             | 361                                | 1,605                             | 375                                | 1,649                             | 375                                | 1,649                             |                                    |       |       |  |
| LOWER TWP-MEADOWS   | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                        | 0                         | 0                                  | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                           | 0                            | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  | 0                                 | 0                                  |       |       |  |
| CAPE MAY  | 213                      | 980                       | 2,225                    | 3,471                     | 2,225                    | 3,471                     | 1,98                     | 858                       | 1,073                    | 1,939                     | 1,073                    | 1,939                     | 1,073                    | 1,939                     | 1,073                    | 1,939                     | 1,073                              | 1,939                        | 407                         | 414                          | 349                         | 356                          | 290                         | 289                          | 231                         | 231                          | 231                         | 231                          | 231                               | 231                                | 231                               | 231                                | 231                               | 231                                | 231                               | 231                                |       |       |  |
| WEST CAPE MAY   | 64                       | 251                       | 968                      | 968                       | 668                      | 968                       | 968                      | 968                       | 317                      | 1,150                     | 317                      | 1,150                     | 317                      | 1,150                     | 317                      | 1,150                     | 317                                | 1,150                        | 7                           | 9                            | 178                         | 178                          | 149                         | 149                          | 121                         | 122                          | 121                         | 121                          | 121                               | 121                                | 121                               | 121                                | 121                               | 121                                | 121                               | 121                                |       |       |  |
| CAPE MAY POINT AREA   | 37                       | 172                       | 320                      | 445                       | 250                      | 445                       | 220                      | 445                       | 37                       | 128                       | 140                      | 309                       | 140                      | 309                       | 3                        | 4                         | 86                                 | 86                           | 56                          | 56                           | 46                          | 46                           | 36                          | 36                           | 30                          | 30                           | 30                          | 30                           | 30                                | 30                                 | 30                                | 30                                 | 30                                | 30                                 | 30                                | 30                                 |       |       |  |
| LOWER TWP-SOUTH CANAL   | 313                      | 1,286                     | 313                      | 1,286                     | 313                      | 1,286                     | 313                      | 1,286                     | 169                      | 718                       | 169                      | 718                       | 169                      | 718                       | 169                      | 718                       | 169                                | 718                          | 30                          | 41                           | 30                          | 35                           | 25                          | 25                           | 20                          | 20                           | 20                          | 20                           | 20                                | 20                                 | 20                                | 20                                 | 20                                | 20                                 | 20                                | 20                                 | 20    |       |  |
| LOWER TWP-INLAND  | 517                      | 1,142                     | 517                      | 1,142                     | 517                      | 1,142                     | 517                      | 1,142                     | 279                      | 789                       | 279                      | 789                       | 279                      | 789                       | 279                      | 789                       | 279                                | 789                          | 114                         | 120                          | 98                          | 104                          | 81                          | 81                           | 64                          | 64                           | 64                          | 64                           | 64                                | 64                                 | 64                                | 64                                 | 64                                | 64                                 | 64                                | 64                                 | 64    |       |  |
| LOWER TWP-DELAWARE BAY  | 96                       | 306                       | 249                      | 610                       | 249                      | 610                       | 249                      | 610                       | 50                       | 172                       | 50                       | 172                       | 50                       | 172                       | 50                       | 172                       | 50                                 | 172                          | 12                          | 13                           | 44                          | 46                           | 38                          | 38                           | 33                          | 33                           | 33                          | 33                           | 33                                | 33                                 | 33                                | 33                                 | 33                                | 33                                 | 33                                | 33                                 | 33    |       |  |
| MIDDLE TWP-INLAND-SOUTH   | 293                      | 967                       | 860                      | 1,020                     | 860                      | 1,020                     | 860                      | 1,020                     | 124                      | 172                       | 462                      | 562                       | 462                      | 562                       | 462                      | 562                       | 462                                | 562                          | 85                          | 95                           | 236                         | 237                          | 200                         | 200                          | 164                         | 163                          | 38                          | 87                           | 146                               | 225                                | 162                               | 259                                | 218                               | 286                                | 218                               | 286                                |       |       |  |

|                            |     |       |       |       |       |       |       |       |       |       |     |       |     |       |       |       |     |     |     |     |     |     |     |     |       |       |       |     |       |     |       |     |     |
|----------------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-----|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-----|-------|-----|-------|-----|-----|
|                            | 315 | 389   | 467   | 571   | 1,340 | 1,561 | 1,340 | 1,561 | 138   | 179   | 204 | 263   | 562 | 708   | 562   | 708   | 96  | 96  | 124 | 124 | 304 | 303 | 249 | 249 | 42    | 83    | 80    | 139 | 278   | 405 | 333   | 480 |     |
|                            | 295 | 329   | 362   | 467   | 602   | 814   | 2,041 | 2,264 | 112   | 154   | 164 | 214   | 278 | 281   | 882   | 1,010 | 82  | 82  | 96  | 96  | 124 | 123 | 426 | 426 | 30    | 72    | 56    | 115 | 19    | 160 | 446   | 264 |     |
|                            | 13  | 21    | 16    | 28    | 25    | 38    | 43    | 56    | 6     | 11    | 7   | 14    | 11  | 18    | 19    | 26    | 4   | 4   | 4   | 5   | 6   | 6   | 10  | 10  | 2     | 7     | 3     | 9   | 5     | 12  | 9     | 16  |     |
|                            | 219 | 853   | 219   | 933   | 2,219 | 833   | 2,219 | 833   | 179   | 333   | 219 | 508   | 119 | 508   | 119   | 508   | 119 | 124 | 18  | 11  | 13  | 13  | 14  | 14  | 2     | 7     | 4     | 10  | 7     | 14  | 10    | 17  |     |
| MIDDLE TWP-DEL BAY SOUTH   | 71  | 866   | 7,556 | 1,712 | 1,356 | 1,712 | 1,356 | 1,712 | 39    | 84    | 879 | 764   | 879 | 764   | 879   | 764   | 16  | 17  | 426 | 430 | 363 | 363 | 297 | 297 | 17    | 47    | 250   | 334 | 316   | 401 | 392   | 497 |     |
|                            | 2   | 7     | 8     | 15    | 140   | 153   | 140   | 153   | 1     | 4     | 4   | 7     | 61  | 68    | 61    | 68    | 0   | 1   | 2   | 2   | 33  | 32  | 27  | 26  | 1     | 3     | 2     | 5   | 28    | 36  | 34    | 42  |     |
|                            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0   | 0     | 0   | 1     | 1   |     |
|                            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0   |     |
| 30                         | 238 | 970   | 238   | 970   | 238   | 970   | 238   | 970   | 127   | 517   | 127 | 517   | 127 | 517   | 127   | 517   | 127 | 517 | 27  | 31  | 127 | 127 | 23  | 28  | 18    | 19    | 15    | 15  | 100   | 486 | 104   | 489 | 109 |
| MIDDLE TWP-INLAND-CENTRAL  | 74  | 117   | 696   | 767   | 696   | 767   | 696   | 767   | 36    | 58    | 333 | 311   | 333 | 371   | 333   | 371   | 23  | 17  | 23  | 211 | 211 | 178 | 178 | 146 | 146   | 13    | 36    | 122 | 166   | 166 | 193   | 187 | 205 |
|                            | 73  | 112   | 130   | 186   | 901   | 1,020 | 901   | 1,020 | 36    | 56    | 63  | 92    | 432 | 435   | 432   | 485   | 24  | 23  | 37  | 36  | 230 | 230 | 188 | 188 | 12    | 33    | 26    | 56  | 202   | 260 | 244   | 307 |     |
|                            | 114 | 160   | 154   | 219   | 223   | 252   | 1,711 | 1,850 | 56    | 79    | 74  | 108   | 107 | 144   | 816   | 852   | 40  | 39  | 46  | 47  | 59  | 59  | 400 | 400 | 15    | 40    | 28    | 62  | 48    | 85  | 418   | 492 |     |
|                            | 22  | 30    | 29    | 41    | 42    | 55    | 49    | 62    | 10    | 15    | 14  | 21    | 20  | 27    | 24    | 31    | 8   | 8   | 10  | 11  | 13  | 13  | 14  | 14  | 2     | 7     | 4     | 10  | 7     | 14  | 10    | 17  |     |
| 31                         | 191 | 947   | 161   | 947   | 161   | 947   | 161   | 947   | 99    | 486   | 99  | 486   | 99  | 486   | 99    | 486   | 9   | 11  | 99  | 7   | 10  | 5   | 1   | 2   | 4     | 91    | 275   | 92  | 476   | 94  | 481   | 56  | 482 |
|                            | 25  | 57    | 151   | 174   | 151   | 174   | 151   | 174   | 16    | 75    | 66  | 93    | 66  | 75    | 66    | 93    | 7   | 46  | 46  | 26  | 39  | 37  | 32  | 32  | 4     | 11    | 27    | 25  | 34    | 46  | 45    | 53  |     |
| MIDDLE TWP-DEL BAY CENTRAL | 2   | 3     | 3     | 5     | 20    | 24    | 20    | 24    | 1     | 1     | 2   | 2     | 10  | 12    | 10    | 12    | 1   | 0   | 1   | 0   | 5   | 6   | 4   | 5   | 0     | 1     | 1     | 2   | 5     | 6   | 6     | 7   |     |
|                            | 4   | 5     | 5     | 7     | 0     | 9     | 42    | 48    | 2     | 3     | 2   | 4     | 3   | 5     | 21    | 23    | 1   | 2   | 1   | 2   | 1   | 2   | 10  | 10  | 0     | 1     | 1     | 2   | 2     | 3   | 11    | 13  |     |
|                            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0   |     |
| 32                         | 260 | 1,034 | 264   | 1,034 | 264   | 1,034 | 264   | 1,034 | 40    | 127   | 140 | 140   | 127 | 140   | 127   | 140   | 36  | 40  | 31  | 35  | 35  | 26  | 30  | 20  | 104   | 107   | 109   | 406 | 110   | 502 | 126   | 503 |     |
| MIDDLE TWP-INLAND-NORTH    | 26  | 103   | 1,195 | 1,248 | 1,195 | 1,248 | 1,195 | 1,248 | 37    | 52    | 560 | 601   | 560 | 601   | 560   | 601   | 16  | 17  | 356 | 358 | 263 | 263 | 248 | 248 | 11    | 36    | 255   | 243 | 258   | 312 | 308   | 312 | 308 |
|                            | 37  | 84    | 103   | 170   | 1,482 | 1,624 | 1,482 | 1,624 | 15    | 42    | 46  | 64    | 698 | 773   | 699   | 773   | 9   | 9   | 27  | 27  | 375 | 375 | 307 | 307 | 9     | 33    | 22    | 57  | 304   | 288 | 302   | 406 |     |
|                            | 32  | 73    | 41    | 100   | 59    | 122   | 1,080 | 1,205 | 15    | 37    | 20  | 51    | 29  | 61    | 509   | 575   | 8   | 8   | 9   | 10  | 13  | 12  | 247 | 247 | 7     | 29    | 11    | 41  | 16    | 49  | 262   | 328 |     |
|                            | 6   | 18    | 8     | 25    | 11    | 29    | 17    | 35    | 3     | 9     | 4   | 13    | 5   | 15    | 8     | 18    | 1   | 1   | 2   | 2   | 2   | 2   | 3   | 4   | 2     | 8     | 2     | 11  | 3     | 13  | 5     | 14  |     |
| 33                         | 300 | 1,083 | 304   | 1,083 | 304   | 1,083 | 304   | 1,083 | 103   | 534   | 103 | 534   | 103 | 534   | 103   | 534   | 21  | 50  | 44  | 47  | 56  | 56  | 29  | 28  | 112   | 104   | 119   | 61  | 127   | 623 | 132   | 100 |     |
| MIDDLE TWP-DEL BAY-NORTH   | 22  | 36    | 136   | 147   | 126   | 147   | 126   | 147   | 11    | 17    | 61  | 72    | 61  | 72    | 61    | 72    | 7   | 7   | 36  | 38  | 30  | 32  | 26  | 26  | 4     | 10    | 23    | 34  | 26    | 40  | 35    | 46  |     |
|                            | 4   | 5     | 6     | 9     | 42    | 48    | 42    | 48    | 2     | 3     | 3   | 4     | 21  | 23    | 21    | 23    | 1   | 2   | 2   | 2   | 11  | 9   | 9   | 9   | 1     | 1     | 1     | 3   | 10    | 12  | 12    | 14  |     |
|                            | 3   | 4     | 4     | 6     | 6     | 8     | 20    | 24    | 2     | 2     | 2   | 3     | 3   | 4     | 10    | 12    | 2   | 1   | 1   | 1   | 1   | 2   | 2   | 5   | 0     | 1     | 1     | 2   | 2     | 5   | 7     | 7   |     |
|                            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0     | 0     | 0   | 0     | 0   | 0     | 0   |     |
| 34                         | 869 | 4,246 | 869   | 4,246 | 869   | 4,246 | 869   | 4,246 | 422   | 2,073 | 422 | 2,073 | 422 | 2,073 | 422   | 2,073 | 54  | 49  | 38  | 45  | 20  | 20  | 16  | 16  | 2,044 | 1,981 | 2,028 | 402 | 2,044 | 406 | 2,044 | 406 |     |
| DENNIS TWP-EAST            | 8   | 17    | 103   | 338   | 323   | 338   | 323   | 338   | 4     | 8     | 149 | 167   | 149 | 167   | 149   | 167   | 2   | 2   | 96  | 96  | 81  | 82  | 66  | 67  | 2     | 6     | 53    | 61  | 66    | 75  | 82    | 90  |     |
|                            | 10  | 14    | 30    | 69    | 91    | 1,077 | 1,129 | 1,077 | 1,129 | 7     | 15  | 27    | 38  | 498   | 521   | 498   | 4   | 4   | 16  | 16  | 271 | 270 | 222 | 221 | 3     | 11    | 11    | 22  | 251   | 275 | 300   | 300 |     |
|                            | 20  | 42    | 22    | 53    | 37    | 70    | 1,458 | 1,526 | 9     | 20    | 10  | 26    | 17  | 34    | 674   | 707   | 5   | 5   | 4   | 5   | 8   | 8   | 333 | 333 | 4     | 15    | 6     | 21  | 9     | 26  | 341   | 374 |     |
|                            | 16  | 37    | 19    | 48    | 33    | 63    | 72    | 102   | 8     | 16    | 9   | 23    | 15  | 30    | 48    | 5     | 5   | 5   | 5   | 8   | 8   | 18  | 18  | 15  | 13    | 4     | 18    | 12  | 22    | 15  | 30    | 30  |     |
| 35                         | 266 | 1,258 | 266   | 1,258 | 266   | 1,258 | 266   | 1,258 | 131   | 622   | 131 | 622   | 131 | 622   | 131   | 622   | 14  | 16  | 12  | 17  | 17  | 17  | 17  | 17  | 17    | 17    | 17    | 17  | 17    | 17  | 17    | 17  | 17  |
| WOODBINE AREA              | 7   | 9     | 319   | 319   | 316   | 319   | 316   | 319   | 3     | 3     | 132 | 133   | 132 | 133   | 132   | 133   | 2   | 2   | 86  | 86  | 72  | 72  | 69  | 69  | 1     | 1     | 46    | 47  | 60    | 61  | 73    | 74  |     |
|                            | 4   | 4     | 17    | 18    | 344   | 346   | 344   | 346   | 2     | 2     | 7   | 8     | 144 | 145   | 144   | 145   | 1   | 4   | 5   | 79  | 79  | 65  | 65  | 0   | 1     | 3     | 3     | 65  | 66    | 75  | 80    | 80  |     |
|                            | 2   | 3     | 2     | 4     | 3     | 5     | 151   | 155   | 1     | 1     | 1   | 1     | 2   | 63    | 65    | 1     | 0   | 1   | 1   | 1   | 0   | 31  | 31  | 0   | 1     | 1     | 1     | 2   | 32    | 34  | 34    | 34  |     |
|                            | 122 | 283   | 163   | 392   | 226   | 469   | 288   | 532   | 54    | 133   | 133 | 72    | 186 | 99    | 219   | 125   | 31  | 31  | 37  | 39  | 50  | 49  | 58  | 58  | 23    | 102   | 107   | 35  | 147   | 170 | 67    | 100 |     |
| DENNIS TWP-WEST            | 100 | 4,354 | 943   | 4,354 | 1,601 | 4,354 | 1,601 | 4,354 | 430   | 2,088 | 430 | 2,088 | 430 | 2,088 | 430   | 2,088 | 48  | 43  | 31  | 37  | 16  | 16  | 24  | 24  | 104   | 104   | 104   | 104 | 104   | 104 | 104   | 104 |     |
|                            | 1   | 1     | 7     | 7     | 147   | 147   | 147   | 147   | 1     | 1     | 4   | 4     | 74  | 74    | 74    | 74    | 1   | 1   | 3   | 3   | 41  | 41  | 34  | 34  | 0     | 1     | 1     | 33  | 33    | 40  | 40    | 40  |     |
|                            | 0   | 0     | 0     | 0     | 1     | 38    | 39    | 0     | 0     | 0     | 0   | 0     | 0   | 19    | 19    | 0     | 0   | 0   | 0   | 0   | 0   | 9   | 9   | 0   | 0     | 0     | 0     | 0   | 0     | 0   | 10    | 10  |     |
|                            | 7   | 8     | 7     | 8     | 14    | 16    | 35    | 36    | 6     | 4     | 4   | 7     | 8   | 17    | 18    | 3     | 3   | 3   | 3   | 2   | 5   | 5   | 10  | 10  | 1     | 1     | 2     | 3   | 7     | 8   | 8     | 8   |     |
| 37                         | 511 | 1,589 | 511   | 1,589 | 511   | 1,589 | 511   | 1,589 | 375   | 851   | 375 | 851   | 375 | 851   | 375   | 851   | 66  | 103 | 81  | 97  | 76  | 76  | 50  | 50  | 13    | 13    | 1     | 1   | 2     | 3   | 7     | 8   |     |
| UPPER TWP-NE               | 117 | 211   | 899   | 895   | 699   | 895   | 699   | 895   | 58    | 106   | 349 | 427   | 349 | 427   | 349   | 427   | 36  | 37  | 215 | 215 | 162 | 162 | 148 | 148 | 23    | 89    | 134   | 211 | 167   | 245 | 200   | 278 |     |
|                            | 58  | 123   | 111   | 203   | 936   | 1,131 | 936   | 1,131 | 29    | 61    | 56  | 101   | 466 | 564   | 466   | 564   | 16  | 16  | 30  | 29  | 244 | 244 | 199 | 200 | 13    | 45    | 26    | 72  | 222   | 320 | 267   | 364 |     |
|                            | 148 | 244   | 196   | 333   | 285   | 431   | 3,122 | 3,414 | 74    | 122   | 96  | 166   | 142 | 215   | 1,655 | 1,702 | 50  | 51  | 68  | 58  | 75  | 75  | 760 | 761 | 24    | 71    | 40    | 108 | 67    | 140 | 795   | 941 |     |
|                            | 192 | 408   | 255   | 562   | 361   | 698   | 36    | 204   | 127   | 281   | 180 | 343   | 240 | 303   | 61    | 62    | 74  | 76  | 109 | 99  | 121 | 121 | 121 | 121 | 30    | 142   | 53    | 205 | 80    | 244 | 119   | 282 |     |
| 38                         | 319 | 1,531 | 319   | 1,531 | 319   | 1,531 | 319   | 1,531 | 152   | 715   | 152 | 715   | 152 | 715   | 152   | 715   | 19  | 22  | 18  | 20  | 11  | 9   | 8   | 135 | 683   | 129   | 693   | 141 | 704   | 141 | 704   | 707 |     |
| UPPER TWP-NORTH            | 3   | 5     | 161   | 162   | 161   | 162   | 161   | 162   | 2     | 2     | 79  | 79    | 79  | 79    | 79    | 79    | 1   | 22  | 31  | 51  | 43  | 43  | 38  | 35  | 35    | 1     | 1     | 27  | 29    | 36  | 36    | 43  | 44  |
|                            | 4   | 6     | 21    | 22    | 403   | 406   | 403   | 406   | 2     | 3     | 10  | 11    | 196 | 196   | 196   | 196   | 1   | 2   | 6   | 7   | 108 | 108 | 88  | 88  | 1     | 1     | 4     | 4   | 88    | 90  | 108   | 110 |     |
|                            | 5   | 6     | 5     | 7     | 9     | 11    | 426   | 443   | 2     | 3     | 3   | 4     | 5   | 214   | 215   | 1     | 2   | 1   | 1   | 2   | 2   | 107 | 106 | 1   | 1     | 1     | 1     | 2   | 3     | 107 | 106   | 110 |     |
|                            | 19  | 24    | 19    | 27    | 37    | 45    | 91    | 89    | 9     | 12    | 9   |       |     |       |       |       |     |     |     |     |     |     |     |     |       |       |       |     |       |     |       |     |     |





[illegible]

[illegible]

|                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |    |    |     |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|----|----|-----|
|                          | 5     | 6     | 16    | 17    | 23    | 31    | 303   | 326   | 303   | 326   | 3     | 9     | 9     | 1     | 16    | 163   | 176   | 163   | 176   | 2     | 2     | 1     | 5     | 5     | 5     | 89    | 89    | 73    | 73    | 1     | 8     | 8     | 2     | 2     | 13    | 74  | 87 | 80 | 103 |
|                          | 4     | 17    | 4     | 23    | 11    | 38    | 361   | 368   | 3     | 1     | 10    | 3     | 1     | 1     | 4     | 6     | 30    | 183   | 307   | 2     | 2     | 1     | 5     | 5     | 3     | 3     | 3     | 1     | 36    | 36    | 1     | 8     | 2     | 4     | 13    | 74  | 87 | 80 | 111 |
|                          | 19    | 54    | 23    | 71    | 35    | 108   | 69    | 139   | 10    | 30    | 12    | 40    | 21    | 60    | 38    | 77    | 6     | 7     | 6     | 7     | 11    | 11    | 20    | 19    | 11    | 20    | 19    | 40    | 23    | 6     | 33    | 40    | 18    | 49    | 18    | 58  |    |    |     |
| 29                       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   |    |    |     |
| South Toms River borough | 2     | 2     | 8     | 8     | 167   | 167   | 167   | 167   | 1     | 1     | 3     | 3     | 65    | 65    | 65    | 65    | 1     | 1     | 2     | 2     | 36    | 36    | 29    | 29    | 0     | 0     | 0     | 0     | 0     | 1     | 1     | 29    | 29    | 36    | 36    | 36  |    |    |     |
|                          | 1     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 30                       | 35    | 42    | 35    | 45    | 69    | 84    | 171   | 185   | 14    | 17    | 14    | 18    | 27    | 33    | 67    | 73    | 12    | 12    | 11    | 11    | 18    | 18    | 40    | 40    | 2     | 5     | 3     | 7     | 9     | 5     | 15    | 27    | 33    | 33    | 33    | 33  |    |    |     |
| Beachwood borough        | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 1     | 2     | 3     | 5     | 66    | 68    | 68    | 68    | 0     | 1     | 2     | 2     | 31    | 32    | 31    | 32    | 0     | 0     | 1     | 1     | 17    | 17    | 14    | 14    | 0     | 0     | 0     | 0     | 0     | 1     | 1     | 14    | 15    | 17    | 19    | 19  |    |    |     |
| 31                       | 101   | 119   | 102   | 127   | 127   | 202   | 238   | 499   | 534   | 48    | 56    | 60    | 52    | 112   | 112   | 234   | 251   | 499   | 40    | 40    | 37    | 37    | 65    | 65    | 139   | 139   | 8     | 16    | 11    | 23    | 30    | 127   | 127   | 127   | 112   |     |    |    |     |
| Ocean City               | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| Pine Beach borough       | 6     | 23    | 22    | 45    | 369   | 403   | 369   | 403   | 3     | 13    | 11    | 24    | 193   | 212   | 193   | 212   | 1     | 2     | 6     | 6     | 105   | 105   | 86    | 86    | 2     | 11    | 5     | 18    | 88    | 107   | 107   | 107   | 126   | 126   | 126   |     |    |    |     |
|                          | 14    | 44    | 16    | 58    | 27    | 88    | 802   | 862   | 7     | 24    | 8     | 32    | 14    | 48    | 418   | 402   | 4     | 4     | 5     | 6     | 206   | 207   | 3     | 20    | 5     | 28    | 9     | 42    | 212   | 245   | 245   | 245   | 245   | 245   | 245   |     |    |    |     |
| 32                       | 86    | 116   | 86    | 116   | 86    | 116   | 86    | 116   | 13    | 13    | 12    | 13    | 43    | 43    | 43    | 43    | 1     | 1     | 4     | 4     | 7     | 6     | 12    | 12    | 2     | 12    | 3     | 12    | 3     | 12    | 25    | 11    | 3     | 31    | 31    |     |    |    |     |
| Ocean Gate borough       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 21    | 96    | 97    | 175   | 1,062 | 1,216 | 1,062 | 1,216 | 11    | 54    | 32    | 92    | 478   | 565   | 478   | 565   | 4     | 4     | 15    | 15    | 256   | 256   | 209   | 210   | 7     | 22    | 10    | 17    | 77    | 232   | 308   | 265   | 305   | 305   | 305   |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 33                       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| Berkley township         | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 0     | 0     | 1     | 1     | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 34                       | 2,265 | 2,737 | 2,265 | 2,737 | 2,265 | 2,737 | 2,265 | 2,737 | 2,265 | 2,737 | 2,265 | 2,737 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 |     |    |    |     |
| Berkley township         | 72    | 201   | 1,862 | 2,106 | 1,862 | 2,106 | 1,862 | 2,106 | 1,862 | 2,106 | 36    | 148   | 959   | 1,030 | 959   | 1,030 | 905   | 1,030 | 15    | 16    | 377   | 578   | 498   | 389   | 389   | 21    | 132   | 328   | 452   | 417   | 542   | 508   | 631   | 631   | 631   |     |    |    |     |
|                          | 43    | 115   | 107   | 259   | 219   | 2,106 | 2,106 | 2,106 | 2,106 | 2,106 | 21    | 439   | 76    | 129   | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 | 1,367 |     |    |    |     |
| 35                       | 20    | 56    | 23    | 112   | 3,186 | 1,259 | 10    | 28    | 11    | 37    | 19    | 57    | 576   | 613   | 6     | 5     | 5     | 5     | 8     | 9     | 285   | 285   | 4     | 23    | 6     | 32    | 11    | 48    | 291   | 328   | 328   | 328   | 328   | 328   | 328   | 328 |    |    |     |
| Lacey township           | 123   | 216   | 134   | 264   | 245   | 451   | 528   | 714   | 60    | 108   | 66    | 132   | 150   | 215   | 352   | 46    | 46    | 64    | 64    | 75    | 74    | 146   | 146   | 15    | 52    | 21    | 87    | 45    | 141   | 111   | 206   | 206   | 206   | 206   |       |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 36                       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 37                       | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     |     |    |    |     |
| Lacey township           | 140   | 608   | 3,808 | 4,390 | 3,808 | 4,390 | 3,808 | 4,390 | 3,808 | 4,390 | 76    | 344   | 1,871 | 2,170 | 1,871 | 2,170 | 1,871 | 2,170 | 28    | 31    | 1,189 | 1,192 | 1,006 | 933   | 823   | 47    | 313   | 982   | 978   | 986   | 1,164 | 1,048 | 1,048 | 1,048 |       |     |    |    |     |
|                          | 73    | 232   | 2,797 | 2,797 | 2,797 | 2,797 | 2,797 | 2,797 | 2,797 | 2,797 | 16    | 119   | 1,362 | 2,263 | 2,263 | 2,263 | 2,263 | 2,263 | 18    | 19    | 37    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    |     |    |    |     |
| 38                       | 32    | 68    | 34    | 84    | 63    | 136   | 2,666 | 2,736 | 16    | 34    | 17    | 43    | 31    | 69    | 1,309 | 1,346 | 11    | 10    | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     | 9     |     |    |    |     |
|                          | 116   | 263   | 125   | 331   | 233   | 527   | 518   | 812   | 58    | 134   | 62    | 169   | 115   | 268   | 256   | 408   | 40    | 41    | 38    | 39    | 65    | 66    | 141   | 140   | 18    | 83    | 24    | 136   | 50    | 202   | 115   | 368   | 368   | 368   |       |     |    |    |     |
| Ocean township           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 39                       | 1     | 1     | 1     | 1     | 3     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     | 7     |     |    |    |     |
| Ocean township           | 22    | 96    | 367   | 670   | 567   | 670   | 567   | 670   | 11    | 52    | 285   | 330   | 385   | 330   | 285   | 330   | 4     | 5     | 181   | 181   | 153   | 153   | 125   | 125   | 7     | 47    | 104   | 169   | 132   | 177   | 160   | 205   | 160   | 205   |       |     |    |    |     |
|                          | 36    | 108   | 118   | 289   | 1,909 | 2,153 | 1,909 | 2,153 | 18    | 84    | 79    | 33    | 107   | 1,059 | 927   | 1,059 | 6     | 7     | 30    | 31    | 499   | 500   | 409   | 409   | 12    | 77    | 29    | 120   | 428   | 369   | 518   | 650   | 650   | 650   |       |     |    |    |     |
| 40                       | 12    | 46    | 12    | 46    | 61    | 24    | 81    | 726   | 802   | 2     | 24    | 33    | 32    | 49    | 307   | 307   | 3     | 3     | 2     | 2     | 11    | 13    | 4     | 4     | 176   | 176   | 3     | 48    | 5     | 30    | 16    | 181   | 217   | 217   | 217   |     |    |    |     |
| Barnegat township        | 5     | 8     | 5     | 9     | 10    | 16    | 25    | 30    | 3     | 4     | 3     | 5     | 8     | 12    | 15    | 2     | 2     | 2     | 2     | 2     | 3     | 3     | 7     | 7     | 1     | 2     | 1     | 3     | 2     | 5     | 5     | 5     | 5     | 5     |       |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 41                       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| Stafford township        | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
|                          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |     |    |    |     |
| 42                       | 161   | 255   | 173   | 304   | 322   | 509   | 720   | 907   | 77    | 123   | 82    | 148   | 153   | 247   | 341   | 435   | 60    | 60    | 58    | 59    | 82    | 88    | 196   | 197   | 347   | 347   | 60    | 24    | 163   | 55    | 149   | 145   | 233   | 233   |       |     |    |    |     |
| Stafford township        | 3,962 | 6,964 | 3,964 | 6,964 | 3,964 | 6,964 | 3,964 | 6,964 | 2,313 | 4,094 | 2,313 | 4,094 | 2,313 | 4,094 | 2,313 | 4,094 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 | 1,444 |       |     |    |    |     |
|                          | 11    | 34    | 25    | 57    | 296   | 342   | 6     | 20    | 13    | 32    | 150   | 178   | 30    | 178   | 30    | 178   | 3     | 3     | 7     | 7     | 80    | 81    | 66    | 66    | 3     | 17    | 6     | 25    | 70    | 97    | 84    | 112   | 112   | 112   |       |     |    |    |     |
| 43                       | 4     | 11    | 6     | 15    | 9     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |    |    |     |



|                       |     |     |       |       |       |       |       |       |       |     |     |       |       |       |       |       |       |       |      |      |      |      |      |       |      |      |      |      |      |      |      |       |      |     |
|-----------------------|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|------|------|------|------|------|------|------|-------|------|-----|
|                       | 52  | 64  | 203   | 270   | 5,019 | 5,043 | 5,019 | 5,043 | 14    | 20  | 66  | 75    | 1,286 | 1,286 | 1,286 | 1,286 | 1,286 | 1,286 | 10   | 9    | 42   | 42   | 706  | 706   | 678  | 678  | 4    | 11   | 24   | 33   | 685  | 685   | 706  | 721 |
|                       | 40  | 48  | 40    | 52    | 78    | 97    | 1,852 | 3,870 | 11    | 16  | 11  | 17    | 31    | 30    | 987   | 897   | 8     | 8     | 7    | 13   | 13   | 13   | 13   | 12    | 402  | 403  | 3    | 7    | 4    | 10   | 7    | 18    | 684  | 684 |
|                       | 64  | 81  | 65    | 89    | 128   | 163   | 313   | 347   | 17    | 25  | 18  | 31    | 34    | 53    | 82    | 100   | 13    | 13    | 13   | 13   | 13   | 22   | 22   | 48    | 47   | 4    | 13   | 5    | 19   | 12   | 31   | 34    | 53   |     |
| 30                    | 34  | 127 | 993   | 1,095 | 991   | 1,095 | 991   | 1,095 | 272   | 288 | 272 | 288   | 272   | 288   | 272   | 288   | 189   | 189   | 7    | 7    | 189  | 271  | 271  | 229   | 229  | 98   | 98   | 154  | 209  | 196  | 201  | 237   | 299  |     |
|                       | 60  | 198 | 183   | 377   | 2,817 | 3,074 | 2,817 | 3,074 | 28    | 102 | 81  | 186   | 1207  | 1,356 | 1,207 | 1,356 | 13    | 13    | 43   | 45   | 652  | 652  | 334  | 333   | 16   | 89   | 38   | 141  | 565  | 704  | 673  | 623   |      |     |
|                       | 86  | 279 | 106   | 376   | 176   | 376   | 176   | 376   | 8     | 86  | 426 | 489   | 426   | 489   | 426   | 489   | 22    | 22    | 22   | 22   | 22   | 22   | 22   | 22    | 22   | 31   | 31   | 103  | 103  | 266  | 266  | 1,013 |      |     |
| 30                    | 289 | 500 | 330   | 625   | 679   | 909   | 1,139 | 1,550 | 127   | 240 | 146 | 304   | 254   | 489   | 720   | 84    | 95    | 99    | 100  | 155  | 155  | 276  | 277  | 33    | 145  | 47   | 204  | 99   | 325  | 217  | 443  |       |      |     |
|                       | 30  | 30  | 30    | 30    | 30    | 30    | 30    | 30    | 16    | 16  | 16  | 16    | 16    | 16    | 16    | 16    | 11    | 11    | 10   | 10   | 10   | 10   | 8    | 6     | 7    | 7    | 5    | 6    | 8    | 8    | 9    | 9     |      |     |
| NEPTUNE TWP BORO      | 7   | 7   | 264   | 265   | 264   | 265   | 264   | 265   | 3     | 4   | 131 | 132   | 131   | 132   | 131   | 132   | 2     | 2     | 2    | 2    | 2    | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     | 2    |     |
|                       | 13  | 20  | 51    | 60    | 913   | 926   | 913   | 926   | 6     | 10  | 24  | 29    | 419   | 429   | 419   | 426   | 4     | 4     | 15   | 15   | 5    | 230  | 229  | 188   | 189  | 2    | 6    | 9    | 14   | 189  | 197  | 231   | 238  |     |
|                       | 14  | 19  | 17    | 23    | 28    | 36    | 778   | 787   | 7     | 9   | 8   | 12    | 13    | 19    | 357   | 362   | 5     | 5     | 5    | 5    | 7    | 8    | 178  | 178   | 2    | 4    | 6    | 7    | 6    | 11   | 179  | 184   |      |     |
|                       | 104 | 118 | 134   | 153   | 208   | 235   | 254   | 321   | 45    | 56  | 62  | 73    | 86    | 112   | 135   | 151   | 40    | 40    | 40   | 40   | 40   | 40   | 80   | 80    | 4    | 16   | 14   | 25   | 20   | 46   | 153  | 164   | 71   |     |
| 31                    | 43  | 54  | 43    | 54    | 43    | 54    | 43    | 54    | 23    | 30  | 23  | 30    | 23    | 30    | 23    | 30    | 10    | 15    | 16   | 13   | 14   | 11   | 11   | 9     | 9    | 9    | 14   | 10   | 16   | 12   | 19   | 14    | 21   |     |
|                       | 48  | 55  | 48    | 55    | 48    | 55    | 48    | 55    | 10    | 10  | 10  | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10   | 10   | 10   | 10   | 10   | 10    | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10    | 10   |     |
| BRADLEY BEACH BORO    | 48  | 255 | 132   | 424   | 1,873 | 2,287 | 2,287 | 27    | 159   | 69  | 253 | 888   | 1,151 | 88    | 1,151 | 6     | 8     | 28    | 30   | 468  | 468  | 383  | 383  | 21    | 151  | 41   | 223  | 400  | 683  | 505  | 768  |       |      |     |
|                       | 32  | 159 | 40    | 217   | 65    | 318   | 1,456 | 81    | 1,719 | 18  | 98  | 23    | 135   | 36    | 197   | 693   | 854   | 5     | 5    | 5    | 5    | 5    | 8    | 6     | 335  | 335  | 13   | 92   | 18   | 129  | 189  | 358   | 519  |     |
|                       | 14  | 27  | 13    | 33    | 27    | 33    | 62    | 13    | 62    | 15  | 7   | 13    | 30    | 53    | 35    | 5     | 5     | 5     | 5    | 7    | 13   | 16   | 16   | 2     | 10   | 3    | 14   | 2    | 3    | 14   | 2    | 3     | 30   |     |
| 32                    | 146 | 167 | 146   | 167   | 146   | 167   | 146   | 167   | 77    | 98  | 77  | 98    | 77    | 98    | 77    | 98    | 182   | 182   | 52   | 52   | 52   | 52   | 52   | 52    | 52   | 52   | 52   | 52   | 52   | 52   | 52   | 52    | 52   |     |
| AVON BY THE SEA BORO  | 26  | 134 | 72    | 224   | 1,035 | 1,252 | 1,035 | 1,252 | 14    | 62  | 36  | 210   | 191   | 479   | 613   | 479   | 613   | 3     | 3    | 5    | 15   | 16   | 36   | 253   | 252  | 207  | 206  | 11   | 77   | 21   | 115  | 236   | 261  |     |
|                       | 7   | 36  | 9     | 49    | 16    | 72    | 331   | 388   | 4     | 22  | 5   | 131   | 8     | 43    | 173   | 188   | 1     | 2     | 1    | 2    | 2    | 2    | 74   | 74    | 3    | 20   | 4    | 28   | 6    | 41   | 79   | 114   |      |     |
|                       | 3   | 14  | 7     | 20    | 11    | 34    | 7     | 2     | 12    | 3   | 17  | 6     | 20    | 1     | 34    | 1     | 0     | 1     | 0    | 1    | 1    | 1    | 3    | 3     | 3    | 3    | 3    | 3    | 3    | 3    | 3    | 3     | 3    |     |
| 33                    | 300 | 440 | 300   | 440   | 300   | 440   | 300   | 440   | 218   | 203 | 218 | 203   | 218   | 203   | 218   | 203   | 1247  | 1247  | 1247 | 1247 | 1247 | 1247 | 1247 | 1247  | 1247 | 1247 | 1247 | 1247 | 1247 | 1247 | 1247 | 1247  | 1247 |     |
| BELMAR BORO           | 78  | 353 | 1,891 | 2,138 | 1,891 | 2,138 | 1,891 | 2,138 | 46    | 223 | 974 | 1,172 | 974   | 1,172 | 974   | 1,172 | 151   | 151   | 151  | 151  | 151  | 151  | 500  | 500   | 425  | 425  | 30   | 306  | 303  | 555  | 454  | 102   | 548  |     |
|                       | 69  | 332 | 300   | 558   | 2,347 | 3,472 | 3,472 | 41    | 1,520 | 110 | 347 | 1,520 | 1,859 | 1,859 | 13    | 14    | 50    | 51    | 909  | 909  | 862  | 862  | 29   | 1,050 | 60   | 266  | 60   | 266  | 60   | 266  | 60   | 266   | 60   |     |
|                       | 16  | 69  | 18    | 95    | 30    | 139   | 620   | 729   | 9     | 44  | 11  | 60    | 17    | 88    | 320   | 393   | 3     | 3     | 3    | 3    | 3    | 4    | 155  | 155   | 6    | 41   | 8    | 57   | 13   | 84   | 165  | 235   |      |     |
|                       | 10  | 48  | 10    | 62    | 19    | 62    | 19    | 62    | 19    | 20  | 10  | 11    | 58    | 249   | 303   | 13    | 2     | 2     | 2    | 2    | 2    | 2    | 2    | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     | 2    |     |
| 34                    | 23  | 35  | 35    | 35    | 29    | 35    | 29    | 35    | 14    | 19  | 14  | 19    | 14    | 19    | 14    | 19    | 14    | 19    | 14   | 19   | 14   | 19   | 14   | 19    | 14   | 19   | 14   | 19   | 14   | 19   | 14   | 19    | 14   |     |
| SOUTH BELMAR BORO     | 8   | 37  | 152   | 214   | 182   | 214   | 182   | 214   | 2     | 22  | 82  | 102   | 85    | 102   | 85    | 102   | 85    | 102   | 1    | 2    | 31   | 52   | 43   | 44    | 36   | 36   | 3    | 25   | 31   | 50   | 39   | 48    | 66   |     |
|                       | 12  | 60  | 65    | 107   | 114   | 480   | 545   | 10    | 545   | 10  | 545 | 10    | 545   | 10    | 545   | 10    | 545   | 10    | 545  | 10   | 545  | 10   | 545  | 10    | 545  | 10   | 545  | 10   | 545  | 10   | 545  | 10    | 545  | 10  |
|                       | 11  | 60  | 14    | 22    | 121   | 437   | 535   | 6     | 36    | 8   | 102 | 12    | 72    | 198   | 257   | 1     | 2     | 2     | 1    | 2    | 3    | 3    | 95   | 95    | 5    | 34   | 6    | 48   | 10   | 89   | 103  | 162   |      |     |
|                       | 15  | 69  | 83    | 83    | 106   | 53    | 106   | 53    | 106   | 40  | 10  | 25    | 16    | 25    | 16    | 25    | 16    | 25    | 16   | 25   | 16   | 25   | 16   | 25    | 16   | 25   | 16   | 25   | 16   | 25   | 16   | 25    | 16   | 25  |
| 35                    | 111 | 136 | 111   | 136   | 111   | 136   | 111   | 136   | 65    | 78  | 65  | 78    | 65    | 78    | 65    | 78    | 65    | 78    | 65   | 78   | 65   | 78   | 65   | 78    | 65   | 78   | 65   | 78   | 65   | 78   | 65   | 78    | 65   | 78  |
| SPRING LAKE BORO      | 24  | 116 | 416   | 578   | 476   | 578   | 476   | 578   | 13    | 63  | 343 | 247   | 303   | 5     | 3     | 105   | 108   | 131   | 132  | 107  | 108  | 8    | 26   | 52    | 147  | 116  | 171  | 140  | 180  | 140  | 180  | 140   | 180  |     |
|                       | 10  | 45  | 45    | 45    | 80    | 378   | 452   | 378   | 452   | 378 | 452 | 378   | 452   | 378   | 452   | 378   | 452   | 378   | 452  | 378  | 452  | 378  | 452  | 378   | 452  | 378  | 452  | 378  | 452  | 378  | 452  | 378   | 452  | 378 |
|                       | 10  | 44  | 12    | 60    | 87    | 365   | 433   | 5     | 24    | 6   | 32  | 10    | 47    | 189   | 236   | 2     | 3     | 2     | 2    | 2    | 2    | 3    | 92   | 92    | 3    | 21   | 4    | 36   | 7    | 44   | 97   | 134   |      |     |
| 36                    | 50  | 243 | 899   | 532   | 1,111 | 497   | 179   | 854   | 29    | 132 | 37  | 180   | 59    | 264   | 84    | 239   | 12    | 14    | 13   | 14   | 21   | 21   | 21   | 21    | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21    | 21   |     |
| SPRING LAKE HEIGHTS B | 3   | 15  | 94    | 96    | 84    | 96    | 84    | 96    | 2     | 10  | 41  | 50    | 41    | 50    | 41    | 50    | 1     | 0     | 36   | 26   | 22   | 22   | 18   | 18    | 2    | 15   | 15   | 24   | 19   | 28   | 23   | 30    |      |     |
|                       | 6   | 26  | 7     | 34    | 33    | 369   | 407   | 4     | 16    | 4   | 22  | 7     | 32    | 178   | 203   | 4     | 4     | 4     | 4    | 4    | 4    | 4    | 4    | 4     | 4    | 4    | 4    | 4    | 4    | 4    | 4    | 4     | 4    |     |
|                       | 70  | 259 | 81    | 345   | 141   | 518   | 271   | 649   | 38    | 161 | 45  | 217   | 77    | 322   | 140   | 335   | 18    | 19    | 17   | 19   | 29   | 29   | 63   | 63    | 20   | 142  | 28   | 189  | 48   | 283  | 77   | 322   |      |     |
|                       | 13  | 75  | 340   | 309   | 240   | 309   | 240   | 309   | 5     | 43  | 126 | 166   | 126   | 166   | 126   | 166   | 126   | 166   | 126  | 166  | 126  | 166  | 66   | 66    | 54   | 54   | 6    | 41   | 88   | 87   | 60   | 100   | 72   | 112 |
| 37                    | 15  | 60  | 47    | 146   | 544   | 694   | 544   | 694   | 9     | 53  | 22  | 83    | 289   | 372   | 295   | 372   | 2     | 3     | 9    | 9    | 9    | 150  | 150  | 122   | 122  | 7    | 50   | 13   | 74   | 138  | 222  | 162   | 259  |     |
|                       | 12  | 60  | 85    | 85    | 124   | 478   | 578   | 478   | 578   | 8   | 49  | 36    | 8     | 49    | 36    | 8     | 49    | 36    | 8    | 49   | 36   | 8    | 49   | 36    | 8    | 49   | 36   | 8    | 49   | 36   | 8    | 49    | 36   | 8   |
| 38                    | 98  | 88  | 23    | 119   | 38    | 176   | 66    | 203   | 11    | 50  | 13  | 69    | 21    | 101   | 36    | 118   | 5     | 4     | 4    | 5    | 7    | 7    | 15   | 15    | 6    | 64   | 9    | 64   | 14   | 94   | 21   | 101   |      |     |
|                       | 10  | 45  | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13  | 13  | 13    | 13    | 13    | 13    | 13    | 13    | 13    | 13   | 13   | 13   | 13   | 13   | 13    | 13   | 13   | 13   | 13   | 13   | 13   | 13   | 13    | 13   |     |
| MANASQUAN BORO        | 43  | 229 | 1136  | 1,335 | 1,135 | 1,335 | 1,135 | 1,335 | 25    | 124 | 560 | 670   | 360   | 670   | 560   | 670   | 8     | 9     | 354  | 355  | 295  | 299  | 348  | 245   | 17   | 115  | 206  | 315  | 281  | 371  | 315  | 425   |      |     |
|                       | 22  | 117 | 38    | 192   | 814   | 1,005 | 814   | 1,005 | 11    | 64  | 30  | 102   | 402   | 507   | 402   | 507   | 3     | 4     | 13   | 13   | 213  | 213  | 174  | 174   | 8    | 60   | 17   | 90   | 189  | 244  | 228  | 333   |      |     |
|                       | 11  | 61  | 12    | 68    | 28    | 160   | 280   | 160   | 280   | 11  | 66  | 10    | 66    | 10    | 66    | 10    | 66    | 10    | 66   | 10   | 66   | 10   | 66   | 10    | 66   | 10   | 66   | 10   | 66   | 10   | 66   | 10    | 66   | 10  |
| 39                    | 17  | 22  | 17    | 24    | 34    | 44    | 82    | 92    | 9     | 11  | 9   | 12    | 17    | 22    | 41    | 46    | 6     | 7     | 7    | 6    | 11   | 11   | 24   | 24    | 2    | 4    | 2    | 6    | 8    | 11   | 17   | 22    |      |     |
|                       | 100 | 7   | 100   | 7     | 100   | 7     | 100   | 7     | 100   | 100 | 7   | 100   | 7     | 100   | 7     | 100   | 100   | 7     | 100  | 100  | 7    | 100  | 100  | 7     | 100  | 100  | 7    | 100  | 100  | 7    | 100  | 100   | 7    | 100 |
| 40                    | 21  | 68  | 701   | 753   | 701   | 753   | 701   | 753   | 11    | 36  | 350 | 379   | 350   | 379   | 350   | 379   | 6     | 5     | 225  |      |      |      |      |       |      |      |      |      |      |      |      |       |      |     |



|                      |       |       |        |        |        |        |        |        |       |       |       |       |       |       |        |        |       |       |       |       |       |       |       |       |     |       |       |       |       |       |       |       |
|----------------------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|
|                      | 0     | 0     | 0      | 0      | 8      | 8      | 8      | 8      | 0     | 0     | 0     | 0     | 4     | 4     | 4      | 4      | 0     | 0     | 0     | 0     | 2     | 2     | 2     | 2     | 0   | 0     | 0     | 0     | 2     | 2     | 2     | 2     |
|                      | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 3      | 3      | 0     | 0     | 0     | 0     | 0     | 0     | 2     | 0     | 0   | 0     | 0     | 0     | 0     | 1     | 1     |       |
| 25                   | 25    | 28    | 34     | 35     | 50     | 52     | 61     | 63     | 14    | 15    | 19    | 20    | 28    | 29    | 34     | 35     | 12    | 12    | 15    | 15    | 20    | 19    | 20    | 20    | 2   | 3     | 4     | 5     | 10    | 14    | 15    |       |
| 26                   | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0     | 0     | 0     | 0     | 0     |       |
| STOW CREEK TWP-NORTH | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0     | 0     | 0     | 0     | 0     |       |
|                      | 0     | 0     | 0      | 0      | 3      | 3      | 3      | 3      | 0     | 0     | 0     | 0     | 1     | 1     | 1      | 1      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0     | 0     | 1     | 1     | 1     |       |
|                      | 0     | 0     | 0      | 0      | 0      | 0      | 3      | 3      | 0     | 0     | 0     | 0     | 0     | 0     | 1      | 1      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0     | 0     | 0     | 0     | 0     | 0     |       |
|                      | 49    | 52    | 65     | 69     | 67     | 102    | 119    | 124    | 26    | 28    | 35    | 38    | 53    | 55    | 65     | 67     | 22    | 22    | 28    | 28    | 37    | 38    | 39    | 38    | 4   | 6     | 7     | 10    | 16    | 19    | 26    | 29    |
| CUMBERLAND TOTALS    | 7,969 | 8,979 | 12,691 | 13,896 | 19,024 | 20,278 | 25,734 | 27,013 | 3,596 | 4,193 | 5,642 | 6,354 | 8,262 | 9,000 | 10,967 | 11,715 | 2,744 | 2,744 | 3,676 | 3,882 | 4,941 | 4,941 | 5,603 | 5,609 | 852 | 1,449 | 1,766 | 2,472 | 3,321 | 4,059 | 5,364 | 6,106 |



| NORTH JERSEY COUNTIES<br>EVACUATION STATISTICS DATA<br>New Jersey Hurricane Evacuation ReEntry 2006 |                              |                               |                              |                               |                              |                               |                              |                               |                              | LEGEND:                       | - CAT 1                      | - CAT 2                       | - CAT 3                      | - CAT 4                       | - INLAND                     |                               |                              |                               |                              |                               |                              |                               |                              |                               |                              |                                     |                              |                               |                              |                               |                              |                               |                                       |  |                                       |  |                                       |  |                                       |  |       |       |       |       |       |       |     |     |     |     |
|---|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|-------------------------------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|-------|-------|-------|-------|-------|-------|-----|-----|-----|-----|
| HUDSON EVACUATION AREAS   |                              |                               |                              |                               |                              |                               |                              |                               |                              | Evacuating People             |                              |                               |                              |                               |                              |                               |                              | Evacuating Vehicles           |                              |                               |                              |                               |                              |                               |                              | Evac Vehicles to Local Destinations |                              |                               |                              |                               |                              |                               |                                       |  |                                       |  |                                       |  |                                       | Evac Vehicles to Out of County         |       |       |       |       |       |       |     |     |     |     |
|   | Cat 1<br>Evac Pop<br>Low Occ | Cat 1<br>Evac Pop<br>High Occ | Cat 2<br>Evac Pop<br>Low Occ | Cat 2<br>Evac Pop<br>High Occ | Cat 3<br>Evac Pop<br>Low Occ | Cat 3<br>Evac Pop<br>High Occ | Cat 4<br>Evac Pop<br>Low Occ | Cat 4<br>Evac Pop<br>High Occ | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ | Cat 1<br>Evac Veh<br>Low Occ | Cat 1<br>Evac Veh<br>High Occ       | Cat 2<br>Evac Veh<br>Low Occ | Cat 2<br>Evac Veh<br>High Occ | Cat 3<br>Evac Veh<br>Low Occ | Cat 3<br>Evac Veh<br>High Occ | Cat 4<br>Evac Veh<br>Low Occ | Cat 4<br>Evac Veh<br>High Occ | Out of County<br>Veh Cat 1<br>Low Occ | Out of County<br>Veh Cat 1<br>High Occ | Out of County<br>Veh Cat 2<br>Low Occ | Out of County<br>Veh Cat 2<br>High Occ | Out of County<br>Veh Cat 3<br>Low Occ | Out of County<br>Veh Cat 3<br>High Occ | Out of County<br>Veh Cat 4<br>Low Occ | Out of County<br>Veh Cat 4<br>High Occ |       |       |       |       |       |       |     |     |     |     |
| 1   | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                               | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                        | 2,501                         | 2,501                                 | 2,501                                  | 2,501                                 | 2,501                                  | 2,501                                 | 2,501                                  | 2,501                                 | 2,501                                  | 2,501 | 2,501 | 2,501 | 2,501 | 2,501 | 2,501 |     |     |     |     |
| Bayonne South   | 32                           | 40                            | 1,564                        | 1,572                         | 1,584                        | 1,572                         | 1,564                        | 1,572                         | 10                           | 13                            | 486                          | 488                           | 488                          | 488                           | 488                          | 488                           | 9                            | 9                             | 9                            | 9                             | 9                            | 9                             | 9                            | 9                             | 9                            | 9                                   | 9                            | 9                             | 9                            | 9                             | 9                            | 9                             | 9                                     | 9                                      | 9                                     | 9                                      | 9                                     | 9                                      | 9                                     | 9                                      | 9     | 9     | 9     | 9     | 9     | 9     | 9   | 9   | 9   |     |
| Bayonne East  | 15                           | 22                            | 833                          | 835                           | 833                          | 835                           | 833                          | 835                           | 5                            | 7                             | 268                          | 268                           | 265                          | 265                           | 265                          | 265                           | 5                            | 5                             | 5                            | 5                             | 5                            | 5                             | 5                            | 5                             | 5                            | 5                                   | 5                            | 5                             | 5                            | 5                             | 5                            | 5                             | 5                                     | 5                                      | 5                                     | 5                                      | 5                                     | 5                                      | 5                                     | 5                                      | 5     | 5     | 5     | 5     | 5     | 5     | 5   | 5   | 5   |     |
| Bayonne West  | 6                            | 6                             | 78                           | 78                            | 78                           | 78                            | 78                           | 78                            | 3                            | 3                             | 25                           | 25                            | 25                           | 25                            | 25                           | 25                            | 3                            | 3                             | 3                            | 3                             | 3                            | 3                             | 3                            | 3                             | 3                            | 3                                   | 3                            | 3                             | 3                            | 3                             | 3                            | 3                             | 3                                     | 3                                      | 3                                     | 3                                      | 3                                     | 3                                      | 3                                     | 3                                      | 3     | 3     | 3     | 3     | 3     | 3     | 3   | 3   | 3   |     |
| Jersey City East  | 223                          | 287                           | 10,713                       | 10,793                        | 10,713                       | 10,793                        | 10,713                       | 10,793                        | 49                           | 66                            | 2,344                        | 2,363                         | 2,344                        | 2,363                         | 2,344                        | 2,363                         | 42                           | 42                            | 1,990                        | 1,991                         | 1,756                        | 1,756                         | 1,522                        | 1,522                         | 7                            | 24                                  | 364                          | 372                           | 588                          | 587                           | 822                          | 841                           | 1                                     | 2                                      | 4                                     | 5                                      | 102                                   | 104                                    | 142                                   | 144                                    | 841   | 841   | 841   | 841   | 841   | 841   | 841 | 841 |     |     |
| Jersey City Central   | 3                            | 3                             | 3                            | 3                             | 3                            | 3                             | 3                            | 3                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                            | 1                                   | 1                            | 1                             | 1                            | 1                             | 1                            | 1                             | 1                                     | 1                                      | 1                                     | 1                                      | 1                                     | 1                                      | 1                                     | 1                                      | 1     | 1     | 1     | 1     | 1     | 1     | 1   | 1   | 1   | 1   |
| Jersey City West  | 1,616                        | 1,772                         | 1,616                        | 1,801                         | 1,616                        | 1,801                         | 1,616                        | 1,801                         | 326                          | 365                           | 330                          | 330                           | 364                          | 653                           | 729                          | 1,606                         | 1,682                        | 317                           | 318                          | 319                           | 320                          | 636                           | 635                          | 1,515                         | 1,515                        | 9                                   | 47                           | 11                            | 64                           | 17                            | 84                           | 91                            | 167                                   | 1                                      | 2                                     | 4                                      | 5                                     | 102                                    | 104                                   | 142                                    | 144   | 841   | 841   | 841   | 841   | 841   | 841 | 841 | 841 |     |
| Hudson City   | 32                           | 32                            | 180                          | 180                           | 180                          | 180                           | 180                          | 180                           | 9                            | 9                             | 43                           | 43                            | 803                          | 803                           | 803                          | 803                           | 8                            | 8                             | 37                           | 37                            | 640                          | 640                           | 554                          | 554                           | 1                            | 1                                   | 6                            | 6                             | 213                          | 213                           | 213                          | 213                           | 299                                   | 299                                    | 299                                   | 299                                    | 299                                   | 299                                    | 299                                   | 299                                    | 299   | 299   | 299   | 299   | 299   | 299   | 299 | 299 | 299 | 299 |
| West Hudson   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson South   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0   | 0   | 0   |
| West Hudson Central   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                            | 0                                   | 0                            | 0                             | 0                            | 0                             | 0                            | 0                             | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     | 0                                      | 0                                     |  |       |       |       |       |       |       |     |     |     |     |

[illegible]





## **Appendix G**

## Atlantic County

### GSP Exit 48 AC-OC Boundary





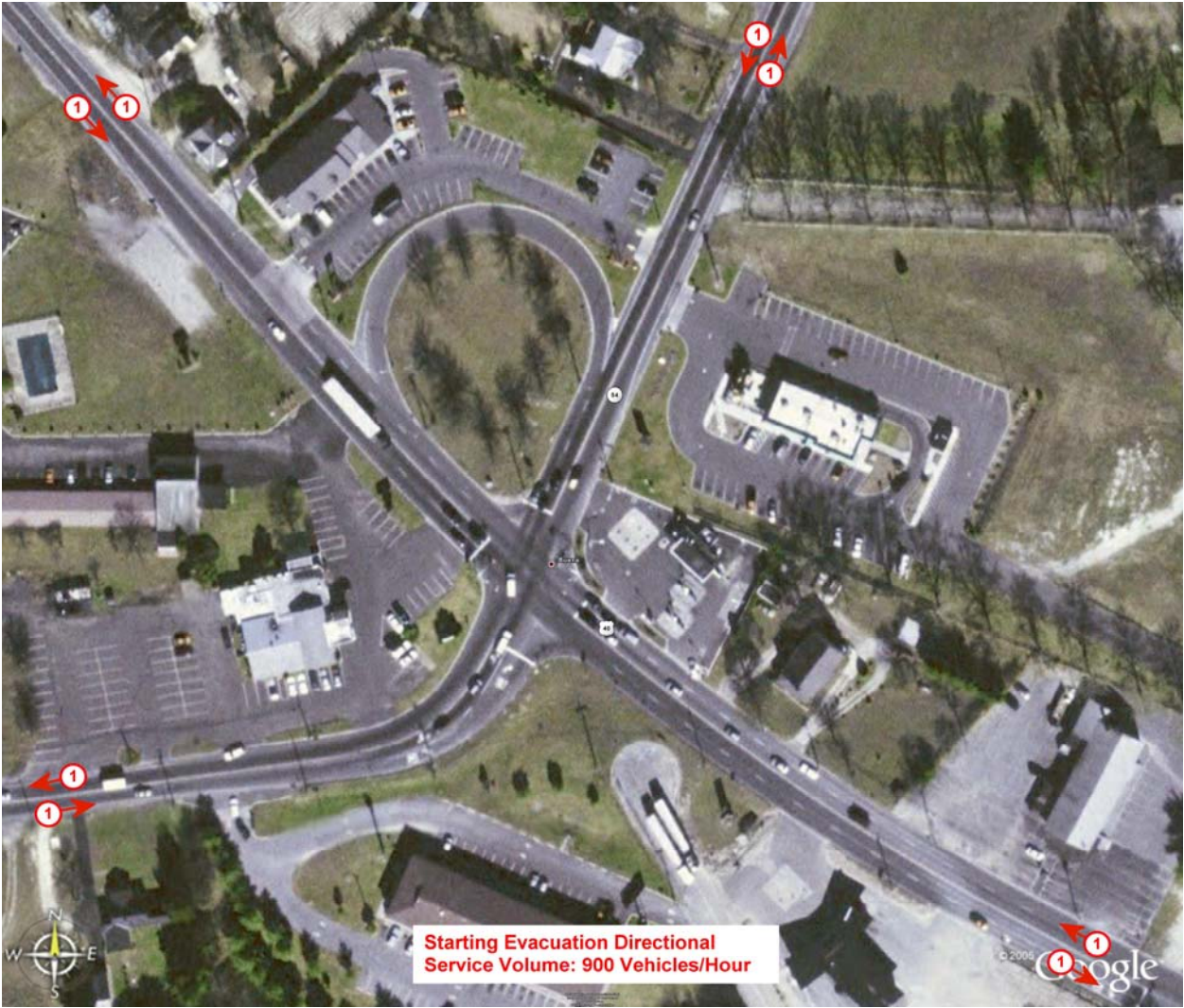
# Atlantic County

## Route 30 at Route 50 - Egg Harbor



Atlantic County

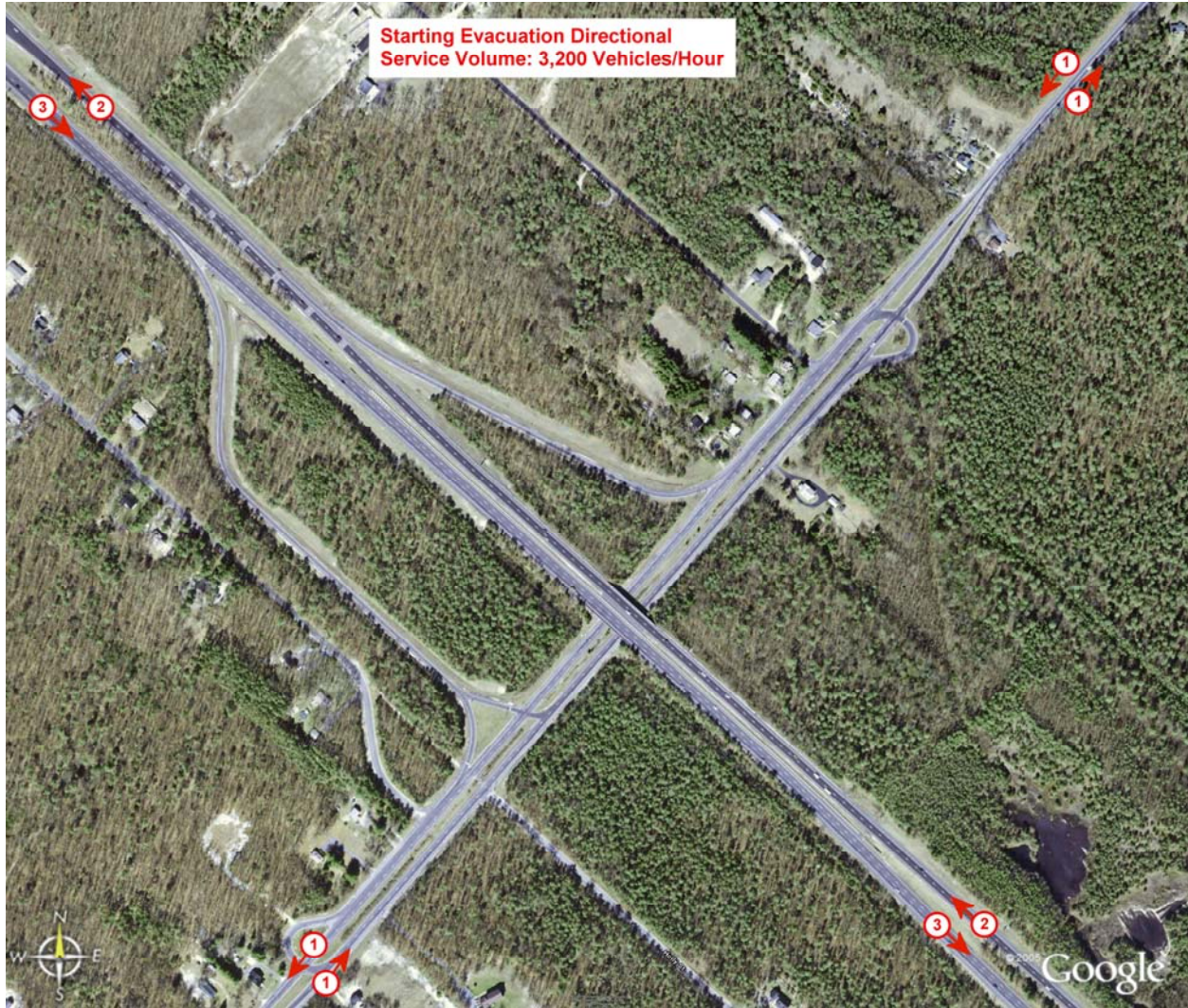
Route 40 - Buena





# Atlantic County

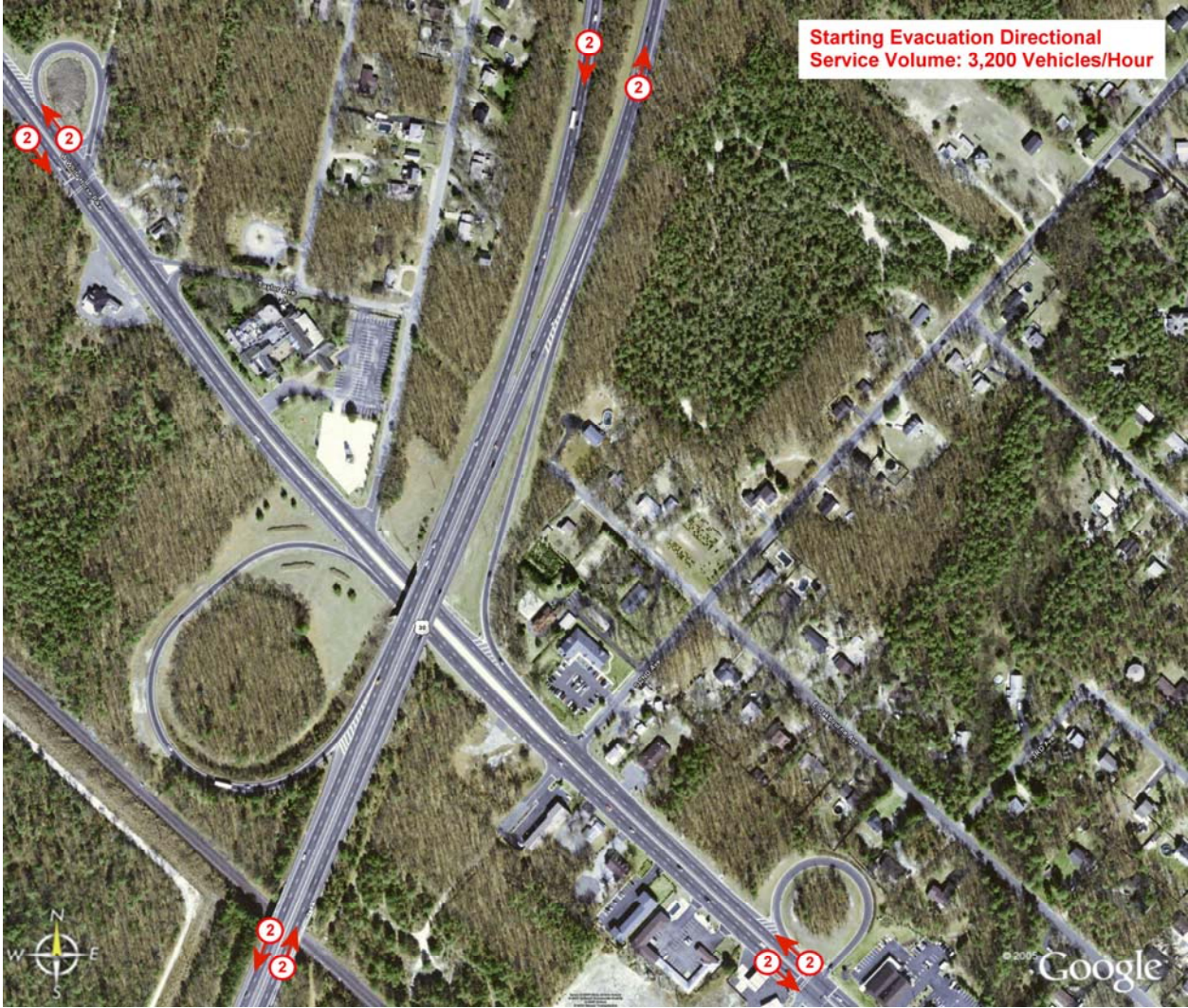
## ACE Exit 17





Atlantic County

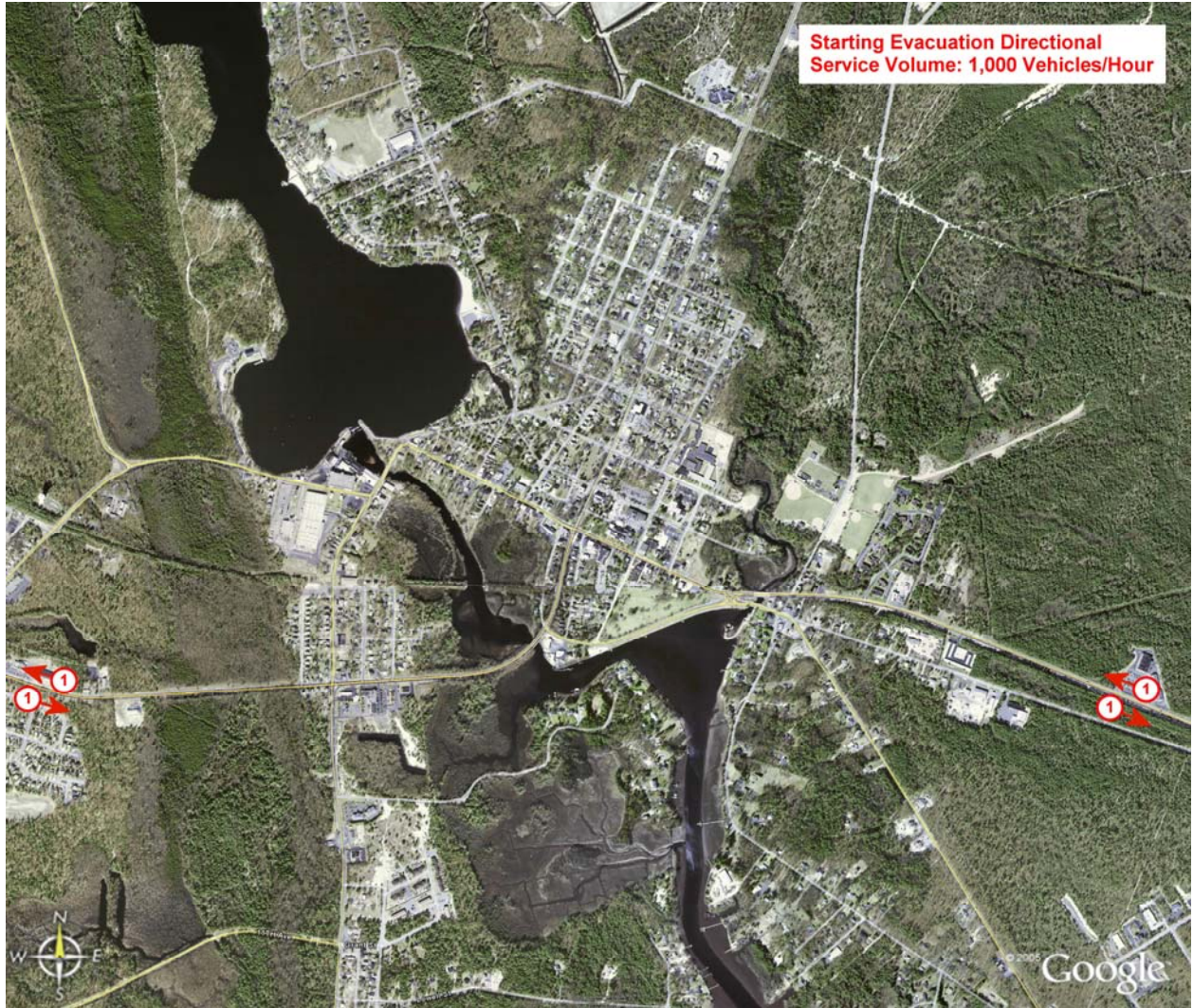
GSP Exit 40





# Atlantic County

## Route 40 at Route 50 - Mays Landing



## Atlantic County

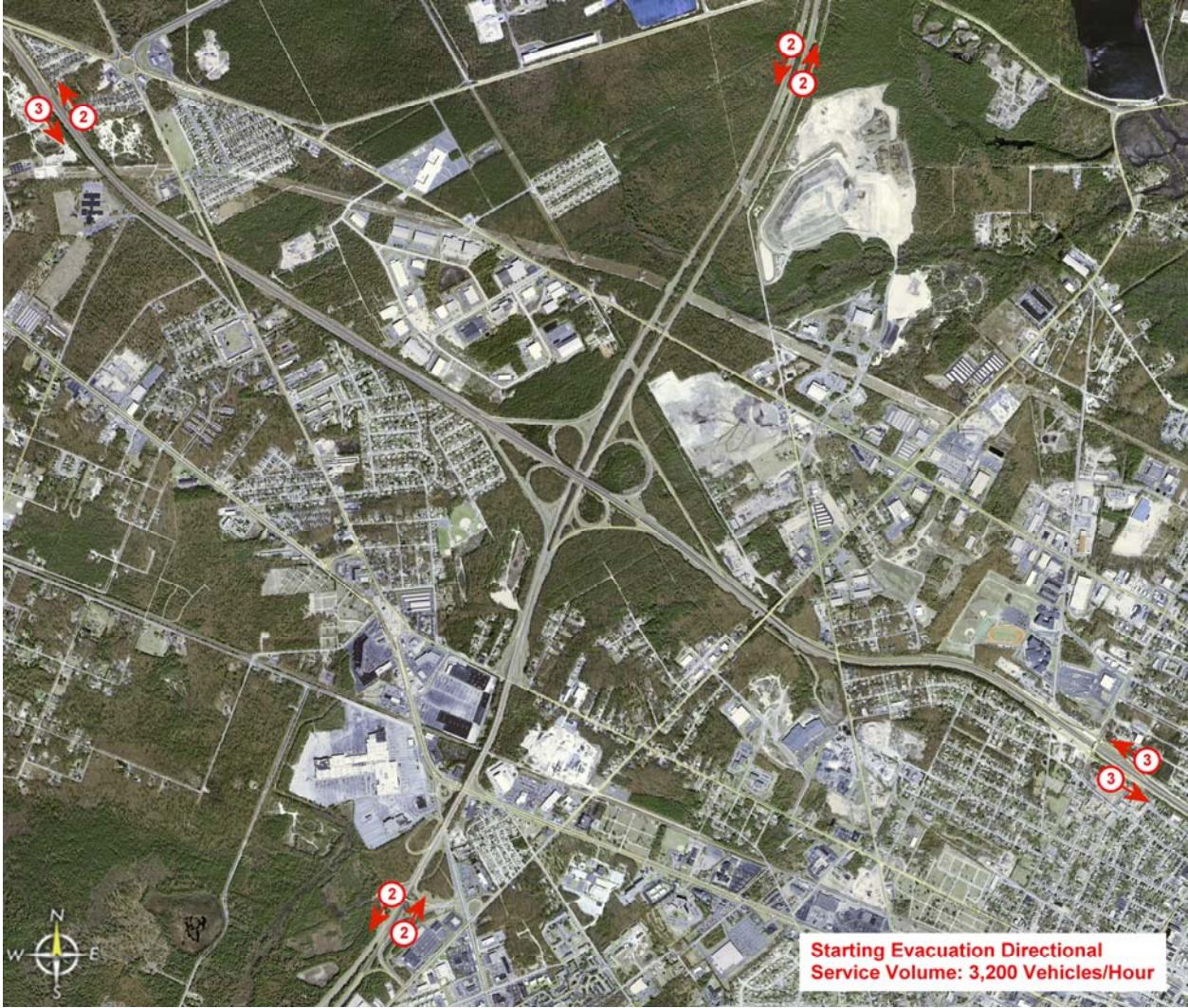
### Route 40 at Route 50 - Mays Landing - Closeup





Atlantic County

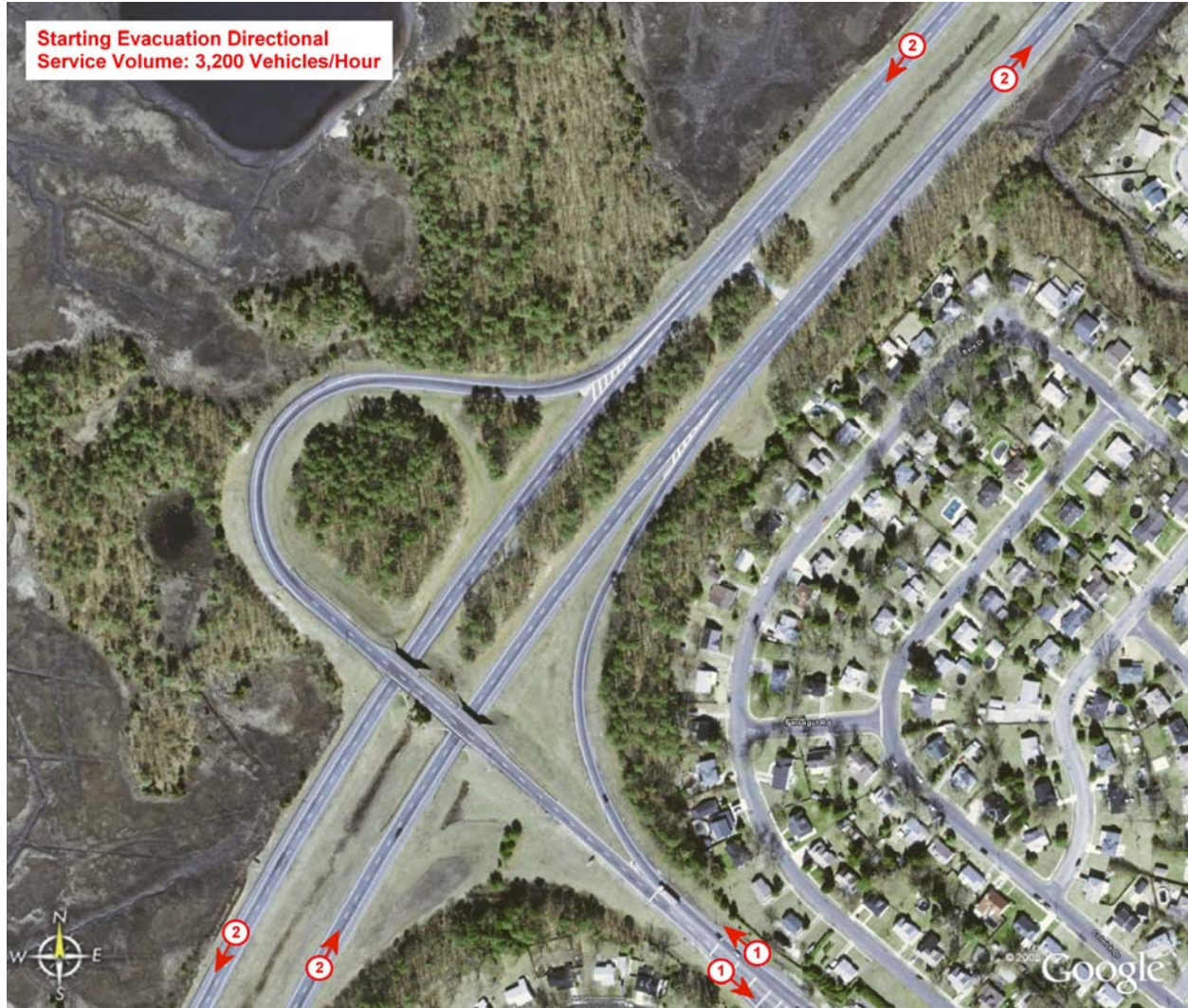
Consequence - GSP-ACE





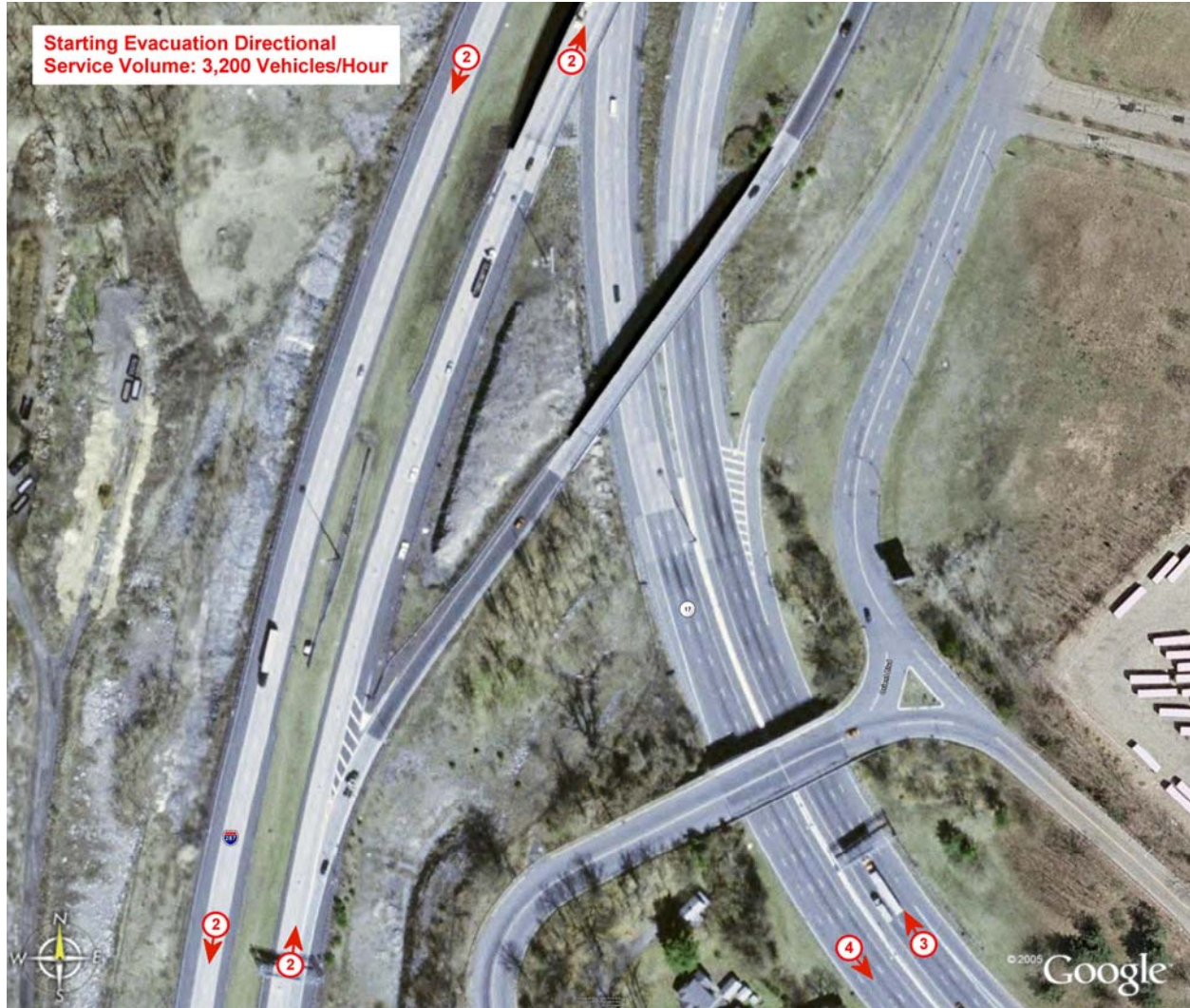
# Atlantic County

## GSP Exit 30



# Bergen County

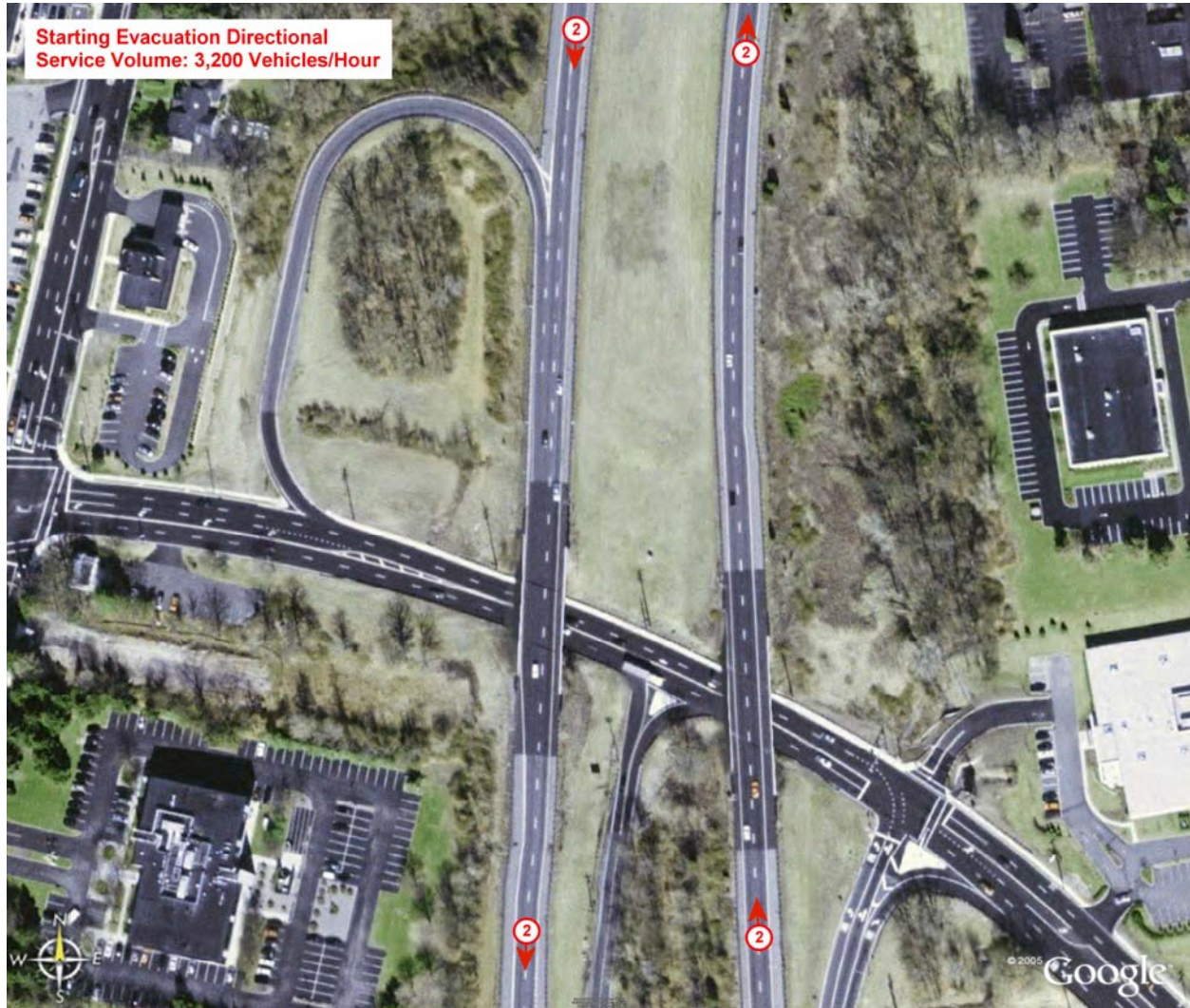
## I-287 Exit 66





# Bergen County

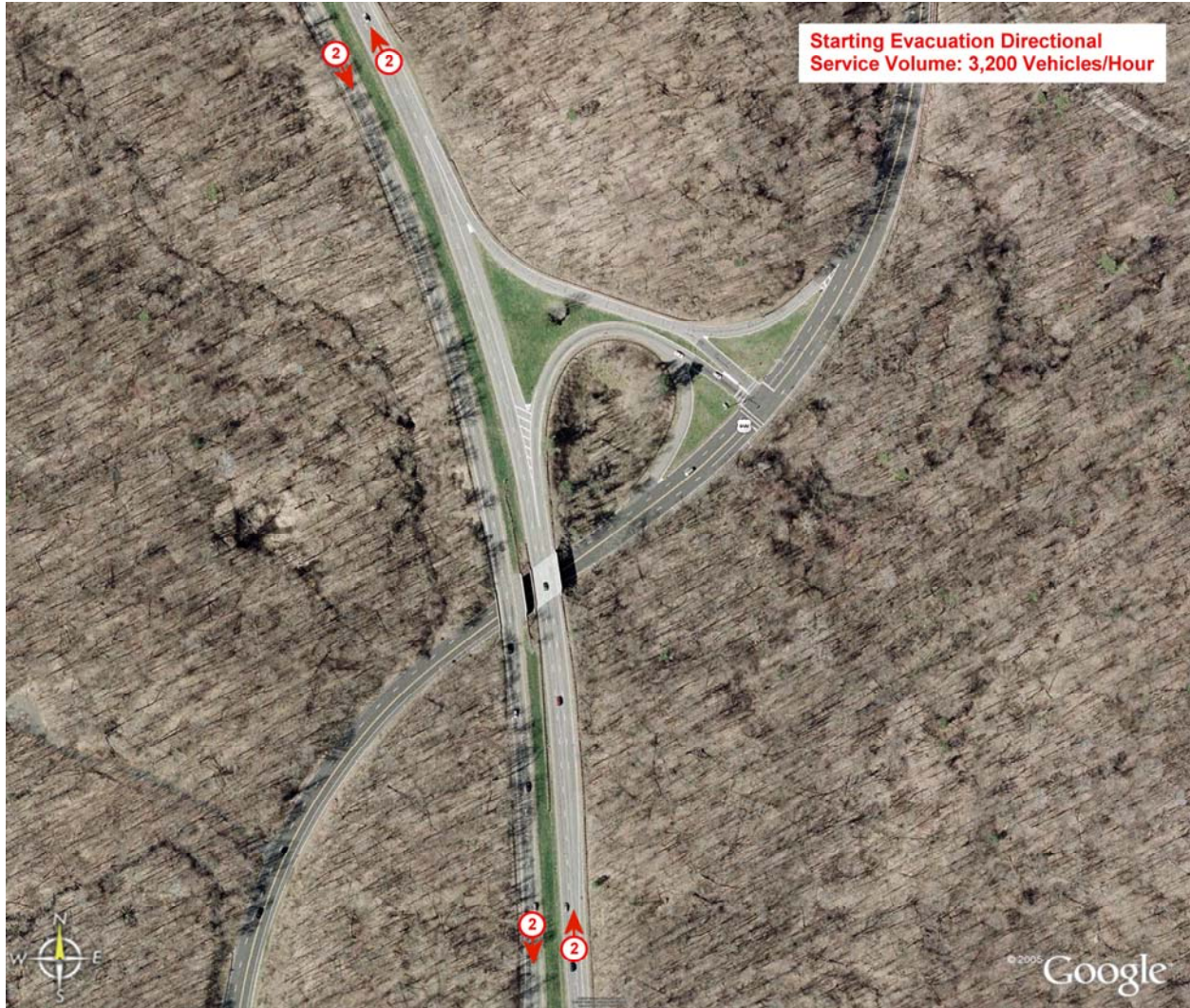
## GSP Exit 172





# Bergen County

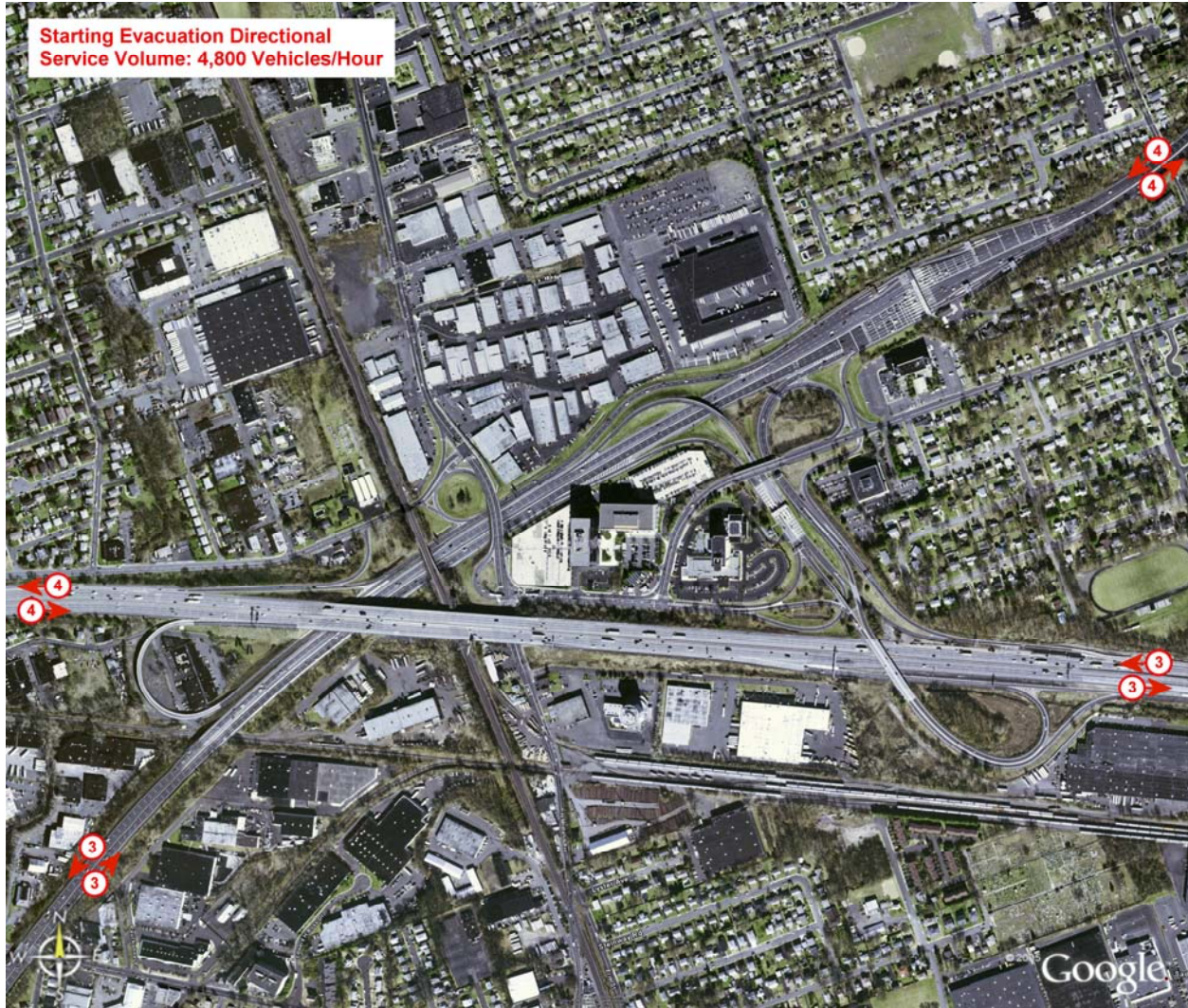
## Palisades Pkwy at US 9W





# Bergen County

## GSP at I-80





# Burlington County

## Route 70 at Route 530





# Burlington County

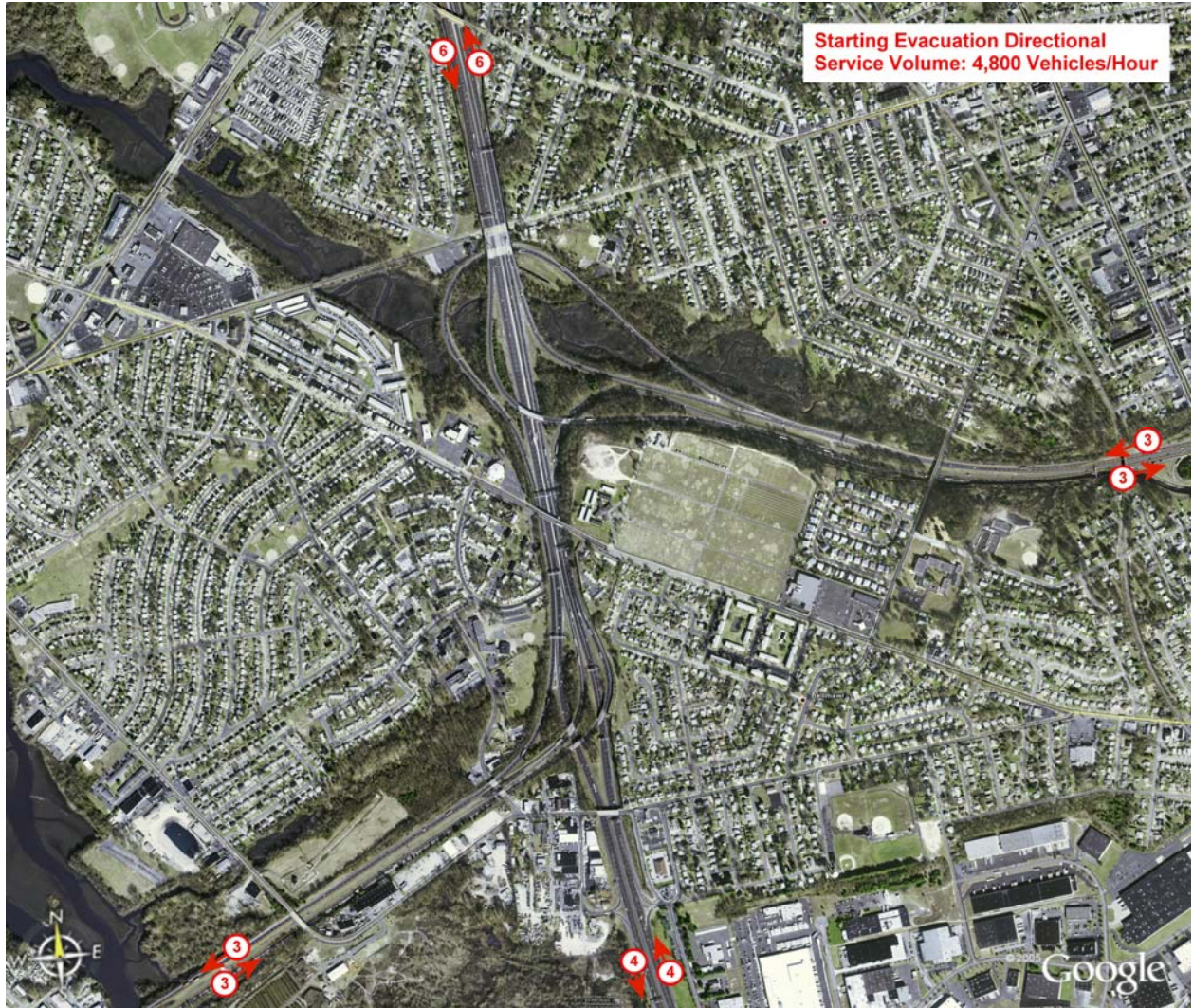
## Consequence - Route 70 at Route 72





# Camden County

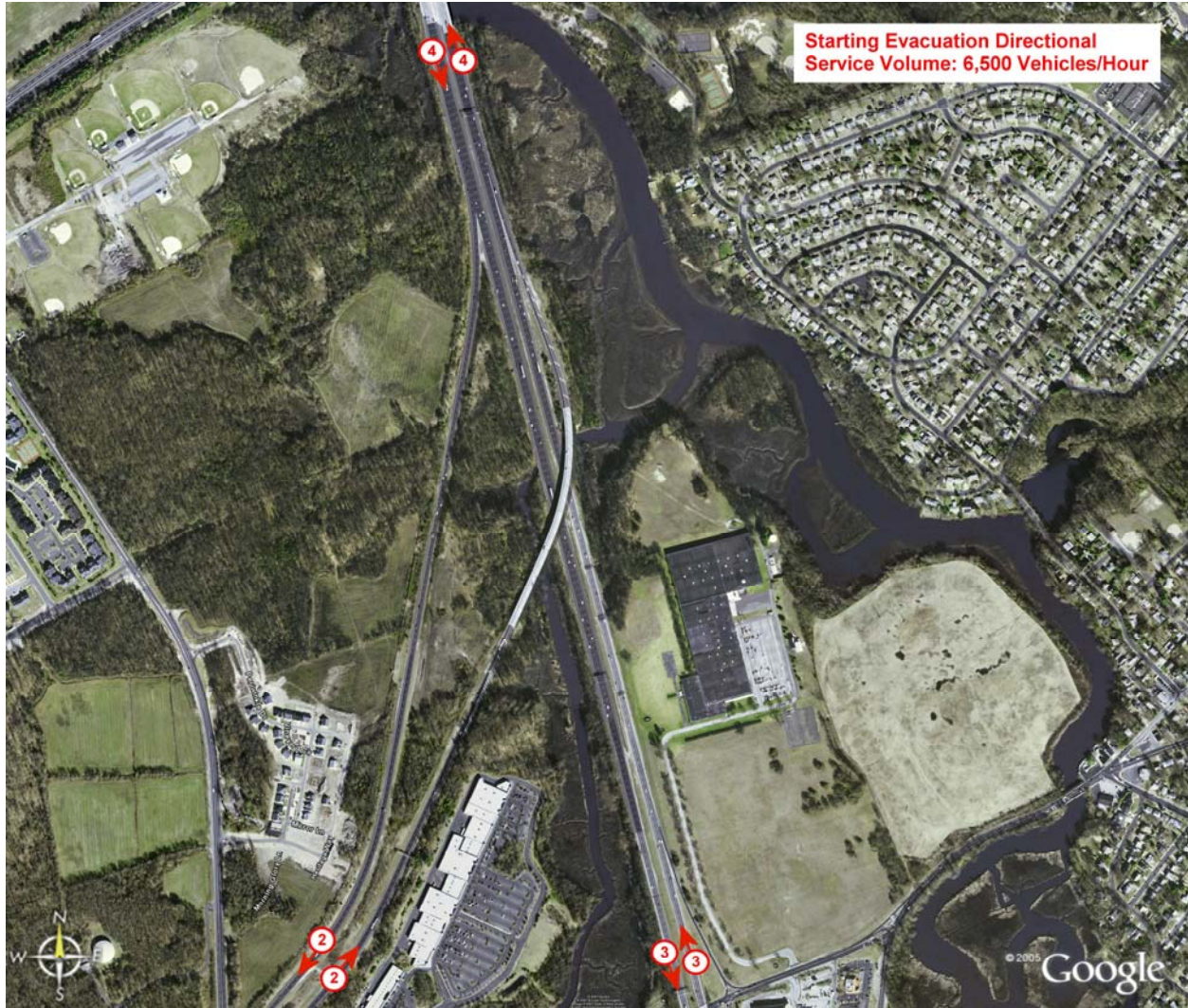
## I-295 Exits 26 and 27





# Camden County

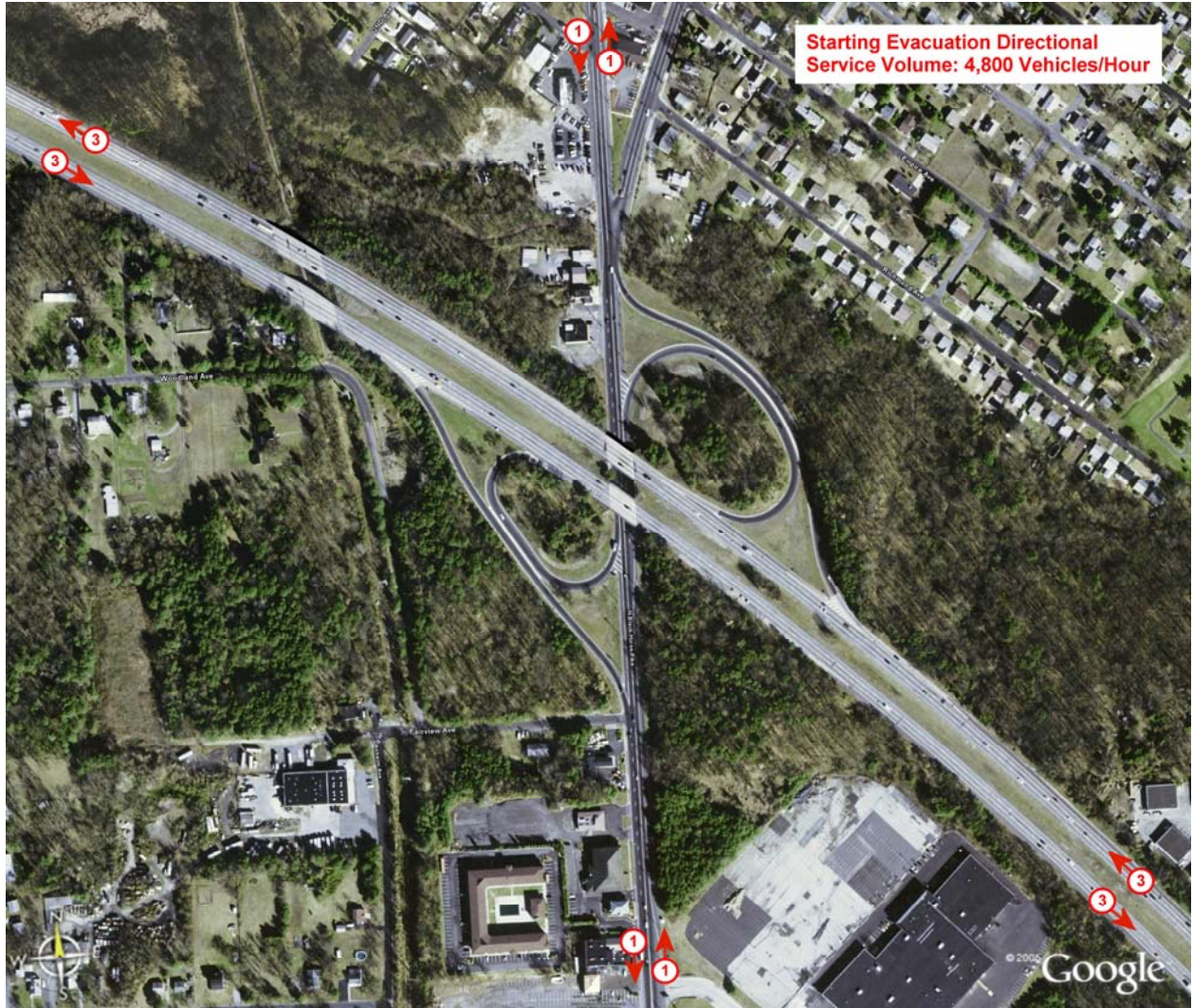
## Consequence - Route 55 at Route 42





# Camden County

## Route 42 at Route 168





# Camden County

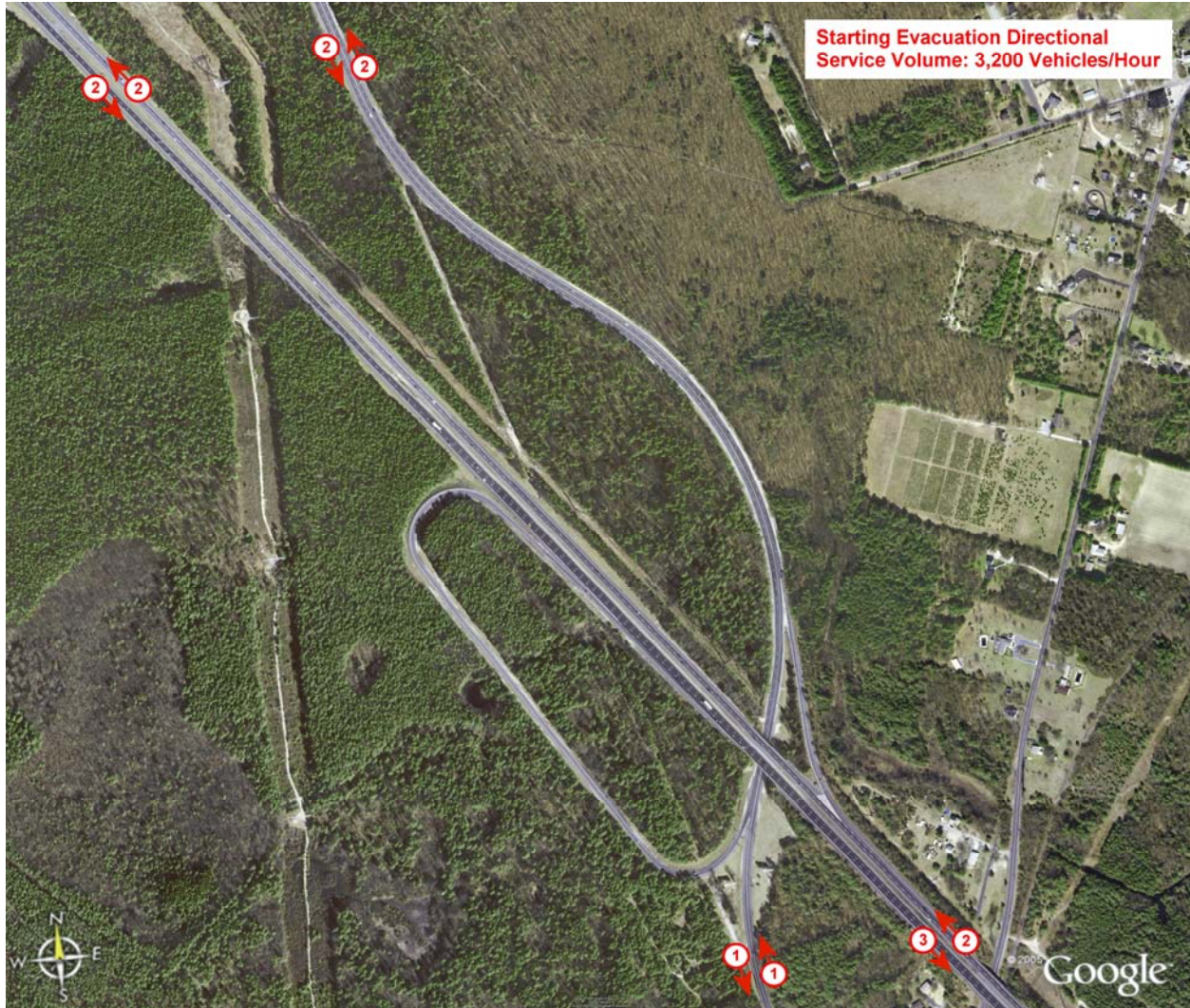
## ACE Exit 32





# Camden County

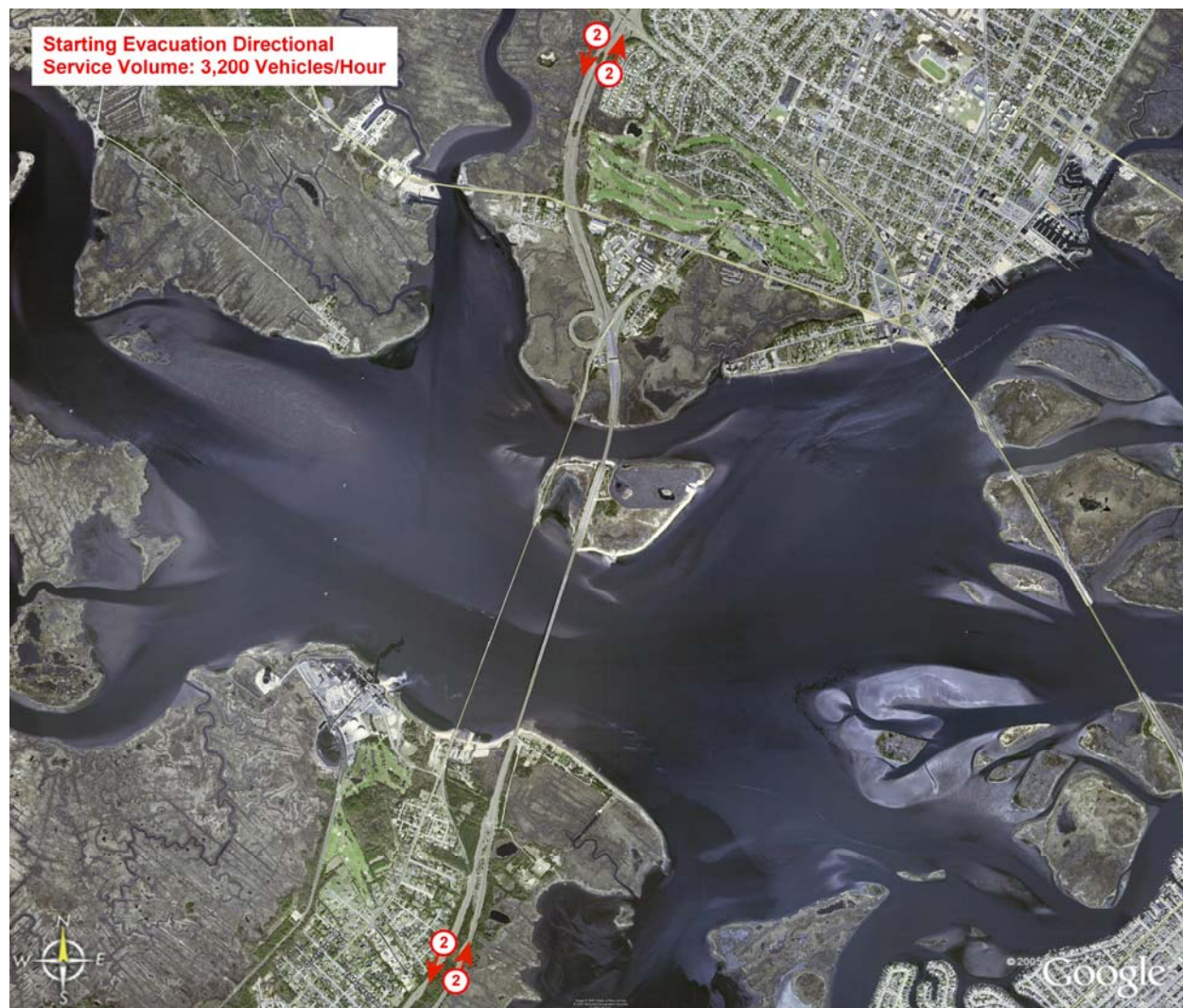
## ACE Exit 31





# Cape May County

## GSP CMC-AC Boundary



## Cape May County

### GSP CMC-AC Boundary-Closeup





# Cape May County

## GSP Exit 25





# Cape May County

## GSP Exit 17





# Cape May County

## GSP Exit 13





# Cape May County

## GSP Exit 10





# Cape May County

## GSP Exit 06





# Cape May County

## GSP Exit 04



# Cape May County

## Route 109 at GSP Start





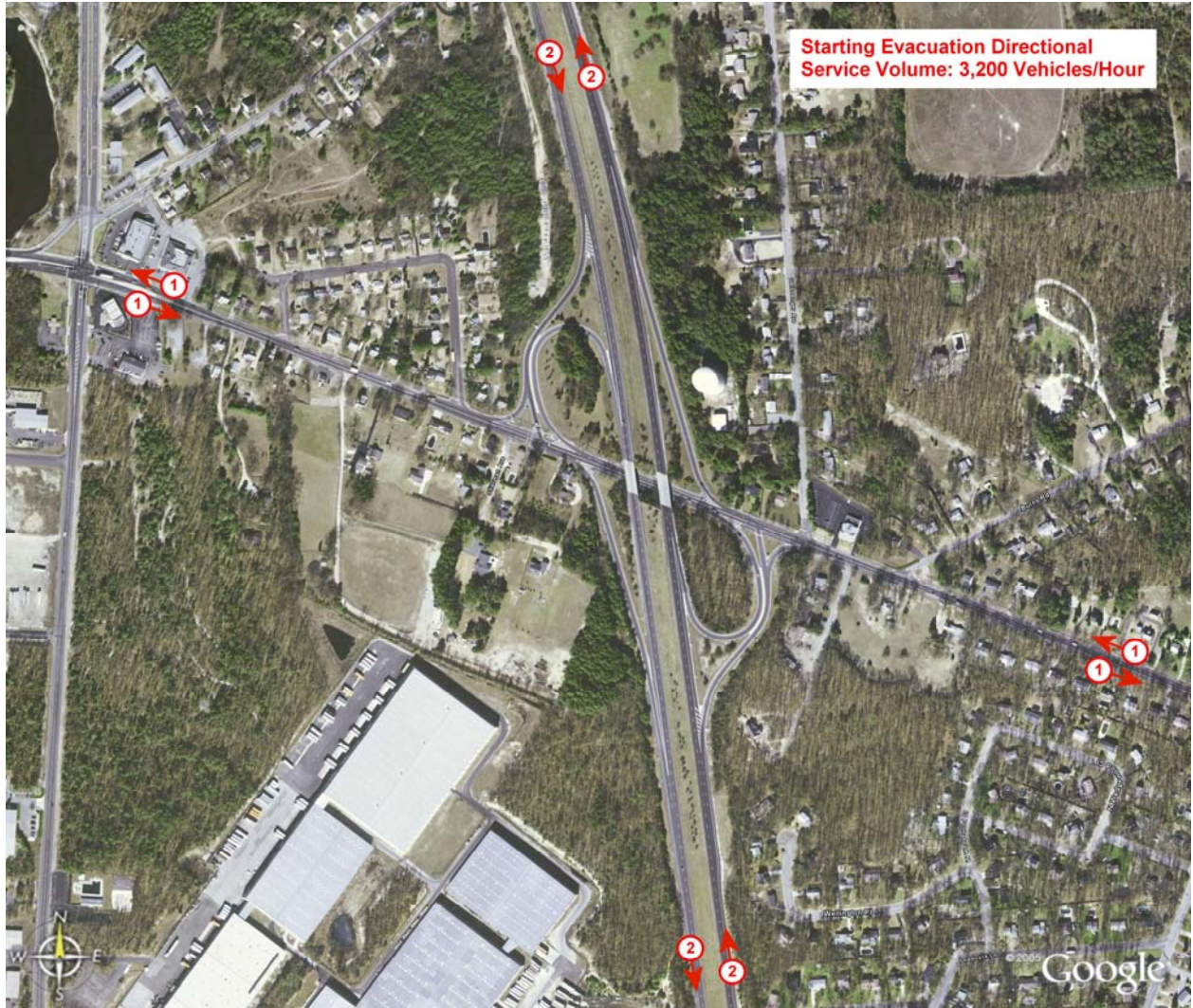
## Cape May County

### Route 109 at GSP Start - Closeup



# Cumberland County

## Route 55 Exit 24





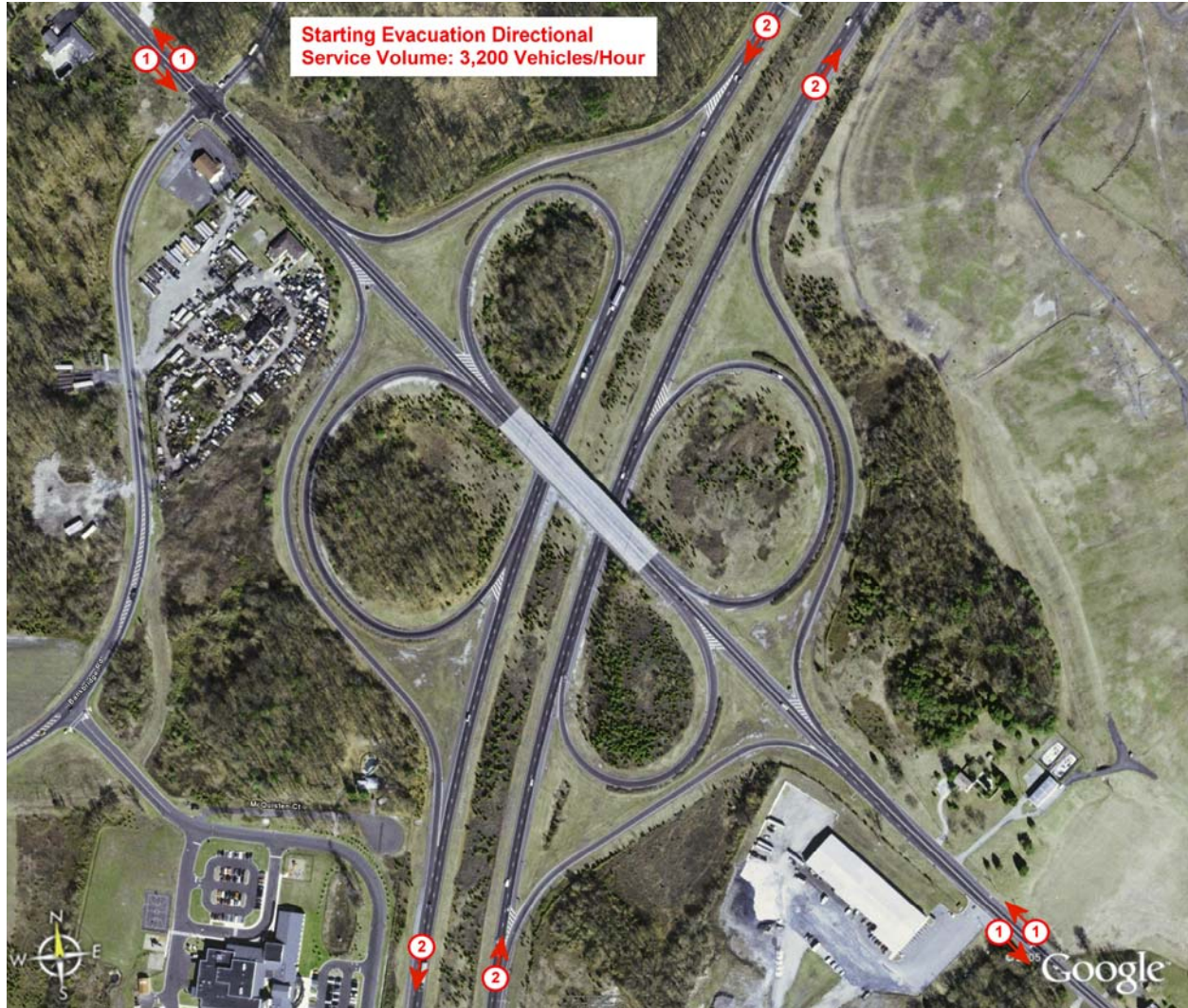
# Cumberland County

## Consequence - Route 47 - Port Elizabeth



# Gloucester County

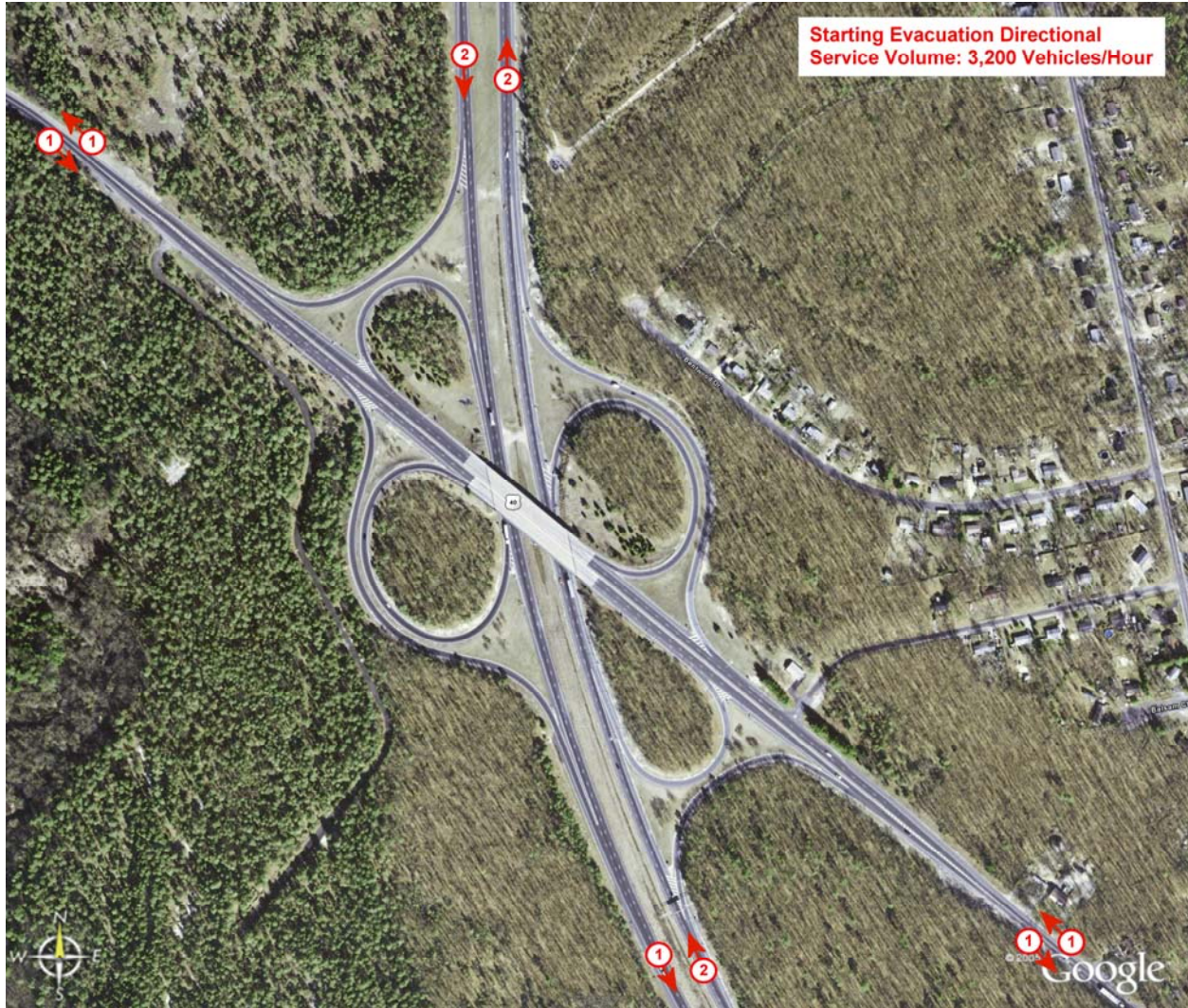
## Route 55 Exit 56





# Gloucester County

## Route 55 Exit 39





# Mercer County

## NJTP Exit 8





# Middlesex County

## I-287 Exit 3





# Middlesex County

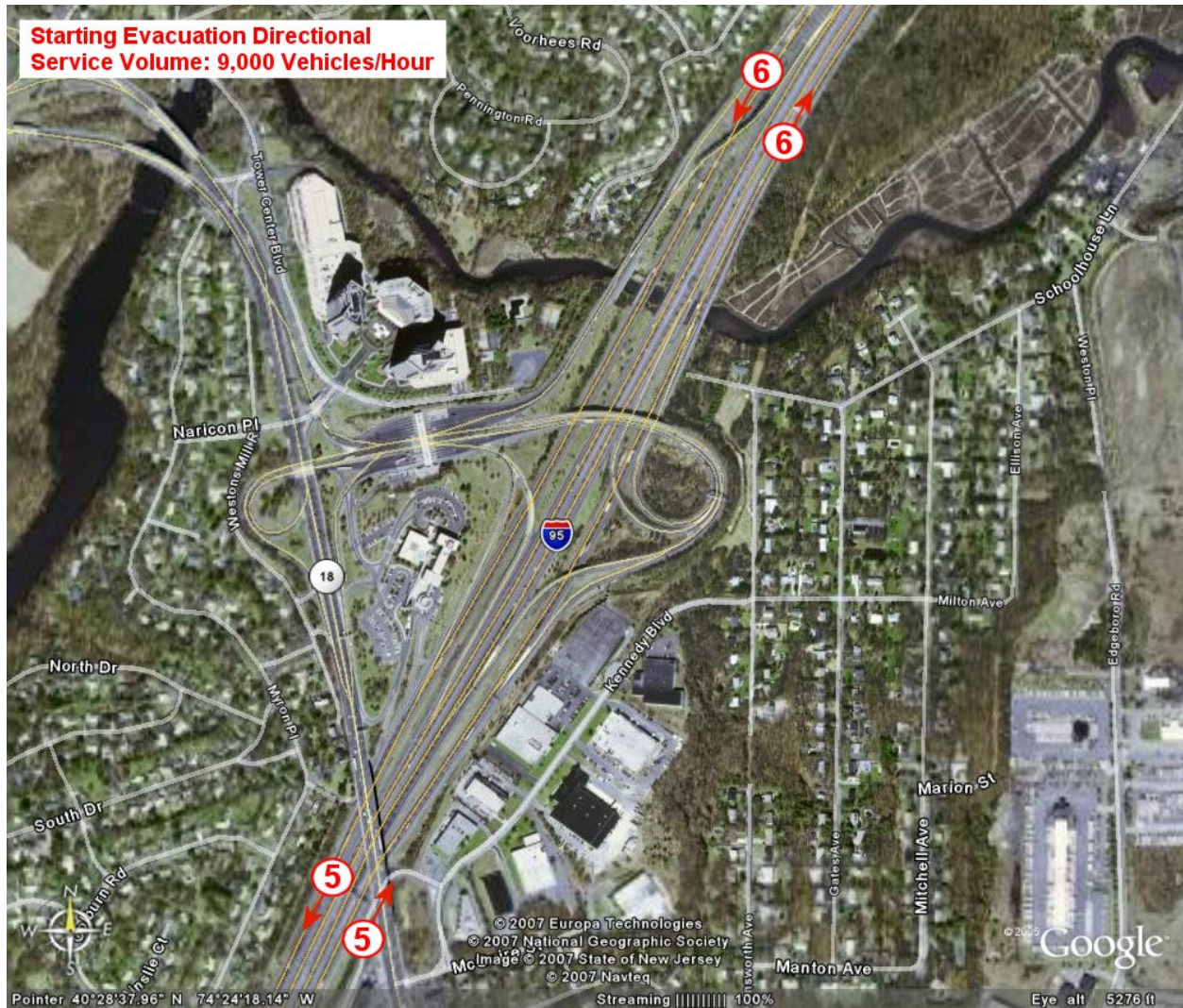
## GSP Exit 127





# Middlesex County

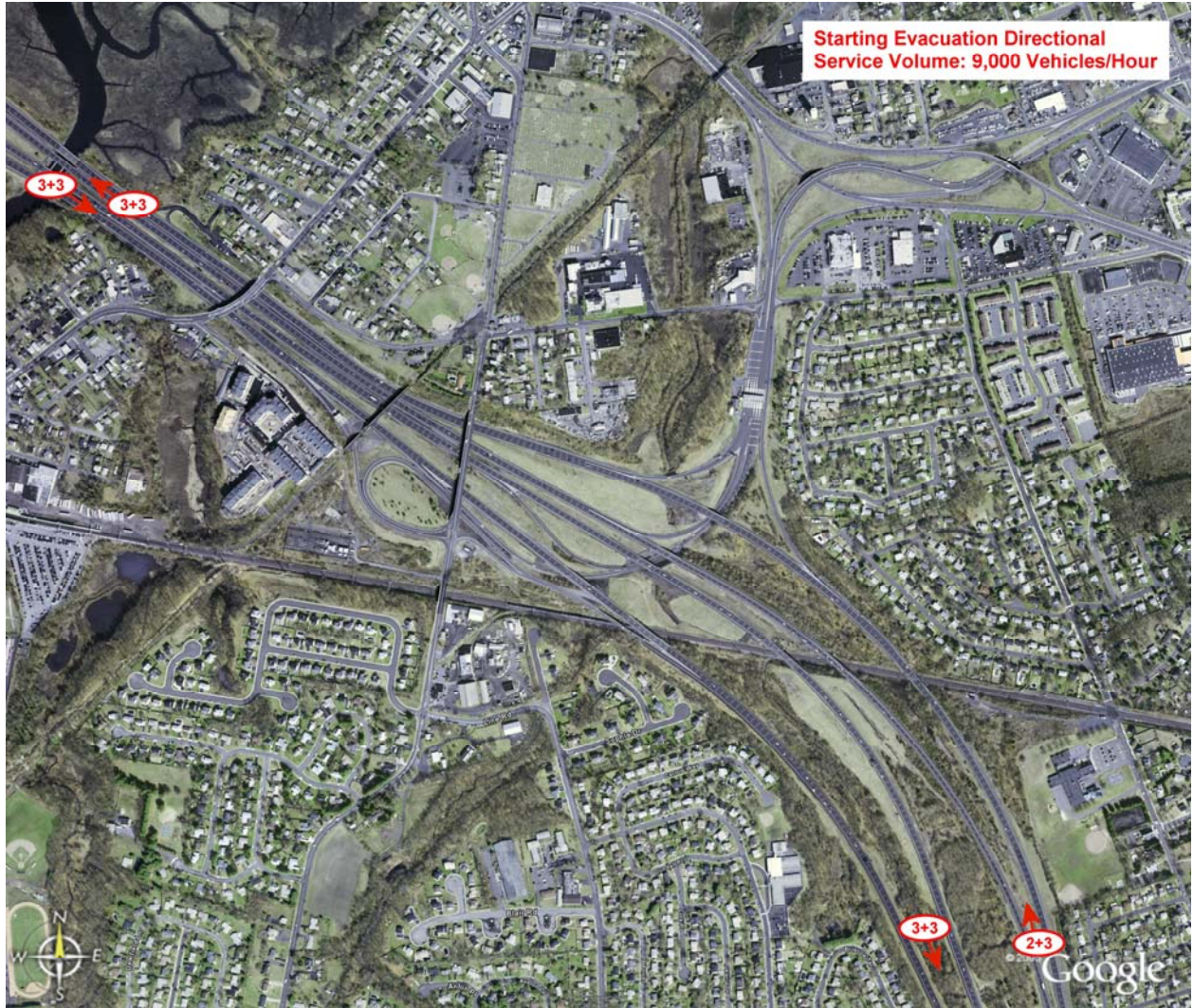
## NJTP Exit 9





# Monmouth County

## GSP Exit 117





# Monmouth County

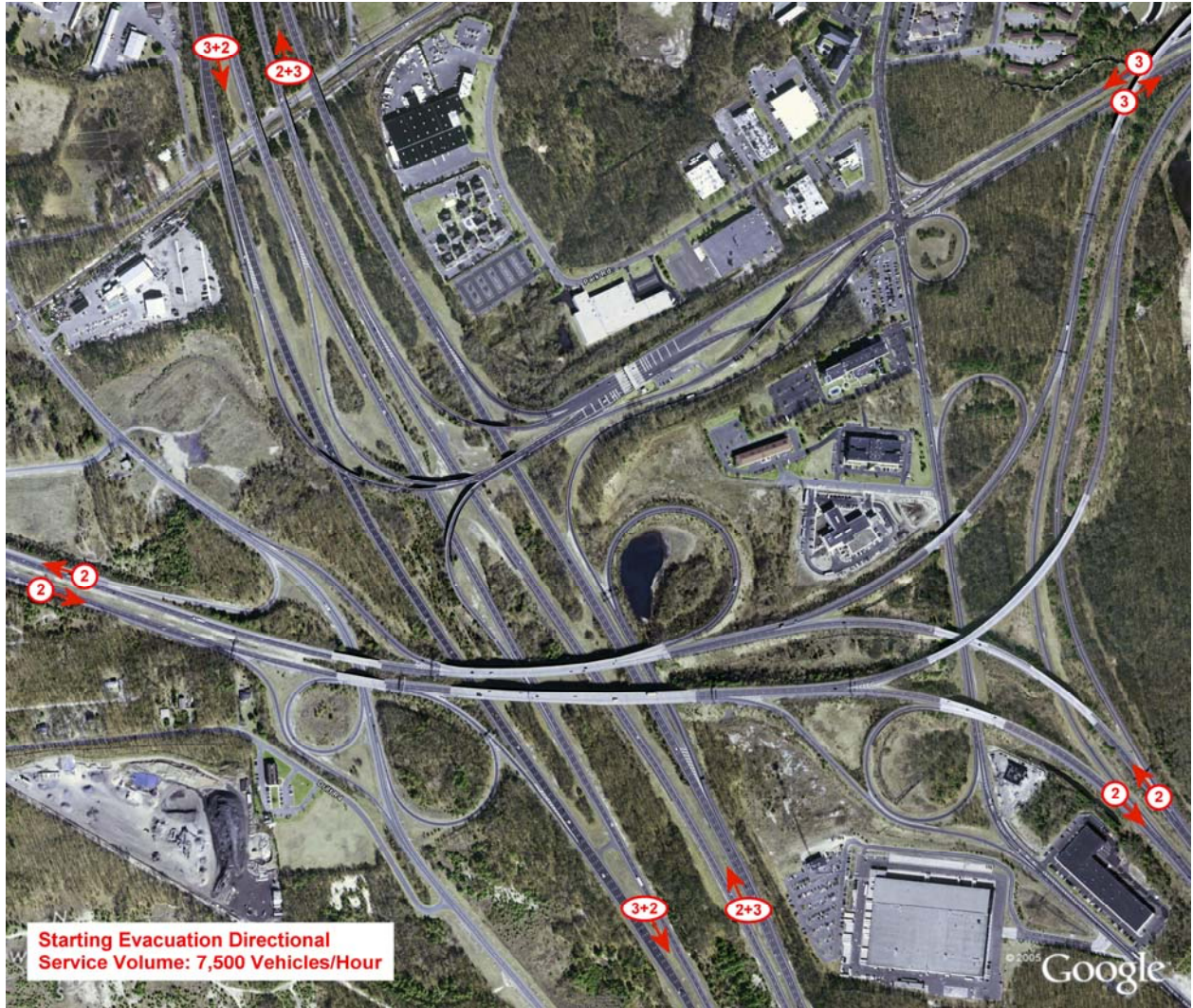
## GSP Exit 109





# Monmouth County

## GSP Exit 105





# Monmouth County

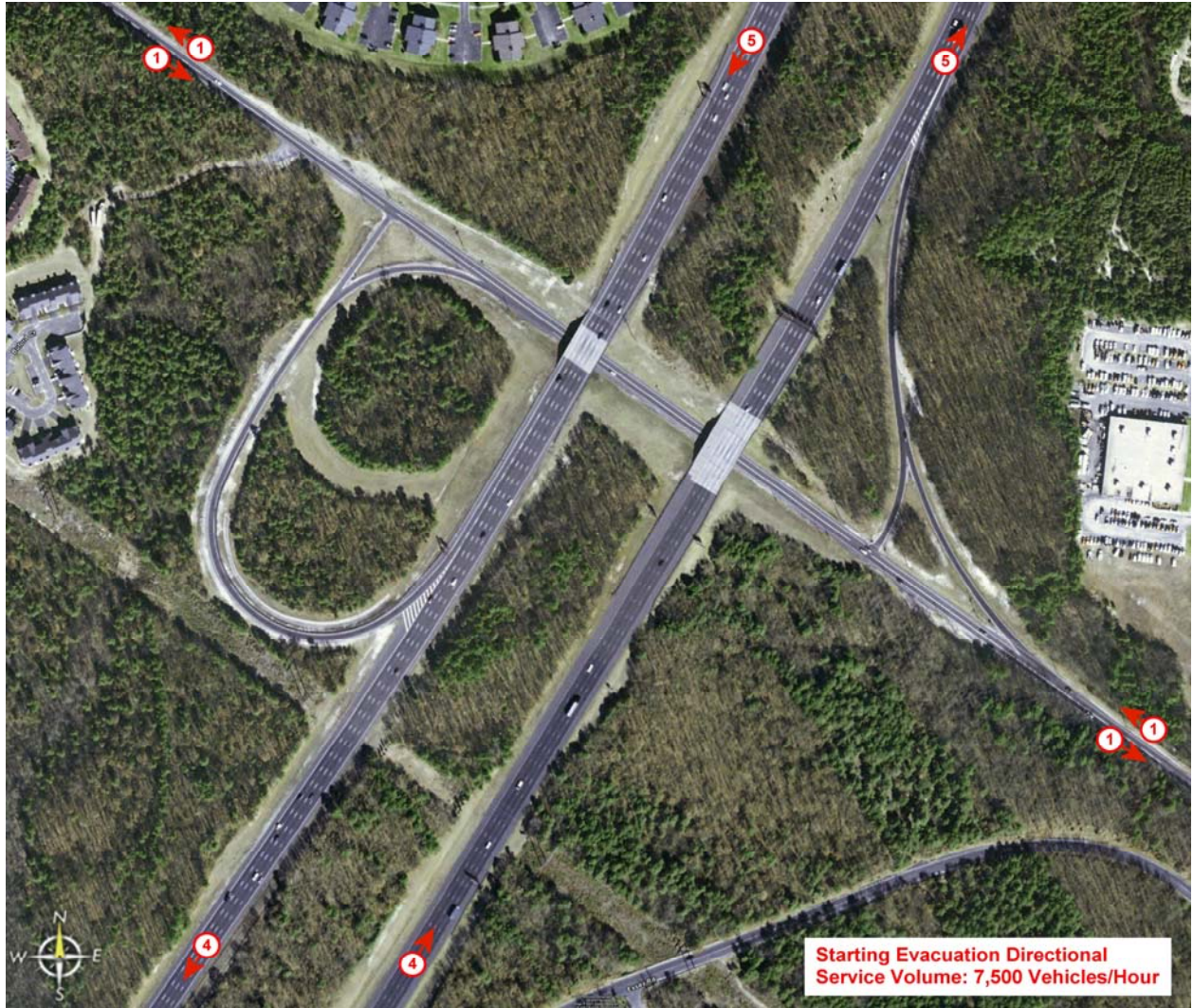
## I-195 Exit 8 MoC - MeC Boundary





# Monmouth County

## GSP Exit 102





# Monmouth County

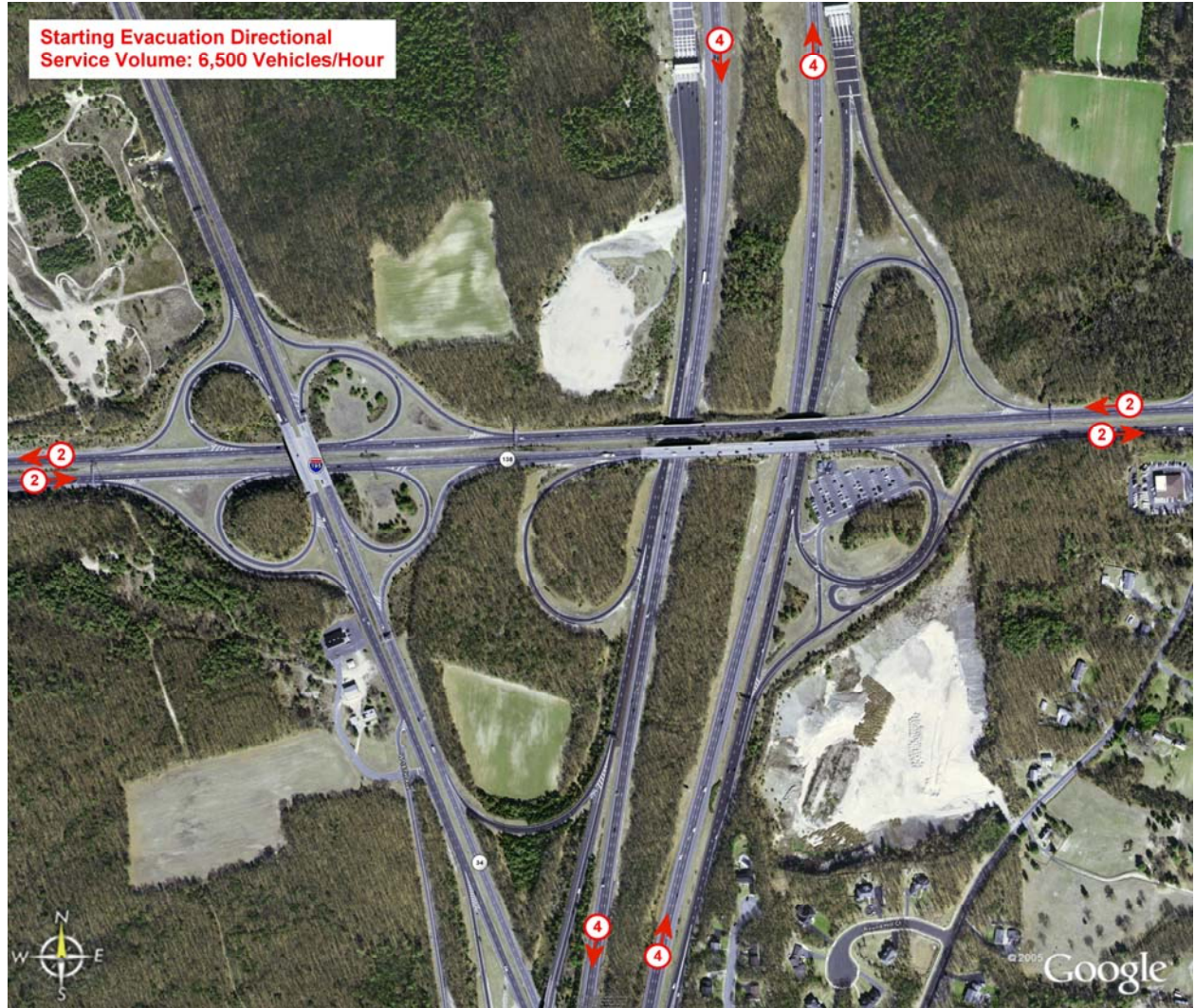
## GSP Exit 100 a - b





# Monmouth County

## GSP Exit 96





## I-287 Exit 41 at I-80





# Ocean County

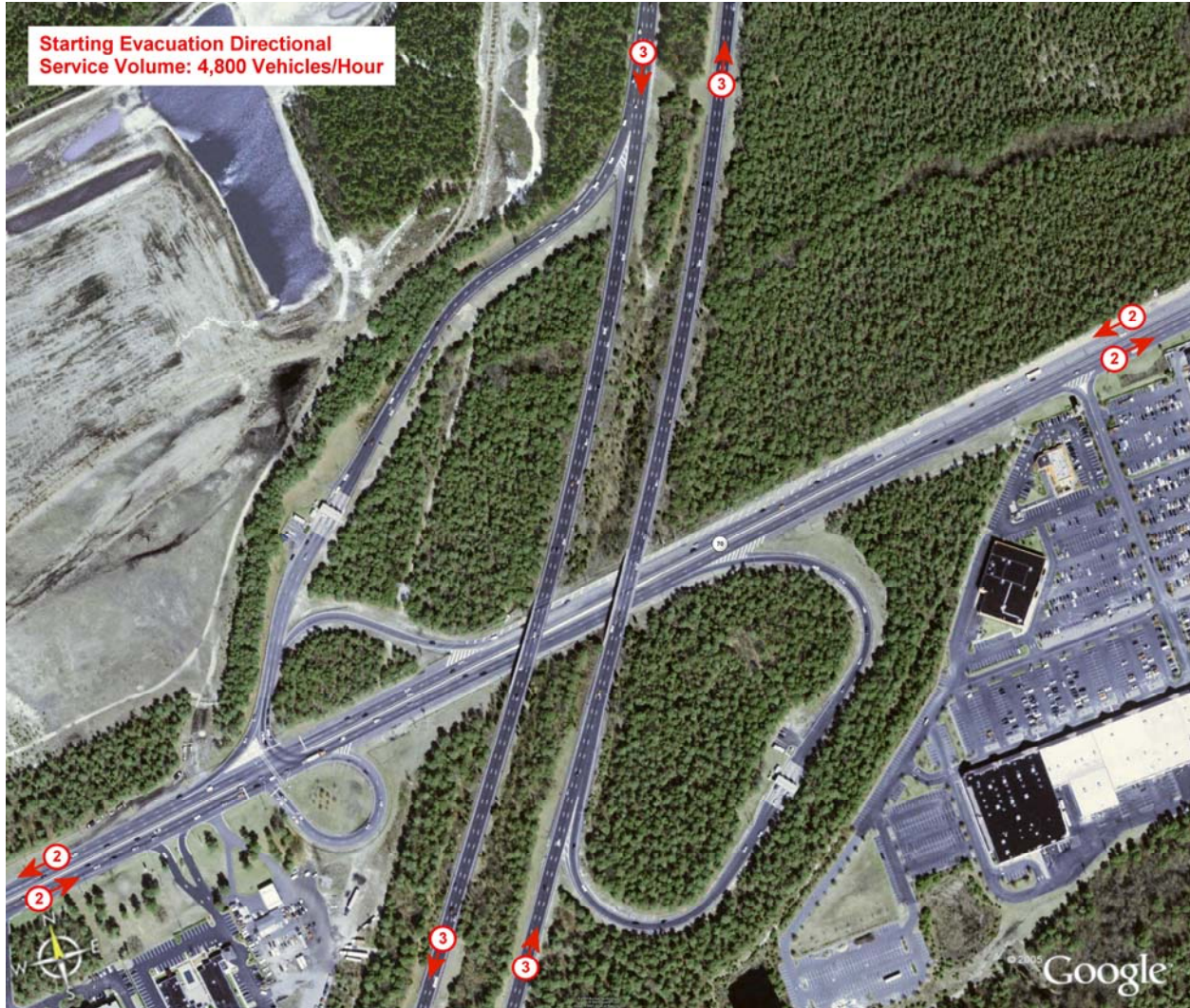
## GSP OC - MoC Boundary





# Ocean County

## GSP Exit 88





# Ocean County

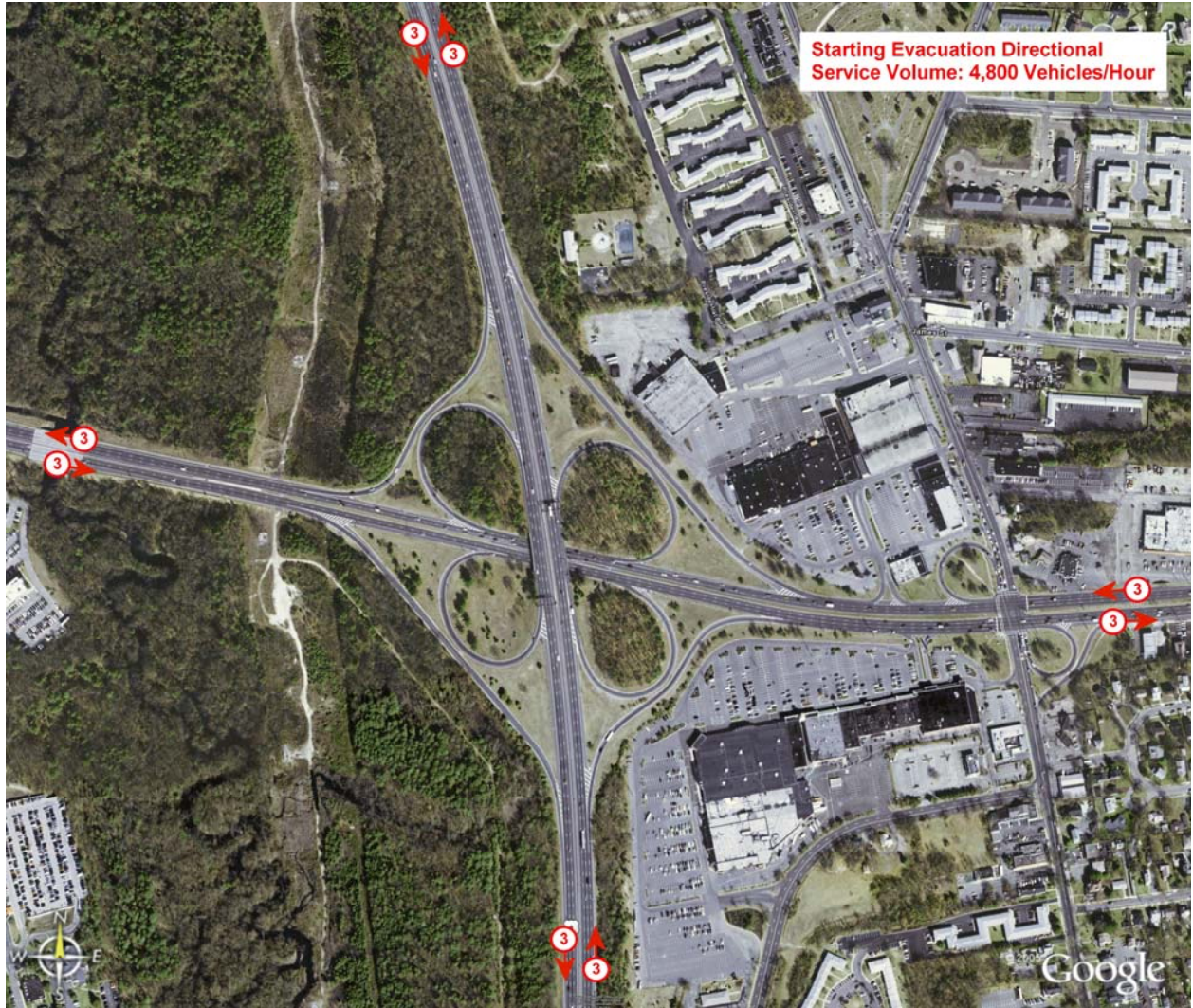
## Route 70 at Route 37





# Ocean County

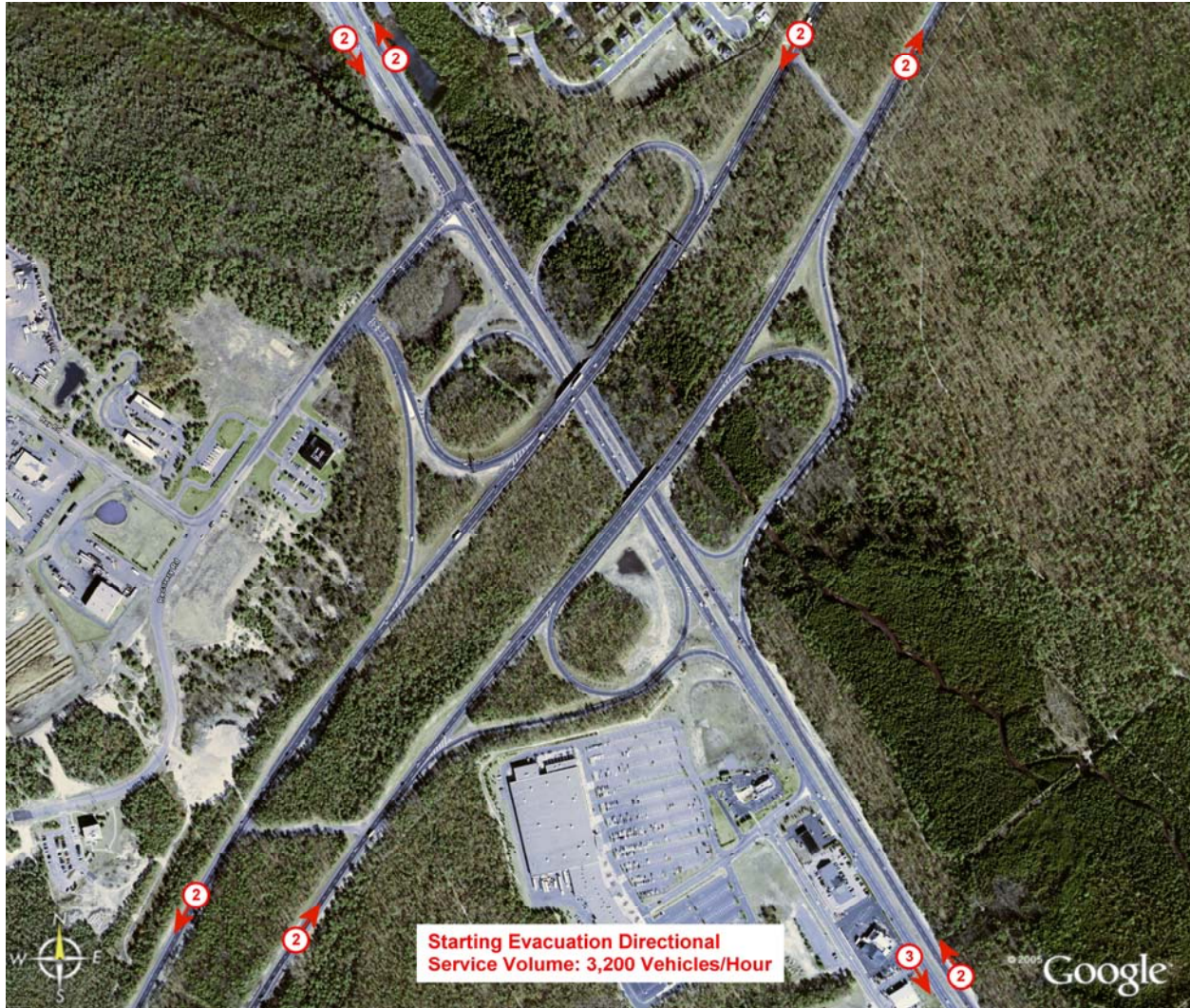
## GSP Exit 82





# Ocean County

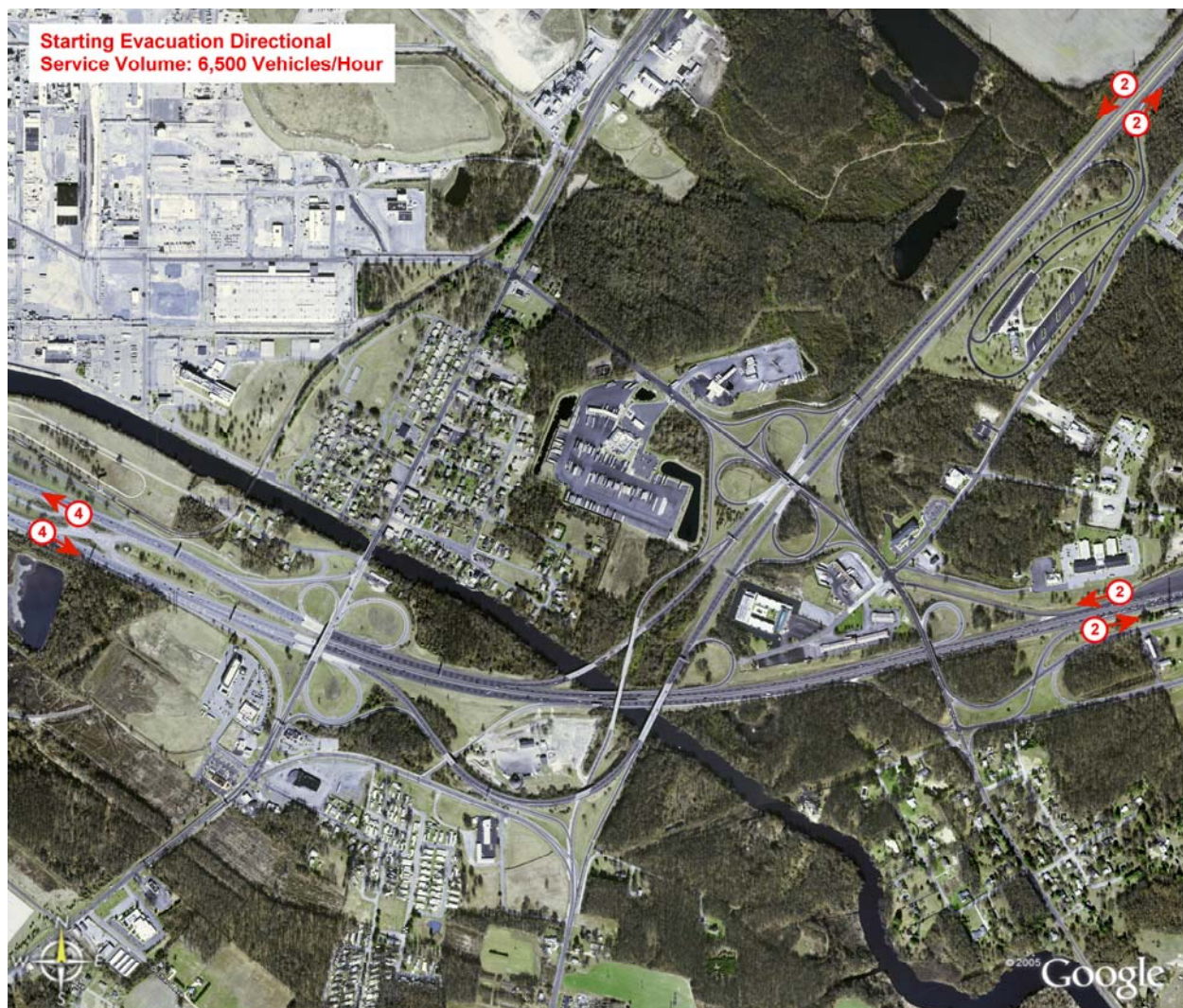
## GSP Exit 63





# Salem County

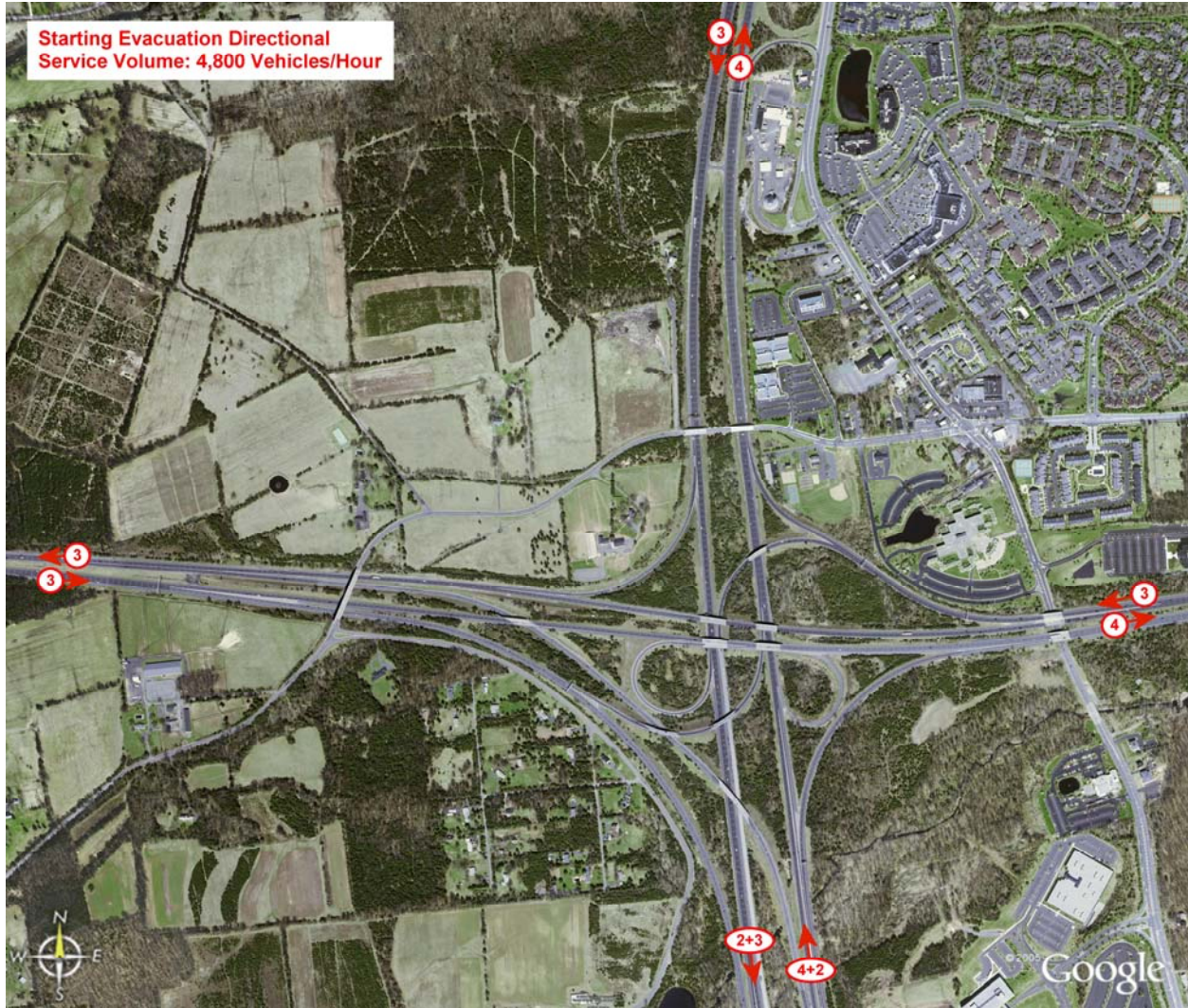
## NJTP Exit 1





# Somerset County

## I-287 Exit 21 at I-78





# Union County

## GSP at I-78





# Warren County

## I-80 Exit 4





# Warren County

## I-78 Exit 3

