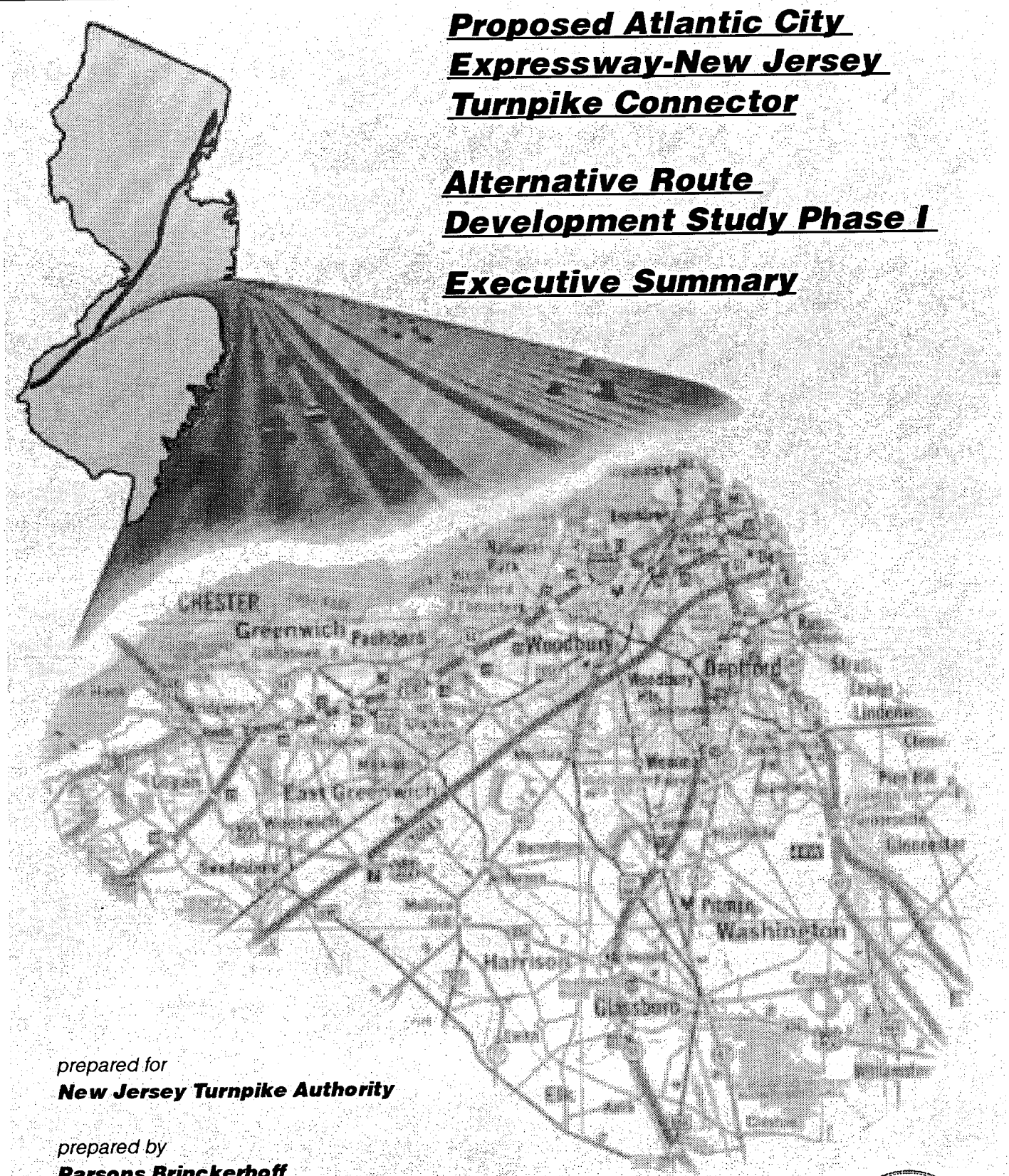
PARSONS BRINCKERHOFF

# Proposed Atlantic City Expressway-New Jersey Turnpike Connector

## Alternative Route Development Study Phase I

## Executive Summary




*prepared for*
***New Jersey Turnpike Authority***

*prepared by*
***Parsons Brinckerhoff***

*submitted*
***February 1995***

RECEIVED
MAR 28 1995
N.J. Tpk. - PLANNING DEPT.

NEW JERSEY TURNPIKE AUTHORITY 1949

# Table of Contents

**Page**

1.0 Introduction ..... 1

2.0 Project Description ..... 1
2.1 Scope of Study ..... 1
2.2 Study Area ..... 3

3.0 Purpose and Need ..... 3

4.0 Goals and Objectives ..... 4

5.0 Development of the Nine Alternatives ..... 5

6.0 Comparison of Segment Options ..... 11

7.0 Evaluation of Alignments ..... 14
7.1 Alignments 1, 2 and 3 (Northern Corridor) ..... 14
7.2 Alignments 4, 5 and 6 (Central Corridor) ..... 16
7.3 Alignments 7, 8B and 9 (Southern Corridor) ..... 17

8.0 Summary ..... 19

# List Of Figures

Figure 1: Approximate Boundaries of Study Area ..... 4
Figure 2: Alternatives 1-9, Segments A-Z ..... 6
Figure 3: 1" = 4000' Scale Map Alignments 1-9 ..... Inserted in Back Pocket

# List Of Tables

Table 1: Summary Evaluation of Alternative Segments ..... 12
Table 2: Summary Evaluation of Alignments ..... 15

## 1.0 Introduction

In October of 1990 the State of New Jersey released a report prepared by the Transportation Executive Council (TEC) which identified a number of transportation needs for southern New Jersey. The report identified the importance of the Jersey shore tourist industry and acknowledged the serious congestion problems in the suburbs of Atlantic City, Camden and Philadelphia, and south to Cape May County. The report identified a number of short and long term strategies to address these issues, including a connector linking the New Jersey Turnpike (NJT) to the Atlantic City Expressway (ACE) and a study of improvements between the NJT and I-295.

The highway system in the southern portion of New Jersey serves a diverse transportation demand. The emergence of Atlantic City and the New Jersey shore as one of the largest tourist/recreational destinations in the United States, the employment and retail centers located in the Philadelphia region, the growth occurring in Gloucester and Camden Counties, and the completion of I-476 (the Blue Route) and I-95 in Pennsylvania have all combined to increase travel demand on South Jersey highways. As the area's transportation corridors serve both commuter and recreational traffic, congestion occurs on weekends as well as on the weekdays. During peak travel periods the capacity of the system is often exceeded, resulting in congested conditions on the area's state, county, and local roadways.

In the Camden/Gloucester County area, north-south travel is primarily served by three highways: the NJT, I-295, and Route 55. East-west travel is served mainly by Route 42 and the ACE in the northern portion of the area and by Routes 40 and 322 in the south. Routes 40 and 322 link the Delaware Memorial Bridge and the Commodore Barry Bridge, respectively, with Atlantic City and the shore. Both are primarily two lane roadways which pass through small towns throughout their course, fronted by residential and commercial properties. These roads are inadequate to handle peak travel demands, and are subject to significant delays during peak summer travel periods.

The New Jersey Turnpike Authority (NJTA) in cooperation with the South Jersey Transportation Authority (SJTA) allocated planning funds to study the proposed connector. In December of 1992 the NJTA retained the consulting firm of Parsons Brinckerhoff-FG (PB) to conduct an alternative route development study, the first step in the planning process. The study is anticipated to be completed by the fall of 1995. This document is an Executive Summary of the Phase I Report and describes the conceptual development and comparative evaluation of alternative corridors.

## 2.0 Project Description

The purpose of this study is to identify and develop conceptual alternative alignments for the proposed ACE-NJT Connector. The study consists of two phases. Phase I is the conceptual development and comparative evaluation of alternative corridors. Phase II will be a more detailed evaluation of three alignments, chosen on the basis of the Phase I analysis.

### 2.1 Scope of Study

The activities of each study work task are summarized as follows:

### Agency and Public Involvement

Throughout the progress of the study, an extensive 3-part agency/public involvement program was undertaken to inform and solicit input from other agencies, local officials and the public. Since the proposed connector will interface with roadways controlled by other transportation agencies, an agency coordination group was assembled that included representatives from these agencies. Public officials and the general public were invited to workshops and/or meetings. The general public meetings were announced through press releases to the local and regional newspapers. The agency/public involvement process will continue through Phase II of the study.

### Data Collection and Review

An extensive data collection process was undertaken to gather land use, socioeconomic, cost, transportation, and environmental data for the study area. Relevant data was collected from local, state, and federal sources; through meetings and follow-up discussions; in report, mapped, and digitized format; and via field surveys.

Land use information collected included residential, commercial/retail, manufacturing/industrial, community facilities, parks and recreation, active farms, cemeteries, areas of proposed large-scale developments, and open space.

Environmental data collected included wetlands, important/protected farmlands, streams, rivers, floodplains, major bodies of water, rare and endangered species, cultural resources, groundwater aquifers, historic/archeological sites, and hazardous waste sites.

Socioeconomic data assembled from the primary data sources were reviewed and analyzed. Population trends and projections indicate that the study area demonstrated positive growth in the 1980s and is expected to continue in a positive mode through the year 2020.

Information concerning existing and projected traffic conditions on the study area network was obtained from the NJTA and its traffic consultant, Wilbur Smith Associates (WSA). Traffic data was developed by WSA, which used a traffic model obtained from the Delaware Valley Regional Planning Commission (DVRPC) as a starting point. The model contained sufficient network detail for Gloucester, Camden, Burlington, Philadelphia, Delaware, and Chester counties, and was expanded to include major routes in Atlantic and Cumberland counties. Trip tables were split into two separate trip tables: summer and non-summer. The summer trip table represents travel demand during the months of June, July and August, when recreational traffic is at a peak. The non-summer trip table represents travel demand during the remainder of the year. An origin-destination survey conducted by WSA in July 1993 provided a basis by which origin and destination patterns for summer and non-summer trip tables were derived.

Study area summaries of vehicle-hours of travel, vehicle-miles of travel and average speeds for each alternative were compared to the no-build alternative. Emissions were calculated using Mobile5a, an EPA mobile source emissions factor model. The model generated emissions of CO, VOCs, and NOx.

The potential effects of noise generated by traffic on the alternative alignments was evaluated in terms of the incidence of noise-sensitive receptors (residential use, educational facilities, houses of worship, and parks and recreation areas).

A right-of-way and construction cost estimate was calculated for each alternative alignment, as well as costs associated with improving existing roads. The order of magnitude cost estimates considered such items as the length of the alignment, the estimated number of water body crossings, standard unit prices, total number of structures, earthwork, number of interchanges, number of toll plazas, and estimated ROW costs.

***Aerial Survey, Constraints Mapping/GIS Development***
New aerial photography at a scale of 1"=800' was developed for the project area. Using the aerial photography and the review of the data collected, a constraints map was generated using a Geographic Information System (GIS). This system facilitates the evaluation of a broad range of alternatives, provides an interface for future project activities, and provides a graphics platform for developing project maps and displays.

***Conceptual Development and Evaluation of Alternatives***
Utilizing the constraints mapping, nine conceptual alternatives were developed and subdivided into distinct corridor segments. The location of possible interchanges, travel demand estimates, land use and environmental impacts, and construction cost estimates were developed for each alternative segment. A screening process was used to narrow the conceptual alternatives and segments. Matrix evaluation techniques were used to evaluate the alternatives or segments in terms of potential impact on land use and environmental constraints, traffic projections and costs. The screening process was used to define the nine distinct alignments, and then to narrow the nine alignments down to three.

***Preliminary Design of Alignments***
Phase II of the study will perform more detailed conceptual design and further environmental evaluation of the three alignments. The alignments will be refined and developed in sufficient detail to include interchange locations and tolling schemes, and to further define construction costs, environmental and community impacts, and permit requirements.

## 2.2 Study Area

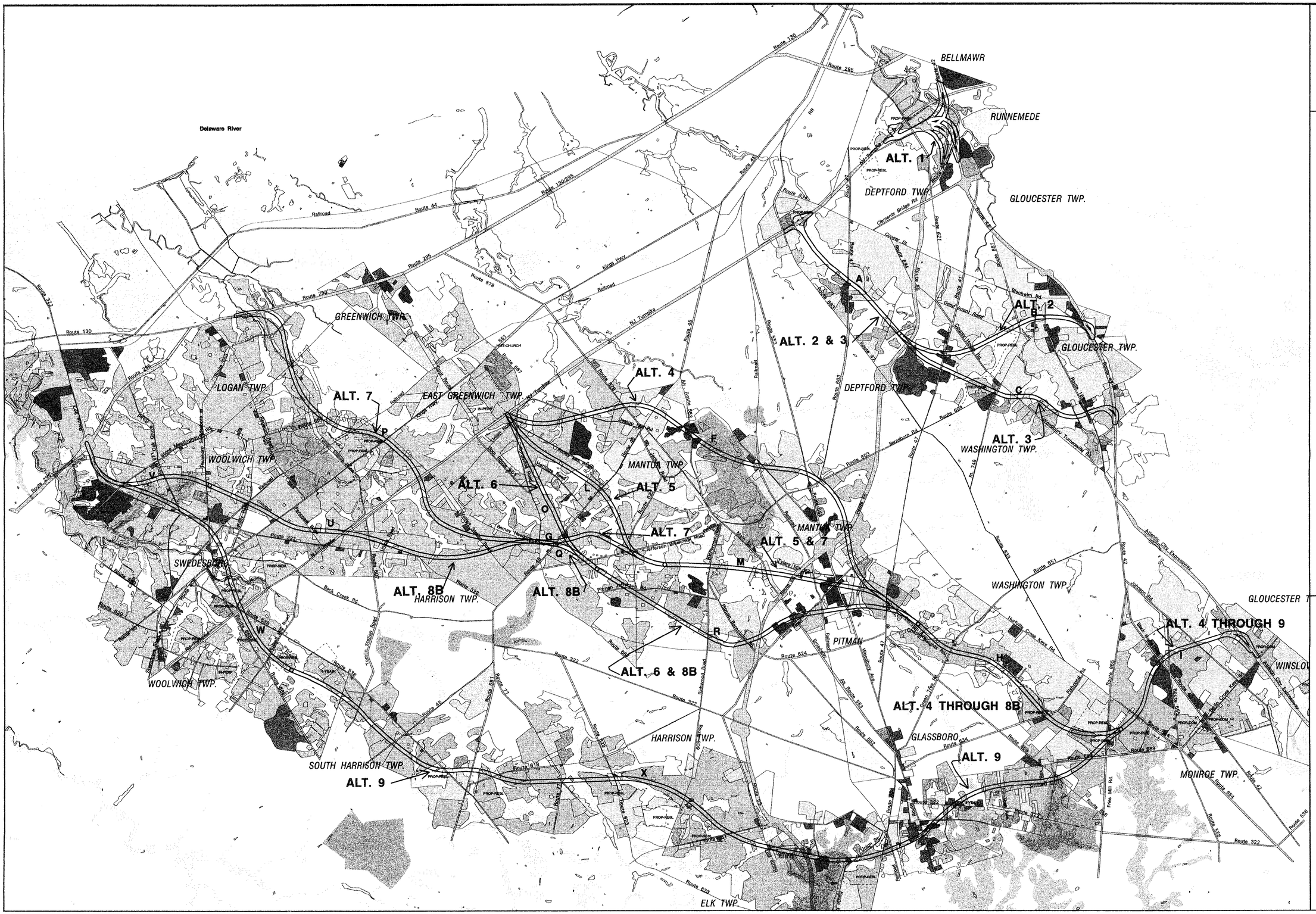
The initial study area was a triangular shaped area, approximately 186 square miles in Gloucester County and small portions of Camden, Salem and Atlantic Counties, bounded by I-295 on the west, Route 42 (North-South Freeway) and the ACE on the northeast, and Route 322 on the south. The study area was expanded further to the south as a result of the coordination with public officials and the general public. It is currently defined as the area bounded on the south by a line approximately two miles south of Route 538. Figure 1 depicts the study area.

# 3.0 Purpose and Need

The study area has experienced increasing traffic congestion problems associated with travel between the southern Delaware Valley and the New Jersey shore communities, especially summer recreational travel. These problems are related to deficiencies in the study area's existing roadway network and continuing growth and development in the region. The existing roadway system consists of major limited-access roadways oriented in a north-south direction including I-295, the NJT and Route 55. While the ACE provides east-west access for the northern portion of the study area, no major east-west roadway currently exists in the southern portion. Consequently, traffic from the NJT exits onto Route 322 and utilizes Route 322 as a connection to the ACE. Likewise, travel from Pennsylvania via I-476 (the Blue Route) and I-95 over the Commodore Barry Bridge is forced onto Route 322 in order to connect with the ACE. Commuters from Gloucester and Camden Counties to the Philadelphia area are also forced to utilize local routes to accomplish their trips, resulting in significant rush-hour congestion on Route 42, Route 55, Route 322 and others.

# New Jersey Turnpike - Atlantic City Expressway Connector Study

## Alignments 1-9




**Land Use Classification**

- Agricultural
- Residential
- Industrial
- Open Space
- Forest
- Cemetery
- Commercial
- Hazardous Waste
- Transportation
- Open Water
- Waste Disposal
- Religious Institution
- Recreation
- Government
- Education
- Utility
- Historic
- Coastal Plain (AWCS)
- EPA Priority Wetlands
- New Jersey Natural Heritage Priority
- Wetlands

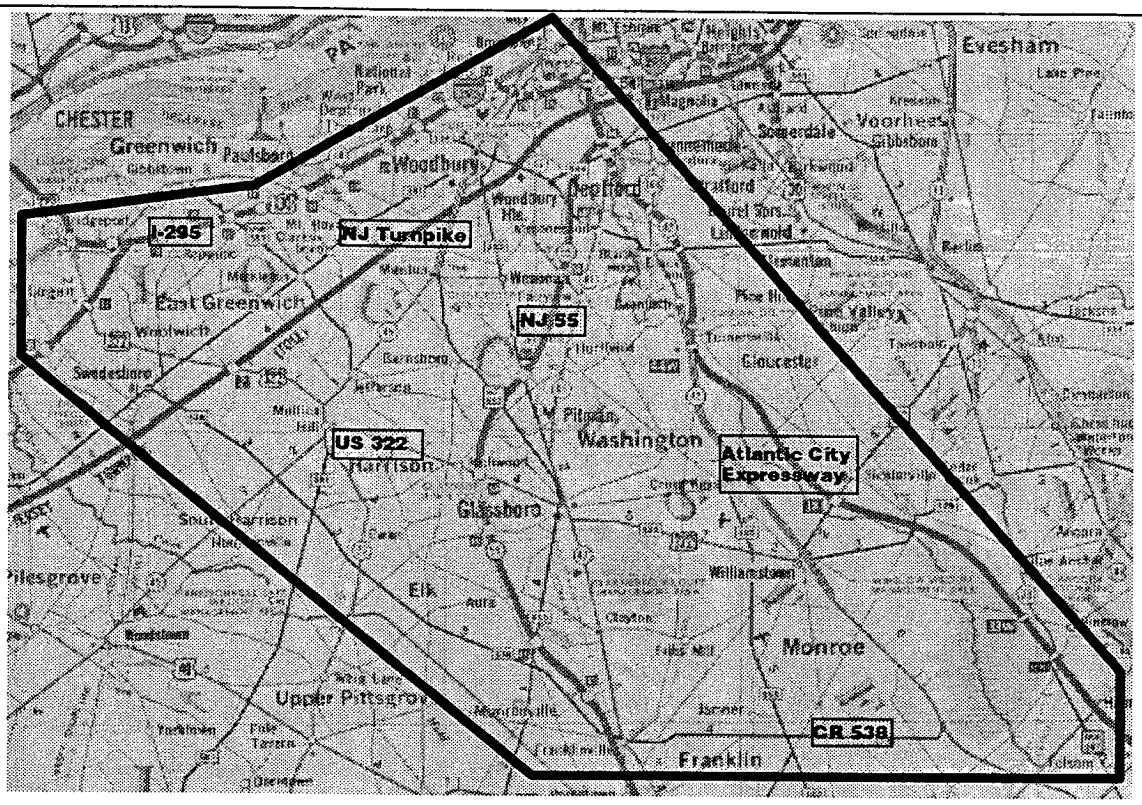
N

Scale: 1inch = 4000ft

0 feet 4000 8000 12000

PB 100 YEARS

Parsons Brinckerhoff - FG, Inc.
506 Carnegie Center Drive
Princeton, NJ 08540




Source: Official Transportation Map and Guide, prepared by New Jersey Department of Transportation

**Figure 1: Approximate Boundaries of Study Area**

The rise of the gaming industry in Atlantic City, as well as the continued development of the shore communities along the coast of New Jersey, has spawned an area that has grown into one of the largest tourist/recreational destinations in the United States. In addition, commercial growth in the Philadelphia area, as well as commercial and residential growth in Camden and Gloucester Counties, continues at an ever increasing pace.

The congestion experienced within the study area has been the focus of several studies by various agencies in the past. These previous studies have looked at both short term improvements and long range solutions, including the concept of a new east-west route from the Commodore Barry Bridge to the ACE.

## 4.0 Goals and Objectives

Goals and objectives were established for the project based on the assessment of the project needs contained in the previous section and as defined in the TEC report. The goals and objectives are as follows:

1. **Goal**: Improve traffic flow and access between the NJT and the ACE, particularly during peak summer travel to and from the New Jersey Shore.

   **Objectives**:
   - provide a limited-access roadway connecting the ACE to the NJT;
   - provide a direct access to the New Jersey shore routes for turnpike travelers that does not require the use of local roadways; and
   - identify a workable toll scenario including possible interchange and toll-plaza locations.

2. **Goal**: Improve traffic flow and connection between the major arterials in the study area including I-295 and Route 55.

   **Objectives:**
   - provide a new roadway link between I-295 and the NJT connecting to an existing or a new NJT interchange;
   - provide a connection between the new roadway and Route 55; and
   - improve routing of traffic utilizing the Commodore Barry Bridge.

3. **Goal**: Reduce congestion on the local roadway network and improve regional accessibility.

   **Objectives**:
   - Improve east-west mobility in the core of the study area;
   - Provide alternatives to Route 322 and Route 40 for southern Pennsylvania and Delaware traffic heading to and from the shore;
   - Divert longer range trips to the new roadway; and
   - Provide improved access to the developing areas of the study area by better connecting these areas to the major arterials.

4. **Goal:** Minimize adverse environmental, socioeconomic, and economic impacts resulting from implementation of a connector roadway.

   **Objectives**:
   - protect farmland and environmentally-sensitive areas (e.g., cemeteries, historic landmarks, wetlands etc.);
   - avoid built-up communities to the maximum extent possible;
   - minimize displacements from right-of-way acquisition;
   - minimize impacts related to noise and air quality;
   - minimize impact on community facilities; and
   - minimize the costs of right-of-way and construction while satisfying the goals and objectives.

## 5.0 Development of the Nine Alternatives

The ACE-NJT Connector Study developed route alternatives on new alignments through the study area utilizing the GIS constraints map. The alternatives are indicated by number on Figure 2. The alternatives are further separated into segments with letter designations, with the exception of Alternative 1. A description of each alternative and its associated segments follows:

## 5.1 Alternative 1

Alternative 1 consists of an interchange between the NJT and State Routes 42 and 55, providing an interchange where none now exists. The proposed interchange lies in the southeastern quadrant of that intersection. This alternative utilizes Route 42 as the connection to the ACE. The connection between I-295 and this alternative would be accomplished by utilizing a link from I-295 to the NJT (Alternatives 4 through 8, as described later) and following the NJT north to this alternative.

Approximate Length - 1.4 miles

## 5.2 Alternative 2

Alternative 2 begins with a new interchange between the NJT north of Egg Harbor Road in the vicinity of Route 45 and proceeds in a south/southeasterly direction, crossing Routes 47, 55, 41 and 168, and ending at a new interchange with Route 42 in Blackwood. Connection to the ACE is accomplished by utilizing existing Route 42 from this interchange. The connection between I-295 and this alternative would be the same as Alternative 1. Alternative 2 is divided into two segments: A and B.

Approximate Length - 4.9 miles

***Segment A, NJT to Route 55:*** Approximate Length - 2.1 miles

***Segment B, Route 55 to Route 42:*** Approximate Length - 2.8 miles

## 5.3 Alternative 3

Alternative 3 begins with the same alignment as Alternative 2 until it intersects Route 55. From this point, Alternative 3 continues in a southerly direction, crossing Routes 41 and 168, and ending at a new interchange with Route 42 in Gloucester Township. The connections to the ACE and I-295 are the same as Alternative 2. Alternative 3 is divided into two segments: A and C.

Approximate Length - 5.5 miles

***Segment A, NJT to Route 55***: Approximate Length - 2.1 miles

***Segment C, Route 55 to Route 42***: Approximate Length - 3.4 miles

## 5.4 Alternative 4

Alternative 4 begins with a new interchange with I-295 near Interchange 17 in Greenwich Township and proceeds in a southeasterly direction through the Townships of East Greenwich, Mantua, Deptford and Washington in Gloucester County. It crosses the NJT, Route 45, Route 55, Route 47, and Route 42, and ends at a new interchange with the ACE, either north of the Cross Keys Road overpass in Gloucester Township, Camden County or further south at Wilby Road in Winslow Township, Camden County. Alternative 4 is divided into five segments: D, E, F, H and the connector to ACE option I or J.

Approximate Length - Ranges from 16.1 to 16.3 miles depending on option chosen

***Segment D, I-295 to the Vicinity of Harmony Road and Friendship Road:*** Approximate Length - 0.8 miles

***Segment E, Vicinity of Harmony Road and Friendship Road to the NJT:*** Approximate Length - 1.6 miles

***Segment F, NJT to intersection of Densten Avenue and Chapel Heights Road (CR 639):*** Approximate Length - 8.0 miles

***Segment H, Vicinity of Chapel Heights Road (CR 639) to Fries Mill Road (CR 655):*** Approximate Length - 3.2 miles

***Segment I, Fries Mill Road (CR 655) to the ACE (Option):*** Approximate Length - 2.5 miles

***Segment J, Fries Mill Road (CR 655) to the ACE (Option):*** Approximate Length - 2.7 miles

## 5.5 Alternative 5

Alternative 5 begins at I-295 and crosses the NJT at the same location as Alternative 4. At this point, there are two options to the alternative which both proceed southeasterly and cross Route 45, one south of Boody Mill Road, the other south of Heritage Road. These options meet at Lantern Way in Mantua. The alternative then proceeds easterly, crossing Route 55, Route 47, and meets Alternative 4 at Chapel Heights Road. The alternative crosses the Townships of Greenwich, East Greenwich, Mantua and Washington in Gloucester County. From Chapel Heights Road to the ACE, Alternative 5 is the same as Alternative 4. Alternative 5 is divided into six segments: D, K, the central option L or N, M, H, and the connector to ACE option I or J.

Approximate Length - Ranges from 15.7 to 16.1 miles depending on options chosen

***Segment D, I-295 to Vicinity of Harmony Road and Friendship Road:*** Approximate Length - 0.8 mile

***Segment K, Vicinity of Harmony Road and Friendship Road to the NJT:*** Approximate Length - 1.7 miles

***Segment L, NJT to Lantern Way in Mantua (Option):*** Approximate Length - 3.3 miles

***Segment N, NJT to Lantern Way in Mantua (Option):*** Approximate Length - 3.4 miles

***Segment M, Lantern Way in Mantua to Vicinity of Chapel Heights Road (CR 639):*** Approximate Length - 4.2 miles

***Segment H Route Vicinity of Chapel Heights Road (CR 639) to Fries Mill Road (CR 655):*** Approximate Length - 3.2 miles

***Segment I, Fries Mill Road (CR 655) to ACE at Berlin - Cross Keys Road (Option):*** Approximate Length - 2.5 miles

***Segment J, Fries Mill Road (CR 655) to ACE at Wilby Road (Option):*** Approximate Length - 2.7 miles

## 5.6 Alternative 6

Alternative 6 follows Alternative 5 from I-295 to the NJT. From the NJT, the alternative proceeds in a southerly direction crossing Route 45 (Bridgeton Pike) just north of Jefferson, then proceeds easterly, crossing Route 55, Alternate 553, Woodbury Avenue (CR 553), and Route 47 (Delsea Drive) just south of Densten Avenue in Washington Township. Alternative 6 from this point is the

same as Alternatives 4 and 5. Alternative 6 is divided into six segments: D, K, O, R, H and the connector to ACE option I or J.

Approximate Length - Ranges from 16.3 to 16.5 miles depending on option chosen

***Segment D, I-295 to Vicinity of Harmony Road and Friendship Road:*** Approximate Length - 0.8 mile

***Segment K, Vicinity of Harmony Road and Friendship Road to the NJT:*** Approximate Length - 1.7 miles

***Segment O, NJT to Vicinity of Jefferson - Breakneck Road (CR 603):*** Approximate Length - 2.6 miles

***Segment R, Vicinity of Jefferson Breakneck Road (CR 603) to Vicinity of Chapel Heights Road (CR 639):*** Approximate Length - 5.5 miles

***Segment H, Vicinity of Chapel Heights Road (CR 639) to Fries Mill Road (CR 655):*** Approximate Length - 3.2 miles

***Segment I, Fries Mill Road (CR 655) to the ACE at Berlin - Cross Keys Road (Option):*** Approximate Length - 2.5 miles

***Segment J, Fries Mill Road (CR 655) to the ACE at Wilby Road (Option):*** Approximate Length - 2.7 miles

## 5.7 Alternative 7

Alternative 7 begins with existing I-295 Interchange 15 in Greenwich Township and proceeds southeasterly, crossing Swedesboro - Paulsboro Road (CR 669), Kings Highway (CR 551) and the NJT just south of Wolfert Station Road (CR 664) in East Greenwich. From the NJT the alternative proceeds easterly, crossing Union Road and then parallels the Township Line between Mantua and Harrison. At this point there are two options to the alternative which both cross Route 45 near the Township Line. One option (two segments) proceeds easterly, crossing Route 55 north of Glassboro Road, Bethel Mill Road and Route 47 (Delsea Drive) at Densten Avenue. The other option (two segments) moves southeasterly to cross Route 55 north of Pittman - Barnsboro Road, Alternate Route 553, Woodbury Avenue (CR 553) and Route 47 (Delsea Drive) just south of Densten Avenue. The options meet just south of the intersection of Densten Avenue and Chapel Heights Road (CR 639) in Washington Township. From this point, Alternative 7 is the same as Alternatives 4, 5, and 6. Alternative 7 is divided into four segments: P, the central option GM or QR, H, and the connector to ACE option I or J.

Approximate Length - Ranges from 17.7 to 18.1 miles depending on options chosen

***Segment P, I-295 to Vicinity of Cohawkin Road (CR 667):*** Approximate Length - 5.5 miles

***Segment G, Vicinity of Cohawkin Road (CR 667) to Lantern Way in Mantua (Option):*** Approximate Length - 2.3 miles

***Segment M, Lantern Way in Mantua to Vicinity of Chapel Heights Road (CR 639) (Option):*** Approximate Length - 4.2 miles

***Segment Q, Vicinity of Cohawkin Road (CR 667) to Vicinity of Jefferson-Breakneck Road (CR 603) (Option):*** Approximate Length - 1.2 miles

***Segment R, Vicinity of Jefferson Breakneck Road (CR 603) to Vicinity of Chapel Heights Road (CR 639) (Option):*** Approximate Length - 5.5 miles

***Segment H, Vicinity of Chapel Heights Road to Fries Mill Road:*** Approximate Length - 2.5 miles

***Segment I, Fries Mill Road to the ACE at Bethel - Cross Keys Road (Option):*** Approximate Length - 2.7 miles

***Segment J, Fries Mill Road to the ACE at Wilby Road (Option):*** Approximate Length - 2.9 miles

## 5.8 Alternative 8

Alternative 8 begins with a direct connection with Route 322. The western terminus has two options. The northern option (two segments) intersects Route 322 west of the I-295 interchange, and proceeds east, crossing I-295. The southern option intersects Route 322 east of the I-295 interchange, and proceeds in an easterly direction. The options meet north of Route 322 at Swedesboro Road (CR 653) in Woolwich Township and continue east, crossing the NJT, and proceed easterly into Harrison Township, where the alternative merges with Alternative 7 near the Township Line between Mantua and Harrison. At this point the alternative has two options, both which cross Route 45 near the Township Line. One option (two segments) proceeds easterly, crossing Route 55 north of Glassboro Road, Bethel Mill Road, and Route 47 (Delsea Drive) at Densten Avenue. The other option (two segments) proceeds southeasterly crossing Route 55 north of Pittman - Barnsboro Road, Alternate Route 553, Woodbury Avenue (CR 553), and Route 47 (Delsea Drive) just south of Densten Avenue. The options meet just south of the intersection of Densten Avenue and Chapel Heights Road (CR 639) in Washington Township. From this point, Alternative 8 is the same as Alternatives 4 through 7. Alternative 8 is divided into five segments: the west option ST or V, U, the central option GM or QR, H, and the connector to ACE option I or J.

Approximate Length - Ranges from 19.1 to 20.2 miles depending on options chosen

***Segment S, Route 322 to the Vicinity of Route 671 (Oak Grove Road) (Option):*** Approximate Length - 1.5 miles

***Segment T, Vicinity of Oak Grove Road (CR 671) to Swedesboro Road CR 653) (Option):*** Approximate Length - 1.2 miles

***Segment V, I-295 Interchange 11 to Paulsboro - Swedesboro Road (CR 653) (Option):*** Approximate Length - 2.0 miles

***Segment U, Swedesboro Road (CR 653) to Vicinity of Cohawkin Road (CR 667):*** Approximate Length - 4.9 miles

***Segment G, Vicinity of Cohawkin Road (CR 667) to Lantern Way in Mantua (Option):*** Approximate Length - 2.3 miles

***Segment M, Lantern Way in Mantua to Vicinity of Chapel Heights Road (CR 639) (Option):*** Approximate Length - 4.2 miles

***Segment Q, Vicinity of Cohawkin Road to Jefferson Breakneck Road (Option):*** Approximate Length - 1.2 miles

***Segment R, Jefferson Breakneck Road to Vicinity of Chapel Heights Road (Option):*** Approximate Length - 5.5 miles

***Segment H, Vicinity of Chapel Heights Road to Fries Mill Road:*** Approximate Length - 3.2 miles

***Segment I, Fries Mill Road to the ACE (Option):*** Approximate Length - 2.5 miles

***Segment J, Fries Mill Road to the ACE (Option):*** Approximate Length - 2.7 miles

## 5.9 Alternative 9

Alternative 9 begins with a direct connection with Route 322. The western terminus has three options. The southern option begins at the I-295 interchange and proceeds south through Woolwich Township to Old Ferry Road and then southeast around the south side of Swedesboro, crossing the NJT just north of Davidson Road (CR 614). The middle option begins at the I-295 interchange and proceeds southeast around the north side of Swedesboro, crossing the NJT at Swedesboro - Franklinville Road overpass (CR 538). The northern option (two segments) begins west of the I-295 interchange, and proceeds in a southeasterly direction crossing Stone Meetinghouse Road and meeting the middle segment at Paulsboro-Swedesboro Road just south of Route 322. These options meet southeast of Swedesboro in the area south of Lake Basgalore. From this point, Alternative 9 proceeds southeast through South Harrison Township, crossing Commissioners Road (CR 581), Route 77 (Bridgeton Pike), Route 55 south of Interchange 48, then east through Glassboro, north of the Glassboro State Fish and Wildlife Management Area, crossing Route 322 and Fries Mill Road. Alternative 9 has the same optional connections to the ACE as Alternatives 4 through 8. Alternative 9 is divided into three segments: the western option SZ or W or Y, X, and the connector to ACE option I or J.

Approximate Length - Ranges from 20.4 to 21.7 miles depending on options chosen

***Segment S, Route 322 to the Vicinity of Route 671 (Oak Grove Road) (Option):*** Approximate Length - 1.5 miles

***Segment Z, Vicinity of Oak Grove Road (CR 671) to Paulsboro - Swedesboro Road (CR 538) (Option):*** Approximate Length - 4.2 miles

***Segment W, I-295 to Woolwich / South Harrison Township Line (Option):*** Approximate Length - 4.6 miles

***Segment Y, I-295 to Woolwich / South Harrison Township Line (Option):*** Approximate Length - 5.3 miles

***Segment X, Woolwich / South Harrison Township Line to Fries Mill Road:*** Approximate Length - 13.4 miles

***Segment I, Fries Mill Road to the ACE at Berlin - Cross Keys Road (Option):*** Approximate Length - 2.4 miles

***Segment J, Fries Mill Road to the ACE at Wilby Road (Option):*** Approximate Length - 2.6 miles

## 6.0 Comparison of Segment Options

The GIS mapping provides the ability to quantify the impacts, either direct or indirect, of each of the alternative segments. The GIS was used to adjust some of the segments to reduce the potential for impacts to particularly sensitive land uses and environmental resources. Table 1 summarizes the impacts of each segment. The impacts were quantified in terms of acreage and/or numbers of units as appropriate. In addition to the environmental impacts, traffic and cost estimates were also reviewed. An evaluation of the segment options was performed in order to identify nine distinct alignments. The results of the segment comparison process is summarized below:

# Table 1: Summary Evaluation of Alternative Segments

| EVALUATION CRITERIA | SEGMENT ALTERNATIVES | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | U(p) | P(p) |
| 1. Residential Use (acres) | 3 | 13 | 4 | 12 | 3 | 6 | 29 | 2 | 19 | 6 | 12 | 6 | 1 | 14 | 9 | 9 | 2 | 4 | 5 | 0 | 1 | 1 | 1 | 5 | 35 | 2 | 5 | 1 | 2 |
| 1a. Residences (#) | 4 | 15 | 20 | 14 | 2 | 1 | 30 | 4 | 16 | 7 | 26 | 2 | 2 | 16 | 11 | 9 | 2 | 5 | 8 | 0 | 3 | 4 | 2 | 7 | 43 | 5 | 4 | 3 | 2 |
| 2. Community Facilities (#) | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 3. Commercial/Retail (acres) | 0 | 1 | 6 | 2 | 5 | 0 | 5 | 0 | 0 | 2 | 3 | 0 | 0 | 2 | 0 | 3 | 1 | 1 | 8 | 2 | 0 | 0 | 1 | 0 | 24 | 0 | 0 | 0 | 1 |
| 3a. Commercial /Retail (#) | 0 | 1 | 5 | 4 | 2 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 0 | 1 | 2 | 1 | 9 | 1 | 0 | 0 | 1 | 0 | 11 | 0 | 0 | 0 | 2 |
| 4. Manufacturing/Industrial (acres) | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 5. Parks/Recreation (acres) | 0 | 5 | 0 | 7 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. Farmland (acres) | 30 | 2 | 0 | 37 | 22 | 36 | 88 | 54 | 72 | 75 | 56 | 31 | 89 | 29 | 89 | 71 | 188 | 20 | 81 | 40 | 45 | 167 | 60 | 110 | 268 | 123 | 111 | 71 | 116 |
| 7. Forest (acres) | 110 | 70 | 101 | 71 | 31 | 20 | 126 | 21 | 21 | 28 | 39 | 28 | 33 | 85 | 27 | 14 | 40 | 15 | 89 | 15 | 1 | 15 | 11 | 39 | 152 | 58 | 27 | 7 | 33 |
| 8. Cultural Resources (#) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 9. Cemeteries (#) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. Open Space (acres) | 14 | 4 | 2 | 0 | 11 | 0 | 7 | 0 | 18 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 9 | 1 | 7 | 0 | 0 |
| 11. Transportation Corridors (acres) | 36 | 15 | 16 | 10 | 9 | 2 | 11 | 2 | 2 | 13 | 15 | 2 | 3 | 5 | 4 | 4 | 15 | 2 | 7 | 3 | 1 | 3 | 12 | 17 | 14 | 17 | 7 | 3 | 15 |
| 12. Hazard Waste Sites (#) | 0 | 0 | 1 | 1 | 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 |
| 13. Right Of Way (acres) | 207 | 115 | 130 | 150 | 81 | 64 | 285 | 79 | 134 | 124 | 125 | 67 | 126 | 147 | 129 | 101 | 246 | 42 | 195 | 60 | 50 | 187 | 85 | 179 | 508 | 205 | 158 | 81 | 167 |
| 14. Floodplains (acres) | 30 | 11 | 1 | 2 | 30 | 12 | 26 | 1 | 7 | 4 | 0 | 9 | 6 | 7 | 1 | 3 | 53 | 2 | 16 | 23 | 0 | 2 | 0 | 18 | 68 | 9 | 13 | 0 | 52 |
| 15. Floodplain Crossings (#) | 2 | 2 | 2 | 3 | 1 | 1 | 9 | 1 | 3 | 2 | 0 | 1 | 3 | 3 | 3 | 2 | 3 | 1 | 3 | 1 | 0 | 7 | 0 | 4 | 14 | 4 | 2 | 1 | 4 |
| 16. Proposed Development (acres) | 1 | 1 | 6 | 16 | 0 | 0 | 15 | 0 | 42 | 12 | 21 | 0 | 0 | 11 | 0 | 0 | 19 | 0 | 11 | 0 | 0 | 0 | 0 | 23 | 31 | 22 | 23 | 0 | 19 |
| 17. Proposed Development (#) | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 4 | 2 | 2 | 0 | 3 |
| 18. Wetlands (acres) | 37 | 20 | 16 | 22 | 21 | 17 | 21 | 8 | 5 | 0 | 5 | 20 | 11 | 11 | 9 | 2 | 26 | 1 | 18 | 10 | 1 | 1 | 5 | 13 | 67 | 20 | 9 | 1 | 25 |
| 19. Wetlands--Secondary (acres) | 37 | 20 | 16 | 22 | 21 | 17 | 16 | 8 | 5 | 0 | 5 | 20 | 11 | 11 | 9 | 2 | 26 | 1 | 18 | 10 | 0 | 1 | 5 | 13 | 54 | 12 | 9 | 1 | 25 |
| 20. Wetlands--EPA Priority (acres) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 13 | 8 | 0 | 0 | 0 |
| 21. NJ Natural Heritage (acres) | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 7 | 10 | 19 | 38 | 8 | 10 | 0 | 0 |
| Segment Length (1000 feet) | N/A | 11 | 15 | 16 | 4 | 8.5 | 42.5 | 12 | 16.8 | 13 | 14 | 9 | 17.4 | 22 | 17.9 | 13.5 | 29 | 6.3 | 29.2 | 8 | 6.3 | 26 | 10.5 | 24.5 | 71 | 27.6 | 22.2 | 11 | 18 |

## 6.1 Connection to I-295 for Alternatives 1 through 6; Segments DE versus Segments DK versus Segment P versus Segments VU (Partial)

Alternatives 1-3 cannot directly connect to I-295 due to large, densely-populated residential areas between the NJT and I-295 in Deptford Township, the City of Woodbury, and West Deptford Township. The connection to I-295 for these alternatives would be accomplished by utilizing a link between I-295 and the NJT from one of the other alternatives, and then following the NJT north to Alternative 1, 2 or 3. In comparing the alternative links, Segments VU (partial) became the more favorable choice for the following reasons:

- Segments DE and DK pass through the Peaslee Farm, which is protected in perpetuity by the New Jersey Department of Agriculture under the Farmland Preservation Program. Segments DE and DK could not be realigned in this area due to the presence of cemeteries and residential developments. Therefore, Segments DE and DK were eliminated.

- Segments VU (partial) provides a direct connection to the existing I-295/Route 322 interchange and provides linkage to key access routes in the area including the Commodore Barry Bridge; has overall less environmental impacts than Segment P; and has a lower cost estimate.

As a result of Segments DE and DK being eliminated, Alternatives 4-6 will also utilize Segments VU (partial) and the NJT to provide the link to I-295.

## 6.2 Eastern Terminus Options for Alternatives 4 through 9; Segment I versus Segment J

An analysis of Segments I and J indicated that Segment I is more favorable than Segment J. Segment I allows for a good separation between interchanges on the ACE, has overall less environmental impacts than Segment J, particularly less impact on residential and commercial properties, and has a lower cost estimate.

## 6.3 Central Options for Alternative 5; Segment L versus Segment N

An analysis of Segments N and L indicated that Segment L is more favorable due to less impacts on residential properties and a lower cost estimate.

## 6.4 Central Options for Alternatives 7 and 8; Segments GM versus Segments QR

Segments GM and QR can be used interchangeably by either alignment. A comparison of the environmental and traffic impacts yielded the following:

- Segment GM has overall less environmental impacts than Segment QR, has less impacts on adjacent properties, and has a slightly lower cost.
- Segment QR would provide more relief of traffic congestion along Route 322 than Segment GM.

It was concluded, therefore, that both segments should remain as options for Alignments 7 and 8 for further analysis. Alignment 7 will be described in the later text as utilizing Segment GM, while Alignment 8B will utilize Segment QR.

## 6.5 Western Terminus Options for Alternative 8; Segment V versus Segments ST

An analysis of Segments V and ST indicated that Segment V is more favorable than Segments ST. Segment V provides a direct connection to the existing I-295/Route 322 interchange and provides linkage to key access routes in the area including the Commodore Barry Bridge, has overall less environmental impacts than Segment ST, and has a lower cost.

## 6.6 Western Terminus Options for Alternative 9; Segment W versus Segment Y versus Segments SZ

An analysis of Segments W, Y and SZ indicated that Segment W is most favorable. Segment W has less overall environmental impacts than Segments SZ or Y, is the shortest and least costly segment of the three, and offers better roadway geometrics.

## 7.0 Evaluation of Alignments

The nine alignments are shown on the 1" = 4000' scale map inserted in the back pocket of this document. The alignments were evaluated via a two step process. The first step in the evaluation process was the comparison of alignments within broad transportation corridors. These comparisons yielded a preferred alignment for each of the corridors. The second step in the process was to evaluate the alignments to determine how well each accomplished the transportation/traffic goals and objectives for the project, as previously outlined in Section 4.0. The land use, environmental, and cost impacts associated with each alignment was derived by adding the impacts for each individual segment that composed the alignment. Table 2 contains the summary matrix for the alignments.

## 7.1 Alignments 1, 2 and 3 (Northern Corridor)

Alignment 1 originates on the west by utilizing Segments VU (partial) to the NJT, then north on the NJT, and connects with Route 55 Freeway and Route 42 at a complicated interchange configuration with three-level structures linking the three major highways. This alignment has significant environmental impacts, marginal traffic benefits and does not satisfy the goals/objectives of reducing congestion on major arterials and local roadways. Alignment 1 was dropped from further consideration.

# Table 2: Summary Evaluation of Alignments

| | ALIGNMENTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **EVALUATION CRITERIA** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8B** | **9** |
| 1. Residential Use (acres) | 5 | 19 | 27 | 56 | 42 | 41 | 43 | 36 | 46 |
| 1a. Residences (#) | 9 | 40 | 34 | 58 | 46 | 45 | 45 | 42 | 57 |
| 2. Community Facilities (#) | 0 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| 3. Commercial/Retail (acres) | 1 | 8 | 4 | 8 | 5 | 14 | 5 | 12 | 26 |
| 3a. Commercial /Retail (#) | 1 | 7 | 6 | 4 | 3 | 11 | 4 | 11 | 11 |
| 4. Manufacturing/Industrial (acres) | 2 | 0 | 0 | 4 | 6 | 0 | 6 | 0 | 4 |
| 5. Parks/Recreation (acres) | 0 | 5 | 12 | 3 | 2 | 5 | 2 | 5 | 0 |
| 6. Farmland (acres) | 161 | 133 | 170 | 366 | 396 | 430 | 418 | 475 | 453 |
| 7. Forest (acres) | 128 | 189 | 159 | 193 | 185 | 170 | 195 | 179 | 219 |
| 8. Cultural Resources (#) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. Cemeteries (#) | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 10. Open Space (acres) | 14 | 6 | 4 | 25 | 21 | 20 | 21 | 20 | 16 |
| 11. Transportation Corridors (acres) | 51 | 46 | 40 | 41 | 38 | 41 | 37 | 39 | 44 |
| 12. Hazard Waste Sites (#) | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 |
| 13. Right Of Way (acres) | 373 | 411 | 431 | 709 | 697 | 720 | 730 | 767 | 811 |
| 14. Floodplains (acres) | 30 | 12 | 13 | 37 | 24 | 30 | 72 | 31 | 90 |
| 15. Floodplain Crossings (#) | 3 | 5 | 6 | 15 | 12 | 11 | 12 | 16 | 20 |
| 16. Proposed Development (acres) | 1 | 7 | 17 | 69 | 65 | 65 | 84 | 65 | 66 |
| 17. Proposed Development (#) | 1 | 2 | 2 | 7 | 7 | 7 | 10 | 7 | 8 |
| 18. Wetlands (acres) | 43 | 42 | 48 | 32 | 33 | 31 | 50 | 30 | 80 |
| 19. Wetlands--Secondary (acres) | 43 | 42 | 48 | 27 | 33 | 31 | 50 | 30 | 67 |
| 20. Wetlands--EPA Priority (acres) | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 13 |
| 21. NJ Natural Heritage (acres) | 10 | 10 | 10 | 36 | 10 | 10 | 0 | 17 | 57 |
| 22. Estimated Costs (nearest $1,000) | $169,826 | $196,913 | $194,761 | $314,316 | $288,876 | $296,856 | $308,124 | $307,968 | $362,772 |
| 23. Length (1,000 feet) | 101.1 | 89.9 | 92.9 | 110.2 | 107.1 | 110.4 | 92.8 | 101.8 | 108.5 |
| 24. Length (nearest tenth mile) | 19.1 | 17.0 | 17.6 | 20.9 | 20.3 | 20.9 | 17.6 | 19.3 | 20.5 |

All Lengths are from I-295/Route 130 to Route 42/ACE, including the NJT if applicable

A comparative analysis of Alignments 2 and 3 yields the following:

- Alignment 3 impacts more residential properties than Alignment 2.
- The Camden County Complex Sewage Treatment Plant will be impacted by Alignment 3. In particular the sedimentation tanks of the treatment plant lie within the proposed right-of-way. The Camden County Complex also contains hospital and prison facilities which may be affected by proximity to Alignment 3.
- Alignment 3 impacts more areas of wetlands and floodplains associated with the South Branch of Big Timber Creek.
- Alignment 3 crosses the northwestern corner of the Kinsley landfill.
- Two recreational areas at Camden County Complex are impacted by Alignment 3.
- Alignment 3 provides significantly more traffic relief to the Route 42 corridor, provides a more direct route to the ACE for Turnpike traffic, and carries significantly more traffic than Alignment 2. In addition, Alignment 3 merges with Route 42 at a point south of Route 537, which would be advantageous by introducing connector traffic south of this high weave location.

The evaluation of environmental impacts indicates that Alignment 2 is slightly preferred to Alignment 3, while Alignment 3 would be preferred from a traffic perspective. However, neither Alignment 2 nor Alignment 3 meet the goals/objectives for the project. They provide little relief to the Route 322 corridor and do not divert longer range shore trips from either Route 322 or Route 40. Therefore, Alignments 2 and 3 were dropped from further consideration.

## 7.2 Alignments 4, 5 and 6 (Central Corridor)

An initial analysis of the comparative impacts indicated that Alignment 4 impacts 26 acres of New Jersey Natural Heritage property, a protected category of land, that Alignments 5 and 6 do not. Therefore, Alignment 4 was eliminated from further consideration.

A comparative analysis of Alignments 5 and 6 yields the following:

- Alignments 5 and 6 pass 200 feet north of Kingsway High School and may impact a recreation area. Alignment 6 also passes through the southern tip of Gloucester County Christian School impacting auxilary buildings and passes 150 feet north of Pitman High School impacting a recreational facility.
- Alignment 6 passes through the west end of an industrial property which is listed by NJDEP as a hazardous waste site.
- Alignment 6 impacts thirteen commercial properties, while Alignment 5 impacts five commercial properties.
- Alignment 5 affects 46 residences compared to 45 residences for Alignment 6.
- Alignment 5 will require 697 ROW acres of land, 23 acres less than Alignment 6.
- The estimated cost for Alignment 5 is approximately $289,000,000, which is $8,000,000 less than Alignment 6.
- Alignments 5 and 6 both have relatively low traffic demand on the connector. They provide little relief to the roadway system and do not result in significant shifting of traffic from the local roads onto the connector. Alignment 6 does have higher volumes to Route 55 and offers more relief to Route 322 than does Alignment 5, but the overall impact is still small.

The evaluation of environmental impacts indicates that Alignment 5 is slightly preferred to Alignment 6, while a traffic comparison indicates Alignment 6 is slightly preferred to

Alignment 5. However, it was determined that neither of these alignments adequately meets all the goals/objectives for the project. Therefore, Alignments 5 and 6, along with Alignment 4, were dropped from further consideration.

## 7.3 Alignments 7, 8B and 9 (Southern Corridor)

A comparative analysis of Alignments 7, 8B and 9 yields the following:

- Alignment 8B impacts 31 acres of floodplain areas while Alignment 7 impacts 72 acres, and Alignment 9 impacts 90 acres.
- Alignment 8B impacts 30 acres of secondary wetlands, Alignment 7 impacts 50 acres, while Alternative 9 impacts 67 acres of secondary wetlands and 13 acres of EPA priority wetlands. The EPA priority wetland areas are mostly peripheral to larger areas. Most of the wetlands impacted by Alignment 7 are tidal wetlands, which are not as difficult to mitigate. A small percentage of the wetlands impacted by Alignment 9 are tidal wetlands, while none of the wetlands impacted by Alignment 8B are tidal.
- Alignments 8B and 9 may impact the fringe of New Jersey Natural Heritage sites. Further investigation of the boundaries and habitations of the sites is needed to ascertain the extent of the impacts.
- Alignment 8B impacts eleven commercial properties, Alignment 7 impacts six, while Alignment 9 impacts eleven.
- Alignment 8B will impact 42 residences compared to 45 residences for Alignment 7, and 57 for Alignment 9.
- The estimated cost of Alignment 8B is $308,000,000, Alignment 7 is $308,000,000, and Alignment 9 is $363,000,000.
- Alignment 9 impacts one industrial property, while Alignments 7 and 8B do not impact any.
- Alignments 7 and 8B impact Cedar Lake Recreation Area. Alignment 8B impacts the Pitman Country Club as well. Alignment 9 impacts no parks.
- Alignment 9 impacts one church property, while Alignments 7 and 8B abut a church property.
- Alignments 7 and 8B pass within 400 feet of a middle school. In addition, Alignment 8B impacts a county school, and passes within 150 feet of one high school, and 200 feet from another high school. Alignment 9 does not impact any educational lands.
- Alignment 8B requires 767 right of way acres compared to 730 acres for Alignment 7, and 811 for Alignment 9.
- Alignments 7, 8B and 9 would all improve traffic flow in the study area and satisfy the goals/objectives of the project. They would also carry significant volume to Routes 55 and the ACE. Alignment 8B has the highest traffic forecast of the central and southern corridors. Alignments 7, 8B and 9 all would improve traffic conditions on Route 322, with 8B showing the most overall reduction of any of the alignments. Alignment 9 would best improve traffic conditions on Route 40. Alignment 8B induces a greater shift to the Commodore Barry Bridge from the Ben Franklin and Walt Whitman Bridges than does Alignments 7 and 9.

The evaluation of both environmental impacts and traffic indicates that Alignment 8B is preferred over Alignments 7 and 9. However, all three alignments meet the goals/objectives for the project and should be considered for further study.

A further compilation of traffic projections (for the year 2015) between no-build and build summer traffic volumes reveals the following:

Alignment 7

- Traffic over the Commodore Barry Bridge will increase by 7,900 vehicles.
- Traffic along Route 322 will decrease by 12,000 vehicles between Route 295 and Mullica Hill; decrease by 8,900 vehicles between Mullica Hill and Route 55; and decrease by 3,800 vehicles between Route 55 and Route 42.
- Traffic along the NJT will increase by 7,200 vehicles between Interchange 2 and the connector; and increase by 8,500 vehicles north of the proposed connector.
- Traffic along the proposed connector will be as follows: between the NJT and Route 45 -- 32,200 vehicles; between Route 45 and Route 55 -- 25,200 vehicles; and between Route 55 and ACE -- 17,400 vehicles.
- Traffic along Route 42 will decrease by 5,900 vehicles north of the connector.
- Traffic along the ACE will decrease by 4,400 vehicles north of the connector; increase by 10,500 vehicles south of the connector to CR 536; and increase by 5,900 south of the CR 536.
- Traffic along Route 55 will decrease by 1,700 vehicles north of the connector; and decrease by 400 vehicles south of the connector.

Alignment 8B

- Traffic over the Commodore Barry Bridge will increase by 7,600 vehicles.
- Traffic along Route 322 will decrease by 14,300 vehicles between Route 295 and Mullica Hill; decrease by 15,500 vehicles between Mullica Hill and Route 55; and decrease by 3,200 vehicles between Route 55 and Route 42.
- Traffic along the NJT will increase by 7,800 vehicles south of the connector; and increase by 11,600 vehicles north of the proposed connector.
- Traffic along the proposed connector will be as follows: between the NJT and Route 45 -- 36,600 vehicles; between Route 45 and Route 55 -- 30,800 vehicles; and between Route 55 and ACE -- 17,800 vehicles.
- Traffic along Route 42 will decrease by 6,200 vehicles north of the connector.
- Traffic along the ACE will decrease by 2,000 vehicles north of the connector; increase by 9,500 vehicles between the connector and CR 536; and increase by 5,500 vehicles south of CR 536.
- Traffic along Route 55 will decrease by 1,800 vehicles north of the connector; and decrease by 600 vehicles south of the connector.

Alignment 9

- Traffic over the Commodore Barry Bridge will increase by 4,700 vehicles.
- Traffic along Route 322 will decrease by 14,800 vehicles between Route 295 and Mullica Hill; decrease by 14,000 vehicles between Mullica Hill and Route 55; and decrease by 2,800 vehicles between Route 55 and Route 42.
- Traffic along the NJT will increase by 3,600 vehicles south of the proposed connector; and increase by 800 vehicles north of the proposed connector.
- Traffic along the proposed connector will be as follows: between the NJT and Route 45 -- 33,800 vehicles; between Route 45 and Route 55 -- 25,400 vehicles; and between Route 55 and ACE -- 11,400 vehicles.

- Traffic along Route 42 will decrease by 6,900 vehicles north of the connector.
- Traffic along the ACE north of the connector will decrease by 1,800 vehicles; increase by 7,100 vehicles between the connector and CR 536; and increase by 2,500 vehicles south of the connector.
- Traffic along Route 55 will decrease by 9,000 vehicles north of the connector; and increase by 2,100 vehicles south of the connector.

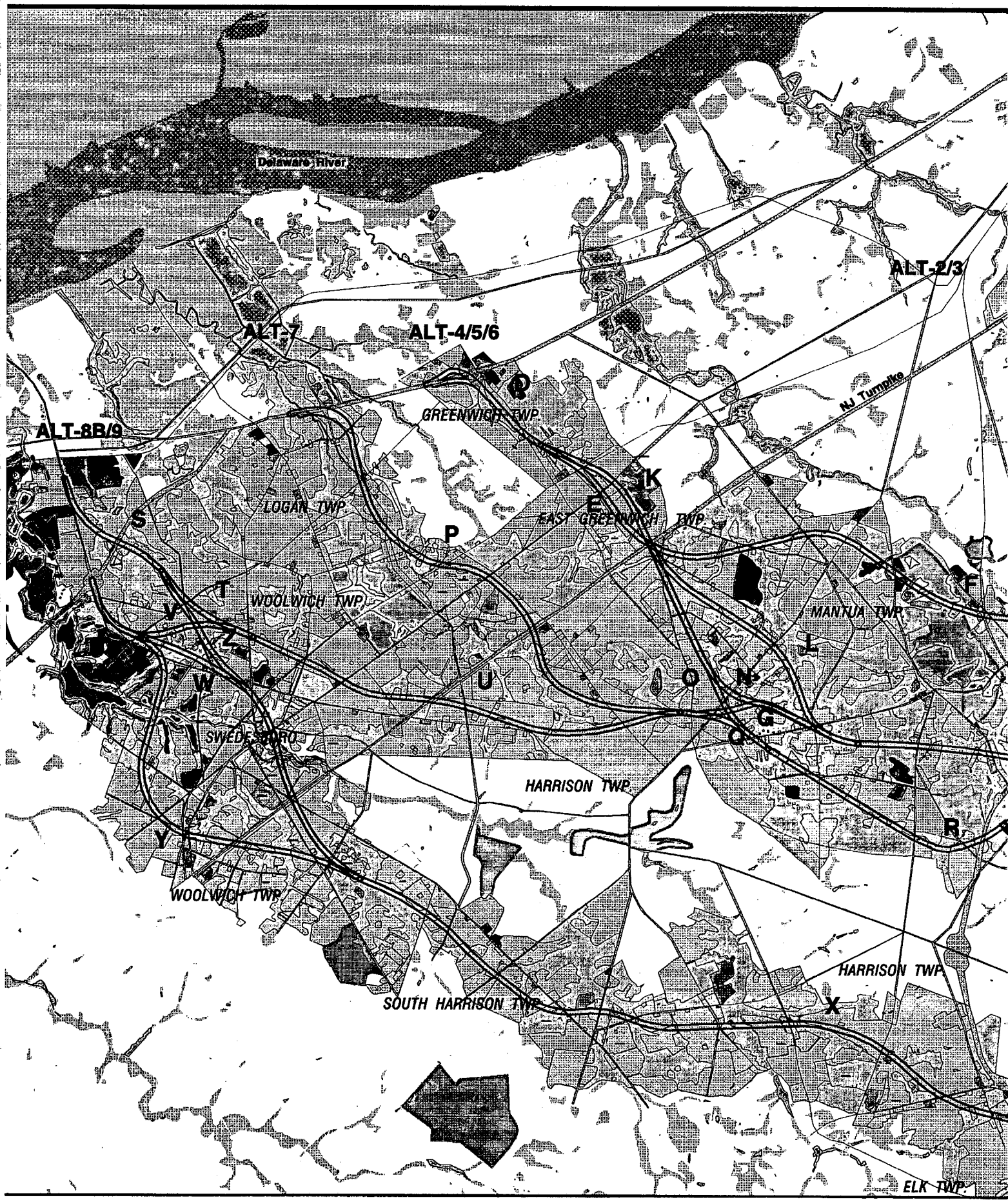
## 8.0 Summary

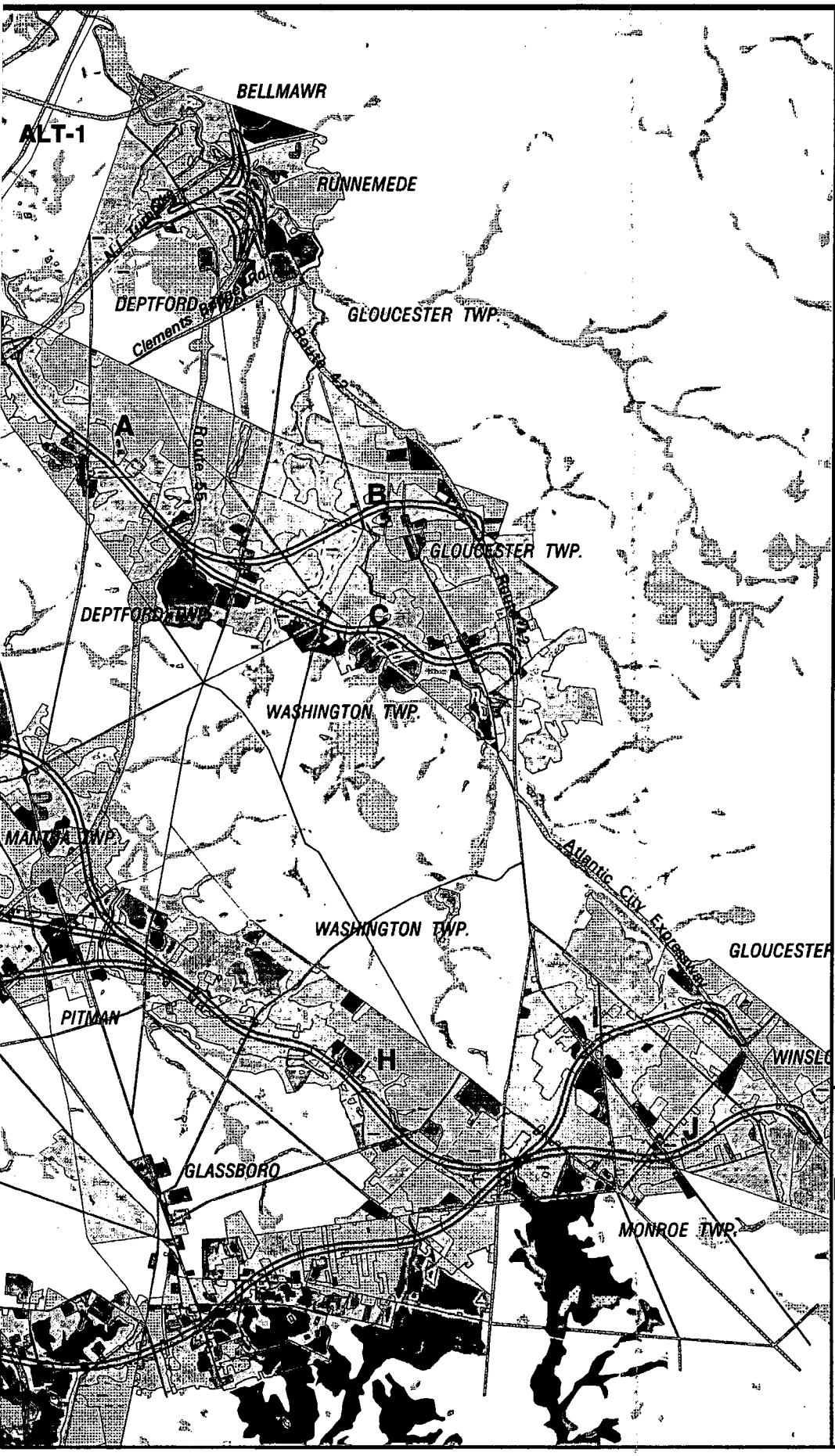
The results of the Phase 1 evaluation are that all the alignments in the northern and central corridors (Alignments 1-6) do not meet the project's goals and objectives. The alignments contained in the southern corridor (Alignments 7, 8B, and 9) all had acceptable traffic performance and were deemed not to be fatally flawed due to environmental impacts. Therefore, these alignments are recommended to advance to Phase II of the study. The selection of these alignments have an additional advantage. The middle sections of Alignments 7 and 8B can be interchanged, in effect, providing two additional alignment options.

In Phase II of the study these alignments will undergo preliminary conceptual design and further environmental evaluation. The alignments will be refined and developed in sufficient detail to more fully identify each alignment's ability to meet the study's goals and objectives, and further define environmental and community impacts, and construction costs. Conceptual design plans will be developed for each alignment that will include horizontal alignment plans, profiles, typical highway sections, critical cross sections, general right-of-way requirements, and preliminary design sketches for structures. Additional environmental analyses, including air quality and noise assessments, will be conducted, as well as drainage reviews, utility impact assessment, and toll scenario and toll plaza configuration development. Various toll collection concepts will be explored.

While Alignments 2 and 3 do not satisfy the goals and objectives of this study, they do have significant merit in providing improvements to the regional transportation system. Both alignments serve to direct traffic from the Routes 42/295/55 interchange, significantly increase NJT volumes (northbound and southbound), carry high volumes of vehicles to Route 55 and the ACE, and have significant positive impacts on traffic flow in the northern portion of the study area. These alignments should become the focus of a separate study for further evaluation.

Q:\tra\j\6175\njtasumm.doc


Delaware River
ALT-2/3
ALT-7
ALT-4/5/6
ALT-8B/9
NJ Turnpike
GREENWICH TWP.
LOGAN TWP.
EAST GREENWICH TWP.
WOOLWICH TWP.
MANTUA TWP.
SWEDESBORO
HARRISON TWP.
WOOLWICH TWP.
SOUTH HARRISON TWP.
HARRISON TWP.
ELK TWP.
K
E
P
S
T
V
Z
W
U
O
N
G
Q
L
F
R
Y
X




# New Jersey Turnpike - Atlantic City Expressway Connector Study

## Alternatives 1-9
## Segments A-Z

### Land Use Classification

- Agricultural
- Residential
- Industrial
- Open Space
- Forest
- Cemetery
- Commercial
- Hazardous Waste
- Transportation
- Open Water
- Waste Disposal
- Religious Institution
- Recreation
- Government
- Education
- Utility
- Historic
- Coastal Plain (AWCS)
- EPA Priority Wetlands
- New Jersey Natural Heritage Priority
- Wetlands
- Floodplain and Flood Prone Areas

N

0 feet 5000 10000 15000

Parsons Brinckerhoff - FG, Inc.
506 Carnegie Center Drive
Princeton, NJ 08540