I-295/I-76/Route 42 Direct Connection

Camden County

Socioeconomic, Land Use and Environmental Justice Technical Environmental Study

October 2007

US Department of Transportation
Federal Highway Administration
New Jersey Department of Transportation

I-295/I-76/ROUTE 42 DIRECT CONNECTION
SOCIOECONOMIC, LAND USE AND ENVIRONMENTAL JUSTICE
TECHNICAL ENVIRONMENTAL STUDY
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EXECUTIVE SUMMARY

A Socioeconomic, Land Use and Environmental Justice (hereby referenced as Socioeconomic) Technical Environmental Study (TES) was conducted to identify and assess potential impacts on socioeconomic and land uses associated with the alternatives under consideration for construction of the I-295/I-76/Route 42 Direct Connection project. This technical environmental study was prepared pursuant to the requirements set forth by the Federal Highway Administration (FHWA) in Title 23, Code of Federal Regulations (CFR), Part 771, and FHWA Technical Advisory T-6640.8A and the New Jersey Department of Transportation (NJDOT) scope of work for a TES for Socioeconomics and Land Use. Additional references included:

- Federal Highway Administration (FHWA) Community Impact Assessment – A Quick Reference for Transportation (September 1996),
- *"And Justice For All" – DVRPC's Strategy for Fair Treatment and Meaningful Involvement of All People* (September 2001);

Environmental Justice impacts were evaluated in accordance with the following:

- Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), signed by President Clinton in February 1994;
- USDOT Order 5610.2 (Department of Transportation Actions to Address Environmental Justice in Minority and Low-Income Populations), dated April 1997;
- USDOT Order 6640.23 (FHWA Actions to Address Environmental Justice in Minority and Low-Income Populations), dated December 1998;
- Environmental Justice, Guidance under the National Environmental Policy Act (Council on Environmental Quality, December 10, 1997).

The Environmental Justice guidance requires the identification of minority and low-income populations and the evaluation of the potential for disproportionate impacts on such populations. The Community Impact Assessment and DVRPC guidance call for identification of other population categories including elderly, disabled, transit-dependent groups, female head of households, and English as a second language within the primary study area.

The Socioeconomic primary study area is approximately five hundred feet on either side of the proposed roadways. The primary study area boundary was extended along the western portion of the primary study area to encompass the housing owned by the Bellmawr Mutual Housing Corporation. The secondary study area covers the municipal boundaries of Bellmawr, Mount Ephraim and Gloucester City.

None of the build alternatives would result in adverse impacts related to land use, zoning or environmental justice. Socioeconomic benefits for all of the build alternatives would include improved regional accessibility, reduced travel time through the interchange with annual cost savings of approximately $39 million and reduced frequency of accidents with annual cost savings of approximately $11 million.

All of the build alternatives would result in residential displacement. Alternatives D, D1 and K would result in relocation of 13 residences and Alternatives G2 and H1 would result in relocation of five residences. All residential relocations would be conducted pursuant to the Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Relocation Act Amendment, effective March 2, 1989 (Chapter 50 NJ Public Laws of 1989).

Five community facilities would be impacted for all of the build alternatives, but they would continue to function in their present locations. Below is a description of the five facilities and the manner in which they would be affected.

- Bellmawr Baseball League- The proposed acquisition would take the grassy area beyond the outfield fence.
- Bellmawr Park Elementary School Playground- The proposed acquisition would take a ballfield, which would have to be relocated. However, there is adequate space for relocation of the ballfield on the school property. This facility is considered to be a locally significant recreation facility subject to Section 4(f).
- New St. Mary's Cemetery- The proposed acquisitions on this property would include the Harrison-Glover House which is used as an office and undeveloped land. The office would be relocated on the property. No cemetery plots are anticipated to be impacted by the proposed alternatives.
- Annunciation B.V.M Church and Annunciation Regional School- a portion of the proposed acquisition on this property is land used for parking. Alternatives D, G2 and K would require 0.720 acres. Alternatives D1 and H1 would require 3.147 acres. Parking would be relocated on the church property.
- Resurrection Christ Cemetery- The proposed acquisition on this property is vacant land, which would not affect the cemetery plots.

The visual quality of the area would be changed by all of the alternatives. Alternatives D, D1 and K would require the construction of a new one level structure throughout the interchange. Alternatives G2 and H1 would require the construction of a new two level structure through out the interchange. Additionally, new and replacement noise walls would be constructed on top of these structures to abate noise impacts.

Alternatives D, D1 and K would require combined heights of both structures and noise walls up to approximately 55 feet.

Alternatives G2 and H1 would require combined heights of both structures and noise walls up to approximately 78 feet.

Due to the heights of the structures and noise walls, for all of the build alternatives a visual impact would occur that cannot be mitigated.

Temporary construction impacts would include traffic control for I-295/I-76/Route 42, which would require the reduction of lane widths, the elimination or narrowing of shoulders and numerous shifts in traffic in order to construct the proposed improvements for all alternatives. In many instances, a live lane would be adjacent to a median barrier. All existing lanes would be maintained during peak periods. Lane closings would be allowed at night. Ramps would remain operational at all times with all lanes being open during peak periods. In some instances, traffic

would need to be split around a construction zone. Temporary widenings would be required in many areas in order to maintain the existing number of lanes. Temporary connections would be required between new and existing pavement on both the ramps and the mainline. Each alternative would require numerous stages, therefore, requiring numerous changes in traffic patterns.

Methods of accelerating construction would be investigated during the final design phase of the preferred alternative to shorten the construction duration and to decrease the temporary construction impacts. In addition, measures would be taken to assist motorists traveling through the construction zone. Accelerated construction and motorist assistance measures that would be considered include:

- Proactive community outreach program that educates motorists about changed travel patterns through the use of the NJDOT website, Highway Advisory Radio, Variable Message Signs and Public Meetings.

- Proactive community outreach program that promotes a reduction of vehicles through the interchange through car pooling, park and ride locations, and staggered work hours.

- Temporary signs that clearly identify lane shifts and merge/diverge locations.

- The use of pre-cast concrete elements and high strength materials to expedite construction.

- Incentive/Disincentive clauses for the contractor.

- Significant lane occupancy charges to the contractor to ensure all travel lanes are open in advance of the morning rush hour.

- Multiple work shifts

- Advance purchase/fabrication of structural components

Ultimately, temporary construction impacts would occur for all alternatives. However, this impact would be temporary and the benefits attributed to the interchange improvements would outweigh the temporary impacts.

According to local officials, construction detours might actually increase business activity on Kings Highway; after construction, fewer motorists might frequent Kings Highway businesses. However, this is not expected to be a significant impact since implementation of the proposed project would result in improved regional accessibility for local residents who now stay away from the Kings Highway businesses during rush hour.

One business relocation would be required for Alternatives D, D1 and K. Alternatives G2 and H1 would not require a business relocation. All project-related relocation payments and services are provided pursuant to the Federal Uniform Assistance and Real Property Acquisition for Federal and Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Act Amendment,

effective March 2, 1989 (Chapter 50, New Jersey Public Law of 1989).

Construction would take 5 to 7 years depending on the alternative. During construction, access would be maintained through the interchange as well as to existing residences, businesses, and community facilities. The total construction cost of the proposed improvements would range from a low of approximately $497 million for Alternative D to a high of approximately $735 million for Alternative H1. These expenditures would result in some additional employment during construction in the secondary impact area.

From a residential and business relocation perspective, Alternatives G2 and H1 are preferable in that five residences and no businesses would be impacted compared to thirteen residences and one business for Alternatives D, D1 and K. However, from a visual perspective, Alternatives D, D1 and K would be preferable because new single level structures are proposed compared to Alternatives G2 and H1, which propose new two level structures. The extent of the visual impact would be significantly greater for G2 and H1 compared to Alternatives D, D1 and K. The communities will have the opportunity to decide whether the noise walls should be constructed.

1.0 INTRODUCTION

A Socioeconomic, Land Use and Environmental Justice (herein referenced as Socioeconomic) Technical Environmental Study (TES) was conducted to identify and assess potential impacts on socioeconomic and land uses associated with the alternatives under consideration for construction of the I-295/I-76/Route 42 Direct Connection project. This technical environmental study was prepared pursuant to the requirements set forth in the Federal Highway Administration (FHWA) in Title 23, Code of Federal Regulations (CFR), Part 771, and FHWA Technical Advisory T-6640.8A and the New Jersey Department of Transportation (NJDOT) scope of work for a TES for Socioeconomics and Land Use. Additional references included:

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This document serves as the basis for findings and conclusions regarding socioeconomic, land use and environmental justice impacts presented in the National Environmental Policy Act (NEPA) compliance document for the proposed project.

The Socioeconomic, Land Use, Environmental Justice TES was prepared by Dresdner Robin in association with Dewberry-Goodkind on behalf of the NJDOT.

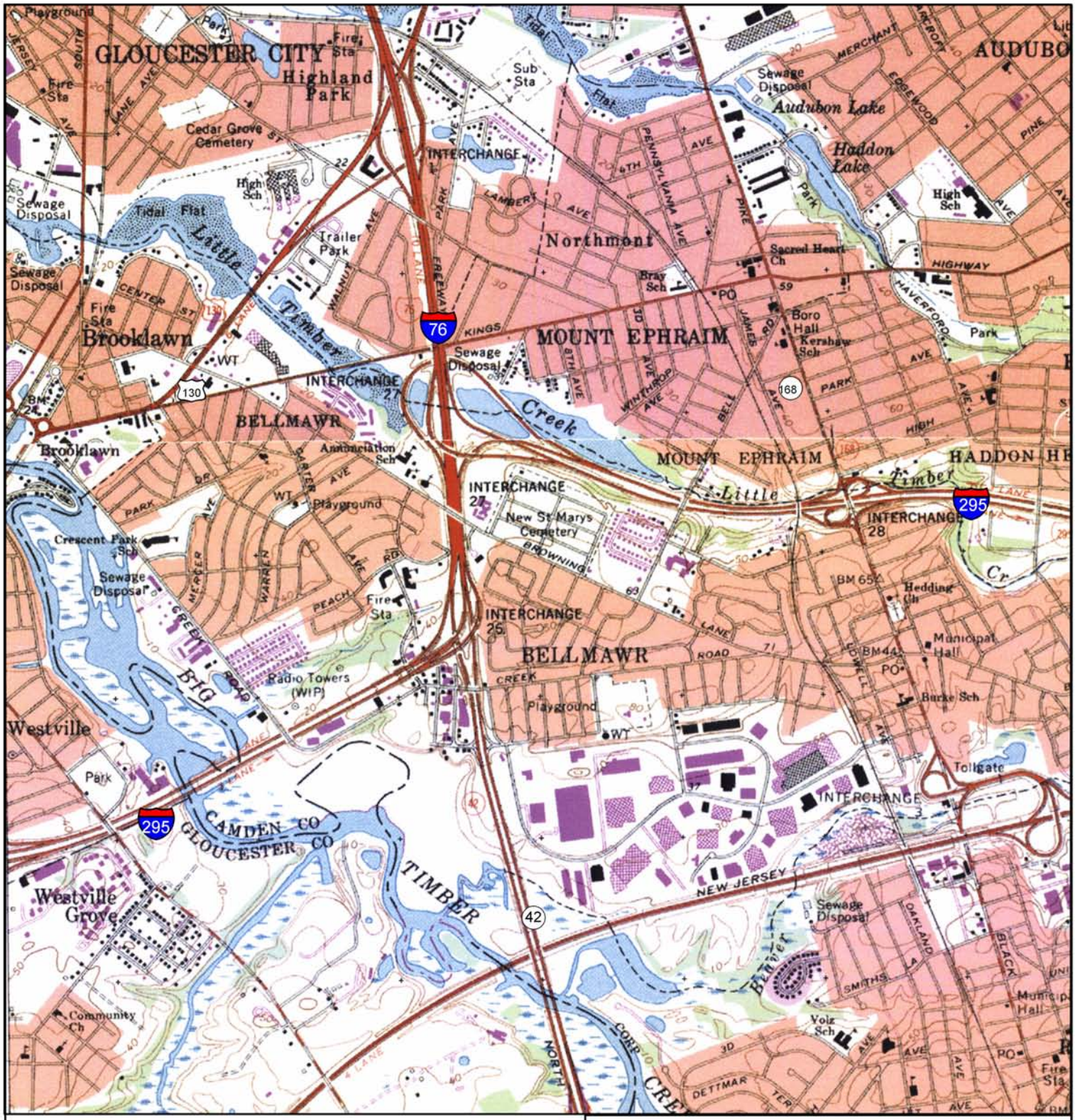
2.0 PROJECT DESCRIPTION

2.1 Project Area Overview

The I-295/I-76/Route 42 Direct Connection project involves the reconstruction of Interstate 295 (I-295), Interstate 76 (I-76), and New Jersey State Route 42 (Route 42) and affected roadway segments traversing the Boroughs of Bellmawr and Mount Ephraim, and Gloucester City, Camden County. The existing interchange, which was constructed between 1958 and 1961, is insufficient to accommodate current traffic volumes and travel speeds safely, resulting in an accident rate that is more than seven times the statewide average. Additionally, failing levels of service on the interchange ramps, combined with the congestion of local streets, adversely affects the quality of life in the surrounding communities.

A Project Location Map is provided in Figure 1. The study area for the I-295/I-76/Route 42 Direct Connection project includes several residential, commercial, industrial, and public/recreational areas in Bellmawr, Mount Ephraim, and Gloucester City. The project limits for the I-295/I-76/Route 42 Direct Connection are as follows:

Along the Route 42/I-76 corridor, the study area extends from the southerly limit of Route 42 at Leaf Avenue, Mile Post (M.P.) 13.82, north to where Route 42 ends at M.P. 14.28 and merges with I-295 at M.P. 26.79. The I-295 corridor includes only a short section of I-295 roadway from M.P. 26.79 to M.P. 26.96 before I-295 continues north following Ramp A. Additionally, the I-76 section of the project begins at M.P. 0.00 and continues to the northerly limit just south of Crescent Boulevard (Route 130) over I-76 at M.P. 1.15. Along I-295, the study area extends from the southerly limit of Creek Road (CR 753) over I-295 (M.P. 26.03), to the merge with Route 42 (M.P. 26.79), and continues north to M.P. 28.16, where Black Horse Pike (Route 168) crosses over I-295.



SOURCE:

- Camden, NJ-PA
  USGS 7.5 Minute Quadrangle
  1967, Revised 1994
- Runnemede, NJ
  USGS 7.5 Minute Quadrangle
  1964, Revised 1994

0 1,000 2,000 4,000 Feet

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Q:\2652\technical\GIS\Alternatives-2005\PROJECT LOCATION MAP

NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 1
Project Location Map

2.2 Description of Existing Facilities

The following is a description of the existing roadways. Figure 2 is an excerpt from the NJDOT Straight Line Diagram, which provides an overview of the interchange configuration.

2.2.1 Ramps

Ramp A
Ramp A connects northbound Route 42 with northbound I-295.

Ramp B
Ramp B connects southbound I-295 with northbound I-76.

Ramp C
Ramp C connects southbound I-295 with southbound Route 42.

Ramp D
Ramp D connects southbound I-76 with northbound I-295.

Ramp E
Ramp E connects northbound I-295 with northbound I-76.

Ramp F
Ramp F connects northbound I-295 with the I-76 northbound express lanes.

Ramp G
Ramp G connects the I-76 southbound express traffic with southbound I-295.

Ramp H
Ramp H connects southbound I-76 with southbound I-295.

2.2.2 I-295, I-76, Route 42 from the Southern Project Limit

I-295 northbound consists of three 12' lanes with a 12' right shoulder. There is a 50' wide grass median separating the northbound and southbound lanes. The three lane section terminates in the vicinity of the bridge over Essex Avenue in Bellmawr, and forms Ramps E and F, which lead traffic to I-76 northbound local and express lanes, respectively. Ramp E becomes Ramp A, which is considered a continuation of I-295 northbound, and carries I-295 through-traffic northbound. Ramp A merges with Ramp D, carrying I-76 northbound traffic onto I-295, and together re-form the three lane section of I-295 northbound.

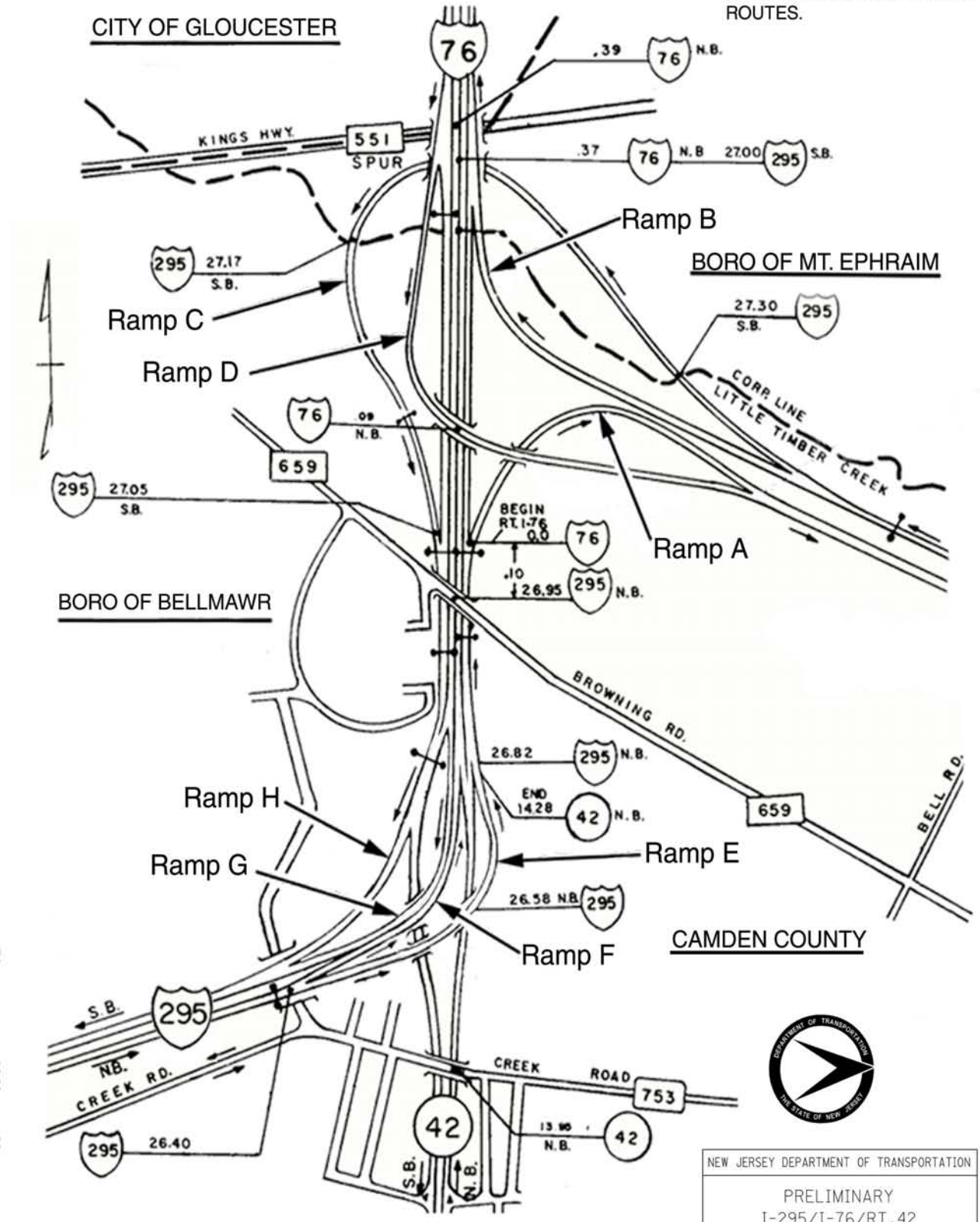
Route 42 northbound consists of four 12' lanes with a 12' right shoulder and a concrete median barrier curb. Route 42 ends at the merge of Ramp E carrying traffic from I-295 northbound. At this point, Route 42 becomes I-295 northbound, which continues to the Ramp A gore. At the gore, I-76 northbound begins for through-traffic while traffic heading to I-295 must exit onto

Ramp A. Traffic traveling from Route 42 northbound to I-295 northbound must merge across the lanes created by Ramp E to exit onto Ramp A to continue onto I-295, as the lanes of Ramp E form part of the express and local lanes of I-76 northbound.

2.2.3 I-295, I-76, Route 42 from the Northern Project Limit

I-295 southbound consists of three 12' lanes with a 12' right shoulder. Approximately 1,000' south of the Bell Road overpass in Mt. Ephraim, the travel lanes diverge into Ramps B and C. Ramp B carries traffic to I-76 northbound lanes. Ramp C, also known as "Al-Jo's Curve," carries I-295 southbound through-traffic via Ramp H, while traffic to Route 42 exits from the left lane. Ramp G, carrying I-76 and Route 42 southbound traffic merges with Ramp H, re-forming the 3-lane southbound section of I-295.

I-76 southbound consists of four 12' lanes with a 12' shoulder. Ramp D carries traffic from I-76 to I-295 northbound. At the Ramp C merge, I-76 ends, becoming I-295 southbound. Traffic continuing on I-295 southbound exits at Ramp G, while through-traffic continues onto Route 42 southbound past the Ramp G exit. Traffic traveling on I-76 to Route 42 must stay in the right lane after the Ramp C merge, then move to the left lane across merging traffic from I-295 southbound to continue onto Route 42. Traffic continuing to I-295 southbound exits right onto Ramp H.



Source: NJDOT Straight Line Diagram
Enlarged Index, Page 26

NEW JERSEY DEPARTMENT OF TRANSPORTATION

PRELIMINARY
I-295/I-76/RT.42
RECONSTRUCTION
RAMP DIAGRAM
FIGURE 2

2.3 Purpose and Need

2.3.1 Purpose

The purpose of this project is to improve traffic safety, reduce traffic congestion and meet driver's expectations by improving the direct connection of the I-295 mainline and the interchange of I-295/I-76/Route 42.

2.3.2 Need

There is a significant accident history at the interchange. The interchange's existing roadways include a number of geometric deficiencies that can be considered contributing factors to the high number of accidents. The deficiencies were identified from NJDOT record construction drawings and Structural Inventory and Appraisal (SI&A) Sheets.

Improve Safety
Accident data for the years 1995 through 2000 were reviewed. Since statewide accident rates were available for 1995, 1996, and 1999, a comparison of the accident rates on I-295, I-76 and Route 42 for these years was made with the statewide average.

During the 1995 to 1999 period, the I-295 roadway segments from M.P. 26.4 to M.P. 28.2 had accident rates over seven times the statewide average. Of these segments, M.P. 26.4 and 27.6 and M.P. 28 to 28.2, lengths that encompass the area of the interchange with Route 42 and I-76, had a substantially higher number of accidents than sections of I-295 immediately north and south of the interchange. For example, in 1995, M.P. 26.4 to 27.0 had almost seven times more accidents than the statewide average, while M.P. 26.8 to M.P 27.1 had the most accidents in each of the analyzed years.

All six segments of Route 42 (from M.P. 13.2 to M.P. 14.28) had accident rates in excess of the statewide average. In 1996, four segments (from M.P. 13.45 to M.P. 14.28) had accident rates, per million vehicle miles, greater than the statewide average. In 1999, four segments (from M.P. 13.44 to M.P. 14.28) had accident rates, per million vehicle miles, greater than the statewide average. In the years 1995, 1996 and 1999, one segment had an accident rate four times the statewide average.

I-76 accident rates were similar to those of I-295 and Route 42 in the 1995-1999 time frame. For 1995, four segments (from M.P. 0.0 to M.P. 0.8) had accident rates that exceeded the statewide average. One segment had an accident rate twice the statewide average. In 1996 five segments (from M.P. 0.0 to M.P. 0.8) had accident rates greater than the statewide average, with one segment being three times the statewide average. On I-76 in 1999, three segments (from M.P. 0.0 to M.P. 0.53) had accident rates in excess of the statewide average. In 1999, one segment had an accident history four times greater than the statewide average. Segments that were over-represented, in all three years that were compared with statewide averages, were M.P. 0.0 to 0.3 and 0.3 to 0.5. These segments mainly encompass the area in which I-76 is combined with I-295.

Geometric and Structural Deficiencies
The existing interchange has numerous substandard geometric design elements. These include horizontal curvature, stopping sight distance, superelevation, shoulder widths and acceleration and deceleration lane lengths. These are present along I-295, I-76, Route 42 and ramps at various locations. Since a majority of the improvements will be on new alignments, these substandard features will be addressed as part of the project.

In addition to the geometric deficiencies noted above, several bridges within the interchange have been identified as structurally deficient or functionally obsolete due to substandard vertical and horizontal clearances. Once again, since a majority of the improvements will be on new alignments, these structures will be replaced as part of the project.

Driver Expectations
While there is a definite need to correct the geometric deficiencies in existing ramps and structures, driver expectations also play a large role in the high accident rates at the interchange and necessitate improved safety. The posted speed limits on the existing ramps that serve the through-traffic on I-295 are inconsistent with typical operating speeds on an interstate highway. The posted speed limit on all of the highway approaches to the interchange is 55 miles per hour (MPH). The 20 MPH discrepancy between the posted speed limits (and higher operating speeds) on the approach highways and the 35 MPH speed on the ramps can be considered as a contributing factor in the interchange's overall poor accident record.

Operational Deficiencies
The lack of a direct connection for through movement on I-295, significant weaving problems, deficient connecting ramps, and high volumes of traffic all result in operational deficiencies (or congestion) within and near the interchange. The operational deficiencies on I-295, I-76 and Route 42, particularly the queuing of traffic and poor Levels of Service (LOS) that cause excessive delays, impact not only regional traffic and commuters using the highways, but local arterials and neighborhood streets as well. Excessive delays at the interchange result in highway traffic exiting onto surrounding local arterials, thereby further adding to congestion in the region. The diverted traffic, in turn, causes congestion on local roads, compromises traffic and pedestrian safety, increases noise levels, and lowers air quality in the community, which disproportionately tax the capacity and life of local roadways.

The effective operation of any roadway network, be it highway, local arterial or street intersection, is measured by the LOS categories ranging from A to F. LOS A represents the most favorable operating conditions with little or no delay. LOS F is the worst operating condition occurring when demand volume exceeds the capacity of the roadway resulting in severe congestion. Specific sections of the interchange that experience a poor LOS (LOS E or F) are highlighted in Table 1. Of the eight ramps studied in detail, five operate at a LOS E or worse for at least one of the two peak hours (AM and PM).

In addition, a weaving condition exists on I-76/Route 42 between Ramp E and Ramp A. Traffic on Ramp E wishing to proceed north on I-76 must weave with traffic from northbound Route 42 proceeding north on I-295. Due to the volumes of traffic involved in this section of the

interchange (specifically the high volume of traffic from Ramp E proceeding to Ramp A) this section of the roadway experiences failure. It should be noted that the traffic exiting Ramp E and proceeding on Ramp A is "through" traffic that could be expected to stay on mainline I-295 if a mainline section of the highway were available.

I-295/I-76/Rte 42
Direct Connection
TABLE 1A
Existing Levels of Service

Roadway/Ramp	Peak Hour Level of Service	
	AM	PM
I-295 - Northbound		
South of Interchange	D	C
North of Interchange	D	**E**
I-295 - Southbound		
South of Interchange	**E**	**E**
North of Interchange	C	C
I-76 - Northbound		
South of Interchange	n/a[1]	n/a[1]
North of Interchange	**E**	C
Express Lanes	D	B
I-76 - Southbound		
South of Interchange	n/a[1]	n/a[1]
North of Interchange	C	**E**
Route 42 - Northbound		
South of Interchange	D	C
North of Interchange	n/a[1]	n/a[1]
Route 42 - Southbound		
South of Interchange	B	D
North of Interchange	n/a[1]	n/a[1]
Ramp A	**F**	**F**
Ramp B	**E**	B
Ramp C	**F**	**F**
Ramp D	B	C
Ramp E	**E**	**E**
Ramp F	**E**	**E**
Ramp G	B	C
Ramp H	C	B

[1]Section of roadway does not exist (See Figure 1).

2.3.3 Goals and Objectives

A set of project goals and objectives has been developed based on the project's purpose and needs described above, findings from previous studies, and goals developed during the partnering meetings on December 11-12, 2001. The goals and objectives are a compendium of statements made by the NJDOT, Federal Highway Administration (FHWA), agencies, local elected officials, residents, and other stakeholders in the project. As such, the goals and objectives are wide-ranging and represent different levels of priority for each stakeholder.

While the project may not be able to satisfy all goals and objectives listed herein, the preferred alternative seeks to address as many as possible. The project's goals and objectives are as follows:

- Improve safety by constructing a roadway system that meets interstate standards for geometric design.
- Provide a direct connection for through-traffic on I-295 with a design speed consistent with that of the interchange's approach roadways.
- Reduce congestion on local arterials such as Route 168 and US 130 and decrease commuter traffic on neighborhood streets, thereby improving local traffic mobility, pedestrian safety, and the level of service on I-295. In addition, noise levels would decrease and air quality would improve.
- Enhance regional economic development by increasing overall mobility. In addition, the improved roadway network conforms to State and local development plans.
- Reduce the financial burden on State and local police and emergency services by decreasing the number of vehicle accidents.
- Avoid, minimize or mitigate environmental and cultural resource impacts.
- Preserve the quality of life of communities by minimizing relocations and acquisitions of private and public property.
- Enhance opportunities for other modes of transportation, including bicycle and pedestrian, within the project area.
- Provide opportunities for intermodal use within the project area.

2.4 Description of Alternatives

The following section provides a description of the alternatives selected for further study. The alternatives were developed through a collaborative effort between stakeholder groups and were based on the objectives set forth in the project Purpose and Need statement. Graphics illustrating each alternative follow the narrative.

2.4.1 Alternative D

Alternative D, shown in Figure 3, begins in the vicinity of the Grenloch Secondary Railroad Bridge over I-295. Mainline I-295 shifts slightly south and elevates to a third level viaduct over Browning Road and Route 42 and a second level viaduct over Ramp C The roadway meets existing I-295 pavement north of the Creek Road overpass. The I-295 Alternative D alignment crosses I-76/Route 42 at a skew through an unused area of New St. Mary's Cemetery.

Vehicles on northbound Route 42, whose destination is I-295 northbound, exit on Ramp A. This ramp configuration, in conjunction with the new I-295 mainline alignment, eliminates the current substandard weaving condition with Ramp E at this location. Ramp A crosses under Ramp E and then crosses over Route 42 northbound before joining the elevated I-295 northbound alignment just north of Browning Road.

Ramp B provides the movement from southbound I-295 to northbound I-76. Ramp C provides the movement from southbound I-295 to southbound I-76/Route 42. Ramp B and Ramp C exit I-295 from the right. Ramp B follows a similar alignment to its existing one to meet I-76 northbound. Ramp C splits from Ramp B and crosses under Ramp D, I-76, Browning Road, and I-295 to connect with Route 42 north of the Creek Road Bridge.

Ramp D is the move from I-76 southbound to I-295 northbound. Ramp D exits I-76 in much the same way that it does now. The Ramp D alignment crosses over I-76, over Ramp C, and under I-295 before merging with I-295 northbound south of Bell Road.

Northbound I-295 traffic heading north to I-76 utilizes Ramp E, which follows essentially the same alignment as it does now.

Southbound I-76 traffic heading to I-295 southbound utilizes Ramp F. Ramp F diverts from I-76 from the right (existing exit is from the left), and then passes under Browning Road. Ramp F first runs parallel to Ramp C and then runs adjacent to I-295 southbound. Ramp F rises from a depressed section at Browning Road to an elevated section as it ties into I-295 southbound prior to Essex Avenue.

A summary of design features of this alternative are:

- Northbound and Southbound I-295 are side-by-side
- I-295 crosses over Route 42/I-76 on a viaduct on a skew
- I-295 on viaduct over Ramp C and Browning Road
- Ramp D on viaduct over I-76/Route 42, Ramp C and under I-295
- Two lane ramps except for Ramp F

- Removes express/local lanes on I-76 Westbound
- I-295 Posted Speed Limit: 55 mph (Design Speed: 60 mph)
- Ramp Speed Limits: 40 mph (Design Speed: 45 mph)

2.4.2 Alternative D1

Alternative D1, shown in Figure 4, is almost identical to Alternative D. The primary difference is the configuration of Ramps B and C. Ramp C exits I-295 southbound from the tangent section of I-295 southbound. Ramp B exits from the right approximately 1,000' later. Ramp B is on a new alignment south of its present location, but ties into I-76 at a similar location. Ramp C generally follows (within 150'±) the existing Ramp C alignment (Al Jo's curve) and passes under I-76 and Ramp F before merging with Route 42 southbound. The substandard radius on the existing Ramp C is replaced with a larger radius. Ramp D follows the same alignment as in Alternative D.

A summary of design features of this alternative are:

- Northbound and Southbound I-295 are side-by-side
- I-295 crosses over Route 42/I-76 on a viaduct on a skew
- I-295 on viaduct over Ramp C and Browning Road
- Ramp D on viaduct over I-76/Route 42 and under I-295
- Two lane ramps except for Ramp F
- Removes express/local lanes on I-76 Westbound
- I-295 Posted Speed Limit: 55 mph (Design Speed: 60 mph)
- Ramp Speed Limits: 40 mph (Design Speed: 45 mph)

2.4.3 Alternative G2

Alternative G2, shown in Figure 5, also begins in the vicinity of the Grenloch Secondary Railroad Bridge over I-295. The southbound and northbound lanes of I-295 align over top of each other as an over–and-under viaduct and shift south. The I-295 viaduct alignment is elevated to cross over all of the ramps as well as I-76 and Browning Road. I-295 crosses over I-76 on a skewed alignment and then diverges and lowers in elevation to meet the existing I-295 pavement following the same alignment as in Alternative D to a point just north of the Creek Road Bridge. I-295 southbound is a fourth level viaduct and northbound is a third level viaduct at the Route 42 and Browning Road crossings. I-295 southbound passes over Bell Road, whereas, I-295 northbound passes under Bell Road.

Vehicles on Route 42 whose destination is I-295 northbound, exit on Ramp A. Ramp A crosses under Ramp E and then crosses over Route 42 northbound before joining the elevated I-295 northbound alignment just north of Browning Road, similar to Alternative D.

Ramp B provides the movement from southbound I-295 to northbound I-76. Ramp C provides the movement from southbound I-295 to southbound Route 42. Ramps B and C exit I-295 from the right. Ramp B follows a similar alignment to its existing alignment to meet I-76 northbound. Ramp C crosses under Ramp D, I-76, Browning Road, and I-295 to connect with Route 42 north of the Creek Road Bridge.

Ramp D is the move from I-76 southbound to I-295 northbound. Ramp D exits I-76 in much the same way that it does now. The Ramp D alignment crosses over I-76, over Ramp C, and under I-295 before merging with I-295 northbound south of Bell Road.

Northbound I-295 traffic heading north on I-76 utilizes Ramp E, which follows essentially the same alignment as it does now.

Southbound I-76 traffic heading to I-295 southbound utilizes Ramp F. Ramp F diverts from I-76 from the right (existing exit is from the left), and then passes under Browning Road. Ramp F first runs parallel to Ramp C and then runs adjacent to I-295 southbound. Ramp F rises from a depressed section at Browning Road to an elevated structure as it ties into I-295 southbound prior to Essex Avenue.

A summary of design features of this alternative are:

- Southbound I-295 placed above Northbound I-295 using a double-decker configuration
- I-295 crosses over Route 42/I-76 on a viaduct on a skew
- I-295 on viaduct over Ramp C and Browning Road
- I-295 on viaduct over Ramp D
- Ramp D on viaduct over I-76/Route 42 and Ramp C
- Two lane ramps except for Ramp F
- Removes express/local lanes on I-76 Westbound
- I-295 Posted Speed Limit: 55 mph (Design Speed: 60 mph)
- Ramp Speed Limits: 40 mph (Design Speed: 45 mph)
- Ramp Speed Limits: 40 mph (Design Speed: 45 mph)
-

2.4.4 Alternative H1

Alternative H1, shown in Figure 6, is almost identical to Alternative G2. The primary difference is the configuration of Ramps B and C. Ramps B and C exit from I-295 from the right. Ramp C generally follows (within 150'±) the existing Ramp C alignment (Al Jo's curve) and passes under I-76 and Ramp F before merging with Route 42 southbound. The substandard radius on the existing Ramp C is replaced with a larger radius. Ramp B splits from Ramp C to meet I-76 northbound.

A summary of design features of this alternative are:

- Southbound I-295 placed above Northbound I-295 using a double-decker configuration
- I-295 crosses over Route 42/I-76 on a viaduct on a skew
- I-295 on viaduct over Ramp C and Browning Road
- I -295 on viaduct over Ramp D
- Ramp D on viaduct over I-76/Route 42
- Two lane ramps except for Ramp F
- Removes express/local lanes on I-76 Westbound

- I-295 Posted Speed Limit: 55 mph (Design Speed: 60 mph)
- Ramp Speed Limits: 40 mph (Design Speed: 45 mph)

2.4.5 Alternative K

Alternative K makes I-295 a continuous direct-through alignment in the form of a tunnel beneath I-76/Route 42, as shown in Figure 7. Alternative K begins in the vicinity of the Grenloch Secondary Railroad Bridge over I-295. Mainline I-295 shifts slightly south and begins to descend at a 3.5%± grade close to New St. Mary's Cemetery. The road reaches a depth of 60' in the northwestern corner of New St. Mary's Cemetery, and a depth of 35' below the I-76/Route 42 pavement. The roadway begins to ascend at a 4% grade beside the baseball fields and is at grade to meet the I-295 pavement north of the Creek Road overpass.

Vehicles on northbound Route 42 whose destination is I-295 northbound, exit on Ramp A, which would be separated from, but parallel with, Route 42. This ramp configuration, in conjunction with the new I-295 mainline alignment, eliminates the current substandard weaving condition with Ramp E at this location. Ramp A then crosses under Ramp E before joining the depressed I-295 alignment north of Browning Road.

Ramp B provides the movement from southbound I-295 to northbound I-76. Ramp C provides the movement from southbound I-295 to southbound Route 42. Ramp C exits I-295 from the right and Ramp B exits from the right approximately 1,000' further. Ramp B follows a similar path but to the south of its existing location to meet I-76 northbound. Ramp C crosses over Ramps B and D, and I-76. Then Ramp C passes over Browning Road and I-295 to connect with Route 42 north of the Creek Road Bridge.

Ramp D is the move from I-76 southbound to I-295 northbound. Ramp D exits I-76 in much the same way that it does now. The Ramp D alignment crosses over I-76, under Ramp C, and over I-295 before merging with I-295 northbound south of Bell Road.

Northbound I-295 traffic heading north on I-76 utilizes Ramp E, which follows essentially the same alignment as it does now.

Southbound I-76 traffic heading to I-295 southbound utilizes Ramp F. Ramp F diverts from I-76 from the right (existing exit is from the left) and then passes under Browning Road. Ramp F first runs parallel to Ramp C and then runs adjacent to I-295 southbound. Ramp F rises from a depressed section at Browning Road to tie into I-295 southbound prior to Essex Avenue.

A summary of design features of this alternative are:

- Northbound and Southbound I-295 are side-by-side
- Mainline I-295 is a tunnel under I-76/Route 42 on a skew
- Ramp C on viaduct over Ramps B and D and I-76/Route 42
- Two lane ramps except for Ramp F
- Removes express/local lanes on I-76 Westbound
- I-295 Posted Speed Limit: 55 mph, (Design Speed: 60 mph)
- Ramp Speed Limits: 40 mph, (Design Speed: 45 mph)

Three local bridges are impacted by each of the alternatives. The Bell Road, Browning Road, and Creek Road bridges will be raised to provide proper vertical clearance and lengthened to accommodate the wider typical section of I-295 or I-76/Route 42. In addition, King's Highway will be lowered by approximately one foot under each alternative and Alternative K may require Essex Avenue to be lowered by approximately two feet.

2.4.6 No Build Alternative

This alternative proposes no changes to the existing interchange. Impacts to the project area will be evaluated in the same way as the other proposed alternatives, with the assessment of current conditions projected to the design year serving as the impact assessment for the no-build alternative. The no-build alternative serves as the benchmark to measure the costs and benefits of each build alternative evaluated.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 3
Alternative D

A - Ramp Designation

- Roadway
- Bridge
- Ramps for Missing Moves
- Roadway to be Removed

N

0 750 1,500 3,000 Feet

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 4
Alternative D1

A - Ramp Designation

- Roadway
- Bridge
- Ramps for Missing Moves
- Roadway to be Removed

N

0 750 1,500 3,000 Feet

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 5
Alternative G2

A - Ramp Designation

- Roadway
- Bridge
- Ramps for Missing Moves
- Roadway to be Removed

N

0 750 1,500 3,000 Feet

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 6
Alternative H1

A - Ramp Designation

- Roadway
- Bridge
- Ramps for Missing Moves
- Roadway to be Removed

N

0 750 1,500 3,000 Feet

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

I-295 / I-76/ ROUTE 42
Direct Connection
Camden County

Figure 7
Alternative K

2.5 Summary of Impacts

The principal socioeconomic, land use and environmental justice impacts by alternative are summarized in Table 1.

I-295/I-76/Route 42 Direct Connection
TABLE 1
Summary of Impacts

Discipline	Impacts				
	Alternative D	**Alternative D1**	**Alternative G2**	**Alternative H1**	**Alternative K**
Residential Displacement	13 Residences	13 Residences	5 Residences	5 Residences	13 Residences
Acquisitions (Including ROW and Permanent Easements)	11.969 acres	14.395 acres	9.455 acres	11.907 acres	12.883 acres
Community Facilities					
Bellmawr Baseball League	Grassy area beyond outfield fence (0.860 acres)	Grassy area beyond outfield fence (0.860 acres)	Grassy area beyond outfield fence (0.302 acres)	Grassy area beyond outfield fence (0.302 acres)	Grassy area beyond outfield fence (0.875 acres)
Bellmawr Park Elementary School Playground Section 4(f) Recreational Facility	Ball field (0.697 acres)	Ball field (0.697 acres)	Ball field (0.321 acres)	Ball field (0.321 acres)	Ball field (0.697 acres)
New St. Mary's Cemetery	Grassy area, Harrison-Glover House, No Plots (6.260 acres)	Grassy area, Harrison-Glover House, No Plots (6.260 acres)	Grassy area, Harrison-Glover House, No Plots (6.260 acres)	Grassy area, Harrison-Glover House, No Plots (6.260 acres)	Grassy area, Harrison-Glover House, No Plots (6.260 acres)
Annunciation B.V.M Church and Annunciation Regional School	Parking Lot (0.720 acres)	Parking Lot (3.147 acres)	Parking Lot (0.720 acres	Parking Lot (3.147 acres)	Parking Lot (0.720 acres)
Resurrection Christ Cemetery	Grassy Area, No Plots (0.069 acres)	Grassy Area, No Plots (0.069 acres)	Grassy Area, No Plots (0.069 acres)	Grassy Area, No Plots (0.069 acres)	Grassy Area, No Plots (0.069 acres)
Visual Quality (Including Noise Walls)	Up to 49 feet combined height	Up to 49 feet combined height	Up to 78 feet combined height	Up to 78 feet combined height	Up to 55 feet in combined height
Business Relocation	1 Business	1 Business	None	None	1 Business
Construction Costs	$497 million	$524 million	$686 million	$735 million	$674 million
Land Use	No Impact	No Impact	No Impact	No Impact	No Impact
Environmental Justice	No Impact	No Impact	No Impact	No Impact	No Impact
Safety	$11 million in annual savings	$11 million in annual savings	$11 million in annual savings	$11 million in annual savings	$11 million in annual savings
Travel Time Through Interchange	Over $39 million in annual savings	Over $39 million in annual savings	Over $39 million in annual savings	Over $39 million in annual savings	Over $39 million in annual savings
Regional Accessibility	Reduced annual congestion	Reduced annual congestion	Reduced annual congestion	Reduced annual congestion	Reduced annual congestion

3.0 METHODOLOGY

A two-phase analysis was conducted to identify and assess potential socioeconomic, land use and environmental justice impacts resulting from the proposed I-295/I-76/Route 42 Direct Connection project. The first phase consisted of documenting the existing character and significant features of the primary study area, reviewing pertinent planning and zoning documents, and identifying development proposals within the primary study area. The primary study area generally extends beyond the composite foot print of the five build alternatives and is shown on all the existing condition figures at the end Section 4.

Field surveys were conducted to determine existing land use, and the status of any current development proposals. Interviews with representatives of Camden County, Bellmawr, Mount Ephraim, Gloucester City, affected property owners and business operators and non-profit organizations were conducted to obtain information characterizing community facilities, community profile, regional accessibility and businesses within the primary study area, including the Mayors of Bellmawr and Mount Ephraim, the Bellmawr Board of Education, local officials of Gloucester City, numerous churches within Bellmawr, Delaware Valley Regional Planning Commission (DVRPC), Camden County Senior and Disabled Services, South Jersey Transportation Authority, Senior Citizen United Community Service, Bellmawr Baseball League, Mount Ephraim Senior Housing, and Bellmawr Mutual Housing Corp.

The second phase of the study consisted of an assessment of the proposed project's impacts. The socioeconomic impact analysis considered residential and business displacements, and potential impacts to community facilities, community cohesion and stability, travel time, safety, regional accessibility as well as the project's fiscal impact. The land use impact analysis considered the project's consistency with local and regional plans, its effects on current development proposals within the primary study area, its consistency with the primary study area's existing land use pattern, and potential changes to development opportunities within the primary study area. The visual impact analysis reviewed effects of the proposed improvements on the aesthetic character of the project corridor.

The secondary study area contains those portions of the Borough of Bellmawr, Mount Ephraim, and Gloucester City that were not included in the primary study area.

4.0 EXISTING CONDITIONS

4.1 Description of Bellmawr

Four U. S. Census Tracts, seven Block Groups, and 31 Census Blocks provide population data about the portion of the primary study area that lies within Bellmawr. Census Tracts 6068, 6069.01, 6069.02 and 6070 include the Bellmawr portion of the primary study area. However, only a small portion of Census Tract 6069.02, Block Group 1, Census Tract 6055, Block Group 2, and Census Tract 6068, Block Group 3 lie within the primary study area. In 2000 the total population of Bellmawr was 11,262. The U.S. Census information contains population data gathered from two separate sampling methods. Census data for Race, Senior Citizens, and Female Heads of Household was obtained from the questionnaire distributed to all residents and provides information to the census block level. Census data for Disability, Foreign Language, Transit Dependent, and Poverty was collected from a one in six sample size and weighted to represent the total population and provides information only to the census block group level. Therefore, sample totals will vary across census groups.

Two methodologies were utilized for the community profile. The minority and poverty level approach follows the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994, which requires federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The potential for impacts on these two categories is discussed in Section 5.6.

The remaining populations (Disability, Foreign Language, Transit Dependent and Senior Citizen) follow the Delaware Valley Regional Planning Commission (hereafter referred to as DVRPC) approach which determined a regional threshold, or average, to assess whether each census area meets or exceeds this average. A total of all persons in the specific demographic group in the nine-county region was divided by the total nine-county population to obtain this average. Shaded rows on the tables represent the census blocks that contain proposed improvements. Bolded numbers in the table indicate census areas that exceed the regional threshold.

The figures provided for minority population and income at the end of Section 4.0 present ranges of percentages based on statistically derived breaks for each population category.

4.1.1 Community Profile

Minority Population

Minority residents are classified as people who are Hispanic, Black, Asian, Native American and Alaskan Native. In 2000, Census data indicated that 892 residents in the Borough of Bellmawr were identified as minorities, which accounted for 7.92 percent of the total Borough population. The percentage of minority residents at the Census Tract level ranged from 2.26 percent (Census Tract 6069.02) to 12.73 percent (Census Tract 6068). At the census block level, the lowest total minority population was 0 percent for Census Tract 6069.01, Blocks 1000, 2002, 2003 and 3002, and Census Tract 6070, Blocks 1012, 4001, 4002 and 4005. Census Tract 6070, Block 4003

which has three residents and Census Tract 6068, Block 3007 which has six residents, have minority populations of 100 and 50 percent respectively. Apart from these low population Blocks, the highest percentage of minority populations was found in Census Tract 6070, Block 4004 with a 30 percent minority population. As shown in Table 2, the proposed improvements are not located in any of these high percentage Blocks. Only Block 1000, Census Tract 6070 contains the proposed improvements and has a minority percentage (9.91 percent) that exceeds that for the Borough of Bellmawr as a whole. The potential for an impact to minority populations in this Census Block is discussed in Sections 5.1 and 5.6. Figure 8 at the end of Section 4.0 displays Census Blocks by percentage range.

According to local interviews (June 8, 2005 and July 26, 2005), a Pakistani population was identified within the Borough of Bellmawr. After further investigation, the Pakistani population was identified as residing within the Borough of Bellmawr but outside the primary study area on the east side of Route 168 where no improvements are proposed. The potential for the proposed project to impact this population, which is located in the secondary study area, is discussed in Section 5.6. No other significant minority population groups were identified by the interviews conducted.

Senior Citizen Population

The DVRPC uses age 85 as the basis for identifying communities with senior citizens that may be of special concern. Census Data indicated that 127 persons over the age of 85 resided in the Borough of Bellmawr in 2000, which accounted for 1.13 percent of the total Borough population. The DVRPC regional threshold for senior citizens over age 85 for the year 2000 is 2 percent. Three census blocks within Bellmawr contain senior citizen populations that meet or exceed the regional threshold. Census Block 1001 of Census Tract 6069.01 is located on the southern edge of I-295 between Bell Road and Black Horse Pike and contains 1 senior citizen out of a total population of 39. Census Block 2007 of Census Tract 6069.01 is located south of Browning Road along the eastern edge of Route 42/I-76 and contains 2 senior citizens out of a total population of 45. Census Block 4001 of Census Tract 6070 is located on the southwest corner of the Route42/I-295 interchange and contains 1 senior citizen out of a total population of 5 (20 percent). This data is summarized on Table 3. Only Census Block 4001 of Census Tract 6070 contains the proposed improvements. The potential for an impact on senior citizens in this Census Block is discussed in section 5.1.1.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

I-295 / I-76 / Route 42 Direct Connection
TABLE 2
Minority Population - Bellmawr[1]

	Total	White (%)	Black (%)	Hispanic[3] (%)	Asian (%)	Other[2] (%)	Total Minority (%)
County							
Camden	508,932	67.79	17.29	9.66	3.68	0.31	30.94
Municipality							
Bellmawr	11,262	90.91	1.15	3.50	3.05	0.21	7.92
Census Tract							
Census Tract 6068	3,903	85.73	0.59	5.12	6.48	0.54	12.73
Block Group							
Block Group 3	1,053	90.60	0.66	2.66	4.27	0.00	7.60
Block							
Block 3007	6	50.00	0.00	50.00	0.00	0.00	50.00
Census Tract							
Census Tract 6069.01	2,837	89.46	3.28	3.35	2.54	0.07	9.24
Block Group							
Block Group 1	725	93.24	0.55	2.48	2.34	0.00	5.38
Block Group 2	612	94.28	0.33	1.31	2.94	0.16	4.74
Block Group 3	1500	85.67	5.80	4.60	2.47	0.07	12.93
Block							
Block 1000	18	100.00	0.00	0.00	0.00	0.00	0.00
Block 1001	39	58.97	0.00	0.00	20.51	0.00	20.51
Block 1002	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2000	30	93.33	0.00	3.33	0.00	3.33	6.67
Block 2001	199	95.98	0.00	2.01	2.01	0.00	4.02
Block 2002	48	100.00	0.00	0.00	0.00	0.00	0.00
Block 2003	53	100.00	0.00	0.00	0.00	0.00	0.00
Block 2004	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2005	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2006	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2007	45	86.67	0.00	4.44	8.89	0.00	13.33
Block 3000	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 3001	138	97.10	0.00	1.45	0.00	0.00	1.45
Block 3002	105	100.00	0.00	0.00	0.00	0.00	0.00
Block 3003	104	99.04	0.00	0.00	0.96	0.00	0.96

Source: 2000 U.S. Census of Population and Housing

[1] Percentages do not add to 100 percent, as Hispanics are also included in other categories.

[2] Other includes American Indians and Alaskan Natives.

[3] Includes persons of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish culture or origin, regardless of race

I-295 / I-76 / Route 42 Direct Connection
TABLE 2
Minority Population - Bellmawr[1]

	Total	White (%)	Black (%)	Hispanic[3] (%)	Asian (%)	Other[2] (%)	Total Minority (%)
	Shading indicates Census Blocks or Block Groups that contain the proposed improvements						
Census Tract							
Census Tract 6069.02	133	96.99	0.00	0.00	2.26	0.00	2.26
Block Group							
Block Group 1	133	96.99	0.00	0.00	2.26	0.00	2.26
Block							
Block 1002	58	93.10	0.00	0.00	5.17	0.00	5.17
Block 1003	0	0.00	0.00	0.00	0.00	0.00	0.00
Census Tract							
Census Tract 6070	4,389	96.26	0.32	2.26	0.36	0.02	2.96
Block Group							
Block Group 1	2,200	95.86	0.05	2.50	0.41	0.00	2.95
Block Group 4	680	92.35	1.62	4.71	0.44	0.15	6.91
Block							
Block 1000	111	84.68	0.00	9.91	0.00	0.00	9.91
Block 1009	362	94.75	0.00	1.66	0.28	0.00	1.93
Block 1010	239	98.33	0.00	1.67	0.00	0.00	1.67
Block 1011	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 1012	176	100.00	0.00	0.00	0.00	0.00	0.00
Block 1013	629	96.98	0.00	1.11	1.27	0.00	2.38
Block 4000	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 4001	5	100.00	0.00	0.00	0.00	0.00	0.00
Block 4002	2	100.00	0.00	0.00	0.00	0.00	0.00
Block 4003	3	0.00	0.00	100.00	0.00	0.00	100.00
Block 4004	10	70.00	30.00	0.00	0.00	0.00	30.00
Block 4005	6	83.33	0.00	0.00	0.00	0.00	0.00
Block 4006	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 4007	0	0.00	0.00	0.00	0.00	0.00	0.00

Source: 2000 U.S. Census of Population and Housing

[1] Percentages do not add to 100 percent, as Hispanics are also included in other categories.

[2] Other includes American Indians and Alaskan Natives.

[3] Includes persons of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish culture or origin, regardless of race

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

I-295 / I-76 / Route 42 Direct Connection
TABLE 3
Senior Citizen Population - Bellmawr

	Total Population	Total Population Over Age 85	Percent of Population Over Age 85
DVRPC Regional Threshold	NA	NA	2
County			
Camden	508,932	7,543	1.48
Municipality			
Bellmawr	11,262	127	1.13
Census Tract			
Census Tract 6068	3,903	47	1.20
Block Group			
Block Group 3	1,053	6	0.57
Block			
Block 3007	6	0	0.00
Census Tract			
Census Tract 6069.01	2,837	23	0.81
Block Group			
Block Group 1	725	8	1.10
Block Group 2	612	5	0.82
Block Group 3	1500	10	0.67
Block			
Block 1000	18	0	0.00
Block 1001	39	1	**2.56**
Block 1002	0	0	0.00
Block 2000	30	0	0.00
Block 2001	199	1	0.50
Block 2002	48	0	0.00
Block 2003	53	0	0.00
Block 2004	0	0	0.00
Block 2005	0	0	0.00
Block 2006	0	0	0.00
Block 2007	45	2	**4.44**
Block 3000	0	0	0.00
Block 3001	138	0	0.00
Block 3002	105	0	0.00
Block 3003	104	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percen

NA Not Applicable

I-295 / I-76 / Route 42 Direct Connection
TABLE 3
Senior Citizen Population - Bellmawr

	Total Population	Total Population Over Age 85	Percent of Population Over Age 85
Census Tract			
Census Tract 6069.02	133	3	**2.26**
Block Group			
Block Group 1	133	3	**2.26**
Block			
Block 1002	58	2	**3.45**
Block 1003	0	0	0.00
Census Tract			
Census Tract 6070	4,389	54	1.23
Block Group			
Block Group 1	2,200	26	1.18
Block Group 4	680	11	1.62
Block 1000	111	0	0.00
Block 1009	362	6	1.66
Block 1010	239	2	0.84
Block 1011	0	0	0.00
Block 1012	176	0	0.00
Block 1013	629	9	1.43
Block 4000	0	0	0.00
Block 4001	5	1	**20.00**
Block 4002	2	0	0.00
Block 4003	3	0	0.00
Block 4004	10	0	0.00
Block 4005	6	0	0.00
Block 4006	0	0	0.00
Block 4007	0	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percen

NA Not Applicable

Disabled Population

According to the U.S. Census, disability is defined by the following long-lasting conditions: (a) blindness, deafness, or a severe vision or hearing impairment (sensory disability) and (b) a condition that substantially limits one or more basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying (physical disability). The DVRPC only uses data from physically disabled populations to determine areas of community concern. The regional threshold for disabled populations for the year 2000 was 7 percent. In 2000, Census data showed that 896 physically disabled persons resided in the Borough of Bellmawr, which represented 8.36 percent of the total Borough population. Five census Block Groups within Bellmawr contain disabled populations that meet or exceed the regional threshold. However, only a small portion of Census Tract 6069.02, Block Group 1 and Census Tract 6068, Block Group 3 lie within the primary study area and are, therefore, not considered representative. Block Group 1 of Census Tract 6069.01 is located on the southern edge of I-295 between Bell Road and Black Horse Pike and contains 64 physically disabled persons out of a total population of 687 (9.32 percent). Block Group 3 of Census Tract 6069.01 is located at the southeast corner of the I-76/I-295 interchange and contains 124 physically disabled persons out of a total population of 1,355 (9.15 percent). Block Group 1 of Census Tract 6070 is located south of Browning Road along the western Edge of I-295 and contains 187 physically disabled persons out of a total of 2,119 (8.82 percent) (See Table 4). Block Group 3 of Census Tract 6069.01 and Block Group 1 of Census Tract 6070 both contain the proposed improvements. The potential for an impact on disabled populations in these Block Groups is discussed in Section 5.1.1.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

I-295 / I-76 / Route 42 Direct Connection
TABLE 4
Physically Disabled Population - Bellmawr

	Total Population	Total Physically Disabled Population	Percent of Population Physically Disabled
DVRPC Regional Threshold	NA	NA	7
County			
Camden	466,939	36,832	**7.89**
Municipality			
Bellmawr	10,719	896	**8.36**
Census Tract			
Census Tract 6068	3,719	299	**8.04**
Block Group			
Block Group 3	952	67	**7.04**
Census Tract			
Census Tract 6069.01	2,708	231	**8.53**
Block Group			
Block Group 1	687	64	**9.32**
Block Group 2	666	43	6.46
Block Group 3	1,355	124	**9.15**
Census Tract			
Census Tract 6069.02	119	21	**17.65**
Block Group			
Block Group 1	119	21	**17.65**
Census Tract			
Census Tract 6070	4,173	345	**8.27**
Block Group			
Block Group 1	2,119	187	**8.82**
Block Group 4	609	35	5.75

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 7 percent

NA Not Applicable

Linguistically Isolated Population

In 2000 the Borough of Bellmawr contained 194 linguistically isolated households, which represented 1.81 percent of the total number of households within the Borough. The DVRPC defines linguistically isolated populations as households where primary language spoken at home is not English and where individuals within a household speak English "not very well." The regional threshold for linguistically isolated populations for the year 2000 is 2 percent. Three Census Block Groups within Bellmawr contain linguistically isolated populations that meet or exceed the regional threshold. However, only a small portion of Census Tract 6069.02, Block Group 1 and Census Tract 6068, Block Group 3 lie within the primary study area and are, therefore, not considered representative. Block Group 2 of Census Tract 6069.01 is located along the eastern edge of I-295 south of Browning Road and contains 19 linguistically isolated persons out of a total population of 666 (2.85 percent) (See Table 5). As this Block Group contains the proposed improvements, the potential for an impact on linguistically isolated in this Block Group is discussed in Section 5.1.1.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

According to local interviews (June 8, 2005 and July 26, 2005), a Pakistani population was identified within the Borough of Bellmawr. After further investigation, the Pakistani population was identified as residing outside the primary study area on the east side of Route 168 near the Bellmawr public library where no improvements are proposed. According to the Bellmawr Board of Education (March 24, 2005), there are fifteen Pakistani students within the school system and English is a second language for them. The potential for the proposed project to impact this population, which is located in the secondary study area, is discussed in Section 5.6 No other linguistically isolated population groups were identified through the interviews conducted. If necessary, during future public presentations, meetings, or hearings translators would be available to address English as a second language concerns.

Female Heads of Household

In 2000 the Borough of Bellmawr contained 215 households with the female listed as the head of household. This total represented 4.84 percent of the total number of households within Bellmawr. The regional threshold for female heads of household with Child populations for the year 2000 is 8 percent. Two Census Block Groups within Bellmawr contain proportions of female heads of households that meet or exceed the regional threshold. However, only a small portion of Census Tract 6069.02, Block Group 1 is within the primary study area and is, therefore, not considered representative. Block Group 3 of Census Tract 6069.01 is located at the southeast corner of the I-76/I-295 interchange and contains 49 female heads of household with children out of a total of 607 households (8.07 percent) (See Table 6). The potential for an impact on female heads of households in this Block Group is discussed in Section 5.1.1.1.2.

No significant areas with female head of households were identified through the interviews conducted (March 24 and 31, 2005, June 7 and 8, 2005, August 1 and 10, 2005, September 19, 2005 and November 3, 2005). Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

I-295 / I-76 / Route 42 Direct Connection
TABLE 5
Linguistically Isolated Population - Bellmawr

	Total Households	Total Households Linguistically Isolated	Percent of Households Linguistically Isolated
DVRPC Regional Threshold	NA	NA	2
County			
Camden	474,661	11327	**2.39**
Municipality			
Bellmawr	10,740	194	1.81
Census Tract			
Census Tract 6068	3,740	132	**3.53**
Block Group			
Block Group 3	952	50	**5.25**
Census Tract			
Census Tract 6069.01	2,708	42	1.55
Block Group			
Block Group 1	687	6	0.87
Block Group 2	666	19	**2.85**
Block Group 3	1,355	17	1.25
Census Tract			
Census Tract 6069.02	119	3	**2.52**
Block Group			
Block Group 1	119	3	**2.52**
Census Tract			
Census Tract 6070	4,173	17	0.41
Block Group			
Block Group 1	2,119	2	0.09
Block Group 4	609	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

I-295 / I-76 / Route 42 Direct Connection
TABLE 6
Female Head of Household - Bellmawr

	Total Households	Total Female Head of Household	Percent Female Head of Household
DVRPC Regional Threshold	NA	NA	8
County			
Camden	185,837	15,741	**8.47**
Municipality			
Bellmawr	4,440	215	4.84
Census Tract			
Census Tract 6068	1,462	56	3.83
Block Group			
Block Group 3	357	17	4.76
Census Tract			
Census Tract 6069.01	1,151	70	6.08
Block Group			
Block Group 1	287	10	3.48
Block Group 2	257	11	4.28
Block Group 3	607	49	**8.07**
Census Tract			
Census Tract 6069.02	50	9	**18.00**
Block Group			
Block Group 1	50	9	**18.00**
Census Tract			
Census Tract 6070	1,777	80	4.50
Block Group			
Block Group 1	927	49	5.29
Block Group 4	273	14	5.13

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 8 percent

NA Not Applicable

Transit Dependent

Census Data indicated that 326 people or 7.33 percent of the population of Bellmawr were transit dependent in 2000. The DVRPC defines transit dependent individuals as persons with "zero vehicle availability." The regional threshold for transit dependent individuals for the year 2000 is 16 percent. No census tracts or block groups within the study area meet or exceed the regional threshold (See Table 7).

According to interviews with service providers within Bellmawr (school, church, and little league) (March 24, 2005, June 8, 2005 and July 26, 2005), most people have their own transportation. The special needs children within the Bellmawr school system are provided with transportation. The potential for the proposed project to impact this population is discussed in Section 5.7

I-295 / I-76 / Route 42 Direct Connection
TABLE 7
Transit Dependent - Bellmawr

	Total Occupied Housing Units	Total Transit Dependent Population	Percent Transit Dependent Population
DVRPC Regional Threshold	NA	NA	16
County			
Camden	185,744	23,439	12.62
Municipality			
Bellmawr	4,446	326	7.33
Census Tract			
Census Tract 6068	1,472	136	9.24
Block Group			
Block Group 3	386	38	9.84
Census Tract			
Census Tract 6069.01	1,150	59	5.13
Block Group			
Block Group 1	271	7	2.58
Block Group 2	259	12	4.63
Block Group 3	620	40	6.45
Census Tract			
Census Tract 6069.02	47	0	0.00
Block Group			
Block Group 1	47	0	0.00
Census Tract			
Census Tract 6070	1,777	131	7.37
Block Group			
Block Group 1	885	72	8.14
Block Group 4	295	13	4.41

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 16 percent

NA Not Applicable

Income

Within Bellmawr, 3.97 percent of the municipality's residents had a household income below the poverty level in 2000. At the census tract level, the percentage of impoverished households within the primary study area ranged from 2.90 percent (Census Tract 6068) to 13.45 percent (Census Tract 6069.02). Block Group 2 within Census Tract 6069.01 had the fewest number of households below the poverty level with 0 percent. The highest concentration of households below the poverty level was 13.45 percent in Block Group 1 of Census Tract 6069.02. However, only a small portion of this block group falls within the primary study area. Block Group 3 of Census Tract 6069.01 contained 7.49 percent of households below the poverty level, which is the second highest percentage of households below the poverty level. This Block Group is located along the southern portion of the primary study area, east of I-76 and south of I-295 (See Table 8 and Figure 10 at the end of Section 4.0). Block Groups 1 and 4 of Census Tract 6070 contain percentages of low income populations (5.53 percent and 5.70 percent, respectively) that exceed the percentage of Bellmawr as a whole. The potential for an impact on low income populations in these two Block Groups is discussed in Sections 5.1 and 5.6.

According to the Bellmawr Board of Education meeting conducted on March 24, 2005, reduced cost or free lunches are provided within Bellmawr as follows (Note: all subsequent dates within parentheses indicate the date of the meeting or interview).

- Bellmawr Park Elementary School (Corner of Victory Drive and Essex Avenue) with a total of 353 students.
  Free- 109 students
  Reduced- 35 students

- Ethel M. Burke Elementary School (112 S Black Horse Pike [between Walnut Ave and Linden Ave] outside the primary study area) with a total of 226 students.
  Free- 56 students
  Reduced- 37 students

- Bell Oaks Elementary School (256 Anderson Ave [between N Bell Rd and Harbor Rd] just beyond the primary study area) with a total of 458 students
  Free- 117 students
  Reduced- 52 students

I-295 / I-76 / Route 42 Direct Connection
TABLE 8
Poverty - Bellmawr

	Median household income in 1999	Population for whom poverty status is determined: Total	Poverty level of Population Under .50	Poverty level of Population 50 to .74	Poverty level of Population 75 to .99	Total Population Below Poverty	Percent of Population Below Poverty
County							
Camden	48,097	499,327	26,145	11,575	14,401	52,121	10.44
Municipality							
Bellmawr	44,653	11,238	154	112	180	446	3.97
Census Tract							
Census Tract 6068	55,203	3,892	48	20	45	113	2.90
Block Group							
Block Group 3	59,338	987	16	0	0	16	1.62
Census Tract							
Census Tract 6069.01	43,094	2,851	60	15	36	111	3.89
Block Group							
Block Group 1	49,539	696	6	0	0	6	0.86
Block Group 2	42,321	754	0	0	0	0	0.00
Block Group 3	39,375	1,401	54	15	36	105	7.49
Census Tract							
Census Tract 6069.02	62,692	119	0	0	16	16	13.45
Block Group							
Block Group 1	62,692	119	0	0	16	16	13.45
Census Tract							
Census Tract 6070	40,828	4,376	46	77	83	206	4.71
Block Group							
Block Group 1	34,870	2,241	11	47	66	124	5.53
Block Group 4	33,750	622	6	30	0	36	5.79

Source: 2000 U.S. Census of Population and Housing

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

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4.1.2 Social Conditions

4.1.2.1 Residential Neighborhoods

Existing land uses in the primary study area are presented on Figure 11 at the end of Section 4.0. The residential neighborhoods located within Bellmawr are characterized as follows:

- The area north of Browning Road, east of the interchange abutting the south side of I-295, and west of the railroad line, contains single-family detached dwellings.
- The area east of the I-295/Route 42 interchange, south of Browning Road and west of Midway Avenue is comprised largely of single-family detached residences.

- The residential area located directly to the west of the I-295/I-76/Route 42 interchange contains multifamily apartments and townhouses. This area is known as the Bellmawr Park Mutual Housing Corporation and each of the residential units are occupied by individuals who are part of the Bellmawr Mutual Housing Corporation cooperative. The majority of the apartments are located within the area south of Princeton Avenue, east of Carter Avenue, north of Peach Road, and along the south side of Browning Road. Additional apartments are located within the area north of Browning Road, south of Kings Highway, and west of the I-295/I-76/Route 42 interchange.

4.1.2.2 Community Facilities

Figure 12 at the end of Section 4.0 displays the community facilities within the primary study area. The following ten community facilities are located within the primary study area within Bellmawr:

- New St. Mary's Cemetery. This nearly 50-acre site occupies much of the area on the southeast corner of the I-295/I-76/ Route 42 interchange. The site runs along the north side of Browning Road and along the south side of I-295. Mausoleums are located in the western part of the cemetery. The Harrison-Glover House is also located on this property and currently used as an office.
- Resurrection Christ Cemetery. This four-acre site is located at the intersection of Anderson Avenue and Bell Road, abutting I-295.
- Annunciation B.V.M Church and Annunciation Regional School. This community facility is located on the north side of Browning Road, just west of the I-295/I-76/Route 42 interchange. It consists of two churches, one school building, a convent, and a rectory.
- Bellmawr Park Elementary School. This public elementary school is located on a five-acre site on the corner of Victory Drive and Essex Avenue. The I-295/I-76/Route 42 interchange abuts its eastern property boundary. The school, which was constructed in 1944, consists of one building that accommodates approximately 350 students in grades K-4. The site also contains ball fields and play areas associated with the school.
- Bellmawr Baseball League. This privately-operated recreation facility is located on the east side of Essex Avenue, directly south of the Bellmawr Park School. The site abuts the I-295/I-76/Route 42 interchange along its eastern boundary.
- Crescent Park VFW Post. This community facility is located on the west side of Essex Avenue, and abuts the I-295 right-of-way along its southern boundary. The facility consists of a social club owned and operated by the Bellmawr Veterans of Foreign Wars.
- Bellmawr Volunteer Fire Company No. 33. This facility consists of one building located on Essex Avenue, across from the Bellmawr Park School. The site is approximately 500 feet from the I-295, Route 42 interchange. The building, which was built in 1980 houses five fire trucks, a canteen, the fire chief's vehicle, and a life boat. The volunteer fire company stationed at this facility serves the Borough of Bellmawr.
- Anderson Avenue Recreation Area. The public recreation facility consists of ballfields, basketball courts, an outdoor ice rink, and open play areas. The Bell Oaks School provides maintenance while school is in session. The Borough maintains the facility during the summer months. The northern boundary of the site abuts I-295 as it approaches the interchange from the east.
- State Police Complex. This facility, which was built in 1985, is located on Wellwood Avenue, just north of an access ramp onto Route 42. It is located to the south of the I-295/I-76/Route 42 interchange. Ten patrol vehicles are based at this facility, and approximately 40 people are employed at this location.

- State Police Administrative Office. This facility is located at 655 Creek Road. It shares a building with Arose Inc.

Section 4(f) Recreational Facilities

Two locally significant, publicly owned recreational facilities were identified within the portion of the primary study area which lies within the Borough of Bellmawr. These are:

- Bellmawr Park Elementary School- Playground and ballfields.
- Anderson Avenue Recreation Area- Ballfields, basketball courts, an outdoor ice rink and open play areas.

Green Acres

The Bellmawr Mutual Housing Corporation is listed on the Green Acres Program Open Space Database. According to the previous Bellmawr municipal engineer (January 11, 2006), the area along Peach Road (undeveloped land), which contains wetlands, is the only area of Bellmawr Park that is listed on the open space database. As the Peach Road parcel would not be affected by the proposed alternatives, Green Acres would not be implicated.

4.1.3 Business Activities and Economic Profile / Economic Development / Local Accessibility

The primary study area within the Borough of Bellmawr includes commercial, retail and industrial development. The bulk of the industrial and business districts are located along the north and south sides of I-295 as it approaches the interchange from the west and along the west side of Route 42 as it approaches the interchange from the south (See Figure 11 at the end of Section 4.0).

According to the 2000 U.S. Census data, Bellmawr employment consists mostly of the service industry (including wholesale, retail, arts, entertainment and food services) at approximately 31.6 percent and professional services at 19.9 percent. The remaining work force consists of public administration (4.8 percent), transportation (8.6 percent), education (16.8 percent) and manufacturing (18.3 percent).

The following businesses are located in the primary study area within Bellmawr:

1. Rite Aid: This corporate owned pharmacy outlet is located at 831 West Browning Road. The store is located on the north side of Browning Road directly across from Princeton Avenue and approximately 500 feet from the I-295/I-76/Route 42 interchange.
2. Bill Seas Transport: This small transport business is located at 44 Essex Avenue on the northwest side of the I-295/ Route 42 interchange.
3. Office Building: Office building located at 100 Essex Avenue on northwest side of the I-295/Route 42 interchange
4. Arose Inc.: This company is located at 655 Creek Road. It shares a building with the New Jersey State Police Administrative Office.

5. Ana Laboratories: This building is located at 90 Coolidge Avenue on the north side of Creek Road.
6. Habitat: This furniture company is located at 73 Coolidge Avenue. Its northern property boundary abuts the I-295, Route 42 interchange.
7. Office Tech: This Company is located at 82 Harding Avenue on the corner of Creek Road and Harding Avenue. The property is located directly south of the I-295 and Route 42 interchange.
8. J&S Autobody: This industrial auto body shop is located at 621 Creek Road, directly west of where Creek Road crosses Route 42.
9. North Engraving and Machine Inc.: This industrial site is located at 640 Creek Road between Stanley and Coolidge Avenues.
10. BOC Gases Propane: This is one of two BOC gases companies located within the primary study area. The property is located at 121 Stanley Avenue south of Creek Road.
11. Tom Seas Towing: This towing company and police impound lot is located at 125 Stanley Avenue on the corner of Leaf Avenue and Stanley Avenue.
12. Astro Graphics: This graphics company is located at 708 Creek Road across the street from Essex Avenue. The property is located approximately 500 feet from I-295.
13. D'Astuto Construction: This construction company is located at 713 Creek Road, just west of Essex Avenue. Its northern property boundary abuts I-295 as it approaches the interchange from the west.
14. Lawnmower Parts Inc.: This lawnmower parts and repair business is located at 717 Creek Road between Liedtka Trucking and D'Astuto Construction. Its northern property boundary abuts I-295 as it approaches the interchange from the west.
15. Liedtka Trucking: The Liedtka Trucking lot is located at 719-737 Creek Road. The property is situated along the south side of I-295 as it approaches the interchange from the west.
16. Bellmawr Truck Repair: This industrial truck service and repair company is located at 781 Creek Road. Its northern property boundary abuts I-295 as it approaches the interchange from the west.
17. Unknown Business: This business is located at 716 Creek Road south of the interchange and directly across from D'Astuto Construction
18. Bellmawr Ecological Center: This composting facility is located on the south side of Creek Road as it passes over I-295 west of the interchange.
19. Sea Lion Trailers: This trailer supply company is located at 776 Creek Road, just north of I-295 on the west side of Creek Road.
20. WO Service Company: This business is located at 780 Creek Road on the west side of Creek Road just north of I-295.
21. Infinity Broadcasting Corp: This commercial radio station is located at 775-785 Creek Road on a large property that is situated along the north side of I-295 as it approaches the

interchange from the west. The property contains a station facility as well as two radio towers.

22. BOC Gases: This is the second of two BOC gases properties located within the primary study area at 150 Harding Avenue, south of Creek Road.
23. Ace Machine Shop: This business property is located at 616 Creek Road on the corner of Creek Road and Harding Avenue.
24. C.O.P.D. Services: This business is located on Harding Avenue adjacent to Ace Machine Shop
25. GWC Cabinet Supply: This business shares a parking lot with Family Custom Screening and is located along Harding Avenue south of Creek Road.
26. Family Custom Screening: This business shares a parking lot with GWC Cabinet Supply and is located along the west side of Harding Avenue south of Creek Road.
27. Jim Ryan's Plumbing and Heating: This industrial plumbing and heating installation business is located at 612 Creek Road on the corner of Creek Road and Harding Avenue. Its eastern property abuts Route 42 as it approaches the interchange from the south.
28. Gilbert Surgical Instruments: This medical supply company is located at 109 Harding Avenue. Its eastern property line abuts Route 42 as it approaches the interchange from the south.
29. John's AC & Heat: This industrial heating and air conditioning company is located at 121 Harding Avenue south of Creek Road and directly west of Route 42, south of the interchange.
30. Ace Pallet Corp: This industrial site is located at 143 Harding Avenue. Its eastern property line abuts Route 42 as it approaches the interchange from the south.
31. Oxygen Support Systems: This business is located at 153 Harding Ave. Its eastern property line abuts Route 42 as it approaches the intersection from the south.
32. Envirocraft Corp.: This business is located at 608 Leaf Ave, directly across the street from Oxygen Support Systems.
33. Mobil Gas Station: This corporate owned gas station is located at 464 Creek Road on the corner of Wellwood Avenue, Edgewood Avenue, and Creek Road. The gas station is located east of Route 42 as it approaches the interchange from the south.
34. WaWa: This corporate owned convenience store is located at 112 Edgewood Avenue south of Creek Road and east of Route 42 as it approaches the interchange from the south.
35. Sunoco Gas Station: This corporate owned gas station is located on the corner of Wellwood Avenue, Edgewood Avenue, and Leaf Avenue. The gas station is located slightly north of the Route 42 access ramp as it approaches the interchange from the south.
36. Trans Force Mortgage: This business is located at 456 Leaf Avenue just east of the Route 42 access ramp.
37. United States Post Office: The regional postal facility is located at 421 Benigno Boulevard located on the east side of Route 42 approaching the interchange from the south.

38. Bellmawr Mutual Housing Corporation: This business is located on the corner of Peach Road and Essex Avenue, across the street from Bellmawr Park Elementary and east of Victory Drive.

The locations of these businesses are shown on Figure 11 at the end of Section 4.0.

According to local and county officials (meetings held on August 12, 2005, September 19, 2005 and November 3, 2005), much of Bellmawr is developed and presently there is no proposed development. The major local streets in Bellmawr are: Black Horse Pike (Route 168), Kings Highway, Browning Road, and Creek Road. Because of congestion at the interchange, traffic overflows into many of these local streets consistently resulting in local traffic congestion during the afternoon rush hour, especially on Black Horse Pike (Route 168).

4.1.4 Municipal Tax Base

The total assessed net valuation of taxable properties in Bellmawr for 2004 was $425,385,400. Bellmawr's tax rate of $4.43 per hundred dollars includes $1.15 per hundred dollars for municipal purposes and a school tax rate of $2.23 per hundred dollars.

4.1.5 Land Use Planning

Bellmawr Zoning

Bellmawr's current zoning ordinance was adopted in 1990. The portion of the project's primary study area within Bellmawr contains nine zoning districts that are not entirely consistent with the land use designations set forth in the master plan. These zoning districts include the Residence A; Residence B; Business A; Business B; Light Industrial; Heavy Industrial; Institutional; Municipal Government and Educational; and Recreation-Open Space (See Figure 13 at the end of Section 4.0).

Most of the primary study area located in Bellmawr is designated as Residence A. The Residence A District permits residential developments of medium densities. The minimum lot size for this district is 5,000 square feet except where the parcel to be subdivided consists of two acres or more, in which case a 6,000 square foot minimum lot size applies. The zone area is dispersed somewhat evenly throughout the Borough with the highest concentrations occurring west of the I-295 and Route 42 Interchange south of Browning Road, and east of the I-295 and Route 42 interchange along Creek Road and Browning Road. Within the Residence A district located on the north side of Browning Road directly across from Princeton Avenue one business (Rite Aid) is present, thereby representing an inconsistent land use.

The purpose of Residence District B is to provide areas for the development of townhouses or garden apartments and accessory uses. The minimum lot size and floor space requirements are contingent upon the number of dwelling units constructed in a given area and the proximity of dwelling units to major roadways and to each other. There are several clusters of Residence District B zones within the primary study area. A large number of multifamily dwellings are located immediately west of Route 42 south of Browning Road. Additional apartments are located to the West of Route 42 between Browning Road and Kings Highway.

Business District A permits a variety of uses for commercial and retail development that serve to continue the standard development patterns now existing in the Borough. The minimum lot size in this zoning district is 7,500 square feet. There is a small number of Business A districts located throughout the primary study area. The three most significant clusters are located between Wellwood Avenue and Edgewood Avenue off of Creek Road, on the south side of Browning Road near Black Horse Pike, and on the south side of Browning Road between Union Avenue and Princeton Avenue. One of the zoning areas contains an inconsistency between the Bellmawr zoning map and the actual layout of the districts. A Municipal Government and Educational District (State Police Complex) is located on Wellwood Avenue between Leaf Avenue and Creek Road just north of the access ramp onto Route 42. However, the zoning map lists the entire area between Wellwood Avenue and Edgewood Avenue as a Business A district.

Business District B permits commercial development of a retail nature, particularly for larger businesses. The minimum lot size is 20,000 square feet. These zoning districts are located on the corner of Bell Road and Browning Road within the primary study area.

The Light Industrial District permits commercial and industrial development of a mechanical nature. The district has a minimum lot size requirement of 7,500 square foot. Significant portions of the primary study area are designated as Light Industrial Districts. Most of these zoning districts are located along Creek Road South of Booth Drive and West of Route 42.

The purpose of the Heavy Industrial District is to provide space for industrial development with an emphasis on manufacturing, warehousing, and distribution facilities. There is a minimum lot size within the zoning district of 40,000 square feet. The majority of the Heavy Industrial District within the primary study area is located on Benigno Boulevard, south of Leaf Avenue.

The Institutional District permits development of institutional uses in accordance with approved standards and to permit the continuation of standard development patterns now existing throughout the Borough. The minimum lot size is 10,000 square feet. The majority of the Institutional zoning districts within the primary study area are located on the north side of Browning Road directly east and directly west of Route 42. Other Institutional zoning districts are located on Essex Avenue (VFW), and on Bell Road south of I-295 (Bell Oaks School).

The Municipal Government and Educational District permits the development of municipal government and educational uses in accordance with approved standards. This zoned district is located on the southeast and southwest corners of Essex Avenue and Peach Road (Bellmawr Park Elementary School, and further south along Essex Road (Bellmawr Park Fire Station No. 33), as well as on the southeast corner of Anderson Avenue and Bell Road (Bell Oaks School).

The Recreation – Open Space District permits the continuation of lands set aside for parks and recreational purposes. There are no minimum area and bulk regulations for this district. This zone district is mapped for the Bellmawr Baseball Fields on Essex Avenue, east of I-295 and Route 42 between Hill Road and Hall Avenue, and on the north side of Anderson Avenue abutting I-295 East of Bell Road. The Bellmawr zoning map has the area located on Creek Road south of Route 42 immediately before it crosses over Route 42 as a Recreational-Open space district but a commercial property (Leaf Compost Center) occupies this area.

Bellmawr Land Use

Residential development represents the largest portion of Bellmawr's land use with approximately 41.6 percent followed by vacant land which is mostly wetlands at approximately 33.0 percent. The portion of the primary study area in Bellmawr is about 14 percent of Bellmawr's total acreage. According to the NJDEP Bureau of Geographic Information Land Use and Land Cover data layer and site reconnaissance, no identified farmland is located within the Borough of Bellmawr. The distribution of land use in Bellmawr is provided in Table 9 and Figure 14 at the end of Section 4.0. Table 10 indicates the distribution of land use within the primary study area according to the following land use categories.

- Residential land use, which is designated for detached single-family residences and row houses, comprises 25.1 acres, or 8.9 percent of development in the primary study area within the Borough of Bellmawr. Five groups of Bellmawr residential developments are located in the primary study area. The first development is located along the southern edge of I-295, west of Bell Road and east New St. Mary's Cemetary. The second residental area is located south of Route 295, along the north side of Anderson Avenue, west of Black Horse Pike. The third residential development is located along the eastern edge of Route 42, south of Browning Road, and north of Creek Road. The fourth residential development is located south of Creek Road along the east side of Edgewood Avenue. The fifth group of residential properties consists of row houses located on the north side of Browning Road, just west of the Rite Aid Pharmacy. Several smaller residential properties are interspersed throughout the southern portion of the project area on the north and south sides of Route I-295 as it approaches the interchange from the west, as well as along Stanley Avenue, south of Creek Road.

- Multi-family Residential properties, which are designated for townhouses and garden apartments, constitute 27.8 acres or 9.8 percent of the project area within the Borough. The area abutting both sides of I-76, east of Victory Drive, and along the south side of Browning Road, consists of apartments and military-style tract homes. This area is known as the Bellmawr Mutual Housing Corporation. A second multi-family residential area consisting of apartments is located on the western edge of the project area, north of Browning Road and south of Kings Highway.

- Industrial development, which consists of small manufacturing and distribution facilities, covers an area of 10.1 acres, or 3.6 percent of the primary study area in the Borough. Industrial development within the primary study area in the Borough of Bellmawr is primarily located along Benigno Boulevard, Harding Avenue, Coolidge Avenue, and Stanley Avenue, on both the north and the south sides of Creek Road. The types of industrial facilites include plumbing, autobody, engravers, truck repair, cabinet supply, and a machine shop.

I-295/I-76/Rte 42
Direct Connection
TABLE 9
Secondary Study Area
Land Use- Bellmawr

Land Use	Acreage	Percent
Residential	854.4	41.6
Commercial	114.3	5.6
Industrial	209.3	10.2
Transportation	142.1	6.9
Vacant	678.0	33.0
Mixed Urban	0.0	0.0
Recreation	57.4	2.8
Total	2055.4	100

Source: USGS, 2002 and NJDEP Bureau of Geographic Information and Analysis, 1995

I-295/I-76/Rte 42
Direct Connection
TABLE 10
Land Use - Bellmawr Portion of Study Area

Land Use	Acres	Percent
Recreation	4.7	1.7
Multi-Family Residential	27.8	9.8
Residential	25.1	8.9
Commercial	72.3	25.6
Community Facility	84.8	30.0
Industrial	10.1	3.6
Vacant	24.8	8.8
Post Office	32.9	11.6
Totals	282.51	100

Source: USGS 2002 , Dewberry Goodkind Inc. 2005 and Dresdner Robin, 2005

- Commercial use within the project area consists of neighborhood oriented sales and service establishments such as pharmacies, banks, and small restaurants. These properties account for 72.3 acres or 25.6 percent of the primary study area in the Borough. Commercial developments are located in three major areas throughout Bellmawr. The first area consists of approximately five businesses and is located south of Creek Road along Wellwood Avenue. The second commercial development consists of approximately 10 businesses and is located along Creek Road west of I-76, and along the north and south sides I-295 as it approaches the interchange from the west. The third business property is located on the north side of Browing Road, west of I-76.

- Community facilities constitute the largest land use category within the project area in Bellmawr. These properties make up an area of 84.8 acres, or 30.0 percent of the primary study area within the Borough. The single largest community facility property is the New St. Mary's Cemetery, which is located on the north side of Browning Road abutting the southern portion of the I-295/I-76 interchange. The Annunciation B.V.M Parish Church is located west of the New St. Mary's Cemetery across I-76 on the north side of Browning Road. Several community facilites are located east of Bell Road on both the north and the south sides of Anderson Avenue. These properties include the Bell Oaks School, the Anderson Avenue Recreation Area, and the Resurrection of Christ Cemetery. The Bellmawr Police Station is located south of Creek Road on Wellwood Avenue and the Bellmawr Post Office is located south of Leaf Avenue along the eastern edge of Benigno Boulevard. The Crescent Park V.F.W., the Southern New Jersey Housing Corp., the Bellmawr Police Administrative Building, the Bellmawr Volunteer Fire Company No. 33, and the Bellmawr Park School are all located on Essex Avenue north of Creek Road and west of I-76.

- Vacant land within the Borough comprises 24.8 acres or 8.8 percent of the primary study area within the Borough. Most of this land is classified as wetlands. The largest extent of vacant land is located on the northern edge of I-295 as it approaches I-76 from the east. East of I-76 and south of Browning Road, several vacant properties are interspersed among the residential properties that dominate the area. Additional vacant properties are located along the west side of Essex Avenue, north of the V.F.W. and south of Kings Highway west of the I-76/I-295 interchange.

- A single property designated as recreational land is located within the Borough of Bellmawr. The Bellmawr Baseball Fields consists of 4.7 acres or 1.7 percent of the primary study area within the Borough. The ballfield is a privately-owned recreation facility that is located on the east side of Essex Road, just south of the Bellmawr Park School. The property abuts the western boundary of the I-295/I-76 interchange.

- The Post Office located on the east side of Route 42 is approximately 32.9 acres or 11.6 percent of the primary study area within the Borough of Bellmawr.

4.1.6 Visual Quality / Aesthetics

Three categories of viewsheds exist for consideration of aesthetic impacts: highly sensitive sites, moderately sensitive sites, and low sensitivity sites. Highly sensitive areas are those protected by federal or state law, such as natural areas, parks and recreation areas, coastal views, unique man-made features and historic properties. Moderately sensitive sites include structures such as residences and religious sites, or areas that are partially blocked by vegetation, such as wooded areas and hedgerows. Sites of low visual sensitivity include developed areas such as urban and industrial settings. Viewsheds of each sensitivity occur within Bellmawr. Those portions of the primary study area that abut the Big Timber and Little Timber Creeks are areas of high visual sensitivity. Residential, community and commercial development are situated throughout most of the primary study area beyond the interchange in Bellmawr and are areas classified as being of moderate visual sensitivity. The southern portion of the project area that abuts industrial development along Creek Road is an area of low visual sensitivity (See existing photographs in Section 5.2 and Appendix A). Visual impacts on historic properties are discussed in the Cultural Resources Technical Environmental Study.

4.2 Description of Mount Ephraim

Two Census Tracts, four Block Groups, and 18 Census Blocks provide population information about the portion of the primary study area in Mount Ephraim. Census Tracts 6054 and 6055 are within the Mount Ephraim portion of the primary study area. Only a small portion of Census Tract 6055, Block Group 2 lies within the primary study area. The census data reveals that the total combined population of Mount Ephraim was 4,495 persons in 2000. The U.S. Census information contains population data gathered from two separate sampling methods. Census data for Race, Senior Citizens, and Female Heads of Household used 100 percent sample data and provides information to the census block level. Census data for Disability, Foreign Language, Transit Dependent, and Poverty was collected from a one in six sample size and weighted to represent the total population and provides information only to the census block group level. Therefore, sample totals will vary across census groups. Shaded rows on the tables represent the census blocks that contain the proposed improvements.

Two methodologies were utilized for the community profile. The minority and poverty level approach follows the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994, which requires federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The potential for impacts on these two categories is discussed in Section 5.6.

The remaining populations (Disability, Foreign Language, Transit Dependent and Senior Citizen) follow the Delaware Valley Regional Planning Commission (hereafter referred to as DVRPC) approach which determined a regional threshold, or average, to assess whether each census area meets or exceeds this average. A total of all persons in the specific demographic group in the nine-county region were divided by the total nine-county population to obtain this average. Shaded rows on the tables represent the census blocks that contain proposed

improvements. Bolded numbers in the table indicate census areas that exceed the regional threshold.

The figures provided for minority population and income at the end of Section 4.0 present ranges of percentages based on statistically derived breaks for each population category.

4.2.1 Community Profile

Minority Population

The total percentage of minority residents within the census tracts ranged from 1.67 percent (Census Tract 6054) to 5.10 percent (Census Tract 6055). At the Census Block level, the minority population was 0 percent for Census Tract 6054, Blocks 1017, 1018, 2013-2014, 2016, 2021, 2025 and Census Tract 6055, Blocks 2018 and 2019. The highest proportion of minority population was identified in Census Tract 6054, Block 2015, which contained a 10.64 percent total minority population (Black and Hispanic). Census Block 2015 has a total population of 47 persons and is located northeast of I-295 along the eastern edge of Al Jo's Curve. The proposed improvements are not located in this Block. However, Block 2008 of Census Tract 6054 has a percentage of minority population (4 percent) that exceeds the percentage for Mount Ephraim as a whole and does contain the proposed improvements. The potential for an impact to minority populations in this Census Block is discussed in Sections 5.1 and 5.6. This data is summarized in Table 11 and Figure 8 at the end of Section 4.0.

Senior Citizen Population

Census Data indicated that 72 persons over the age of 85 resided in the Borough of Mount Ephraim in 2000, which accounted for 1.60 percent of the total Borough population. The DVRPC regional threshold for senior citizens over age 85 for the year 2000 is 2 percent. Two census blocks within Mount Ephraim contain senior citizen populations that meet or exceed the regional threshold. Census Block 1017 of Census Tract 6054 is located east of I-76 and north of Al Jo's Curve and contains 3 senior citizens out of a total population of 96 (3.13 percent). Census Block 2014 of Census Tract 6054 is located on the northeast corner of the I-295/I-76 interchange and contains 1 senior citizen out of a total population of 41 (2.44 percent). This data is summarized in Table 12. Neither of these Census Blocks contains the proposed improvements. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

The Mount Ephraim Senior Housing is located along the west side of I-76 along Kings Highway and was built after the 2000 U.S. Census. Figure 9 represents information as of the year 2000. Presently, approximately 91 single and 10 couples (senior citizens) reside in this community. Approximately 80 percent are from New Jersey with the remainder from out of state (Mount Ephraim Senior Housing, August 24, 2005)

I-295/I-76/Rte 42
Direct Connection
TABLE 11
Minority Population - Mount Ephraim[1]

	Total	White (%)	Black (%)	Hispanic[3] (%)	Asian (%)	Other[2] (%)	Total Minority (%)
County							
Camden	508,932	67.79	17.29	9.66	3.68	0.31	30.94
Municipality							
Mount Ephraim	4,495	96.37	0.40	1.98	0.62	0.13	3.14
Census Tract							
Census Tract 6054	2,573	97.67	0.39	1.09	0.16	0.04	1.67
Block Group							
Block Group 1	839	97.74	0.60	1.07	0.00	0.00	1.67
Block Group 2	913	97.70	0.44	1.42	0.00	0.00	1.86
Block Group 3	821	97.56	0.12	0.73	0.49	0.12	1.46
Block							
Block 1017	96	98.96	0.00	0.00	0.00	0.00	0.00
Block 1018	60	100.00	0.00	0.00	0.00	0.00	0.00
Block 2007	59	98.31	1.69	0.00	0.00	0.00	1.69
Block 2008	50	96.00	4.00	0.00	0.00	0.00	4.00
Block 2009	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2010	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2011	28	96.43	0.00	3.57	0.00	0.00	3.57
Block 2012	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2013	13	100.00	0.00	0.00	0.00	0.00	0.00
Block 2014	41	100.00	0.00	0.00	0.00	0.00	0.00
Block 2015	47	89.36	2.13	8.51	0.00	0.00	10.64
Block 2016	50	100.00	0.00	0.00	0.00	0.00	0.00
Block 2021	34	100.00	0.00	0.00	0.00	0.00	0.00
Block 2022	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2023	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2024	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2025	35	100.00	0.00	0.00	0.00	0.00	0.00
Block 3016	83	98.80	0.00	0.00	0.00	1.20	1.20

Source: 2000 U.S. Census of Population and Housing

[1] Percentages do not add to 100 percent, as Hispanics are also included in other categories.

[2] Other includes American Indians and Alaskan Natives.

[3] Includes persons of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish culture or origin, regardless of race

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

I-295/I-76/Rte 42
Direct Connection
TABLE 11
Minority Population - Mount Ephraim[1]

	Total	White (%)	Black (%)	Hispanic[3] (%)	Asian (%)	Other[2] (%)	Total Minority (%)
Census Tract							
Census Tract 6055	1,922	94.64	0.42	3.17	1.25	0.26	5.10
Block Group							
Block Group 2	905	94.81	0.66	2.32	1.55	0.33	4.86
Block							
Block 2018	28	100.00	0.00	0.00	0.00	0.00	0.00
Block 2019	10	100.00	0.00	0.00	0.00	0.00	0.00

Source: 2000 U.S. Census of Population and Housing

[1] Percentages do not add to 100 percent, as Hispanics are also included in other categories.

[2] Other includes American Indians and Alaskan Natives.

[3] Includes persons of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish culture or origin, regardless of race

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

I-295/I-76/Rte 42
Direct Connection
TABLE 12
Senior Citizen Population - Mount Ephraim

	Total Population	Total Population Over Age 85	Percent of Population Over Age 85
DVRPC Regional Threshold	NA	NA	2
County			
Camden	508,932	7,543	1.48
Municipality			
Mount Ephraim	4,495	72	1.60
Census Tract			
Census Tract 6054	2,573	36	1.40
Block Group			
Block Group 1	839	11	1.31
Block Group 2	913	11	1.20
Block Group 3	821	14	1.71
Block			
Block 1017	96	3.00	**3.13**
Block 1018	60	1.00	1.67
Block 2007	59	1.00	1.69
Block 2008	50	0.00	0.00
Block 2009	0	0	0.00
Block 2010	0	0	0.00
Block 2011	28	0.00	0.00
Block 2012	0	0.00	0.00
Block 2013	13	0.00	0.00
Block 2014	41	1.00	**2.44**
Block 2015	47	0.00	0.00
Block 2016	50	0.00	0.00
Block 2021	34	0.00	0.00
Block 2022	0	0.00	0.00
Block 2023	0	0.00	0.00
Block 2024	0	0.00	0.00
Block 2025	35	0.00	0.00
Block 3016	83	1.00	1.20

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 12
Senior Citizen Population - Mount Ephraim

	Total Population	Total Population Over Age 85	Percent of Population Over Age 85
Census Tract			
Census Tract 6055	1,922	36	1.87
Block Group			
Block Group 2	905	15	1.66
Block			
Block 2018	28	0.00	0.00
Block 2019	10	0.00	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

Disabled Population

According to the U.S. Census, disability is defined by the following long-lasting conditions: (a) blindness, deafness, or a severe vision or hearing impairment (sensory disability) and (b) a condition that substantially limits one or more basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying (physical disability). The DVRPC uses data from physically disabled populations to determine areas of environmental justice concern. The regional threshold for disabled populations for the year 2000 was 7 percent. In 2000, Census data showed that 266 physically disabled persons resided in the Borough of Mount Ephraim, which represented 9.97 percent of the total Borough population. Four census Block Groups within Mount Ephraim contain disabled populations that meet or exceed the regional threshold. However, only a small portion of Census Tract 6055, Block Group 2 lies within the primary study area and is, therefore, not considered representative. Block Group 1 of Census Tract 6054 is located east of I-76 along the north edge of Al Jo's Curve and contains 109 physically disabled persons out of a total population of 782 (13.94 percent). Block Group 2 of Census Tract 6054 is located on the northeast corner of the I-295/I-76 interchange and contains 95 physically disabled persons out of a total population of 809 (11.74 percent). Block Group 3 of Census Tract 6054 is located east of Bell Road along the northern edge of I-295 and contains 62 physically disabled persons out of a total of 788 (7.87 percent). This data is summarized in Table 13. As Block Groups 1, 2 and 3 of Census tract 6054 all contain the proposed improvements; the potential for an impact on disabled persons including special education students in these Block Groups is discussed in Section 5.1.2.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

Approximately 80% of residents within the Mount Ephraim Senior Housing of the residents are disabled. Assistance for these individuals comes from sources outside the residence (Mount Ephraim Senior Housing, August 24, 2005).

Linguistically Isolated Population

In 2000 the Borough of Mount Ephraim contained 15 linguistically isolated households, which represented 0.35 percent of the total number of households within the Borough. The DVRPC defines linguistically isolated populations as households where primary language spoken at home is not English and where individuals within a household speak English "not very well." The regional threshold for linguistically isolated populations for the year 2000 is 2 percent. No Census Tracts or Census Block Groups meet or exceed the regional threshold in Mount Ephraim. This data is summarized in Table 14 and Figure 9 at the end of Section 4.0.

I-295/I-76/Rte 42
Direct Connection
TABLE 13
Physically Disabled Population - Mount Ephraim

	Total Population	Total Physically Disabled Population	Percent of Population Physically Disabled
DVRPC Regional Threshold	NA	NA	7
County			
Camden	466,939	36,832	**7.89**
Municipality			
Mount Ephraim	4,234	422	**9.97**
Census Tract			
Census Tract 6054	2,379	266	**11.18**
Block Group			
Block Group 1	782	109	**13.94**
Block Group 2	809	95	**11.74**
Block Group 3	788	62	**7.87**
Census Tract			
Census Tract 6055	1,855	156	**8.41**
Block Group			
Block Group 2	875	108	**12.34**

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

	Shading indicates census Blocks or Block Groups that contain the proposed improvements
BOLD	Bold indicates exceedance of the regional threshold percentage of 7 percent
NA	Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 14
Linguistically Isolated Population - Mount Ephraim

	Total Households	Total Households Linguistically Isolated	Percent of Households Linguistically Isolated
DVRPC Regional Threshold	NA	NA	2
County			
Camden	474,661	11327	**2.39**
Municipality			
Mount Ephraim	4,234	15	0.35
Census Tract			
Census Tract 6054	2,379	7	0.29
Block Group			
Block Group 1	782	7	0.90
Block Group 2	809	0	0.00
Block Group 3	788	0	0.00
Census Tract			
Census Tract 6055	1,855	8	0.43
Block Group			
Block Group 2	875	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

Female Head of Household

In 2000 the Borough of Mount Ephraim contained 53 households with the female listed as the head of household. This total represented 2.91 percent of the total number of households within Mount Ephraim. The regional threshold for Female Head of Household with child populations for the year 2000 is 8 percent. No Census Tracts or Census Block Groups meet or exceed the regional threshold within Mount Ephraim (See Table 15).

Transit Dependent

Census Data indicated that 206 households or 11.33 percent of the occupied housing units in Mount Ephraim were transit dependent in 2000. The DVRPC defines transit dependent individuals as persons with "zero vehicle availability." The regional threshold for transit dependent individuals for the year 2000 is 16 percent. One census block group within the study area meets or exceeds the regional threshold. However, the majority of Block Group 2 of Census Tract 6055 lies outside the study area and is, therefore, not considered to be representative (See Table 16).

Due to the minimal improvements (see Section 5.1.2.1.3 and Table 32) and absence of education facilities in the primary study area in Mount Ephraim, an analysis of special education populations in Mount Ephraim is not required

Approximately 75 percent of the residents in the Mount Ephraim Senior Housing have access to cars. The remaining residents depend on family or Sen-Han bus service. The trips taken on this bus service are primarily weekly destinations along Browning Road and Route 130. Biweekly trips are also made outside of the primary study area.

Income

In Mount Ephraim, 4.88 percent of the municipality's residents had a household income below the poverty level in 2000. Census Tract 6055 contained an impoverished population of 4.49 percent and Census Tract 6054 contained an impoverished population of 5.18 percent. Block Group 1 within Census Tract 6054 contained the lowest number of households below the poverty level with 1.84 percent. The highest concentration of households below the poverty level was 9.04 percent, which is located in Block Group 2 of Census Tract 6054. This block group is located northeast of I-295 along eastern edge of Al Jo's Curve. As this Block Group contains the proposed improvements, the potential for an impact on low income populations in this Block Group is discussed in Sections 5.1 and 5.6. This data is summarized in Table 17 and Figure 10 at the end of Section 4.0.

I-295/I-76/Rte 42
Direct Connection
TABLE 15
Female Head of Household - Mount Ephraim

	Total Households	Total Female Head of Household	Percent Female Head of Household
DVRPC Regional Threshold	NA	NA	8
County			
Camden	185,837	3,646	**8.47**
Municipality			
Mount Ephraim	1,822	53	2.91
Census Tract			
Census Tract 6054	1,050	48	4.57
Block Group			
Block Group 1	322	19	5.90
Block Group 2	381	13	3.41
Block Group 3	347	16	4.61
Census Tract			
Census Tract 6055	772	5	0.65
Block Group			
Block Group 2	411	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 8 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 16
Transit Dependent - Mount Ephraim

	Total Occupied Housing Units	Total Transit Dependent Population	Percent Transit Dependent Population
DVRPC Regional Threshold	NA	NA	16
County			
Camden	185,744	23,439	12.62
Municipality			
Mount Ephraim	1,818	206	11.33
Census Tract			
Census Tract 6054	1,034	109	10.54
Block Group			
Block Group 1	308	22	7.14
Block Group 2	374	38	10.16
Block Group 3	352	49	13.92
Census Tract			
Census Tract 6055	784	97	12.37
Block Group			
Block Group 2	385	73	**18.96**

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that conatain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 16 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 17
Poverty Level - Mount Ephraim

	Median household income in 1999	Population for whom poverty status is determined: Total	Poverty level of Population Under .50	Poverty level of Population 50 to .74	Poverty level of Population 75 to .99	Total Population Below Poverty	Percent of Population Below Poverty
County							
Camden	48,097	499,327	26,145	11,575	14,401	52,121	10.44
Municipality							
Mount Ephraim	44,824	4,491	110	25	84	219	4.88
Census Tract							
Census Tract 6054	44,669	2,531	51	18	62	131	5.18
Block Group							
Block Group 1	41,136	817	7	0	8	15	1.84
Block Group 2	44,638	874	22	6	51	79	9.04
Block Group 3	46,042	840	22	12	3	37	4.40
Census Tract							
Census Tract 6055	45,500	1,960	59	7	22	88	4.49
Block Group							
Block Group 2	42,604	924	50	7	12	69	7.47

Source: 2000 U.S. Census of Population and Housing

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

4.2.2 Social Conditions

4.2.2.1 Residential Neighborhoods

Existing land uses of the primary study area is presented on Figure 11 at the end of Section 4.0. The residential neighborhoods located within the Mount Ephraim portion of the primary study area are characterized as follows:

- The residential area north of Kings Highway on the east side of I-76 in Mount Ephraim consists entirely of one and two story single family detached dwellings.
- The area south of Kings Highway, east of the interchange abutting the north side of I-295 and west of the railroad line in Mount Ephraim contains mostly one and two-story single family detached dwellings.
- The Mount Ephraim Senior Housing is located on the west side of I-76 along Kings Highway.

4.2.2.2 Community Facilities

Figure 12 at the end of Section 4.0 displays the community facilities within the primary study area. Two properties are identified as community facilities within the Mount Ephraim portion of the primary study area:

- Mt. Ephraim Girls Softball Fields. This public recreation facility consists of two softball fields primarily used by the Mount Ephraim Girl's Softball League. Any other person wishing to use the field must gain permission from the Borough of Mt. Ephraim. (See Appendix Phone log with Mt. Ephraim Borough Clerk Mildred Salomon, dated 03-28-05). The site is located immediately behind the Mount Ephraim sewage treatment facility on Linden Street. A number of unmarked off-street parking spaces are provided at the site. The site is just east of I-295.
- Mt. Ephraim Sewage Treatment Facility. This municipal facility is located on the north side of Linden Street. The building also houses offices of Mount Ephraim Department of Public Works. The site is just east of I-295.

Section 4(f) Recreational Facilities

The Mount Ephraim's Girls Softball Fields are not considered to be a locally significant, publicly owned recreation area because access is limited.

4.2.3 Business Activities and Economic Profile/Economic Development/Local Accessibility

The primary study area within the Borough of Mt Ephraim does not include any businesses or industrial properties.

According to local and county officials (August 1, 2 and 12, 2005 and November 11, 2005), much of Mount Ephraim is developed. Redevelopment is occurring along Route 168 outside the primary study area. Two additional softball fields are planned at the Girls Softball Fields. A subdivision on Bell Road (Bell Court) has been approved but has not progressed.

The major local streets in Mount Ephraim are Black Horse Pike, Kings Highway, and Bell Road. Congestion at the I-295 interchange causes traffic to overflow into many of these local streets consistently resulting in traffic congestion during the afternoon rush hour, especially on Black Horse Pike (Route 168). Local officials (August 1 and 2, 2005 and November 11, 2005) believe that diversion of commuter traffic from I-295 because of congestion has resulted in increased patronage of businesses along Route 168.

4.2.4 Municipal Tax Base

The total assessed net valuation of taxable properties in Mt. Ephraim for 2004 is $171,126,600. The township's tax rate of $4.46 per hundred dollars includes $1.26 per hundred dollars for municipal purposes and $2.16 per hundred dollars for the local school district.

4.2.5 Land Use Planning

Zoning

The Mount Ephraim Zoning Map indicates that the primary study area within the Borough of Mount Ephraim is comprised of R1 and R2 residential district areas (See Figure 13 at the end of Section 4.0). Zoning is generally consistent with existing land uses.

Land Use

Residential development represents the largest portion of Mount Ephraim land use with approximately 56.9 percent followed by transportation at approximately 16.0 percent and vacant land which includes wetlands at approximately 15.2 percent. About 8 percent of Mount Ephraim's total acreage is included in the Mount Ephraim portion of the primary study area. According to the NJDEP Bureau of Geographic Information Land Use and Land Cover data layer and site reconnaissance, no identified farmland is located within Mount Ephraim. The distribution of land use in Mount Ephraim is provided in Table 18 and Figure 14 at the end of Section 4.0. The Site reconaissance shows that the primary study area within Mount Ephraim consists of residential, community facilities, and vacant land uses. Table 19 presents the distribution of land use within the Mount Ephraim portion of the study area according to the following land use categories.

- Residential land uses, which include detached single-family residences, comprise 28.0 acres, or 47.4 percent of the primary study area within Mount Ephraim. Most of the residential properties are located along the eastern edge of I-76, north of Kings Highway, and along the northwestern

corner of the I-76/I-295 interchange. The second group of residential properties within the project area is located north of I-295, west of Route 168 and east of Bell Road.

- Multi-family residential properties, which are designated for townhouses and garden apartments, constitute 3.6 acres or 6.1 percent of the project area within the Borough. The multi-family residential area is situated adjacent to Al Jo's Curve, which is located west of I-76 on the southern side of Kings Highway.

- Community facilities constitute 0.23 acres or 0.4 percent of the primary study area within Mount Ephraim. The community facility is a public water treatment facility located south of Kings Highway, abutting the northeastern edge of the I-76/I-295 interchange.

- A recreation facility constitutes 4.0 acres or 6.8 percent of the primary study area within Mount Ephraim. The recreation facility is a girls softball field located adjacent to the public water treatment facility, abutting the northeastern edge of the I-76/I-295 interchange.

Vacant land consists of 23.3 acres or 39.4 percent of the primary study area within Mount Ephraim and consists mostly of wetlands. The majority of the vacant land is located on the northern edge of I-295 as it approaches the I-295/I-76 interchange from the east. Several pieces of vacant land are located north of I-295, west of Route 168 and east of Bell Road.

I-295/I-76/Rte 42
Direct Connection
TABLE 18
Secondary Study Area
Land Use - Mount Ephraim

Land Use	Acreage	Percent
Residential	413.97	56.9
Commercial	68.99	9.5
Industrial	0.02	0.0
Transportation	116.24	16.0
Vacant	110.76	15.2
Mixed Urban	1.89	0.3
Recreation	16.03	2.2
Total	727.9	100.0

Source: USGS, 2002 and NJDEP Bureau of Geographic Information and Analysis, 1995

I-295/I-76/Rte 42
Direct Connection
TABLE 19
Land Use - Mount Ephraim Portion of Study Area

Land Use	Acres	Percent
Recreation	4	6.8
Multi-Family Residential	3.6	6.1
Residential	28.0	47.4
Commercial	0	0.0
Community Facility	0.23	0.4
Industrial	0	0.0
Vacant	23.3	39.4
Post Office	0.0	0.0
Totals	59.19	100

Source: USGS 2002 , Dewberry Goodkind Inc. 2005, and Dresdner Robin 2005

4.2.6 Visual Quality/Aesthetics

Three general categories of viewsheds exist for consideration of aesthetic impacts: highly sensitive sites, moderately sensitive sites, and low sensitivity sites. Highly sensitive areas are those protected by federal or state law, such as natural areas, parks and recreation areas, coastal views, unique man-made features and historic properties. Moderately sensitive sites include structures such as residences and religious sites, or areas that are partially blocked by vegetation, such as wooded areas and hedgerows. Sites of low visual sensitivity include developed areas such as urban and industrial settings. Viewsheds of high and moderate sensitivity occur within Mount Ephraim. Those portions of the primary study area that abut Little Timber Creek are areas of high visual sensitivity. Areas of residential and community development that comprise most of the primary study area in Mount Ephraim, are areas of moderate visual sensitivity (See existing photographs in Section 5.2 and Appendix A).

4.3 Description of Gloucester City

One Census Tract, two Block Groups, and 13 Census Blocks provide population information about the portion of the primary study area within Gloucester City. The population of Gloucester City was 11,484 in 2000. Census Tract 6052 is within the Gloucester City portion of the primary study area. The census data reveals that the total population within this tract was 2,319 persons in 2000. However, only a small portion of Census Tract 6052, Block Group 1 lies within the primary study area. The U.S. Census information contains population data gathered from two separate sampling methods. Census data for Race, Senior Citizens, and Female Heads of Household used 100 percent sample data and provides information to the census block level. Census data for Disability, Foreign Language, Transit Dependent, and Poverty was collected from a one in six sample size and weighted to represent the total population and provides information only to the census block group level. Therefore, sample totals will vary across census groups. Shaded rows on the tables represent the census blocks that contain the proposed improvements.

Two methodologies were utilized for the community profile. The minority and poverty level approach follows the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994, which requires federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The potential for impacts on these two categories is discussed in Section 5.6.

The remaining populations (Disability, Foreign Language, Transit Dependent and Senior Citizen) follow the Delaware Valley Regional Planning Commission (hereafter referred to as DVRPC) approach which determined a regional threshold, or average, to assess whether each census area meets or exceeds this average. A total of all persons in the specific demographic group in the nine-county region were divided by the total nine-county population to obtain this average. Shaded rows on the tables represent the census blocks that contain proposed

improvements. Bolded numbers in the table indicate census areas that exceed the regional threshold.

The figures provided for minority population and income at the end of Section 4.0 present ranges of percentages based on statistically derived breaks for each population category.

4.3.1 Community Profile

Minority Population

The total percentage of minority residents in Census Tract 6052 was 2.93 percent.. At the Census Block level, the minority population was 0 percent for Census Tract 6052, Blocks 1004, 2010, and 2013. The highest proportion of minority population was identified in Census Tract 6052, Block 2007, which contained a 12.85 percent total minority population. Census Block 2007 has a total population of 179 persons and is located west of I-76 and north of Kings Highway. As this Census Block contains the proposed improvements, the potential for an impact on minority populations in this Census Block is discussed in Sections 5.1 and 5.6. This data is summarized in Table 20 and Figure 8 at the end of Section 4.0.

Senior Citizen Population

Census Data indicated that 136 persons over the age of 85 resided in the city of Gloucester City in 2000, which accounted for 1.18 percent of the total Borough population. The DVRPC regional threshold for senior citizens over age 85 for the year 2000 is 2 percent. One census block within Gloucester City contains senior citizen populations that meets or exceeds the regional threshold. Census Block 2001 of Census Tract 6052 is located west of I-76 and north of Al Jo's Curve and contains 5 senior citizens out of a total population of 113 (4.42 percent) (See Table 21). However, this Census Block does not contain the proposed improvements.

I-295/I-76/Rte 42
Direct Connection
TABLE 20
Minority Population - Gloucester City[1]

	Total	White (%)	Black (%)	Hispanic[3] (%)	Asian (%)	Other[2] (%)	Total Minority (%)
County							
Camden	508,932	67.79	17.29	9.66	3.68	0.31	30.94
Municipality							
Gloucester City	11,484	96.01	0.66	1.88	0.66	0.25	3.46
Census Tract							
Census Tract 6052	2,319	96.55	0.60	1.64	0.30	0.39	2.93
Block Group							
Block Group 1	605	98.68	0.17	0.50	0.00	0.00	0.66
Block Group 2	1,003	93.92	1.30	2.69	0.60	0.40	4.99
Block							
Block 1002	174	98.28	0.00	1.15	0.00	0.00	1.15
Block 1004	1	100.00	0.00	0.00	0.00	0.00	0.00
Block 1011	60	98.33	0.00	1.67	0.00	0.00	1.67
Block 2000	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2001	113	95.58	0.00	0.88	0.00	3.54	4.42
Block 2007	179	86.59	5.03	4.47	3.35	0.00	12.85
Block 2008	72	97.22	0.00	2.78	0.00	0.00	2.78
Block 2009	62	91.94	0.00	3.23	0.00	0.00	3.23
Block 2010	61	100.00	0.00	0.00	0.00	0.00	0.00
Block 2011	0	0.00	0.00	0.00	0.00	0.00	0.00
Block 2012	74	97.30	0.00	2.70	0.00	0.00	2.70
Block 2013	142	100.00	0.00	0.00	0.00	0.00	0.00
Block 2014	57	87.72	0.00	8.77	0.00	1.75	10.53

Source: 2000 U.S. Census of Population and Housing

[1] Percentages do not add to 100 percent, as Hispanics are also included in other categories.

[2] Other includes American Indians and Alaskan Natives.

[3] Includes persons of Mexican, Puerto Rican, Cuban, Central American, South American, or other Spanish culture or origin, regardless of race

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

I-295/I-76/Rte 42
Direct Connection
TABLE 21
Senior Citizen Population - Gloucester City

	Total Population	Total Population Over Age 85	Percent of Population Over Age 85
DVRPC Regional Threshold	NA	NA	2
County			
Camden	508,932	7,543	1.48
Municipality			
Gloucester City	11,484	136	1.18
Census Tract			
Census Tract 6052	2,319	24	1.03
Block Group			
Block Group 1	605	2	0.33
Block Group 2	1,003	13	1.30
Block			
Block 1002	174	2.00	1.15
Block 1004	1	0.00	0.00
Block 1011	60	0.00	0.00
Block 2000	0	0.00	0.00
Block 2001	113	5.00	**4.42**
Block 2007	179	2.00	1.12
Block 2008	72	0.00	0.00
Block 2009	62	0.00	0.00
Block 2010	61	0.00	0.00
Block 2011	0	0.00	0.00
Block 2012	74	1.00	1.35
Block 2013	142	1.00	0.70
Block 2014	57	0.00	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

Disabled Population

According to the U.S. Census, disability is defined by the following long-lasting conditions: (a) blindness, deafness, or a severe vision or hearing impairment (sensory disability) and (b) a condition that substantially limits one or more basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying (physical disability). The DVRPC uses data from physically disabled populations to determine areas of environmental justice concern. The regional threshold for disabled populations for the year 2000 was 7 percent. In 2000, Census data showed that 1,226 physically disabled persons resided in Gloucester City, which represented 11.38 percent of the total population. Two census Block Groups within Gloucester City contain disabled populations that meet or exceed the regional threshold Block Group 1 of Census Tract 6052 is located along the eastern edge of I-76 and contains 55 physically disabled persons out of a total population of 562 (9.79 percent). Block Group 2 of Census Tract 6052 is located west of I-76 along the north edge of Al Jo's Curve and contains 145 physically disabled persons out of a total population of 921 (15.74 percent) (See Table 22). Only Block Group 2 contains the proposed improvements. The potential for an impact on disabled persons including special education students in this Block Group is discussed in Section 5.1.3.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

Linguistically Isolated Population

In 2000 the city of Gloucester City contained 67 linguistically isolated households, which represented 0.62 percent of the total number of households. The DVRPC defines linguistically isolated populations as households where the primary language spoken at home is not English and where individuals within a household speak English "not very well." The regional threshold for linguistically isolated populations for the year 2000 is 2 percent. No Census Tracts or Census Block Groups meet or exceed the regional threshold within the Study Area in Gloucester City (See Table 23).

I-295/I-76/Rte 42
Direct Connection
TABLE 22
Physically Disabled Population - Gloucester City

	Total Population	Total Physically Disabled Population	Percent of Population Physically Disabled
DVRPC Regional Threshold	NA	NA	7
County			
Camden	466,939	36,832	**7.89**
Municipality			
Gloucester City	10,770	1,226	**11.38**
Census Tract			
Census Tract 6052	2,204	276	**12.52**
Block Group			
Block Group 1	562	55	**9.79**
Block Group 2	921	145	**15.74**

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 7 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 23
Linguistically Isolated Population - Gloucester City

	Total People	Total Individuals Linguistically Isolated	Percent of Individuals Linguistically Isolated
DVRPC Regional Threshold	NA	NA	2
County			
Camden	474,661	11327	**2.39**
Municipality			
Gloucester City	10,779	67	0.62
Census Tract			
Census Tract 6052	2,204	9	0.41
Block Group			
Block Group 1	562	9	1.60
Block Group 2	921	0	0.00

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 2 percent

NA Not Applicable

Female Head of Household

In 2000 the Borough of Gloucester City contained 348 households with the female listed as the head of household. This total represented 8.19 percent of the total number of households within Gloucester City. The regional threshold for female heads of household with Child populations for the year 2000 is 8 percent. No Census Tracts or Census Block Groups meet or exceeds the regional threshold within the study area in Gloucester City (See Table 24).

Transit Dependent

Census Data indicated that 701 households or 16.62 percent of the occupied housing units in Gloucester City were transit dependent in 2000. The DVRPC defines transit dependent individuals as persons with "zero vehicle availability." The regional threshold for transit dependent individuals for the year 2000 is 16 percent. One census block group within the study area meets or exceeds the regional threshold. Block Group 2 of Census Tract 6052 is located west of I-76 along the northern edge of Al Jo's Curve and contains 70 transit dependent households out of a total of 433 (16.17 percent) (See Table 25). The potential for an impact on transit dependent population including special education students in this Block Group is discussed in Section 5.1.3.1.2. Figure 9 at the end of Section 4.0 displays the DVRPC exceedances.

Income

In Gloucester City, 10.11 percent of the residents had a household income below the poverty level in 2000. Census Tract 6052 contained an impoverished population of 8.94 percent. Block Group 1 within Census Tract 6052 contained the fewest number of households below the poverty level at 2.07 percent. However, only a small portion of this block group falls within the project boundary. Block Group 2 within Census Tract 6052 had the second highest proportion of households below the poverty level with 8.85 percent. This block group is located east of I-76 along the northern edge of Al Jo's Curve. While this Block Group contains the proposed improvements, its percentage of low income populations is less than Gloucester City as a whole. This data is summarized in Table 26 and Figure 10 at the end of Section 4.0.

I-295/I-76/Rte 42
Direct Connection
TABLE 24
Female Head of Household - Gloucester City

	Total Households	Total Female Head of Household	Percent Female Head of Household
DVRPC Regional Threshold	NA	NA	8
County			
Camden	185,837	3,646	**8.47**
Municipality			
Gloucester City	4,248	348	**8.19**
Census Tract			
Census Tract 6052	961	52	5.41
Block Group			
Block Group 1	242	0	0.00
Block Group 2	423	28	6.62

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups that contain the proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 8 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 25
Transit Dependent - Gloucester City

	Total Occupied Housing Units	Total Transit Dependent Population	Percent Transit Dependent Population
DVRPC Regional Threshold	NA	NA	16
County			
Camden	185,744	23,439	12.62
Municipality			
Gloucester City	4,219	701	**16.62**
Census Tract			
Census Tract 6052	953	114	11.96
Block Group			
Block Group 1	238	30	12.61
Block Group 2	433	70	**16.17**

Source: 2000 U.S. Census of Population and Housing, DVRPC 2002

Shading indicates Census Blocks or Block Groups impacted by proposed improvements

BOLD Bold indicates exceedance of the regional threshold percentage of 16 percent

NA Not Applicable

I-295/I-76/Rte 42
Direct Connection
TABLE 26
Poverty Level - Gloucester City

	Median household income in 1999	Population for whom poverty status is determined: Total	Poverty level of Population Under .50	Poverty level of Population 50 to .74	Poverty level of Population 75 to .99	Total Population Below Poverty	Percent of Population Below Poverty
County							
Camden	48,097	499,327	26,145	11,575	14,401	52,121	10.44
Municipality							
Gloucester City	36,855	11,421	454	236	465	1,155	10.11
Census Tract							
Census Tract 6052	40,920	2,305	85	49	72	206	8.94
Block Group							
Block Group 1	41,857	579	6	0	6	12	2.07
Block Group 2	36,645	972	79	0	7	86	8.85

Source: 2000 U.S. Census of Population and Housing

Shading indicates census Blocks or Block Groups that contain the proposed improvements

4.3.2 Social Conditions

4.3.2.1 Residential Neighborhoods

The residential area north of Kings Highway on the west side of I-76 in Gloucester City consists entirely of one and two story single family detached dwellings.

4.3.2.2 Community Facilities

No community facilities are located within the Gloucester City portion of the primary study area.

4.3.3 Business Activities and Economic Profile / Economic Development / Local Accessibility

The primary study area within Gloucester City does not include any businesses or industrial properties.

Gloucester City is designated as an Urban Enterprise Zone (UEZ) and, according to local and county officials (August 12 and 25, 2005), Gloucester City has numerous development projects occurring. The Southport Redevelopment Area is the largest redevelopment project in Gloucester City. This redevelopment area is bounded to the north by Jersey Avenue, to the west by the Delaware River, to the south by Little Timber Creek, and to the east by Broadway. Approximately 1,100 residential units as well as numerous mixed-use projects are being developed within this area.

The I-295/I-76/Route 42 Interchange contributes to congestion along local streets, such as Market Street and Broadway.

4.3.4 Municipal Tax Base

The total assessed net valuation of taxable properties in Gloucester City for 2004 is $355,363,900. The township's tax rate of $3.49 per hundred dollars includes $1.62 for municipal purposes and $.945 for the local school district.

4.3.5 Land Use and Planning

Zoning

The Gloucester City Zoning Ordinance indicates that the primary study area within Gloucester City is comprised of low density residential areas.

Land Use

Residential development represents the largest portion of Gloucester City's land use with approximately 42.2 percent followed by vacant land with approximately 22.3 percent. The Gloucester City portion of the primary study area is about 1.5% of Gloucester City's total acreage. According to the NJDEP Bureau of Geographic Information Land Use and Land Cover data layer

and site reconnaissance, no identified farmland is located within Gloucester City. The distribution of land use in Gloucester City is provided in Table 27 and Figure 14 at the end of Section 4.0. Site reconaissance of the primary study area within Gloucester City revealed both low density residential and vacant land uses. Table 28 indicates the distribution of land use within the Gloucester City portion of the primary study area according to the following land use categories.

- Residential land uses, which include detached single-family residences, comprise 26.2 acres or 93.9 percent of the primary study area within Gloucester City. The residential area is located on the western edge of I-76 on the north side of Kings Highway.

- Vacant land within the primary study area portion of Gloucester City consists of 1.7 acres or 6.1 percent of the total land use. Vacant land is located north of Kings Highway, south of Thompson Avenue, and on the corner of Market Street and Maple Avenue.

4.3.6 Visual Quality / Aesthetics

Three categories of viewsheds exist for consideration of aesthetic impacts: highly sensitive sites, moderately sensitive sites, and low sensitivity sites. Highly sensitive areas are those protected by federal or state law, such as natural areas, parks and recreation areas, coastal views, unique man-made features and historic properties. Moderately sensitive sites include structures such as residences and religious sites, or areas that are partially blocked by vegetation, such as wooded areas and hedgerows. Sites of low visual sensitivity include developed areas such as urban and industrial settings. Viewsheds of moderate sensitivity occur within Gloucester City. Areas of residential development that comprise most of the primary study area in Gloucester City are areas of moderate visual sensitivity.

4.4 Travel Time through the Interchange

A savings in travel time is a significant benefit of a transportation project. The value of travel time savings and of the reduced variability of travel time can be thought of in terms of reduced opportunity costs. Transportation projects can directly affect the amount of time required for traveling by reducing congestion, and the uncertainty about the length of the trip.

Projected vehicle hours to be used in the nine county DVRPC planning region are 664,930 during the AM rush hours and 1,025,730 during the PM rush hours. This projection represents the 2030 No Build peak period assuming the Missing Moves Connection.

I-295/I-76/Rte 42
Direct Connection
TABLE 27
Secondary Land Use - Gloucester City

Land Use	Acreage	Percent
Residential	749.30	42.2
Commercial	121.55	6.9
Industrial	121.55	6.9
Transportation	261.63	14.7
Vacant	395.17	22.3
Mixed Urban	33.24	1.9
Recreation	91.50	5.2
Total	1773.9	100.0

Source: USGS, 2002 and NJDEP Bureau of Geographic Information and Analysis, 1995

I-295/I-76/Rte 42
Direct Connection
TABLE 28
Land Use - Gloucester City Portion of Study Area

Land Use	Acres	Percent
Recreation	0	0.0
Multi-Family Residential	0	0.0
Residential	26.2	93.9
Commercial	0	0.0
Community Facility	0	0.0
Industrial	0	0.0
Vacant	1.7	6.1
Post Office	0	0.0
Totals	27.92	100.00

Source: USGS 2002 , Dewberry Goodkind Inc. 2005, and Dresdner Robin 2005

4.5 Safety

Safety improvements are an important form of user benefit that derive from changes to transportation systems. These benefits take the form of reductions in the rate of fatal, injury, and property damage only crashes.

In the 30-month period from January 2002 through June 2004, there were 1,864 recorded accidents through the I-295/I-76/Route 42 Interchange, of which two were fatal and 631 involved injuries. During this same period, approximately 250 million vehicles passed through this interchange, yielding rates of approximately 7.5 accidents, 2.5 accidents with injuries, and 0.008 accidents with fatalities per million vehicles. These rates are much higher than rates for standard interchanges between Interstate highways in New Jersey, such as:

- I-76/I-676 Interchange in Camden
- I-78/I-287 Interchange in Somerset County
- I-80/I-95 Interchange in Bergen County
- I-80/I-287 Interchange in Morris County

Each of these interchanges carried between 160 million and 300 million vehicles during the same 30 month period. In total, the four interchanges had 2.0 accidents per million vehicles, of which 0.7 involved injuries, and 0.0002 involved fatalities.

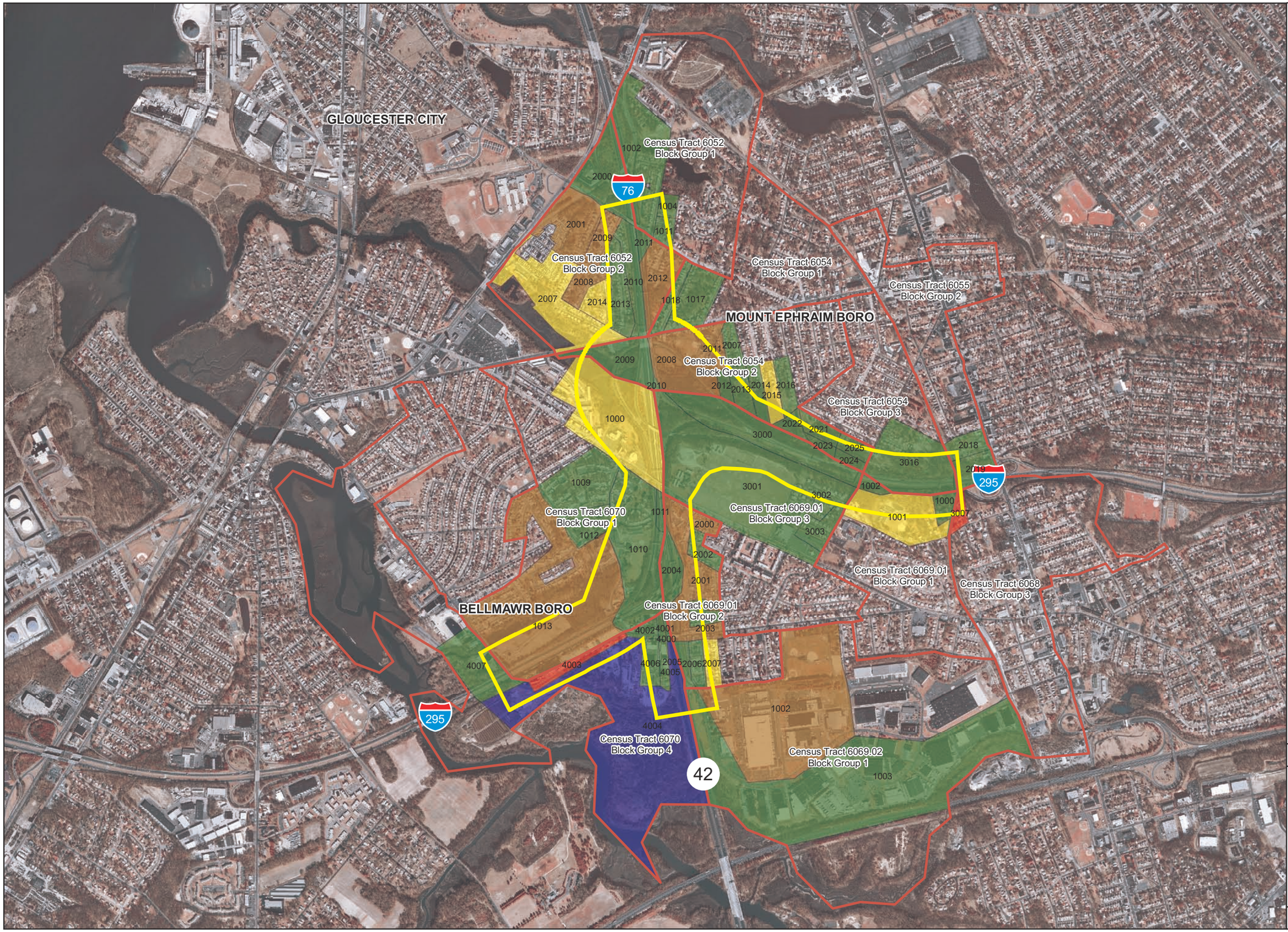
4.6 Regional Accessibility

The secondary study area consists of Bellmawr, Mount Ephraim and Gloucester City. In this context, accessibility pertains to the ease with which travelers may get to a specific destination. Accessibility depends on the degree of directness for getting to the destination, the simplicity of finding it, and the availability of parking facilities.

For this study, interviews were conducted with local and regional entities (March - November 2005) to evaluate regional accessibility. In general, representatives from all three municipalities stated that congestion on major access routes was directly related to traffic conditions that exist on the I-295/I-76/Route 42 interchange. Access roads to destinations in the secondary study area, which include shopping along Route 168 and Route 130, are congested due to the interchange traffic overflow. Mount Ephraim officials (August 1 and 2, 2005 and November 11, 2005) added that due to this overflow an increase in patronage to local businesses occur.

Destinations in the secondary study area include the Post Office / industrial park area in Bellmawr with approximately 300 to 400 daily truck trips. Within Gloucester City, the port area (Gloucester Terminal) is a destination of many commercial and residential vehicles. The Gloucester City Planning Board has designated Morgan Avenue in Camden as the major access point to the port area. However, local officials (August 25, 2005) indicate that various local streets throughout Gloucester City are used to access the port area (Gloucester Terminal).

Mass transportation in the primary study area consists primarily of buses. Bus ridership is low. The 2000 Census indicates a transit dependent population ranging from approximately four to seven percent in the three municipalities. Bus service schedules are disrupted by congestion on the I-295 interchange during rush hour. Pedestrian access is not prevalent due to typical suburban residential development of single-family dwellings and commercial/retail establishments being situated along state roads (Route 168 or Route 130).



PROJECT NORTH

Legend

- Primary Study Area
- Study Area Block Groups
- Study Area Census Blocks

Minority Population (Percent)

- 0.00 - 1.93
- 1.94 - 6.67
- 6.68 - 20.51
- 20.52 - 49.00
- 50.00 - 100.00

Note: Percentages are shown only for Census Blocks

0 750 1,500 3,000 Feet

New Jersey Department of Transportation

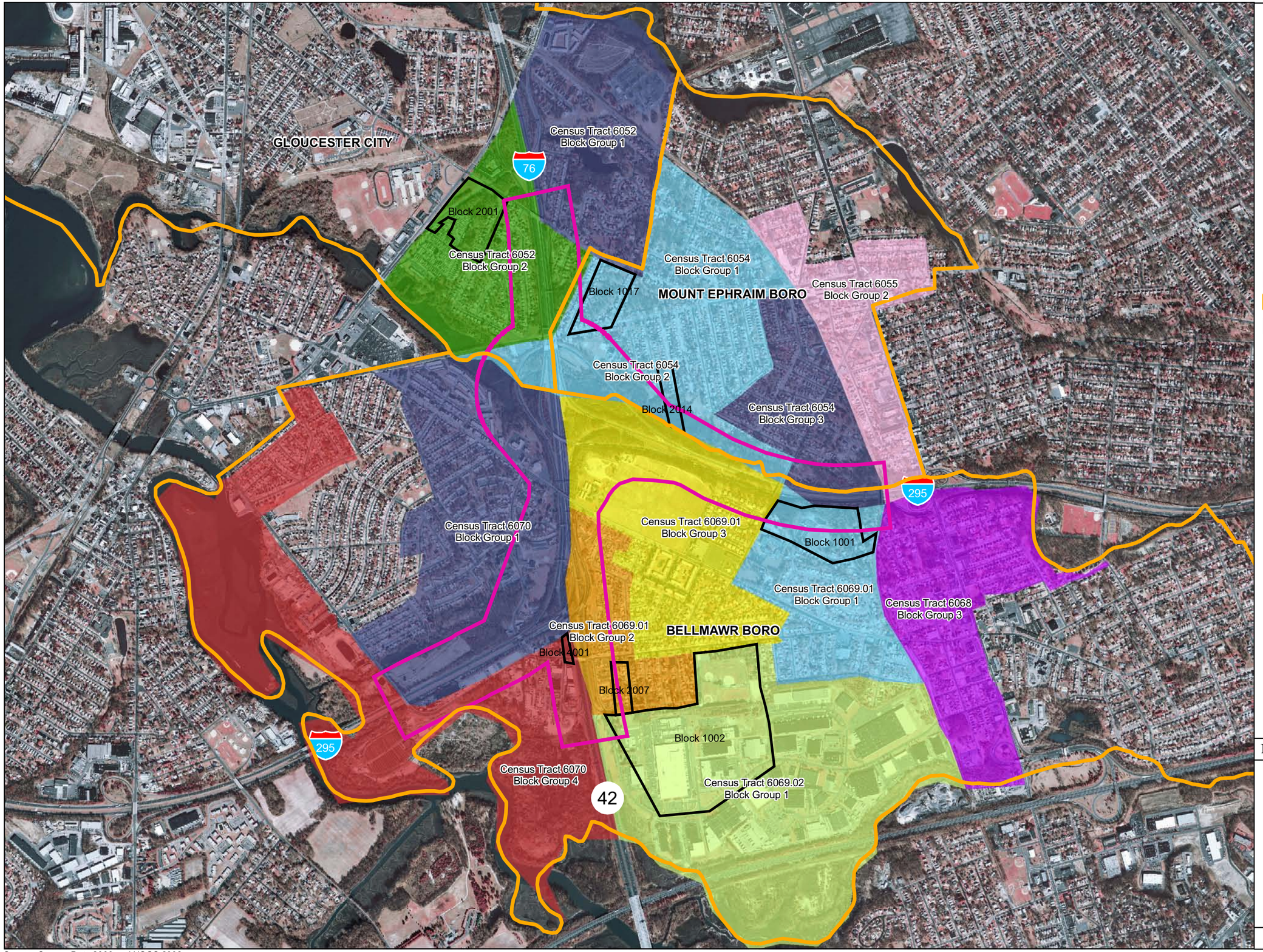
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 8

Minority Population

Date	April 17, 2006

Source: Census Data 2000 and USGS 2002



PROJECT NORTH

Legend

- Study Area
- Municipal Boundaries
- Census Block Exceedances (Senior Citizen Only)

Census Block Group Exceedances

- Senior Citizen
- Physically Disabled
- Linguistically Isolated and Senior Citizen
- Senior Citizen and Physically Disabled
- Linguistically Isolated and Physically Disabled
- Female Head of Household and Physically Disabled
- Senior Citizen, Transit Dependent and Physically Disabled
- Senior Citizen, Female Head of Household, Linguistically Isolated, and Physically Disabled
- Physically Disabled and Transit Dependent

0 700 1,400 2,800 Feet

New Jersey Department of Transportation

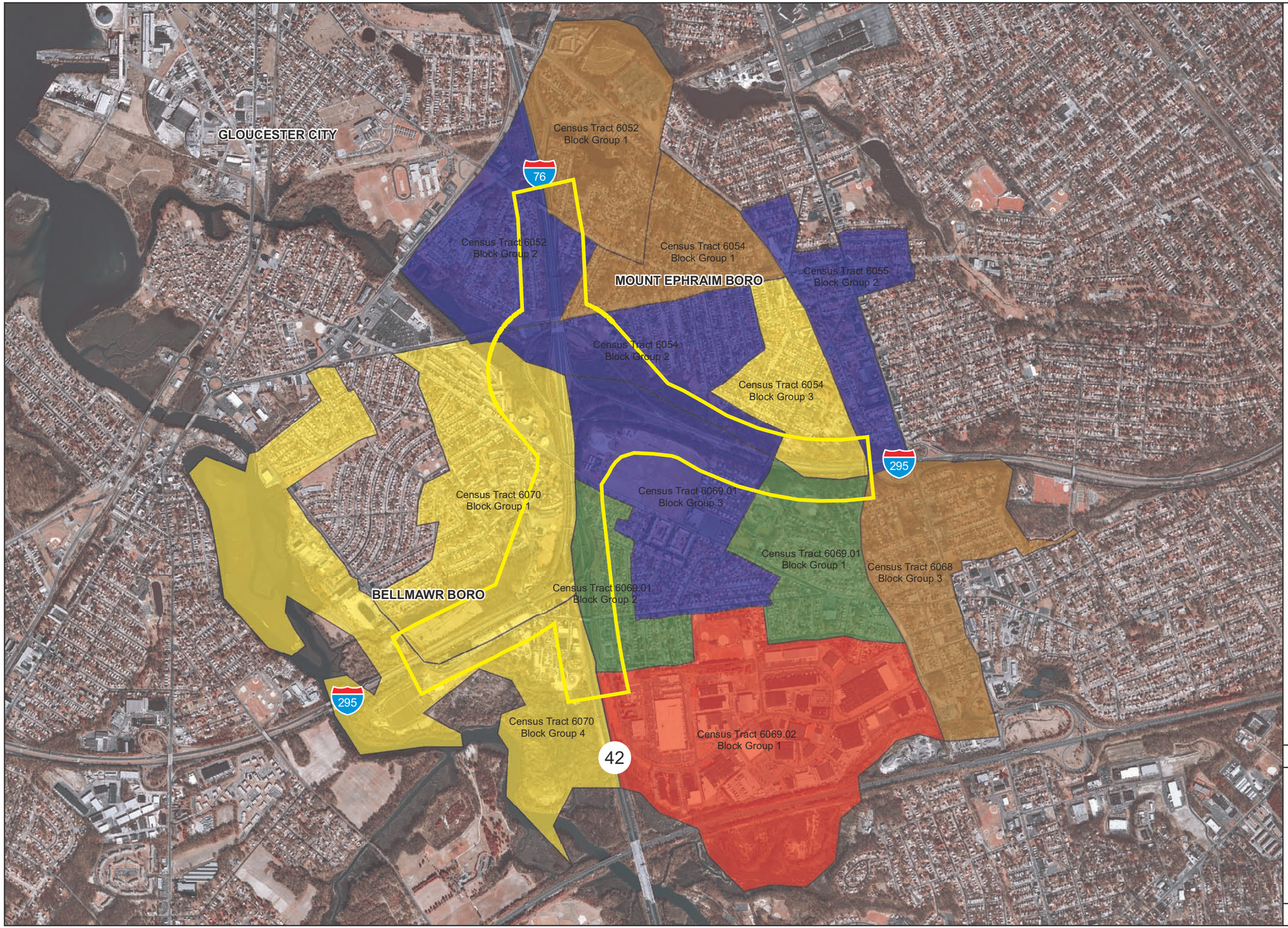
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 9

Demographic Exceedances of Regional Thresholds

Date	April 17, 2006

Source: Census Data 2000 and USGS 2002



PROJECT NORTH

Legend

Primary Study Area

Population Below Poverty Level (Percent)

- 0.00 - 0.86
- 0.87 - 2.07
- 2.08 - 5.79
- 5.80 - 9.04
- 9.05 - 13.45

0 750 1,500 3,000 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 10

Population Below Poverty Level

Date	April 17, 2006

Source: Census Data 2000 and USGS 2002

PROJECT NORTH

Legend

- Existing Alignment of Interchange
- Primary Study Area
- Municipal Boundary
- Proposed Development
- Multifamily
- Residential
- Industrial
- CommunityFacilities
- Recreation
- Commercial
- Vacant
- PostOffice

0 500 1,000 2,000 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 11

Primary Study Area Land Use

Date	April 17, 2006

Source: USGS, 2002 , Dewberry Goodkind Inc. 2005 and Dresdner Robin, 2005

PROJECT NORTH

Legend

- Primary Study Area
- Existing Alignment of Interchange
- Community Facilities

0 500 1,000 2,000 Feet

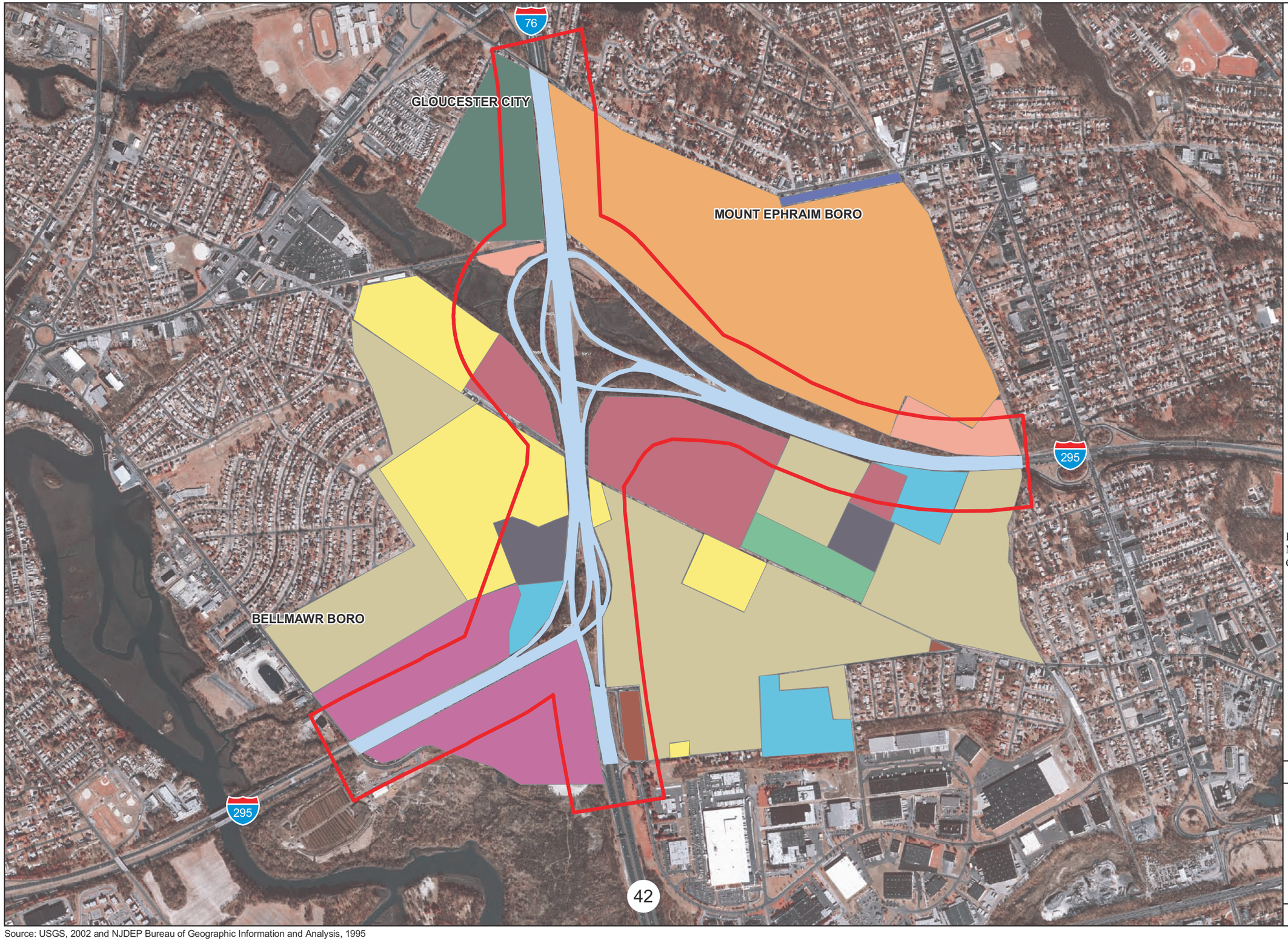
New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 12
Primary Study Area
Community Facilities

Date	April 17, 2006

Source: USGS, 2002 , Dewberry Goodkind Inc. 2005 and Dresdner Robin, 2005



PROJECT NORTH

Legend

- Primary Study Area
- Existing Alignment of Interchange

Zoning

- A Residential
- B Business
- B Residential
- Business A
- Commercial
- Detached Dwelling
- Garden Apartment
- Institutional
- Light Industrial
- Municipal Government
- Recreation
- Residential Low

Bellmawr Zoning Ordinance: Updated 1979
Mt. Ephraim Zoning Ordinance: Updated 2003
Gloucester City Zoning Ordinance: Updated 1996

0 500 1,000 2,000 Feet

New Jersey Department of Transportation

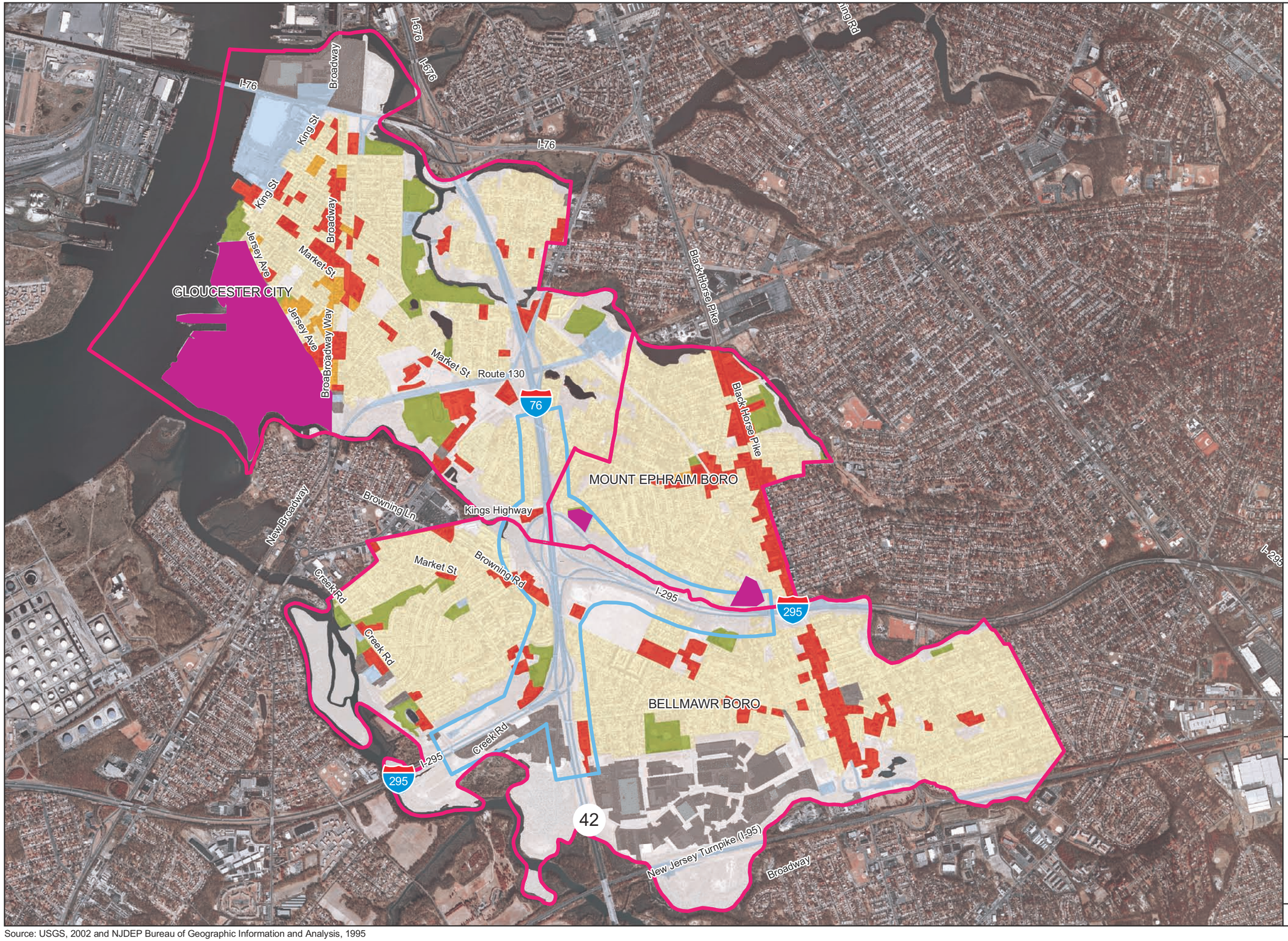
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 13

Zoning

Date	April 17, 2006

Source: USGS, 2002 and NJDEP Bureau of Geographic Information and Analysis, 1995



PROJECT NORTH

Legend

- Municipal Boundary
- Primary Study Area
- Residential
- Commercial
- Industrial
- Transportation
- Vacant
- Mixed Urban
- Recreation
- Proposed Development

Note: Areas of proposed development are based on conversations with the municipal planning departments of Bellmawr, Mount Ephraim, and Gloucester City (11-30-2005).

0 2,100 4,200 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 14

Secondary Study Area Land Use

Date	April 17, 2006

Source: USGS, 2002 and NJDEP Bureau of Geographic Information and Analysis, 1995

5.0 DISCUSSION/ IMPACT ANALYSIS AND CONCEPTUAL MITIGATION

5.1 Social Condition Impacts

5.1.1 Bellmawr

5.1.1.1 Alternatives D, D1, G2, H1 and K

5.1.1.1.1 Community Cohesion

An assessment of current development patterns was performed within the primary study area to evaluate the extent to which each alternative would adversely affect residential communities in Bellmawr. None of the five proposed alternatives (Alternative D, D1, G2, H1 and K) would impact the cohesion of the community within the primary study area because the proposed ROW acquisitions are located at the edge of a residential development (Bellmawr Park) and, therefore, are not anticipated to impact on the cohesion of the community. For each of the build alternatives accessibility would be maintained within Bellmawr Park. Section 5.1.1.1.3 describes acquisitions and accessibility as they pertain to Bellmawr. A discussion of community facility impacts in Bellmawr is provided in Section 5.1.1.1.4. Barriers in the form of proposed structures and noise walls would be located along the edge of Bellmawr Park and are discussed in further detail in the Visual Quality/Aesthetics Section 5.2

Alternatives D, D1, G2, H1 and K would require acquisition of the eastern edge of the Bellmawr Park community located south of Browning Road and west of I-295 (See Figures 15-22 at the end of Section 5.0). All of the build alternatives would also require redesign of Victory Drive, Willow Place and Hickory Place which provide access to Bellmawr Park. None of these changes would affect the stability of the Bellmawr Park Community which would remain largely intact. The acreage proposed to be acquired for the build alternatives occur at the edge of Bellmawr Park represents less than 10 percent of the entire acreage of the property. Additionally, it is feasible for all of the displaced residents to be relocated within the Bellmawr Park property.

5.1.1.1.2 Community Profile

Table 29 summarizes population information for census block groups and census blocks in which the proposed alternatives are located. The locations are the same for all five build alternatives (Alternatives D, D1, G2, H1 and K). Each census block or block group was evaluated to identify the presence of seven population categories (minority population, poverty level, senior citizens, female head of households, foreign language households, transit dependent residents and the disabled) and the potential that the proposed improvements might significantly impact any of these population groups.

For senior citizens, female head of households, foreign language households and disabled, census blocks or block groups with populations above the DVRPC regional thresholds were identified and discussed below. Minority populations and income impacts are based on the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994 and are discussed below and in Section 5.6.

As part of the analysis, census blocks and census block groups with populations above the DVRPC regional thresholds or the Executive Order 12898 environmental justice criteria were studied to determine whether they contained the proposed improvements, and if so, to identify the location of the proposed improvements in relation to the existing populations.

I-295/I-76/Rte 42
Direct Connection
TABLE 29
Census Block Groups and Census Blocks in Bellmawr
In Which The Proposed Improvements Are Located

	Descriptions of Properties To Be Acquired	Census Block % Minority	Census Block % Senior Citizen	Census Block Group % Disabled	Census Block Group % Linguistically Isolated	Census Block Group % Female H of H	Census Block Group % Transit Dependent	Census Block Group % Poverty Level	Total Block Population
DVRPC Regional Thresholds		NA	2	7	2	8	16	NA	
County									
Camden		30.94	1.48	7.89	2.39	8.47	12.62	10.44	NA
Municipality									
Bellmawr		7.92	1.13	8.36	1.81	4.84	7.33	3.97	NA
Census Tract									
Census Tract 6069.01		9.24	0.81	8.53	1.55	6.08	5.13	3.89	NA
Block									
Block 2001	All alternatives - Residence (Block 51.13, Lot 26); Residential lawn and partial driveway (Block 51.13, Lot 25)	6.67	[-----]	[-----]	BG2 - 2.85	[-----]	[-----]	BG2 - 0.00	199
Block 3000	Alternatives D, D1 and K - Vegetated wetland (Block 50.05, Lot 1.01); All alternatives Wooded vacant land (Block 80, Lot 2)	0.00	[-----]	BG3 - 9.15	[-----]	BG3 - 8.07	[-----]	BG3 - 7.49	0
Block 3001	All alternatives - Cemetary lawn, Harrison-Glover House (Block 50, Lot 1.01); Vacant wooded land (Block 50.01, Lot 58.01 and Block 80, Lot 3)	1.45	[-----]				[-----]		138
Census Tract									
Census Tract 6070		2.96	1.23	21.54	0.39	4.50	2.22	4.71	NA
Block									
Block 1000	All alternatives - Church parking Lot (Block 50.04, Lot 1.02); Alternatives D1 and H1 Wooded upland and wetland (south edge of Al Jo's curve alternatives D1 and H1)	9.91	[-----]	BG 1 - 8.82	[-----]	[-----]	[-----]	BG1- 5.53	111
Block 1010	All alternatives - 4 Bellmawr Park residences, Bellmawr Park School Ballfield (Block 49, Lot 3); Wooded area behind Bellmawr Baseball Fields (Block 49, Lot 1.02);Vacant Land (Block 56, Lots 1,2,3,4 and 5 and Block 63, Lots 6 and 7) Alternatives D, D1 and K - Additional 8 Bellmawr Park residences, wooded vacant land (Block 55, Lots 1 and 2); Business Taking (Block 56, Lot 3),	1.67	[-----]						239
Block 4001	All alternatives - Vacant land(Block 67, Lot 1)	0.00	20.00	[-----]	[-----]	[-----]	[-----]	BG4 - 5.79	5
Block 4002	All alternatives - Business parking lots and vacant land in front of business (Block 62, Lots 1,1.01,5 and 12 along Creek Road and south of I-295)	0.00	[-----]						2
Block 4005	All alternatives - Vacant land (Block 67, Lot 1)	0.00	[-----]						6

Source: US Census 2000 , Dewberry Goodkind Inc. 2005, DVRPC 2002, and Dresdner Robin 2005
BG = Block Group [-----] = Percentage Below Regional Threshold NA = Not Applicable

Minority Population

2000 Census data indicated that the Borough of Bellmawr had a minority population of 7.92 percent in 2000. No listed blocks within Bellmawr had a minority population greater than 50 percent. Only one listed block contained a greater proportion of minorities than the overall Borough. Block 1000 within Census Tract 6070 contained a minority population of 9.91 percent, which is 25 percent greater than the overall Borough minority population. However, none of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block 1000 of Census Tract 6070 (See Table 29 for description of properties to be acquired). Therefore, none of the residents within the census block would be relocated by the proposed alternatives. See Section 5.6 for further discussion regarding minority populations.

Senior Citizen

In 2000, census data indicated that 1.13 percent of the population within the Borough of Bellmawr was over the age of 85. One census block located in an area of proposed improvements (Census Tract 6070, Block 4001) has a percentage of senior citizens of 20 percent, which is higher than the regional threshold of 2 percent. However, none of the improvements would affect structures or access to the property within this Census Block, and, therefore, no impact to senior citizen population is anticipated.

Disabled

In 2000, Census Data indicated that 8.36 percent of the population within Bellmawr was physically disabled. Census Tract 6070, Block Group 1 and Census Tract 6069.01, Block Group 3 had percentages of physically disabled persons of 8.82 percent and 9.15 percent respectively, which are higher than the regional threshold of 7 percent. None of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block Group 3 of Census Tract 6069.01 (See Table 29 for description of properties to be acquired). However, four to twelve residences would be relocated in Block Group 1 of Census Tract 6070. As all of the residents would be relocated within the same community, no significant impacts to disabled persons are anticipated

Linguistically Isolated Population

In 2000, the Borough of Bellmawr contained 194 linguistically isolated households, which represented 1.81 percent of the total number of households within the Borough. One census block group located in an area of proposed improvements (Census Tract 6069.01, Block Group 2) has a percentage of linguistically isolated residents of 2.85 percent, which is higher than the regional threshold of 2 percent. However, none of the proposed roadways, easements, or ROW for the five build alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block Group 2 of Census Tract 6069.01 (See Table 29 for description of properties to be acquired)**.** Therefore, no impacts to linguistically isolated populations in this Block Group are anticipated.

Female Head of Household

2000 Census data indicated that 4.84 percent of the households within Bellmawr were listed as having a female as the head of household. One block group located in an area of proposed improvements (Census Tract 6069.01, Block Group 3) has a percentage of female head of households of 8.07 percent, which is greater than the regional threshold of 8 percent. However, none of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block Group 3 of Census Tract 6069.01 (See Table 29 for description of properties to be acquired). Therefore, none of the residents within this Census Block Group would be relocated by the proposed alternatives. No impacts to female head of households in this Block Group are anticipated.

Transit Dependent

The proportion of transit dependent individuals was 7.33 percent within Bellmawr in 2000. None of the listed block groups within Bellmawr contained a percentage of transit dependent commuters higher than the regional threshold. Therefore, none of the Build alternatives (D, D1, G2, H1 and K) would have a significant impact on transit dependent populations. In general the proposed alternatives would reduce regional congestion, which would result in fewer delays for public transit.

Poverty Level

The proportion of households living below the poverty level within the Borough of Bellmawr was 3.97 percent in 2000. Three of the block groups within Bellmawr were determined to have poverty levels higher than the overall Borough. Block Group 3 within Census Tract 6069.01 had an impoverished population of 7.49 percent.. Block Group 1 within Census Tract 6070 had an impoverished population of 5.53 percent. Block Group 4 within Census Tract 6070 had an impoverished population of 5.79 percent. However, the proposed improvements would not impact residents within Block Group 3 of Census Tract 6069.01 or Block Group 4 within Census Tract 6070. Four to twelve residences in Census Tract 6070, Block Group 1 would be relocated. The families in these residences can feasibly be relocated within the Bellmawr Park Mutual Housing Authority property. While these families would be temporarily inconvenienced, there would be no long term impact as they would occupy new housing in the same community.

5.1.1.1.3 Residential Displacement and Proximity Impacts

Residential Displacement

Figures 15 to 22 at the end of Section 5.0 represent the residential and proximity impacts for the five Build alternatives. Alternatives D, D1 and K would each have a total of thirteen residential property acquisitions (See Table 30 and Figures 17, 19, and 21 at the end of Section 5.0). Twelve of the thirteen properties are located within the Bellmawr Mutual Housing Authority Corporation (Parcel 1A on Table 30). The thirteenth acquisition would be located at 465 Creek Road (Parcel 11 on Table 30).

Alternatives G2 and H1 (See Figures 18 and 22 at the end of Section 5.0) would each have a total of five residential properties acquired. Four of the properties would be located within Bellmawr Mutual Housing Authority Corporation (Parcel 1A on Table 30). The fifth would be the residence located at 465 Creek Road (Parcel 11 on Table 30).

Residential Displacement Mitigation

All residential relocations will be conducted pursuant to the Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Relocation Act Amendment, effective March 2, 1989 (Chapter 50 NJ Public Laws of 1989). This law is designed to ensure the prompt and equitable relocation of persons displaced as a result of the implementation of federally funded projects. The services and payments provided to affected residents include the following:

- Assistance in finding replacement dwellings;
- Moving expense reimbursement;
- Payment of replacement housing supplements, mortgage interest rate differentials, and closing costs to assist in the purchase of a new home;
- Payment of rent supplements that may be converted to a down payment, enabling a tenant to become a homeowner;
- Last resort housing, if needed; and
- Provision of related support services and assistance.

As the Bellmawr Mutual Housing Authority Corporation owns the Bellmawr Park residences, the Corporation could be responsible for relocating residents who wish to remain in corporate housing within Bellmawr Park. New residences can be built within the existing Bellmawr Mutual Housing Authority Corporation property (See Figure 23 at the end of Section 5.0). An extensive public participation program has been conducted with Bellmawr Mutual Housing Authority Corporation., including numerous meetings with affected families. The *Summary Report* prepared in 2004 outlines this extensive public participation effort. Specifically, numerous Community Advisory Committee, Agency Coordination Meetings, Public Information Centers, Public Meetings, and Project Partnering Meetings were conducted throughout the planning process. Additional meetings with representatives from the Bellmawr Mutual Housing Authority Corporation have occurred since 2004. Furthermore, posted on the I-295/I-76/Route 42 website http://www.state.nj.us/transportation/works/studies/rt295/) are the meeting minutes for the Community Advisory Committee. Based upon input received from this outreach effort, it is assumed that those displaced residents who wish to remain in Bellmawr Park Mutual Housing will be afforded an opportunity to do so.

Within the context of the remaining stable residential neighborhoods and the availability of nearby relocation opportunities, the proposed displacement of a maximum of thirteen residential properties is not considered a significant adverse impact.

I-295 / I-76 / Route 42 Direct Connection
TABLE 30
Community Displacement and Proximity Impacts in Bellmawr

Parcel[6]	Property Owner Name/Occupant[1,2]	Block[2]	Lot[2]	Land Use Category[1]	Apt.Number[4]	Street Location[1]	Existing Lot Acres[3,4]	Proposed ROW Acquisitions[3,4]					Temporary Easements Acreage[3,4]					Permanent Easements Acreage[3,4]				
								D	G2	K	D1	H1	D	G2	K	D1	H1	D	G2	K	D1	H1
Bellmawr Properties																						
1A	Bellmawr Mutual Housing Corp	49	1 (west of I-295/Rt. 42, east of Victory Drive)	Apartments	1	Hickory Place	13.560	1.224	0.536	1.302	1.224	0.536	1.126	0.941	1.122	1.126	0.941	No Impact				
					3	Hickory Place																
					6	Hickory Place																
					8	Hickory Place																
					9	Willow Place																
					11	Willow Place																
					38	Victory Drive																
					40	Victory Drive																
					45	Victory Drive																
					47	Victory Drive																
					49	Victory Drive																
					51	Victory Drive																
1B	Bellmawr Mutual Housing Corp	49	1 (east of I-295/Rt42, west of Fir Place)	Apartments	N/A	Fir Place	3.930	0.188					0.027					0.167*				
2	Borough of Bellmawr/Bellmawr Baseball League	49	1.02	Ball Fields	N/A	Western side of I-295/Route 42	4.700	0.824	0.302	0.839	0.824	0.302	No Impact					0.036	No Impact	0.036		No Impact
3	Bellmawr of Board of Education/Bellmawr Park School	49	3	Public School	N/A	27 Peach Road	6.286	0.697	0.321	0.714	0.697	0.321	No Impact					No Impact				
4	New St. Mary's Cemetery	50	1.01	Cemetery	N/A	615 West Browning Road	49.770	6.260					0.418					No Impact				
5	Shane Helm	50.01	57	Residential	NA	201 Kennedy Boulevard	0.088	No Impact					No Impact					No Impact				
		50.01	58.01				0.175						0.049					0.049				
6	Annunciation B.V.M. Parish Church	50.04	1.01	Church	N/A	601 West Browning Road	3.441	No Impact					No Impact					No Impact				
		50.04	1.02				9.051		0.045		2.540	2.540	0.266					0.675*			0.607	0.607
7A	Borough of Bellmawr	50.05	1.01	Vacant	N/A	Bell Road	8.800	0.254	No Impact	1.059	0.254	No Impact	No Impact				0.021	No Impact				
7B	Borough of Bellmawr	50.05	3	Vacant	N/A	Bell Road		No Impact					0.032					0.088*				
7C	Borough of Bellmawr	51.11	15	Vacant	N/A	488 Windsor Drive	0.208	No Impact					0.001					0.001				
8	Marilyn nd William Orchard	51.13	1	Residential	N/A	486 Windsor Drive	0.137	No Impact					0.012					0.012				
9	Erich and Nicole Eder	51.13	2	Residential	N/A	482 Windsor Drive	0.137	No Impact					0.002					0.002				
10	Edward Shaen	51.13	25	Residential	N/A	461 Creek Road	0.137	No Impact					0.018					0.018				
11	Joanne Keleher and Mark Fisher	51.13	26	Residential	N/A	465 Creek Road	0.156	0.156					No Impact					No Impact				
12	VFW (Crescent Park Post 9563)	53	1	Community Facility	N/A	52 Essex ave	0.144	No Impact					0.026					No Impact				
13	Nicholas and Aileen Marchese	53.01	1	Residential	N/A	701 Creek Road	0.270	No Impact					0.019					No Impact				
14	Southern New Jersey Housing Corp	55	1	Business	N/A	100 Essex Avenue	0.366	No Impact					No Impact					No Impact				
		55	2				0.159	0.007	No Impact	0.007	No Impact											
15	Antonio and Vita La Sala	55	3	Residential	N/A	48 Essex Avenue	0.684	0.045	No Impact	0.045	No Impact		No Impact					No Impact				
		56	1	Vacant	N/A	153 Essex Avenue	0.074	0.091	0.004	0.091	0.004		No Impact					No Impact				
		56	2				0.088	0.050	0.006	0.050	0.006											
16	William G and Cindy L Seas	56	3	Business	N/A	44 Essex Avenue	0.245	0.245	No Impact	0.245	No Impact		No Impact					No Impact				
7D	Borough of Bellmawr	56	4	Vacant	N/A	South of Bellmawr Baseball Fields Abutting northwestern edge of I-295/Route 42 Interchange	0.171	0.075	0.013	0.075	0.013		No Impact					No Impact				
		56	5				0.132	0.118	0.047	0.118	0.047		No Impact					No Impact				
17	Sadiq and Irene Ali	57	8	Residential	N/A	80 Coolidge Avenue	0.325	0.002					No Impact					No Impact				
	Paper Road (Coolidge Avenue)				N/A	West side of I-295/Route 42 Interchange	0.105	0.113	0.069	0.113	0.069		No Impact					No Impact				
18	H and R Oil Coporation	61	1	Residential	N/A	628 Creek Road	0.091	No Impact					0.010					0.010				
		61	2				0.137	No Impact					0.015					0.015				
19	Marie Recupero	61	3	Business	N/A	620 Creek Road	0.137	No Impact					0.015					0.015				
20	Joseph P. Worts	61	4	Business	N/A	616 Creek Road	0.070	No Impact					0.001					0.001				
		61	5				0.090						No Impact					No Impact				
		61	6				0.046															
		61	7				0.046															
21	Famesi & Bisconti Partnership	62	1	Business	N/A	629 Creek Road	0.145	No Impact					0.016					0.016				
22	Jerry S. Thomas and Martha Delosso	62	1.01	Industrial	N/A	625 Creek Road	0.139	0.003					0.018					0.018				
		62	12			621 Creek Road	0.072	0.005					0.009					0.009				
23	Virginia M. Worts	62	3	Industrial	N/A	73 Coolidge Avenue	0.091	No Impact					No Impact					No Impact				
		62	4				1.360															
		62	5				0.429	0.030														
7D	Borough of Bellmawr	63	6	Vacant	N/A	Abutting I-295/Route 42	0.004	0.004					No Impact					No Impact				
		63	7				0.031	0.032					No Impact					No Impact				
24	James F. Ryan Jr.	67	1	Industrial	N/A	612 Creek Road	0.073	No Impact					No Impact					0.008				
25	Resurrection Cemetery	80	3	Cemetery	N/A	Bell Road and Anderson Avenue	3.803	0.032					0.037					0.037				
	Bellmawr Totals							10.500	8.022	11.414	12.994	10.542	2.117	1.932	2.113	2.117	1.953	1.177	1.141	1.177	1.109	1.073

Shading represents total acquisitions

N/A - Not Applicable

* The number represents the sum of multiple easement types (I.e. Utility Easement, Slope Easement, Drainage Easement, Bridge Easement).

References
1. Source: Dresdner Robin Site Reconnaissance
2. Source: Municipal Tax Records provided by New Jersey Association of County Tax Boards
3. Source: Dresdner Robin Analysis
4. Source: Dewberry Goodkind Inc. mapping
5. Source: Yahoo Web Directory (www.yahoo.com)
6. Actual Parcel Number to be assigned by NJDOT ROW Engineering during design phase

Property Acquisitions and Property Access Impacts

Alternative G2 would have the least amount of Right-of-Way (ROW) impacts for Bellmawr with 8.022 acres affected. Alternative D1 would have the greatest amount of ROW impacts with 12.994 acres affected (See Table 30 and Figures 17-22 at the end of Section 5.0).

Alternative H1 would have the least amount of permanent easement impacts for Bellmawr with 1.073 acres. Alternatives D and K would have the greatest amount of impacts with 1.177 acres affected (See Table 30). The proposed project would require the partial acquisition of several properties. None of the partial property acquisitions would affect their continued use. Any non-conforming use pertaining to the Borough of Bellmawr zoning ordinances would be addressed during the NJDOT ROW acquisition process.

Below is a listing of proximity impacts for residences and businesses. All driveway access to residential properties described below would be maintained. Community facilities are discussed in Section 5.1.1.1.4.

- Parcel 5 on Table 30 is a residence and would have vacant wooded land and part of its driveway impacted by all of the alternatives.
- Parcel 10 on Table 30 is a residential property that would have part of its driveway and residential lawn impacted by all of the alternatives.
- Parcels 21, 22 and 23 on Table 30 are businesses that would have their parking lots impacted and undeveloped land impacted by all of the alternatives.

Alternatives D, G2 and K would require the removal of Al Jo's Curve and, therefore, there is potential to reconnect open space that would no longer be divided by the roadway. This reconnection of open space would be a benefit to the community.

Long-term access restrictions would not occur for any of the alternatives. However, Willow Place, Hickory Place and Victory Drive would be reconfigured to accommodate the proposed ROW improvements on the Bellmawr Mutual Housing Corp. property (See Figures 17, 18, and 19 at the end of Section 5.0)

For Alternatives D, D1 and K, Willow Place would be shortened from its existing southern end and its connection with Browning Road would be moved west. Parking in front of the 12-15 Willow Place properties would be moved to the redesigned Willow Place. Additionally, Alternatives D, D1 and K would require the southeast portion of Victory Drive to be shortened with a curve that connects to the north with Hickory Place. After connecting to Hickory Place, Victory Drive would then extend north to terminate south of the 12-15 Willow Place properties where parking and access would also be available. Therefore, parking would be available for the 12-15 Willow Place properties on either Willow Place or Victory Drive.

For Alternatives G2 and H1, the Willow Place intersection with Browning Road would be moved west. Additionally, Alternatives G2 and H1 would require the shortening of Hickory Place but still maintain access to the residences located at the western end of the street. The Victory Drive and Hickory Place connection would be moved west of its existing configuration.

In order to achieve these roadway redesigns twelve residences (for Alternatives D, D1 and K) and four residences (for Alternatives G2 and H1), would require relocation.

Proximity to Noise Impacts

Under 2000 existing conditions, computer modeling documented that within Bellmawr a total of 68 residential (single, dual and multi-family) units, a cemetery and two recreational areas which currently possess noise levels that approach or exceed the Category B (exterior land-use) Noise Abatement Criteria (NAC). NAC levels are established by FHWA in 23 CFR 772 for various activities. When the predicted noise level approaches or exceeds the NAC as given in Table 1 of 23 CFR 772, an impact exists and mitigation must be considered. Additional impacts in Bellmawr include two schools and two church buildings currently possess interior noise levels that approach or exceed the Category E NAC (interior land-use). There are also seven commercial/industrial establishments that currently approach or exceed the Category C NAC (commercial/industrial exterior land-use).

Under each "Build" Alternative, several Category B, Category C and Category E impacts are predicted. Within this study area, Category B impacts include single, dual and multi-family residences as well as parks, playgrounds, baseball fields, and cemeteries. In order to mitigate Category B impacts, several new and replacement noise walls were proposed. Under all alternatives, impacted parks, playgrounds, baseball fields and cemeteries can be mitigated by noise walls, except for the Annunciation Regional School playground (impacted under Alternatives D1 and H1). The number of Category B single, dual and multi-family residential impacts which could not be mitigated by noise walls in Bellmawr is listed within Table 31. The remaining impacts are similar for Alternatives D, D1 and K (100, 101 and 89 respectively) and greater for Alternatives G2 and H1 (126 and 127 respectively). Under Alternatives D, D1 and K, the remaining residential impacts are mainly along the local roadways, where mitigation through noise walls is not feasible due to driveways and intersections. Under Alternatives G2 and H1, the remaining residential impacts are along local roadways as well as within certain neighborhoods where additional cost-effective mitigation near the double-decker roadway was not feasible. The visual impacts for the new and replacement noise walls are discussed in Section 5.2. Air conditioning for Category E impacts (Annunciation Regional School, Bellmawr Park School and Bell Oaks School) will be investigated during Final Design. Mitigation measures are not addressed for Category C (commercial/industrial) impacts.

I-295/I-76/Route 42 Direct Connection
TABLE 31
Comparison of Remaining Impacts within each Municipality by Alternative
(Assuming feasible mitigation is provided)

Alternative	Remaining Impacts in Bellmawr (Category B; residential)	Remaining Impacts in Mount Ephraim (Category B; residential)	Remaining Impacts in Gloucester City (Category B; residential)
D	100 total units- 29 single family; 32 dual family; 39 multi-family	44 total units- 44 single family	11 total units- 11 single family
D1	101 total units- 30 single family; 32 dual family; 39 multi-family	44 total units- 44 single family	11 total units- 11 single family
G2	126 total units- 29 single family; 50 dual family; 47 multi-family	78 total units- 76 single family; 2 dual family	11 total units- 11 single family
H1	127 total units- 30 single family; 50 dual family; 47 multi-family	78 total units- 76 single family; 2 dual family	11 total units- 11 single family
K	89 total units- 28 single family; 26 dual family; 35 multi-family	45 total units- 45 single family	11 total units- 11 single family

Air Quality

The proposed build alternatives would not increase concentrations of Carbon Monoxide that would result in any violations of the National Ambient Air Quality Standard. See the Air Technical Environmental Study for further explanation.

5.1.1.1.4 Impacts to Community Facilities and Emergency Services

Community Facilities

Five community facilities would be permanently impacted by all of the alternatives. However, all five community facilities would be able to continue to function in their present locations. These impacts are presented on Figures 17- 22 at the end of Section 5.0. The five facilities are identified in Table 30 and listed below:

- Bellmawr Baseball League. This privately-operated recreation facility is located on the east side of Essex Avenue, directly south of the Bellmawr Park School. The site abuts the I-295/I-76/Route 42 interchange along its eastern boundary. The proposed ROW impacts would range from a low of 0.302 acres for Alternative G2 and H1 to a high of 0.839 acres for Alternative K. A permanent easement in the amount of .036 acres would be required

for Alternatives D, D1 and K but not for Alternatives G2 and H1. The proposed acquisition would take land that is not needed for the use of the ball fields.

- Bellmawr Park Elementary School Playground. This public elementary school is located on a five-acre site on the corner of Victory Drive and Essex Avenue. The I-295/I-76/Route 42 interchange abuts its eastern property boundary. The site contains a ballfield and several play areas associated with the school. The proposed ROW impacts would range from a low of 0.321 acres for Alternatives G2 and H1 to a high of 0.714 acres for Alternative K. There are no proposed permanent easements for this property. The proposed acquisition would take a ballfield, which would have to be relocated. However, there is adequate space for relocation of the ballfield on the school property.
- New St. Mary's Cemetery. This nearly 50-acre site occupies much of the area on the southwest corner of the I-295/I-76/ Route 42 interchange north of Browning Road. The proposed ROW impacts would be 6.260 acres for all alternatives. The proposed acquisitions would include vacant land and one building. The building is the Harrison-Glover House and is used as an office which would be relocated on the property. No cemetery plots are anticipated to be impacted by the proposed alternatives.
- Annunciation B.V.M Church and Annunciation Regional School. This community facility is located on the north side of Browning Road, just west of the I-295/I-76/Route 42 interchange. It consists of two churches, one school building, a convent, and a rectory. The proposed ROW impacts would range from a low of 0.045 acres for Alternatives D, G2 and K to a high of 2.540 acres for Alternative D1 and Alternative H1. A permanent easement would require 0.675 acres for Alternatives D, G2 and K and 0.607 acres for Alternatives D1 and H1. The proposed acquisition on this property is land used for parking, which can be relocated on the church property.
- Resurrection Christ Cemetery. This four-acre site is located at the intersection of Anderson Avenue and Bell Road, abutting I-295. The proposed ROW impacts would be 0.032 acres for all alternatives. A permanent easement for all alternatives would require 0.037 acres. The proposed acquisition on this property is vacant land, which would not affect the cemetery plots.

Despite the proposed impacts to these community facilities, all facilities would still be operational, and, therefore, these partial acquisitions are not considered to be significant impacts. Context sensitive designs, including public participation, fencing and other architectural techniques would be developed during the final design of the project to the greatest extent possible to preserve the aesthetic, historic, community and natural environment.

Section 4(f) Recreational Facilities

According to Dresdner Robin's reconnaissance and communications with municipal representatives (March 24, 2005, July 8, 2005, August 1 and 10, September 19, 2005 and November 3, 2005), two publicly owned recreational facilities of local significance have been identified in the Bellmawr portion of the primary study area. Only one of these, the Bellmawr Park Elementary School ballfield would be impacted by the Build alternatives. A Section 4(f) statement documenting that there are no prudent and feasible alternatives and measures to minimize harm will be prepared in the Draft Environmental Impact Statement.

Emergency Services

According to correspondence with Bellmawr fire and police departments (August 1 and 10, 2005), response time may increase during construction of the interchange. However, according to construction staging information developed for each of the alternatives, all local roads would remain accessible (See Appendix B).

Once construction is completed, response time should improve as congestion on local roads would be reduced.

5.1.1.2 No Build

The lack of direct connection for through movement on I-295, significant weaving problems, deficient connecting ramps, and high volumes of traffic all result in operational deficiencies (or congestion) within and near the interchange. The diverted traffic, in turn, causes congestion on local roads, compromises traffic and pedestrian safety, lowers air and noise quality in the community and disproportionately taxes the capacity and life of local roadways.

5.1.2 Mount Ephraim

5.1.2.1 Alternatives D, D1, G2, H1 and K

5.1.2.1.1 Community Cohesion

An assessment of current development patterns was performed within the primary study area to evaluate the extent to which each alternative would adversely affect residential communities in Mount Ephraim. None of the five proposed alternatives (Alternative D, D1, G2, H1 and K) would impact the cohesion of the community within Mount Ephraim because the proposed ROW acquisitions within Mount Ephraim are limited to minor partial acquisitions that would not require any residential relocation and because the acquisitions are located at the edge of residential development. Section 5.1.2.1.3 describes acquisitions and accessibility as they pertain to Mount Ephraim. A discussion of community facility impacts in Mount Ephraim is provided in Section 5.1.2.1.4. Barriers in the form of proposed structures and noise walls are discussed in further detail in the Visual Quality/Aesthetics Section 5.2

5.1.2.1.2 Community Profile

Table 32 summarizes population information for census block groups and census blocks in which the proposed alternatives are located (See Figures 15-22 at the end of Section 5.0). The locations are the same for all five build alternatives (Alternatives D, D1, G2, H1 and K). Each census block or block group was evaluated to identify the presence of seven population categories (minority population, poverty level, senior citizens, female head of households, foreign language households, transit dependent residents and the disabled) and the potential that the proposed improvements might significantly impact any of these population groups.

I-295/I-76/Rte 42
Direct Connection
TABLE 32
Census Block Groups and Census Blocks
In Which The Proposed Improvements are Located - Mount Ephraim and Gloucester City

	Descriptions of Properties To Be Acquired	Census Block % Minority	Census Block % Senior Citizen	Census Block Group % Disabled	Census Block Group % Linguistically Isolated	Census Block Group % Female H of H	Census Block Group % Transit Dependent	Census Block Group % Poverty Level	Total Block Population
DVRPC Regional Thresholds		NA	2	7	2	8	16	NA	NA
County									
Camden		30.94	1.48	7.89	2.39	8.47	12.62	10.44	NA
Municipality									
Mount Ephraim		3.14	1.60	9.97	0.35	2.91	11.33	4.88	NA
Census Tract									
Census Tract 6054		1.67	1.40	11.18	0.29	4.57	10.54	5.18	NA
Block									
Block 1018	All alternatives - Residential Lawn vegetated with grass and small trees (Block 75, Lots 12.01 and 12.03)	[-----]	[-----]	BG1 - 13.94	[-----]	[-----]	[-----]	[-----]	60
Block 2008	All alternatives - Residential lawn vegetated with grass and small trees, (Block 123.01, Lots 2.02 and 2.05)	4.00	[-----]	BG2 - 11.74	[-----]	[-----]	[-----]	BG2 - 9.04	50
Block 2009	All alternatives - Partial paved driveway and residential lawn (Block 123.02, Lot 1.01)	[-----]	[-----]		[-----]	[-----]	[-----]		0
Block 2024	All alternatives - Wooded vacant land (Block 50.05, Lot 3)	[-----]	[-----]		[-----]	[-----]	[-----]		0
Block 2025	All alternatives - Wooded vacant land (Block 104, Lot 2.02)	[-----]	[-----]		[-----]	[-----]	[-----]		35
Block 3016	All alternatives - Wooded and grass-covered vacant land (Block 120.01, Lots 7 and 11)	[-----]	[-----]	BG3 - 7.87	[-----]	[-----]	[-----]	[-----]	83
Municipality									
Gloucester City		3.46	1.18	11.38	0.62	8.19	16.62	10.11	NA
Census Tract									
Census Tract 6052		2.93	1.03	12.52	0.41	5.41	11.96	8.94	NA
Block									
Block 2007	All alternatives - Vacant grass-covered land (Block 273.01, Lot 26)	12.85	[-----]	BG2 - 15.74	[-----]	[-----]	BG2 - 16.17	[-----]	179
Block 2010	All alternatives - Vacant grass-covered land (Block 273.01, Lot 26)	0.00	[-----]						61
Block 2013	All alternatives - Vacant grass-covered land (Block 273.01, Lot 26)	0.00	[-----]						142

Source: US Census 2000 , Dewberry Goodkind Inc. 2005, DVRPC 2002, and Dresdner Robin 2005
BG = Block Group [-----] = Percentage Below Regional Threshold NA = Not Applicable

For senior citizens, female head of households, foreign language households and disabled, census blocks or block groups with populations above the DVRPC regional thresholds were identified and discussed below. Minority populations and income impacts are based on the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994 and are discussed below and in Section 5.6.

As part of the analysis, census blocks and census block groups with populations above the DVRPC regional thresholds or the Executive Order 12898 Environmental Justice criteria were studied to determine whether they contained proposed improvements, and, if so, to identify the location of the proposed work in relation to the existing populations.

In Mount Ephraim, the five build alternatives (Alternatives D, D1, G2, H1 and K) would require a minor acquisition on one residential property on Bell Road (Parcel 28) and permanent easements on this property and four other properties along Kings Highway (Parcels. 26, 29, 30, and 31). Only the disabled population category was identified as having a percentage above the DVRPC regional threshold. However, the Mount Ephraim Senior Housing was constructed after the 2000 census so potential impacts to this facility are discussed below. Based on the information provided in section 4.2.1 there is no need to discuss potential impacts to female head of households, foreign language households and transit dependent residents in Mount Ephraim.

Minority Populations

2000 Census data indicated that the Borough of Mount Ephraim had a minority population of 3.14 percent in 2000. Only one listed block contained a greater proportion of minorities than the overall Borough. Block 2008 within Census Tract 6054 contained a minority population of 4.00 percent. None of the proposed roadways, easements, or ROW for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block 2008 of Census Tract 6054 (See Table 32 for description of properties to be acquired). Therefore, none of the residents within the census block would be relocated by the proposed alternatives.

Senior Citizen

The Mount Ephraim Senior Housing is located along the west side of I-76 and Kings Highway (Census Tract 6054, Block Group 2). None of the proposed improvements for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures or access within Block Group 2 of Census Tract 6054 (See Table 32 for description of properties to be acquired), including the Senior Housing. Therefore, no impacts are anticipated to the residents of the Senior Housing facility. Furthermore, for the Build Alternatives that include the removal of Al Jo's Curve (Alternatives D, G2 and K), a benefit would be perceived by the residents of the senior housing. By removing Al Jo's Curve, the residents would be able to congregate behind the facility without the close proximity of vehicles and/or the noise associated with the vehicles.

Disabled

In 2000, Census Data indicated that 9.97 percent of the population within Mount Ephraim was physically disabled. Census Tract 6054, Block Groups 1, 2 and 3 had percentages of physically disabled persons of 13.94 percent, 11.74 percent and 7.87 percent respectively, higher than the regional threshold of 7 percent. However, none of the proposed roadways, easements, or ROW for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures or access within Block Groups 2 and 3 of Census Tract 6054 (See Table 32 for description of properties to be acquired). All of the acquisitions are on undeveloped portions of the property and access to the residences would be maintained. Therefore, there would be no impacts to disabled persons living in this area from the proposed alternatives.

Poverty

The proportion of households living below the poverty level within Mount Ephraim was 4.88 percent in 2000. One block group within Mount Ephraim was determined to have a poverty level higher than the overall Borough. Block Group 2 within Census Tract 6054 had an impoverished population of 9.04 percent. However, the proposed improvements would not impact residents within Block Group 2 of Census Tract 6054. None of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures within Block Group 2 of Census Tract 6054 (See Table 32 for description of properties to be acquired). Therefore, none of the residents within this Census Block Group would be relocated by the proposed alternatives.

5.1.2.1.3 Residential Displacement and Proximity Impacts

Residential Displacement

There would be no residential displacements in Mount Ephraim from any of the five alternatives.

Property Acquisitions and Property Access Impacts

All five build alternatives (D, D1, G2, H1, and K) would require 0.025 acres of ROW partial acquisitions and 0.218 acres of permanent easement within Mount Ephraim. These partial acquisitions and easements represent minor impacts in Mount Ephraim. Any non-conforming use pertaining to the Borough of Mount Ephraim zoning ordinances would be addressed during the NJDOT ROW acquisition process.

Below is a listing of proposed proximity impacts for the residences (See Table 33). All driveway access to residential properties would be maintained.

- Parcel 26 - lawn and wooded land
- Parcel 28- lawn and driveway entrance
- Parcel 29 - lawn
- Parcel 30 - lawn
- Parcel 31- lawn

Long-term access restrictions would not occur for any of the alternatives.

I-295 / I-76 / Route 42 Direct Connection
TABLE 33
Community Displacement and Proximity Impacts in Mt. Ephraim and Gloucester City

Parcel[6]	Property Owner Name/Occupant[1,2]	Block[2]	Lot[2]	Land Use Category[1]	Apt.Number[4]	Street Location[1]	Existing Lot Acres[3,4]	Proposed ROW Acquisitions[3, 4]					Temporary Easements Acreage [3, 4]					Permanent Easements Acreage [3, 4]				
								D	G2	K	D1	H1	D	G2	K	D1	H1	D	G2	K	D1	H1
Mt. Ephraim Properties																						
26	Joan and Larry Lefczik	75	12.01	Residential	N/A	1209 W. Kings Highway	0.090	No Impact					No Impact					0.014				
			12.03	Residential	N/A	1209 W. Kings Highway	0.232	No Impact					No Impact					0.010				
27	State of New Jersey	104	2.02	Vacant	N/A	Abutting the north side of I-295 and the west side of Bell Road	0.784	No Impact					0.088					0.088				
28	Albert L. Bisaga	120.01	7	Residential	N/A	904 Bell Road	0.854	0.023					0.023					0.023				
		120.01	11	Same as Above	N/A	Same as above	0.126	0.002					0.003					0.003				
29	Ruth Rowan	123.01	2.02	Residential	N/A	1204 W. Kings Highway	0.350	No Impact					No Impact					0.030				
30	Dolores Cucinotti	123.01	2.05	Residential	N/A	1200 W. Kings Highway	0.247	No Impact					No Impact					0.014				
31	John D. West Senior Center	123.02	1.01	Residential	N/A	1242 W. Kings Highway	3.500	No Impact					No Impact					0.025				
32	Borough of Mt. Ephraim	123.02	1.02	Vacant	N/A	W. Kings Highway	0.086	No Impact					No Impact					0.011				
Mt. Ephraim Totals								**0.025**					**0.114**					**0.218**				
Gloucester City Properties																						
33	State of New Jersey	273.01	26	Public	N/A	1499 Chestnut Avenue	0.112	No Impact					No Impact					0.049				
Gloucester City Totals								**No Impact**					**No Impact**					**0.049**				

Shading represents total acquisitions
N/A - Not Applicable
* The number represents the sum of multiple easement types (I.e. Utility Easement, Slope Easement, Drainage Easement, Bridge Easement).

References
1. Source: Dresdner Robin Site Reconnaissance
2. Source: Municipal Tax Records provided by New Jersey Association of County Tax Boards
3. Source: Dresdner Robin Analysis
4. Source: Dewberry Goodkind Inc. mapping
5. Source: Yahoo Web Directory (www.yahoo.com)
6. Actual Parcel Number to be assigned by NJDOT ROW Engineering during design phase

Proximity to Noise Impacts

Under 2000 existing conditions, computer modeling documented that within Mount Ephraim a total of 102 residential (single, dual and multi-family) units are present which currently possess noise levels that approach or exceed the Category B (exterior land-use) Noise Abatement Criteria (NAC). NAC levels are established by FHWA in 23 CFR 772 for various activities. When the predicted noise level approaches or exceeds the NAC as given in Table 1 of 23 CFR 772, an impact exists and mitigation must be considered.

Under each "Build" Alternative, several Category B, Category C and Category E impacts are predicted. Within this study area, Category B impacts included single, dual and multi-family residences as well as parks, playgrounds, baseball fields, and cemeteries. In order to mitigate Category B impacts, several new and replacement noise walls are proposed. The number of Category B single and dual residential impacts which could not be mitigated by noise walls in Mount Ephraim is listed within Table 31. The remaining impacts are similar for Alternatives D, D1 and K (44, 44 and 45 respectively) and greater for Alternatives G2 and H1 (78 for both alternatives). Under Alternatives D, D1 and K, the remaining residential impacts are mainly along the local roadways, where mitigation through noise walls is not feasible due to driveways and intersections. Under Alternatives G2 and H1, the remaining residential impacts are along local roadways as well as within certain neighborhoods where additional cost-effective mitigation near the double-decker roadway was not feasible. The visual impacts for the new and replacement noise walls are discussed in Section 5.2.

Air Quality

The proposed build alternatives would not increase concentrations of Carbon Monoxide that would result in any violations of the National Ambient Air Quality Standard. See the Air Technical Environmental Study for further explanation.

5.1.2.1.4 Impacts to Community Facilities and Emergency Services

Community Facilities

Based on the five build alternatives and the locations of the proposed improvements, there would be no impacts to community facilities.

Emergency Services

According to correspondence with Mount Ephraim fire and police departments (August 1, 2005), response time may increase during construction of the interchange. Both agencies expressed concern about access to local streets, especially Kings Highway. However, according to construction staging information developed for each of the alternatives all local roads would remain accessible (See Appendix B). Once construction is completed, response time should improve as congestion on Kings Highway would be reduced.

5.1.2.2 No Build

The lack of direct connection for through movement on I-295, significant weaving problems, deficient connecting ramps, and high volumes of traffic all result in operational deficiencies (or congestion) within and near the interchange. The diverted traffic, in turn, causes congestion on local roads, compromises traffic and pedestrian safety, lowers air and noise quality in the community and disproportionately taxes the capacity and life of local roadways.

5.1.3 Gloucester City

5.1.3.1 Alternatives D, D1, G2, H1 and K

5.1.3.1.1 Community Cohesion

An assessment of current development patterns was performed within the primary study area to determine the extent to which each alternative would adversely affect residential communities in Gloucester City. None of the five proposed alternatives (Alternative D, D1, G2, H1 and K) would impact the cohesion of the community within the primary study area because only a permanent easement on publicly owned land is proposed. Section 5.1.3.1.3 describes acquisitions and accessibility as they pertain to Gloucester City. A discussion of community facility impacts in Gloucester City is provided in Section 5.1.3.1.4. Barriers in the form of proposed structures and noise walls are discussed in further detail in the Visual Quality/Aesthetics Section 5.2.

5.1.3.1.2 Community Profile

Table 32 summarizes population information for census block groups and census blocks in which the proposed alternatives are located. The locations are the same for all five build alternatives (Alternatives D, D1, G2, H1 and K) (See Figures 15-22 at the end of Section 5.0). Each census block or block group was evaluated to identify the presence of seven population categories (minority population, poverty level, senior citizens, female head of households, foreign language households, transit dependent residents and the disabled) and the potential that the proposed improvements might significantly impact any of these population groups.

For senior citizens, female head of households, foreign language households and disabled, census blocks or block groups with populations above the DVRPC regional thresholds were identified and discussed below. Minority populations and income impacts are based on the Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994 and are discussed below and in Section 5.6.

As part of the analysis, census blocks and census block groups with populations above the DVRPC regional thresholds or the Executive Order 12898 Environmental Justice criteria were studied to determine whether they contained proposed improvements, and, if so, to identify the location of the proposed work in relation to the existing populations.

Within Gloucester City, only disabled and transit dependent categories were identified as having a population greater than the DVRPC thresholds or the environmental justice criteria.

Disabled

In 2000, Census Data indicated that 11.38 percent of the population within Gloucester City was physically disabled. Census Tract 6052, Block Group 2 had a percentage of physically disabled persons of 15.74 percent which is higher than the regional threshold of 7 percent. However, none of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures or access within Block Group 2 of Census Tract 6052 (See Table 32 for description of properties to be acquired). Therefore, no impacts are anticipated to disabled persons in this Block Group.

Transit Dependent

The proportion of transit dependent individuals was 16.62 percent within Gloucester City in 2000. Census Block 2 within Census Tract 6052 contained a percentage of transit dependent commuters of 16.17 percent which is higher than the regional threshold of 16 percent. However, none of the proposed roadways, easements, or right-of-ways for the five alternatives (Alternatives D, D1, G2, H1 and K) would cause any alterations to residential structures or access within Block Group 2 of Census Tract 6052 (See Table 32 for description of properties to be acquired). Therefore, no impacts to transit dependent populations in this Block Group are anticipated. In general, the proposed improvements would reduce regional congestion which would result in fewer delays for public transit.

5.1.3.1.3 Residential Displacement and Proximity Impacts

Residential Displacement

There would be no residential displacements in Gloucester City from any of the five build alternatives (See Table 33).

Proximity Impacts

There would be no ROW acquisition impacts from any of the five build alternatives within Gloucester City.

Each of the five alternatives requires a permanent easement of .049 acres on one state-owned property in Gloucester City. This permanent easement represents a minor impact.

Proximity to Noise Impacts

Under 2000 existing conditions, computer modeling documented that within Gloucester City a total of 7 single residential units are present which currently possess noise levels that approach or exceed the Category B (exterior land-use) Noise Abatement Criteria (NAC). NAC levels are established by FHWA in 23 CFR 772 for various activities. When the predicted noise level approaches or exceeds the NAC as given in Table 1 of 23 CFR 772, an impact exists and mitigation must be considered.

Under each "Build" Alternative, several Category B, and Category C impacts were predicted throughout the study area. Within this study area, Category B impacts included single, dual and multi-family residences as well as parks, playgrounds, baseball fields, and cemeteries. In order to mitigate Category B impacts, several new and replacement noise walls were proposed. Table 31 illustrates that eleven single-family residential units remain impacted under each alternative, since mitigation through noise walls is not feasible due to driveways and intersections. The visual impacts for the new and replacement noise walls are discussed in Section 5.2.

5.1.3.1.4 Impacts to Community Facilities and Emergency Services

Community Facilities

There would be no impacts to community facilities from any of the five alternatives.

Emergency Services

According to emergency response personnel at Gloucester City (August 25, 2005), they have concerns regarding emergency access to the elevated portions of Alternative G2 and H1. Additionally, concerns were raised about the transportation of hazardous materials through what had previously been described as the "tunnel" portion of Alternative K. Access for emergency vehicles would be available for all alternatives, and according to federal regulations Alternative K does not have any tunnel portions.

5.1.3.2 No Build

The lack of direct connection for through movement on I-295, significant weaving problems, deficient connecting ramps, and high volumes of traffic all result in operational deficiencies (or congestion) within and near the interchange. The diverted traffic, in turn, causes congestion on local roads, compromises traffic and pedestrian safety, lowers air and noise quality in the community and disproportionately taxes the capacity and life of local roadways.

5.2 Visual Quality/Aesthetics

The proposed project would introduce numerous structures throughout the interchange. These structures would include bridges and approaches, elevated roadways on fill with retaining walls and noise walls. Most of the proposed structures would be elevated roadways. To assess visual impacts, a balloon survey was conducted on April 27, 2004. A description of the balloon survey, based on information developed for the Historic Architectural Resources TES, is provided in Appendix C. As discussed in Appendix C, balloons were set up at four locations at different heights to represent the heights of the roadway structures of the proposed alternatives. Based on the findings of the balloon study, photographic simulations were developed to represent the study area and illustrate the height of the proposed structures. The visual impact analysis of roadway structures and noise walls were based on these balloon station locations, as represented by the photographic simulations, and are described below. For reference, a one story building is approximately ten feet high; therefore, a structure thirty feet high is approximately three stories

high. Context sensitive designs, including public participation and other architectural techniques would be developed during the final design of the project to the greatest amount possible to preserve the aesthetic, historic, community and natural environment.

5.2.1 Bellmawr

5.2.1.1 Alternatives D, D1, and K

The balloon stations were at the following locations:

- Location 1- Along I-295 south of Shining Star Park
- Location 2- Harrison –Glover House (Cemetery)
- Location 3- I-295 and Browning Road
- Location 4- Bellmawr Baseball Field

Based on the balloon survey, the approximate areal extent where the structures would be visible to some degree is shown in Attachment C of Appendix C. In general, for Alternatives D, D1 and K the proposed roadway structures would be visible in the Bellmawr Park community on the west side of the I-295 interchange in the vicinity of Victory Drive and Peach Road and on the east side of I-295 to the vicinity of Dewey Road. The proposed structures would also be visible across New St. Mary's Cemetery to the vicinity of Kennedy Boulevard.

Based on the field observations made during the balloon study, photographic simulations were developed at seven locations (five in Bellmawr and two in Mount Ephraim) to illustrate how the proposed structures and noise walls would appear after construction (See Exhibit 1 at the end of Section 5.2 and Figure 24 at the end of Section 5.0). Below is a discussion of each Bellmawr photographic simulation location. Table 34 presents the heights of the proposed structures and noise walls for each alternative at the seven photographic simulation locations.

Bellmawr Baseball League

This photographic simulation location is at the western edge of the property looking east towards I-76 and Route 42. Presently, the area beyond the ballfields is overgrown vegetation and the existing roadway is obscured by the vegetation (Photograph 1). This area is classified as being moderately sensitive. West of the ballfields are wetlands, the fire department and the Bellmawr Mutual Housing Corp. administrative building. All of the proposed alternatives would require the removal of the vegetation. Alternatives D and D1 (Photograph 2) would replace the vegetation with the Ramp F portion of the elevated roadway and a retaining wall approximately 30 feet high. Alternative K would replace the vegetation with numerous structures including Ramp F in the foreground and Ramp E in the background. Ramp F and the retaining wall gradually rise to a height of 30 feet in the vicinity of the southern edge shown in the photographic simulation (Photograph 4).

Noise walls would be constructed on top of the proposed roadway structures for Alternatives D, D1 and K. The height of the noise walls in this location would be 18 feet for Alternatives D and D1, and 18 feet in the foreground and 21 feet in the background for Alternative K.

The combined height within this viewshed of the proposed retaining walls, and/or bridges and noise walls would be 48 feet for Alternatives D and D1. Due to the placement of noise walls located in both the foreground and background for Alternative K, the combined height would range from 48 feet to 51 feet.

I-295/I-76/Rte 42
Direct Connection
TABLE 34
Summary of Roadway Structure and Noise Wall Heights at Photo-Simulation Locations

Photo-Simulation No.	Viewpoint Location	Alternative	Approximate Height of Roadway Structure (ft)	Approximate Height of Noise Wall (ft)	Combined Height (ft)
2	Bellmawr Baseball Fields	Alternatives D and D1	30	18	48
3	Bellmawr Baseball Fields	Alternatives G2 and H1	60	18	78
4	Bellmawr Baseball Fields *	Alternative K	30	18F and 21B	48F and 51B
6	Bellmawr Park School	Alternatives D and D1	30	18	48
7	Bellmawr Park School	Alternatives G2 and H1	60	12	72
8	Bellmawr Park School	Alternative K	30	13F and 25B	43F and 55B
10	Browning Road from Annunciation Church	Alternatives D and D1	30	15	45
11	Browning Road from Annunciation Church	Alternatives G2 and H1	60	11	71
12	Browning Road from Annunciation Church	Alternative K	30	13	43
14	Ramp E from Flanders Road	Alternatives D and D1	25	23	48
15	Ramp E from Flanders Road	Alternatives G2 and H1	25	23	48
16	Ramp E from Flanders Road	Alternative K	25	21	46
18	Browning Road from New St. Mary's Cemetery Driveway	Alternatives D and D1	30	19	49
19	Browning Road from New St. Mary's Cemetery Driveway	Alternatives G2 and H1	60	12	72
20	Browning Road from New St. Mary's Cemetery Driveway	Alternative K	30	13	43
22	I-295/Little Timber Creek from Shining Star Park	Alternatives D and D1	0	15	15
23	I-295/Little Timber Creek from Shining Star Park	Alternatives G2 and H1	50	0	50
24	I-295/Little Timber Creek from Shining Star Park	Alternative K	0	11	11
26	Bell Road from North of Emerson Avenue	Alternatives D and D1	0	0	0
27	Bell Road from North of Emerson Avenue	Alternatives G2 and H1	30	0	30
28	Bell Road from North of Emerson Avenue	Alternative K	0	0	0

* Height of the roadway structure varies in this area. Number for the roadway structure represents the maximum height.

F- Foreground

B-Background

Bellmawr Park School

This photographic simulation location is to the west of the school property looking east. Presently, beyond the school property is overgrown vegetation (Photograph 5). This area is classified as being moderately sensitive. Residential development is west of this location. For Alternatives D and D1, an entrance ramp for Ramp F is in the foreground and the mainline southbound I-295 elevated road is in the background. These structures would be on fill with a proposed height of approximately 30 feet (Photograph 6). Alternative K has an elevated roadway structure proposed on the far side of the roadway with a maximum height of approximately 30 feet (Photograph 8).

Noise walls would be constructed on top of the proposed roadway structures for Alternatives D, D1 and K. The highest portions of the noise walls in this location would be 18 feet for Alternatives D and 13 feet in the foreground and 25 feet in the background for Alternative K.

The combined height within this viewshed of the entrance ramp in the foreground, an elevated road behind this ramp and the noise walls would be 48 feet for Alternatives D and D1. Due to the placement of noise walls on top of the elevated roadway located in both the foreground and background for Alternative K, the combined height would range from 43 feet to 55 feet.

Browning Road from Annunciation Church

This photographic simulation is located along Browning Road looking east. Presently, Browning Road traverses the I-295 interchange with commercial development along both sides of the road. Beyond the road is residential development (Photograph 9). This area is classified as being moderately sensitive. For Alternatives D, D1 and K, the I-295 mainline at approximately 30 feet is proposed over Browning Road (Photographs 10 and 12).

Noise walls would be constructed on top of the proposed roadway structures for Alternatives D, D1 and K. The highest portions of the noise walls in this location would be 15 feet for Alternatives D and D1, and 13 feet for Alternative K. For Alternatives D and D1, noise walls would be constructed on both sides of the proposed roadway. The noise wall for Alternative K would only exist on a portion of the structure crossing over Browning Road.

The combined height within this viewshed of the elevated roadway and the noise walls would be 45 feet for Alternatives D and D1, and 43 feet for Alternative K.

Ramp E from Flanders Road

This photographic simulation is located on Flanders Road looking west towards the existing roadway. Presently, vegetation and a noise wall are present along the existing roadway (Photograph 13). Residential development is throughout this area and the visual quality of this area is designated as being of moderate sensitivity. For Alternatives D, D1 and K (Photographs 14 and 16), a larger structure, in the form of a retaining wall, is proposed at a height of approximately 25 feet.

Noise walls would be constructed on top of the proposed retaining wall for Alternatives D, D1 and K. The highest portions of the noise walls in this location would be 23 feet for Alternatives D and D1, and 21 feet for Alternative K.

The combined height within this viewshed of the proposed retaining wall and the noise walls would be 48 feet for Alternatives D and D1, and 46 feet for Alternative K.

Browning Road from New St. Mary's Cemetery Driveway

This photographic simulation is located along Browning Road looking west. Presently, Browning Road traverses the I-295 interchange with commercial development fronting along the road. Beyond the commercial development along Browning Road is residential development (Photograph 17). This area is classified as being moderately sensitive. For Alternatives D, D1 and K, an elevated road at approximately 30 feet is proposed over Browning Road (Photographs 18 and 20).

Noise walls would be constructed on top of the proposed roadway structures for Alternatives D, D1 and K. The greatest height of the noise walls in this location would be 19 feet for Alternatives D and D1, and 13 feet for Alternative K. The noise wall for Alternative K would only exist on a portion of the structure crossing over Browning Road.

The combined height within this viewshed of the proposed elevated roadway and the noise walls would be 49 feet for Alternatives D and D1 and 43 feet for Alternative K.

The overall effect of the proposed project on the current visual context would be to replace the existing interchange roadway network with numerous elevated roadway structures and noise walls. The height of the new structures, including noise walls, proposed for Alternatives D, D1 and K in Bellmawr would range from a low of 43 feet to 49 feet. The community would have the opportunity to decide whether the noise walls should be constructed.

5.2.1.2 Alternatives G2 and H1

Based on the balloon survey the approximate areal extent where the structures would be visible to some degree is shown in Attachment C of Appendix C. In general, for Alternatives G2 and H1, the proposed structures would be visible in the Bellmawr Park community on the west side of the I-295 interchange in the vicinity of Victory Drive and Peach Road (similar to Alternatives D, D1, and K). However, on the east side of I-295, they would be visible beyond Dewey Road to the vicinity of Midway Lane. The proposed structures would also be visible across New St. Mary's Cemetery to the vicinity of North Bell Road.

Based on the field observations made during results of the balloon study, photographic simulations were developed at seven locations (five in Bellmawr and two in Mount Ephraim) to illustrate how the proposed structures and noise walls would appear after construction (See Exhibit 1 and Figure 24 at the end of Section 5.0). Below is a discussion of each Bellmawr photographic simulation location. Table 34 presents the heights of the proposed structures and noise walls for each alternative.

Bellmawr Baseball League

This photographic simulation location is at the western edge of the property looking east toward I-76 and Route 42. Presently, the area beyond the ball fields is overgrown vegetation and the existing roadway is obscured by the vegetation (Photograph 1). This area is classified as being moderately sensitive. West of the ball fields are wetlands, the fire department and the Bellmawr Mutual Housing Corp. administrative building. Both alternatives would require the removal of the vegetation. Alternatives G2 and H1 would replace the vegetation with Ramp F on structure which would include piers present beyond the outfield fence at a height of approximately 60 feet (Photograph 3). Northbound I-295 is represented on the left side of the photograph.

Noise walls would be constructed on top of the proposed roadway structures for Alternatives G2 and H1. The height of the noise walls in this location would be 18 feet for Alternatives G2 and H1.

The combined height of the proposed roadway structures and the noise walls located along the elevated roadway (Ramp F) for Alternatives G2 and H1 would be 78 feet. The supported structures and unoccupied area beneath the elevated roadway would increase the intrusiveness of the visual impacts by creating an underutilized and permanently compromised area.

Bellmawr Park School

This photographic simulation location is to the west of the school property looking east. Presently, beyond the school property is overgrown vegetation (Photograph 5). This area is classified as being moderately sensitive. Residential development is west of this location. An elevated road with a pier supported entrance ramp (Ramp F) is proposed for Alternatives G2 and H1 at a height of approximately 60 feet (Photograph 7). The stacked I-295 mainline is presented on the left side of the photograph.

Noise walls would be constructed on top of both the entrance ramp and the proposed roadway structures for Alternatives G2 and H1. The highest portions of only the noise walls in this location would be 12 feet for Alternatives G2 and H1.

The combined height of the entrance ramp, proposed elevated roadway and the noise walls for Alternatives G2 and H1 would be 72 feet. The presence of the supporting structures beneath the elevated roadway would result in a confining and intrusive view by creating an underutilized and permanently compromised area.

Browning Road from Annunciation Church

This photographic simulation is located along Browning Road looking east. Presently, Browning Road traverses the I-295 interchange with commercial development along both sides of the road. Currently, there is a clear view across Browning Road (Photograph 9). Beyond the road is residential development. A double decker roadway (I-295 mainline), which includes support columns, is proposed in this area over Browning Road for Alternatives G2 and H1 at a height of 60 feet (Photograph 11).

Noise walls would be constructed on top of the proposed roadway structures for Alternatives G2 and H1. The highest portions of only the noise walls in this location would be 11 feet for Alternatives G2 and H1.

The combined height of the proposed roadway structures and noise walls provided for Alternatives G2 and H1 would be 71 feet. The view within this area would include two levels of elevated roadway structures with supporting columns and noise walls provided on each level of the proposed elevated roadway. The stacked roadway structure and noise walls would substantially restrict the line of vision along Browning Road by inhibiting the ability to see through to the other side of Browning Road. A "tunneling" effect would occur because the only viewable space is either directly along Browning Road or above the two levels of elevated roadway structures.

Ramp E from Flanders Road

This photographic simulation is located on Flanders Road looking west towards the existing roadway. Presently, vegetation and a noise wall are present along the existing roadway (Photograph 13). Residential development is throughout this area and the visual quality of this area is designated as being moderately sensitive. For both alternatives (Photographs 14 and 16) a retaining wall is proposed at a height of approximately 25 feet.

Noise walls would be constructed on top of the proposed roadway structures for Alternatives G2 and H1. The highest portions of the noise walls in this location would be 23 feet for Alternatives G2 and H1.

The combined height of the proposed wall and the noise walls for Alternatives G2 and H1 would be similar to Alternatives D and D1 at 48 feet.

Browning Road from New St. Mary's Cemetery Driveway

This photographic simulation is located along Browning Road looking west. Presently, Browning Road traverses the I-295 interchange with commercial development along both sides of the road. Beyond the road is residential development (Photograph 17). This area is classified as being moderately sensitive. A double decker (I-295 mainline), roadway which includes support columns is proposed in this area over Browning Road for Alternatives G2 and H1 (Photograph 19). The height of this structure would be approximately 60 feet.

Noise walls would be constructed on top of the proposed roadway structures for Alternatives G2 and H1. The highest portions of the noise walls in this location would be 12 feet for Alternatives G2 and H1.

The combined height of the proposed roadway structures with noise walls provided on each of the elevated roadways for Alternatives G2 and H1 would be 72 feet. The view within this area would include two levels of elevated roadway structures with supporting columns and noise walls provided on each level of the proposed elevated roadway. The stacked roadway structure and noise walls would substantially restrict the line of vision along Browning Road.

The overall effect of the proposed project on the current visual context would be to replace the existing interchange roadway network with numerous elevated roadway structures which would most likely include noise walls. The maximum height of the new structures proposed for Alternatives G2 and H1 in Bellmawr would range from a low of 48 feet for the area east of Ramp E from Flanders Road to 78 feet.

Conclusion

From a visual perspective, Alternatives D, D1 and K would be preferable because new single level structures are proposed compared to Alternatives G2 and H1 which propose new two level structures. The extent of the visual impact would be significantly greater for G2 and H1 compared to Alternatives D, D1 and K. The communities will have the opportunity to decide whether the noise walls should be constructed.

5.2.1.3 No Build

The existing views of the I-295/I-76/Route 42 interchange would remain.

5.2.2 Mount Ephraim

5.2.2.1 Alternatives D, D1 and K

The proposed project would introduce numerous structures throughout the interchange. To assess visual impacts, a balloon survey was conducted on April 27, 2004. Four balloon stations were located throughout the proposed roadway alignment. The stations were at the following locations:

- Location 1- Along I-295 south of Shining Star Park
- Location 2- Harrison –Glover House (Cemetery)
- Location 3- I-295 and Browning Road
- Location 4- Bellmawr Baseball Field

Balloons were set up at each station at different heights to represent the heights of the roadway structures of proposed alternatives.

Based on the balloon survey, the approximate areal extent where the structures would be visible to some degree is shown in Attachment C of Appendix C. In general, for Alternatives D, D1 and K the proposed structures would be visible from Shining Star Park and in the vicinity of Emerson Avenue between Shining Star Park and Bell Road. Additionally, the proposed structures would be visible from the Mount Ephraim Girls Softball fields located off of Kings Highway.

Based on the field observations made during of the balloon study, photographic simulations were developed at seven locations (five in Bellmawr and two in Mount Ephraim) to illustrate how the proposed structures and noise walls (See Exhibit 1 and Figure 24 at the end of Section 5.0). Below is a discussion of each Mount Ephraim photograph simulation location followed by a discussion of the proposed noise walls within the viewshed. Table 34 presents the heights of the proposed structures and noise walls for each alternative.

I-295/Little Timber Creek from Shining Star Park

This photographic simulation is located north of Little Timber Creek looking south across I-295. Presently, beyond the park property (looking south) is vegetation (Photograph 21). This area is classified as being highly sensitive. Residential development is located north of this location. No elevated roadway structure is proposed within this viewshed for Alternatives D and D1 (Photograph 22). Alternative K would be minimally elevated with vegetation (Photograph 24).

Ground noise walls would be constructed across the interchange along proposed I-295 northbound for Alternatives D and D1 at a height of 15 feet. A noise wall would be proposed in this area for Alternative K at a height of 11 feet.

Bell Road from North of Emerson Avenue

This photographic simulation is located on Bell Road in Mount Ephraim looking south. Presently, residential development is along Bell Road and it traverses over I-295 (Photograph 25). This area is classified as being moderately sensitive. For Alternatives D, D1, and K the existing Bell Road would be raised slightly and no noise walls are proposed within the view shown in the photographic simulation (Photographs 26 and 28).

5.2.2.2 Alternatives G2 and H1

Based on the balloon survey, the approximate areal extent where the structures would be visible to some degree is shown in Attachment C in Appendix C. In general, for Alternatives G2 and H1, the proposed structures, including a stacked I-295 mainline, would be visible beyond Shining Star Park to the vicinity of Linwood Avenue. Similar to Alternatives D, D1 and K, the proposed structures would be visible from the Girls Softball fields located off of Kings Highway.

Based on the results of field observations made during the balloon study, photographic simulations were developed at seven locations (five in Bellmawr and two in Mount Ephraim) to illustrate how the proposed roadway structures and noise walls (See Exhibit 1 and Figure 24 at the end of Section 5.0). Below is a discussion of each Mount Ephraim photograph simulation location.

I-295/Little Timber Creek from Shining Star Park

This photographic simulation is located north of Little Timber Creek looking south across I-295. Presently, beyond the park property (looking south) is vegetation (Photograph 21). This area is classified as being highly sensitive. Residential development is located north of this location. For Alternatives G2 and H1, I-295 mainline northbound and southbound above, is proposed at a height of approximately 50 feet, in relation to Shining Star Park (Photograph 23). Support columns would also be visible within this viewshed. No noise walls are proposed on these structures in this location for either alternative. However, noise walls are proposed beyond these structures along I-295 northbound.

Bell Road from North of Emerson Avenue

This photographic simulation is located on Bell Road in Mount Ephraim looking south. Presently, residential development is along Bell Road and it traverses over I-295 (Photograph 25). This area is classified as being moderately sensitive. For Alternatives G2 and H1 an elevated road (I-295 mainline southbound) is proposed at a height of approximately 30 feet above a slightly raised Bell Road (Photograph 27). No noise walls would be built in this location for either alternative within the view shown in the photographic simulation.

The overall effect of the proposed project on the current visual context would be to replace the existing interchange roadway network with numerous elevated roadway structures and noise walls. In Mount Ephraim, Alternatives G2 and H1 would introduce new structures 30 to 50 feet high. The community would have the opportunity to decide whether the noise walls should be constructed.

Conclusion

From a visual perspective, Alternatives D, D1 and K would be preferable because new single level structures are proposed compared to Alternatives G2 and H1 which propose new two level structures. The extent of the visual impact would be significantly greater for G2 and H1 compared to Alternatives D, D1 and K. The communities will have the opportunity to decide whether the noise walls should be constructed.

5.2.2.3 No Build

The existing views of the I-295/I-76/Route 42 interchange would remain.

5.2.3 Gloucester City

Based on the balloon survey, the proposed roadway structures in the five build alternatives would not be visible from Gloucester City.

5.2.3.1 No Build

The existing views of the I-295/I-76/Route 42 interchange would remain.


I-76/Route 42 from
Bellmawr Baseball Fields
Photograph 1
Existing Conditions


I-76/Route 42 from
Bellmawr Baseball Fields
Photograph 2
Alternative D, D1


I-76/Route 42 from
Bellmawr Baseball Fields
Photograph 3
Alternative G2, H1

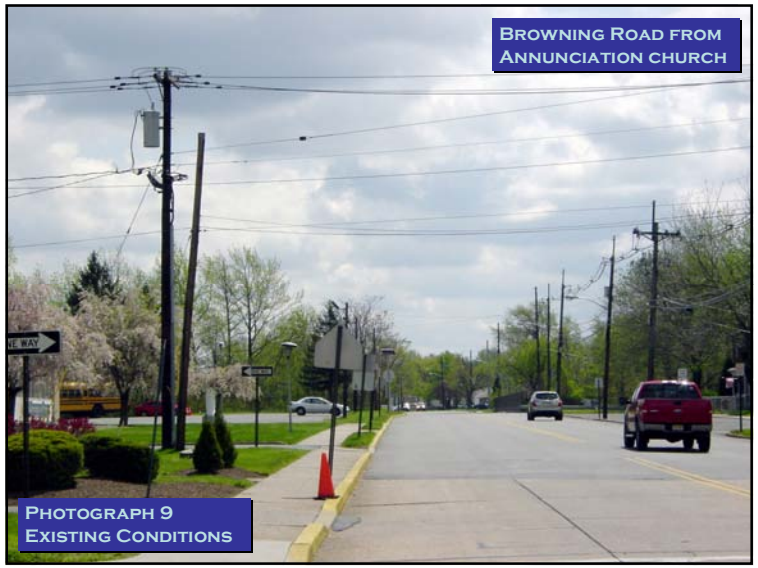

I-76/Route 42 from
Bellmawr Baseball Fields
Photograph 4
Alternative K

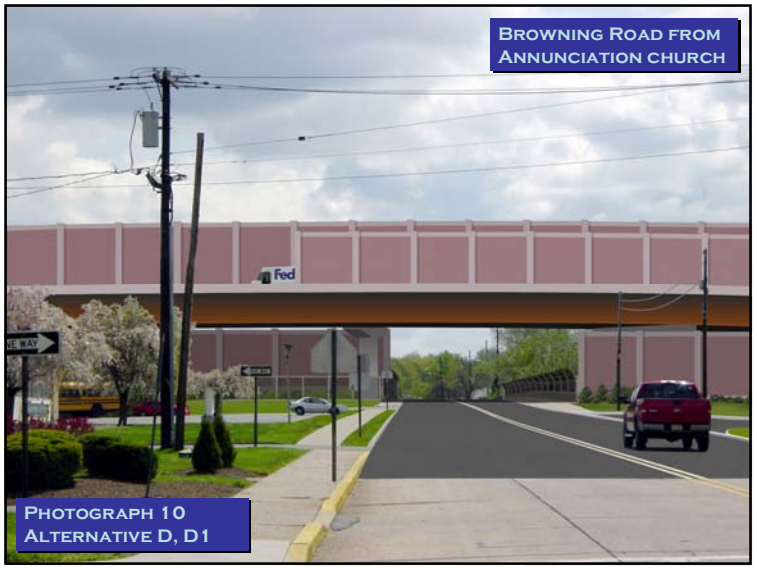

Bellmawr Park School from
Victory Drive/Poplar Place
Photograph 5
Existing Conditions

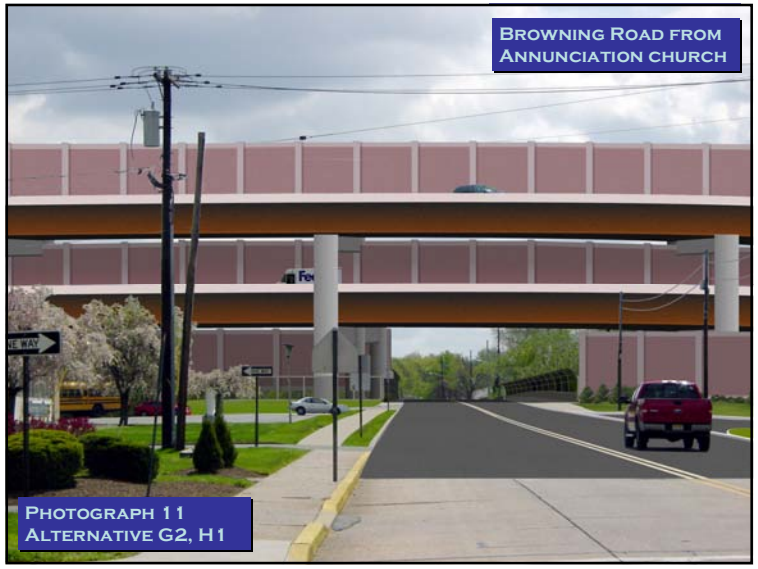

Bellmawr Park School from
Victory Drive/Poplar Place
Photograph 6
Alternative D, D1

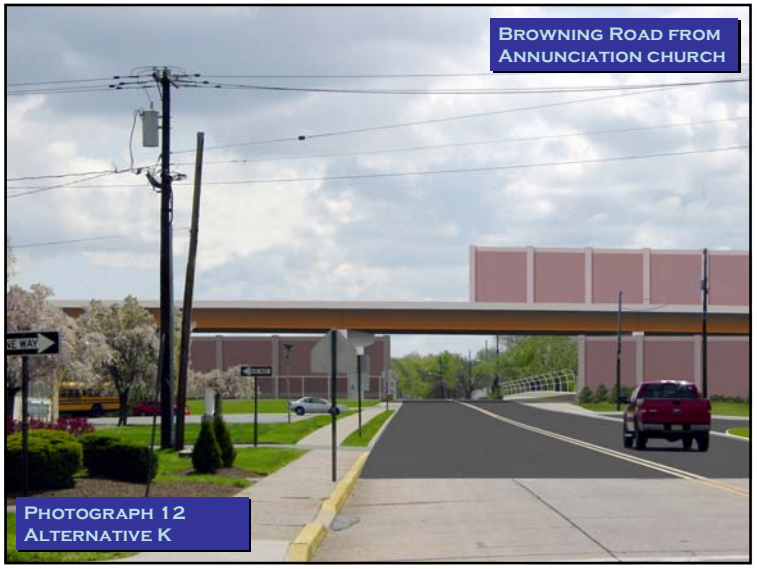

Bellmawr Park School from
Victory Drive/Poplar Place
Photograph 7
Alternative G2, H1


Bellmawr Park School from
Victory Drive/Poplar Place
Photograph 8
Alternative K


Browning Road from
Annunciation Church
Photograph 9
Existing Conditions


Browning Road from
Annunciation Church
Photograph 10
Alternative D, D1


Browning Road from
Annunciation Church
Photograph 11
Alternative G2, H1


Browning Road from
Annunciation Church
Photograph 12
Alternative K


Ramp E from Flanders Road
Photograph 13
Existing conditions


Ramp E from Flanders Road
Photograph 14
Alternatives D, D1


Ramp E from Flanders Road
Photograph 15
Alternatives G2, H1


Ramp E from Flanders Road
Photograph 16
Alternative K


Browning Road from new St. Mary's Cemetary Driveway
Photograph 17
Existing Conditions


Browning Road from new St. Mary's Cemetary Driveway
Photograph 18
Alternative D, D1


Browning Road from new St. Mary's Cemetary Driveway
Photograph 19
Alternative G2, H1


Browning Road from new St. Mary's Cemetary Driveway
Photograph 20
Alternative K

I-295/Little Timber Creek
from Shining Star Park

Photograph 21
Existing conditions

I-295/Little Timber Creek
from Shining Star Park

Photograph 22
Alternatives D, D1

I-295/Little Timber Creek
from Shining Star Park

Photograph 23
Alternatives G2, H1

I-295/Little Timber Creek
from Shining Star Park

Photograph 24
Alternative K


Bell Road from North of Emerson Avenue
Photograph 25
Existing conditions


Bell Road from North of Emerson Avenue
Photograph 26
Alternatives D,D1


Bell Road from North of Emerson Avenue
FedEx
Photograph 27
Alternatives G2, H1


Bell Road from North of Emerson Avenue
Photograph 28
Alternative K

5.3 Economic Analysis

5.3.1 Bellmawr

5.3.1.1 Alternative D, D1, G2, H1 and K

5.3.1.1.1 Business Displacement/Disruption

Alternatives D, D1 and K would require the relocation of one business located within the Bellmawr portion of the primary study area. This business, which is a towing service, is located at 44 Essex Avenue in Bellmawr, New Jersey (See Parcel 16 on Table 30). Ten people work at the towing company with two of the employees being minority. All of the employees drive to work within a fifteen mile radius.

All project-related relocation payments and services are provided pursuant to the Federal Uniform Assistance and Real Property Acquisition for Federal and Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Act Amendment, effective March 2, 1989 (Chapter 50, New Jersey Public Law of 1989). This law is designed to ensure the prompt and equitable relocation and reestablishment of businesses displaced as a result of federally funded projects. In view of the requirements of this law, the NJDOT Bureau of Property and Relocation offers a Relocation Assistance Program. This program offers services to businesses, including assistance in finding new locations, reimbursement of moving expenses, and allowances in lieu of moving expenses. Since only one business and a small number of employees would be affected, business relocation impacts are not considered to be significant.

Alternatives G2 and H1 would not require the relocation of any businesses.

5.3.1.1.2 Local Fiscal Resources

The total assessed net valuation of taxable properties in Bellmawr for 2005 is $425,385,400. Bellmawr's tax rate for 2004 is $4.43 per $100 includes $1.15 for municipal purposes and a combined local and regional school tax rate of $2.23. Year 2004 tax revenues for Bellmawr and Bellmawr schools were $14,378,000.00. The loss of tax revenues in Bellmawr resulting from the five build alternatives would range from approximately $32,350.00 (0.23 percent of total municipal purposes and school tax revenue) for Alternatives G2 and H1, to $59,700.00 (0.42 percent of total municipal purposes and school tax revenue) for Alternative K. A complete listing of assessed values by property for Bellmawr is included in Table 35.

As the loss of tax revenues in Bellmawr would be small (no more than approximately $59,700 or 0.42 percent of municipal tax revenue), Bellmawr local fiscal impacts are not considered to be a significant adverse impact.

I-295/I-76/Rte 42
Direct Connection
TABLE 35
Fiscal Impact Analysis in Bellmawr

Parcel[6]	Property Owner Name/Occupant[1,2]	Block[2]	Lot[2]	Land Use Category[1]	Apt.Number[4]	Street Location[1]	Existing Lot[3,4]	Assessed Value of Impacted Properties [3, 4, 7]				
								D	G2	K	D1	H1
Bellmawr Properties												
1A	Bellmawr Mutual Housing Corp	49	1 (west of I-295/Rt. 42, east of Victory Drive)	Apartments	1	Hickory Place	13.560	**1534425.00**	**865847.00**	**1610223.00**	**1534425.00**	**865847.00**
1B	Bellmawr Mutual Housing Corp	49	1 (east of I-295/Rt42, west of Fir Place)	Apartments	N/A	Fir Place	3.930	No Impact				
2	Borough of Bellmawr/Bellmawr Baseball League	49	1.02	Ball Fields	N/A	Western side of I-295/Route 42	4.700	No Impact	No Impact	No Impact	No Impact	No Impact
3	Bellmawr of Board of Education/Bellmawr Park School	49	3	Public School	N/A	27 Peach Road	6.286	No Impact	No Impact	No Impact	No Impact	No Impact
4	New St. Mary's Cemetery	50	1.01	Cemetery	N/A	615 West Browning Road	49.770	No Impact				
5	Shane Helm	50.01	57	Residential	NA	201 Kennedy Boulevard	0.088	**3502.00**				
		50.01	58.01				0.175	No Impact	No Impact	No Impact	No Impact	No Impact
6	Annunciation B.V.M. Parish Church	50.04	1.01	Church	N/A	601 West Browning Road	3.441	No Impact				
		50.04	1.02				9.051	No Impact	No Impact	No Impact	No Impact	No Impact
7A	Borough of Bellmawr	50.05	1.01	Vacant	N/A	Bell Road	8.800	No Impact	No Impact	No Impact	No Impact	No Impact
7B	Borough of Bellmawr	50.05	3	Vacant	N/A	Bell Road		No Impact				
7C	Borough of Bellmawr	51.11	15	Vacant	N/A	488 Windsor Drive	0.208	No Impact				
8	Marilyn and William Orchard	51.13	1	Residential	N/A	486 Windsor Drive	0.137	**1609.00**				
9	Erich and Nicole Eder	51.13	2	Residential	N/A	482 Windsor Drive	0.137	**277.00**				
10	Edward Shaen	51.13	25	Residential	N/A	461 Creek Road	0.137	**2423.00**				
11	Joanne Keleher and Mark Fisher	51.13	26	Residential	N/A	465 Creek Road	0.156	**69000.00**				
12	VFW (Crescent Park Post 9563)	53	1	Community Facility	N/A	52 Essex Ave	0.144	No Impact				
13	Nicholas and Aileen Marchese	53.01	1	Residential	N/A	701 Creek Road	0.270	No Impact				
14	Southern New Jersey Housing Corp	55	1	Business	N/A	100 Essex Avenue	0.366	No Impact				
		55	2				0.159	**540.00**	No Impact	**540.00**	**540.00**	No Impact
15	Antonio and Vita La Sala	56	1	Vacant	N/A	153 Essex Avenue	0.122	**8835.00**	**465.00**	**8835.00**		**465.00**
16	William G and Cindy L Seas	56	3	Business	N/A	44 Essex Avenue	0.245	**54900.00**		**54900.00**		
7D	Borough of Bellmawr	56	4	Vacant	N/A	South of Bellmawr Little League Fields Abutting northwestern edge of I-295/Route 42 Interchange	0.171	No Impact	No Impact	No Impact		No Impact
		56	5				0.132	No Impact	No Impact	No Impact		No Impact
17	Sadiq and Irene Ali	57	8	Residential	N/A	80 Coolidge Avenue	0.325	**181.00**				
18	H and R Oil Coporation	61	1	Residential	N/A	628 Creek Road	0.091	**2475.00**				
19	Marie Recupero	61	3	Business	N/A	620 Creek Road	0.137	**2640.00**				
20	Joseph P. Worts	61	4	Business	N/A	616 Creek Road	0.070	**60.00**				
		61	5				0.090	No Impact	No Impact	No Impact	No Impact	No Impact
		61	6				0.046	No Impact	No Impact	No Impact	No Impact	No Impact
		61	7				0.046	No Impact	No Impact	No Impact	No Impact	No Impact
21	Famesi & Bisconti Partnership	62	1	Business	N/A	629 Creek Road	0.145	**2184.00**				
22	Jerry S. Thomas and Martha Delosso	62	1.01	Industrial	N/A	625 Creek Road	0.139	**4754.00**				
23	Virginia M. Worts	62	5	Industrial	N/A	73 Coolidge Avenue	0.429	**585.00**				
7E	Borough of Bellmawr	63	6	Vacant	N/A	Abutting I-295/Route 42	0.004	No Impact				
		63	7				0.031	No Impact				
24	James F. Ryan Jr.	67	1	Industrial	N/A	612 Creek Road	0.073	**1177.00**				
25	Resurrection Cemetery	80	3	Cemetery	N/A	Bell Road and Anderson Avenue	3.803	No Impact				
	Bellmawr Total Assessed Value							**$1,689,567.00**	**$957,179.00**	**$1,765,365.00**	**$1,689,567.00**	**$957,179.00**

References
1. Source: Dresdner Robin Site Reconnaissance
2. Source: Municipal Tax Records provided by New Jersey Association of County Tax Boards
3. Source: Dresdner Robin Analysis
4. Source: Dewberry Goodkind Inc. mapping
5. Source: Yahoo Web Directory (www.yahoo.com)
6. Actual Parcel Number to be assigned by NJDOT ROW Engineering during design phase
7. Includes Right-of-Way Takings and Permanent Easements

No Impact: Properties not subject to Municipal Tax

5.3.2 Mount Ephraim

5.3.2.1 Alternative D, D1, G2, H1 and K

5.3.2.1.1 Business Displacement/Disruption

There would be no business displacements or disruptions for Mount Ephraim.

5.3.2.1.2 Local Fiscal Resources

The total assessed net valuation of taxable properties in Mount Ephraim for 2004 is $171,126,600. Mount Ephraim's tax rate for 2005 of $4.46 per $100 includes $1.26 for municipal purposes and local schools tax rate of $2.16. Year 2004 tax revenues for Mount Ephraim and Mount Ephraim schools were $ 5,852,530. The loss of tax revenue for all five build alternatives (D, D1, G2, H1 and K) in Mount Ephraim would be approximately $281 (0.0048 percent of total municipal purposes and school tax revenue). A complete listing of assessed value by property for Mount Ephraim is included in Table 36.

Based on the low percentage of proposed impacts on Mount Ephraim's tax revenues (0.0048 percent of the total municipality), the local fiscal impacts are not considered to be a significant adverse impact.

5.3.3 Gloucester City

5.3.3.1 Alternative D, D1, G2, H1 and K

5.3.3.1.1 Business Displacement/Disruption

There would be no business displacements or disruptions for Gloucester City.

5.3.3.1.2 Local Fiscal Resources

As the five build alternatives would require only a permanent easement on a state-owned property in Gloucester City (See Table 36), Gloucester City would not lose any tax revenue as a result of the proposed project.

5.3.3.2 No Build

No business displacements or revenue loss would occur within the municipalities.

I-295/I-76/Rte 42
Direct Connection
TABLE 36
Fiscal Impact Analysis in Mt. Ephraim and Gloucester City

Parcel[6]	Property Owner Name/Occupant[1,2]	Block[2]	Lot[2]	Land Use Category[1]	Apt.Number[4]	Street Location[1,5]	Existing Lot[3,4]	Assessed Value of Impacted Properties [3, 4, 7]				
								D	G2	K	D1	H1
Mt. Ephraim Properties												
26	Joan and Larry Lefczik	75	12.01	Residential	N/A	1209 W. Kings Highway	0.090	**2153.00**				
			12.03	Residential	N/A	1209 W. Kings Highway	0.232	No Impact				
27	State of New Jersey	104	2.02	Vacant	N/A	Abutting the north side of I-295 and the west side of Bell Road	0.784	No Impact				
28	Albert L. Bisaga	120.01	7	Residential	N/A	904 Bell Road	0.854					
		120.01	11	Same as Above	N/A	904 Bell Road	0.126	**2018.00**				
29	Ruth Rowan	123.01	2.02	Residential	N/A	1204 W. Kings Highway	0.350	**2023.00**				
30	Dolores Cucinotti	123.01	2.05	Residential	N/A	1200 W. Kings Highway	0.247	**1108.00**				
31	John D. West Senior Center	123.02	1.01	Vacant	N/A	1242 W. Kings Highway	3.500	**924.00**				
32	Borough of Mt. Ephraim	123.02	1.02	Vacant	N/A	W. Kings Highway	0.086	No Impact				
Gloucester City Properties												
33		273.01	26	Public	N/A	1499 Chestnut Avenue	0.112	No Impcat				

References

1. Source: Dresdner Robin Site Reconnaissance
2. Source: Municipal Tax Records provided by New Jersey Association of County Tax Boards
3. Source: Dresdner Robin Analysis
4. Source: Dewberry Goodkind Inc. mapping
5. Source: Yahoo Web Directory (www.yahoo.com)
6. Actual Parcel Number to be assigned by NJDOT ROW Engineering during design phase
7. Includes Right-of-Way Takings and Permanent Easements

No Impact: Properties not subject to Municipal Tax

5.4 Construction Related Economic Impacts

For all of the alternatives, the acquisition of ROW, temporary and permanent easements are required. The lowest acquisition cost estimate is for Alternative G2 at approximately $10,300,000.00 and the highest is Alternative D1 at approximately $13,700,000.00. These estimates include the construction of replacement housing for Bellmawr Mutual Housing Corp.

The total construction cost of the proposed improvements would range from a low of approximately $497 million for Alternative D to a high of approximately $735 million for Alternative H1. These expenditures would result in some additional employment opportunities during construction in the secondary impact area through the employment of construction workers. Additionally, with the influx of workers in the area, local retail services (i.e., restaurants, grocery stores) may see an increase in business.

5.4.1 No Build

No construction related impacts would occur for any of the municipalities with the No Build Alternative.

5.5 Land Use Analysis

5.5.1 Bellmawr

All five build alternatives are grouped together because the land use impacts, if any, would be the same for each alternative.

5.5.1.1 Alternatives D, D1, G2, H1 and K

5.5.1.1.1 Compatibility with Existing Land Use and Zoning

Bellmawr Master Plan

The Township of Bellmawr adopted its most recent comprehensive master plan in 1977, while a reexamination report was adopted in 1996. The 1977 Master Plan is a comprehensive document containing background information on development patterns, physical features, socioeconomic indices, housing, and utility services. According to township officials, the Planning Board is currently updating its master plan.

The 1996 Bellmawr Master Plan Reexamination's overall goal is to guide future development in a manner designed to promote the health, safety, and quality of life for the present and future residents of the Borough. The 1996 Reexamination Plan cites the presence of I-295 and New Jersey State Highway Route 42 as major causes of severe traffic congestion around the borders of the municipality. The master plan also states that county roadways such as Creek Road (County Route #763), Browning Road (County Route # 659), and Bell Road (County Route #658), essentially relieve and feed the State highways, thereby creating traffic congestion inside the Borough limits as well. The master plan attributes the source of traffic congestion primarily to motorists that live outside the municipality and travel through. The Bellmawr Master plan also

states the important role infrastructure plays in the future planning and development of the municipality. By identifying the source of congestion and the need for efficient infrastructure, the Bellmawr Master Plan states the overall necessity for measures to be taken to reduce traffic congestion.

This project addresses the problems expressed in the Bellmawr Master Plan and is consistent with it by creating a more effective use of an existing transportation corridor. Additionally, it strives to improve the quality of the surrounding area by alleviating the existing traffic bottleneck at the I-295/I-76/Route 42 Interchange. This project would also serve to reduce the frequency of automobile accidents by creating a safer roadway. As per the Farmland Protection Policy Act of 1984 requirements, no farmland was identified within the primary study area and, therefore, no impact to farmland is anticipated.

Based on no proposed acquisitions or improvements in the area of Bellmawr Mutual Housing Corporation that is designated as being part of the Green Acres Program, no impacts are anticipated.

Bellmawr Zoning

The purpose of the zoning ordinance is to regulate the location, extent, and intensity of land use in the township. The proposed improvements would not require adjustments to the existing zoning. As a result, the five build alternatives would not have any impact on the Bellmawr Zoning Ordinance.

5.5.1.1.2 Compatibility with Regional Plans

The New Jersey State Planning Commission adopted the State Development and Redevelopment Plan (SDRP) in March 2001. The SDRP serves as a guide for smart growth in New Jersey, providing goals, strategies, and policies intended to protect the State's resources and quality of life from traffic congestion, loss of wetlands and agricultural lands, polluted streams, deteriorating urban centers, fiscal stress, and other impacts of unplanned development. Specific statewide planning goals pertinent to this project are as follows:

- **Revitalize the State's cities and towns**. The SDRP seeks to link the resources and opportunities of cities and towns to their larger regions. Improvements to transit services that enable suburban residents to get to work as well as visit other cities more comfortably is vital. The proposed roadway improvement is part of an overall strategy to improve access through the I-295, I-76, and Route 42 interchange. The installation of the new roadway will also serve to reduce accident frequency within the Borough and cut down on congestion on local streets.
- **Protect the Environment, Prevent and Clean Up Pollution.** The SDRP seeks to promote ecologically designed development and redevelopment projects in Metropolitan and Suburban Planning Areas that reduce automobile usage and minimize impacts on public health. The proposed project would improve public health by installing a safer interchange alternative, thus reducing the risk of automobile accidents. The National

Environmental Policy Act (NEPA) process will provide an alternative which will minimize impacts.

- **Ensure sound and integrated planning and implementation statewide**. The SDRP seeks to achieve comprehensive, coordinated, long-term planning based on capacity analysis and citizen participation. The proposed interchange improvement project would ensure that community concerns are taken into account. The final design of the preferred alteration will incorporate extensive public involvement including numerous Public Information Centers and Committee Meetings. Activities are designed to provide opportunities for affected residents and businesses to comment on the project.

The SDRP also developed a number of Statewide Policies designed to improve the coordination, planning, and implementation of public policy at all levels of government. The Statewide Policies are intended to provide context and direction for a number of substantive areas including, but not limited to, equity, comprehensive planning, public investment priorities, infrastructure investments, economic development, design, and transportation. The Statewide Policies are applied to each substantive area to achieve the overall goals of the State Planning Act. The proposed project is consistent with the following applicable statewide policies:

Comprehensive Planning

- Policy 7 – Provide enhanced opportunities for conflict resolution throughout the planning and regulatory process with due regard for public input and disclosure. Numerous public meetings have occurred that address public uncertainties. These meetings will continue throughout the entire project.
- Policy 14 – Develop plans in collaboration with appropriate communities, organizations and agencies not traditionally involved in comprehensive planning processes, making a special effort to seek out and include those from diverse cultural groups.
- Policy 24 – Increased public understanding and participation for infrastructure investment programs. Planners and administrators of the proposed project have held several public information meetings with members of affected Boroughs to ensure that all concerns and needs are being met. In addition, project planners and administrators have met with various local and state officials to ensure compliance with local, state, and federal environmental and safety ordinances.

Infrastructure Investments

- Policy 1 – Municipal, County, Regional and State investments in infrastructure to guide growth. Municipal, county, regional and state agencies should invest in infrastructure in ways to guide growth and prevent sprawl by accommodating growth in Centers. The traffic congestion in and around the I-295, I-76, and Route 42 interchange indicates that the roadway can no longer sufficiently handle the average 225,000 vehicles per day. The construction of the new roadway will increase the safety and efficiency of the intersection, and accommodate the projected increase in traffic volume. The new roadway will also help preserve the quality of life for inhabitants surrounding the interchange that are currently impacted negatively by congestion on local streets.

Transportation

- Policy 1 – Transportation maintenance and repair. The maintenance and repair of the existing transportation network is the highest transportation priority. The proposed project entails improvements to existing elements of the New Jersey's vehicular transportation system.
- Policy 19 – Regional and local traffic patterns. Separate regional through traffic from local traffic byway of limited access bypass roads – planned to minimize sprawl and adverse impacts on adjacent communities – where alternative circulation patterns using existing roads are not feasible. By improving the efficiency of the I-295/I-76/RTE 42 interchange, there will be less local traffic from people taking regional trips seeking to bypass congestion using local streets.

The SDRP designates the Bellmawr/ Mount Ephraim/ Gloucester City area as a Metropolitan Planning Area (PA1). The goals of the SDRP with respect to areas designated as PA1 include providing for much of the state's future redevelopment, revitalizing cities and towns, and stabilizing older suburbs. These goals would be met by strategies to upgrade or replace aging infrastructure. Additionally, the Gloucester City area is designated as an Identified Regional Center. The SDRP defines a Regional Center as a compact mix of residential, commercial and public uses, serving a large surrounding area and developed at an intensity that makes public transportation feasible. The proposal project is consistent with the SDRP's goals for Metropolitan Planning Areas.

In summary, the proposed project is consistent with the strategies, policies, and goals of the SDRP, which seeks reinvestment in the state's urban areas and the enhancement of existing transportation facilities.

5.5.1.1.3 Impacts on Proposed Development

According to interviews with local officials (September 19, 2005 and November 3, 2005 – See Section 8.0), the five build alternatives would not have any impacts on proposed development. Bellmawr is fully developed with the exception of the Post Office/ Industrial Park area, which is not expected to be affected by the proposed project because the purpose of this project is to reduce traffic congestion and increase safety through the interchange.

5.5.1.1.4 Secondary and Cumulative Impacts

Within the Council on Environmental Quality (CEQ) regulations, secondary and cumulative impacts are defined in 40 CFR Section 1508.7 and 1508.8. Based on these definitions and according to information gathered from meetings held with local officials and DVRPC (August 12, 2005, September 19, 2005 and November 3, 2005) and the analysis conducted for this report, secondary and cumulative impacts are not anticipated for this project. The proposed project would not alter development patterns in Bellmawr either separately or in conjunction with any other project. Furthermore, based on the developed nature of Bellmawr and the intended purpose of this project (safety and travel time savings), no secondary and cumulative impacts are anticipated.

5.5.1.2 No Build

The current land use patterns throughout the interchange would continue if the No Build Alternative is chosen, some of the SDRP goals and objectives would not to be met throughout this interchange area.

5.5.2 Mount Ephraim

5.5.2.1 Alternatives D, D1, G2, H1 and K

5.5.2.1.1 Compatibility with Existing Land Use and Zoning

The five build alternatives would have no impacts on the existing land use and zoning within Mount Ephraim. As per the Farmland Protection Policy Act of 1984 requirements, no farmland was identified within the primary study area and, therefore, no impact to farmland is anticipated.

5.5.2.1.2 Potential for Induced Development

According to information obtained from meetings held with local officials (August 2, 2005 and November 11, 2005 – See Section 8.0), the five build alternatives would not have any impacts on proposed development nor would they help in inducing development. Mount Ephraim is fully developed with the exception of the subdivision (Bell Court) which is proposed along Bell Road.

5.5.2.1.3 Secondary and Cumulative Impacts

Within the Council on Environmental Quality (CEQ) regulations, secondary and cumulative impacts are defined in 40 CFR Section 1508.7 and 1508.8. Based on these definitions and according to information gathered from meetings held with local officials and DVRPC (August 12, 2005, September 19, 2005 and November 3, 2005) and the analysis conducted for this report, secondary and cumulative impacts are not anticipated for this project. The proposed project would not alter existing development patterns in Mount Ephraim either separately or in conjunction with any other project. Furthermore, based on the developed nature of Mount Ephraim and the intended purpose of this project (safety and travel time savings), no secondary and cumulative impacts are anticipated.

5.5.2.2 No Build

The current land use situation throughout the interchange would continue if the No Build Alternative is chosen, some of the SDRP goals and objectives would continue not to be met throughout this interchange area.

5.5.3 Gloucester City

5.5.3.1 Alternatives D, D1, G2, H1 and K

5.5.3.1.1 Compatibility with Existing Land Use and Zoning

Due to the limited amount of improvements within Gloucester City for the proposed five build alternatives there would be no impacts on the existing land use and zoning. As per the Farmland Protection Policy Act of 1984 requirements, no farmland was identified within the primary study area and therefore no impact to farmland is anticipated.

5.5.3.1.2 Potential for Induced Development

According to information gathered from a meeting with local officials (August 25, 2005 – See Section 8.0)), the five alternatives would not have any impacts on proposed development nor would they induce new development within the study area. Proposed development within Gloucester City is located along the waterfront outside of the primary study area but within the secondary study area. Gloucester City representatives indicated that the build alternatives would not affect development along the waterfront.

5.5.3.1.3 Secondary and Cumulative Impacts

Within the Council on Environmental Quality (CEQ) regulations, secondary and cumulative impacts are defined in 40 CFR Section 1508.7 and 1508.8. Due to the limited amount of improvements within Gloucester City for the proposed five build alternatives and according to information gathered from local officials and DVRPC (August 12 and 25, 2005), secondary and cumulative impacts are not anticipated for this project. The proposed project would not alter existing development patterns in Gloucester City either separately or in conjunction with any other project. Furthermore, based on the developed nature of Mount Ephraim and the intended purpose of this project (safety and travel time savings), no secondary and cumulative impacts are anticipated.

5.5.3.2 No Build

The current land use situation throughout the interchange would continue if the No Build Alternative is chosen, some of the SDRP goals and objectives would continue not to be met throughout this interchange area.

5.6 Environmental Justice

5.6.1 Bellmawr

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* signed by President Clinton on February 11, 1994, requires federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of

minority and low-income populations to the greatest extent practicable and permitted by law. The goal of Executive Order 12898 is as follows:

…each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States…

The purpose of the environmental justice review is to determine whether a disproportionate share of the proposed project's adverse impacts may be borne by a minority and/or low-income population.

Identification of Minority and Low-Income Populations

The criteria for identifying these populations were based on Executive Order 12898 and subsequent guidance as follows: USDOT Order 6640.23 (December 2, 1989), *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; and, *Environmental Justice Guidance under the National Environmental Policy Act, Appendix A, CEQ, December 10, 1997.*

The USDOT defines minorities as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed Department of Transportation program, policy or activity. Low-income populations are generally identified where the percentage of low-income residents significantly exceeds the percentage in the community as whole. The Council on Environmental Quality (CEQ) was established by Congress in the Executive Office of the President and is responsible for coordinating federal environmental efforts. In 1997, CEQ issued Guidance to Federal Agencies on Key Terms in Executive Order 12898. CEQ's Guidance states that minority populations exist where either the minority population in an affected area is greater than 50 percent or the percentage of the minority population in the affected area is meaningfully greater than the percentage in the community as a whole.

Minority and Low-income populations were identified on the basis of the percentage of minority and low-income persons who live in a neighborhood or community. To identify minority populations, data was obtained from the 2000 U.S. Census STF-1 files, while data concerning household income were obtained from the 1990 U.S. Census STF-3 files. The data were organized by census tract; block or block group and are presented in Tables 2 and 8. Potentially affected census blocks and block groups are summarized in Table 29.

None of the potentially affected blocks contains a minority population greater than 50 percent. Only Census Block 1000 in Census Tract 6070 contains a percentage of minority population meaningfully greater than Bellmawr as a whole (about 25% greater), and the potential for a disproportionate impact on a minority group in this area is discussed below.

As discussed in Section 4.1.1, the Pakistani population was identified outside the primary study area. As no improvements are proposed in the secondary study area where this population

resides, there would be no direct impacts on this population from the proposed project. Further, as discussed in detail in Section 5.7, all existing local access, including schools and community facilities would be maintained during construction. Any impact would be insignificant regardless of the alternative selected. Therefore, this population would not be affected in any manner that would differ from other residents of the secondary study area.

With respect to income, the 2000 Census data indicate that 10.44 percent of the residents living in Camden County had a household income below the poverty rate in 1999. In Bellmawr the percentage of residents with an income below the poverty rate was 3.97. Potentially affected Block Group 3 in Census Tract 6069.01 and Block Groups 1 and 4 in Census Tract 6070 contain low-income populations meaningfully greater than Bellmawr as a whole (89 percent greater, 39 percent greater, and 46 percent greater respectively). The potential for a disproportionate impact on low-income populations in these potentially affected areas is discussed below.

Determination of Disproportionate Impacts on Minority or Low-income Populations

The proposed project would not result in any disproportionate impacts to project area residents or businesses that are considered to be minority or low income. Specifically, the proposed project would require the acquisition of up to thirteen residential properties located in Block 1010, Block Group 1, Census Tract 6070. The percentage of minority residents in this Block is well below that for Bellmawr as a whole. The affected residents can be readily relocated within Bellmawr, likely within the same neighborhood. Therefore, these residents would not incur any long term impacts.

The proposed project would also require the acquisition of one commercial property for Alternative D, D1 and K which is not located in these census areas. The business to be acquired and displaced by the proposed project is not a large employer and its function and service can be relocated to other parts of the community.

In conclusion, the proposed project is not expected to have any adverse impacts that would disproportionately affect minority or low-income populations. Rather, the proposed project would result in beneficial impacts to minority populations in the project area through improved transportation. The principal intent of the project is to eliminate the existing traffic congestion conditions experienced within the study area, especially during the peak travel hours.

5.6.2 Mount Ephraim

As there would be no relocation of residents or businesses, neither residents nor employees in Mount Ephraim would be impacted by the five build alternatives.

5.6.3 Gloucester City

As there would be no relocation of residents or businesses, neither residents nor employees in Gloucester City would be impacted by the five build alternatives.

5.7 Temporary Construction Impacts

Roadway Access

Traffic control for I-295/I-76 Route 42 would require the reduction of lane widths, the elimination or narrowing of shoulders and numerous shifts in traffic in order to construct the proposed improvements for all alternatives. In many instances, a live lane would be adjacent to a median barrier. All existing lanes would be maintained during peak periods. Lane closings would be allowed at night. Ramps would remain operational at all times with all lanes being open during peak periods. In some instances, traffic would need to be split around a construction zone. Temporary widenings would be required in many areas in order to maintain the existing number of lanes. Temporary connections would be required between new and existing pavement on both the ramps and the mainline. Each alternative would require numerous stages, therefore, requiring numerous changes in traffic patterns.

Northbound Rt 42/I-76 would have the median separating the Local and Express Lanes removed early in construction. In some cases, a median barrier would separate Local and Express traffic. The final scheme would also eliminate the median between the Northbound Local and Express Roadways. A temporary bridge would be required to carry the I-295 Northbound to I-76 Local ramp in the Route 42 median area. The I-76 Northbound Express Lane Merge from three to two lanes would happen sooner (further to the south).

It can be expected that traffic would slow through the construction zone for each of the alternatives. However, the delays would not divert a significant amount of traffic off the freeway onto the local roads (less than 25 vehicles per hour). The one exception to this is a phase which requires the existing ramp from I-76 Southbound to I-295 Southbound to be closed. This traffic would be rerouted to the new ramp (RAMP F), which would also temporarily carry the I-295 Southbound and I-295 Southbound to Rt 42 traffic (all traffic presently using Al-Jo's curve). This traffic pattern would create a weave condition which would slow traffic through the interchange in the Southbound direction. This pattern may result in traffic diverting off I-76 and I-295 Southbound to Route 130 and other local roadways. See Figure 25 at the end of Section 5.0 for the volumes of traffic which can be expected to be diverted. Alternative K would not contain this weave condition. The weave condition would take place for the following alternatives:

Alternative D – 8 months
Alternative D1 – 12 months
Alternative G2 – 30 months
Alternative H1 – 12 months

On the local roads (Browning, Bell and Creek Road) the Borough of Bellmawr has requested that each roadway remain operational with one lane of traffic in each direction with one sidewalk for pedestrians. At Browning Road, a temporary bridge is proposed to be constructed to the north of the existing span. The temporary roadway would run though a vacant portion of New St. Mary's Cemetery on the east and through the parking lot of the Annunciation Church and School to the west. The removal of the existing Browning Road Bridge must be done before substantial

construction can begin on any of the alternatives on I-76/Rt 42. The replacement Browning Road bridge needs to be completed in one of the later stages of construction for each alternative. For these reasons, the temporary bridge would be in place for 3 years. No impacts have been identified with respect to the transportation of special education students.

The bypass roadway would impact 65 parking spaces of the Annunciation Church. 36 temporary parking spaces would be constructed adjacent to the rear of the lot to offset the impacted spaces during construction. Circulation of the church parking lot would also be affected since the driveway closest to I-76 would be closed during the period when the bypass roadway is in place. This would affect circulation of cars for church services as well as school drop off and pick up. The remaining entrance and exits would ensure continued access and would not create a significant impact

Bell Road would be constructed in two stages. First, traffic would be shifted to the east and the westerly half of the existing bridge removed. The westerly portion of the new bridge would be constructed slightly wider and at a higher elevation. Traffic would then be shifted to the newly constructed bridge to allow the remainder of the existing bridge to be removed, and the new bride constructed. The two stage construction would take approximately 14 months, and would have minimal impact on local motorists and residents under all alternatives.

Creek Road will be replaced in a similar manner to Bell Road. Some impacts to motorists traveling westbound on Creek Road can be expected. Presently, there is a heavy left turn movement from westbound Creek Road onto Harding Ave. Depending on the size and exact location of the left turning vehicle, cars wishing to go straight onto Creek Road can squeeze by on the right. During construction, with narrower lane widths, cars may not be able to squeeze by on the right depending on how many cars are waiting to make a left turn. A short left turn slot would be provided in both stages to help mitigate this "blocking" of vehicles wishing to go straight. Other mitigating measures to aid traffic flow, such as a temporary signal, would be considered during final design. Access to and from some driveways on the north side may be slightly more difficult during Stage 2 as traffic is shifted closer to the driveways.

The construction durations of the alternatives would be as follows:

Alternative D and D1 – 5 years
Alternative G2 and H1 – 6 years
Alternative K – 7 years

Methods of accelerating construction would be investigated during the final design phase of the preferred alternative. In addition, measures would be taken to assist the motorist with traveling through the construction zone. Accelerated construction and motorist assistant measures that would be considered include:

- Proactive community outreach program that educates motorist about changed travel patterns through the use of the NJDOT website, Highway Advisory Radios, Variable Message Signs and Public Meetings.

- Proactive community outreach program that promotes a reduction of vehicles through the interchange through car pooling, park and ride locations, and staggered work hours.

- Temporary signing that clearly identifies lane shifts and merge/diverge locations.
- The use of pre-cast concrete elements and high strength materials to expedite construction.
- Incentive/Disincentive clauses for the contractor.
- Significant lane occupancy charges to the contractor to ensure all travel lanes are open in advance of the morning rush hour.
- Multiple work shifts
- Advance purchase/fabrication of structural components

Temporary Air Quality Impacts

Air quality impacts that arise during construction consist of construction equipment exhausts and dust generated by the movement of equipment over exposed earth. Emissions from construction equipment, which are negligible in relation to the total vehicular emissions in the project area, do not represent a significant air quality impact. However, dust generation and its ensuing dispersal by the wind can be a problem, especially in developed areas.

Mitigation measures that can be implemented during construction to ensure dust generation is kept to a minimum include the application of water or dust retardant chemicals (e.g., calcium chloride) to heavily traveled portions of the construction area.

As a result of the anticipated contractor mitigation measures described above, adverse impacts of construction activities to residents proximate to the primary study area would be minimized.

Temporary Noise Impacts

Temporary increases in noise levels would occur during construction. Noise levels due to construction, although temporary, may impact areas adjacent to the project. Overall, construction activities throughout the study area should have a short-term noise impact on sensitive receptors in the immediate vicinity of the construction site. The extent of the construction-associated noise impact depends on the nature of the roadway segment, the construction schedule, and noise characteristics of the construction equipment.

Specifications for all contracts would require contractors to comply with all applicable laws, regulations, and orders to reduce any impacts. Such impacts can be adequately mitigated by using appropriate mufflers and vibration dampers designed for the equipment to be used at the site.

These impacts are not expected to be significant and would be limited to areas in proximity to the construction area.

5.8 Economic Benefits

5.8.1 Safety

Assuming that the redesigned I-295/I-76/NJ-42 Interchange would have similar accident rates to the four listed standard interchanges listed in Section 4.5, the number of annual accidents would be reduced by about 550, the number of annual accidents involving injuries would be reduced by about 180, and the average number of annual accidents involving fatalities would be reduced by about 0.6, even if no growth in traffic occurs. The annual economic benefit of such reductions is approximately $11 million in 2005 terms, based on approximate average costs provided by NJDOT (See Appendix D). The unit costs, as determined by NJDOT 2005 Crash Costs, were used to calculate the safety benefits and are provided in Appendix D.

All of the Build alternatives would result in the same benefits.

5.8.2 Travel Time Savings

5.8.2.1 Savings Assuming Missing Moves Connection is also Constructed

The transportation model developed for this project predicts travel time savings for the 2030 Build Year would reduce approximately 4,570 vehicle hours during the A.M. rush hours and approximately 7,120 vehicle hours during the P.M. rush hours. This reduction would occur within the DVRPC regional area. This prediction assumed that the Missing Moves Connection, a separate project south of the interchange would also be constructed.

Using a method described within NCHRP Report 456, calculations were made to estimate the dollar value of these travel time savings (See Appendix E). The shortcut method based on the Highway Economic Requirements System (HERS) was utilized to determine automobile and truck savings throughout the entire transportation model area. The analysis included factors regarding the classification of vehicles, occupancy rates, wage rates for trucks and automobiles, and the off-the-clock/on-the clock vehicle hours traveled.

The annual automobile travel time savings would be approximately $26 million and the annual truck savings would be approximately $13 million. The total annual travel time savings would be approximately $39 million. All of the Build alternatives would result in the same savings.

The proposed improvements would, therefore, represent a benefit in terms of travel time savings to the primary study area and secondary study area.

5.8.2.2 Savings Assuming Missing Moves Connection is Not Constructed

It is possible that the Missing Moves connection, a separate project south of the interchange may not proceed. In this event, the transportation model developed for this project predicts travel time savings for the 2030 Build Year would reduce approximately 4,360 vehicle hours during the

A.M. rush hour and approximately 8,530 vehicle hours during the P.M. rush hours. This reduction would occur within the DVRPC regional area.

Using a method described within NCHRP Report 456, calculations were made to estimate the dollar value of these travel time savings (See Appendix E). The shortcut method based on the Highway Economic Requirements System (HERS) was utilized to determine automobile and truck savings throughout the entire transportation model area. The analysis included factors regarding the classification of vehicles, occupancy rates, wage rates for trucks and automobiles, and the off-the-clock/on-the clock vehicle hours traveled.

The annual automobile travel time savings would be approximately $29 million and the annual truck savings would be approximately $15 million. The total annual travel time savings would be approximately $44 million. All of the Build alternatives would result in the same savings.

The proposed improvements would, therefore, represent a benefit in terms of travel time savings to the primary study area and secondary study area.

5.8.3 Regional Accessibility

5.8.3.1 With Missing Moves Connection

According to local officials, construction detours might actually increase business activity on Kings Highway. Due to the additional construction employment and anticipated congestion at the interchange and the local roads, businesses may thrive during construction. After construction in the long term, fewer regional motorists might frequent Kings Highway businesses. However, due to the anticipated benefits of the proposed improvements and the increased accessibility throughout the interchange and the local roadway network, this is not expected to be a significant impact. Local residents who now stay away from the Kings Highway businesses during rush hour may subsequently have better opportunities to frequent these businesses due to the decreased congestion.

The transportation model presents changes in traffic volume for both A.M and P.M. rush hour periods on the principal roads in the secondary study area (See Figures 26 and 27 at the end of Section 5.0).

In the A.M. peak rush hour period, traffic volumes would generally decrease throughout the I-295 Interchange Area. Significant decreases within the I-295 Interchange would occur along southbound Bell Road between Kings Highway and Browning Road, Browning Road in both directions between Bell Road and Kings Highway, and Kings Highway in both directions between Route 168 and Creek Road.

Increased traffic volumes would occur in the A.M. peak rush hour period along the northbound portion of Bell Road between Browning Road and Kings Highway, portions of Route 168 north of Browning Road, portions of Creek Road and portions of Market Street.

The P.M. peak rush hour period traffic volumes would generally, decrease throughout the I-295 Interchange Area. Decreases within the I-295 Interchange would occur along Bell Road in both directions between Creek Road and Kings Highway, Kings Highway in both directions between Route 130 and Route 168, Route 130 between Market Street and Kings Highway, and along portions of Route 168 north of Browning Road.

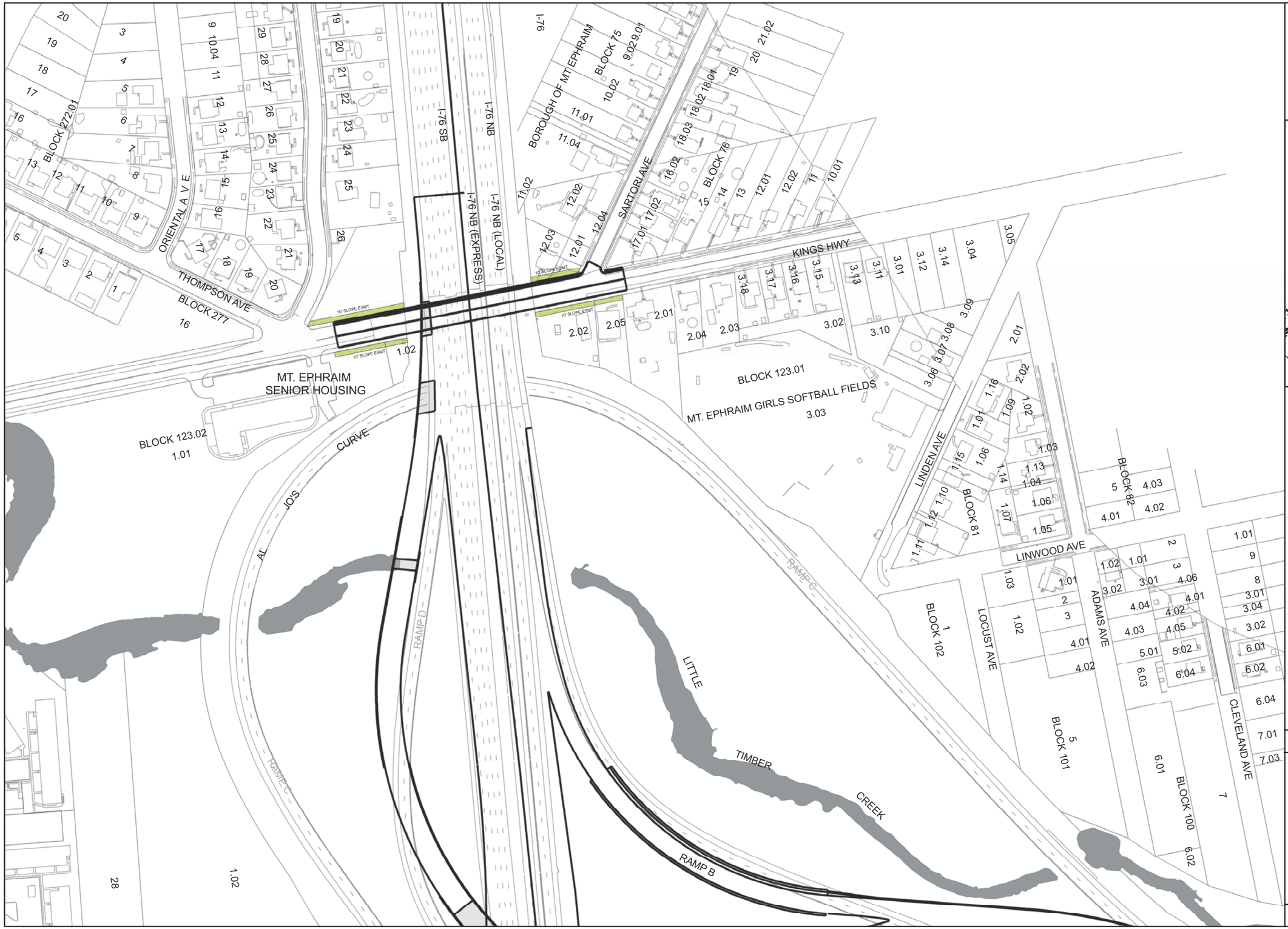
Increased traffic volumes would occur in the P.M. peak rush hour period in a few locations within the I-295 Interchange Area, mainly, a portion of the eastbound traffic along Creek Road between Bell Road and Browning Road, sections of Route 168 south and north of the I-295 ramp and along Market Street east of I-76 and Kings Highway.

Based on these findings, the five build alternatives would generally result in improved accessibility within the secondary study area by reducing congestion on most segments of the principal access roads used for regional destinations.

5.8.3.2 Without Missing Moves Connection

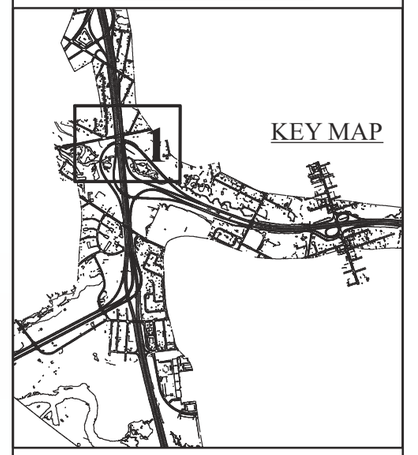
Without the Missing Moves Connection, benefits similar to those described in Section 5.8.3.1 would be expected. A second traffic model was developed which did not include the Missing Moves Connection and similar local roadway benefits and costs were projected.

The only significant difference was in the A.M. peak period was that the west bound portion of Kings Highway between Market Street and Route 168 without the Missing Moves Connection would have an increase in traffic volume.



PROJECT NORTH

KEY MAP



Legend

- Existing Conditions
- Proposed Edge of Pavement
- Proposed Retaining Wall
- Proposed Bridges
- Open Water

Alternatives D, G2, and K Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Right of Way Acquisition

0 100 200 400 Feet

New Jersey Department of Transportation

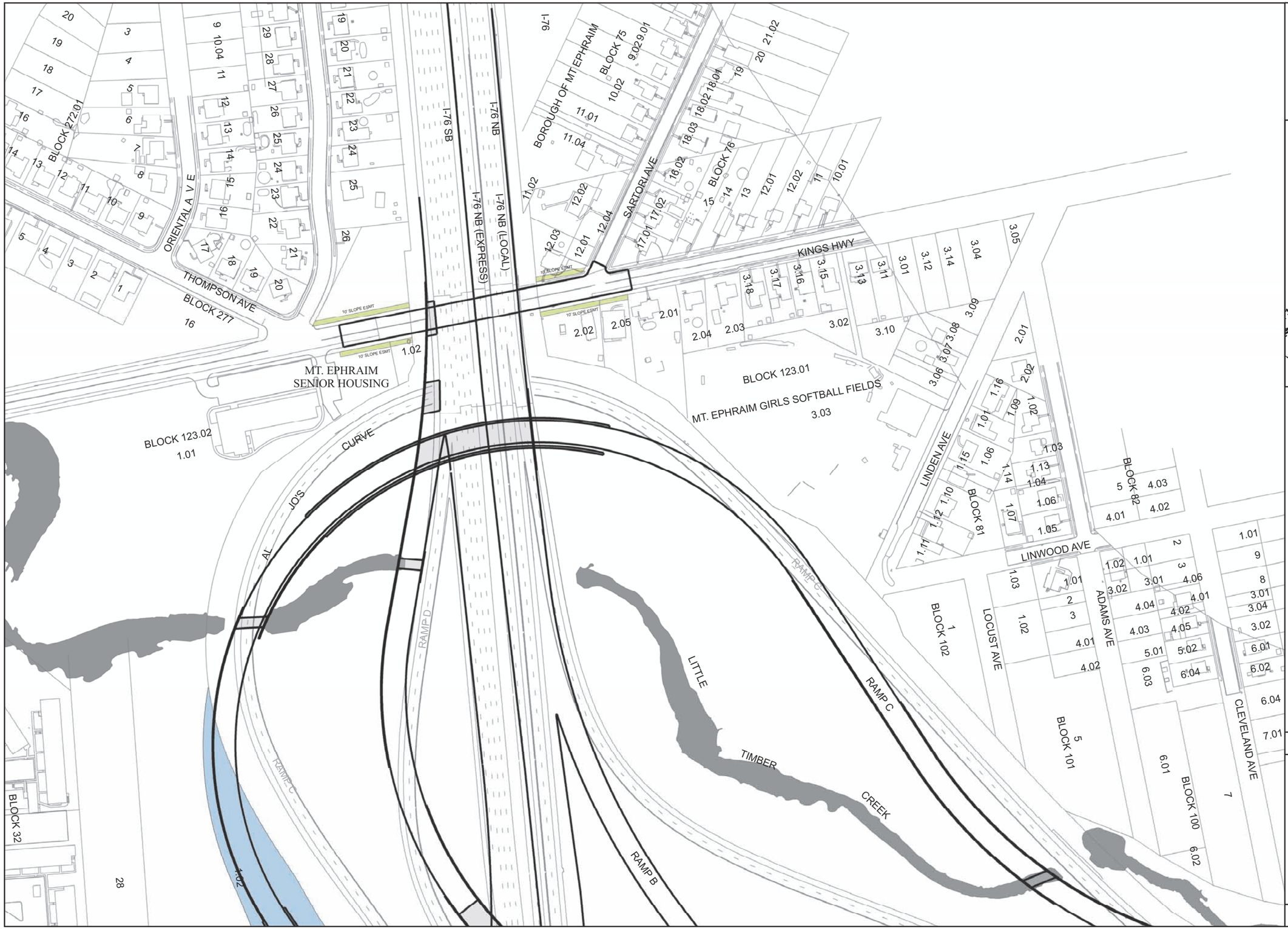
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 15

"Alternatives D, G2 and K"
Residential and Proximity Impacts

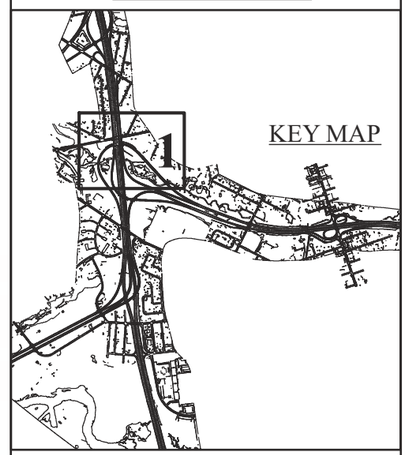
Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005



PROJECT NORTH

KEY MAP



Legend

- Existing Conditions
- Proposed Edge of Pavement
- Proposed Retaining Wall
- Proposed Bridges
- Open Water

Alternatives D1 and H1 Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Right of Way Acquisition

0 100 200 400 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 16

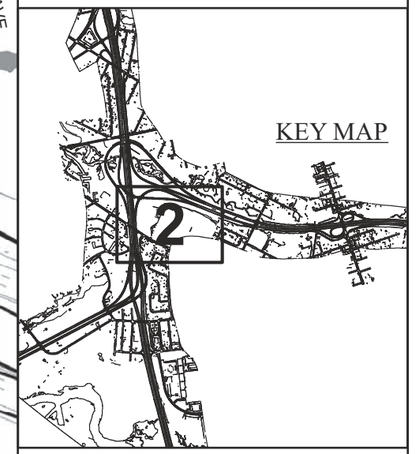
"Alternative D1 and H1"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005

PROJECT NORTH

KEY MAP



Legend

- Existing Conditions
- Proposed Edge of Pavement
- Proposed Retaining Wall
- Proposed Bridges
- Open Water

Alternatives D and D1 Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Temporary Site Monitoring Area
- Right of Way Acquisition
- R Residential Relocation

0 100 200 400 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 17

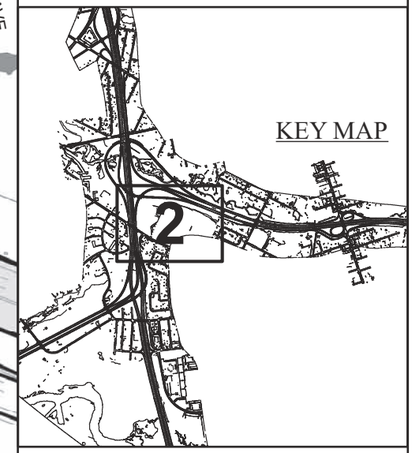
"Alternatives D and D1"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005

PROJECT NORTH

KEY MAP



Legend

- Proposed Edge of Pavement
- Proposed Retaining Walls
- Proposed Bridges
- Open Water

Alternatives G2 and H1 Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Temporary Site Monitoring Area
- Right of Way Acquisition
- R Residential Relocation

0 100 200 400 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 18

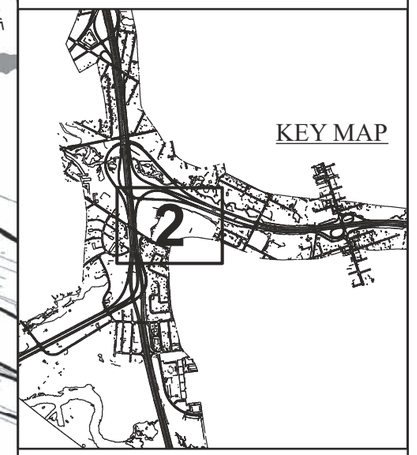
"Alternatives G2 and H1"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005

PROJECT NORTH

KEY MAP



Legend

- Proposed Edge of Pavement
- Proposed Retaining Walls
- Proposed Bridges
- Open Water

Alternative K Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Temporary Site Monitoring Area
- Right of Way Acquisition
- R Residential Relocation

0 100 200 400 Feet

New Jersey Department of Transportation

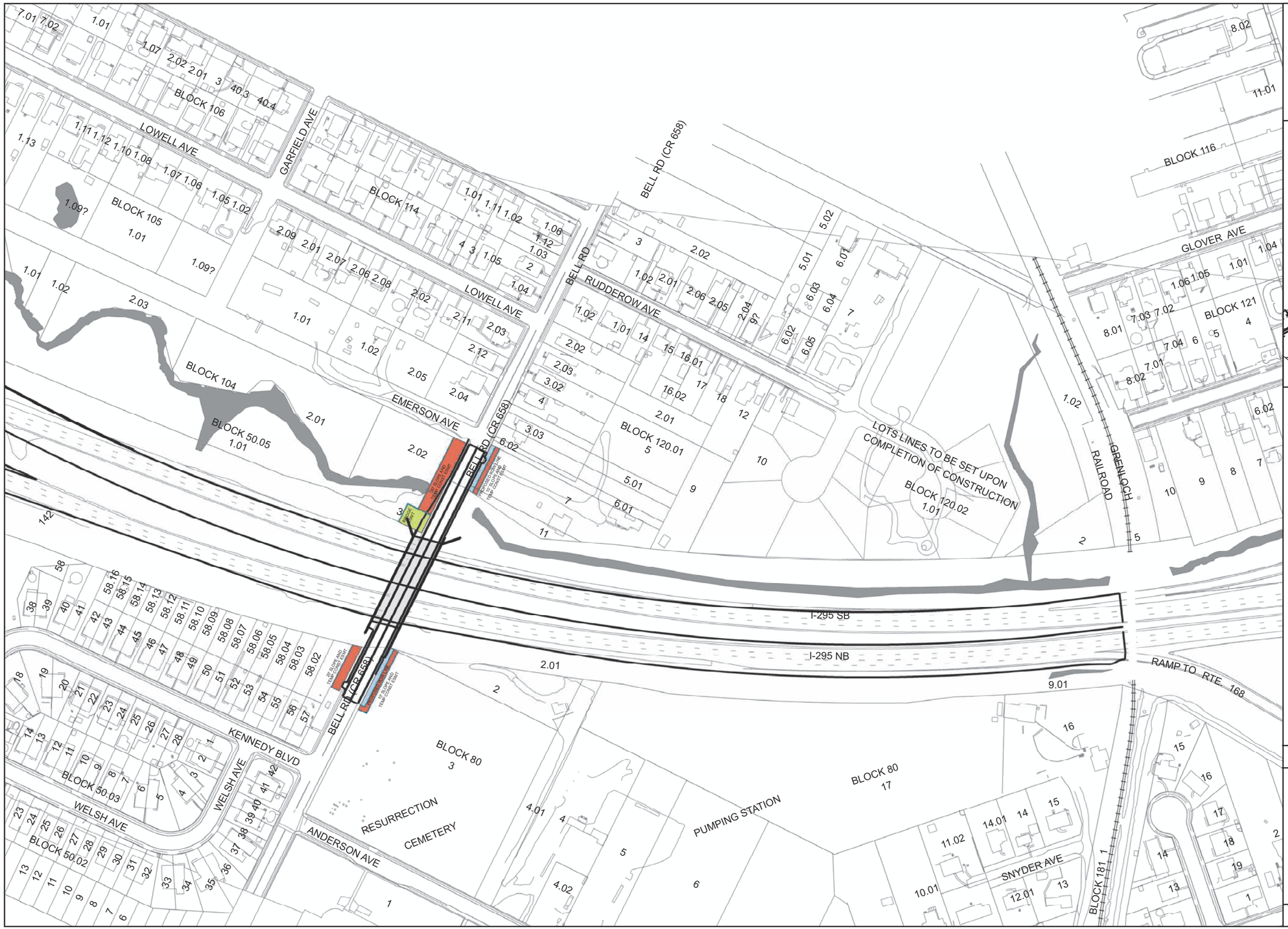
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 19

"Alternative K"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005



New Jersey Department of Transportation

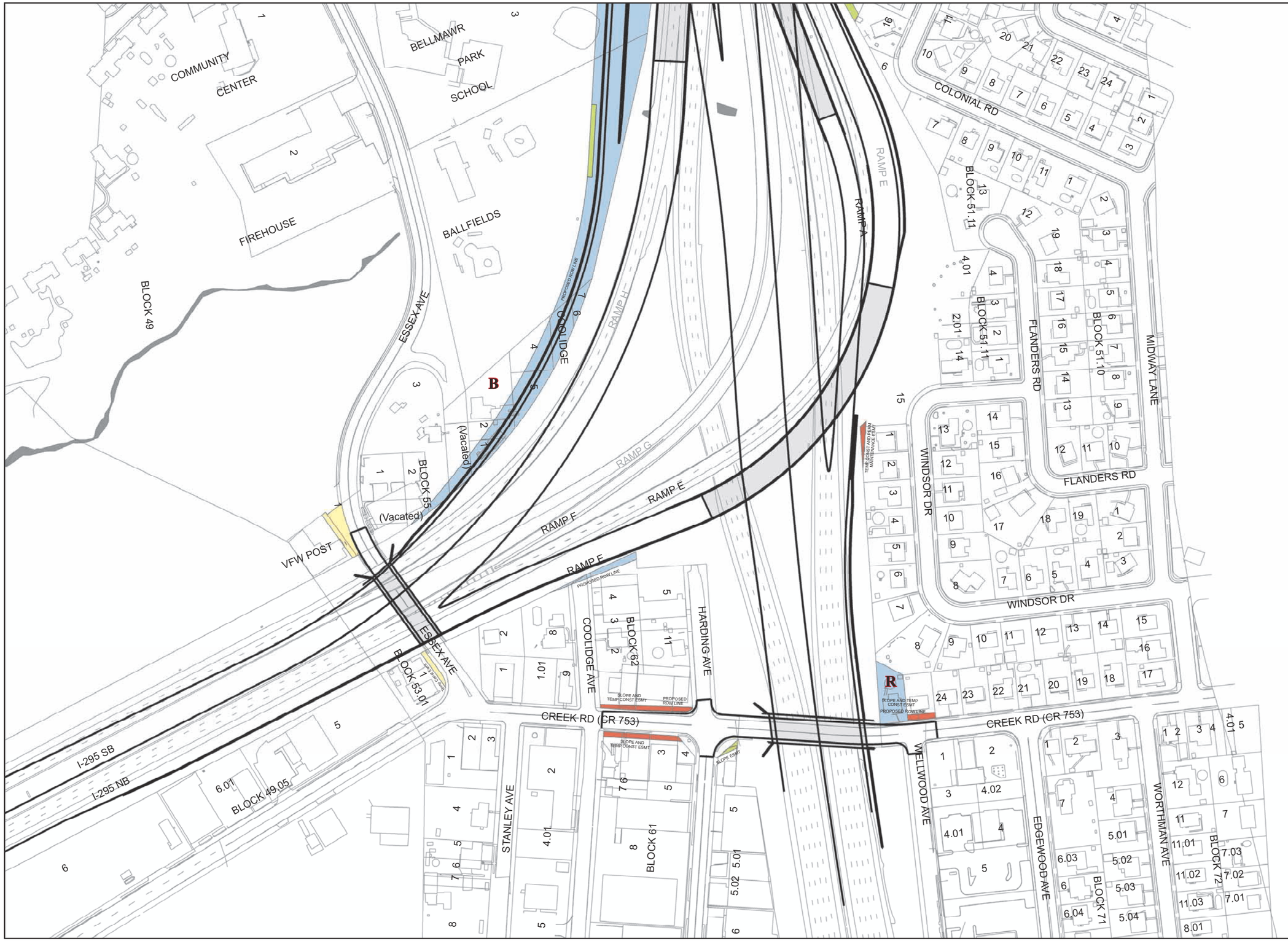
I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 20

"Alternative D, D1, G2, H1 and K"
Residential and Proximity Impacts

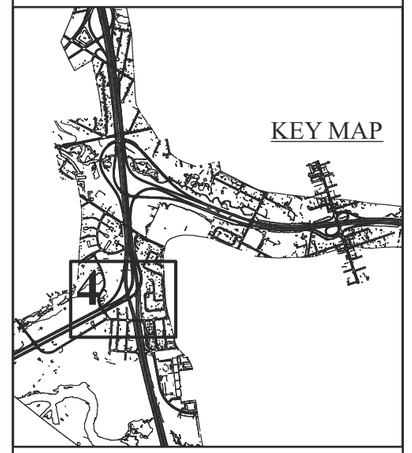
Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005



PROJECT NORTH

KEY MAP



Legend

- Existing Conditions
- Proposed Edge of Pavement
- Proposed Retaining Wall
- Proposed Bridges
- Open Water

Alternativs D, D1 and K Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Right of Way Acquisition
- B Business Relocation
- R Residential Relocation

0 100 200 400 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 21

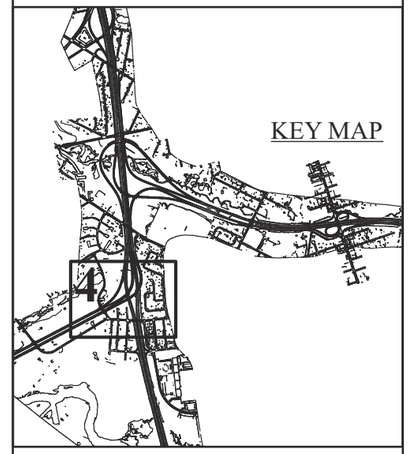
"Alternatives D, D1, K"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005

PROJECT NORTH

KEY MAP



Legend

- Proposed Edge of Pavement
- Proposed Retaining Walls
- Existing Conditions
- Proposed Bridges
- Open Water

Alternatives G2 and H1 Impacts

- Temporary Easement
- Permanent Easement
- Temporary and Permanent Easement
- Right of Way Acquisition
- R Residential Relocation

0 100 200 400 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 22

"Alternatives G2 and H1"
Residential and Proximity Impacts

Date	April 17, 2006

Source: Dewberry Goodkind Inc. 2005 and Dresdner Robin Analysis 2005

PROJECT NORTH

Legend

- Block and Lots
- Existing Alignment of Interchange
- Potential Location For Relocated Homes

0 250 500 1,000 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

FIGURE 23

Bellmawr Park Mutual Housing
Potential Relocation Sites

Date	April 17, 2006

Source: Census Data 2000 and USGS 2002

PROJECT NORTH

Legend

- Municipal Boundary
- ProjectArea
- Photo Simulation Locations

0 1,500 3,000 Feet

New Jersey Department of Transportation

I-295 / I-76 / Route 42
Direct Connection
Camden County

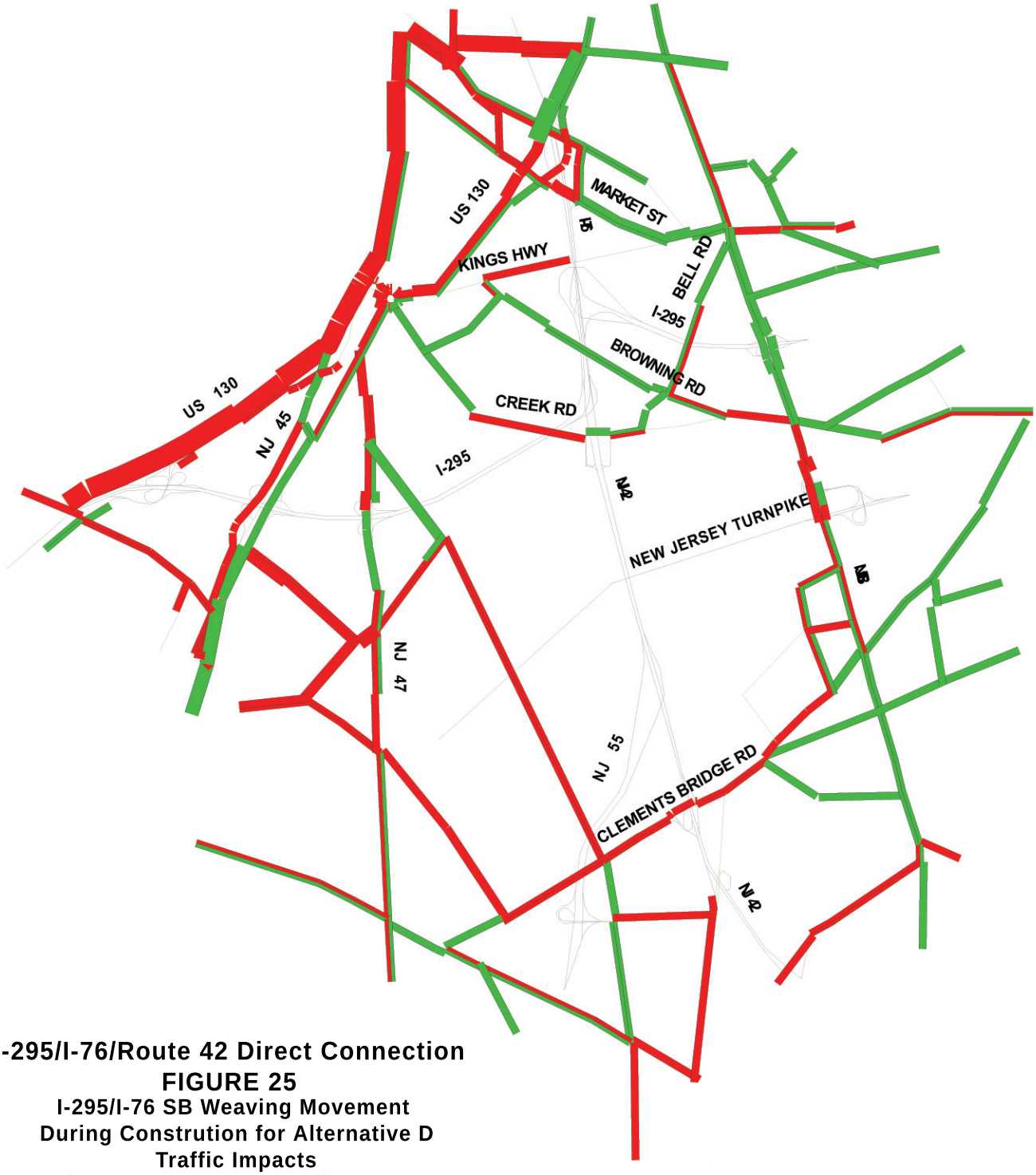
Figure 24

Photo Simulation Locations

Dresdner Robin
In Association With:
Dewberry-Goodkind, Inc.

Date	April 17, 2006

Source: Census Data 2000



I-295/I-76/Route 42 Direct Connection

FIGURE 25

I-295/I-76 SB Weaving Movement During Constrution for Alternative D

Traffic Impacts

Change in AM Peak Hour Traffic Volume

Alternative D VS No Build

Volume Decrease

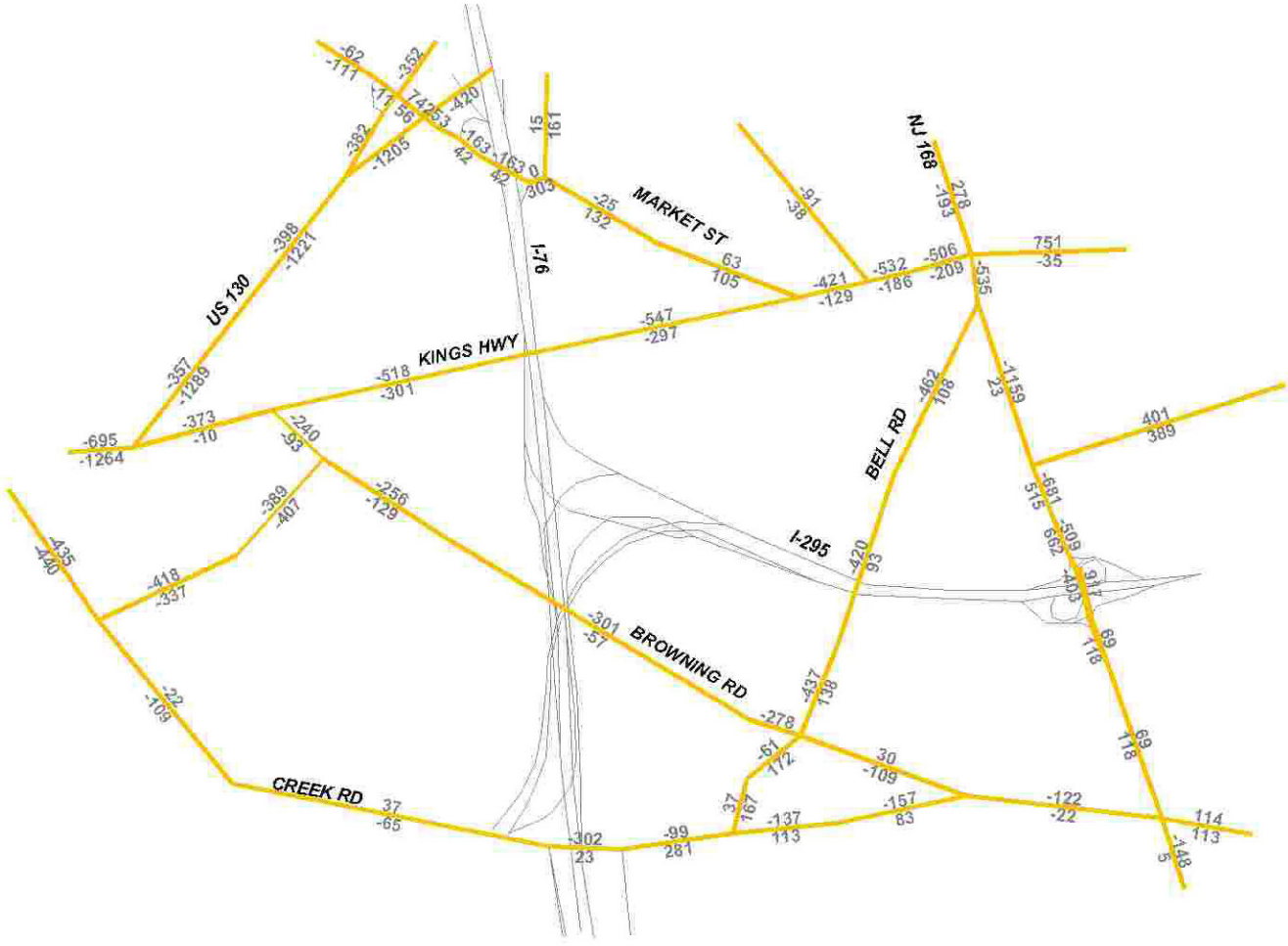
Volume Increase

Volume Vhange

300 150 10

Date: 12/20/2005

Source: Urbitran 2005



NOTE: Traffic volumes after construction

I-295/I-76/Route 42 Direct Connection

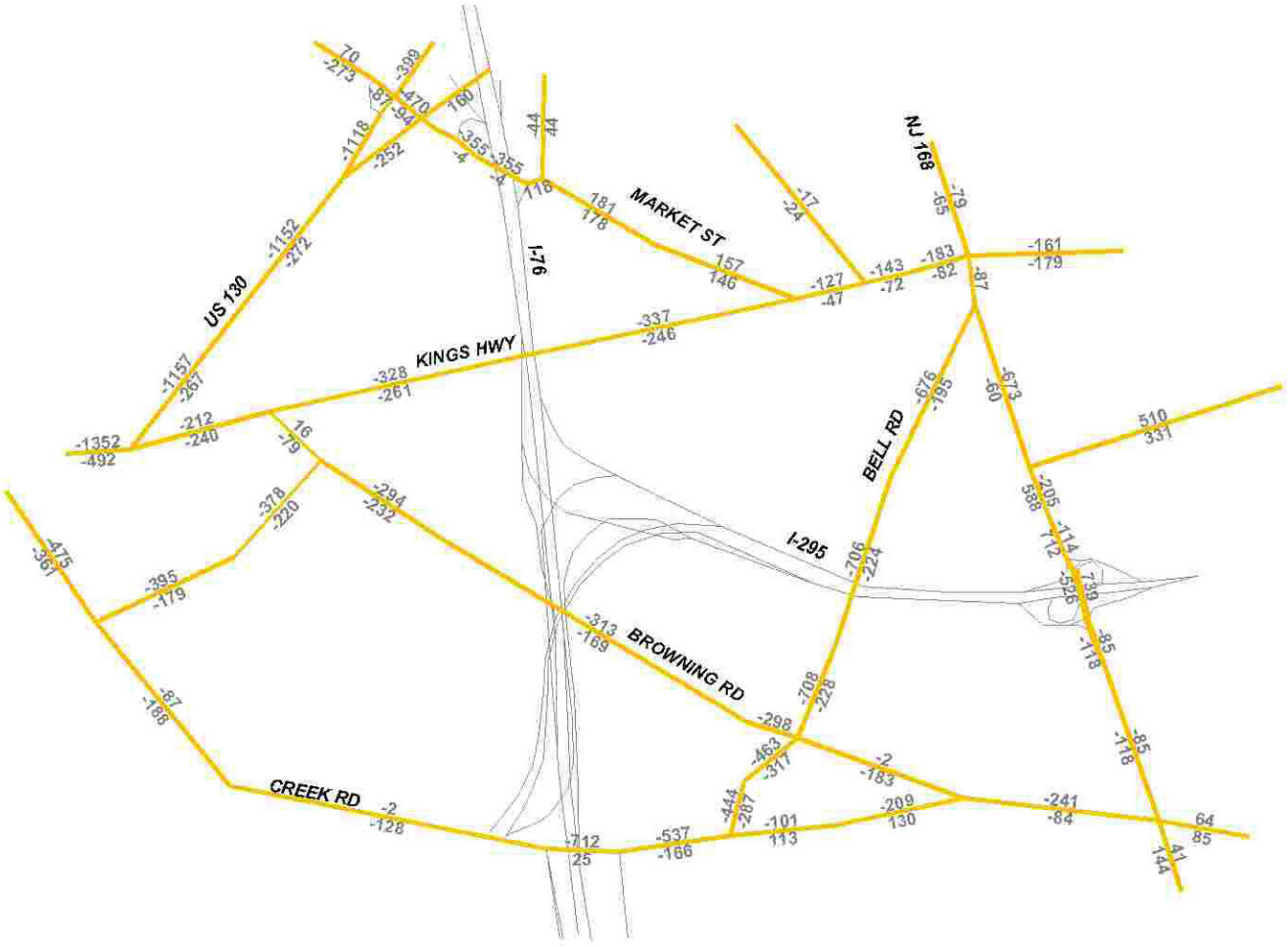
FIGURE 26

Change in 2030 AM Peak Hour Traffic Volume

Build VS No Build

Date: 12/20/2005

Source: Urbitran 2005



NOTE: Traffic volumes after construction

I-295/I-76/Route 42 Direct Connection

FIGURE 27

Change in 2030 PM Peak Hour Traffic Volume

Build VS No Build

Date: 12/20/2005

Source: Urbitran 2005

6.0 CONCLUSION AND RECOMMENDATIONS

None of the build alternatives would result in adverse impacts related to land use, zoning or environmental justice. Socioeconomic benefits for all of the build alternatives would include improved regional accessibility, reduced travel time through the interchange with annual cost savings of approximately $39,000,00 and reduced frequency of accidents with annual cost savings of approximately $11 million.

According to local officials, increased local business activity may occur (due to construction delays) but, once construction is complete and traffic conditions improve, fewer commuters might patronize local businesses. However, this does not appear to be a significant impact because with the reduction of commuter traffic attributed to the five build alternatives, local residents who presently keep away from these businesses may return.

All of the build alternatives would result in residential displacement. Alternatives D, D1 and K would result in relocation of 13 residences and Alternatives G2 and H1 would result in relocation of five residences. All residential relocations would be conducted pursuant to the Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Relocation Act Amendment, effective March 2, 1989 (Chapter 50 NJ Public Laws of 1989).

Five community facilities would be impacted for all of the build alternatives, but they would continue to function in their present locations. Below is a description of the five facilities and the manner in which they would be affected.

- Bellmawr Baseball League- The proposed acquisition would take the grassy area beyond the outfield fence.
- Bellmawr Park Elementary School Playground- The proposed acquisition would take a ballfield, which would have to be relocated. However, there is adequate space for relocation of the ballfield on the school property. This facility is considered to be a locally significant recreation facility subject to Section 4(f).
- New St. Mary's Cemetery- The proposed acquisitions on this property would include the Harrison-Glover House which is used as an office and undeveloped land. The office would be relocated on the property. No cemetery plots are anticipated to be impacted by the proposed alternatives.
- Annunciation B.V.M Church and Annunciation Regional School- A portion of the proposed acquisition on this property is land used for parking. Alternatives D, G2 and K would require 0.720 acres. Alternatives D1 and H1 would require 3.147 acres. Parking would be relocated on the church property.
- Resurrection Christ Cemetery- The proposed acquisition on this property is vacant land, which would not affect the cemetery plots.

The visual quality of the area would be changed by all of the alternatives. Alternatives D, D1 and K would require the construction of a new one level structure throughout the interchange. Alternatives G2 and H1 would require the construction of a new two level structure throughout the interchange. Additionally, new and replacement noise walls would be constructed on top of these structures to abate noise impacts.

Alternatives D, D1 and K would require combined heights of both structures and noise walls up to approximately 55 feet.

Alternatives G2 and H1 would require combined heights of both structures and noise walls up to approximately 78 feet.

Due to the heights of the structures and noise walls, for all of the build alternatives a visual impact would occur that cannot be mitigated. Context sensitive designs, including public participation, fencing and other architectural techniques would be developed during the final design of the project to the greatest extent possible to preserve the aesthetic, historic, community and natural environment.

Temporary construction impacts would include traffic control for I-295/I-76/Route 42, which would require the reduction of lane widths, the elimination or narrowing of shoulders and numerous shifts in traffic in order to construct the proposed improvements for all alternatives. In many instances, a live lane would be adjacent to a median barrier. All existing lanes would be maintained during peak periods. Lane closings would be allowed at night. Ramps would remain operational at all times with all lanes being open during peak periods. In some instances, traffic would need to be split around a construction zone. Temporary widenings would be required in many areas in order to maintain the existing number of lanes. Temporary connections would be required between new and existing pavement on both the ramps and the mainline. Each alternative would require numerous stages, therefore, requiring numerous changes in traffic patterns.

Methods of accelerating construction would be investigated during the final design phase of the preferred alternative to shorten the construction duration and to decrease the temporary construction impacts. In addition, measures would be taken to assist motorists traveling through the construction zone. Accelerated construction and motorist assistance measures that would be considered include:

- Proactive community outreach program that educates motorists about changed travel patterns through the use of the NJDOT website, Highway Advisory Radio, Variable Message Signs and Public Meetings.

- Proactive community outreach program that promotes a reduction of vehicles through the interchange through car pooling, park and ride locations, and staggered work hours.

- Temporary signs that clearly identify lane shifts and merge/diverge locations.

- The use of pre-cast concrete elements and high strength materials to expedite construction.

- Incentive/Disincentive clauses for the contractor.

- Significant lane occupancy charges to the contractor to ensure all travel lanes are open in advance of the morning rush hour.

- Multiple work shifts
- Advance purchase/fabrication of structural components

Ultimately, temporary construction impacts would occur for all alternatives. However, this impact would be temporary and the benefits attributed to the interchange improvements would outweigh the temporary impacts.

According to local officials, construction detours might actually increase business activity on Kings Highway and have an impact on the accessibility during construction. Due to the additional construction employment and anticipated congestion on the interchange and the local roads, businesses may thrive during construction. After construction in the long term, fewer regional motorists might frequent Kings Highway businesses. However, due to the anticipated benefits of the proposed improvements and the increased accessibility throughout the interchange and the local roadway network, this is not expected to be a significant impact. Local residents who now stay away from the Kings Highway businesses during rush hour may subsequently have better opportunities to frequent these businesses due to the decreased congestion.

One business relocation would be required for Alternatives D, D1 and K. Alternatives G2 and H1 would not require a business relocation. All project-related relocation payments and services are provided pursuant to the Federal Uniform Assistance and Real Property Acquisition for Federal and Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Act Amendment, effective March 2, 1989 (Chapter 50, New Jersey Public Law of 1989).

Construction would take 5 to 7 years depending on the alternative. During construction, access would be maintained through the interchange as well as to existing residences, businesses, and community facilities. The total construction cost of the proposed improvements would range from a low of approximately $497 million for Alternative D to a high of approximately $735 million for Alternative H1. These expenditures would result in some additional employment during construction in the secondary impact area.

From a residential and business relocation perspective, Alternatives G2 and H1 are preferable in that five residences and no businesses would be impacted compared to thirteen residences and one business for Alternatives D, D1 and K. However, from a visual perspective, Alternatives D, D1 and K would be preferable because new single level structures are proposed compared to Alternatives G2 and H1 which propose new two level structures. The extent of the visual impact would be significantly greater for G2 and H1 compared to Alternatives D, D1 and K. The communities will have the opportunity to decide whether the noise walls should be constructed.

7.0 LIST OF PREPARERS

Mr. Edward Robin
Responsibility: Provided project management and report review.
Professional Experience: 35 years
Education: J. D. University of Pennsylvania and B.A. Harvard College.

Mr. Lawrence Smith:
Responsibility: Provided project management and assistance in the preparation of the report figures and site plans. Provided report review.
Professional Experience: 6 years
Education: M.E.P. Arizona State University, and B.A. Environmental Studies, Binghamton University

Mr. Bly Coddington
Responsibility: Prepared figures, tables and conducted site reconnaissance.
Professional Experience: 1.5 years
Education: B.S. Environmental Chemistry Unity College and B.A. Communication Rutgers University

Dewberry-Goodkind, Inc.:

Mr. Peter Agnello
Responsibility: Project engineer highway design
Professional Experience: 15 years
Education: BS in Civil Engineering Rutgers College of Engineering
Certification: Professional Engineer

8.0 REFERENCES

New Jersey Department of Environmental Protection, GIS Resource Data.

New Jersey Department of Environmental Protection, 1995/97 Color Infrared Digital Imagery.

New Jersey State Planning Commission. New Jersey State Development and Redevelopment Plan, 2001.

Borough of Bellmawr Master Plan, 1977

Borough of Mount Ephraim Master Plan, (year)

Gloucester City Master Plan, 1996

Borough of Bellmawr Tax Assessment Roll, 2004

Borough of Mount Ephraim Tax Assessment Roll, 2004

Borough of Bellmawr Zoning Ordinance, as amended through 1979.

Borough of Mount Ephraim Zoning Ordinance, as amended through 2003

Gloucester City Zoning Ordinance, as amended through 1996

U.S. Census Bureau, 2000 Census of Population and Housing

National Research Council, NCHRP Report 456, 2001

Mildred Solomon, Mount Ephraim Planning Department, November 11, 2005

Bellmawr Planning Secretary, November 03, 2005

Tina Johnson, Bellmawr Assistant Tax Assessor, March 31, 2005

Vince Squillacioti, Bellmawr Recreation Superintendent, March 24, 2005

Anthony Chambers, Mount Ephraim Recreation Superintendent, July 08, 2005

Bruce Finkle, Bellmawr Board of Education Superintendent, March 24, 2005

Linda Amoroso, John, D. West Senior Center Director, August 24, 2005

Sergeant Whilhelm, Bellmawr Police Department, August 10, 2005
Deputy Chief Daniel Dienzo, Bellmawr Fire Department, August 01,2005

Captain Brian Bepple, Mount Ephraim Police Department, August 01, 2005

Brian Gilmore, Mount Ephraim Fire Department, August 01, 2005

Reverend James O. Dabrowski, Pastor Annunciation B. V. M. Church, July 26, 2005

Frank Filipek, Bellmawr Mayor, September 19, 2005

Pastor Kovlak, Bellmawr Baptist Church, June 8, 2005

Ed Fox, DVRPC and Camden County Improvement Authority, August 12, 2005

Patricia Levins Office Manager, Bellmawr Park Mutual Housing Corp., June 7, 2005

Ruth Bogutz, Cultural and Heritage Commission, June 8, 2005

Jane Gellien and Reverend Bradley, Episcopal Church of the Holy Spirit, June 7, 2005

Michael Reader, Mayor of Mount Ephraim, August 02, 2005

Susan Romano, NJ Ease Camden County Senior and Disabled Services August 02, 2005

Donna Kovalevich, Senior Citizen United Community Service, June 15, 2005

Tom MacAdams and Carole Miller, New Jersey Transportation Authority, May 16, 2005

Eric Fetterolf, Planning Department of Gloucester City , August 25, 2005

Paul Kain, Gloucester City Clerk/Administrator, August 25, 2005

Regina Dunphy, Gloucester City Director of Commercial Development, August 25, 2005

Robert Williams, Gloucester City Fire Department, August 25, 2005

Bob Saunders, Gloucester City Office of Emergency Management, August 25, 2005

James Johnson, Gloucester City Highways, August 25, 2005

Walter Joct, Gloucester City Planning Board, August 25, 2005

APPENDICES

APPENDIX A
Study Area Photograph Log

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 1: CREEK ROAD NEAR ESSEX AVENUE

PHOTO 2: PROPERTYAT 716 CREEK ROAD

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I-295/ Rte.76 / Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 3: POST OFFICE

PHOTO 4: POST OFFICE

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 5: BELLMAWR LAKE & CREEK RD.

PHOTO 6: GIRLS SOFTBALL FIELD – MT. EPHRAIM

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I-295/ Rte.76/ Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 7: WINTHROP & LOWELL – SHINING STAR PARK – I-295

PHOTO 8: ANNUNCIATION CHURCH SCHOOL – BROWNING ROAD

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 9: WINTHROP & LOWELL – SHINING STAR PARK – I-295

PHOTO 10: BELLMAWR BASEBALL FIELD – ESSEX AVENUE

DRESDNER
ROBIN

371 WARREN STREET JERSEY CITY, NEW JERSEY 07302-3035 (201) 217-9200
FAX: (201) 217-9607

PHOTO LOG

SITE: I295/I76/RTE42 DATE OF PHOTOS: 07-15-04
PROJECT #: B688-01 PHOTOGRAPHER: BLY CODDINGTON

PHOTO 11: LIEDTKA TRUCK LOT – CREEK ROAD

PHOTO 12: RITE AID ADJACENT TO ANNUNCIATION CHURCH – BROWNING ROAD

DRESDNER
ROBIN

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PHOTO LOG

SITE: I295/I76/RTE42 DATE OF PHOTOS: 07-15-04
PROJECT #: B688-01 PHOTOGRAPHER: BLY CODDINGTON

PHOTO 13: BELLMAWR PARK ELEMENTARY SCHOOL – ESSEX AVENUE

PHOTO 14: BELLMAWR PARK ELEMENTARY SCHOOL – ESSEX AVENUE

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PHOTO LOG

SITE: I295/I76/RTE42 DATE OF PHOTOS: 07-15-04
PROJECT #: B688-01 PHOTOGRAPHER: BLY CODDINGTON

PHOTO 15: NJ STATE BUILDING – WELLWOOD AVENUE

PHOTO16: BELLAMAWR MUNCIPAL BLDG. – BROWNING ROAD

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PHOTO LOG

SITE: I295/I76/RTE42 DATE OF PHOTOS: 07-15-04
PROJECT #: B688-01 PHOTOGRAPHER: BLY CODDINGTON

PHOTO 17: CEMETERY – ANDERSON RD. AND BELL AVENUE

PHOTO 18: BASEBALL FIELD ANDERSON AVE AND HERBERT RD.

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PHOTO LOG

SITE: I-295/ Rte.76 / Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 19: WILLOW PL. - WEST BROWNING RD – I-295

PHOTO 20: WILLOW PL. - WEST BROWNING RD – I-295

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PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 21: WILLOW PL. - WEST BROWNING RD – I-295

PHOTO 22: BELLMAWR PARK SCHOOL – I-295 SOUTH

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PHOTO LOG

SITE: I-295/ Rte.76/ Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 23: BELLMAWR PARK SCHOOL – I-295 SOUTH

PHOTO 24: BELLMAWR PARK SCHOOL – I-295 SOUTH

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PHOTO LOG

SITE: I-295/ Rte. 76/ Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 25: BELLMAWR PARK SCHOOL – PEACH RD

PHOTO 26: BELLMAWR BASEBALL FIELD – ESSEX AVENUE

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PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 27: BELLMAWR BASEBALL FIELD – ESSEX AVENUE

PHOTO 28: VFW – ESSEX RD.

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PHOTO LOG

SITE: I-295/ Rte.76/ Rte.42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 29 : VFW – ESSEX RD.

PHOTO 30 : POLICE DEPARTMENT – MOUNT EPHRAIM

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PHOTO LOG

SITE: I-295/ Rte.76/ Rte. 42 DATE OF PHOTOS: 11/15/01
PROJECT #: B688-01 PHOTOGRAPHER: M. SHAW

PHOTO 31: ST. MARY'S – W. BROWNING

APPENDIX B
Construction Staging Information
Prepared by Dewberry-Goodkind, Inc.

ALTERNATIVE D

Phase I. Maintaining traffic on all existing State Highways except as noted herein after. **(Stage 1 only is an advance contract.)**

Stage 1 Construct temporary bridge at Browning Road. Maintain 1 lane of traffic in each direction. Shift traffic onto temporary bridge and demolish existing bridge.

Construct Creek Rd. Bridge over Rte. 42. Anticipate 2-3 steps to complete.

Construct Bell Rd. Bridge over I-295. Anticipate 2-3 steps to complete. Extend temporary sidewalk along the cemetery to Anderson Ave.

Construct I-76 SB Bridge over Kings Highway widening.

Construct prop. retaining wall from Route 42/76 Sta. 62+00-72+00.

Construct Ramp F Sta. 810+00 to southern limits. Construct proposed retaining walls between prop. Ramps C and F. Construct outer wall along Ramp F. **In order to provide for 2 lanes from exist. Ramp C to I-295 SB and 1 lane from Route 42/76 SB to I-295 SB, a 10' shoulder is required along prop. Ramp F.**

Construct Ramp C surcharge along Ramp C Sta. 650+00 – 660+00.

Construct Ramp D from Sta.700+00 – 723+00 including Ramp D Bridge over Route 42/76. Utilize temporary sheeting from Ramp D Sta. 721+50 – 723+00. Construct temporary connection from Prop. Ramp D to exist. Ramp D at approximately Ramp D Sta. 723+00. Demolish exist. Ramp D structure.

Construct Ramp E from Sta. 750+00 – 762+00 including retaining wall, deceleration lane, and I-295 structure widening over Essex Avenue outside limits of existing shoulder. Construct Ramp E from Sta. 770+00 – 779+00 and Route 42/76 widening from Route 42/76 Sta. 64+00 – 70+00 outside limits of existing pavement. Shift existing Ramp F traffic onto prop. I-295 over Essex Ave. structure and construct middle portion of I-295 over Essex Ave. following completion of Ramp E. Construct temporary connection from I-295 structure over Essex Avenue and exist. Ramp F. Construct temporary pavement along the inner median of I-295 SB at I-295 over Essex Avenue in order to maintain 2 lanes of exist. Ramp H traffic and 1 lane of exist. Ramp G traffic. Complete construction of I-295 structure over Essex Avenue and tie in to prop. Ramp F.

Construct structure widening of Route 76 SB over exist. Ramp C.

Stage 2 Construct portion of Route 42/76 Bridge over Ramp C, I-295, and Ramp D.

Step 1 Shift traffic along Route 42/76 NB in order to construct a portion of Route 42/76 Bridge over Ramp C. Construct approximately 58' wide section of structure over Ramp C. **(All other Stage 2 activities occur independently of Step 1)**

Step 2 Construct temporary connection from exist. Ramp C to prop. Ramp F maintaining 2 lanes.

Step 3 Construct temporary connection from prop. Ramp F Sta. 818+00 to existing Route 42/76 utilizing a shift of Route 42/76 SB in the vicinity of existing Ramp G over Route 42/76

ALTERNATIVE D

SB. **Requires I-295 NB Bridge over Route 42/76 to be lengthened from previous plans.**

Step 4 Shift traffic onto temporary pavement from exist. Ramp C to prop. Ramp F and from prop. Ramp F to Route 42/76 SB.
Step 5 Construct I-295 SB inner lanes/shoulder widening from Sta. 420+00-437+00.
Step 6 Construct Ramp C Sta. 650+00 -657+00 including outer wall.
Step 7 Construct temporary pavement to connect prop Ramp C to exist. Ramp B and C.
Step 8 Shift traffic to outer shoulders along I-295 north of Route 42/76 utilizing prop. Ramp C connection to exist. Ramp B and C. Construct inner lanes/shoulder widening from Sta. 291+00-315+00 without constructing proposed median barrier.
Step 9 Construct I-295 from Sta. 281+00-291+00.
Step 10 Shift I-295 traffic onto inner prop. lanes / shoulder while maintaining connection to prop. Ramp C.
Step 11 Construct temporary connections from exist. Ramps A & D to prop. I-295 NB at Sta. 281+00.
Step 12 Construct I-295 NB/SB outer lanes/shoulder widening from Sta. 291+00-315+00.
Step 13 Complete construction of Ramp D including acceleration lane.
Step 14 Construct temporary pavement to maintain 4 lanes of traffic along Route 42/76 SB.
Step 15 Construct I-295 NB widening from Sta. 220+00-235+00.

Stage 3 Construct portion of Route 42/76 Bridge over Ramp C, Browning Road, and I-295.

Step 1 Complete construction of Route 42/76 Bridge over Ramp C. **(All other Stage 3 activities occur independently of Step 1)**
Step 2 Construct Browning Road and Browning Road Bridge over Route 42/76.
Step 3 Construct I-295 NB/SB from Sta. 242+00 – 281+00 (NB), Sta. 242+00-275+00 (SB), including I-295 over Route 42/76/Browning Road. Retaining wall required from Sta. 247+00-252+00 due existing Route 42/76 traffic.

Stage 4 Construct Ramp F, Ramp B, Ramp C, and I-295..

Step 1 Complete Ramp F Sta. 800+00 to 810+00. Close exist. Ramp G.
Step 2 Complete I-295 NB/SB from Sta. 235+00 – 242+00. Open I-295 NB traffic.
Step 3 Shift I-295 NB traffic onto prop roadway maintaining 2 lanes. Reduce exist. Ramp A to 1 lane. Maintain connection to exist. Ramp F.
Step 4 Complete construction of Ramp C with temporary connection to exist. Route 42/76 SB.
Step 5 Construct Ramp B.

Stage 5 Construct Ramp E, Route 42/76, Ramp A, I-295, and Ramp C.

Step 1 Close exist. Ramp E. Construct Ramp E structure over Route 42/76. Construct Ramp E left lane / shoulder from Sta. 769+50-778+00, including prop. retaining wall separating prop. Ramps A and E.
Step 2 Shift traffic onto I-295 NB widening / prop. Ramp E structure and demolish exist. Ramp E structure. Close exist. Ramp F.
Step 3 Construct prop. Route 42/76 pavement from Sta. 47+00-62+00. Construct inside lanes and shoulder widening along Route 42/76. Shift traffic accordingly to complete reconstruction of Route 42/76. Shift Route 42/76 traffic to final alignment upon completion of reconstruction of Route 42/76.

ALTERNATIVE D

Step 4 Construct Ramp A structure including wall separating prop. Ramps A and E and outer retaining wall from Route 42 NB Sta. 42+00 – 51+00. Temporary sheeting required to separate Ramp A from exist Route 42/76 traffic.

Step 5 Shift traffic from Route 42/76 NB to I-295 NB onto prop Ramp A maintaining 1 lane.

Step 6 Complete construction of I-295 SB from Sta. 275+00-281+00.

Step 7 Complete construction of prop. Ramp C acceleration lane.

Step 8 Resurface Route 42/76 and I-295 as required.

Step 9 Remove all remaining temporary pavement within project limits.

ALTERNATIVE D1

Phase I. Maintaining traffic on all existing State Highways except as noted herein after. (Advance contract)

Stage 1 Construct temporary bridge at Browning Road. Maintain 1 lane of traffic in each direction. Shift traffic onto temporary bridge and demolish existing bridge.

Construct Creek Rd. Bridge over Rte. 42. Anticipate 2-3 steps to complete.

Construct Bell Rd. Bridge over I-295. Anticipate 2-3 steps to complete. Extend temporary sidewalk along the cemetery to Anderson Ave.

Construct I-76 SB Bridge over Kings Highway widening. Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C starting only the westerly side.

Construct prop. retaining wall from Route 42/76 Sta. 62+00-72+00.

Construct Ramp F Sta. 809+00 to southern limits including prop. Ramp F structure over prop. Ramp C. Construct temporary pavement along exist. Ramp C outside the limits of prop. Ramp F structure over Ramp C in order to to maintain exist. Ramp C. Construct proposed retaining walls between prop. Ramps C and F. Construct outer wall along Ramp F. **In order to provide for 2 lanes from exist. Ramp C to I-295 SB and 1 lane from Route 42/76 SB to I-295 SB, the Ramp F structure over Ramp C needs to be widened to 40'. Outside the limits of the Ramp F structure over Ramp C, temporary pavement will be required as necessary in order to maintain (3) 11' lanes.**

Construct Ramp C surcharge along Ramp C Sta. 654+00 – 665+00 and 667+00 – 673+00.

Construct Ramp D from Sta.700+00 – 723+00 including Ramp D Bridge over Route 42/76. Utilize temporary sheeting from Ramp D Sta. 721+50 – 723+00. Construct temporary connection from Prop. Ramp D to exist. Ramp D at approximately Ramp D Sta. 723+00. Demolish exist. Ramp D structure.

Construct Ramp E from Sta. 750+00 – 762+00 including retaining wall, deceleration lane, and I-295 structure widening over Essex Avenue outside limits of existing shoulder. Construct Ramp E from Sta. 770+00 – 780+00 and Route 42/76 widening from Route 42/76 Sta. 64+00 – 70+00 outside limits of existing pavement. Shift existing Ramp F traffic onto prop. I-295 over Essex Ave. structure and construct middle portion of I-295 over Essex Ave. following completion of Ramp E. Construct temporary connection from I-295 structure over Essex Avenue and exist. Ramp F. Construct temporary pavement along the inner median of I-295 SB at I-295 over Essex Avenue in order to maintain 2 lanes of exist. Ramp H traffic and 1 lane of exist. Ramp G traffic. Complete construction of I-295 structure over Essex Avenue and tie in to prop. Ramp F.

Construct structure widening of Route 76 SB over exist. Ramp C.

Stage 2 Construct portion of Ramp C, I-295, Ramp D and Route 42/76 Bridge over Ramp C.

ALTERNATIVE D1

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.
Step 2 Construct Ramp C Sta. 650+00 – 675+00 including inner/outer walls.
Step 3 Construct I-295 SB Sta. 420+00 – 437+00.
Step 4 Construct temporary pavement to connect prop Ramp C to exist. ramps B and C.
Step 5 Shift traffic to outer shoulders along I-295 north of Route 42/76 utilizing Prop. Ramp C connection to exist Ramp. B and C. Construct inner lanes/shoulder widening from Sta. 291+00-315+00 without constructing proposed median barrier.
Step 6 Construct I-295 NB/SB from Sta. 281+00-291+00.
Step 7 Shift I-295 traffic onto inner prop. shoulder/lanes while maintaining connection to prop. Ramp C.
Step 8 Construct I-295 NB/SB outer lanes/shoulder widening from Sta. 291+00-315+00.
Step 9 Construct temporary connections from exist. Ramps A & D to prop. I-295 NB.
Step 10 Complete Ramp D from Sta. 723+00 – 749+00.
Step 11 Construct temporary connection from prop. Ramp F Sta. 818+00 to existing Route 42/76 utilizing a shift of Route 42/76 SB in the vicinity of existing Ramp G over Route 42/76 SB. **Requires I-295 NB bridge over Route 42/76 to be lengthened from previous plans.**

Stage 3 Construct portion of I-295, Route 42/76 Bridge over Ramp C, and Browning Road.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.
Step 2 Construct Browning Road and Bridge.
Step 3 Construct I-295 NB/SB from Sta. 239+00 – 277+00 (NB), Sta. 239+00-275+00 (SB), including I-295 over Essex Ave. and I-295 over Route 42/76/Browning Road. Retaining wall required from Sta. 247+00-252+00 due to exist Route 42/76 traffic.

Stage 4 Construct portion of Route 42/76 Bridge over Ramp C.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.
Step 2 Complete Ramp F Sta. 800+00-809+00. Close exist. Ramp G.

Stage 5 Construct Ramp B, Ramp E, Route 42/76, Ramp C, I-295, and Route 42/76 Bridge over Ramp C.

Step 1 Shift traffic along Route 42/76 in order to complete construction of Route 42/76 Bridge over Ramp C.
Step 2 Construct Ramp B.
Step 3 Construct Ramp E structure over Route 42/76. Construct Ramp E left lane / shoulder from Sta. 769+50-778+00, including prop. retaining wall separating prop. Ramps A and E.
Step 4 Construct prop. Route 42/76 pavement from Sta. 47+00-62+00. Construct inside lanes and shoulder widening along Route 42/76. Shift traffic accordingly to complete reconstruction of Route 42/76. Shift Route 42/76 traffic to final alignment upon completion of reconstruction of Route 42/76.
Step 5 Construct Ramp A structure including wall separating prop. Ramps A and E. Temporary sheeting required to separate Ramp A from exist Route 42/76 traffic.
Step 6 Shift traffic from Route 42/76 NB to I-295 NB onto prop Ramp A maintaining 1 lane.
Step 7 Complete construction of I-295 SB from Sta. 275+00-281+00.

ALTERNATIVE D1

Step 8 Complete construction of Ramp C excluding right shoulder from Sta. 712+00 to 717+00 where temporary connection from prop. Ramp E to Route 42/76 SB has previously been constructed

Step 9 Complete construction of Ramp C Sta. 712+00 to 717+00 while maintaining one lane of traffic on prop. Ramp C.

Step 10 Remove all remaining temporary pavement within project limits.

ALTERNATIVE G2

Phase I. Maintaining traffic on all existing State Highways except as noted herein after. **(Stage 1 only is an advance contract.)**

Stage 1 Construct temporary bridge at Browning Road. Maintain 1 lane of traffic in each direction. Shift traffic onto temporary bridge and demolish existing bridge.

Construct Creek Rd. Bridge over Rte. 42. Anticipate 2-3 steps to complete.

Construct Bell Rd. Bridge over I-295. Anticipate 2-3 steps to complete. Extend temporary sidewalk along the cemetery to Anderson Ave.

Construct I-76 SB Bridge over Kings Highway widening.

Construct Ramp F Sta. 810+00 Sta. 832+00. Construct proposed retaining walls between prop. Ramps C and F. Construct outer wall along Ramp F. **In order to provide for 2 lanes from exist. Ramp C to I-295 SB and 1 lane from Route 42/76 SB to I-295 SB, a 10' shoulder is required along prop. Ramp F.** Construct temporary pavement connecting prop. Ramp F and existing Ramp C maintaining 2 lanes. Construct temporary connection from prop. Ramp F Sta. 818+00 to existing Route 42/76 utilizing a shift of Route 42/76 SB in the vicinity of existing Ramp G over Route 42/76 SB. **Requires I-295 NB Bridge over Route 42/76 to be lengthened from previous plans.**

Construct prop. retaining wall from Route 42/76 Sta. 62+00-72+00.

Construct Route 42/76 NB temporary pavement in the vicinity of existing Ramp E and the acceleration lanes of existing Ramp E onto Route 42/76. Construct temporary bridge Ramp E over Route 42/76 utilizing existing median for temporary pier location.

Construct Ramp E, including deceleration lane and outer retaining wall, from Sta. 755+00 – 767+00. Construct Ramp E structure over Route 42/76. Construct Ramp E outside the limits of the exist. Ramp E from Sta. 774+00 – 7780+00. Complete construction of Ramp E upon demolition of exist Ramp E. Following completion of Ramp E Sta. 755+00 – 767+00, shift existing Ramp F traffic onto prop. I-295 over Essex Ave. structure and construct middle portion of I-295 over Essex Ave.

Construct temporary pavement to maintain 4 lanes of traffic along Route 42/76 SB.

Construct structure widening of Route 76 SB over exist. Ramp C.

Stage 2 Construct portion of Route 42/76 Bridge over Ramp C, I-295, and Ramp A.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C. Construct approximately 120' wide section of structure over Ramp C beginning on the Route 42/76 SB side. **(All other Stage 2 activities occur independently.)**

Step 2 Construct I-295 SB structure from Sta. 443+00 to northerly limits including I-295 over Route 42/76. Approximately 2 steps will be required in the vicinity of the northerly limits. Construct I-295 NB from Sta. 243+00 to 278+00 and Sta. 285+00 to 295+00. Construct Ramp C Sta. 650+00 - 663+00. **(All other project activities occur independently unless otherwise noted.)**

Step 3 Construct temporary pavement for I-295 SB in order to maintain 6 I-295 lanes (3-SB, 3-NB) from Sta. 485+00 to northerly limits. Construct temporary connection to exist.

ALTERNATIVE G2

Ramps B and C. **Requires Ramp C structure to be lengthened from previous plans.** Shift traffic onto temporary pavement.

Step 4 Construct temporary pavement for I-295 SB along proposed I-295 median and outer I-295 NB shoulder from Sta. 420+00 – 445+00 in order to maintain 6 I-295 lanes (3-SB, 3-NB). Construct temporary connection from exist. Ramp G to temporary I-295 SB pavement. Shift I-295 NB/SB traffic onto proposed / temporary pavement.

Step 5 Construct I-295 SB structure and roadway from southerly limits to Sta. 443+00 outside temporary pavement limits. Construct prop. Ramp F connection to prop. I-295 SB. Shift I-295 SB traffic onto prop. Ramp F utilizing previously constructed exist. Ramp C connection.

Step 6 Construct Ramp A. Tie into prop. I-295 NB structure.

Stage 3 Construct Browning Road and Ramp A.

Step 1 Construct temporary connection from Route 42/76 SB to prop. Ramp F outside the limits of exist. Ramp D abutment. Close exist. Ramp G.

Step 2 Complete construction of I-295 SB from southerly limits to Sta. 443+00. Complete construction of I-295 NB from Sta. 239+00 – 243+00.

Step 3 Construct Browning Road and Browning Road Bridge over Route 42/76.

Stage 4 Construct I-295 and Ramp D.

Step 1 Construct of Ramp D Sta. 725+00 – 748+00.

Step 2 Shift I-295 NB traffic onto previously constructed temporary pavement in order to complete I-295 NB Sta. 285+00 to 307+00.

Step 3 Construct temporary connection to prop. Ramp D at approximately Sta. 725+00.

Step 4 Construct I-295 NB from Sta. 278+00 to 285+00. Shift I-295 NB traffic onto prop. I-295 NB.

Step 5 Complete construction of Ramp D from Sta.700+00 – 725+00 including Ramp D Bridge over Route 42/76. Demolish exist. Ramp D structure.

Step 6 Complete construction of Route 42/76 Bridge over Ramp C.

Stage 5 Construct Ramp F, I-295, Route 42/76, Ramp C, and Ramp B.

Step 1 Complete construction of prop. Ramp F from Sta. 800+00 to 810+00.

Step 2 Construct prop. Route 42/76 pavement from Sta. 47+00-62+00. Construct inside lanes and shoulder widening along Route 42/76. Shift traffic accordingly to complete reconstruction of Route 42/76. Shift Route 42/76 traffic to final alignment upon completion of reconstruction of Route 42/76.

Step 3 Complete construction of Ramp C.

Step 4 Construct prop. Ramp B.

Step 5 Remove all remaining temporary pavement within project limits.

ALTERNATIVE H1

Phase I. Maintaining traffic on all existing State Highways except as noted herein after. (Advance contract)

Stage 1 Construct temporary bridge at Browning Road. Maintain 1 lane of traffic in each direction. Shift traffic onto temporary bridge and demolish existing bridge.

Construct Creek Rd. Bridge over Rte. 42. Anticipate 2-3 steps to complete.

Construct Bell Rd. Bridge over I-295. Anticipate 2-3 steps to complete. Extend temporary sidewalk along the cemetery to Anderson Ave.

Construct I-76 SB Bridge over Kings Highway widening. Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.

Construct Ramp F Sta. 809+00 to southern limits including prop. Ramp F structure over prop. Ramp C. Construct temporary pavement along exist. Ramp C outside the limits of prop. Ramp F structure over Ramp C in order to maintain exist. Ramp C. Construct proposed retaining walls between prop. Ramps C and F. Construct outer wall along Ramp F. **In order to provide for 2 lanes from exist. Ramp C to I-295 SB and 1 lane from Route 42/76 SB to I-295 SB, the Ramp F structure over Ramp C needs to be widened to 40'. Outside the limits of the Ramp F structure over Ramp C, temporary pavement will be required as necessary in order to maintain (3) 11' lanes.**

Construct Route 42/76 NB temporary pavement in the vicinity of existing Ramp E and the acceleration lanes of existing Ramp E onto Route 42/76. Construct temporary bridge Ramp E over Route 42/76 utilizing existing median for temporary pier location.

Construct prop. retaining wall from Route 42/76 Sta. 62+00-72+00.

Construct Ramp E, including deceleration lane and outer retaining wall, from Sta. 755+00 – 767+00. Construct Ramp E structure over Route 42/76. Construct Ramp E outside the limits of the exist. Ramp E from Sta. 774+00 – 778+00. Complete construction of Ramp E upon demolition of exist Ramp E. Following completion of Ramp E Sta. 755+00 – 767+00, shift existing Ramp F traffic onto prop. I-295 over Essex Ave. structure and construct middle portion of I-295 over Essex Ave.

Construct structure widening of Route 76 SB over exist. Ramp C.

Stage 2 Construct portion of Route 42/76 Bridge over Ramp C, I-295 , Ramp C, and Ramp A.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.

Step 2 Construct I-295 SB structure from Sta. 443+00 to northerly limits including I-295 over Route 42/76. Approximately 2 steps will be required in the vicinity of the northerly limits. Construct I-295 NB from Sta. 243+00 to 278+00 and Sta. 285+00 to 295+00. Construct Ramp C Sta. 650+00-663+00. **(All other project activities occur independently unless otherwise noted.)**

Step 3 Construct temporary pavement connecting prop. Ramp C to exist. Ramps B and C.

Step 4 Construct temporary pavement for I-295 SB in order to maintain 6 I-295 lanes (3-SB, 3-NB) from Sta. 485+00 to northerly limits. Construct temporary connection to exist.

ALTERNATIVE H1

Ramps B and C. It will require temporary pavement in wetlands areas along exist. Ramp C at approximate Sta. 660+00. **Requires Ramp C structure to be lengthened from previous plans.** Shift traffic onto temporary pavement.

Step 5 Construct temporary pavement for I-295 SB along proposed I-295 median and outer I-295 NB shoulder in order to maintain 6 I-295 lanes (3-SB, 3-NB). Construct temporary connection from exist. Ramp G to temporary I-295 SB pavement. Shift I-295 NB/SB traffic onto proposed / temporary pavement.

Step 6 Construct I-295 SB structure and roadway from southerly limits to Sta. 443+00 outside temporary pavement limits. Construct prop. Ramp F connection to prop. I-295 SB.

Step 7 Construct Ramp A. Tie into prop. I-295 NB structure.

Stage 3 Construct portion of Route 42/76 Bridge over Ramp C, I-295 and Browning Road.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.

Step 2 Construct temporary pavement connecting prop. Ramp F and existing Ramp C maintaining 2 lanes.

Step 3 Construct temporary connection from prop. Ramp F Sta. 818+00 to existing Route 42/76 utilizing a shift of Route 42/76 SB in the vicinity of existing Ramp G over Route 42/76 SB. **Requires I-295 NB bridge over Route 42/76 to be lengthened from previous plans.**

Step 4 Shift I-295 SB traffic onto prop. Ramp F maintaining 2 lanes. Maintain 1 lane of exist. Ramp G traffic on previously constructed temporary pavement.

Step 5 Complete construction of I-295 SB from southerly limits to Sta. 443+00. Maintain exist. Ramp G traffic on temporary pavement previously constructed.

Step 6 Construct Browning Road and Browning Road Bridge over Route 42/76.

Stage 4 Construct portion of I-295, Ramp C, and Ramp D.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.

Step 2 Construct Ramp C from Sta. 663+00 to 675+00. with tie down to exist Ramp C.

Step 3 Shift I-295 SB traffic onto proposed structure maintaining 2 lanes which will exit onto prop. Ramp C.

Step 4 Construct Ramp D Sta. 725+00 – 748+00.

Step 5 Construct temporary connection to prop. Ramp D at approximately Sta. 725+00.

Step 6 Complete construction of Ramp D.

Step 7 Remove exist. Ramp D structure.

Step 8 Shift I-295 NB traffic onto previously constructed temporary pavement in order to complete I-295 NB Sta. 280+00 to northerly limits.

Stage 5 Construct portion of Route 42/76 Bridge over Ramp C, Ramp F, Ramp B, and Route 42/76.

Step 1 Shift traffic along Route 42/76 in order to construct a portion of Route 42/76 Bridge over Ramp C.

Step 2 Complete construction of Ramp F from Sta. 800+00 to 809+00. Close exist. Ramp G.

Step 3 Complete construction of I-295 NB from Sta. 239+00 – 243+00.

Step 4 Construct temporary pavement along Route 42/76 in order to maintain 4 lanes in the vicinity of Ramp E. Shift Route 42/76 NB traffic onto temporary pavement.

ALTERNATIVE H1

Step 5 Construct prop. Route 42/76 pavement from Sta. 47+00-62+00. Construct inside lanes and shoulder widening along Route 42/76. Shift traffic accordingly to complete reconstruction of Route 42/76. Shift Route 42/76 traffic to final alignment upon completion of reconstruction of Route 42/76.

Step 6 Construct Ramp B.

Step 7 Complete construction of Ramp C excluding right shoulder from Sta. 712+00 to 717+00 where temporary connection from prop. Ramp E to Route 42/76 SB has previously been constructed

Step 8 Complete construction of Ramp C Sta. 712+00 to 717+00 while maintaining one lane of traffic on prop. Ramp C.

Step 9 Remove all remaining temporary pavement within project limits.

ALTERNATIVE K

Phase I. Maintaining traffic on all existing State Highways except as noted herein after. **(Stage 1 only is an advance contract.)**

Stage 1 Construct temporary bridge at Browning Road. Maintain 1 lane of traffic in each direction. Shift traffic onto temporary bridge and demolish existing bridge.

Construct Creek Rd. Bridge over Rte. 42. Anticipate 2-3 steps to complete.

Construct Bell Rd. Bridge over I-295. Anticipate 2-3 steps to complete. Extend temporary sidewalk along the cemetery to Anderson Ave.

Construct I-76 SB Bridge over Kings Highway widening.

Construct prop. retaining wall from Route 42/76 Sta. 62+00-72+00.

Construct Ramp C surcharge along Ramp C Sta. 650+00 – 660+00

Construct Ramp F Sta. 810+00 to southern limits. Southern limits must meet proposed I-295 at Sta. 238+00. Construct proposed retaining walls between prop. Ramps C and F. Construct outer wall along Ramp F.

Construct Route 42/76 NB temporary pavement in the vicinity of existing Ramp E and the acceleration lanes of existing Ramp E onto Route 42/76. Construct temporary bridge Ramp E over Route 42/76 utilizing existing median for temporary pier location.

Construct Ramp E, including deceleration lane, I-295 over Essex Ave. and outer retaining wall, from Sta. 755+00 – 767+00. Construct Ramp E structure over Route 42/76. Construct Ramp E outside the limits of the exist. Ramp E from Sta. 774+00 – 778+00. Shift existing Ramp F traffic onto prop. I-295 over Essex Ave. structure and construct middle portion of I-295 over Essex Ave. following completion of Ramp E. Following completion, construct temporary connection from I-295 structure over Essex Avenue and exist. Ramp F. Construct temporary pavement along the inner median of I-295 SB at I-295 over Essex Avenue in order to maintain 2 lanes of exist. Ramp H traffic and 1 lane of exist. Ramp G traffic. Complete construction of I-295 structure over Essex Avenue and tie in to prop. Ramp F.

Construct temporary pavement to maintain 4 lanes of traffic along Route 42/76 SB. Construct temporary pavement to connect exist. Ramp C to Route 42/76 SB while maintaining 2 lanes of traffic. Barrier to separate Route 42/76 SB and exist. Ramp C in order to prevent weaving outside limits of entrance from exist. Ramp C to Route 42/76 SB. Construct temporary pavement to connect Route 42/76 to exist. Ramp H.

Construct structure widening of Route 76 SB over exist. Ramp C.

Stage 2 Construct I-295, Ramp A, Ramp C, and Ramp D.

Step 1 Shift Route 42/76 traffic onto temporary pavement previously constructed.
Step 2 Construct I-295 NB/SB from Route 42/76 over I-295 to Sta. 280+00 excluding I-295 SB Sta. 275+00 to 280+00.
Step 3 Construct I-295 tunnel from easterly limits up to approximately limits of existing Route 42/76 local roadway. Construct Ramp A . Construct Ramp E structure over prop. Ramp

ALTERNATIVE K

A. Maintain 4 lanes of thru traffic along Route 42/76 NB and 2 lane entrance/exit from exist. Ramp E to exist. Ramp A. Shift traffic onto Ramp A upon completion. Close exist. Ramp F.

Step 4 Construct Ramp C deceleration lane up to Sta. 665+00 including outer wall.

Step 5 Construct temporary pavement to connect prop Ramp C to exist. Ramps B and C.

Step 6 Shift traffic to outer shoulders along I-295 north of Route 42/76 utilizing prop. Ramp C connection to exist Ramps B and C. Construct inner lanes/shoulder widening from I-295 Sta. 291+00-315+00 without constructing proposed median barrier.

Step 7 Construct I-295 NB/SB from Sta. 280+00-291+00. Construct temporary connection from exist. Ramps A and D to prop. I-295.

Step 8 Shift I-295 traffic onto inner prop. shoulder/lanes while maintaining connection to prop. Ramp C.

Step 9 Construct I-295 NB/SB outer lanes/shoulder widening from Sta. 291+00-315+00.

Step 10 Shift I-295 traffic to outer shoulders utilizing temporary pavement to maintain 3 lanes of traffic in each direction from southerly limits to Sta. 230+00. Construct inner shoulders and lanes along I-295 from southerly limits to Sta. 238+00.

Step 11 Shift traffic accordingly on previously constructed pavement while maintaining 3 lanes of traffic in each direction. Maintain connections to exist I-295 at approximately Sta. 238+00 to complete construction from southerly limits to Sta. 238+00.

Step 12 Construct Ramp D from Sta. 724+00 to 740+00 while maintaining traffic on exist. Ramp D utilizing temporary connection to I-295 NB. Shift traffic onto prop. Ramp D.

Stage 3 Construct I-295, Ramp D, Browning Road, and Ramp F.

Step 1 Shift Route 42/76 NB traffic by separating 2 thru lanes onto exist. Route 42/76 SB and 2 thru lane/2 exit lanes onto previously constructed Route 42/76 NB over I-295.

Step 2 Construct I-295 tunnel from exist. Route 42/76 express lanes to previously constructed Route 42/76 NB over I-295.

Step 3 Construct Browning Road Bridge over Route 42/76.

Stage 4 Complete I-295.

Step 1 Shift Route 42/76 NB traffic onto prop. Route 42/76 NB over I-295.

Step 2 Complete construction of I-295 tunnel crossing Route 42/76.

Step 3 Construct I-295 NB/SB Sta. 238+00 to Route 42/76 over I-295. Open I-295 NB traffic.

Step 4 Construct I-295 SB from Sta. 275+00 – 280+00. Open I-295 SB traffic.

Step 5 Construct temporary connection from Route 42/76 SB to prop. Ramp F outside the limits of exist. Ramp D abutment. Close exist. Ramp G.

Stage 5 Construct Route 42/76, Ramp B, and Ramp C.

Step 1 Construct prop. Route 42/76 pavement from Sta. 47+00-62+00. Construct inside lanes and shoulder widening along Route 42/76. Shift traffic accordingly to complete reconstruction of Route 42/76. Shift Route 42/76 traffic onto final alignment upon completion of reconstruction of Route 42/76.

Step 2 Construct prop. Ramp B.

Step 3 Construct prop. Ramp C

Step 4 Construct Ramp D Sta. 700+00 to 724+00. Demolish exist. Ramp D structure.

Step 5 Complete construction of Ramp F Sta. 800+00-810+00.

APPENDIX C
Balloon Study Notice
Prepared by Dewberry-Goodkind, Inc.

NJDOT to Float Balloons for Historical Architecture and Visual Impact Studies

The New Jersey Department of Transportation (NJDOT) is planning to improve the I-295/I-76/Route 42 Interchange in Camden and Gloucester Counties. This project, known as the I-295/I-76/Route 42 Direct Connection, is intended to improve traffic safety and reduce traffic congestion.

The NJDOT developed numerous alternatives for the Direction Connection Project. Five alternatives have been selected for further evaluation of potential environmental impacts through Technical Environmental Studies as part of an Environmental Impact Statement currently being conducted by the Department. In addition to environmental factors such as socioeconomics, natural resources, air quality, noise, and hazardous waste, the environmental impact analysis of these alternatives includes evaluation of historic architecture and visual impacts.

Two of the alternatives (known as Alternatives D and D1) bring the I-295 mainline travel lanes together with a crossing over I-76 at Browning Road. Alternative D utilizes a new ramp to travel from southbound I-295 to southbound Route 42, whereas Alternative D1 utilizes a portion of existing southbound I-295 (Al-Jo's Curve).

Two additional alternatives (known as Alternatives G2 and H1) involve the construction of the I-295 mainline as a double-deck highway, with the I-295 northbound travel lanes constructed above the I-295 southbound travel lanes. The double-deck design would be at essentially the same location as Alternative D, crossing over I-76 at Browning Road. Alternative G2 would involve the construction of a new ramp from southbound I-295 to southbound Route 42, similar to Alternative D. Alternative H1 utilizes a portion of existing southbound I-295 (Al-Jo's Curve) as the ramp from southbound I-295 to southbound Route 42, similar to Alternative D1.

The fifth alternative (known as Alternative K) utilizes a depressed roadway for the I-295 mainline that would cross under I-76 at Browning Road.

The NJDOT is planning to conduct a balloon test to assess the potential visual impacts of these alternatives on the local community and historic architectural resources. The balloon test involves the floating of helium-filled balloons from secured anchoring locations to specified heights to depict the height of the proposed structures.

The balloon test will be performed such that the balloons will visually represent the tallest structures within the alternatives being considered. Based on the alternatives, a series or four locations have been chosen at which to float balloons. These locations include: 1) the ballfields behind the Bellmawr Park School; 2) the Browning Road overpass; 3) near the William Harrison House; and 4) along I-295, south of Shining Star Park. At each location, a minimum of two four foot (4') diameter balloons will be floated.

Red balloons will be floated at the approximate height of the tallest structures for Alternatives D and D1. Black balloons will be floated at the approximate height of the tallest structures for Alternatives G2 and H1. At the location near the William Harrison House, a third balloon, beige

in color, will be floated at the approximate height of the tallest structure for the proposed flyover ramp that would cross the I-295 mainline between Bell Road and Browning Road.

During the balloon test, architectural historians will travel the surrounding area and take photographs of the balloons from known or potentially significant historic locations. These photographs will identify whether the different alternatives are visible from each location. Similarly, photographs will be taken from a variety of other locations within the surrounding communities to determine the visibility of the balloons from those sites. Photographic simulations depicting the proposed roadway improvements may then be generated that will be used to analyze the visual impact of these alternatives on the local communities.

The balloon test is scheduled for Tuesday, April 27, 2004, between 9 am and 4 pm. The floating of helium-filled balloons is extremely dependent on weather conditions; rain, wind, and low temperatures (below 40^{o}F) can greatly affect the ability to float the balloons. In the event of unsuitable weather conditions on April 27th, the alternate dates of Wednesday, April 28th or Thursday, April 29th may be utilized.

An information center will be set up at the Bellmawr Borough Municipal Court Room Center from 9 am to 5 pm on the day of the balloon test for anyone wishing to stop by for additional information. Maps showing the current alternatives will be available. These maps will identify the locations of the balloons being floated during the test. Technical personnel familiar with the project will be on hand to answer questions. Alternatively, additional information may be obtained on the day of the test by calling 856.802.0843. Further details pertaining to the I-295/I-76/Route 42 Direct Connection Project is available via the project website at www.state.nj.us/transportation/works/studies/rt295.

APPENDIX D
Transportation Information
Provided by Urbitran

Safety Analysis at the I-295/I-76/NJ-42 Interchange

The I-295/I-76/NJ-42 interchange currently experiences a high volume of motor vehicle accidents. This is due, in part, to the dramatic speed changes required of motorists wishing to travel on I-295, through the interchange. That is, drivers on I-295 in either direction must reduce their speeds to 35-mph while moving through the interchange. Additionally, the current design of the interchange causes a high volume of weaving movements at and around the interchange. It is suggested that improvements to the interchange could provide a reduction in the number of accidents and thus, in the burden of costs that accidents place on the state of New Jersey each year.

In order to estimate the change in the number of accidents, after improvements to the interchange, ten interchanges were chosen, each similar in design and volume, to the proposed improvements of the I-295/I-76/NJ-42 interchange. Accident data were gathered for each of these interchanges over three years (2002-2004). These data were then analyzed against the conditions at the study interchange for the same years.

Selected Interchanges

Ten interchanges were selected as having similar qualities to those of the I-295/I-76/NJ-42 interchange. The first criterion for selection was that the interchanges be located in the state of New Jersey. Additionally, those located close to the study interchange were looked upon as more favorable than those located, for example, in the northern part of the state. This is because travel patterns vary from region to region and we wanted to choose interchanges which most closely resemble the study interchange. Interchanges were then chosen based on their designs and operations, and the traffic volumes carried. That is, the chosen interchanges were to have a design and level of operations similar to the proposed improvements at the study interchange. As such, interchanges involving the New Jersey Turnpike and the Garden State Parkway were left out of the analysis. This is because both of these facilities are toll-operated and the study interchange is not part of a toll-operated facility.

These interchanges were also to carry volumes of traffic similar to the volume which passes through the study interchange (approximately 313,048 vehicles on a typical weekday in 2005). Interchange volumes were obtained from a 22-county traffic model, covering the entire NJTPA and DVRPC regions and include traffic transferring between routes as well as traffic making through movements.

The above criteria caused a strict limitation in the number of possible choices. In the end, four interchanges were chosen as most similar to an improved I-295/I-76/NJ-42 interchange.

The following table shows each selected interchange, the county in which it is located, and the estimated traffic volume on a typical weekday in 2005. Note that the first interchange listed is the study interchange.

Interchange	County	Volume (typical weekday 2005)
I-295/I-76/NJ-42	Camden	313,048
I-76/I-676	Camden	229,920
I-78/I-287	Somerset	202,843
I-80/I-287	Morris	369,766
I-80/I-95	Bergen	274,950

Analysis

Crash data for the 30-month period from January, 2002 through June, 2004 were obtained from the NJDOT website, by year, in raw form. Each interchange was matched with the mileposts on each of its intersecting routes, based on the 2003 Straight Line Diagrams. Some interchanges contain a range of mileage between two ramps from one route to another or, in the case of the study interchange, for the entrance and exit ramps from I-295 to NJ-42 (two ramps, one at milepost 26.61 and one at milepost 26.55) and for the ramp to/from I-76 (at milepost 27.10). This entire range, from 26.55 to 27.10 was analyzed for accidents. For each interchange, 3/10 of a mile was added on each side of the range to account for the width of the interchange and a further 1500 feet was added for the interchange's influence on the amount of weaving (which could serve as a catalyst for accidents).

Crash data from each interchange (based on mileposts) were pulled from the raw data files. Several fields were of interest to this study: the total number of fatalities, the total number of injuries, the total number of pedestrian fatalities, and the total number of pedestrian injuries. These numbers were summed for each interchange. However, these numbers alone do not give an accurate representation of the potential for crash reduction at the study intersection. Since volumes vary, it was necessary to build a ratio of crashes (and fatalities, injuries, etc.) to the total annual volume at each interchange.

Since the volumes obtained earlier in the study were typical weekday volumes, a factor of 330 was applied to these volumes to obtain annual volumes for 2005. Additionally, 2005 volumes were reduced slightly for each of the years used. County-based annual growth factors from the North Jersey Congestion Management System were used to make these reductions.

The analysis showed that, over the 30-month period studied, there were 1,864 recorded accidents at the I-295/I-76/NJ-42 Interchange, of which 2 were fatal and 631 involved injuries. During this same period, roughly 250 million vehicles passed through this interchange, yielding rates of about 7.5 accidents, 2.5 accidents with injuries, and 0.008 accidents with fatalities per million vehicles. These rates are much higher than rates for other interchanges listed above, each of which carried between 160 million and 300 million vehicles during the same 30-month period.

In total, the other four Interstate interchanges listed above had 2.0 accidents per million vehicles, of which 0.7 involved injuries, and 0.002 involved fatalities.

Assuming that the redesigned I-295/I-76/NJ-42 Interchange would have similar accident rates to the four other Interstate interchanges, the number of annual accidents would be reduced by about 550, the number of annual accidents involving injuries would be reduced by about 180, and the average number of annual accidents involving fatalities would be reduced by about 0.6, even if no growth in traffic occurs. The annual economic benefit of such reductions is about $11 million in 2005 terms, based on approximate average costs provided by NJDOT.

APPENDIX E
Travel Time Savings Calculations

I-295/I-76/Route 42 Direct Connection

Travel Time Savings Calculations Using NCHRP Report 456, Method 2 (Including Missing Moves)

Travel Time Savings	AM [1] (2 Hours)	PM [1] (3 Hours)
Vehicle Hours Per Rush Hour Period	4570	7120

Travel Time Savings	AM	PM
Cars (89% in AM and 88% in PM) [1]	4067	6266
Trucks (11% in AM and 12% in PM [1]	503	854

Travel Time Savings for Cars in the AM

Occupancy Rate [1]		1.38	
Auto Person Hours		5613	(Occupancy * Car Travel Time Savings) [2]
Effective Person Hours		2526	(45% * Auto Person Hours) [2]
On the Clock Hours		253	(10 Percent * Effective Person Hours) [2]
Daily Vehicle Dollars Saved	$	6,412.99	(On the Clock Hours * $25.39 [Average Labor and Fringe Rate]) [2]
Annual Vehicle Dollars Saved	**$**	**1,603,247.30**	(Daily Vehicle Dollars Saved * 250) [3]
Off the Clock Hours		2273	(90 percent * Effective Person Hours) [2]
Off the Clock Average Labor and Fringe Rate	$	15.23	(60 percent * $25.39 [Average Labor and Fringe Rate]) [2]
Daily Vehicle Dollars Saved	$	34,630.14	(Off the Clock Hours * Off the Clock Average Labor and Fringe Rate) [2]
Annual Vehicle Dollars Saved	**$**	**8,657,535.40**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Cars in the PM

Occupancy Rate [1]		1.38	
Auto Person Hours		8647	(Occupancy * Car Travel Time Savings) [2]
Effective Person Hours		3891	(45% * Auto Person Hours) [2]
On the Clock People		389	(10 Percent * Effective Person Hours) [2]
Daily Vehicle Dollars Saved	$	9,879.09	(On the Clock Hours * $25.39 [Average Labor and Fringe Rate]) [2]
Annual Vehicle Dollars Saved	**$**	**2,469,772.64**	(Daily Vehicle Dollars Saved * 250) [3]
Off the Clock Hours		3502	(90 percent * Effective Person Hours) [2]
Off the Clock Average Labor and Fringe Rate	$	15.23	(60 percent * $25.39 [Average Labor and Fringe Rate) [2]
Daily Vehicle Dollars Saved	$	53,347.09	(Off the Clock Hours * Off the Clock Average Labor and Fringe Rate) [2]
Annual Vehicle Dollars Saved	**$**	**13,336,772.26**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Trucks in the AM

Truck Person Hours		503	(Assumes 1 person for each truck) [2]
Value of one hour of truck travel time	$	30.91	(Average Labor and Fringe Rate for Trucks) [2]
Operating and Inventory Cost	$	7.80	(As per NCHRP 456, 2001) [2]
Total Value for Truck Travel Time	$	38.71	(Value of one hour of truck travel time + Operating and Inventory Cost) [2]
Daily Vehicle Dollars Saved	$	19,459.52	(Truck Person Hours * Total Value for Truck Travel Time) [2]
Annual Vehicle Dollars Saved	**$**	**4,864,879.25**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Trucks in the PM

Truck Person Hours		854	(Assumes 1 person for each truck) [2]
Value of one hour of truck travel time	$	30.91	(Average Labor and Fringe Rate for Trucks) [2]
Operating and Inventory Cost	$	7.80	(As per NCHRP 456, 2001) [2]
Total Value for Truck Travel Time	$	38.71	(Value of one hour of truck travel time + Operating and Inventory Cost) [2]
Daily Vehicle Dollars Saved	$	33,073.82	(Truck Person Hours * Total Value for Truck Travel Time) [2]
Annual Vehicle Dollars Saved	**$**	**8,268,456.00**	(Daily Vehicle Dollars Saved * 250) [3]

Subtotal for Cars	**$**	**26,067,327.61**
Subtotal for Trucks	**$**	**13,133,335.25**
Total	**$**	**39,200,662.86**

1- Numbers provided by Urbitran, December 2005
2- Information provided by NCHRP Report 456, 2001
3- As per Urbitran's recommendation the number 250 represents 50 weeks a year five days a week

I-295/I-76/Route 42 Direct Connection

Travel Time Savings Calculations Using NCHRP Report 456, Method 2

(**Without** Missing Moves)

Travel Time Savings	AM [1] (2 Hours)	PM [1] (3 Hours)
Vehicle Hours Per Rush Hour Period	4360	8530

Travel Time Savings	AM	PM
Cars (89% in AM and 88% in PM) [1]	3880	7506
Trucks (11% in AM and 12% in PM [1]	480	1024

Travel Time Savings for Cars in the AM

Occupancy Rate [1]		1.38	
Auto Person Hours		5355	(Occupancy * Car Travel Time Savings) [2]
Effective Person Hours		2410	(45% * Auto Person Hours) [2]
On the Clock Hours		241	(10 Percent * Effective Person Hours) [2]
Daily Vehicle Dollars Saved	$	6,118.30	(On the Clock Hours * $25.39 [Average Labor and Fringe Rate]) [2]
Annual Vehicle Dollars Saved	**$**	**1,529,575.10**	(Daily Vehicle Dollars Saved * 250) [3]
Off the Clock Hours		2169	(90 percent * Effective Person Hours) [2]
Off the Clock Average Labor and Fringe Rate	$	15.23	(60 percent * $25.39 [Average Labor and Fringe Rate]) [2]
Daily Vehicle Dollars Saved	$	33,038.82	(Off the Clock Hours * Off the Clock Average Labor and Fringe Rate) [2]
Annual Vehicle Dollars Saved	**$**	**8,259,705.55**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Cars in the PM

Occupancy Rate [1]		1.38	
Auto Person Hours		10359	(Occupancy * Car Travel Time Savings) [2]
Effective Person Hours		4661	(45% * Auto Person Hours) [2]
On the Clock People		466	(10 Percent * Effective Person Hours) [2]
Daily Vehicle Dollars Saved	$	11,835.48	(On the Clock Hours * $25.39 [Average Labor and Fringe Rate]) [2]
Annual Vehicle Dollars Saved	**$**	**2,958,870.88**	(Daily Vehicle Dollars Saved * 250) [3]
Off the Clock Hours		4195	(90 percent * Effective Person Hours) [2]
Off the Clock Average Labor and Fringe Rate	$	15.23	(60 percent * $25.39 [Average Labor and Fringe Rate) [2]
Daily Vehicle Dollars Saved	$	63,911.61	(Off the Clock Hours * Off the Clock Average Labor and Fringe Rate) [2]
Annual Vehicle Dollars Saved	**$**	**15,977,902.73**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Trucks in the AM

Truck Person Hours		480	(Assumes 1 person for each truck) [2]
Value of one hour of truck travel time	$	30.91	(Average Labor and Fringe Rate for Trucks) [2]
Operating and Inventory Cost	$	7.80	(As per NCHRP 456, 2001) [2]
Total Value for Truck Travel Time	$	38.71	(Value of one hour of truck travel time + Operating and Inventory Cost) [2]
Daily Vehicle Dollars Saved	$	18,565.32	(Truck Person Hours * Total Value for Truck Travel Time) [2]
Annual Vehicle Dollars Saved	**$**	**4,641,329.00**	(Daily Vehicle Dollars Saved * 250) [3]

Travel Time Savings for Trucks in the PM

Truck Person Hours		1024	(Assumes 1 person for each truck) [2]
Value of one hour of truck travel time	$	30.91	(Average Labor and Fringe Rate for Trucks) [2]
Operating and Inventory Cost	$	7.80	(As per NCHRP 456, 2001) [2]
Total Value for Truck Travel Time	$	38.71	(Value of one hour of truck travel time + Operating and Inventory Cost) [2]
Daily Vehicle Dollars Saved	$	39,623.56	(Truck Person Hours * Total Value for Truck Travel Time) [2]
Annual Vehicle Dollars Saved	**$**	**9,905,889.00**	(Daily Vehicle Dollars Saved * 250) [3]

Subtotal for Cars	**$**	**28,726,054.25**
Subtotal for Trucks	**$**	**14,547,218.00**
Total	**$**	**43,273,272.25**

1- Numbers provided by Urbitran, December 2005

2- Information provided by NCHRP Report 456, 2001

3- As per Urbitran's recommendation the number 250 represents 50 weeks a year five days a week

US Department of Transportation
Federal Highway Administration
New Jersey Department of Transportation