Section 1
Project Purpose and Need

1.1 Background

When the New Jersey Turnpike was constructed 50 years ago, its purpose was to provide faster, more efficient travel for north-south trips between New York City/points north and Philadelphia/points south. The New Jersey Turnpike was to become the route of choice for such trips, replacing the use of US Route 1 and US Route 130, which were designed and built to older standards. A location map is provided in Figure 1-1.

While the New Jersey Turnpike continues to fulfill its role of serving regional transportation needs, US Route 1 remains a favored route for trips between northern New Jersey/New York and southwestern Middlesex County/northeastern Mercer County. The high traffic volumes and congestion experienced on US Route 1 in the project area cannot effectively be relieved by the New Jersey Turnpike because of the lack of a high-speed connection between US Route 1 and the New Jersey Turnpike in the area between Route 18 in New Brunswick and Interstate 195/State Route 29 in southern Mercer County (see Figure 1-2). Only local and secondary (i.e., county) roads are available for east-west travel in this area, and traffic traveling between US Route 1 and the New Jersey Turnpike in this area uses local/secondary roads to make the connection.

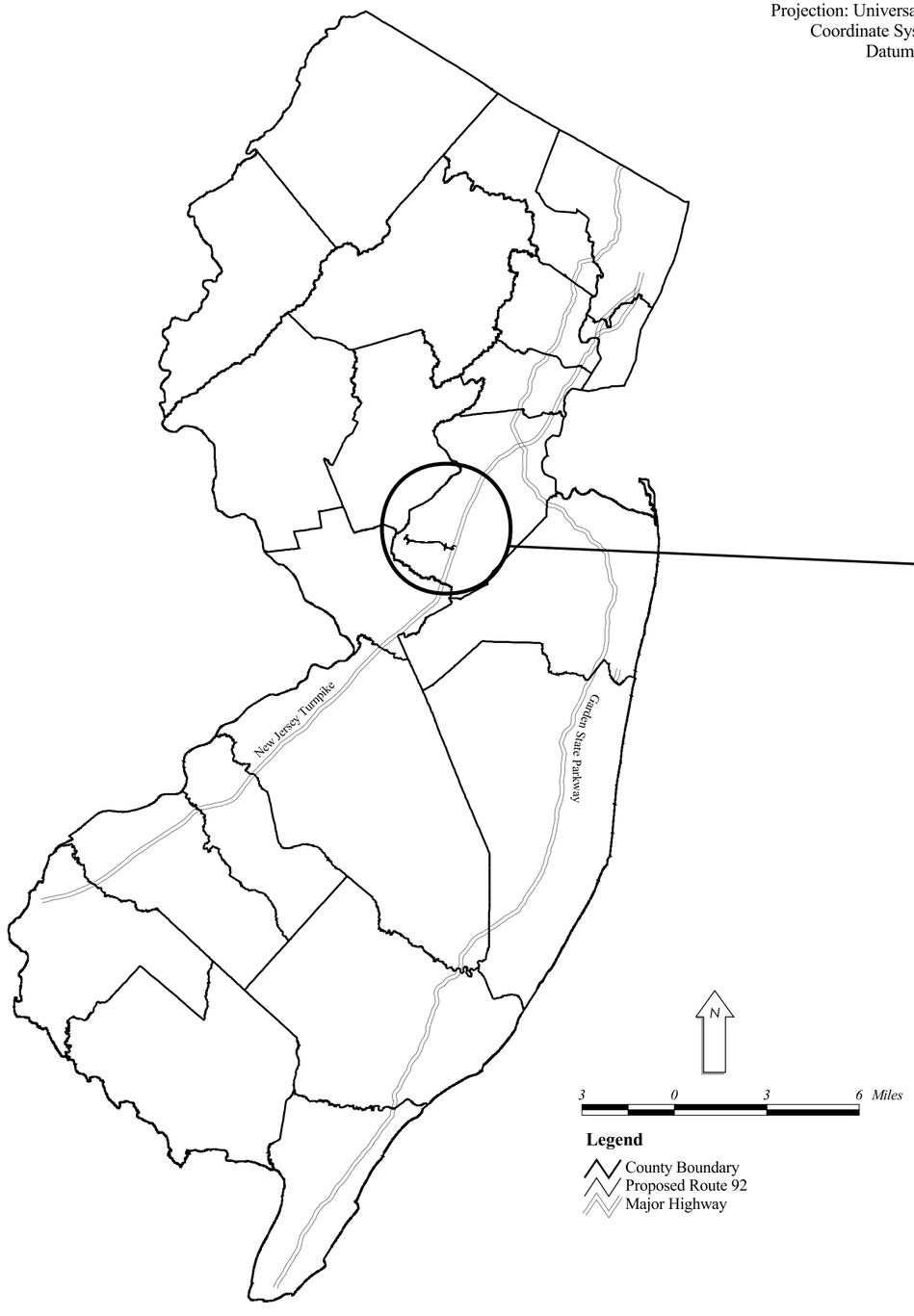
Since 1980, strong population and employment growth has occurred in the communities along US Route 1 near Princeton. In particular, the population of Plainsboro Township (see Figure 1-3) increased by 261 percent in the years 1980-2000 -- more than any other municipality in Middlesex County (comparatively, population for Middlesex County increased 26 percent over the same period). The population of West Windsor Township (in the area of County Route 571) grew 156 percent from 1980 to 2000, as compared with 14 percent for all of Mercer County.

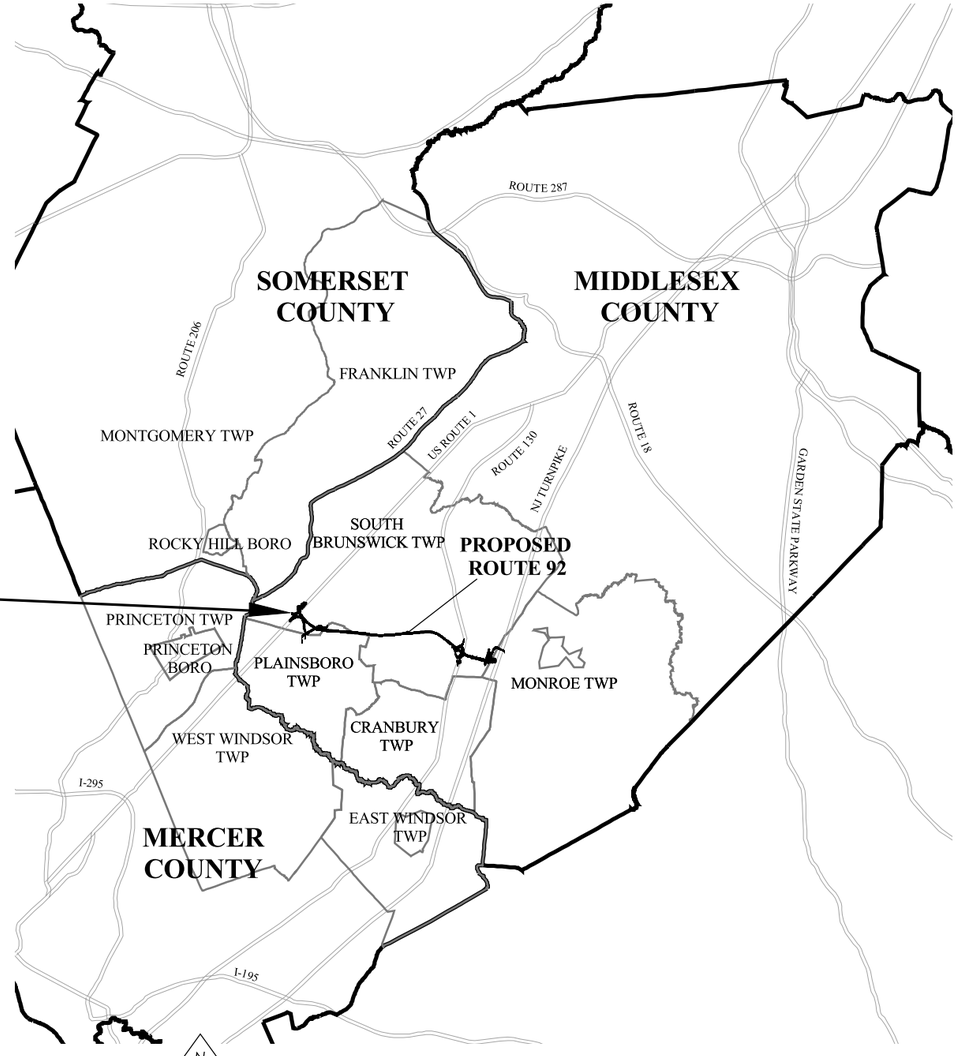
Continued rapid growth is projected in the project area over the next two decades, due to the strong employment market in the area, high demand for housing, developable land, good schools, and its location between Princeton University and Rutgers University. This growth has resulted in increased traffic volumes on the area's roads, including US Route 1 and the local and secondary east-west roads.

A frequently observed effect of high traffic volumes using US Route 1 and the east-west local and secondary roads is congestion; however, **equally problematic is that local and secondary roads are carrying substantial and increasing volumes of "through" traffic** (i.e., traffic that is unrelated to the towns and communities that these roads serve).

Without an additional east-west highway connecting US Route 1 and the New Jersey Turnpike in this area, traffic modeling conducted for this Environmental Impact Statement shows that by 2028, about 25 percent of the traffic on the local east-west roads will be through traffic. The presence of through traffic exacerbates the heavy congestion

Projection: Universal Transverse Mercator
Coordinate System: State Plane
Datum: NAD83





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Legend

- County Boundary
- Proposed Route 92
- Major Highway
- Municipal Boundary

Figure 1-1

Location Map

US Army Corps of Engineers
Proposed Route 92
Environmental Impact Statement

CDM

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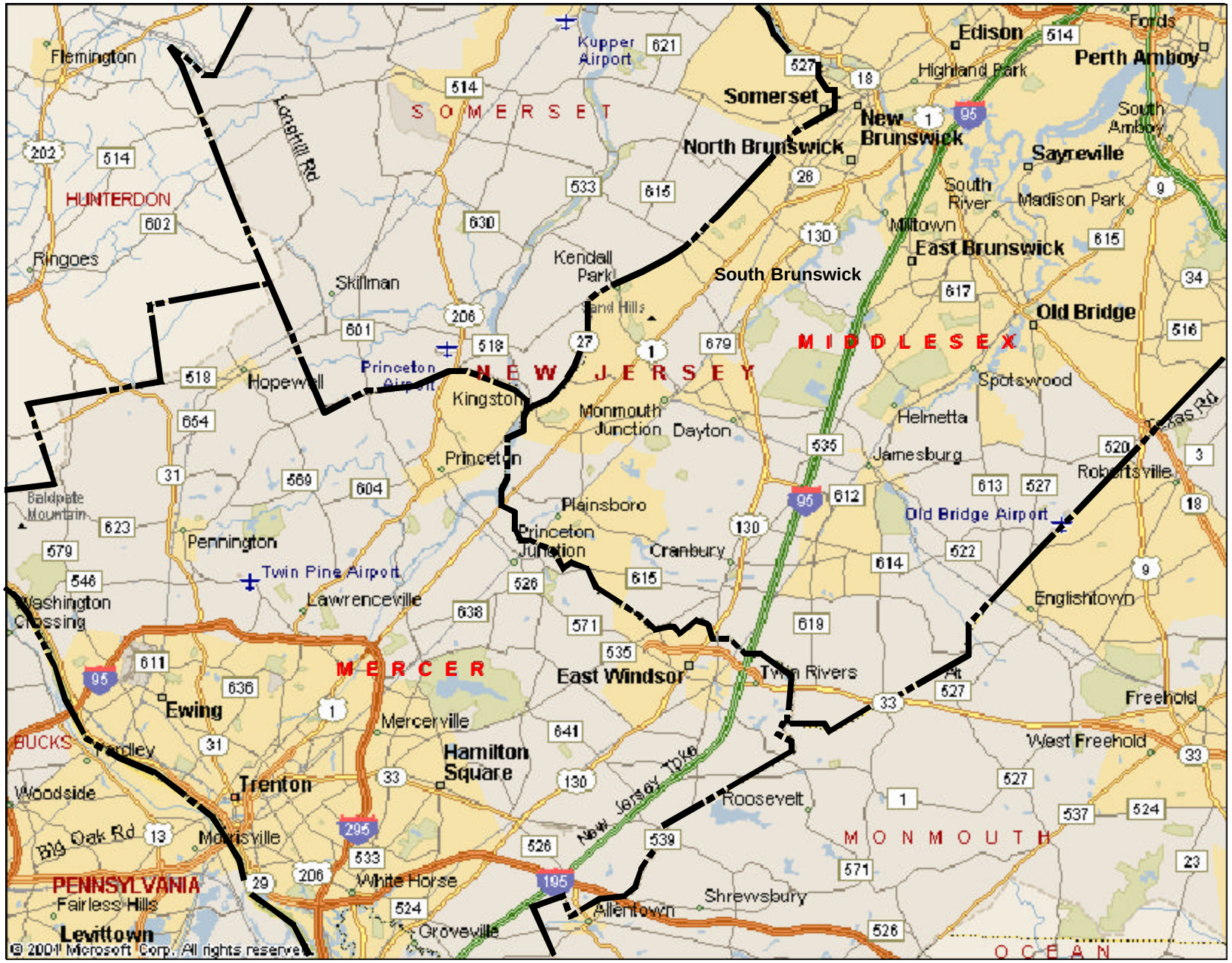

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County Boundary

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Approximate Scale

Figure1-2

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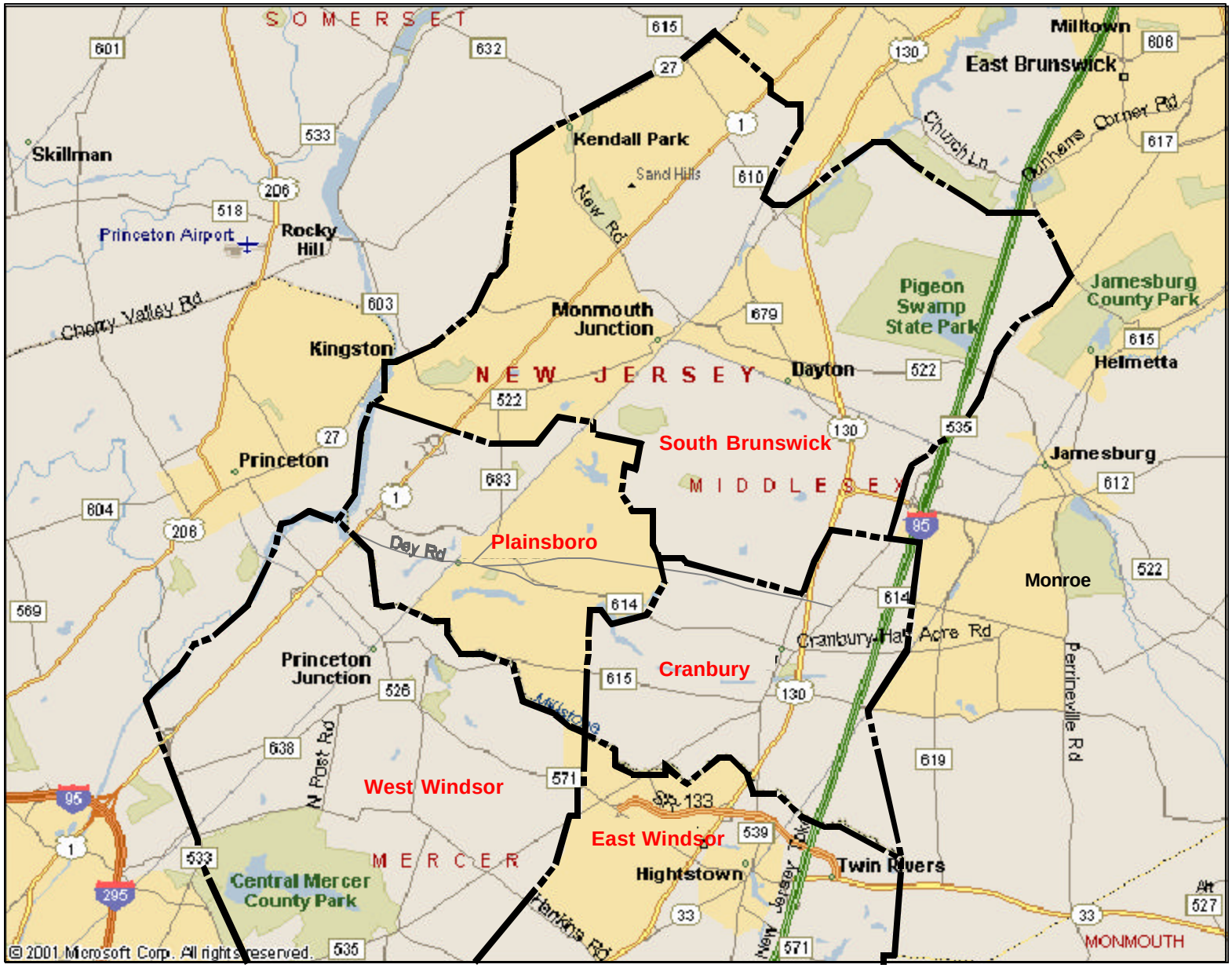
Central Jersey Highways



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Town Boundary

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Approximate Scale

Figure 1-3

Southwestern Middlesex County/Northeastern Mercer County

on local roads, impeding the local traffic circulation and roadway access needed by the communities and their residents and businesses.

The traffic congestion on local east-west roads could be alleviated by improving existing local east-west roads in this area, but such an approach would attract higher volumes of both local and through traffic to the improved local roads, to the detriment of the communities through which these roads pass.

A new limited-access east-west highway would provide an express link between the major north-south highways in central New Jersey. Further, it would improve east-west travel by accommodating *regional* east-west traffic on a high-speed limited-access roadway, thereby removing such regional traffic from local roads. An east-west highway would connect existing north-south high-speed roadways, and the effect would be to improve east-west mobility, provide an alternative for north-south traffic that now uses US Route 1, and reduce the adverse impacts of through traffic on local roads and communities.

The capacity of the New Jersey Turnpike was expanded in central New Jersey in the 1980s, and New Jersey Turnpike Authority (NJTA) studies show that there is currently adequate capacity on the New Jersey Turnpike to accommodate regional traffic from the congested US Route 1 corridor. NJTA believes that improved east-west mobility must be coupled with coordinated efforts, involving the project area municipalities and state agencies, to reshape existing and proposed developments so as to support and sustain the traffic relief provided by an east-west highway. While NJTA has no direct control or jurisdiction over the land development approval process, it will collaborate with the NJ Department of Environmental Protection, the NJ Office of Smart Growth, the NJ Department of Transportation, and local municipalities to help shape future growth into sustainable patterns.

A new east-west highway in southwestern Middlesex County has been discussed by Middlesex County Planning Board and New Jersey Department of Transportation (NJDOT) professionals for many years. In 1992, the New Jersey State Legislature approved a law transferring authority over the Route 92 project from the New Jersey Department of Transportation to NJTA. The law, Chapter 474 of the Public Laws of 1991, now codified as NJSA 27:23-23.8, contained the following authorization:

"The New Jersey Turnpike Authority is authorized to acquire, construct, maintain, repair and operate a project addition and extension to the New Jersey Turnpike consisting of a high speed limited-access superhighway beginning at or near Interchange 8A of the New Jersey Turnpike and thence in a general westerly direction through Middlesex County to an interchange with U.S. Route 1 in the general vicinity of the intersection of U.S. Route 1 and Ridge Road (County Road 522) or U.S. Route 27 as the authority, after study, deems appropriate."

Since 1992, NJTA has further developed the concept of this east-west toll road through a series of engineering and environmental studies. NJTA applied to the US Army Corps of Engineers (USACE) for a federal Clean Water Act permit seeking approval of proposed wetland fill related to construction of proposed Route 92. USACE has completed an analysis utilizing available information on the project, and has determined that a decision upon this permit application will be a major federal action significantly affecting the quality of the human environment. This determination triggered implementation of the National Environmental Policy Act, which calls for the USACE to prepare an Environmental Impact Statement (EIS). An EIS provides a broad range of information and analysis designed to assist the permitting agency in reaching an informed decision on the permit application.

1.2 Description of the New Jersey Turnpike Authority Proposal

NJTA proposed Route 92 would be a 6.7 mile limited access toll highway that would serve as an east-west highway link connecting US Route 1 in South Brunswick Township to the New Jersey Turnpike at Interchange 8A in Monroe Township. Proposed Route 92 would consist of two travel lanes in each direction.

The proposed project includes connections with existing local roadways at the proposed interchanges of Route 92/US Route 1, Route 92/Perrine Road, Route 92/US Route 130, and Route 92/Interchange 8A. Improvements are proposed to local roads at such interchanges. Additionally, the project requires the construction of bridges over US Route 1, Ridge Road, Amtrak Northeast Rail Corridor, Devil's Brook and its associated floodway, Friendship Road (twice), Miller Road, US Route 130, Cranbury-South River Road, relocated Route 32 westbound and New Jersey Turnpike Interchange 8A ramps. A proposed toll plaza facility would be constructed west of US Route 130.

This EIS describes the project purpose of NJTA's east-west highway proposal, known as Route 92, examines the benefits and impacts of proposed Route 92, and evaluates alternatives to the NJTA proposal to assess whether the project purpose might be accomplished by another plan that exhibits lesser environmental impact.

The *Middlesex County Short Range and Post 1990 Transportation Plan and Program* (October 1985) contemplated the construction of an east-west connector road from New Jersey Turnpike Interchange 8A to US Route 206 in Montgomery Township. A Draft EIS (DEIS), prepared by NJDOT in 1986, evaluated two alignments. A revised design was developed specifically to minimize impacts to wetlands in the project corridor. As evaluated in the 1994 DEIS, proposed Route 92 did not extend to US Route 206 (a change made in order to reduce wetland impacts), but did evaluate a connection from US Route 1 to NJ Route 27 in Franklin Township.

The 1994 DEIS revealed that the one-mile project corridor between US Route 1 and NJ Route 27 presented significant environmental constraints. Specifically, the constraints

include two watercourses, Carters and Heathcote Brooks, their associated floodplains, extensive forested palustrine wetlands, several historic archaeological and architectural resources deemed eligible for listing or already listed in the State or National Register of Historic Places, and Green Acres designated parkland. As a result, the US Route 1 to NJ Route 27 segment was eliminated from the scope of the overall project. NJTA planning and design for Route 92 terminates the roadway at US Route 1, which is the current proposed configuration of the project.

1.3 Project Purpose

The main purpose of NJTA's proposed Route 92 project is to:

- **Provide an alternative travel route for north-south regional traffic currently using US Route 1 by improving access to the New Jersey Turnpike, thereby relieving congestion in the region and reducing the impacts on communities caused by increases in traffic using local roads to travel between US Route 1 and the New Jersey Turnpike.**

- **Achieve a hierarchical east-west roadway system in southwestern Middlesex County and northeast Mercer County. A hierarchical east-west roadway system is defined as a system that promotes the use of *local streets for local access and circulation*, and that promotes the use of *regional highways and limited access roads for regional through traffic and commercial traffic*. An east-west connector highway would provide a new high-speed connection for through traffic (especially commercial truck traffic) moving between the major north-south corridors (US Route 1, US Route 130, and the New Jersey Turnpike). An improved connection between US Route 1 and the New Jersey Turnpike also addresses the need for roadway network improvements to maintain mobility in this high-growth region.**

Regional, or through trips, are defined as trips with both their origin and destination outside the local area. Local trips are defined as trips with either an origin or destination (or both) within the local area. Current traffic patterns indicate that growth in the region over recent decades has led to increasing competition between local trips and regional trips for capacity on the roadway network in southwestern Middlesex and northeastern Mercer County. US Route 1 is the principal highway accommodating traffic traveling north-south between the Princeton region and the New Jersey Turnpike (at Interchange 9 in East Brunswick). Local roads provide east-west access between US Route 1 and New Jersey Turnpike Interchange 8A in Monroe Township.

No major east-west route currently exists in southwestern Middlesex County that segregates non-local traffic from local traffic. Projected growth in the Princeton region creates significant demand for both north-south and east-west travel capacity in the area, considerably overloading the existing roadway network.

Traffic modeling conducted for this EIS shows that large volumes of through traffic using local and secondary roads impede the local circulation and access that these roads

were built to provide. In order to provide an orderly land use and circulation plan, it is desirable to serve longer-distance traffic on facilities that are separated from community features such as residential areas, commercial centers, parks, and schools. By removing through traffic from the local roads serving these land uses, the character of a community can be enhanced and the quality of life improved, while local congestion is reduced.

Through their proposed Rt. 92 project NJTA seeks to reduce through traffic using the existing east-west roads in southwestern Middlesex County and northeastern Mercer County to travel between US Route 1 and the New Jersey Turnpike. NJTA also seeks to reduce the amount of through (north-south) traffic using existing US Route 1 between Princeton and New Brunswick through their proposed project. Figure 1-3 illustrates the project study area, which can generally be described as southwestern Middlesex County and northeastern Mercer County. The map in Figure 1-4 presents the existing land use patterns and the functional classification of roadways that serve the communities in this area (Plainsboro, South Brunswick, Cranbury, West Windsor, and East Windsor Townships).

The existing land use patterns indicate sensitive, principally residential communities in the project study area, which have evolved from rural to suburban character in many locations. By adopting master plans and zoning that have resulted in the existing land use patterns and roadway system, the municipalities have clearly articulated the desired form of their communities. Example locations where the NJTA proposed project would help preserve local circulation needs and land use patterns, by reducing use of the local roads by through traffic, include:

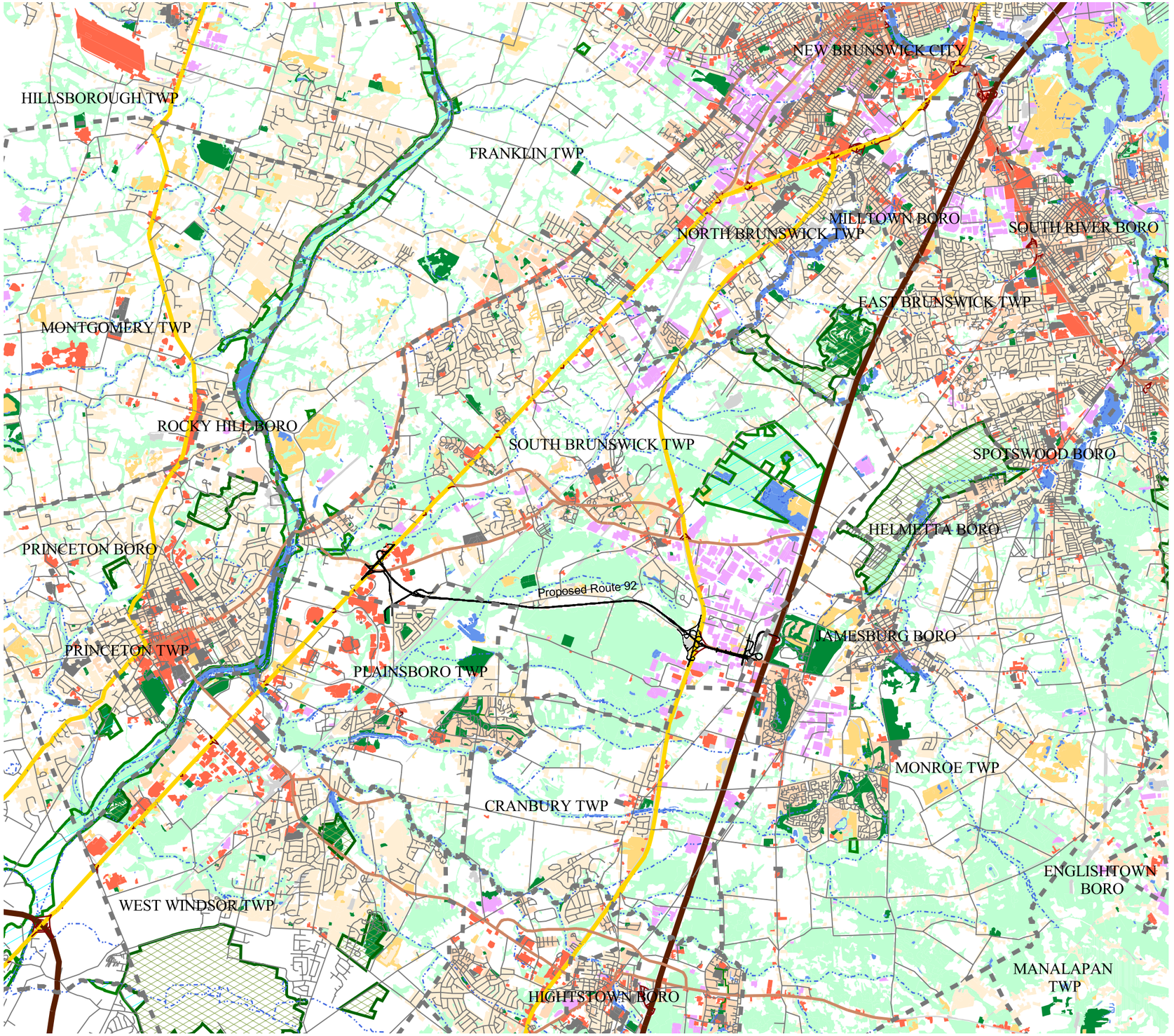
- Plainsboro Center (around the intersection of Plainsboro Road, Dey Road, and Scudders Mill Road). Existing land uses include the municipal complex, high and low density residential areas, and local commercial areas.

- South Brunswick Center (along County Route 522 in the vicinity of Kingston Lane). Existing land uses include the municipal complex, high and low-density residential areas, and schools.

- Princeton Junction Center (along County Route 571 in the vicinity of the Northeast Corridor Rail Line). Existing land uses include a low-density residential area, local commercial land uses, a train station, schools, and parks.

NJTA's objectives for the project consist of the following:

1. **Establish a road system that acts to *reserve local streets for local traffic* and circulation, while *providing linkage for through traffic* moving between US Route 1, US Route 130, and the New Jersey Turnpike, minimizing adverse impacts on existing communities from through traffic and truck traffic using local streets.**



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Projection: Universal Transverse Mercator
Coordinate System: State Plane
Datum: NAD83

Legend

Municipal Boundary
Proposed Route
Streams

Functional Classification of Roads

Primary road with limited access
US Highways
Secondary and connecting roads/State Highways
Local Roads
Access Ramps/Limited Access Interchange
Walkways/Trails

Parks (State Plan)

COUNTY PARK
STATE PARK

NJDEP 1995 Land Use/Land Cover

SCHOOLS/ATHLETIC FIELDS
BARREN LAND
COMMERCIAL/SERVICES
INDUSTRIAL/COMMERCIAL COMPLEXES
PARKS/RECREATIONAL LAND
RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING
RESIDENTIAL, RURAL, SINGLE UNIT
TRANSPORTATION/COMMUNICATIONS/UTILITIES
WATER
WETLANDS

Figure 1-4

Regional Road Network and Land Use Patterns

US Army Corps of Engineers
Proposed Route 92
Environmental Impact Statement

CDM

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Accomplishing this objective would reduce the amount of through traffic using local streets that are abutted by residential areas, commercial centers, community facilities, parks, and schools, thereby allowing traffic to be more compatible with the communities' character. A secondary benefit of achieving this objective would be reduced traffic congestion on the local road network, which would further benefit the affected communities by reducing travel times and improving air quality. Traffic seeking relief from congestion along US Route 1 would be able to use a limited access route to travel to the New Jersey Turnpike without impacting local traffic and circulation.

2. **Provide alternative routes for north-south traffic currently using US Route 1, to relieve congestion while minimizing impacts on the abutting communities. Divert north-south traffic from US Route 1 to US Route 130 and the New Jersey Turnpike, improving mobility in southern Middlesex County and northeast Mercer County.**

   Accomplishing this objective would partially offset the significant increases in traffic volumes anticipated on US Route 1, thereby providing congestion relief in critical areas along US Route 1. As with the east-west roads, particular segments of US Route 1 are abutted by commercial, residential, and utility development that would be impacted/displaced if roadway improvements along US Route 1 were implemented. This objective seeks to balance future traffic volumes with capacity by allowing traffic to divert from congested highways to less-congested highways, thereby significantly increasing the flexibility and opportunity for traffic to find less congested routes for regional travel.

3. **Reduce the presence of non-local truck traffic on the local roadway network and shift such traffic to a connector highway.**

   Accomplishing this objective would reduce truck traffic impacts on sensitive areas of local communities (residential neighborhoods, schools, and community facilities).

1.4 Transportation Issues in the Project Area

1.4.1 Existing Roadway Network

The traffic study area (see Figure 1-3) consists of the towns of South Brunswick, Plainsboro, and Cranbury in southwestern Middlesex County; and the townships of West Windsor and East Windsor (including Hightstown) in northeastern Mercer County. These towns cover an area that is roughly bounded by the New Jersey Turnpike to the east, NJ Route 27 and the Delaware and Raritan Canal to the west, County Route 610 (Deans Lane) to the north, and County Route 571 on the south.

The main highways serving traffic passing through this area are all oriented in a north-south direction: the New Jersey Turnpike (with Interchanges 8 and 8A along the area's eastern edge) and US Route 130 on the eastern side of the area, and US Route 1 and

NJ Route 27 on the area's western side. NJ Route 32 provides a connection between US Route 130 and the Turnpike at Interchange 8A.

A series of east-west local and secondary roads connect to the four north-south highways in the Traffic Study Area, providing access to the towns as well as meeting local circulation needs. Two lane east-west roads include County Route 610 (Deans Lane), Major Road, New Road, County Route 522, Ridge Road, Friendship Road, Broadway Road, Dey Road, Scudders Mill Road, Plainsboro Road, Cranbury Neck Road, and County Route 571. Four lane east-west roads include County Route 522 between NJ Route 27 and US Route 130, Scudders Mill Road between US Route 1 and Dey Road, and County Route 571 between Alexander Road and Hightstown. Some of these roads, either individually (such as County Routes 522 and 571) or in combination (such as Dey Road and Scudders Mill Road) provide continuous routes between the eastern and western sides of the study area.

1.4.2 Roadway Network Performance

Residential, commercial, and industrial activity in southwestern Middlesex County and northeastern Mercer County is primarily concentrated along the major north-south highways in the area, namely US Route 1, US Route 130, NJ Route 27, and the New Jersey Turnpike (at Interchange 8A). The major peak hour traffic flows in the traffic study area are the north-south flows along the New Jersey Turnpike, US Route 1, and US Route 130 (see figures 3-15 and 3-16).

Due to the lack of a high-speed connecting roadway between US Route 1 and the New Jersey Turnpike - within the 25-mile stretch between Route 18 in New Brunswick and Interstate 195/Route 29 in southern Mercer County – motorists wishing to travel between the existing north-south corridors must use local and secondary east-west roads passing through communities in Plainsboro, South Brunswick, Cranbury, West Windsor, and East Windsor Townships. The principal local east-west roads used include County Route 571, County Route 615 (Cranbury Neck Road), County Route 614 (Plainsboro Road), Scudders Mill Road/Dey Road, and County Route 522/Ridge Road. North-south travelers frequently use these local and secondary east-west roads in an effort to bypass congestion on US Route 1 in North Brunswick. Consequently, these roads are serving traffic that they were not designed to serve.

Strong past and future development patterns in southwestern Middlesex County and northeastern Mercer County are causing congestion on the east-west roads; traffic modeling indicates that this congestion significantly worsens in the future. The high peak-hour north-south volumes cause some delays at signals, particularly along US Route 1. However, the most serious congestion in the traffic study area occurs on the two-lane east-west roads, such as Ridge Road, Dey Road, Cranbury Neck Road, and Plainsboro Road.

By the year 2028, morning westbound peak hour travel demand in this area is projected to exceed the total carrying capacity of the east-west roadways by 25 percent. A detailed

peak-hour network model of the area developed for this EIS indicates that the capacity of Plainsboro Road will be exceeded by 120 percent, and that the capacity of Cranbury Neck Road will be exceeded by 84 percent. The effect of demand exceeding road capacity is lengthy stretches of bumper-to-bumper traffic, extensive delays, and blocked driveways and intersections. As an example, the typical morning peak hour travel time from the intersection of US Route 130 and Dey Road to the intersection of US Route 1 and Washington Road (currently about 20 minutes) is projected to more than double. Area-wide, morning peak hour travel times are expected to increase by about 50 percent on average, as illustrated in Table 1-1. Almost all key intersections in the area will be unable to process peak hour demand in the future without significant delays, as shown in Table 1-2.

Level of service (LOS) is a qualitative measure of the operating conditions within a traffic stream and the perception of those conditions by motorists. LOS is based on the average stopped delay per vehicle for various movements within an intersection. Factors describing the LOS include speed, travel time, maneuverability, and safety. LOS is described by letters ranging from "A" to "F". LOS designation "A" represents the optimum condition, which is characterized by freeflow vehicle movement where the drivers are unrestricted in their ability to maneuver. LOS designation "F" represents the worst case, where the capacity of the road/intersection has reached its limit, traffic flow is interrupted, drivers are severely restricted in their ability to maneuver, and significant traffic congestion exists.

The projected 2028 Level of Service (LOS) designations (AM/PM), with no roadway improvements other than those currently funded, were evaluated using the traffic model. Many existing intersections currently exhibit poor levels of service, but the increases in traffic that are predicted for the study area result in further deterioration of the levels of service at nearly every intersection. Year 2001 and year 2028 no action levels of service are shown in Table 1-3. As can be seen, in 2028 all but one key intersection is expected to exhibit saturated conditions during at least one of the peak hours, and 13 out of 17 exhibit saturated conditions during both peak hours.

The origins and destinations of trips using the east-west roads of southwestern Middlesex County and northeastern Mercer County under various future scenarios can be estimated using the peak-hour traffic network model. For this EIS, the origins and destinations of trips that are projected to cross an imaginary "screenline" were evaluated. The "screenline" runs north-south roughly halfway between US Route 1 and US Route 130, and was developed to determine the amount of traffic that travels east to west and west to east in the project study area. The location of the screenline is shown in Figure 1-5. The screenline intersects eleven local and secondary east-west roads in East Windsor Township, Plainsboro Township, and South Brunswick Township, and sums the traffic crossing the screenline on those roads.

Table 1-1
Base Year and Future No Action Travel Times

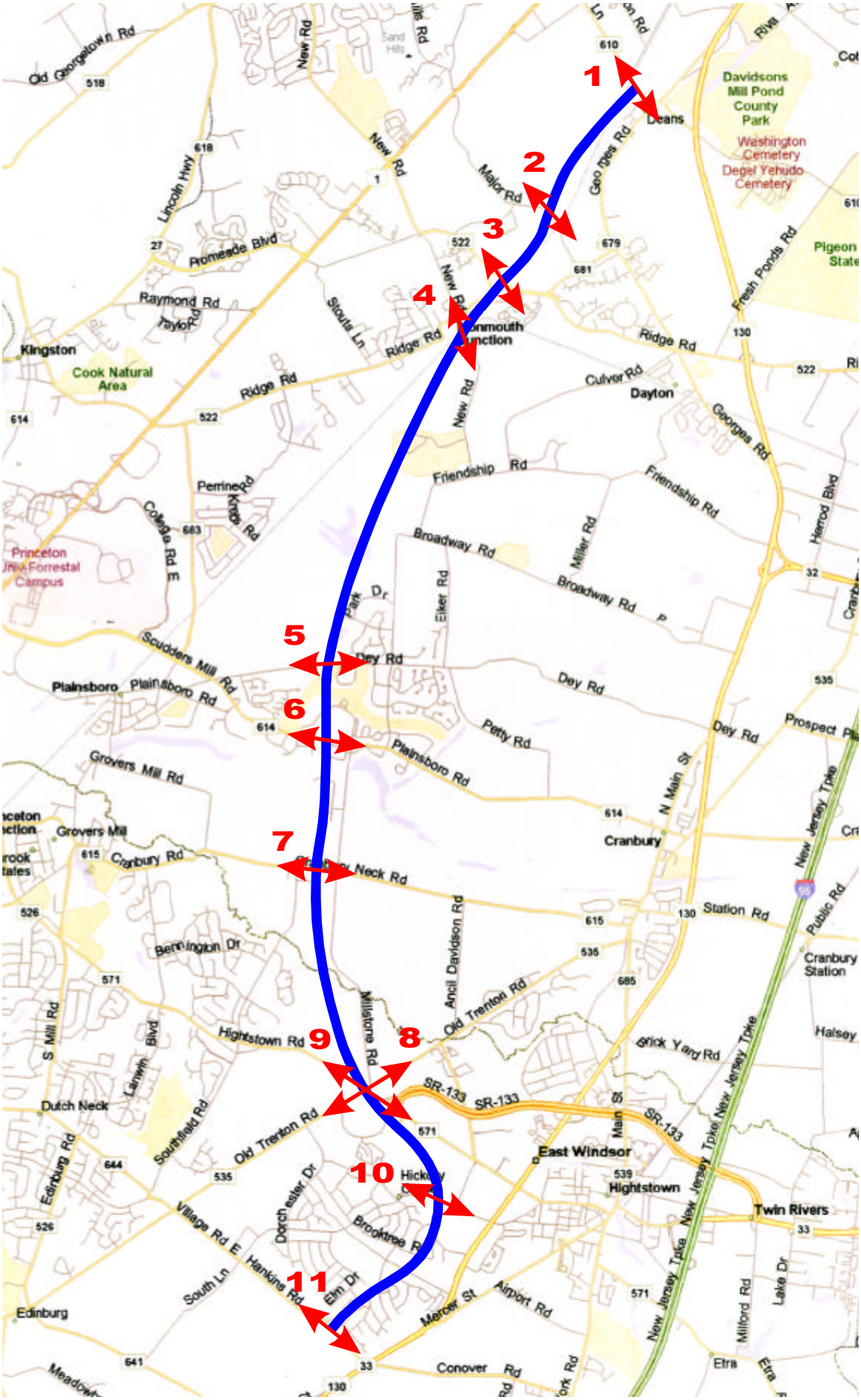
From	To	Estimated 2028 Peak Hour Travel Times (minutes)				Change (2028 No Action vs. 2001)		Percent Change (2028 No Action vs. 2001)	
		2001		2028 No Action					
		AM	PM	AM	PM	AM	PM	AM	PM
Princeton Junction	Princeton University	12.3	9.4	22.9	15.1	10.5	5.7	86%	61%
Princeton Junction	Plainsboro Center	18.2	9.8	30.3	12.4	12.1	2.6	66%	26%
Princeton Junction	South Brunswick Ctr.	23.8	26.8	41.8	38.2	18.0	11.4	76%	43%
Princeton Junction	Interchange 8A	22.3	20.9	35.7	30.4	13.4	9.5	60%	45%
Princeton Junction	Hightstown	19.1	21.1	21.4	29.0	2.3	8.0	12%	38%
Princeton University	Princeton Junction	8.5	14.8	13.1	22.4	4.6	7.6	54%	52%
Princeton University	Plainsboro Center	13.3	10.7	22.6	14.1	9.3	3.5	70%	33%
Princeton University	South Brunswick Ctr.	18.8	22.7	30.6	34.8	11.8	12.2	63%	54%
Princeton University	Interchange 8A	25.9	28.6	36.8	39.6	10.9	11.1	42%	39%
Princeton University	Hightstown	24.9	33.5	30.9	48.8	6.0	15.3	24%	46%
Plainsboro Center	Princeton Junction	10.1	15.2	15.3	25.2	5.3	10.0	52%	66%
Plainsboro Center	Princeton University	11.0	11.8	12.8	18.3	1.8	6.5	17%	55%
Plainsboro Center	South Brunswick Ctr.	16.3	23.8	21.4	36.6	5.0	12.8	31%	54%
Plainsboro Center	Interchange 8A	18.3	20.8	19.0	31.1	0.6	10.3	4%	50%
Plainsboro Center	Hightstown	21.4	27.2	25.0	44.9	3.5	17.7	16%	65%
South Brunswick Ctr.	Princeton Junction	28.5	27.0	49.7	36.3	21.2	9.3	74%	35%
South Brunswick Ctr.	Princeton University	24.4	18.9	48.5	27.3	24.2	8.4	99%	45%
South Brunswick Ctr.	Plainsboro Center	26.9	17.9	52.5	22.1	25.5	4.2	95%	23%
South Brunswick Ctr.	Interchange 8A	13.4	12.1	14.6	15.5	1.1	3.4	8%	28%
South Brunswick Ctr.	Hightstown	28.2	30.1	38.0	45.6	9.7	15.6	34%	52%
Interchange 8A	Princeton Junction	23.6	21.0	42.1	30.1	18.5	9.1	79%	43%
Interchange 8A	Princeton University	33.1	26.8	52.4	35.1	19.3	8.3	59%	31%
Interchange 8A	Plainsboro Center	32.8	18.0	47.5	20.8	14.7	2.8	45%	15%
Interchange 8A	South Brunswick Ctr.	19.5	10.8	20.2	15.4	0.6	4.5	3%	42%
Interchange 8A	Hightstown	20.3	23.4	30.4	38.0	10.1	14.6	50%	63%
Hightstown	Princeton Junction	23.6	17.9	43.9	20.2	20.4	2.3	86%	13%
Hightstown	Princeton University	33.9	24.9	64.3	32.0	30.4	7.0	90%	28%
Hightstown	Plainsboro Center	38.9	21.9	68.2	25.4	29.4	3.5	76%	16%
Hightstown	South Brunswick Ctr.	40.4	25.0	66.5	35.4	26.1	10.4	65%	42%
Hightstown	Interchange 8A	25.6	19.1	51.7	27.6	26.1	8.5	102%	44%
					Average:	13.1	8.5	54.6%	41.5%

Table 1-2
Year 2001 and Future No Action Intersection Delays

Intersection	Projected Intersection Delays (seconds per vehicle)				Percent Change (2028 No Action vs. 2001)	
	2001		2028 No Action			
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
US-1 @ Cozzens Lane	276	297	290	336	5%	13%
US-1 @ Major Road (Sandhill)	259	45	191	112	-26%	149%
US-1 @ New Road	88	57	172	168	95%	195%
NJ-27 @ Raymond Road	10	13	170	18	1600%	38%
NJ-27 @ CR-522	43	36	77	202	79%	461%
Scudders Mill Road @ Schalk's Crossing Road	39	26	206	154	428%	492%
Scudders Mill Road & Dey Road	364	43	697	296	91%	588%
Plainsboro Road & CR-535	23	16	67	167	191%	944%
US-130 @ Dey Road	240	99	341	333	42%	236%
Dey Road & CR-535	46	26	458	213	896%	719%
NJ-32 @ CR-535	174	129	269	234	55%	81%
US-130 @ Friendship Road	187	220	330	467	76%	112%
George's Rd & Kingston Road	17	16	38	18	124%	13%
CR-522 & Kingston Road	314	133	300	203	-4%	53%
US-1 @ CR-522	687	308	496	543	-28%	76%
US-1 @ Ridge Road	188	149	362	264	93%	77%
				Median:	85%	130%

Table 1-3
Year 2001 and Future No Action Levels of Service at Key Intersections

Intersection	Intersection Level of Service			
	2001		2028 No Action	
	A.M.	P.M.	A.M.	P.M.
US-1 @ Cozzens Lane	F	F	F	F
US-1 @ Major Road (Sandhill)	F	D	F	F
US-1 @ New Road	F	E	F	F
NJ-27 @ Raymond Road	A	B	F	B
NJ-27 @ CR-522	D	D	E	F
Scudders Mill Rd @ Schalk's Crossing Rd	D	C	F	F
Scudders Mill Road & Dey Road	F	D	F	F
Plainsboro Road & CR-535	C	B	E	F
US-130 @ Dey Road	F	F	F	F
Dey Road & CR-535	D	C	F	F
NJ-32 @ CR-535	F	F	F	F
NJ-32 @ Herrod Blvd.	F	F	F	F
US-130 @ Friendship Road	F	F	F	F
George's Road & Kingston Road	B	B	D	B
CR-522 & Kingston Road	F	F	F	F
US-1 @ CR-522	F	F	F	F
US-1 @ Ridge Road	F	F	F	F



1 CR-610 (Deans Lane)

2 Major Road

3 CR-522 (Ridge Road)

4 New Road

5 Dey Road

6 Plainsboro Road

7 Cranbury Neck Road

8 CR-535

9 CR-571

10 Dutch Neck Road

11 Hankins Road

Figure 1-5
Screenline Intercepting East - West Roads

In the year 2028 the traffic model projects that a total of about 270,000-300,000 vehicles per day will cross the screenline in both directions. About 25 percent of these vehicles are expected to be ***through traffic*** passing through the area. The presence of this through traffic on the east-west roads contributes substantially to traffic congestion and the resulting disruption to communities that affects local roads. The traffic model was also used to predict future peak hour ***non-local*** traffic volumes crossing the screenline. Table 1-4 shows the significant increases in ***non-local*** traffic that will cross the screenline (i.e., constituting an east-west trip) in future years, for each major east-west road. The analysis shows more than a doubling of non-local traffic traveling east-west across the screenline. This non-local traffic, seeking to travel between major north-south highways (e.g., US Route 1 and the New Jersey Turnpike), contributes to the congestion predicted on these local and secondary roads.

Through traffic would be more appropriately served on regional highway facilities, separate from the local roadway system.

Table 1-4
Screenline Crossing Non-Local Traffic Volumes

	PROJECTED PEAK-HOUR (A.M. + P.M.) NON-LOCAL VOLUMES		
Screenline Crossing	**2001**	**2028 NO ACTION**	**PERCENT CHANGE**
CR-610 (Deans Lane)	1,457	1,384	-5%
Major Road	83	265	219%
CR-522 (Ridge Road)	66	208	213%
New Road	169	179	6%
Dey Road	194	890	359%
Plainsboro Road	569	835	47%
Cranbury Neck Road	314	886	182%
CR-535	273	1,301	377%
CR-571	981	2,212	126%
Dutch Neck Road	0	20	-
Hankins Road	458	1,938	323%
Total	**4,565**	**10,117**	**122%**

Out of a total of 1,253 miles of roadways (counting each direction of travel on a road as a separate roadway) represented in the traffic study area model, 476 miles are predicted to operate at sub-standard conditions (volume-to-capacity ratio of greater than 0.9) during at least one of the peak hours in 2028. Of these 476 miles, 62 miles would require the addition of more than one lane to achieve acceptable volume-to-capacity ratios, as shown in Table 1-5.

Table 1-5
Additional Lanes Needed to Maintain
Acceptable Volume-Capacity Ratio

Additional Lanes Needed	Miles of Roadway	
	2001	2028 No Action
1	194.3	413.8
2	20.9	60.3
3	0.1	1.3
4	0.0	0.3
Total	215.3	475.7

Two recently constructed or planned NJDOT projects in the area - the Hightstown Bypass (State Route 133) and the Penns Neck Improvements (formerly the Millstone Bypass, located near the intersection of US Route 1 and County Route 571) - ***do not*** provide the needed north-south and east-west mobility. These are local projects intended to improve traffic flow around Hightstown and to provide intersection improvements on US Route 1 in West Windsor, respectively.

Prior studies of proposed Route 92 also recognized another serious concern, which is the use of local and secondary roads by regional commercial truck traffic. To travel between US Route 1, US Route 130, and the New Jersey Turnpike, a substantial number of trucks use Dey Road, Plainsboro Road, Cranbury Neck Road, Washington Road, and other east-west local and secondary roads in southwestern Middlesex County/northeastern Mercer County. These roads traverse long-established residential and local commercial areas, many of which consist of large frame dwellings set close to the roadways. The structures are subject to vibrations caused by the passing of heavy trucks. In addition, these roads are mainly two-lane roads with tight curves and minimal radii at intersections. The increasing volumes of through truck traffic diminish quality of life and neighborhood character. Without any changes to the traffic network, future increases in truck volumes on local east-west roads are predicted to increase by approximately 35%, as shown in Table 1-6.

On average, trucks comprise more than five percent of the total traffic using the east-west local and secondary roads. One in five of these trucks are using local roads to travel through the towns the roads serve, without servicing the towns. It is desirable to serve these trucks along non-local routes, thereby minimizing their impact on local traffic and adjacent local land uses.

Table 1-6
Screenline Crossing Peak Hour Truck Volumes

Screenline Crossing	PROJECTED PEAK HOUR (A.M. + P.M.) TRUCK VOLUMES		
	2001	2028 NO ACTION	PERCENT CHANGE
CR-610 (Deans Ln)	117	101	-14%
Major Road	27	69	155%
CR-522 (Ridge Rd)	86	203	135%
New Road	6	13	108%
Dey Road	19	79	308%
Plainsboro Road	33	79	138%
Cranbury Neck Road	46	131	186%
CR-535	550	525	-5%
CR-571	327	403	23%
Dutch Neck Road	319	449	40%
Hankins Road	201	291	45%
Total	**1,733**	**2,343**	**35%**