

***The SJTPO 2025
Regional
Transportation Plan***

June 2001



ACKNOWLEDGEMENT

The South Jersey Transportation Planning Organization's 2025 Regional Transportation Plan was produced through a collaborative effort of the SJTPO's consultant team (Parsons Brinckerhoff-FG, DMJM+Harris, and M.A. Culbertson), the SJTPO, and others.

The SJTPO Policy Board provided the initiative and overall direction for the Plan, with technical guidance provided by the SJTPO Technical Advisory Committee.

The SJTPO Citizens' Advisory Committee, which brings representatives from a broad cross-section of interests into SJTPO's structure, played a key role in soliciting public input throughout the development of the Plan.

Our appreciation extends as well to the many interested members of the public, elected officials, and agency representatives who contributed a great deal to the Plan.

Special thanks are due to former members of the SJTPO Policy Board whose vision and support for regional planning helped move the Plan forward:

Richard E. Squires, Atlantic County Executive and past SJTPO Chairman

Anthony Campanella, Mayor, City of Vineland

Mark Videtto, Freeholder, Ocean City

John H. Moore, Manager, NJDOT Bureau of Statewide Planning

James Redeker, NJ Transit Business Planning

The preparation of this report has been financed in part by the U.S. Department of Transportation, Federal Transit Administration and the Federal Highway Administration. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or its use thereof.

TABLE OF CONTENTS

I. GOALS AND POLICIES	I-1
Introduction	I-1
Regional Transportation Plan	I-3
Regional Transportation Goals & Policies	I-4
Planning Factors	I-5
II. PUBLIC INVOLVEMENT PROGRAM	II-1
Introduction	II-1
CAC Workshop Meeting	II-1
CAC/TAC Questionnaire	II-1
Freight Focus Group	II-2
Tourism Focus Group	II-2
III. CONTEXT FOR TRANSPORTATION IN SOUTH JERSEY	III-1
Introduction	III-3
Demographics Characteristics	III-1
Commuting Characteristics	III-8
Labor Force and Income Characteristics	III-10
Environmental Justice	III-11
Industrial Composition and Trends	III-16
Centers of Activity and Development	III-19
Preliminary Identification of Transportation-Economic Issues	III-23
IV. MULTIMODAL TRANSPORTATION SYSTEM ASSESSMENT	IV-1
Introduction	IV-1
1. Highway System	IV-2
Introduction	IV-2
Regional Highway System Overview	IV-2
Management Systems	IV-5
Highway Needs and Problem Assessment	IV-45
2. Transit Services	IV-84
Introduction	IV-84
Regional Transit Services Overview	IV-84
Transit Needs and Problem Assessments	IV-92
3. Bicycle and Pedestrian	IV-103
Introduction	IV-103
Vision, Goals and Performance Criteria	IV-104
Assessment of Current Conditions and Needs	IV-105
Existing Conditions	IV-106
Identification of Activities Required to Meet the Vision and Goals	IV-108
4. Intermodal Issues	IV-114
Freight and Goods Movement	IV-114
Aviation	IV-116
Ports	IV-118
Motor Carriers	IV-118
5. Tourism	IV-119

LIST OF TABLES

Table 3-1 – Current Population and Households	III-1
Table 3-2 – Age of Population	III-2
Table 3-3 – Atlantic City Forecasts	III-4
Table 3-4 – Cape May County Forecasts	III-4
Table 3-5 – Cumberland County Forecasts	III-5
Table 3-6 – Salem County Forecasts	III-5
Table 3-7 – Travel Time to Work	III-9
Table 3-8 – Means of Transportation and Carpooling	III-10
Table 3-9 – 1990 Educational Attainment by Persons over Age 18	III-10
Table 3-10 – Employment by Industry	III-16
Table 3-11 – Leading Regional Growth Centers 1990 through 2025	III-20
Table 3-12 – Building Permits	III-22
Table 3-13 – Land Use Acreage	III-23
Table 3-14 – Summary of NJTPO Concerns	III-24
Table 4-1 - Duration of Non Summer Congestion in the SJTPO as reported by the NJCMS	IV-7
Table 4-2 - NJCMS Problem Areas 1990, SJTPO Region	IV-9
Table 4-3 - Bridge Ratings in the SJTPO Region	IV-12
Table 4-4 - Detailed Bridge Conditions for the SJTPO Region	IV-12
Table 4-5 - Bridge Problem Areas – Rt 322/ACE/US40/US30	IV-15
Table 4-6 - Bridge Problem Areas US9 and GSP	IV-17
Table 4-7 - Bridge Problem Areas US40	IV-19
Table 4-8 - Bridge Problem Areas NJ47/NJ55	IV-22
Table 4-9 - Bridge Problem Areas I-295/NJTPK and NJ49	IV-25
Table 4-10 - Pavement Conditions in the SJTPO Region	IV-26
Table 4-11 - Safety Concerns	IV-44
Table 4-12 – Atlantic County Existing Problem Areas	IV-48
Table 4-13 – Cape May County Existing Problem Areas	IV-50
Table 4-14 – Cumberland County Existing Problem Areas	IV-52
Table 4-15 – Salem County Existing Problem Areas	IV-54
Table 4-16 – Atlantic County Year 2025 Problem Areas	IV-61
Table 4-17 – Cape May County Year 2025 Problem Areas	IV-70
Table 4-18 – Cumberland County Year 2025 Problem Areas	IV-78
Table 4-19 – Salem County Year 2025 Problem Areas	IV-82
Table 4-20 - SJTPO Region Journey-to-Work Transit Mode Share, 1990	IV-84
Table 4-21 - Weekday Average Boardings, Atlantic City Rail Line	IV-86
Table 4-22 - ACRL Ridership Statistics (figures in 000s)	IV-86
Table 4-23 - NJ Transit's Intrastate and Local Bus Services	IV-87
Table 4-24 - NJ Transit Interstate Commuter Bus Routes	IV-88
Table 4-25 - Park-and-Ride Locations in the SJTPO Region	IV-89
Table 4-26 - Biking and Walking to Work	IV-105
Table 4-27 - "Rack N Roll" Bus Routes in Southern New Jersey	IV-107
Table 4-28 - Existing Designated Centers by County - SJTPO Region	IV-109
Table 4-29 - Atlantic City International Airport, 1999 Statistics	IV-117
Table 4-30 - General Aviation Airports	IV-117
Table 6-1 – FY 2001 to FY 2003 TIP	VI-3
Table 6-2 – Federal Funding Sources for Transportation	VI-4
Table 7-1 - Budgets for VOC and NOX (tons per day) for SJTPO	VII-2
Table 7-1 - Budgets for CO (tons per day) for SJTPO Maintenance Areas	VII-2
Table 7-2 - Regional Travel Summary	VII-5

LIST OF FIGURES

Figure 1-1 – SJTPO Region Transportation Facilities Overview	I-2
Figure 3-1 – Projected Net Change in Population, 1990 to 2025	III-6
Figure 3-2 – Projected Net Change in Employment, 1990 to 2025	III-7
Figure 3-3 – South Jersey Commuting Patterns	III-8
Figure 3-4 – SJTPO Environmental Justice/Title VI Profile 1990 Census Poverty Concentrations	III-12
Figure 3-5 – SJTPO Environmental Justice/Title VI Profile 1990 Census Minority Concentrations	III-13
Figure 3-6 – SJTPO Environmental Justice/Title VI Profile 1990 Census Elderly Concentrations	III-14
Figure 3-7 – SJTPO Environmental Justice/Title VI Profile 1990 Census Disability Concentrations	III-15
Figure 4-1 – Bridge Problem Areas – Rt. 322/ACE/US40/US30 (west)	IV-13
Figure 4-2 – Bridge Problem Areas - Rt. 322/ACE/US40/US30 (east)	IV-14
Figure 4-3 – Bridge Problem Areas US9 and GSP	IV-16
Figure 4-4 – Bridge Problem Areas US40	IV-18
Figure 4-5 – Bridge Problem Areas NJ47/NJ55 (south)	IV-20
Figure 4-6 – Bridge Problem Areas NJ47/NJ55 (north)	IV-21
Figure 4-7 – Bridge Problem Areas I-295/NJTPK	IV-23
Figure 4-8 – Bridge Problem Areas NJ49	IV-24
Figure 4-9 – Pavement Problem Areas Rt 322/ACE/US40/US30 (west)	IV-27
Figure 4-10 – Pavement Problem Areas Rt 322/ACE/US40/US30 (east)	IV-28
Figure 4-11 – Pavement Problem Areas US9 and GSP	IV-29
Figure 4-12 – Pavement Problem Areas US40	IV-30
Figure 4-13 – Pavement Problem Areas NJ47/NJ55 (south)	IV-31
Figure 4-14 – Pavement Problem Areas NJ47/NJ55 (north)	IV-32
Figure 4-15 – Pavement Problem Areas I-295/NJTPK	IV-33
Figure 4-16 – Pavement Problem Areas NJ49	IV-34
Figure 4-17 – Safety Concerns – Rt 322/ACE/US40/US30 (west)	IV-36
Figure 4-18 – Safety Concerns – Rt 322/ACE/US40/US30 (east)	IV-37
Figure 4-19 – Safety Concerns – US9 and GSP	IV-38
Figure 4-20 – Safety Concerns – US40	IV-39
Figure 4-21 – Safety Concerns – NJ47/NJ55 (south)	IV-40
Figure 4-22 – Safety Concerns – NJ47/NJ55 (north)	IV-41
Figure 4-23 – Safety Concerns – I-295/NJTPK	IV-42
Figure 4-24 – Safety Concerns – US49	IV-43
Figure 4-25 – PM Period VMT, SJ Travel Demand Model	IV-57
Figure 4-26 – PM Period VMT, SJ Travel Demand Model	IV-58
Figure 4-27 – SJTPO Transit Services	IV-85
Figure 6-1 – Capital Funding Requirements for Transportation – Statewide	VI-6

I. GOALS AND POLICIES

INTRODUCTION

The South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) that covers the southern New Jersey counties of Atlantic, Cape May, Cumberland and Salem. Figure 1-1 illustrates the SJTPO region. The SJTPO works to provide a regional approach to solving transportation problems. Federal regulations require that transportation planning and decision-making for urbanized areas be carried out through MPOs. As the federally recognized MPO, the SJTPO is required by the Transportation Efficiency Act of the 21st Century (TEA21) to develop a long-range Regional Transportation Plan (RTP). Traditionally, MPOs synchronize the planning actions of participating agencies in the region and provide a "forum" for decision-making among officials, operators, and the public.

Under TEA21, the federal government requires that the metropolitan transportation planning process include the development of a transportation plan with at least a twenty-year horizon, and that the plan include both short and long-range strategies and actions that "lead to the systematic development of an integrated intermodal transportation system that facilitates the safe and efficient movement of people and goods in addressing current and future transportation demand."¹

Federal rules under TEA21 require that the plan be consistent with the following:

1. It shall identify the projected transportation demand of persons and goods in the metropolitan planning area over the period of the plan.
2. It shall identify adopted management and operations strategies that address the need for improved system performance and the delivery of transportation services to customers under varying conditions.
3. It shall identify pedestrian walkway and bicycle transportation facilities.
4. It shall reflect considerations given to the results of the congestion management system to include the identification of Single Occupancy Vehicle (SOV) projects that result from the congestion management system.
5. It shall assess capital investments and other measures needed to preserve the transportation system and make most efficient use of the existing facilities to relieve vehicular congestion and enhance the mobility of people and goods.
6. It shall include design concept and scope descriptions of all existing and proposed transportation facilities in sufficient detail to permit conformity determinations to satisfy Clean Air Act requirements.
7. It shall reflect a multimodal evaluation of the effects of the overall plan, including transportation, socioeconomic, environmental, and financial impacts.
8. It shall reflect consideration of comprehensive, long-range land use plans and development objectives; housing goals and strategies; community development and employment plans and strategies; environmental resource plans; linking low income households with employment opportunities as reflected in work force training and labor mobility plans and strategies; energy conservation goals; and the region's overall social, economic, and environmental goals and objectives.
9. It shall indicate the proposed transportation enhancement activities.
10. It shall include a financial plan that will compare proposed transportation investments to available and projected sources of revenue. Also, it shall estimate costs of constructing, maintaining, and operating the total (that is, both existing and planned) transportation system over the period of the plan.

¹ National Archives and Records Administration, *Federal Register*, Vol. 65, No. 102, May 25, 2000, Part III, United States Department of Transportation, Federal Highway Administration & Federal Transit Administration, 23 CFR Parts 450 and 1410; 49 CFR Parts 613 and 621, Statewide Transportation Planning; Metropolitan Transportation Planning; Proposed Rule.

11. It shall include a strategy for Intelligent Transportation Systems (ITS) integration for the purposes of guiding and coordinating the management and funding of ITS investments to achieve an integrated regional system.

Federal rules also require that there be adequate opportunity for public official and citizen involvement in the development of the transportation plan before it is approved by the MPO. For the SJTPO, oversight in developing the RTP was successfully produced through the board and committee structure of the SJTPO as well as public involvement activities. The board and committee structure of the SJTPO will be briefly described below:

- *The SJTPO Policy Board* - The governing board of the SJTPO, which encompasses eleven voting members. Members include one selected official from each county, one municipal official elected from each county (including the mayors of Atlantic City & Vineland), and one delegate from the New Jersey Department of Transportation, NJ TRANSIT, and the South Jersey Transportation Authority. The Policy Board approves planning processes and adopts all goals, policy statements, and action steps.
- *The Technical Advisory Committee (TAC)* - Nominated by the Policy Board, the TAC consists of fifteen members and provides input to the Policy Board. Work includes overseeing and developing the RTP, and reviewing technical products and policy issues. It consists of staff of each Policy Board member, as well as representatives of the New Jersey Turnpike, the New Jersey Highway Authority, the Delaware River and Bay Authority, and the Chairperson of the Citizens Advisory Committee.
- *The Citizens Advisory Committee (CAC)* - The CAC was created to provide guidance in the public involvement process conducted by the SJTPO and to emphasize the importance of public involvement to the organization. This committee represents an extensive assortment of interests including: environmental issues, tourism concerns, civic and business issues, and private transportation provider and user issues. Other interested individuals and associations may also participate and be added to the mailing list upon request.

These groups have direct involvement in developing the SJTPO RTP. Additionally, through stakeholder outreach meetings, public meetings, and the SJTPO website and mailings, a broad base of outreach activities provided input to the plan development process. The outreach activities are defined in greater detail in Chapter 2 of this document, *Overview of the Public Participation Program*.

REGIONAL TRANSPORTATION PLAN

The RTP serves as the official plan for the SJTPO region and guides the transportation decision-making for a projected twenty-five year horizon. As a long-range planning document, the plan sets the course for the future of the region, and must lead to the development and operation of an integrated, intermodal transportation system that facilitates efficient, economical movement of people and goods. It includes both short-range and long-range strategies and actions.

The RTP provides a foundation for coordinated regional transportation planning, and identifies future needs so that more detailed technical studies may take place. Accordingly, project features and funding requirements are identified in technical planning studies. These more detailed studies provide the technical and environmental analysis needed to enter projects into the federal and state funding pipeline.

The first RTP for the SJTPO region was adopted in August 1995. A reexamination and confirmation of the 1995 RTP's goals, forecasts and capital investments was adopted by the SJTPO in March 1998. This

PLANNING FACTORS

Metropolitan (or Regional) Transportation Plans must also consider seven planning factors. These seven factors ensure that MPO long-range plans attempt to achieve common objectives across the nation. The factors are required to be considered and reflected in the Plan and are established in TEA21. The table below compares the seven planning factors to the Goals and Policies for the SJTPO Regional Transportation Plan.

TEA 21 PLANNING FACTORS	RELATED SJTPO GOAL OR POLICY
1. Support the economic vitality of the metropolitan planning area especially by enabling global competitiveness, productivity and efficiency.	<i>Related Goal:</i> Support the regional economy. <i>Related Policies:</i> Advance projects to interconnect the transportation system. Improve access to areas of major employment and tourism. Optimize the efficiency and use of the existing transportation system.
2. Increase the safety and security of the transportation system for motorized and non-motorized users.	<i>Related Goal:</i> Improve safety. <i>Related Policies:</i> Ensure the safety and security of users of highway, transit, bicycle, pedestrian and freight systems. Fully integrate emergency evacuation issues into all regional planning, as well as corridor planning and project development as appropriate. Continue and enhance support of the South Jersey Traffic Safety Alliance and integrate traffic and pedestrian safety considerations in SJTPO's programs.
3. Increase the accessibility and mobility options available to people and for freight.	<i>Related Goal:</i> Promote transportation choices for the movement of people and goods. <i>Related Policies:</i> Expand and improve other (non-auto) transportation systems as needed: aviation, passenger rail, marine, rail freight, bicycle, pedestrian and public transit. Provide for affordable mobility options to all segments of the transportation disadvantaged (young, elderly, handicapped and poor) and support welfare to work transportation initiatives.
4. Protect and enhance the environment, promote energy conservation, and improve quality of life	<i>Related Goal:</i> Protect and improve the environment. <i>Related Policies:</i> Encourage the use of alternative transportation modes that have a lesser impact on environmental resources than SOVs. Minimize negative environmental and social impacts of transportation improvements and augment the positive.
5. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	<i>Related Policy:</i> Advance projects to interconnect the transportation system.
6. Promote efficient system management and operation.	<i>Related Policies:</i> Optimize the efficiency and use of the existing transportation system. Develop and use innovative technologies. Fully integrate emergency evacuation issues into all regional planning, as well as corridor planning and project development as appropriate.
7. Emphasize the efficient preservation of the existing transportation system.	<i>Related Goal:</i> Restore, preserve and maintain the existing transportation system. <i>Related Policy:</i> Ensure the key elements of the transportation system are restored, preserved and maintained.

II. PUBLIC INVOLVEMENT PROGRAM

INTRODUCTION

To develop the Plan, technical work efforts interacted with public involvement efforts at critical milestones to ensure early and timely input. The public involvement process accommodated a wide range of participants access and input into the initial phases in Plan development, as well as later phases. Early in the Plan development process, a CAC workshop, a CAC/TAC questionnaire and two focus groups were conducted. When preliminary investments, strategies, and actions were developed, a public meeting was held. The Plan also used the results of the New Jersey Statewide Long-Range Transportation Plan public involvement process. The objectives and results of the CAC workshop, the CAC/TAC questionnaire and the two focus groups are summarized below. Also presented is a summary of the plan outreach distribution activities.

CAC WORKSHOP MEETING

The update process of the Plan was discussed with the committee, along with the questionnaire results. Comments from the CAC included:

- Add statement regarding consistency with the State Development and Redevelopment Plan
- Add goal/policy regarding improving the quality of life
- Edit/clarify environmental goals:
- Does it mean "natural resources" only or also the "built environment?"
- Should the state *minimize* adverse impacts and *maximize* positive impacts?
- Clarify transportation choices so that it means for both goods and people.

CAC/TAC QUESTIONNAIRE

A simple self-completion questionnaire on the relevancy of the Plan's goals and policies was distributed to members of SJTPO's Technical and Citizens Advisory Committees. The questionnaire contained questions regarding the relevancy of the current plan's goals and policies today and what each member felt the RTP Update should accomplish for the region.

The questionnaire addressed five issues:

1. The vision on development in the region
2. How the transportation system can support the vision for development
3. What the RTP Update should accomplish for the region
4. The relevancy of Plan goals today
5. The relevancy of the Plan policies today

The results of the survey are summarized below.

Themes on Vision for Development in the Region

- Growth will occur in the region and it will be at a varied pace, thus it is important to plan for the new growth.
- Orderly development/redevelopment should occur in the region in centers per the New Jersey State Development and Redevelopment Plan (SDRP).
- The region should discourage sprawl.
- Development should protect environmentally sensitive and agricultural areas.
- Development should have a tourism/recreation focus in many areas of the region.

Themes on Transportation Vision

- There is a need to provide improved access to locations & destinations in the region.
- Improvements are needed to foster mobility and to provide for more modal choices.

Additional outreach activities were designed to reach a broad audience. A stakeholder outreach meeting was held during the plan's development process that presented the background of the RTP update process, the framework for the RTP, the existing transportation system conditions, and the process used to forecast future system conditions, and the development and assessment of improvement scenarios. Invited were members of the South Jersey Traffic Safety Alliance, the Technical Advisory Committee (TAC), the Policy Board, the Citizen Advisory Committee (CAC), and members of the planning boards of the four counties.

Input received addressed freight issues, transit services, mobility issues, and project development and prioritization issues.

The SJTPO produces a quarterly newsletter that was used as an additional vehicle to inform stakeholders and the general public about the RTP update activities and solicit feedback. A recently developed SJTPO website, accessible through the New Jersey Long Range Transportation Plan website, provides additional means of informing the public about plan development activities and participation opportunities.

PLAN OUTREACH DISTRIBUTION ACTIVITIES

The draft plan was presented for review and comment at a series of meetings involving the TAC, the CAC, the NJ Business and Industry Association, the Cape May-Cumberland Legislative Committee, the Cumberland County Planning Board, the South Jersey Traffic Safety Alliance, and the Vineland Chamber of Commerce. The public meeting on the draft plan took place in Vineland, New Jersey during the public comment period and was attended by members of the CAC, the TAC, the general public, and was covered by the Atlantic City Press and the Bridgeton News.

Over 200 copies of the Draft Plan were distributed to the Policy Board, the Traffic Safety Alliance Committee, the Shore Connector Committee, the TAC, the CAC, area chambers of commerce, and county clerks. To allow public review, draft copies of the Plan were deposited with the four counties' libraries and planning offices, as well as the South Jersey Transportation Authority and SJTPO offices. The draft was also available for examination through SJTPO's website.

Both legal ads and display ads were placed in the major newspapers in the region to announce the public meeting and comment period. A press release was also issued. Direct notice of the Plan's release was provided to over 600 individuals and groups through a front page article in SJTPO's newsletter, *On the Go*.

PUBLIC COMMENT

A draft version of the plan, excluding the conformity chapter, was presented to the public for review and comment on March 1, 2001. Comments addressing a wide variety of topics were received during the formal 30-day comment period and at the March 1 meeting. Foremost among the topics was the question of completing Route 55 or undertaking a different high-capacity improvement in the Route 55/47 corridor.

Over 350 individuals, businesses, and agencies expressed support or opposition to providing substantial additional capacity, and Chapter V articulates SJTPO's conclusion that major expansion, upgrading of existing facilities, or developing new facilities on the new alignments is sorely needed for Southern New Jersey.

The revised conformity chapter, which was delayed while awaiting new emission budget levels from the DEP, was later presented in a public meeting May 1, 2001. Following the 30-day comment period, this conformity assessment is now in the final document, completing the Plan.

III. CONTEXT FOR TRANSPORTATION IN SOUTH JERSEY

INTRODUCTION

This Chapter presents an overview of demographic characteristics of the SJTPO region. In order to identify and address transportation problems, it is necessary to first develop a comprehensive understanding of the region: who lives there, what are their special needs, where do they live and work, what are the unique characteristics of the land and economy. These factors set the regional context that shape the demand for travel.

The four counties that make up the SJTPO are actually quite different from much of the rest of New Jersey: although the population is growing at a rate faster than the state as a whole, population density is much lower, with significant amounts of open space, parklands and wetlands, transit use is much lower, and there is a large share of tourism- and gaming-related travel.

DEMOGRAPHIC CHARACTERISTICS

The SJTPO region, which is composed of Atlantic, Cape May, Cumberland, and Salem counties, is primarily rural in nature. Vineland, with a population of 56,000, and Atlantic City, with more than 38,000 residents, are the region's largest urban centers. Atlantic City, which is home to more than 66,000 jobs, is by far the region's largest employment hub. Recreation and tourism are dominant industries, giving rise to pronounced seasonal variation in employment levels and higher overall unemployment rates than most other parts of New Jersey. Service-related industry is the dominant source of employment, although the region retains a small manufacturing base including several firms in its traditional niche market of glass production. Casinos and related businesses account for a significant portion of employment and economic activity in Atlantic City and County. In recent years, light industrial development has also taken place on a small scale in several of the region's employment centers, a process, which has been assisted by the creation of enterprise zones. Agriculture accounts for a significant portion (18%) of the region's land area and is vital to certain areas of the region, but it produces only a small share of the region's total personal income.

The estimated year 2000 population for the SJTPO region is 552,138 persons, as shown in Table 3-1. This represents an increase of 5.6 percent since 1990, which is below the statewide increase of 8.6 percent over the same period. In future years, however, South Jersey population is forecasted to grow at a rate faster than the state as a whole. South Jersey population is forecast to increase by more than 34 percent between 1990 and 2025, compared to just 22 percent overall in New Jersey, yielding a 2025 populace of 702,203 in the four county SJTPO region.

Table 3-1 - Current Population and Households

County	1990 Population	1990 Households	1998 Population (Estimate)	2000 Population (Forecast)	2025 Population (Forecast)	Pct Change Population 1990-2025
Atlantic	224,327	85,407	238,047	241,542	301,204	34.3%
Cape May	95,089	38,035	98,069	104,527	143,748	51.1%
Cumberland	138,053	47,259	140,341	141,084	176,127	27.6%
Salem	65,294	23,794	64,912	64,985	81,124	24.2%
SJTPO Total	522,763	194,495	541,369	552,138	702,203	34.3%

Source: U.S. Census (1990); Population Estimates Program (1998 estimates); 2000 and 2025 Population forecast figures by SJTPO

The region's average household size was 2.7 persons in 1990. Atlantic County's average household size was 2.6; Cape May County's was 2.5; Cumberland County's was 2.9; and Salem County's was 2.7. The

Salem County, with an estimated 2000 population of 64,985, is the state's least populous county. Most of its communities are rural in character. The most densely populated sections of the county are Carney's Point Township, the borough of Penns Grove, Pennsville Township, and Salem City, located along the Delaware River on Route 49, and the boroughs of Elmer and Woodstown, located in the middle of the county on U.S. Route 40. The county grew very slightly between 1980 and 1990.³

Nearly 15 percent of Salem County residents were over 65 in 1990, slightly above the state average. The largest percentage of such persons were in Mannington Township (21%), Elmer (20%), and Elsinboro (20%), and the largest total number of persons over 65 is found in Pennsville Township (2,540). The number of mobility limited individuals was slightly above the state average at 4.4%.

The demographic data forecasts used in the RTP were developed by the SJTPO. The initial data set is from the U.S. Census Bureau for 1990. Forecasts for population and employment are included for each 5 year period, from 2000 through 2025. These data are based on county-level projections prepared by the New Jersey Department of Labor (NJDOL). NJDOL prepares population and employment projections to support planning, and economic development, and business growth within the state. These projections are based on various economic, demographic, and migration data. Adjustments to the projections were made by the SJTPO. The regional total for each year was held constant and adjustments and redistributions were made across and within the counties based on trends in growth, development, and indicators in key regional sectors, particularly in the gaming industry. The final set of SJTPO forecasts was endorsed by the Technical Advisory Committee on May 5, 2000.

Summaries of population and employment forecasts are contained in Table 3-3 to 3-6 and Figure 3-1 to 3-2. Separate tables are included for each county, listing the net and percentage change from 1990 to 2025, by municipality. The figures depict the net change in population for each municipality from 1990 to 2025. Most of the largest net increases in population are centered around the shore communities of Cape May and Atlantic and urban centers such as Vineland. The largest employment increase are concentrated in the large urban centers, including Atlantic City and Vineland.

³ *Draft Salem County Profile and Inventory of Services and Facilities*

Table 3-5 - Cumberland County Forecasts

MUNICIPALITY	POPULATION				EMPLOYMENT			
	1990	2025	Net	%	1990	2025	Net	%
Bridgeton	18,942	24,166	5,224	28%	10,552	15,226	4,674	44%
Commercial	5,026	6,412	1,386	28%	616	906	290	47%
Deerfield	2,933	3,742	809	28%	853	1,474	621	73%
Downe	1,702	2,171	469	28%	228	338	110	48%
Fairfield	5,699	7,271	1,572	28%	592	1,136	544	92%
Greenwich	911	1,162	251	28%	83	144	61	73%
Hopewell	4,215	5,377	1,162	28%	123	564	441	359%
Lawrence	2,433	3,104	671	28%	663	971	308	46%
Maurice River	6,648	8,482	1,834	28%	2,109	3,236	1,127	53%
Millville	25,992	33,161	7,169	28%	12,051	17,962	5,911	49%
Shiloh	408	521	113	28%	118	213	95	81%
Stow Creek	1,437	1,833	396	28%	154	224	70	45%
Upper Deerfield	6,927	8,837	1,910	28%	1,652	2,404	752	46%
Vineland	54,780	69,888	15,108	28%	29,735	44,527	14,792	50%
CUMBERLAND COUNTY	138,053	176,127	38,074	28%	59,529	89,325	29,796	50%

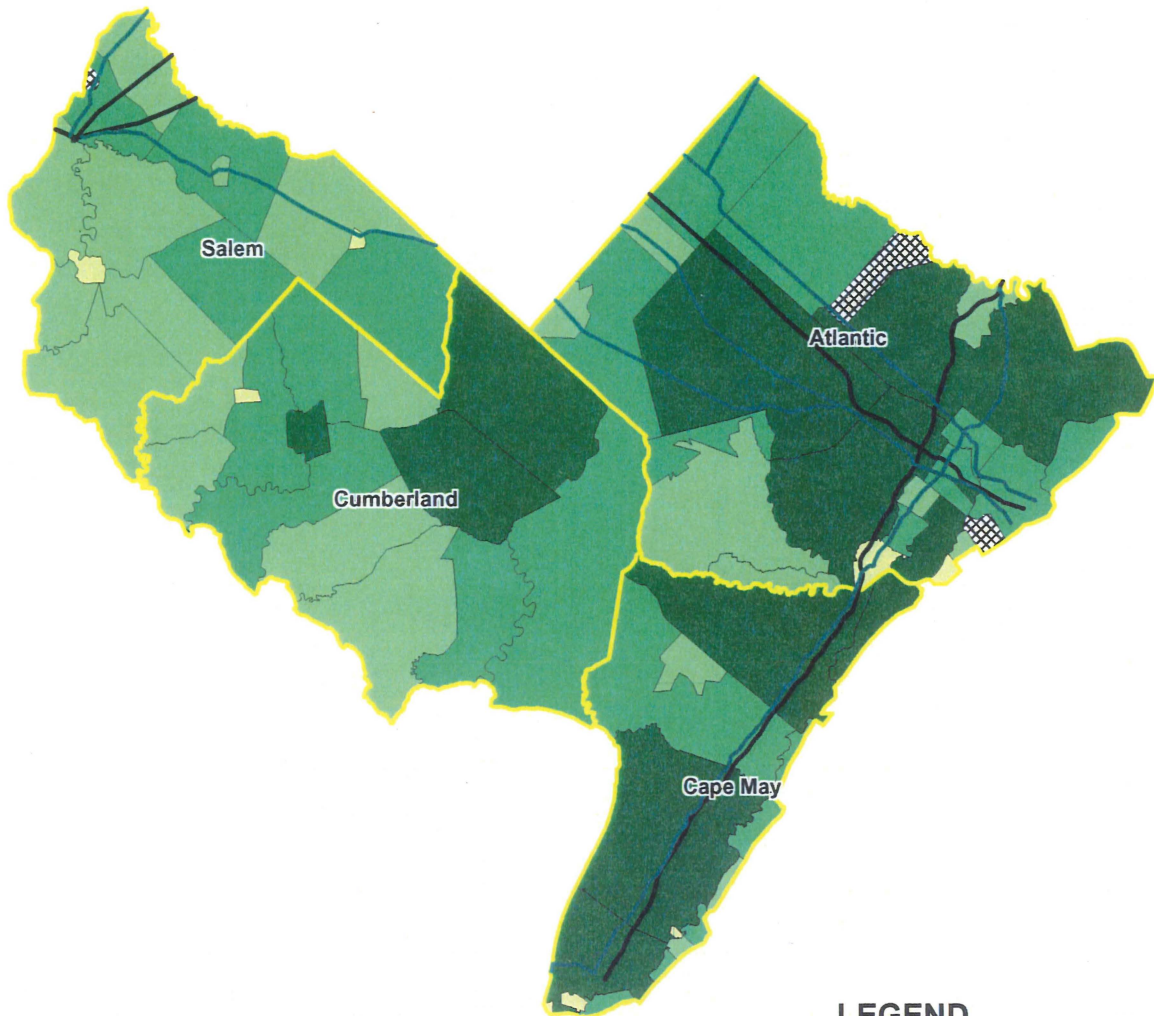
Source: 1990, U.S. Census Bureau; 2025 SJTPO, adopted May 5, 2000

Table 3-6 - Salem County Forecasts

MUNICIPALITY	POPULATION				EMPLOYMENT			
	1990	2025	Net	%	1990	2025	Net	%
Alloway	2,795	4,031	1,236	44%	386	549	163	42%
Carneys Point	8,443	12,239	3,796	45%	882	2,810	1,928	219%
Elmer	1,571	1,584	13	1%	1,701	1,376	-325	-19%
Elsinboro	1,170	1,636	466	40%	103	474	371	360%
Lower Alloway	1,858	2,417	559	30%	3,110	4,612	1,502	48%
Mannington	1,693	2,024	331	20%	1,574	2,734	1,160	74%
Oldmans	1,683	2,310	627	37%	929	2,218	1,289	139%
Penns Grove	5,228	4,952	-276	-5%	1,679	1,316	-363	-22%
Pennsville	13,794	14,777	983	7%	6,798	5,195	-1,603	-24%
Pilesgrove	3,250	4,845	1,595	49%	390	401	11	3%
Pittsgrove	8,121	12,432	4,311	53%	497	1,383	886	178%
Quinton	2,511	3,305	794	32%	168	194	26	15%
Salem	6,883	6,948	65	1%	3,571	2,789	-782	-22%
Upper Pittsgrove	3,140	3,746	606	19%	490	662	172	35%
Woodstown	3,154	3,878	724	23%	1,524	1,848	324	21%
SALEM COUNTY	65,294	81,124	15,830	24%	23,802	28,561	4,759	20%

Source: 1990, U.S. Census Bureau; 2025 SJTPO, adopted May 5, 2000

**Figure 3-1: Projected Net Change in Population, 1990 to 2025
SJTPO Region**



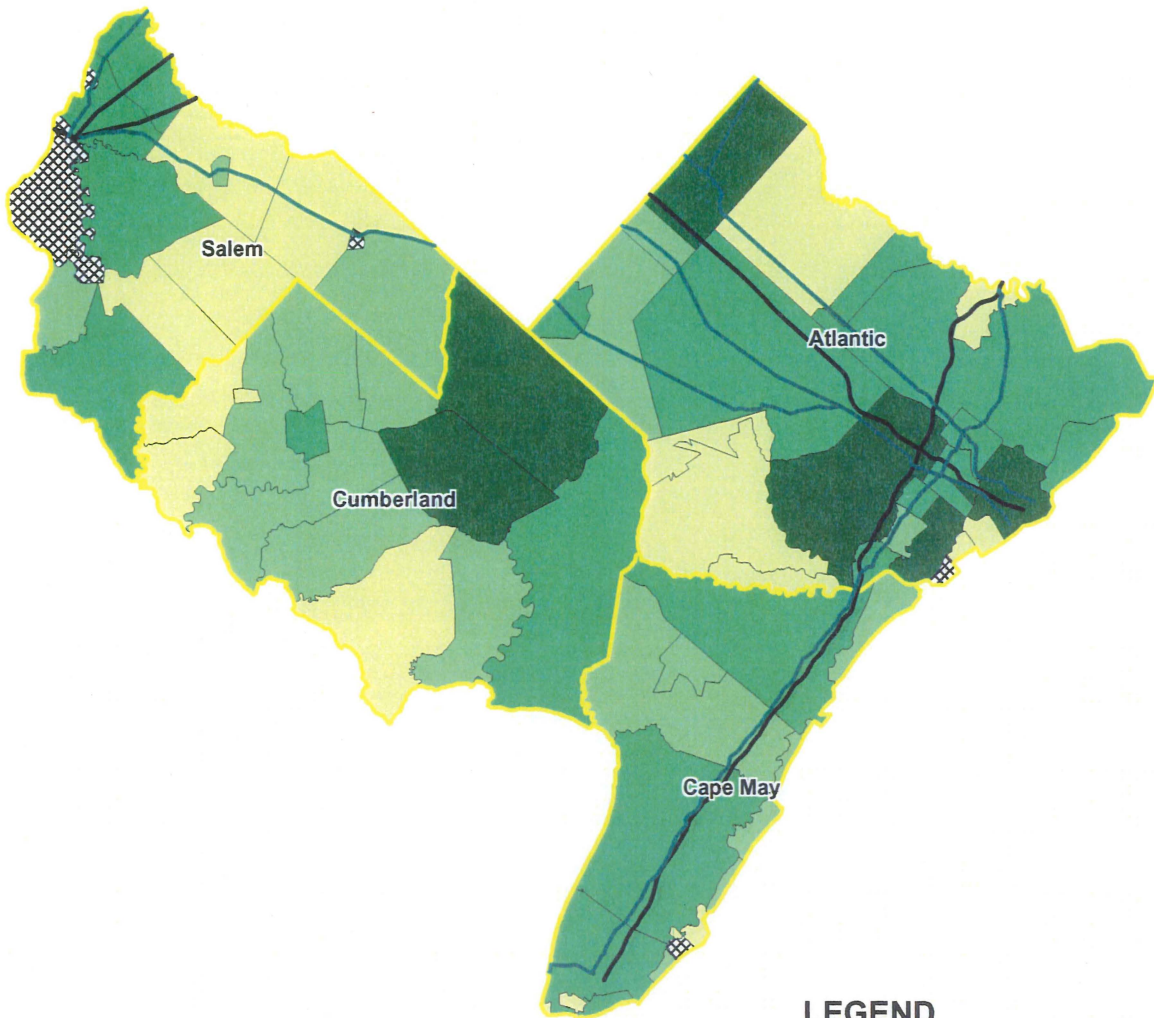
LEGEND

(Net Change by Municipality)

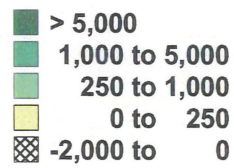
- > 5,000
- 1,000 to 5,000
- 250 to 1,000
- 0 to 250
- 2,000 to 0

- US Highway
- Interstate/Toll Highway
- County Boundaries
- MSA Boundaries

**Figure 3-2: Projected Net Change in Employment, 1990 to 2025
SJTPO Region**



LEGEND



COMMUTING CHARACTERISTICS

Figure 3-3 shows the commuting patterns of the residents in the SJTPO region. Atlantic County has the highest percentage (90%) of workers who live and work in the same county. This is the highest percentage of intra-county commuting in New Jersey. Only 4.8% of Atlantic County residents work in the remaining three counties in the study area. Only 71.3% of Cape May County's residents actually work within the county. Many residents work in Atlantic County (19.7%), Cumberland County (2.3%), and Philadelphia County (1.8%). Atlantic City is quite unusual in that it is home to significantly more workers (more than 66,500) than residents (about 38,000), a ratio of about 1.75 to 1. The city is a major regional employment base, drawing workers from the surrounding area.

The percentage of Cumberland County residents who work in Cumberland County is 79.4%. Large percentages travel to Atlantic County (9%) and Cape May County (1.8%). Salem County is the destination for 2.7% of the county's workers. Salem County has the lowest level of workers living and working within the county at 59.9%. Many residents are bound for areas outside of New Jersey (15.1%). The second largest destination is New Castle County Delaware at 10.6%.

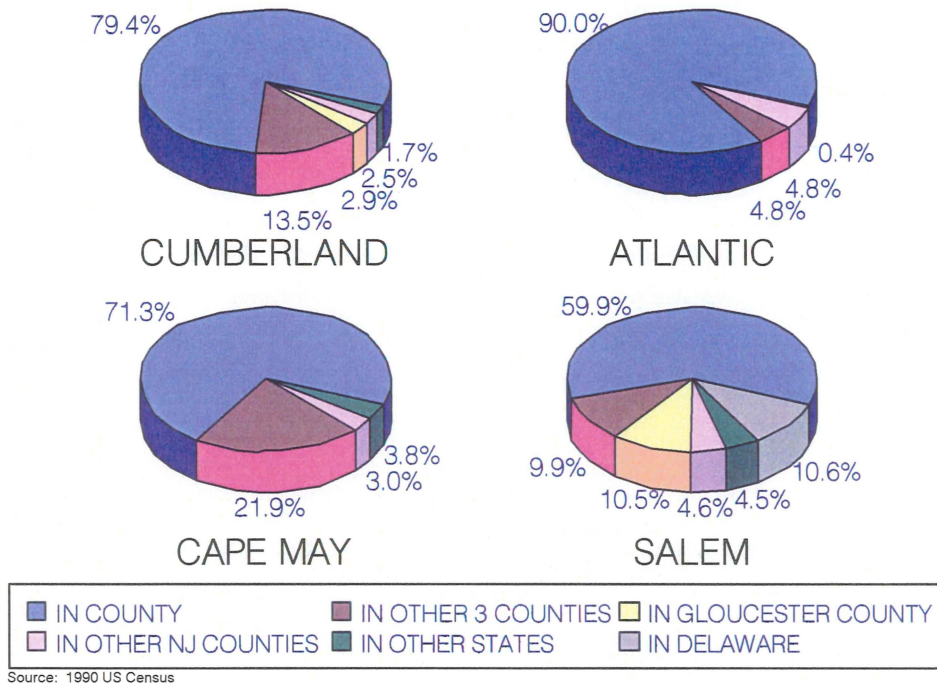


Figure 3-3 – South Jersey Commuting Patterns

Table 3-7 shows the distribution of 1990 commuting times for employed SJTPO residents in each county. In Atlantic County, 15.6% had a short commute of less than 10 minutes. The percentage of Atlantic County residents whose commuter is longer than 45 minutes is 7.7%, which is much lower than the statewide average of 16.0%. This is due to the high number of employment areas in Atlantic County, especially Atlantic City. While both Cumberland and Cape May County workers have work destinations that are spread throughout the area, 22.9% and 22.5% respectively have commutes less than 10 minutes. The highest percentage of commute times for Salem County workers is 22.1% for commutes of 20 to 29 minutes. This reflects the large number of work sites that Salem County workers must commute to such as New Castle County, Delaware. In general, the commute times in the SJTPO region are much shorter than the statewide average. Less than 45% of New Jersey residents have a commute time of

twenty minutes or less. However, about 50% to 60% of SJTPO residents have a commute of less than twenty minutes.

In each county, the greatest concentration of commute times was in the 10-19 minute range. However, over 9,000 area residents have commutes of an hour or more and over 3,000 travel more than 90 minutes to work.

Table 3-7 – Travel Time to Work

	ATLANTIC		CAPE MAY		CUMBERLAND		SALEM		NEW JERSEY	
	Total	% of total	Total	% of total	Total	% of total	Total	% of total	Total	% of total
Workers who did not work at home	109,132		40,027		58,615		28,706		3,657,532	
Less than 10 min.	17,054	15.6%	9,017	22.5%	13,451	22.9%	5,318	18.5%	514,467	14.1%
10 to 14 min.	18,887	17.3%	7,073	17.7%	12,428	21.2%	4,359	15.2%	565,092	15.4%
15 to 19 min.	21,052	19.3%	7,223	18.0%	9,432	16.1%	4,682	16.3%	569,258	15.6%
20 to 29 min.	27,286	25.0%	6,913	17.3%	9,833	16.8%	6,331	22.1%	713,612	19.5%
30 to 44 min.	16,470	15.1%	5,781	14.4%	6,740	11.5%	5,125	17.9%	710,761	19.4%
45 or more min.	8,383	7.7%	4,020	10.0%	6,731	11.5%	2,891	10.1%	584,342	16.0%

Source: U.S. Census Bureau, 1990

Table 3-8 indicates how residents of the four counties travel to work. Three counties, Cape May, Cumberland, and Salem, had higher percentage of workers who drive alone than the statewide average of 71.6%. This is likely due to the low population densities of the SJTPO region. Atlantic County had a very high percentage of workers who use transit at 6.6%, which is higher than the statewide average of 5.4%. It is most likely that the majority of these workers work in Atlantic City. This is confirmed by the fact that 24% of Atlantic City residents use transit with only 35% driving alone. County officials estimate that about 80% of Atlantic City's casino workers live within the county. Other communities with relatively high transit shares are Pleasantville (14%) and Ventnor (13%).⁴ Surprisingly considering the low density of the area, both Atlantic and Cape May counties have higher percentages of people who walk to work than the statewide average of 4.1%. Most of these workers probably work and live in the resort communities along the shore.

⁴ Multisystems, *Draft Profile and Inventory of Services and Facilities: Atlantic County*, January 1998

In comparison to the state as a whole, the SJTPO region has a larger percentage of adults that have not completed a high school education, (29% for the four county area compared to 23% for all of New Jersey). While the region is comparable to the state in the proportion of adults with some college experience or an associate's degree (21%), it has a lower percentage with bachelor's degrees (11% compared to the state average of 16%) and also a lower proportion of those with graduate degrees (4% versus 9% for the state as a whole).

Cumberland County had the lowest overall levels of educational attainment of the four counties. However, there are other parts of the region where education or skill deficits may be affecting economic performance. For example, New Jersey Department of Labor economists have characterized Atlantic County as having a significant number of chronically unemployed residents who are attracted to the county by the growing number of jobs but are difficult to employ because they lack sufficient skills and/or education.

Job/Population Balance

The job/population balance exhibits significant variation within the SJTPO region, with Salem and Cumberland Counties on the low side at 47.5 and 43.5 jobs per resident in 1996, compared to 69.4 jobs per resident in Atlantic County. Cape May County was in between with 51.2 jobs per resident.

ENVIRONMENTAL JUSTICE

MPO's are required to address environmental justice and Title VI civil rights goals in their planning. Environmental Justice aims to prevent disproportionately high and adverse impacts of decisions on low-income and minority groups, ensure public involvement of low-income and minority groups in decision making, and assure low-income and minority groups receive proportionate share of benefits. Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin in connection with programs and activities receiving Federal financial assistance. Related Federal law and guidance also calls for consideration to the elderly and disabled persons.

To provide a basis for evaluating how transportation in the region relates to these goals, maps were prepared by SJTPO staff to show where the populations of concern are concentrated. 1990 Census data was used to create the maps because it is the best available for a regionwide perspective. The maps depict the percentage a particular population group is to the total population in each Census tract. Since many municipalities are broken down into multiple census tracts, tract data was used to provide a more detailed view than possible using municipal data.

Figure 3-4 shows Census poverty concentrations, that is the percentage of the population in poverty. Poverty was determined by the U.S. Census Bureau by comparing family income to thresholds that varied by family size and income. For example, a family of four with two related children would be considered poor if their total family income was below \$13,254. If a family is considered poor, then every individual in the family is counted as poor. The thresholds used by the Census were comparable to those in the environmental justice definition of low income, except that they were slightly more detailed.

Figure 3-5 shows the percentage of people who were considered minority under the environmental justice definition. Minority means a person who is Black, Hispanic, Asian American, or American Indian and Alaskan Native. Census data was available for each of these groups.

The percentage of elderly, those age 65 and older, is displayed on Figure 3-6. Concentrations of people with disabilities are shown on Figure 3-7. The disabilities map was prepared using the Census data for persons with a mobility limitation or a self-care limitation. The census defined a mobility limitation as a health condition that had lasted 6 or more months and which made it difficult to go outside the home alone. Self-care limitation was similarly defined but concerned difficulty taking care of personal needs, such as dressing, bathing, or getting around inside the home.

Figure 3-5

Figure 3-7

employment, including a 350,000 square foot shopping center in Hamilton Township, and a Lowe's Home Improvement Warehouse in Egg Harbor Township.

The county's unemployment rate had been down to 5% in the late eighties; however, the number of unemployed has always remained high compared to the state's. This is largely due to the seasonal variation in tourism and agriculture employment. (During the summer months of July and August, the county's total employment is about 20% higher than during the winter months.) For the first nine months of 1997, the unemployment rate averaged 8.5%.

Atlantic County's service sector is projected to experience a large growth due to casino development in Atlantic City, but the extent and timing of this development is uncertain. The service sector will account for most of the job growth in Atlantic County between 1984 and 2005. Growth in the professional/technical field is also projected due to an increase in demand for computer technicians. Manufacturing jobs are expected to decline by 1,300 between 1994 and 2005.

Cape May County's economy is dependent on tourism, which is focused along its Atlantic coastline. The county has approximately 15,000 campsites and 23,000 motel rooms. After services (including tourism), the largest industries are government and retail trade.

The emphasis on tourism causes employment to experience seasonal fluctuation, despite the fact that the county's year-round population has grown steadily over the years. The number of jobs increases by about 20,000 between the months of January and July. Unemployment in the winter of 1997 reached 20% but usually drops below 10% during the summer months. However, the average unemployment for the year remains high. In 1996, the county's rate was 11.7%, nearly twice the state's rate of 6.2%. To a large extent, seasonal unemployment is considered a way of life in the county, with many residents working part of the year then going on unemployment. However, the City of Cape May is taking steps to extend the tourist season and has had some success with events such as a Christmas Dickens weekend.

A \$53 million, 200,000 square foot convention center in Wildwood is currently under construction.⁵ Big box retail development has also occurred in Middle Township including a Super K-Mart, with 245 jobs, a Home Depot with 200 jobs, and a T.J. Maxx among others. A ten-screen theater complex in Wildwood and a six-screen theater complex in Ocean City are also planned. The U.S. Coast Guard Electronics Engineering Center in Lower Township was closed in 1997, eliminating 240 jobs.

It has been projected that the labor force in Cape May County will grow by 6,400 jobs from 1994 to 2005. Non-farm employment is expected to increase by 5,200 jobs by 2005. The service sector will account for more than half of the new jobs, with about 50% of those new jobs coming from the health care field. About a quarter of the new jobs will be created in retail establishments such as restaurants and retail stores. The health care field will also create jobs in the professional/technical category.⁶

Cumberland County's largest industries are government, services and durable goods manufacturing. Wheaton Glass in Millville is the county's largest industrial employer with 1,900 employees. Non-durable goods, manufacturing, transportation, and public utilities are some of the smaller industries. In addition, the county retains an agricultural industry and sand and gravel mining are also important. Along with a declining oyster industry, chief agricultural products are nursery and green house crops, soy beans, potatoes, cabbage, lettuce, peppers and strawberries. The county's non-farm employment rose to an average of 57,500 jobs during the first three quarters of 1997.

Most of the county's recent development activity stems from growth in the Philadelphia suburbs and the Atlantic City expansion. Most recent development has been in the Route 55 corridor. A recent event was

⁵ New Jersey Sports & Exhibition Authority, www.njsea.com

⁶ NJDOL, Regional Labor Market Review, Atlantic Coastal Region, 1998

and Gas Company. Though utilities employment declined in the county between 1995 and 1997, these three Lower Alloways Township power plants employs approximately 2,250 workers.⁸

Some small-scale retail development has recently occurred in Pennsville. Other developments that have occurred are a 17,200 square foot addition to the South Jersey Hospital in Elmer and a 16,400 square foot addition to the DuPont Merck Pharmaceutical research laboratory, which has provided employment for ten additional workers.

It has been projected that the labor force in Salem County will grow by 2,800 jobs between 1994 and 2005. Construction employment is expected to remain at the same level with residential construction employment increasing somewhat and non-residential construction employment falling. Manufacturing employment is also expected to remain at the same level. Employment growth is projected in trade, public utilities, and government and education.

Unemployment averaged 6.3 percent in the first three quarters of 1997 down from 7.4% in the first three quarters of 1996. As of November 1997, the unemployment rate was down to 4.5%.⁹

CENTERS OF ACTIVITY AND DEVELOPMENT

The chief centers of economic activity are Atlantic City and the surrounding communities, the Route 55 corridor including Vineland and Millville, the Route 49 corridor communities of Carney's Point, Penns Grove and Salem City, and in Cape May County, Middle Township and the coastal centers of Cape May City, Ocean City and Wildwood.

Growth Concentrations

The emerging regional emerging growth centers include 24 municipalities projected to experience populations growth of 25% or more from 1990 to 2025 along with an absolute growth of 1,000 or more residents. These growth centers are shown in Table 3-11.

⁸ Public Service Enterprise Group (PSEG), www.pseg.com/nuclear/020200a.html

⁹ NJDOL, Regional Labor Market Review, Southern Region, 1998

islands. Cape May and Atlantic Counties are both seeing a lot of applications for assisted living centers as well as nursing care facilities and are increasingly being viewed as desirable retirement areas.

Salem County officials also view Pittsgrove Township and other locations near Route 55 as a possible area for residential development and possibly industrial growth once Route 42/55 interchange improvements are completed. Such developments could potentially house people working in Camden or Philadelphia. However, the lack of sewer facilities would be a constraint.

Designated Centers for Development and Redevelopment

The New Jersey State Development and Redevelopment Plan and update process has resulted in a formal designation of urban, regional, town and village centers with associated policies for their future development. Millville-Vineland is a designated regional center and Cape May Point is a designated village center.

The State Development and Redevelopment Plan process includes a municipal distress index and ranking to identify communities eligible to prepare a Strategic Revitalization Plan. The index is a composite measurement based on economic distress, physical condition of housing, and social and fiscal conditions. As of 1996, 23 municipalities in the SJTPO region were listed among the 100 most distressed municipalities in the state. Distressed urban centers included Bridgeton, Wildwood, Millville, Vineland, and Atlantic City. Smaller communities on the list included 10 Cumberland County municipalities, 4 in Salem County, 3 in Atlantic County and one in Cape May County, indicating the rural dimensions of distress. New Jersey Urban Enterprise Zones are located in Bridgeton, Millville/Vineland, and Pleasantville. The SJTPO region currently has two municipalities participating as Neighborhood Empowerment Zones in the Urban Coordinating Council program, Vineland and Bridgeton.

Land Area

The SJTPO region covers a total of 1,101,152 acres as shown in Table 3-13. The largest county is Atlantic County with 391,131 acres; the smallest is Cape May County with 165,905 acres. Nearly one-third of the region's total land area is in wetlands (32.1%), 5.9% is water, and 1.4% is beaches. Forestland accounts for another 30.4% of the region's land area and 18.4% is agricultural land. Urban or built-up land accounts for just 11.8% of the total. The majority of forestland is in Atlantic and Cumberland Counties, while the largest amount of agricultural land is in Salem County.

Table 3-13 – Land Use Acreage

	Atlantic	Cape May	Cumberland	Salem	SJTPO Total	
Urban or Built-Up Land	51,067	27,173	31,427	20,155	129,822	11.8%
Agricultural Land	27,951	9,737	70,690	94,609	202,987	18.4%
Forest Land	150,791	38,680	107,129	37,965	334,565	30.4%
Water	35,529	5,021	14,150	10,445	65,145	5.9%
Wetlands	120,973	81,511	93,952	56,637	353,073	32.1%
Beaches	4,820	3,784	4,277	2,682	15,563	1.4%
Total Acreage	391,131	165,905	321,624	222,493	1,101,155	100.0%

Source: New Jersey Office of State Planning, September 1997

PRELIMINARY IDENTIFICATION OF TRANSPORTATION-ECONOMIC ISSUES

Information presented in this Chapter has developed the broader context for population, employment, and land use, as they relate to the demand for travel. It has also identified influences related to economic growth that will impact the transportation system. This last part of Chapter Three will introduce the linkage of economic growth to the condition and performance of the transportation system. Transportation needs identified in this section are more thoroughly developed and addressed in Chapter Four. This information was obtained through a series of meetings conducted by NJDOT as part of an investigation into the transportation- economic linkages in the state.

In terms of a larger perspective, the goal is to have a transportation system in a state of repair sufficient to support existing activity and planning should prepare to accommodate future development.

In **Atlantic County**, current concerns include highway access to Atlantic City International Airport and the limitations of the existing north-south connections provided by the GSP and Route 9, as well as the

IV. MULTIMODAL TRANSPORTATION SYSTEM ASSESSMENT

INTRODUCTION

This chapter presents a review of transportation resources in the SJTPO region, by travel mode. It begins with highway and continues on to transit, bicycle/pedestrian, and intermodal travel, including freight and goods movement and aviation. For each travel mode, the following sections present a comprehensive review, beginning with an overview of facilities and services, demand for travel, condition and state of repair of infrastructure, an assessment of needs and problems, concerns and influencing factors that represent the unique circumstances of the regions, and opportunities and strategies for improvement including, in some cases, detailed improvement proposals. This chapter builds upon the discussion of context presented in Chapter 3. In particular, Chapter 3 demonstrated the makeup and diversity of the region. In some cases the relationship is directly evident, as is the case of the sheer numbers of population and employment creating demand for travel. In other cases, the link is more indirect where, for example, the types of employment and recreational activities available in the region creates patterns and levels of demand which are far different from those in much of the rest of the state.

Cape May County

Because of its recreational and tourist attractions such as miles of beaches and the Cape May Lighthouse, Cape May County encounters significant seasonal recreational travel. The major traffic movement in Cape May County is north-south travel along the Garden State Parkway and US 9. The Garden State Parkway is a four-lane divided limited access highway that services the shore communities such as Ocean City, Sea Isle City, Avalon, Stone Harbor, Wildwood, and Cape May. US 9 runs parallel to the Garden State Parkway, and serves as an alternate north-south route in different sections of the county. These two roadways serve both inter- and intra- county travel. NJ 47 provides north-south access from areas such as Cumberland and Salem Counties to the western Cape May County shore. At its southernmost end, it turns east to carry motorists directly into Wildwood, one of the county's busiest towns.

The majority of east-west traffic travels along county roads 621, 665, 657, 601, 625, and 623, which connect Ocean Drive and the seaside communities to the Garden State Parkway and US 9. West of US 9 and the Garden State Parkway, several county roads connect US 9 to NJ 47. Coupled with NJ 83, which also runs west from US 9, and CR 550 from US 9 to Woodbine, a complete network is formed across the county.

Cumberland County

One four lane limited access freeway, NJ 55, is available for north-south travel in Cumberland County, passing through Millville and Vineland, the largest cities in Cumberland County. NJ 47 runs mostly parallel to NJ 55 as a two to four lane principal arterial until the two run coincident and then split into NJ 47 and NJ 347. From there, NJ 47 continues into Cape May County, providing access to the shore communities. NJ 77 continues south from Salem County to Bridgeton in Cumberland County. Smaller county roads such as 555, which runs through Millville and Vineland, and 553, which runs through Bridgeton, also service north-south traffic.

East-west travel in Cumberland County is serviced by NJ 49, a two to four lane minor arterial that connects eastern New Jersey with the Delaware Memorial Bridge via Cumberland County.

Salem County

In Salem County the Delaware Memorial Bridge provides a major regional connection between New Jersey and Delaware. Several major highways provide access to this bridge, including I-295, New Jersey Turnpike, and US 130 from the north, US 40 from the east, and NJ 49 from the southeast. US 40 is a four lane principal arterial that stretches from the vicinity of the Delaware Memorial Bridge to Atlantic City. US 130 provides access to and from the bridge to Gloucester County and areas to the north such as Camden and Mercer County.

Roadway Ownership

Total linear roadway mileage in the SJTPO region is over 5,000 miles. State ownership includes 399 miles owned by NJDOT, 91 by the independent authorities and commissions¹, and 45 miles by various other State agencies.² Almost all of the balance, more than 4,400 miles, is owned by various counties and local governments.

Electronic Tolls

The introduction of electronic toll collection is a significant innovation in travel technology, and one which is designed to reduce traffic congestion and improve air quality and traveler convenience by eliminating bottlenecks that occur at toll booths and plazas. Significant congestion occurs at toll collection facilities in New Jersey during both AM and PM peak travel hours and during many holidays and weekends. Conventional toll collection technology requires vehicles to stop during the toll transaction either to pay with cash, which often requires a toll collector to calculate the toll or make change, or with a pre-paid

¹ Includes sections of the Atlantic City Expressway, Garden State Parkway, and New Jersey Turnpike located within SJTPO region

² Data compiled by NJDOT

MANAGEMENT SYSTEMS

A significant source of data that is available to evaluate conditions in the SJTPO region is the management system data. Information from available management systems were obtained and utilized in the development of the RTP, including information from the Congestion Management System, Pavement Management System, and the Bridge Management System. Data derived from the Safety Management System was also utilized, although the information for the SJTPO region was not made available in time to evaluate problem locations on a corridor basis. The information is presented in the following sections.

Congestion Management System

The Congestion Management System (CMS) was established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) to aid decision-makers in gauging system performance and needs, and selecting cost-efficient strategies and actions to improve and protect the investment in the nation's infrastructure. The purpose and role of the CMS is defined in the federal regulations [*Title 23, Code of Regulations (CFR) Part 500 Subpart E – Traffic Congestion Management System*] as a "systematic process that provides information on transportation system performance and alternative strategies to alleviate congestion and enhance the mobility of persons and goods."

Both ISTEA and the federal Management and Monitoring Systems Regulations [*Title 23, Code of Federal Regulations (CFR) Part 500*] require SJTPO to prepare a fully operational CMS, which included new requirements to structure the transportation planning process. These included requirements for fiscally constrained Long Range Plan and a Transportation Improvement Program (TIP) which lists programmed projects for a five-year period.

A multi-agency task force was formed to develop and guide the implementation of the New Jersey Congestion Management System (NJCMS). The task force included SJTPO, the North Jersey Transportation Planning Organization (NJTPA), the Delaware Valley Regional Planning Commission (DVRPC), the New Jersey Transit Corporation (NJT), the Federal Highway Administration (FHWA), and the New Jersey Department of Transportation (NJDOT) are all members of the team. With the help of consultant resources, the team members reached a general consensus on most issues, and the NJCMS was completed and distributed on CD-ROM.

The NJCMS is a computer program that analyzes highway and rail network files encompassing the entire state. NJCMS focuses primarily on highway congestion and the roadway network. For the SJTPO region, the roads on the NJCMS network are interstate highways, principal arterials, and minor arterials which carry long distance traffic and through trips. This analysis tool has the capability to evaluate multimodal performance, identify the location and causes of congestion, and identify and evaluate the performance of both traditional and non-traditional measures.

Through the use of GIS, the data in the NJCMS can be geographically displayed to determine areas of high congestion, significant truck usage, and peak vs. non-peak volumes. The NJCMS can produce corridor-level performance measures, such as vehicle miles traveled (VMT) by Level of Service, lane miles by Level of Service, VMT by Volume/Capacity ratio, and recurring vehicle delay. Roadway-level performance measures are also available, including measures that can be used to determine which roadway links meet the definition of "congestion", defined as exceeding a threshold Volume/Capacity ratio (V/C ratio).

Because of its design to represent overall average travel conditions, the NJCMS has severe limitation when applied to the unique travel conditions, time periods, and unusual peaking characteristics of the SJTPO region. As such, the NJCMS represents only one of a great variety of data sources used to identify highway travel problem area in the region. These limitations are discussed in greater detail in the following section on Seasonality of Travel.

operating well and has capacity available to accommodate growth. A v/c ratio approaching 1.0 (*Approaching Capacity*) suggests that a roadway is operating poorly with little capacity available for growth. A v/c ratio over 1.0 (*Beyond Capacity*) suggests that a roadway is operating at failing conditions with no available capacity for growth.

The amount of time a particular route is rated *Approaching Capacity* or *Beyond Capacity* is a method of quantifying traffic congestion. The Duration of Congestion statistic is a measure of the number of hours per day the v/c ratio is greater than 0.9. For example, a route with a high v/c ratio for only one hour may be less problematic for highway travelers than a route with a moderately high v/c ratio for more than one hour. A higher Duration of Congestion statistic, therefore, indicates a longer peak traffic period and a more serious congestion problem.

The data for Duration of Congestion are averaged out to represent a typical day, and do not reflect worst-case conditions, seasonal fluctuations, or unusual single-day peaks such as special event, accidents, holidays or summer travel. As such, this analysis may depict better conditions for a given roadway than those that may be experienced by some travelers.

As shown in Table 4-1, on a typical non-summer weekday the SJTPO region experiences a low level of Duration of Congestion - only 3% of the region's roadways are congested for one or more hours per day, based on the NJCMS average day methodology. This data should be considered to be more reflective of "off-peak" conditions in the SJTPO region, rather than peak conditions as reported by the CMS.

Table 4-1 - Duration of Non Summer Congestion in the SJTPO as reported by the NJCMS

Number of Congested Hours	SJTPO	
	Miles	% of Total
0 to 1	500.77	97%
1 to 2	4.00	1%
>2	11.00	2%
Total	515.77	100%

Source: 1990 NJDOT Congestion Management System, Version 1.2

Table 4-2 - NJCMS Problem Areas 1990, SJTPO Region

Route	Begin MP	End MP	County	VCR	VCR>0.9	TWAWDT	Truck %	RD	NRD	Existing Configuration	HAPs Trips	DTS	Project Active
RTE 130	0.50	1.50	Salem	1.1	3	-	-	180	-	Two Lane Undivided Arterial	1179	Four Lanes Undivided with left turns via left turn lanes	None
RTE 30	52.00	52.50	Atlantic	-	5	40400	-	300	-	Four Lane Divided Arterial	10716	Four Lanes Undivided with two way left turn lanes	None
RTE 40	53.50	56.50	Atlantic	1.1	3	-	-	260	-	Four Lane Arterial with Grass Median	6938	Six Lanes Divided with access along street or interchange only to right turn access with provision for left turns via jughandles.	None
RTE 47	0.00	0.50	Cape May	1	2	-	-	360	28	Two Lane Undivided Arterial	883	Four Lanes Divided with left turns via left turn lanes	None
RTE 47	41.50	42.50	Cumberland	1.4	8	-	-	360		Two Lane Undivided Arterial	6655	Two Lanes with two way left turn lanes to Four Lanes Undivided with left turns via left turn lanes	Operational & Interchange Improvements
RTE 47	44.00	45.50	Cumberland	1	1	-	-	240	26	Two Lane Undivided Arterial	6780	Four Lanes Undivided with left turns via left turn lanes	None
RTE 49	0.50	2.00	Salem	1	1	-	-	190	-	Two Lane Undivided Arterial	1179	Four Lanes Divided with left turns via left turn lanes	None
RTE 49	8.50	9.50	Salem	1.1	2	-	-	200	27	Two Lane Undivided Arterial	266	Four Lanes Undivided with left turns via left turn lanes	None
RTE 49	25.00	25.50	Cumberland	1.2	4	-	-	460	-	Two Lane Undivided Arterial	1306	Four Lanes Undivided with left turns via left turn lanes	None
RTE 77	1.00	1.50	Cumberland	1.1	9	-	-	210	31	Two Lane Undivided Arterial	1411	Four Lanes Undivided with left turns via left turn lanes	None

Source: 1990 NJDOT Congestion Management System, Version 1.2

Notes:

VCR = Maximum V/C Ratio

VCR>0.9 = # of hours with V/C Ratio greater than 0.9

TWAWDT = Two Way Average Weekday Daily Traffic

Truck % = 24 Hour Truck Percentage

RD = Recurring Congestion Delay

NRD = Non-recurring Congestion Delay

Route 49 in Salem has a maximum v/c ratio of 1.1. This area experiences a v/c over 0.9 for two hours a day, has a recurring congestion delay of 200 veh-hrs/day and a non-recurring congestion delay of 27 veh-hrs/day. There are three planned developments within 5 miles of this segment in the HAPs database. These will add over 250 PM peak hour trips to the roadway network. This is currently a two lane undivided highway with no planned improvements on the Five Year Capitol Plan. The DTS is four lanes undivided with an access level of four, driveway with provision for left turns via left turn lanes.

In Bridgeton, Route 49 has a maximum v/c ratio of 1.2. This area experiences a v/c over 0.9 for 4 hours a day and has a recurring congestion delay of 460 veh-hrs/day. Planned developments within 5 miles of this segment in the HAPs database show an increase in PM peak hour trips of 1,300 vehicles. This is currently a two lane undivided highway with no planned improvements on the Five Year Capitol Plan. The DTS is four lanes undivided with an access level of four, driveway with provision for left turns via left turn lanes.

Route 77 in Bridgeton has is on the statewide top 60 list for congestion with a v/c over 0.9 for 9 hours a day. This segment has a maximum v/c ratio of 1.1, has a recurring congestion delay of 210 veh-hrs/day and a non-recurring congestion delay of 31 veh-hrs/day. Planned developments within 5 miles of this segment in the HAPs database show an increase in PM peak hour trips of 1,400 vehicles. This is currently a two lane undivided highway with no planned improvements on the Five Year Capitol Plan. The DTS is four lanes undivided with an access level of four, driveway with provision for left turns via left turn lanes.

Bridge Management System

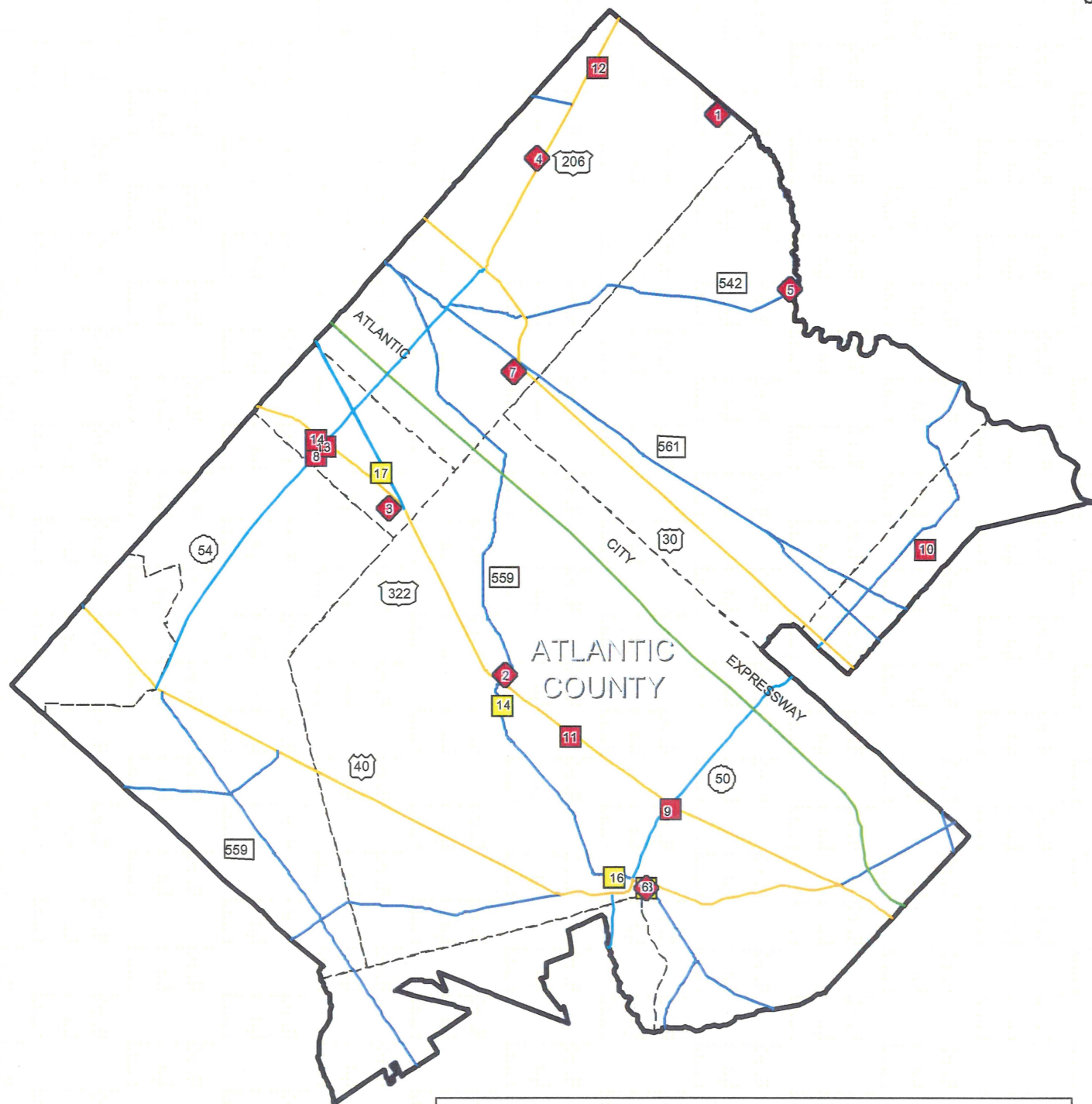
NJDOT employs a Bridge Management System (BMS) to maintain an inventory of all bridges with a span over 20 feet in New Jersey with information on their physical characteristics, condition, and ownership. Bridges are inspected periodically and the various characteristics are rated on numerical scale. The scale ranges from zero to nine, with a zero representing a failed condition and a nine representing an excellent condition. A bridge can be defined as *Structurally Deficient*, *Functionally Obsolete*, or both. A bridge is deemed *Structurally Deficient* if its deck, superstructure, substructure or culvert are rated 4 (poor) or less or if the overall structure evaluation for load capacity or waterway adequacy is rated 2 (critical) or less. *Structural deficiency* does not necessarily mean that a bridge is unsafe. It could mean that the bridge is unable to handle the vehicle loads or speeds that would normally be expected on the roadway where the bridge is located and is posted to indicate these limitations.

A bridge is classified as *Functionally Obsolete* if the deck geometry, underclearances (vertical and horizontal), approach roadway alignment, overall structural evaluation for load capacity or waterway adequacy are rated as 3 (serious) or less. *Functional obsolescence* could mean the width or vertical clearance of the bridge is inadequate. Bridges become functionally obsolete due to highway improvements, such as lane additions on the approaches to the bridge, or due to changes in freight movement technology or practice.

The overall rating given to each bridge is called the sufficiency rating which indicates a bridge's ability to remain in service. The rating may range from 100%, which represents a bridge meeting state-of-the-art standards, to 0%, which represents a bridge in need of immediate repair or replacement. The physical condition of the structure is monitored by NJDOT at a minimum of once every two years to ensure that each bridge can safely carry vehicles at the posted truck load.

The primary use of the sufficiency rating is to allocate federal funds to address bridge needs. A structure is eligible for federal funds if its sufficiency rating is less than 80 and is designated as *Structurally Deficient* or *Functionally Obsolete*. In the SJTPO region, 17% are *Structurally Deficient* and 15% are *Functionally Obsolete*. The ratings for the SJTPO region are listed below in Table 4-3.

**FIGURE 4-1: RT. 322/ACE/US 40/US 30 (WEST)
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

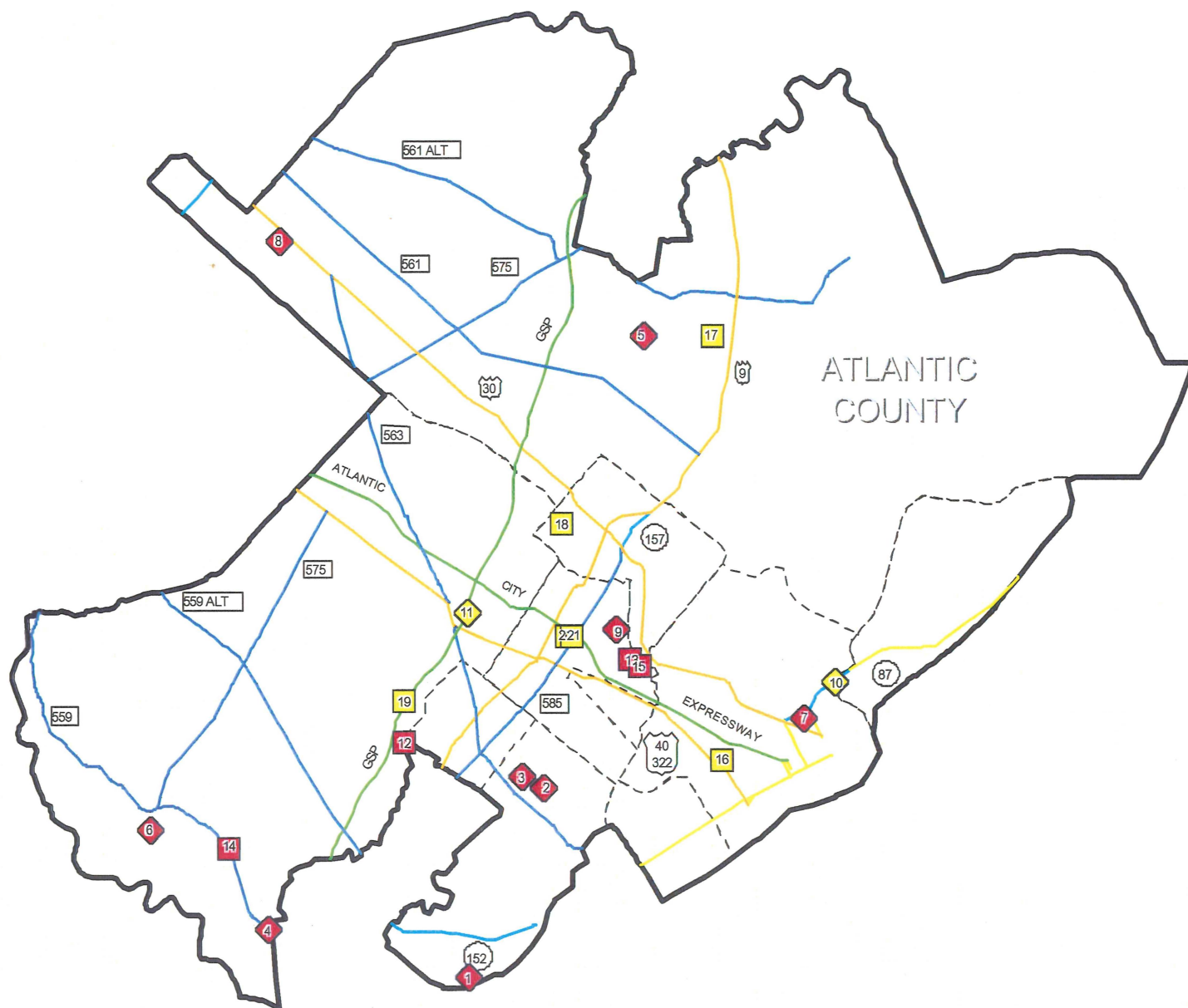
PROBLEM AREA LEGEND

- Structurally Deficient Bridge: 50 to 80=Sufficiency Rating Percentage*
- Functionally Obsolete Bridge: 50 to 80=Sufficiency Rating Percentage*
- Structurally Deficient Bridge: <50 Sufficiency Rating Percentage**
- Functionally Obsolete Bridge: <50 Sufficiency Rating Percentage**
- 1 Number denotes bridge in table listing

* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

**FIGURE 4-2: RT. 322/ACE/US 40/US 30 (EAST)
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

PROBLEM AREA LEGEND

- ◆ Structurally Deficient Bridge: 50 to 80=Sufficiency Rating Percentage*
- ◆ Functionally Obsolete Bridge: 50 to 80=Sufficiency Rating Percentage*
- ◆ Structurally Deficient Bridge: <50 Sufficiency Rating Percentage**
- ◆ Functionally Obsolete Bridge: <50 Sufficiency Rating Percentage**
- 1 Number denotes bridge in table listing

* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

Table 4-5

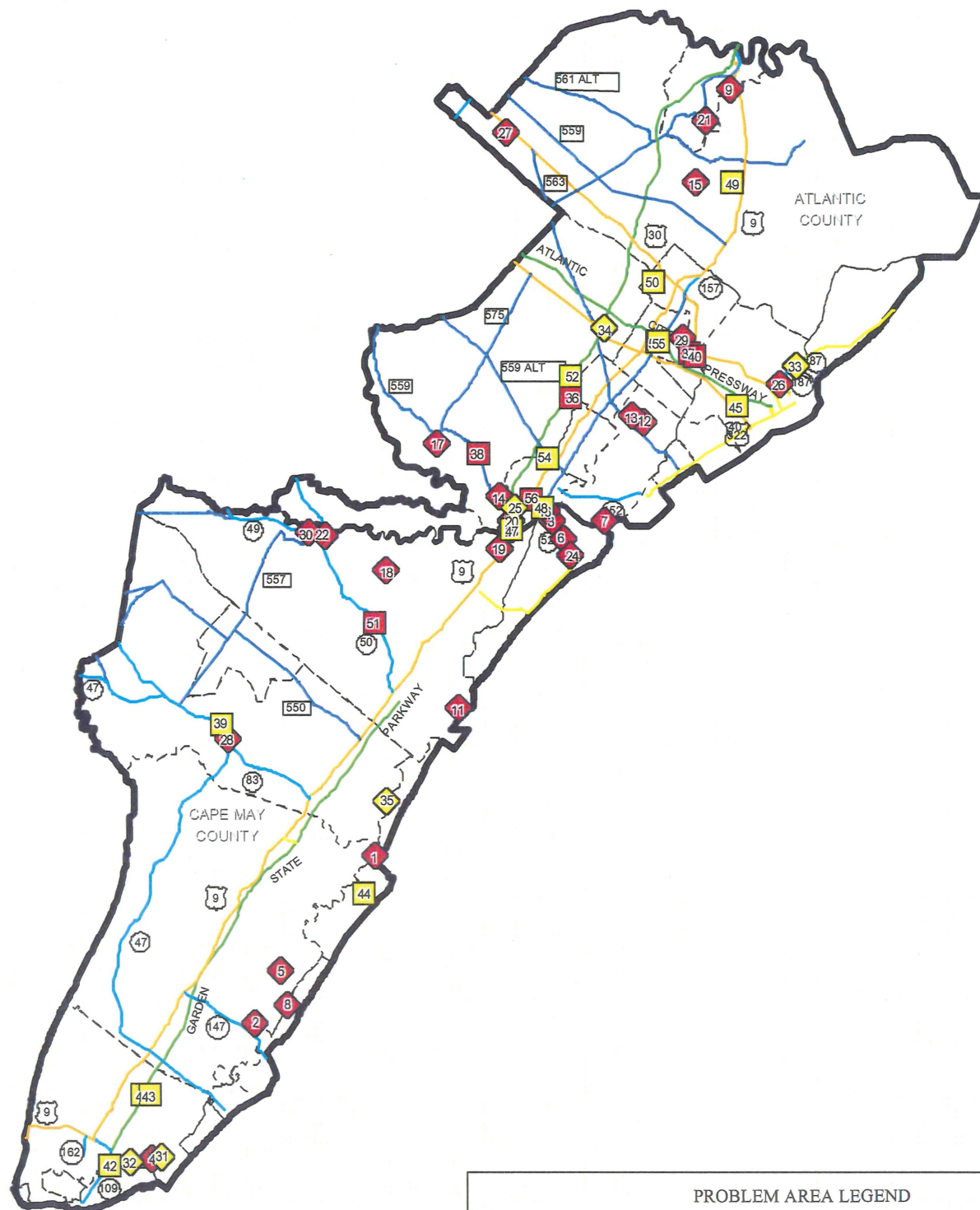
RT 322 / ACE / US 40 / US 30 (WEST)

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	3485157	HUMPBAC BRIDGE	BACKSIDE MULICA CREEK	WHARTON STATE PARK	17%	Structurally Deficient
2	01HML22	WEYMOUTH RD CR559	GREAT EGG HARBOR RIVER	800 FT N OF US ROUTE 322	19%	Structurally Deficient
3	01BV007	EIGHTH STREET	HOSPITALITY BRANCH	BOROUGH OF FOLSON	22%	Structurally Deficient
4	01H0012	ATSION RD	GREAT SWAMP BROOK	HAMMONTON TOWN	35%	Structurally Deficient
5	01M0030	ATSION-PL.MILLS RD	NESCOCHAGUE CREEK	0.1 MI N OF CR 542	39%	Structurally Deficient
6	0107150	U.S.ROUTE 40	BABCOCK CREEK	0.1 MILE EAST OF RT.559	40%	Structurally Deficient
7	0162150	WEYMOUTH ROAD	ATLANTIC CITY LINE	0.2 MILES SW FROM RT.30	45%	Structurally Deficient
8	0114154	NJ RT 54	CAPE MAY PT BR. HOSP BRK	3 MI SW OF 54-322 JCT.	58%	Structurally Deficient
9	0112153	NJ 50	US 322	3 MI S OF 50-ACE INTER.	58%	Structurally Deficient
10	01EHC39	INDIAN CABIN RD	INDIAN CABIN CREEK	0.2 MI E OF EG HBR CT LKE	58%	Structurally Deficient
11	0119156	ROUTE U.S. 322	BIG DITCH	2.5 MI WEST OF RT 50	61%	Structurally Deficient
12	0118154	US 206	CLARKS CREEK	12.63 MI S OF RT 70 JCT.	61%	Structurally Deficient
13	0114155	N.J. ROUTE 54	U.S. ROUTE 322	RT. 54 AND 322 JCT	63%	Structurally Deficient
14	01HML25	WEYMOUTH ROAD	DEEP RUN	25 MI S OF US ROUTE 322	65%	Functionally Obsolete
15	0119150	ROUTE U.S. 322	CAPE MAY BRANCH	0.2 MI WEST OF RT 54	65%	Structurally Deficient
16	01HML54	COUNTY ROUTE 559	GREAT EGG HARBOR RIVER	2.1 MI S OF NJ 50 MAY LND	66%	Functionally Obsolete
17	01BV006	PHILADELPHIA AVE	GREAT EGG HARBOR RIVER	0.4 MI E. OF US RT 322	75%	Functionally Obsolete
18	01HML37	SOMERS POINT ROAD	BABCOCK CREEK	MAYS LNDG .5 MI E OF NJ50	77%	Functionally Obsolete

RT 322 / ACE / US 40 / US 30 (EAST)

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	3100001	OCEAN HWY (CR656)	GREAT EGG HARBOR	2.25 MI E OF ROUTE 52 CIR	5%	Structurally Deficient
2	4700003	MILL ROAD(C.R.563)	WHIRLPOOL CHANNEL	2.3 MI SE OF RT9&662 JCT	14%	Structurally Deficient
3	4700004	MILL RD(C.R.563)	DOCK THOROFARE	1.8 MI SE OF RT9&662 JCT	15%	Structurally Deficient
4	01EH032	MAYS LNDG-SMRS PT	MAYS LNDG-SMRS PT&PAT.CR	4 MI W.GSP.2MI N.BSLY PT	15%	Structurally Deficient
5	03H8001	CT RT 542	WADING RIVER	0.1 MI W OF JCT C.R. 653	18%	Structurally Deficient
6	01EH021	MAYS LDG-SOMERS PT	ENGLISH CREEK	4 MI.W.OF GSP.7 MI.S. 322	19%	Structurally Deficient
7	0103150	U.S.ROUTE 30	PENROSE CANAL	0.7 MI NW OF 30-87 JCT	32%	Structurally Deficient
8	0162153	FRANKFURT AVENUE	ATLANTIC CITY LINE	2 MI SOUTH OF RTE 30	33%	Structurally Deficient
9	01A0008	DELILAH ROAD	ATLANTIC CITY WATER MAIN	1MI.N.AC.EXP. .5MI.W.RT.30	42%	Structurally Deficient
10	0115150	RT.87	ABSECON INLET&RAMPSJ&H	1.2 MILE NORTH OF RT 30	48%	Functionally Obsolete
11	360366T	GARDEN STATE PKWY	WASHINGTON AVE-CO.RT 608	0.6 MI S OF GSP&ACE JCT	49%	Functionally Obsolete
12	01EH010	ZION RD	PATCONG CREEK	0.2MI E. GSPKWY&1MI W RT9	54%	Structurally Deficient
13	01A0006	DELILAH ROAD	A.C. LINE RR	0.3 MI W.OF RT30- ABSECON	56%	Structurally Deficient
14	01EH029	MAYS LNDG-SMRS PT	LAKE'S CREEK	2.7 MI E.OF GSPKWY EXIT29	57%	Structurally Deficient
15	01A0007	DELILAH ROAD	U.S.ROUTE 30	2.47 MI S US 9 & 30 JUNC.	60%	Structurally Deficient
16	3500030	A.C EXPRESSWAY	BEACH THOROFARE	5 MI W OF ATLANTIC CITY	64%	Functionally Obsolete
17	03H8520	NEW GREINA ROAD	MERRYGOLD BR.WADING RIV	2.0 MI WEST OF RT 167	67%	Functionally Obsolete
18	01A0004	MILL ROAD	ABSECON CREEK	ABSECON CITY	67%	Functionally Obsolete
19	01EH007	MILL RD	MILL RD & PATCONG CREEK	EGG HARBOR TWP	69%	Functionally Obsolete
20	3500490	SHORE ROAD	ATLANTIC CITY EXPRESSWAY	0.9 MI.FROM INTERCHG.4	74%	Functionally Obsolete
21	3500500	LINDEN AVENUE	ATLANTIC CITY EXPRESSWAY	0.8 MI NE OF RT9&40 JCT	77%	Functionally Obsolete

**FIGURE 4-3: US 9 & GSP
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

PROBLEM AREA LEGEND

- Structurally Deficient Bridge: 50 to 80=Sufficiency Rating Percentage*
- Functionally Obsolete Bridge: 50 to 80=Sufficiency Rating Percentage*
- ◆ Structurally Deficient Bridge: <50 Sufficiency Rating Percentage**
- ◆ Functionally Obsolete Bridge: <50 Sufficiency Rating Percentage**
- 1 Number denotes bridge in table listing

* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

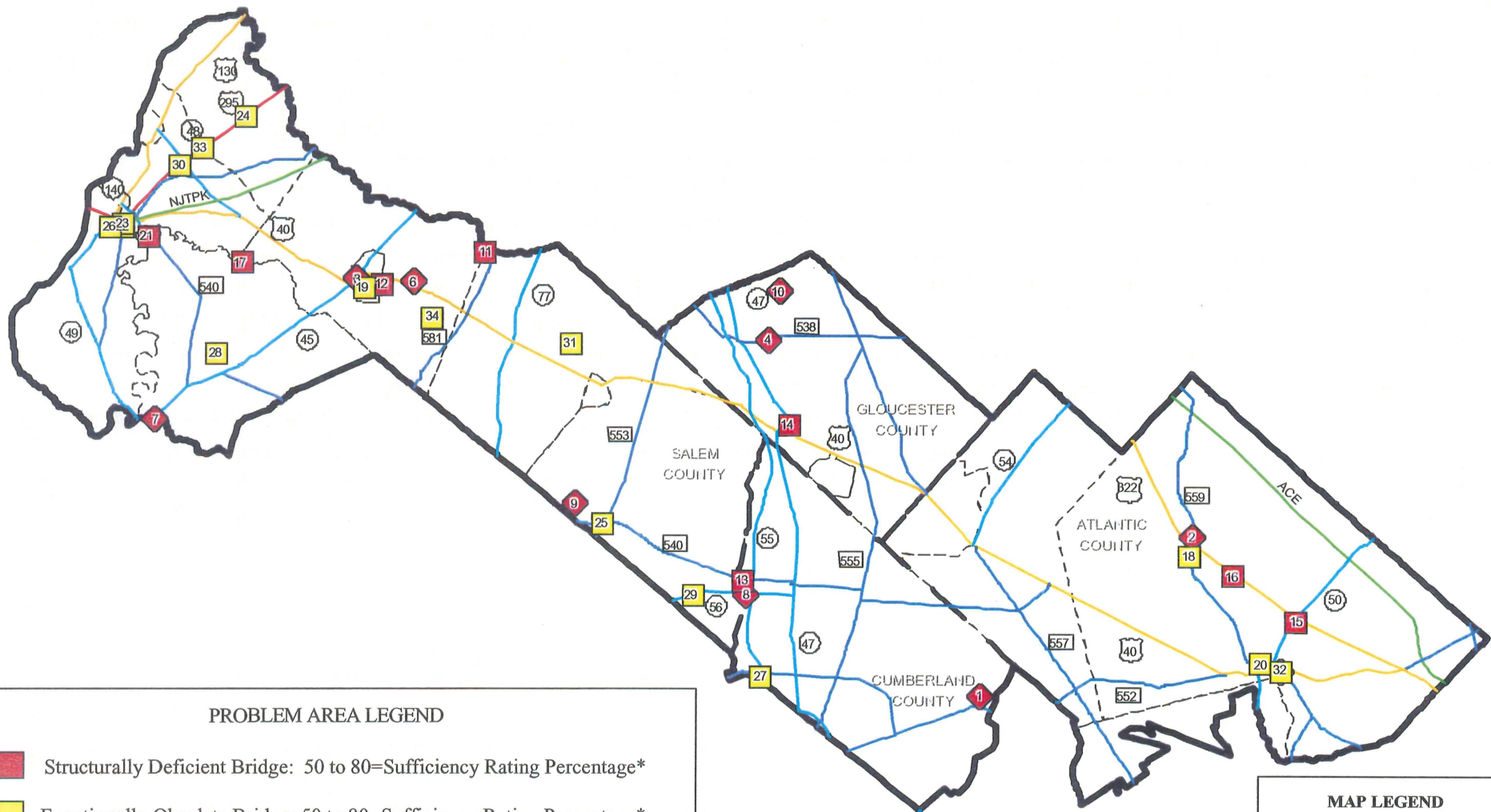
** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

Table 4-6

US 9 & GSP

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	3100003	OCEAN HWY-CO RT619	TOWNSENDS INLET	3.5 MI SE OF RT9&83 JCT	2%	Structurally Deficient
2	3100005	OCEAN HWY CO.RT619	GRASSY SOUND	2.5 MI E OF RT147&GSP JCT	2%	Structurally Deficient
3	0511152	ROUTE 52	ELBOW THOROFARE	3RD BRDG N OF OCEAN CITY	4%	Structurally Deficient
4	3100006	OCEAN HWY CO RT621	MIDDLE THOROFARE	1.75 MI E OF RT621&GSP JC	4%	Structurally Deficient
5	0500017	STONE HARBOR BLVD	SCOTCH BONNET	2 MI E OF PARKWAY EXIT	4%	Structurally Deficient
6	0511151	ROUTE 52	RAINBOW THOROFARE	2ND BR NO OF OCEAN CITY	4%	Structurally Deficient
7	3100001	OCEAN HWY. (CR656)	GREAT EGG HARBOR	2.25 MI E OF ROUTE 52 CIR	5%	Structurally Deficient
8	0500028	CR 619 (OCEAN DR)	GREAT CHANNEL	1.9 MI NE OF RTE 147	9%	Structurally Deficient
9	0102151	US RT 9	NACOTE CREEK	1.5 MI SOUTH OF GSP EX 48	10%	Structurally Deficient
10	360280N	GARDEN ST PKWY NB	GREAT EGG HARBOR&HRBR RD	0.8 MI S GREAT EGG TOLL	12%	Structurally Deficient
11	3100002	OCEAN HWY CTY RT19	CORSON INLET	3.50 MI S OF RT9&623 JCT	12%	Structurally Deficient
12	4700003	MILL ROAD(C.R.563)	WHIRLPOOL CHANNEL	2.3 MI SE OF RT9&662 JCT	14%	Structurally Deficient
13	4700004	MILL RD(C.R.563)	DOCK THOROFARE	1.8 MI SE OF RT9&662 JCT	15%	Structurally Deficient
14	01EH032	MAYS LNDG-SMRS PT	MAYS LNDG-SMRS PT&PAT.CR	4 MI W.GSP,2MI N.BSLY PT	15%	Structurally Deficient
15	03H8001	CT RT 542	WADING RIVER	0.1 MI W OF JCT C.R. 653	18%	Structurally Deficient
16	0511153	ROUTE 52	SHIP CHANNEL	1ST BR SO OF SOMMERS PT	18%	Structurally Deficient
17	01EH021	MAYS LDG-SOMERS PT	ENGLISH CREEK	4 MI.W OF GSP,7 MI.S. 322	19%	Structurally Deficient
18	0500019	MARSHALLVILLE ROAD	MILL CREEK	1 MI N.E.FROM NJ ROUTE 49	19%	Structurally Deficient
19	3900001	US 9	GREAT EGG HARBOR BAY	GREATE EGG HARBOR BAY	21%	Structurally Deficient
20	3900002	US 9	DRAG CHANNEL/GR EGG HARB	GREAT EGG HARBOR BAY	21%	Structurally Deficient
21	01PR007	SMITHVILLE-PTREPRD	NACOTE CREEK	PORT REPUBLIC CITY	22%	Structurally Deficient
22	0510152	ROUTE 50	TUCKAHOE RIVER	8.1 MI NORTH OF GSPKWY	28%	Structurally Deficient
23	360280S	GARDEN ST PKWY SB	GREAT EGG HARBOR&HRBR RD	8 MI S. GREAT EGG TOLL	29%	Structurally Deficient
24	0511150	ROUTE 52	BEACH THOROFARE	1ST BRIDGE NO OCEAN CITY	31%	Structurally Deficient
25	360289T	ROUTE US 9	GARDEN STATE PARKWAY	1.2 MI N-C.MAY-ATL CO LIN	32%	Functionally Obsolete
26	0103150	U.S.ROUTE 30	PENROSE CANAL	0.7 MI NW OF 30-87 JCT	32%	Structurally Deficient
27	0162153	FRANKFURT AVENUE	ATLANTIC CITY LINE	.2 MI SOUTH OF RTE 30	33%	Structurally Deficient
28	0508150	N.J.ROUTE 47	DENNIS CREEK	2 MI N OF NJ 83 & NJ 47	37%	Structurally Deficient
29	01A0008	DELILAH ROAD	ATLANTIC CITY WATER MAIN	1MI.N.AC.EXP. 5MI.W.RT.30	42%	Structurally Deficient
30	0509151	ROUTE 49	CAPEMAY BRANCH	5 MI WEST OF RT 50	46%	Structurally Deficient
31	0500029	CR 621 (OCEAN DR)	UPPER THOROFARE	1.25 MI E.OF GSP & RT 621	47%	Functionally Obsolete
32	0500030	CR621(OCEAN DR)	MILL CREEK	0.75 MI E.OF GSP &RT 621	48%	Functionally Obsolete
33	0115150	RT 87	ABSECON INLET&RAMPSJ&H *	1.2 MILE NORTH OF RT 30	48%	Functionally Obsolete
34	360366T	GARDEN STATE PKWY	WASHINGTON AVE.CO.RT 608	0.6 MI S OF GSP&ACE JCT	49%	Functionally Obsolete
35	0500005	SEA ISLE CITY BLVD	SVC RDS&LUDLAM THOROFARE	0.5M NW OF OCEAN DR INTER	50%	Functionally Obsolete
36	01EH010	ZION RD	PATCONG CREEK	0.2MI E. GSPKWY&1MI.W.RT9	54%	Structurally Deficient
37	01A0006	DELILAH ROAD	A.C. LINE RR	0.3 MI W.OF RT30- ABSECON	56%	Structurally Deficient
38	01EH029	MAYS LNDG-SMRS PT	LAKE'S CREEK	2.7 MI E.OF GSPKWY EXIT29	57%	Structurally Deficient
39	0508151	NJ 47	BRANCH OF DENNIS CREEK	14.75 MI NORTH OF US 9	58%	Functionally Obsolete
40	01A0007	DELILAH ROAD	U.S.ROUTE 30	2.47 MI S US 9 & 30 JUNC.	60%	Structurally Deficient
41	360024N	GARDEN ST PRKY NB	JONES CREEK	2.4 MI NE OF RT9&GSP JCT.	61%	Functionally Obsolete
42	0501150	RT 109	CAPE MAY CL & SERVICE RD	1.27 MI SOUTH OF US RT 9	61%	Functionally Obsolete
43	360024S	GARDEN ST PRKY SB	JONES CREEK	2.4 MI NE OF RT9&GSP JCT.	61%	Functionally Obsolete
44	0500008	CR 601 (AVALON BV)	AVALON CANAL	100 FT W OF 30TH&OCEAN DR	63%	Functionally Obsolete
45	3500030	A C EXPRESSWAY	BEACH THOROFARE	.5 MI W OF ATLANTIC CITY	64%	Functionally Obsolete
46	360285S	GARDEN ST PKWY SB	DRAG CHANNEL	0.3 MI S GREAT EGG TOLL	64%	Functionally Obsolete
47	360285N	GARDEN ST PKWY NB	DRAG CHANNEL	0.3 MI S GREAT EGG TOLL	65%	Functionally Obsolete
48	0150160	SHORE RD(CO 585)	LINWOOD SECONDARY(ABAND)	0.1 MI N OF RT 52&585 JCT	65%	Functionally Obsolete
49	03H8520	NEW GRETNA ROAD	MERRY GOLD BR.WADING RIV	2.0 MI WEST OF RT 167	67%	Functionally Obsolete
50	01A0004	MILL ROAD	ABSECON CREEK	ABSECON CITY	67%	Functionally Obsolete
51	0510150	NJ 50	CEDAR SWAMP CREEK	3 MI N OF 50-9 INTER.	67%	Structurally Deficient
52	01EH007	MILL RD	MILL RD & PATCONG CREEK	EGG HARBOR TWP	69%	Functionally Obsolete
53	3500490	SHORE ROAD	ATLANTIC CITY EXPRESSWAY	0.9 MI.FROM INTERCHG.4	74%	Functionally Obsolete
54	01EH033	OCEAN HEIGHTS AVE	PATCONG CREEK	6 MI E.GSP,1.9 MI N NJ52	74%	Functionally Obsolete
55	3500500	LINDEN AVENUE	ATLANTIC CITY EXPRESSWAY	0.8 MI NE OF RT9&40 JCT	77%	Functionally Obsolete
56	1100032	CLRKVL RD (CO.638)	BEAR BROOK	GROVERS MILL	78%	Structurally Deficient

**FIGURE 4-4: US 40
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



PROBLEM AREA LEGEND

- Structurally Deficient Bridge: 50 to 80=Sufficiency Rating Percentage*
- Functionally Obsolete Bridge: 50 to 80=Sufficiency Rating Percentage*
- Structurally Deficient Bridge: <50 Sufficiency Rating Percentage**
- Functionally Obsolete Bridge: <50 Sufficiency Rating Percentage**
- 1 Number denotes bridge in table listing

MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

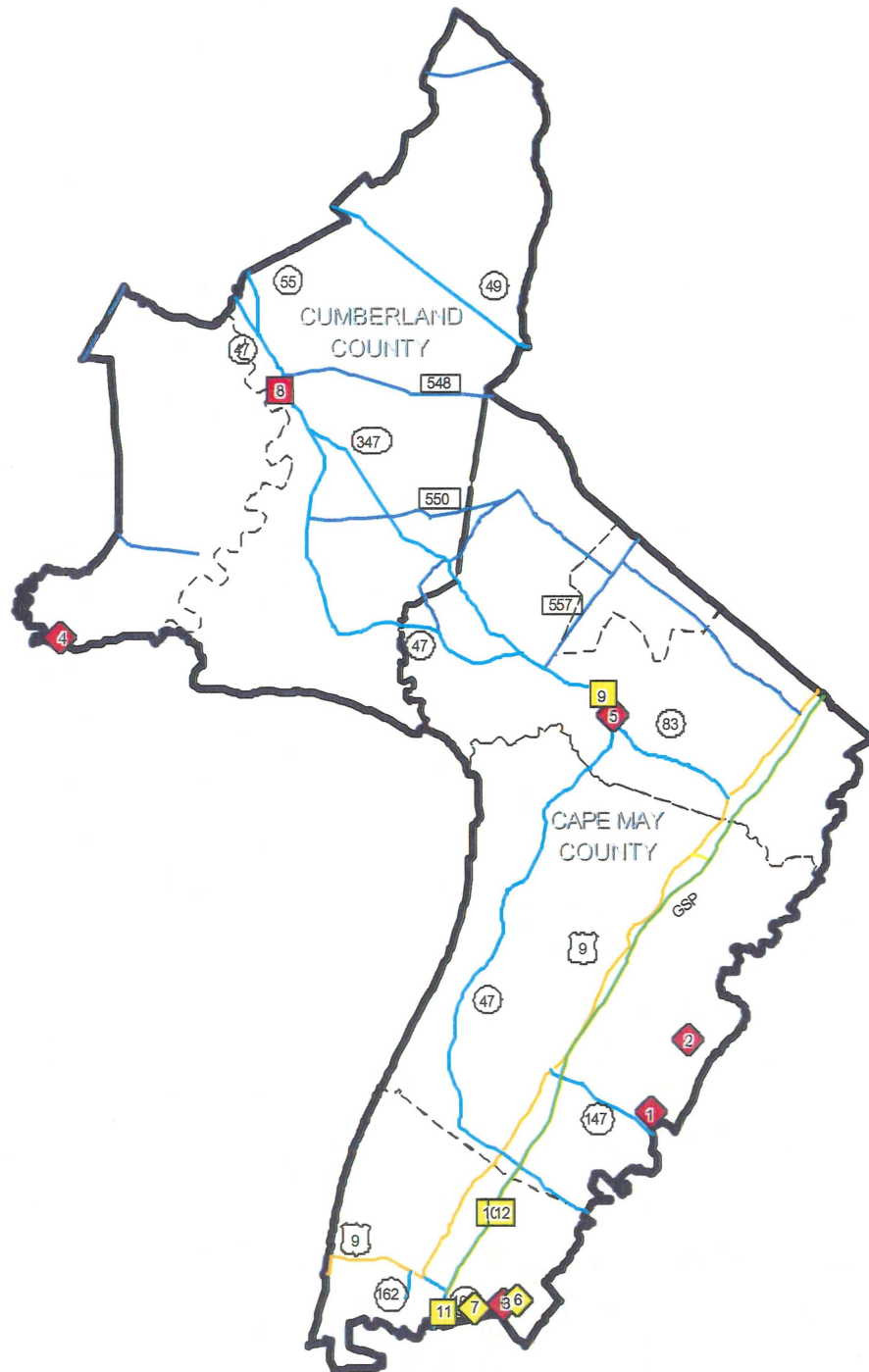
** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

Table 4-7

US 40

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	0600037	ASHER ROAD	ASHER ROAD	5 MILES N OF ROUTE 552	18%	Structurally Deficient
2	01HML22	WEYMOUTH RD CR559	GREAT EGG HARBOR RIVER	800 FT N OF US ROUTE 322	19%	Structurally Deficient
3	1702154	US ROUTE 40	SALEM RIVER	1.46 MI WEST OF RT 45 JCT	21%	Structurally Deficient
4	0809L02	COLES MILL ROAD	SCOTLAND RUN	1.2M E OF 47&3.1M N OF 40	26%	Structurally Deficient
5	0107150	U.S.ROUTE 40	BABCOCK CREEK	0.1 MILE EAST OF RT.559	40%	Structurally Deficient
6	0803E09	TOMLIN STATION RD	WHITE SLUICE RACE CREEK	1/2 MI NW RT.130	41%	Structurally Deficient
7	1704150	ROUTE 45	FENWICK CREEK	0.4 MI.NORTH OF ROUTE 49	41%	Structurally Deficient
8	1716151	ROUTE 56	NJ ROUTE 56	0.25 MI WEST OF NJ RT. 55	46%	Structurally Deficient
9	1701243	HUSTED STA-PLTN RD	INDIAN RUN	2.9 MI E OF ROUTE 77	46%	Structurally Deficient
10	0808L02	WASHINGTON AVENUE	SCOTLAND RUN	1 MI SOUTH OF WILSON LAKE	50%	Structurally Deficient
11	0808F02	COMMISSIONERS ROAD	OLDMANS CREEK	S HARRISON-SALEM CO	51%	Structurally Deficient
12	1700455	WEBSTER MILL POND	SALEM CREEK	5 MILE SOUTH OF ROUTE 40	54%	Structurally Deficient
13	0600014	CR540(ALMOND RD)	MAURICE RIVER	2 MI NW OF RT 47	55%	Structurally Deficient
14	0833150	ROUTES 40 & 47	MILLVILLE SECONDARY	0.1 MI WEST OF ROUTE 47	57%	Structurally Deficient
15	0112153	NJ 50	US 322	3 MI S OF 50-ACE INTER.	58%	Structurally Deficient
16	0119156	ROUTE U.S. 322	BIG DITCH	2.5 MI WEST OF RT 50	61%	Structurally Deficient
17	1704000	COUNTY ROUTE 646	SALEM CREEK	PILESGROVE-1 MI SO NJ 40	62%	Structurally Deficient
18	01HML25	WEYMOUTH ROAD	DEEP RUN	25 MI S OF US ROUTE 322	65%	Functionally Obsolete
19	1700449	MEMORIAL LAKE BRDG	MEMORIAL LAKE	0.5 MI SOUTH OF NJ RTE 40	66%	Functionally Obsolete
20	01HML54	COUNTY ROUTE 559	GREAT EGG HARBOR RIVER	2.1 MI S OF NJ 50 MAY LND	66%	Functionally Obsolete
21	1700200	CO. RT. 540	SALEM CREEK	0.7 MI. SOUTHEAST OF US40	68%	Structurally Deficient
22	1711155	I-295 CONNECTOR K	NJTP & SALEM CANAL	AT I295-NJTPK JCT	69%	Functionally Obsolete
23	1711156	RAMP K	I-295 SB	AT TURNPIKE INTERCHANGE	70%	Functionally Obsolete
24	1712160	STRGHNS MLL RD(643	I-295	4.6 MI SOUTH OF RT 322	72%	Functionally Obsolete
25	1701235	CO RT 540 & 533	MUDDY RUN	3.5 MI E OF RT 77	73%	Functionally Obsolete
26	M000000	US 130-NJ 49	NJ TURNPIKE TOLLWY	AT START OF NJ TPK	73%	Functionally Obsolete
27	0610150	SHERMAN AVENUE	NJ ROUTE 55	1.9 MI NW OF RT55&47 JCT	73%	Functionally Obsolete
28	1700573	COUNTY ROUTE 620	MANNINGTON CREEK	1.6 MILES NE OF ROUTE 45	73%	Functionally Obsolete
29	1716150	NJ.ROUTE 56	RAINBOW LAKE	1.0 MI WEST OF NJ 55	74%	Functionally Obsolete
30	1712153	RT 48	I-295	2.9 MI NORTH OF TURNPIKE	75%	Functionally Obsolete
31	1711111	FRIENDSHIP-CHURCH	MUDDY RUN	1 MI.N.OF ROUTE 40	76%	Functionally Obsolete
32	01HML37	SOMERS POINT ROAD	BABCOCK CREEK	MAYS LNDG 5 MI E OF NJ50	77%	Functionally Obsolete
33	1712156	PENNSGROVE-AUB RD	I-295	1 MI NE OF I295&RT48 JCT	78%	Functionally Obsolete
34	1704139	AVIS MILL ROAD	SALEM CREEK	0.8 MILE SOUTH OF RT 40	79%	Functionally Obsolete

**FIGURE 4-5: NJ47 / NJ 55 (SOUTH)
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

PROBLEM AREA LEGEND

- Structurally Deficient Bridge: 50 to 80=Sufficiency Rating Percentage*
- Functionally Obsolete Bridge: 50 to 80=Sufficiency Rating Percentage*
- ◆ Structurally Deficient Bridge: <50 Sufficiency Rating Percentage**
- ◆ Functionally Obsolete Bridge: <50 Sufficiency Rating Percentage**
- 1 Number denotes bridge in table listing

* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

**FIGURE 4-6: NJ47 / NJ 55 (NORTH)
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**

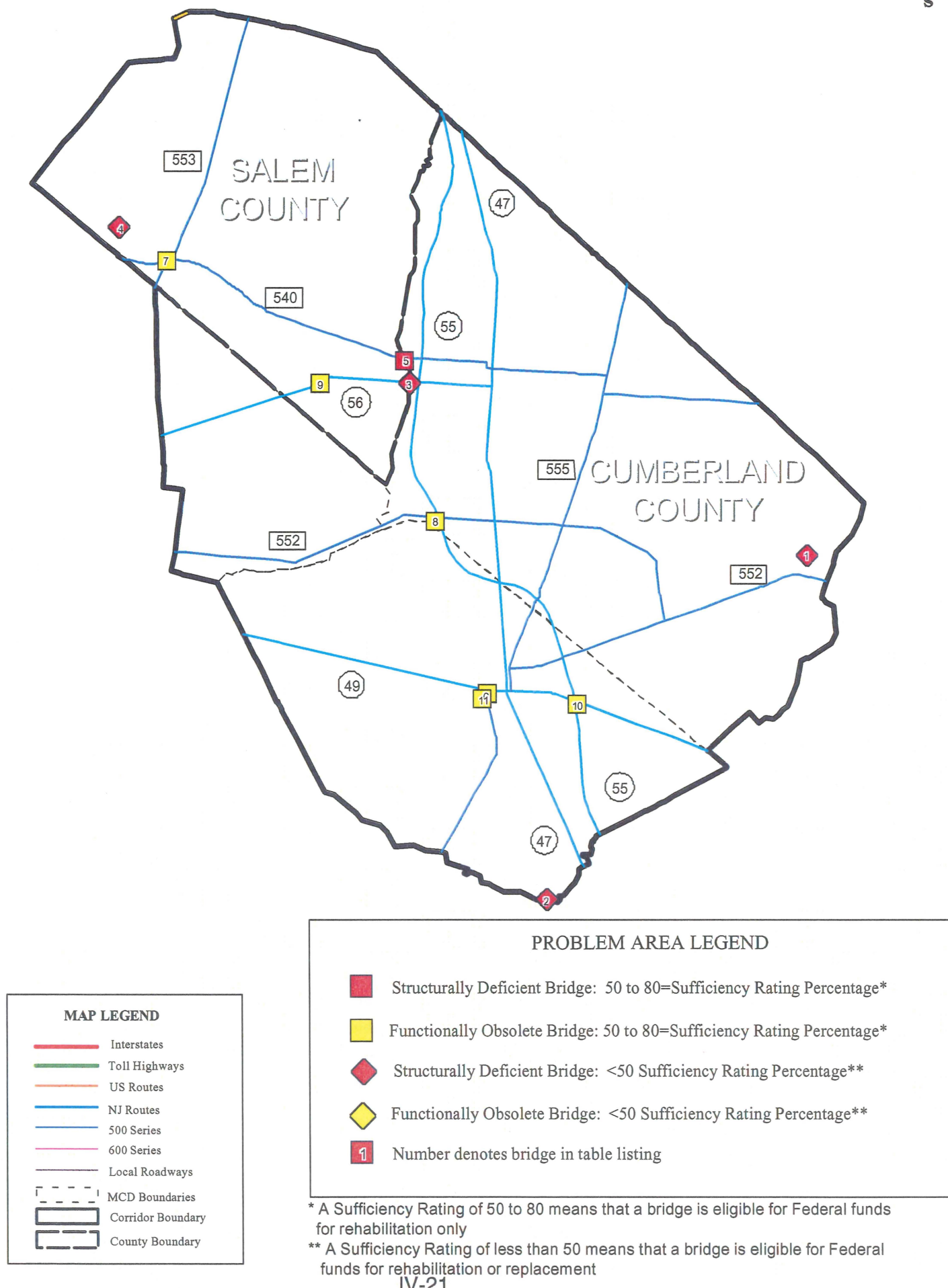


Table 4-8

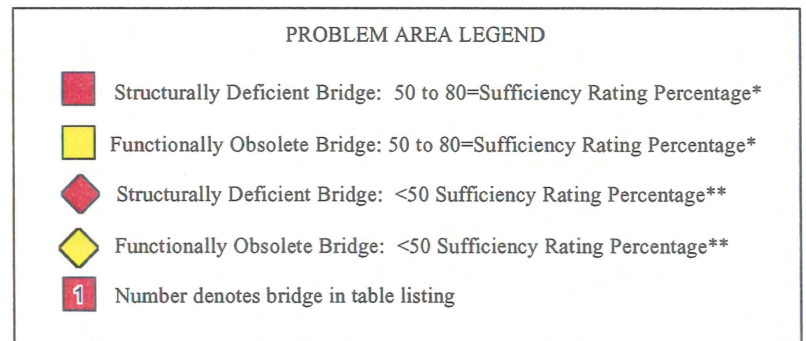
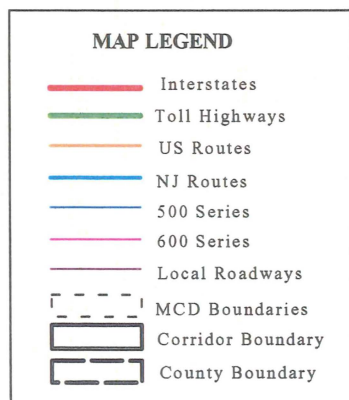
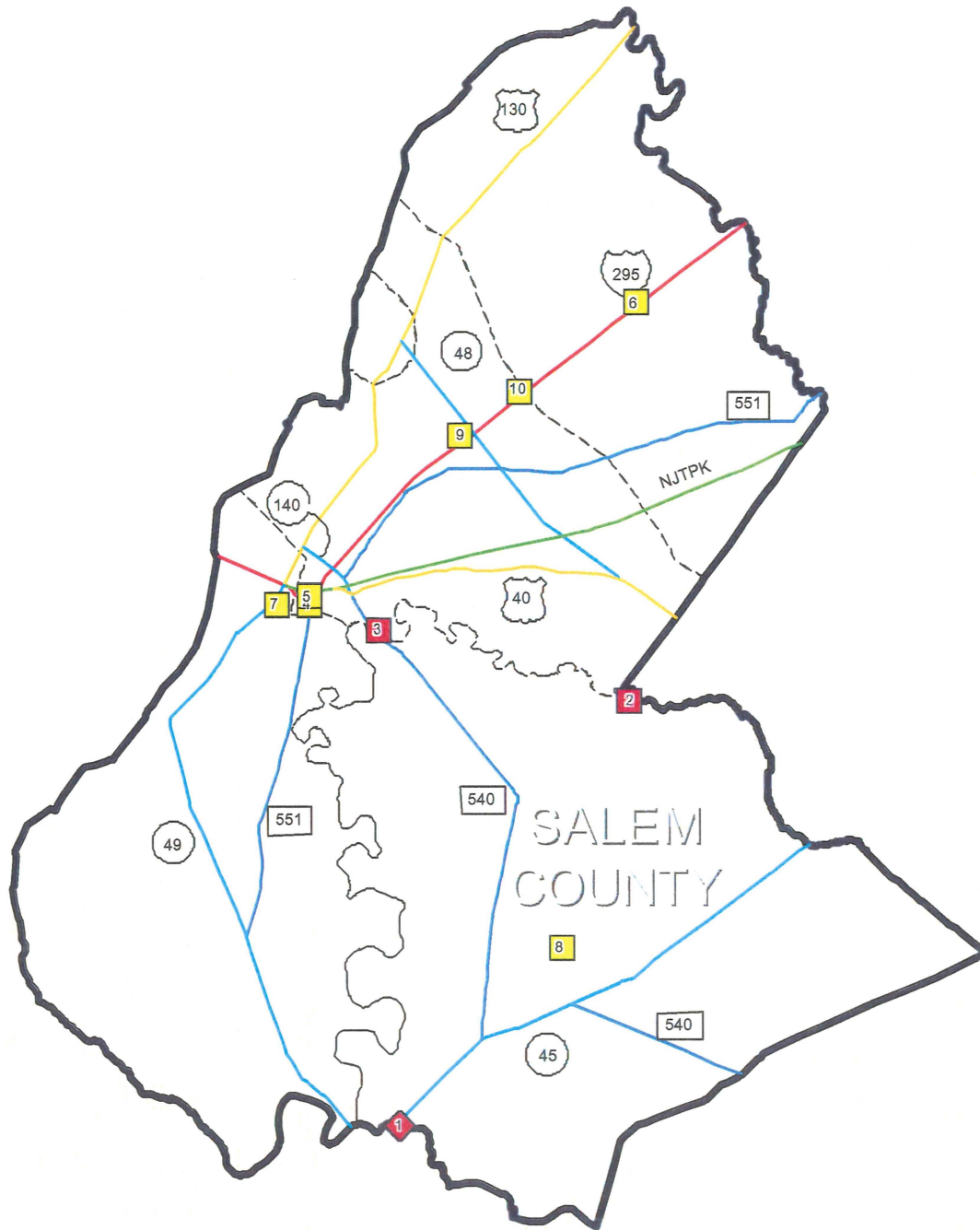
NJ 47 / NJ 55 (NORTH)

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	0600037	ASHER ROAD	ASHER ROAD	.5 MILES N OF ROUTE 552	18%	Structurally Deficient
2	0600015	CR670(BUCKSHUTEM)	LAUREL LAKE	3 M SE OF RT 555&670 INT	40%	Structurally Deficient
3	1716151	ROUTE 56	NJ ROUTE 56	0.25 MI WEST OF NJ RT. 55	46%	Structurally Deficient
4	1701243	HUSTED STA-PLTN RD	INDIAN RUN	2.9 MI E OF ROUTE 77	46%	Structurally Deficient
5	0600014	CR540(ALMOND RD)	MAURICE RIVER	2 MI NW OF RT 47	55%	Structurally Deficient
6	0600009	BRANDRIFF AVE	MAURICE RIVER	0.25 M N OF RT 49	69%	Functionally Obsolete
7	1701235	CO RT 540 & 533	MUDDY RUN	3.5 MI E OF RT 77	73%	Functionally Obsolete
8	0610150	SHERMAN AVENUE	NJ ROUTE 55	1.9 MI NW OF RT55&47 JCT	73%	Functionally Obsolete
9	1716150	NJ ROUTE 56	RAINBOW LAKE	1.0 MI WEST OF NJ 55	74%	Functionally Obsolete
10	0609156	NJ ROUTE 55 SB	NJ RT 49	3.2MI S. OF RT55&47 JCT.	78%	Functionally Obsolete
11	0600054	CR677(LOWER SHARP)	MAURICE RIVER	.2 MI N OF N J ROUTE 49	79%	Functionally Obsolete

NJ 47 / NJ 55 (SOUTH)

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	3100005	OCEAN HWY CO.RT619	GRASSY SOUND	2.5 MI E OF RT147&GSP JCT	2%	Structurally Deficient
2	0500017	STONE HARBOR BLVD	SCOTCH BONNET	2 MI E OF PARKWAY EXIT	4%	Structurally Deficient
3	3100006	OCEAN HWY CO RT621	MIDDLE THOROFARE	1.75 MI E OF RT621&GSP JC	4%	Structurally Deficient
4	3200001	HANSEY CREEK ROAD	HANSEY'S CREEK	1.5MI SE JCT CO 553	28%	Structurally Deficient
5	0508150	N.J.ROUTE 47	DENNIS CREEK	.2 MI N OF NJ 83 & NJ 47	37%	Structurally Deficient
6	0500029	CR 621 (OCEAN DR)	UPPER THOROFARE	1.25 MI E.OF GSP & RT 621	47%	Functionally Obsolete
7	0500030	CR621(OCEAN DR)	MILL CREEK	0.75 MI E.OF GSP &RT 621	48%	Functionally Obsolete
8	0601152	N.J.ROUTE 47	MANANTICO CREEK	1.0 MI N OF NJ 55&47 JUNC	51%	Structurally Deficient
9	0508151	NJ 47	NCH OF DENNIS CR	14.75 MI NORTH OF US 9	58%	Functionally Obsolete
10	360024N	GARDEN ST PRKY NB	JONES CREEK	2.4 MI NE OF RT9&GSP JCT.	61%	Functionally Obsolete
11	0501150	RT 109	E MAY CL & SERVICE	1.27 MI SOUTH OF US RT 9	61%	Functionally Obsolete
12	360024S	GARDEN ST PRKY SB	JONES CREEK	2.4 MI NE OF RT9&GSP JCT.	61%	Functionally Obsolete

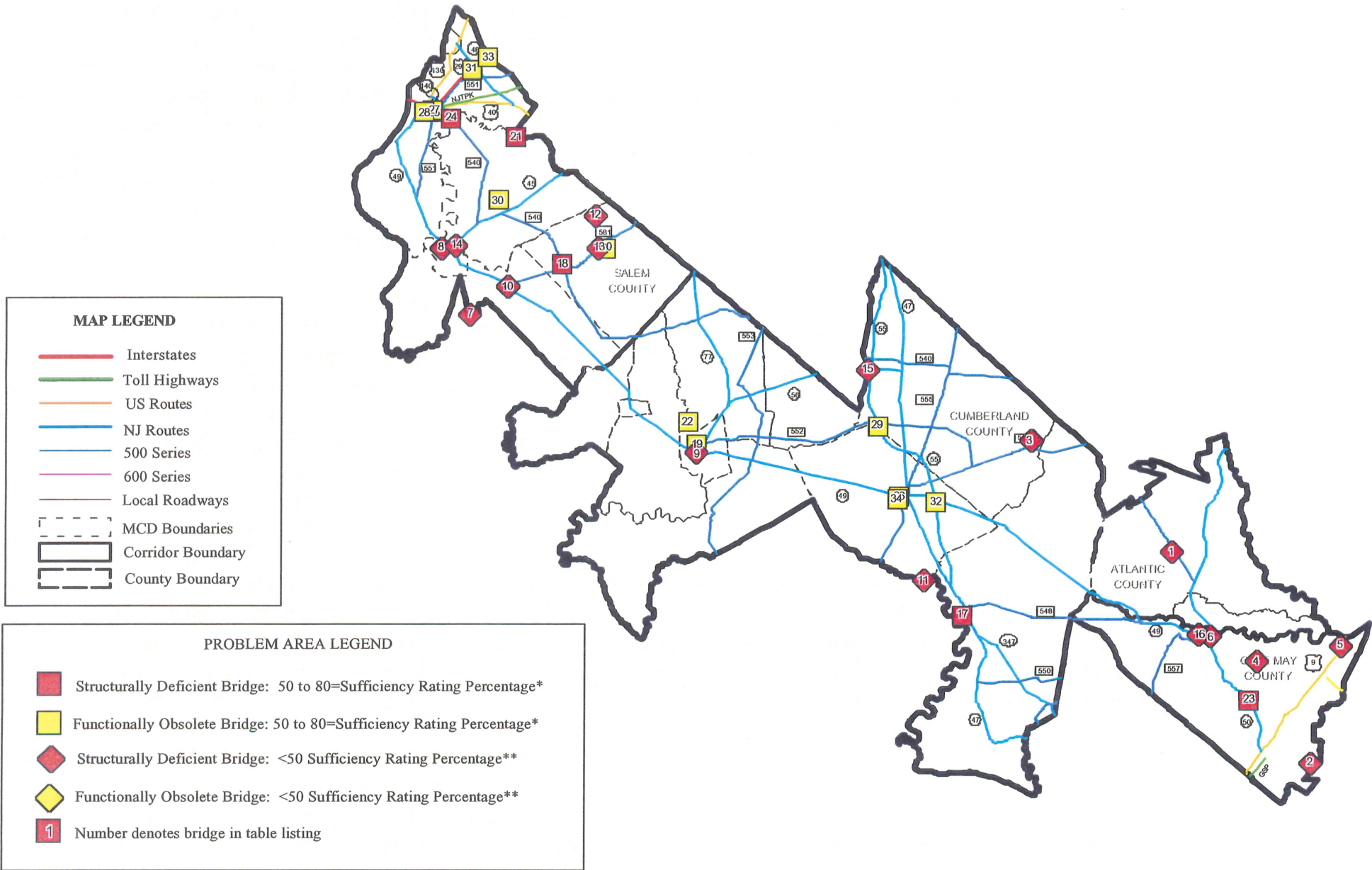
**FIGURE 4-7: I-295 / NJTPK
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS**



* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only

** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

FIGURE 4-8: NJ 49
BRIDGE MANAGEMENT SYSTEM - BRIDGE PROBLEM AREAS



* A Sufficiency Rating of 50 to 80 means that a bridge is eligible for Federal funds for rehabilitation only
 ** A Sufficiency Rating of less than 50 means that a bridge is eligible for Federal funds for rehabilitation or replacement

Table 4-9

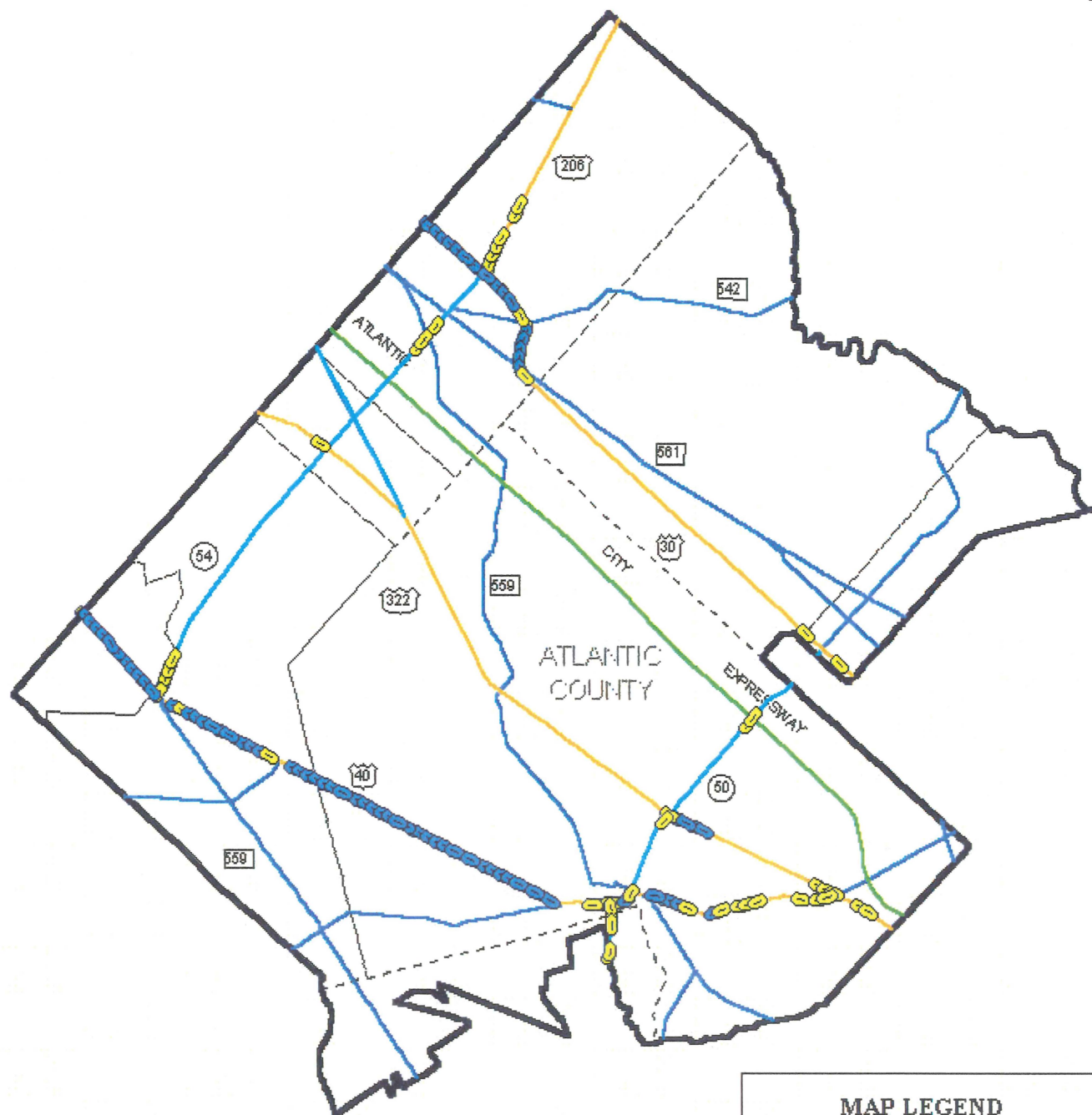
I - 295 / NJTPK

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	1704150	ROUTE 45	FENWICK CREEK	0.4 MI. NORTH OF ROUTE 49	41%	Structurally Deficient
2	1704000	COUNTY ROUTE 646	SALEM CREEK	PILESGROVE-1 MI SO NJ 40	62%	Structurally Deficient
3	1700200	CO. RT. 540	SALEM CREEK	0.7 MI. SOUTHEAST OF US40	68%	Structurally Deficient
4	1711155	I-295 CONNECTOR K	NJTP & SALEM CANAL	AT I295-NJTPK JCT	69%	Functionally Obsolete
5	1711156	RAMP K	I-295 SB	AT TURNPIKE INTERCHANGE	70%	Functionally Obsolete
6	1712160	STRGHNS MLL RD(643	I-295	4.6 MI SOUTH OF RT 322	72%	Functionally Obsolete
7	M000000	US 130-NJ 49	NJ TURNPIKE TOLLWY	AT START OF NJ TPK	73%	Functionally Obsolete
8	1700573	COUNTY ROUTE 620	MANNINGTON CREEK	1.6 MILES NE OF ROUTE 45	73%	Functionally Obsolete
9	1712153	RT 48	I-295	2.9 MI NORTH OF TURNPIKE	75%	Functionally Obsolete
10	1712156	PENNSGROVE-AUB RD	I-295	1 MI NE OF I295&RT48 JCT	78%	Functionally Obsolete

NJ 49

ID	STRUCTURE #	ROUTE	BRIDGE LOCATION	EXACT LOCATION	SUFFICIENCY RATING	DEFICIENCY RATING
1	0161151	TUCKAHOE RD-RT 557	CAPE MAY BRANCH	ESTELL MANOR	4%	Structurally Deficient
2	3100002	OCEAN HWY CTY RT19	CORSON INLET	3.50 MI S OF RT9&623 JCT	12%	Structurally Deficient
3	0600037	ASHER ROAD	ASHER ROAD	5 MILES N OF ROUTE 552	18%	Structurally Deficient
4	0500019	MARSHALLVILLE ROAD	MILL CREEK	1 MI N.E.FROM NJ ROUTE 49	19%	Structurally Deficient
5	3900001	US 9	GREAT EGG HARBOR BAY	GREATE EGG HARBOR BAY	21%	Structurally Deficient
6	0510152	ROUTE 50	TUCKAHOE RIVER	8.1 MI NORTH OF GSPKWAY	28%	Structurally Deficient
7	1701399	CO RT 623	ALLOWAY CREEK	2.5 MILES SW OF ROUTE 49	33%	Structurally Deficient
8	1707150	NJ RTE 49	SALEM RIVER	8.3 MI SOUTH OF NJTPK	37%	Structurally Deficient
9	0604152	NJ 49	COHANSEY RIVER	0.2 MI. WEST OF RT 77	38%	Structurally Deficient
10	1708151	ROUTE 49	ALLOWAYS CREEK	3.4 MI EAST OF RT 45	40%	Structurally Deficient
11	0600015	CR670(BUCKSHUTEM)	LAUREL LAKE	3 M SE OF RT 555&670 INT	40%	Structurally Deficient
12	1701073	WITT ROAD	ALLOWAY CREEK	2 M N CTY RT 581	41%	Structurally Deficient
13	1701074	CO RT 581	ALLOWAY CREEK	5.3 MI. S. OF RT. 40	41%	Structurally Deficient
14	1704150	ROUTE 45	FENWICK CREEK	0.4 MI. NORTH OF ROUTE 49	41%	Structurally Deficient
15	1716151	ROUTE 56	NJ ROUTE 56	0.25 MI WEST OF NJ RT. 55	46%	Structurally Deficient
16	0509151	ROUTE 49	CAPEMAY BRANCH	5 MI WEST OF RT 50	46%	Structurally Deficient
17	0601152	N.J.ROUTE 47	MANANTICO CREEK	1.0 MI N OF NJ 55&47 JUNC	51%	Structurally Deficient
18	1701028	COUNTY ROUTE 540	ALLOWAYS CREEK	3.2 MI NE OF ROUTE 49	52%	Structurally Deficient
19	0600023	CR697(MYR.AITKEN)	COHANSEY RIVER CANAL	1.0 MI NORTH OF JCT CO731	54%	Functionally Obsolete
20	1705151	ROUTE 45	CONRAIL (WJ & SS) BRANCH	0.22 MI NORTH OF CO RT640	60%	Functionally Obsolete
21	1704000	COUNTY ROUTE 646	SALEM CREEK	PILESGROVE-1 MI SO NJ 40	62%	Structurally Deficient
22	0600020	WEST AVENUE CR 607	IRELANDS MILL RUN	2 MILES NORTH OF CO. 621	66%	Functionally Obsolete
23	0510150	NJ 50	CEDAR SWAMP CREEK	3 MI N OF 50-9 INTER.	67%	Structurally Deficient
24	1700200	CO. RT. 540	SALEM CREEK	0.7 MI. SOUTHEAST OF US40	68%	Structurally Deficient
25	1711155	I-295 CONNECTOR K	NJTP & SALEM CANAL	AT I295-NJTPK JCT	69%	Functionally Obsolete
26	0600009	BRANDRIFF AVE	MAURICE RIVER	0.25 M N OF RT 49	69%	Functionally Obsolete
27	1711156	RAMP K	I-295 SB	AT TURNPIKE INTERCHANGE	70%	Functionally Obsolete
28	M000000	US 130-NJ 49	NJ TURNPIKE TOLLWY	AT START OF NJ TPK	73%	Functionally Obsolete
29	0610150	SHERMAN AVENUE	NJ ROUTE 55	1.9 MI NW OF RT55&47 JCT	73%	Functionally Obsolete
30	1700573	COUNTY ROUTE 620	MANNINGTON CREEK	1.6 MILES NE OF ROUTE 45	73%	Functionally Obsolete
31	1712153	RT 48	I-295	2.9 MI NORTH OF TURNPIKE	75%	Functionally Obsolete
32	0609156	NJ ROUTE 55 SB	NJ RT 49	3.2MI S. OF RT55&47 JCT.	78%	Functionally Obsolete
33	1712156	PENNSGROVE-AUB RD	I-295	1 MI NE OF I295&RT48 JCT	78%	Functionally Obsolete
34	0600054	CR677(LOWER SHARP)	MAURICE RIVER	2 MI N OF N J ROUTE 49	79%	Functionally Obsolete

**FIGURE 4-9: RT. 322/ACE/US 40/US 30 (WEST)
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



PROBLEM AREA LEGEND	
	FINAL PAVEMENT RATING BETWEEN 0.01 AND 1 (VERY POOR)
	FINAL PAVEMENT RATING BETWEEN 1.01 AND 2 (POOR)
	FINAL PAVEMENT RATING BETWEEN 2.01 AND 3 (FAIR)

MAP LEGEND	
	Interstates
	Toll Highways
	US Routes
	NJ Routes
	500 Series
	600 Series
	Local Roadways
	MCD Boundaries
	Corridor Boundary
	County Boundary

**FIGURE 4-10: RT. 322/ACE/US 40/US 30 (EAST)
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



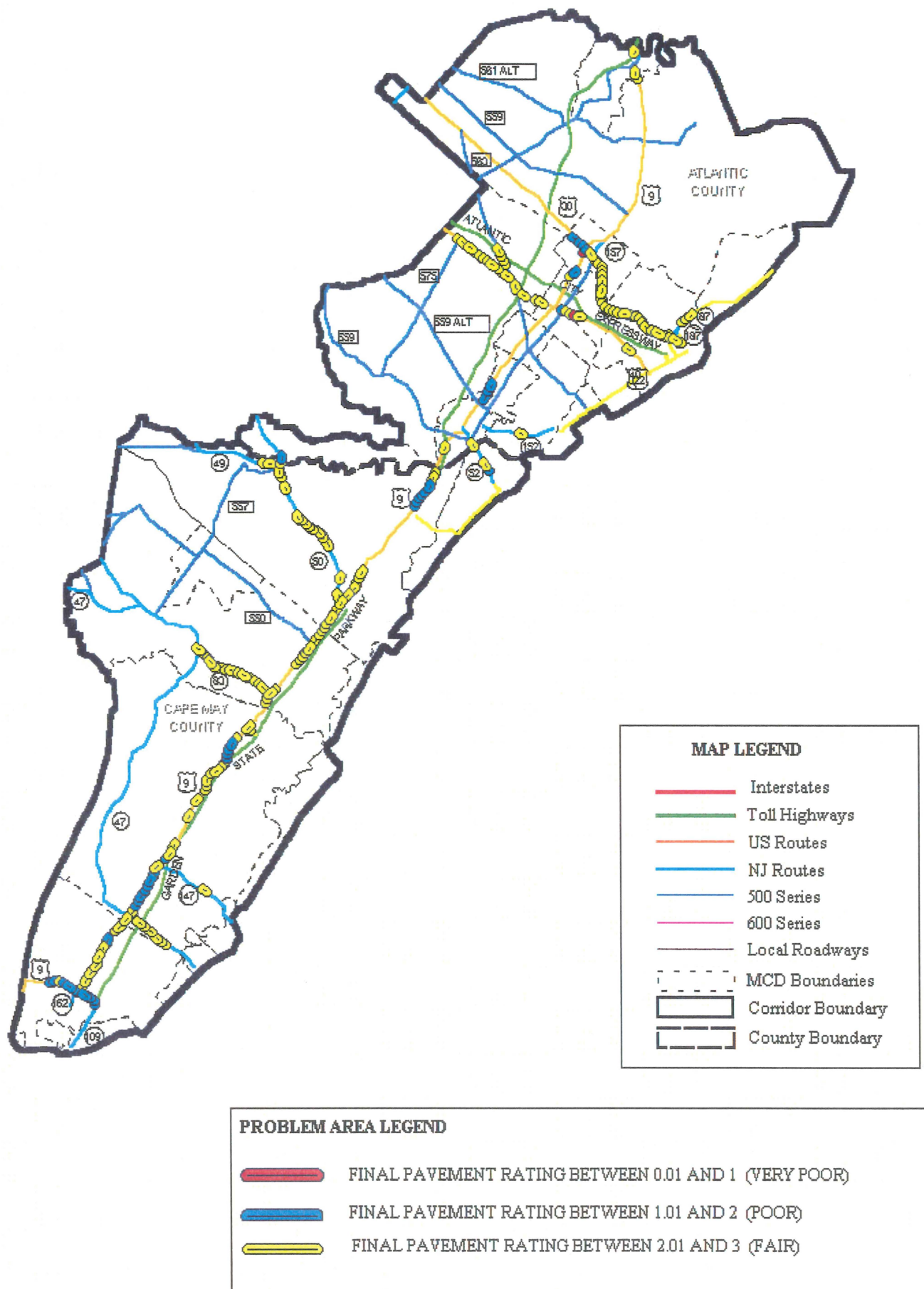
PROBLEM AREA LEGEND

- FINAL PAVEMENT RATING BETWEEN 0.01 AND 1 (VERY POOR)
- FINAL PAVEMENT RATING BETWEEN 1.01 AND 2 (POOR)
- FINAL PAVEMENT RATING BETWEEN 2.01 AND 3 (FAIR)

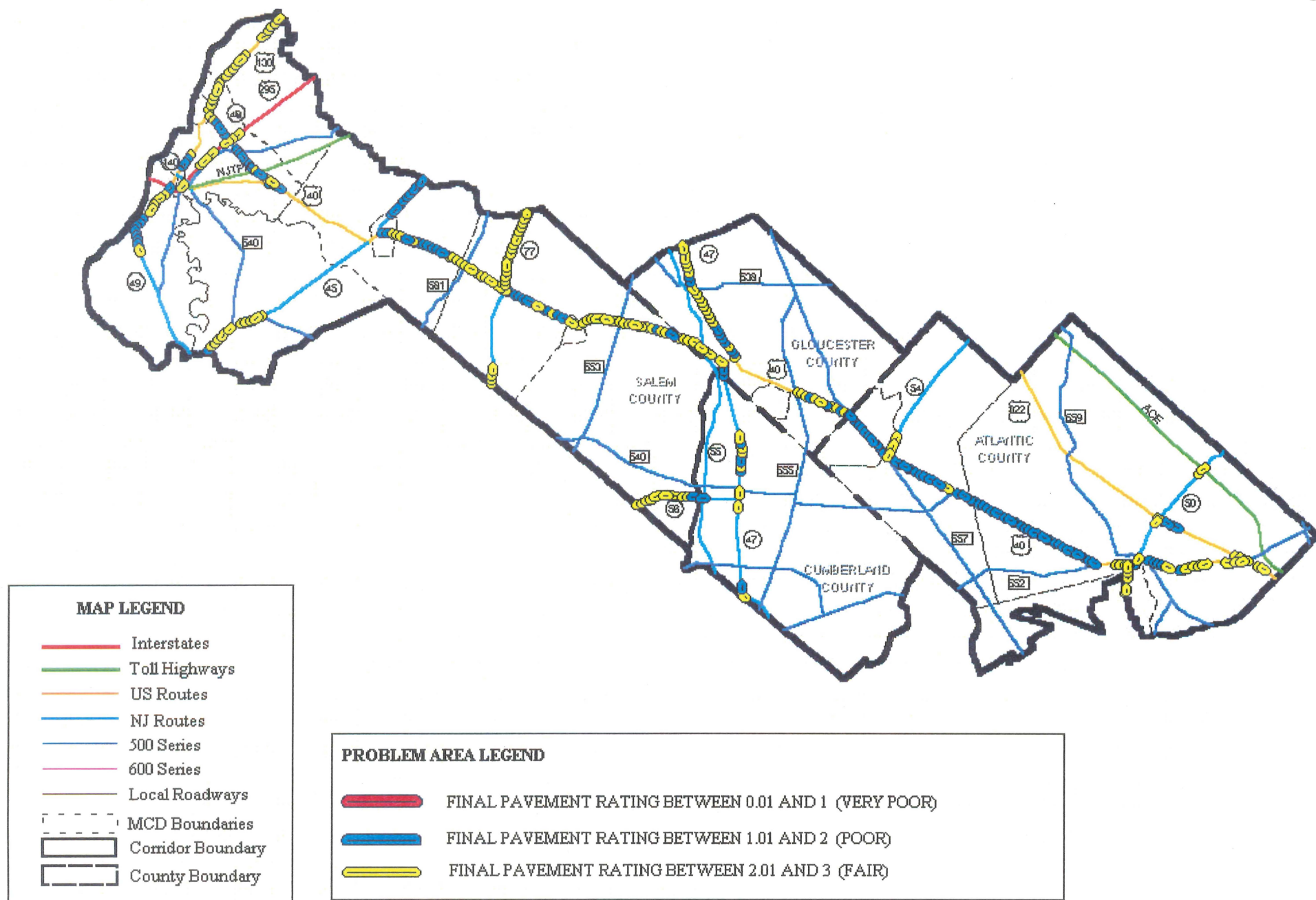
MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

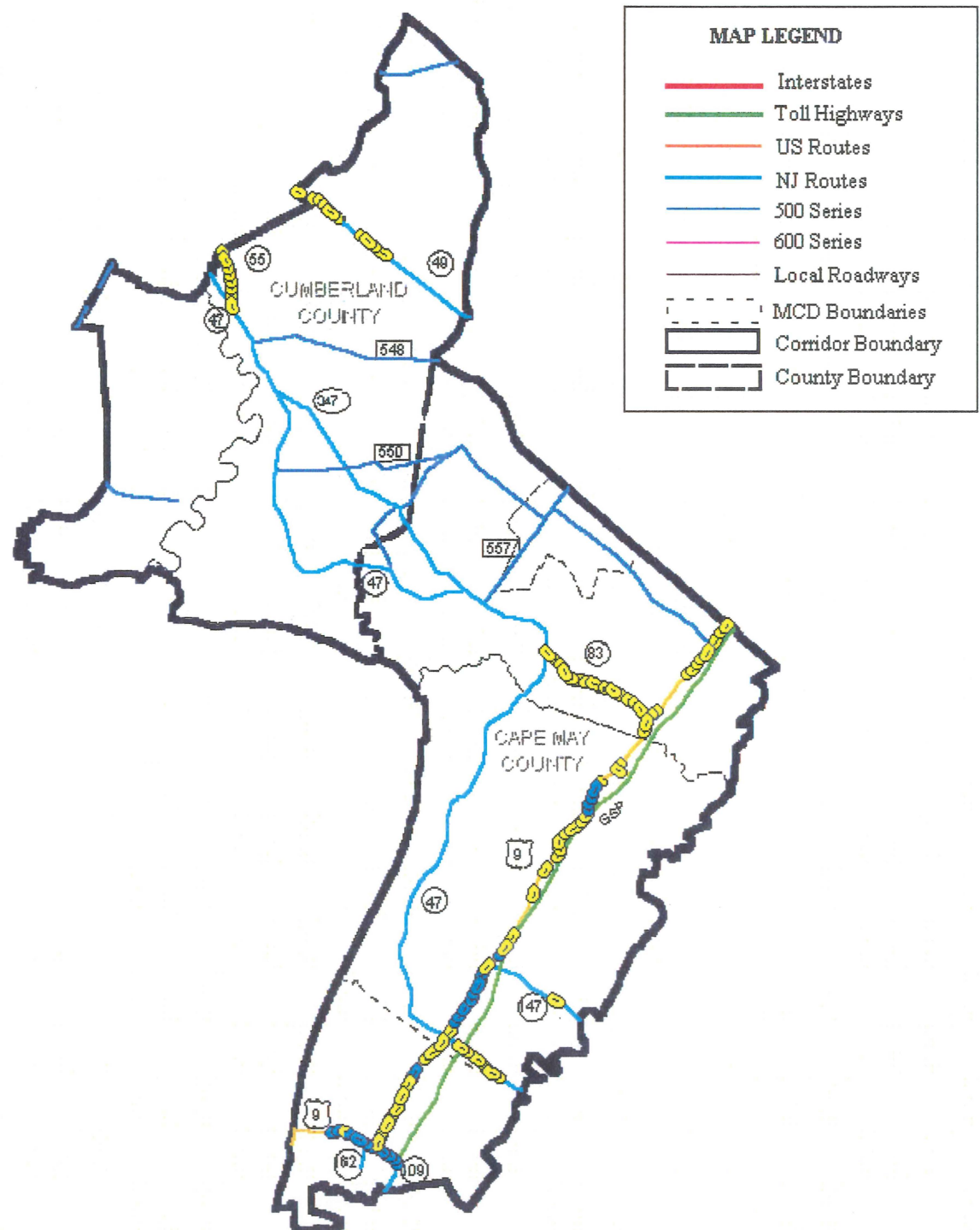
**FIGURE 4-11: US 9 & GSP
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



**FIGURE 4-12: US 40
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



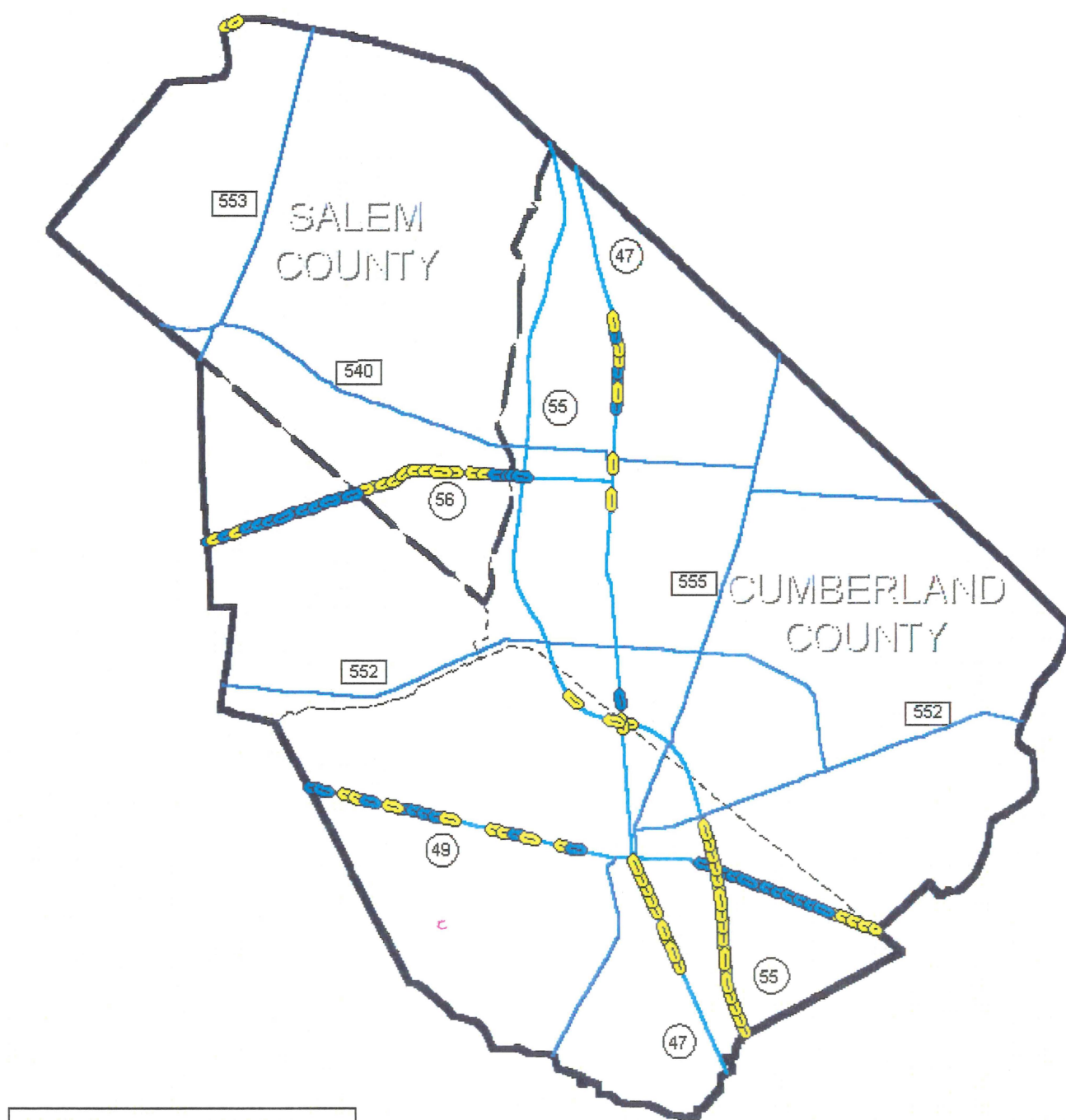
**FIGURE 4-13: NJ47 / NJ 55 (SOUTH)
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



PROBLEM AREA LEGEND

- FINAL PAVEMENT RATING BETWEEN 0.01 AND 1 (VERY POOR)
- FINAL PAVEMENT RATING BETWEEN 1.01 AND 2 (POOR)
- FINAL PAVEMENT RATING BETWEEN 2.01 AND 3 (FAIR)

**FIGURE 4-14: NJ47 / NJ 55 (NORTH)
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- - - MCD Boundaries
- Corridor Boundary
- County Boundary

PROBLEM AREA LEGEND

- FINAL PAVEMENT RATING BETWEEN 0.01 AND 1 (VERY POOR)
- FINAL PAVEMENT RATING BETWEEN 1.01 AND 2 (POOR)
- FINAL PAVEMENT RATING BETWEEN 2.01 AND 3 (FAIR)

**FIGURE 4-15: I-295 / NJTPK
PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS**

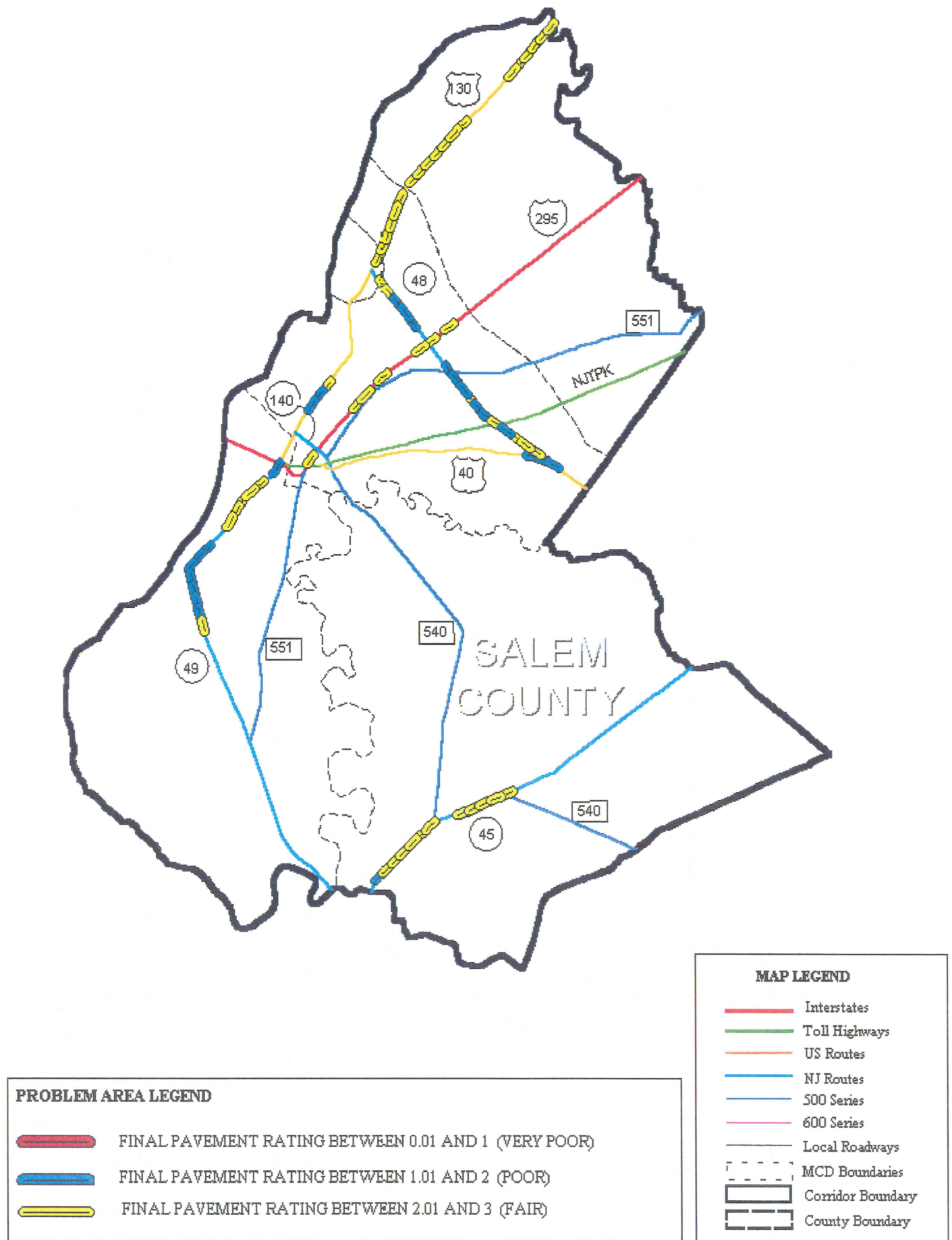
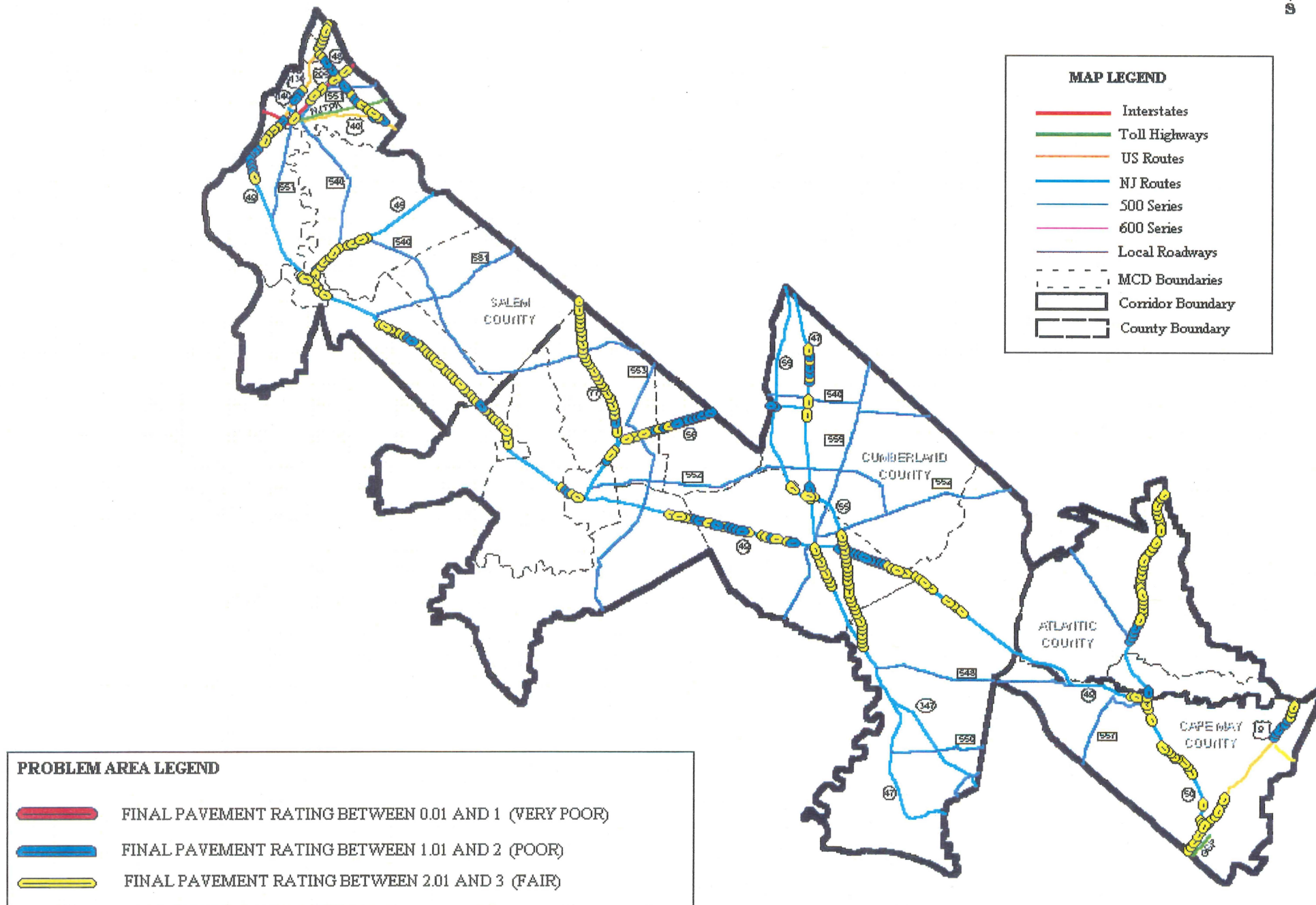


FIGURE 4-16: NJ 49

PAVEMENT MANAGEMENT SYSTEM - PAVEMENT PROBLEM AREAS



Traffic Safety

ISTEA and TEA-21 both called for a renewed emphasis on safety considerations in metropolitan transportation planning. Since its inception in 1993, SJTPO has focused on safety as a key component of its plans and programs. Indeed, "Improving Safety" is one of the seven criteria in SJTPO's adopted Project Selection Procedures, and only system preservation is weighted as heavily as safety.

To identify locations that may require further investigation from a safety perspective, two primary sources were used: the South Jersey Traffic Safety Alliance (SJ TSA), and the NJ Safety Management System database.

The South Jersey Traffic Safety Alliance is an organization formed in 1998 that brings together professionals from the fields of enforcement, education, engineering, and planning to develop region-wide traffic safety programs, share successful practices and exchange information, and support capital projects geared towards traffic and pedestrian safety.

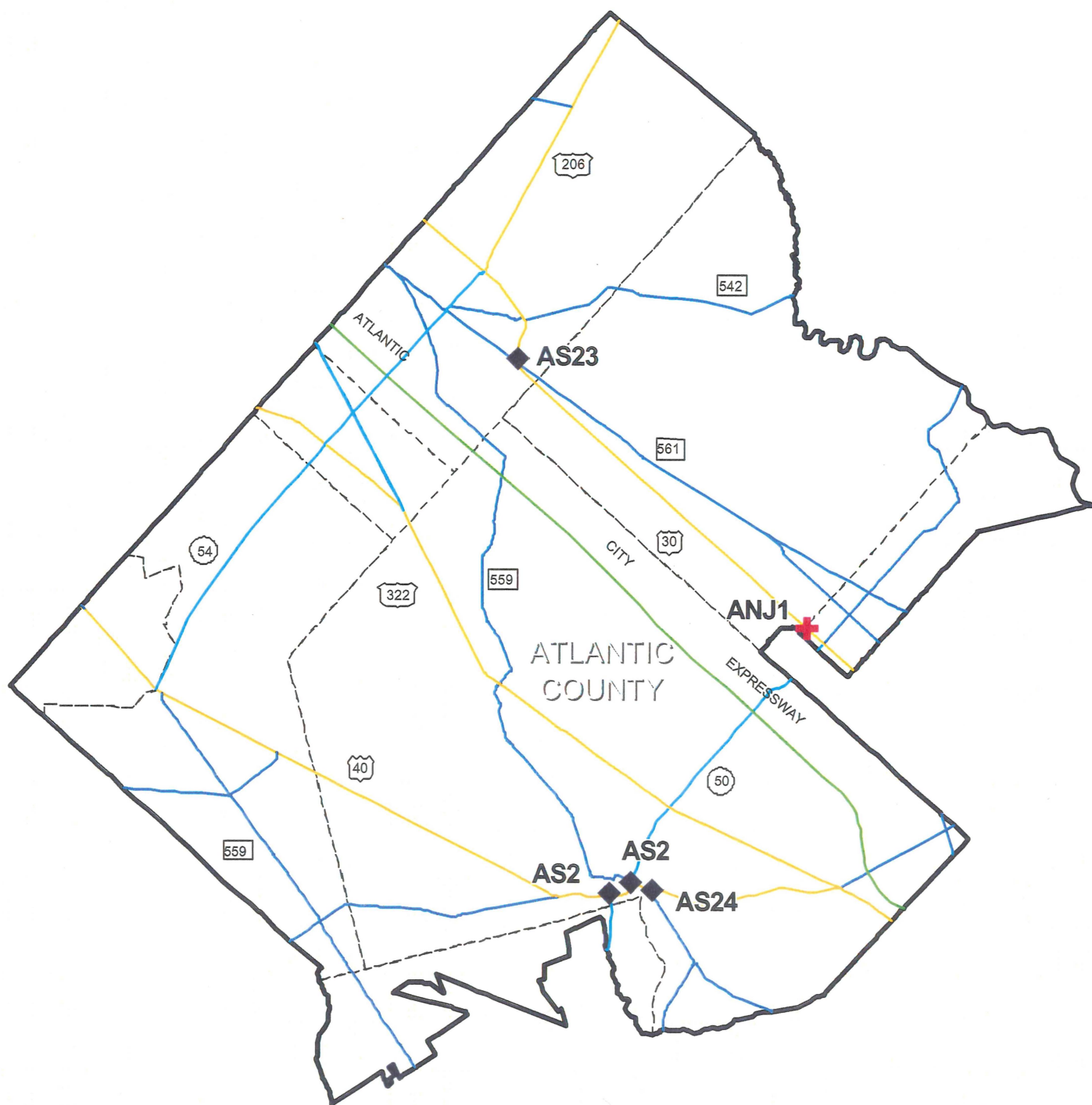
The Alliance now consists of representatives of more than 40 local, county, and state police departments, and thus has special insight into existing problem areas. To complement the information derived from the NJ Safety Management System (see below), the SJTPO surveyed Alliance members on safety improvement needs during the Fall of 2000.

The Alliance survey generated a substantial number of suggestions for future Alliance safety programs. Of great significance to the SJTPO Plan is that the most frequently-mentioned safety concern was the lack of sidewalks. This supports SJTPO's pedestrian planning and project development activities, but also suggests that more priority and resources need to be devoted to this issue. (Full results of the Alliance survey are available from the SJTPO). The Alliance members also provided locations which, based on their own experience and observations, merit inclusion in any listing of top safety concerns locations.

Another source for accident locations is the New Jersey Safety Management System (SMS), which consists of average accident data from 1993, 1994, and 1995. Two measures are available from the NJ SMS - the average accident rate for each roadway and the Top 100 accident locations within the State. (Data were not available in a manageable format for the average accident rate on a statewide basis, so only the Top 100 locations for 1993-1995 accidents are utilized in this plan.)

Figures 4-17 through 4-24 depict areas of safety concern in the SJTPO region. Table 4-11 corresponds to the locations depicted in the figures.

**FIGURE 4-17: RT. 322/ACE/US 40/US 30 (WEST)
SAFETY CONCERNS**



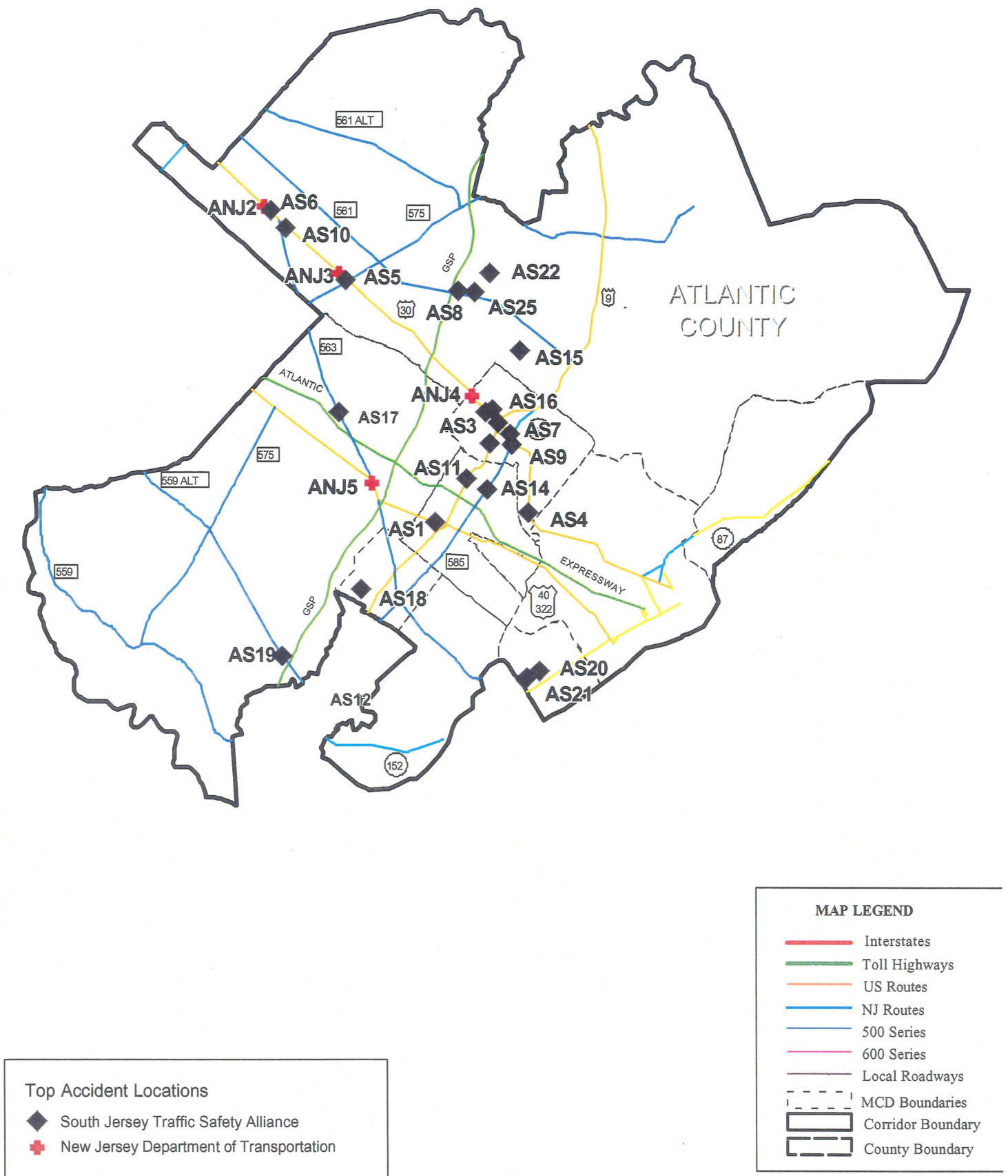
Top Accident Locations

- + New Jersey Department of Transportation
- ◆ South Jersey Traffic Safety Alliance

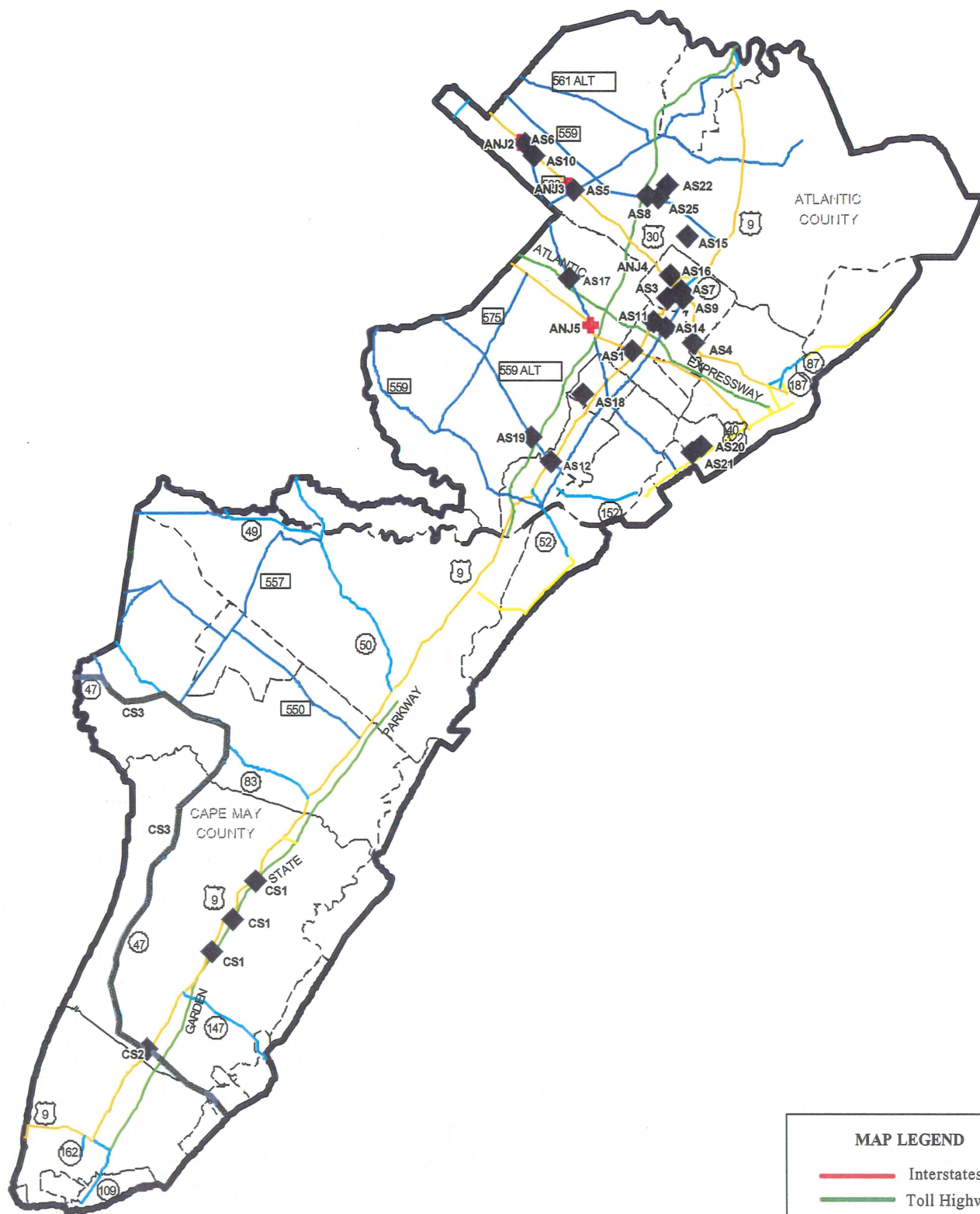
MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

**FIGURE 4-18: RT. 322/ACE/US 40/US 30 (EAST)
SAFETY CONCERNS**



**FIGURE 4-19: US 9 & GSP
SAFETY CONCERNS**



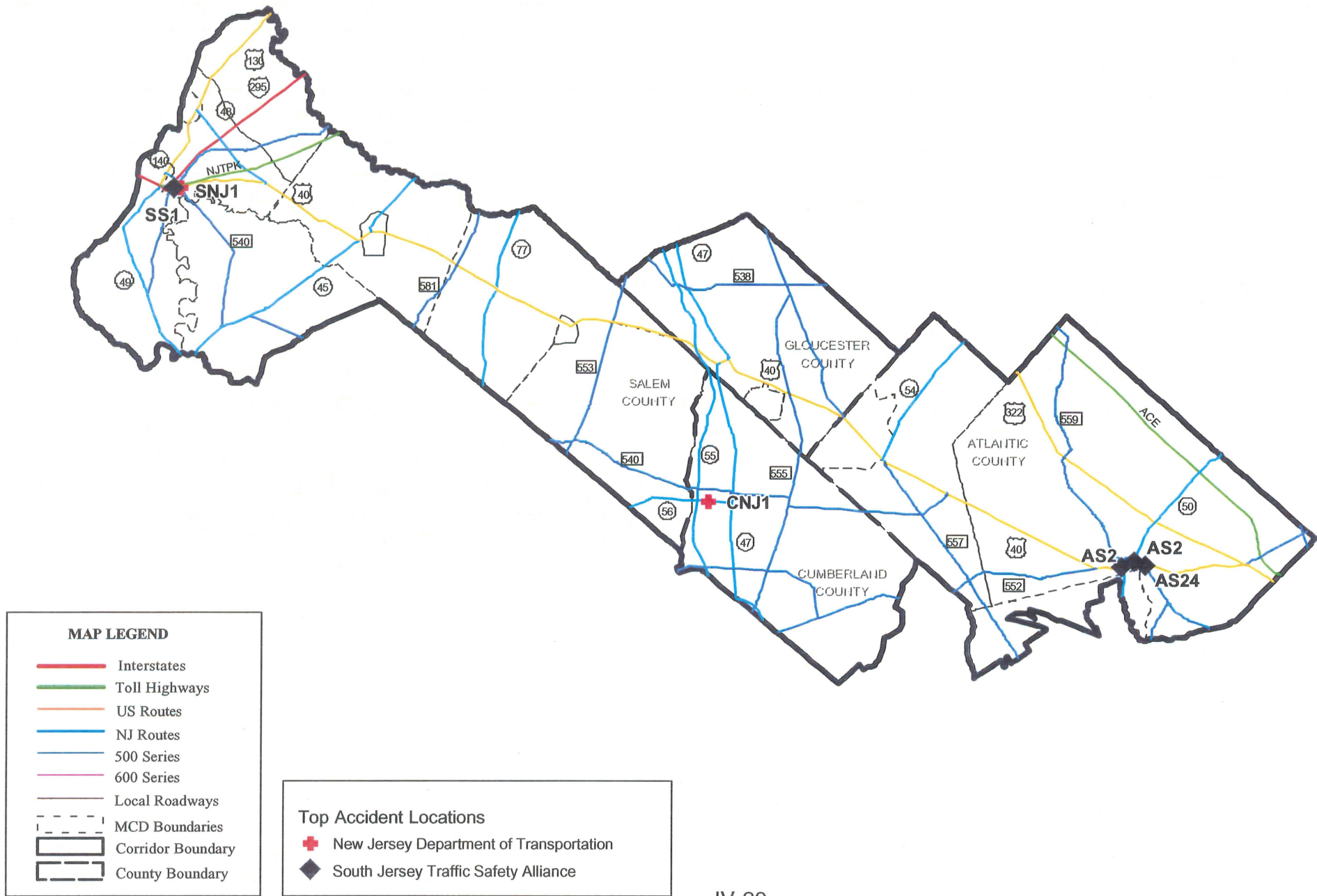
Top Accident Locations

- ◆ South Jersey Traffic Safety Alliance
- ✚ New Jersey Department of Transportation
- South Jersey Traffic Safety Alliance

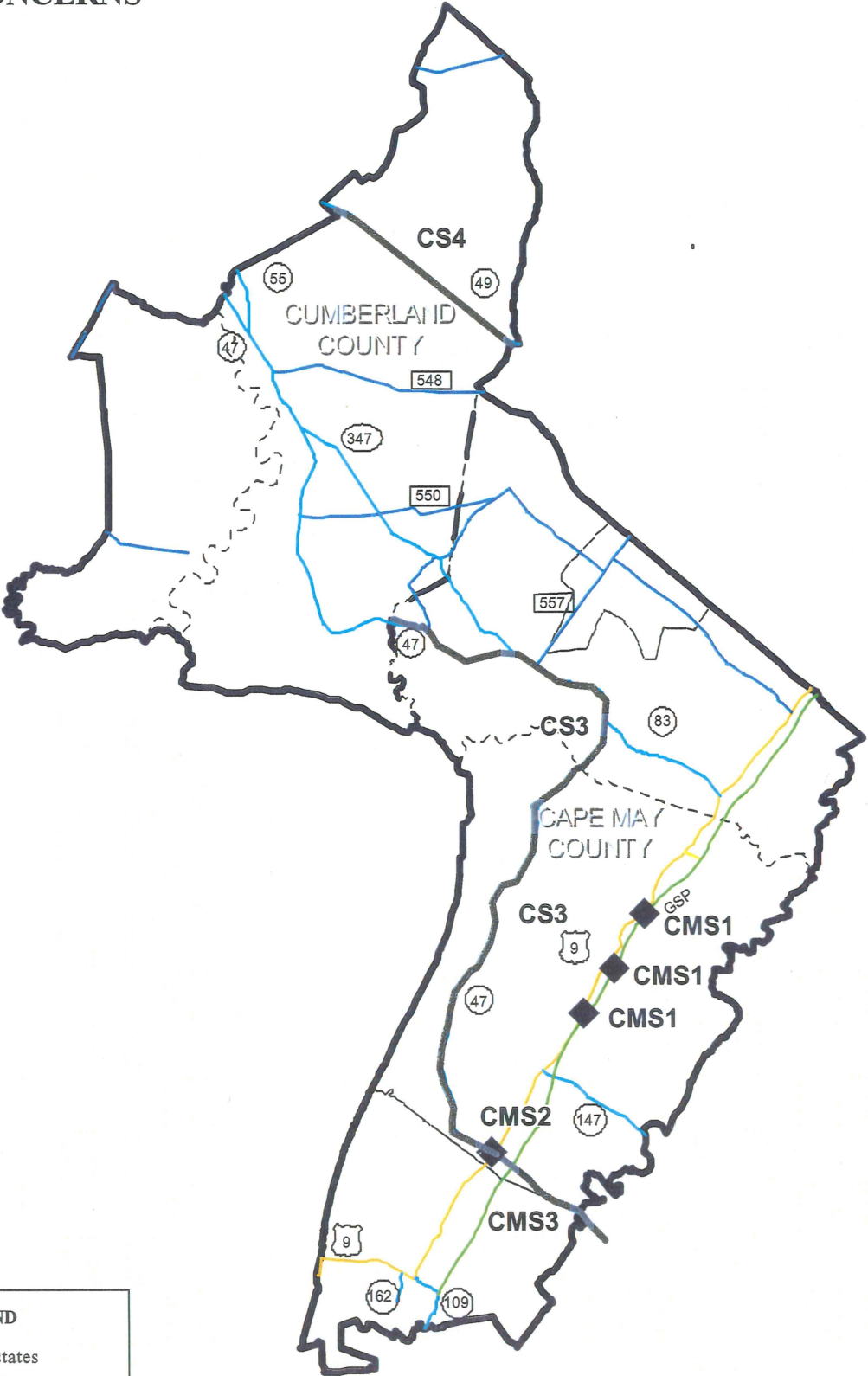
MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- - - MCD Boundaries
- ▭ Corridor Boundary
- ▭ County Boundary

FIGURE 4-20: US 40
SAFETY CONCERNS



**FIGURE 4-21: NJ47 / NJ 55 (SOUTH)
SAFETY CONCERNS**



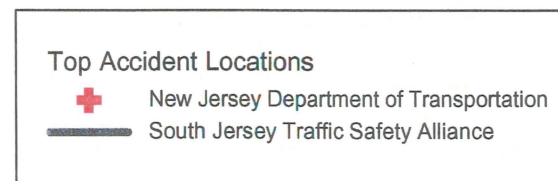
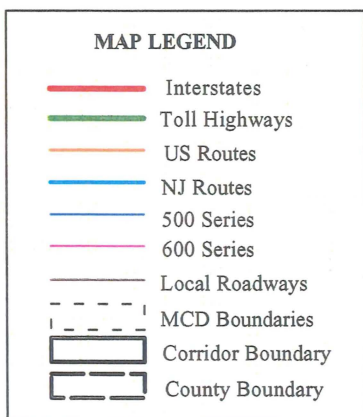
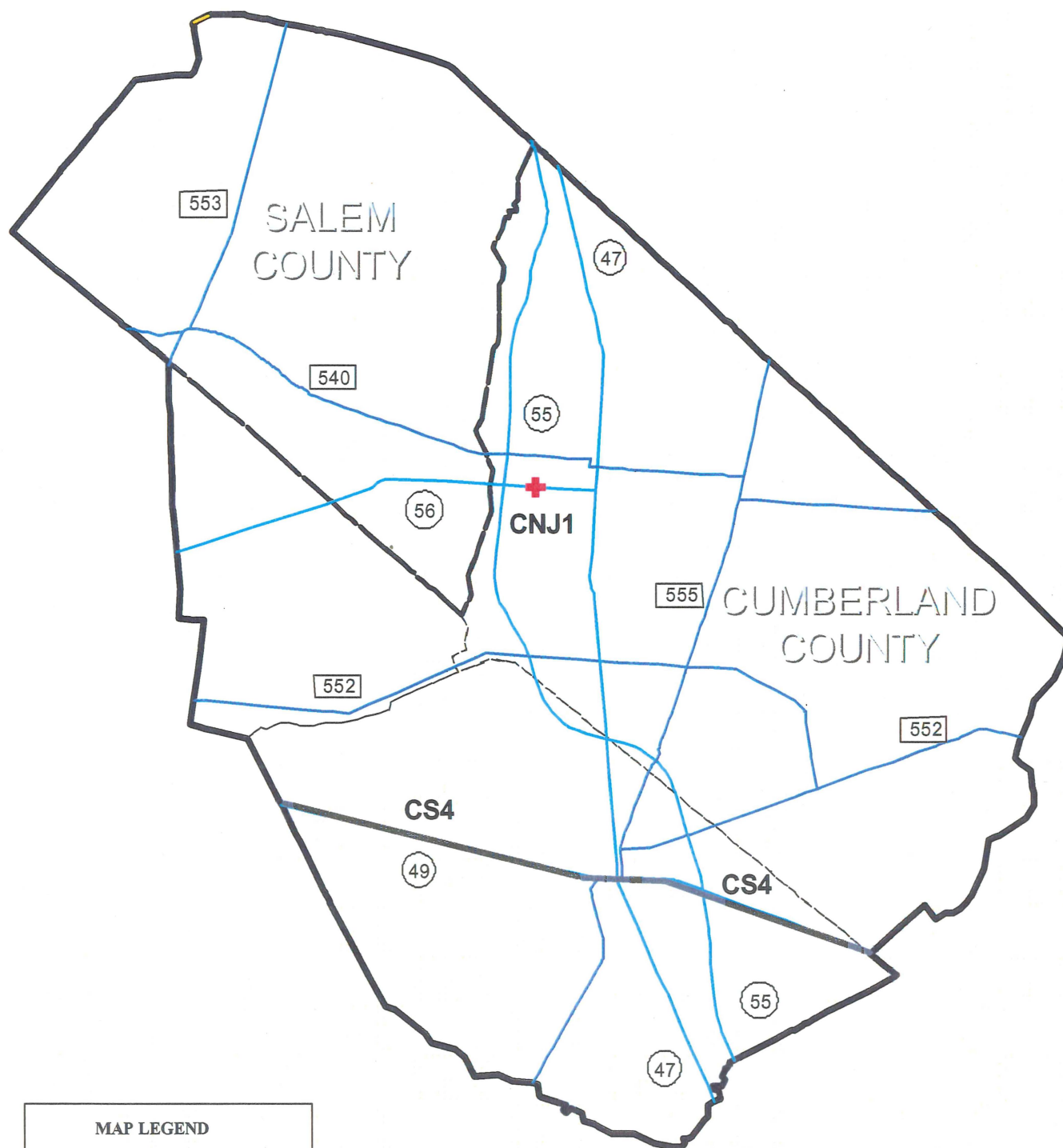
MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- - - MCD Boundaries
- Corridor Boundary
- County Boundary

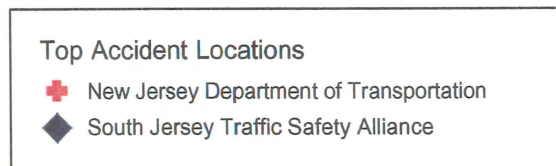
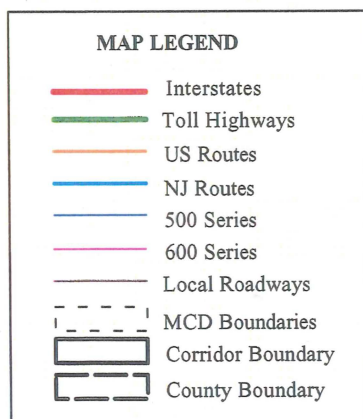
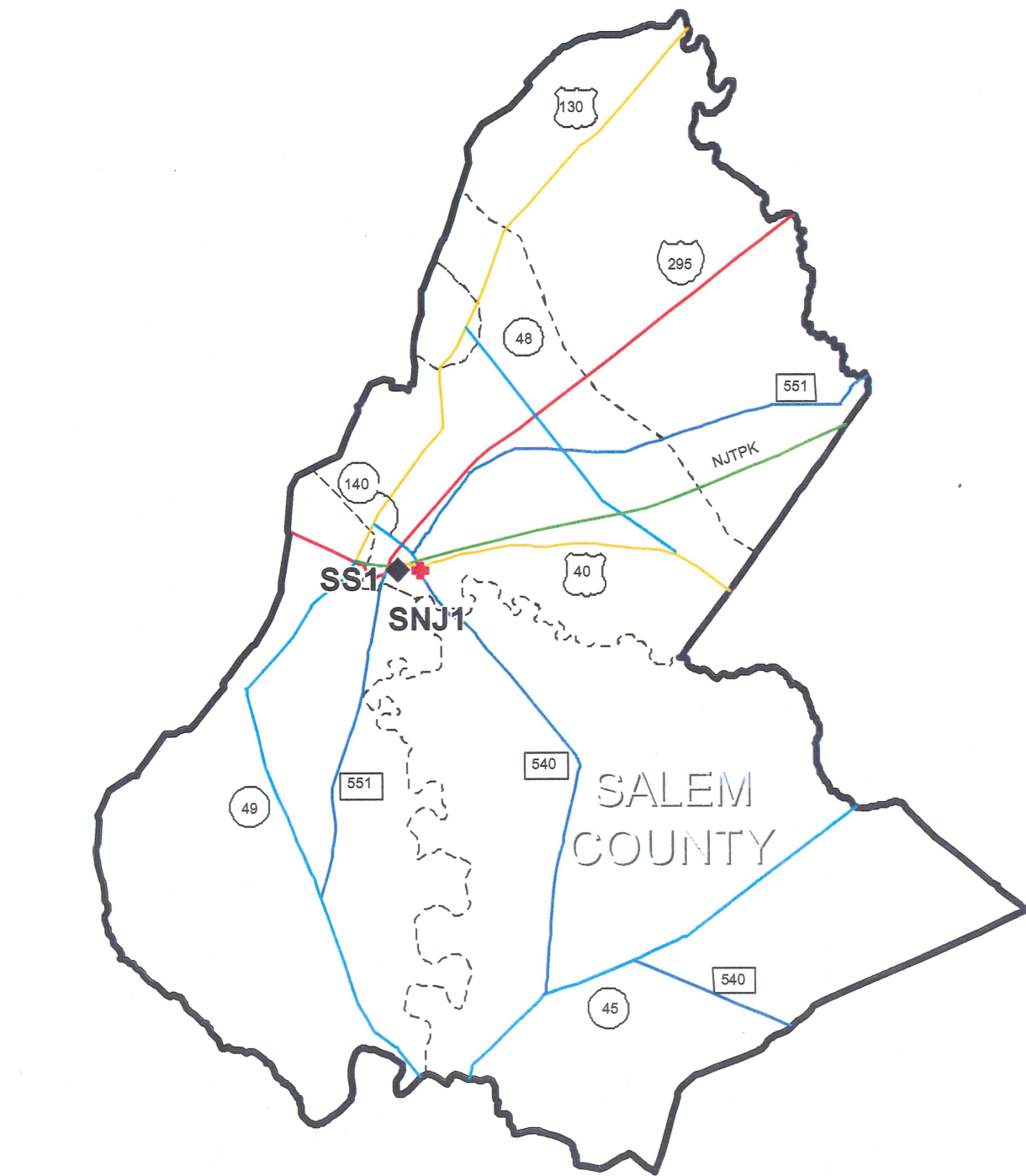
Top Accident Locations

- ◆ South Jersey Traffic Safety Alliance
- South Jersey Traffic Safety Alliance

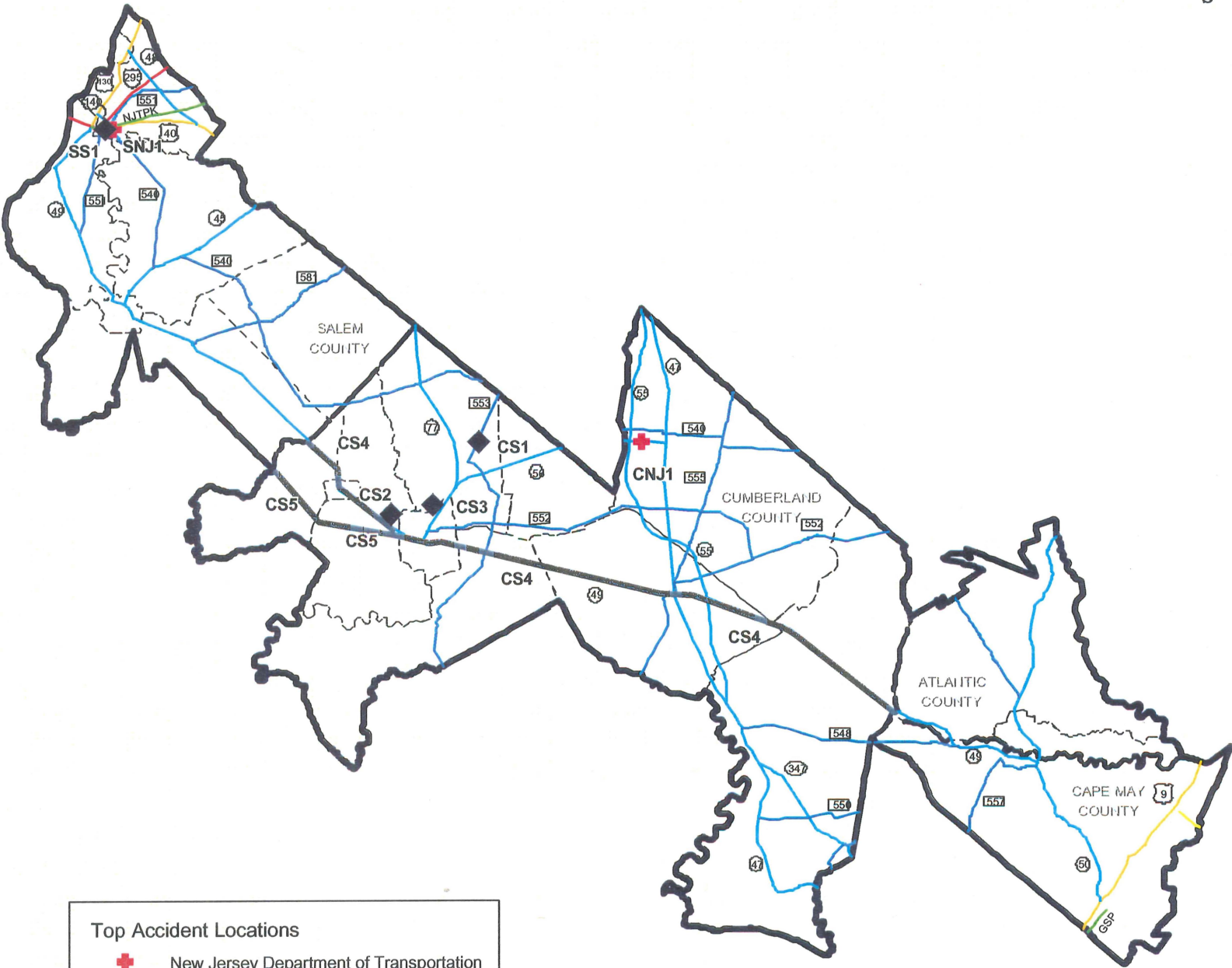
**FIGURE 4-22: NJ 47/NJ 55 (NORTH)
SAFETY CONCERNS**



**FIGURE 4-23: I-295 / NJTPK
SAFETY CONCERNS**



**FIGURE 4-24: NJ 49
SAFETY CONCERNS**



MAP LEGEND

- Interstates
- Toll Highways
- US Routes
- NJ Routes
- 500 Series
- 600 Series
- Local Roadways
- MCD Boundaries
- Corridor Boundary
- County Boundary

Top Accident Locations

- New Jersey Department of Transportation
- South Jersey Traffic Safety Alliance
- South Jersey Traffic Safety Alliance

Table 4-11

Safety Concerns - Atlantic County					
Code	Source	Roadway/Intersection	Code	Source	Roadway/Intersection
AS1	SJTSA	US 40/322 at Doughty Road	AS16	SJTSA	Mill Road at New Jersey Avenue (Absecon)
AS2	SJTSA	US 40 at NJ 50	AS17	SJTSA	Airport Circle: Tilton Road at Delilah Road
AS3	SJTSA	US 30 at Mill Road	AS18	SJTSA	Zion Road at Oak Road (Northfield)
AS4	SJTSA	US 30 at Delilah Road	AS19	SJTSA	Steelmanville Road at Ocean Heights Avenue
AS5	SJTSA	US 30 at CR 575 (Pomona Road)	AS20	SJTSA	Wyoming Avenue at Monmouth Avenue & Winchester Avenue (Ventnor)
AS6	SJTSA	US 30 at CR 614 (Cologne Road)	AS21	SJTSA	Newark Avenue at Monmouth Avenue & Winchester Avenue (Ventnor)
AS7	SJTSA	US 30 at US 9	AS22	SJTSA	Wrangleboro Road at Reeds Road (Galloway)
AS8	SJTSA	Garden State Parkway at Jim Leeds Road	AS23	SJTSA	Weymouth Road at Egg Harbor Road (Hammonton)
AS9	SJTSA	US 9 at New Jersey Avenue	AS24	SJTSA	Mays Landing-Somers Point Road at Atlantic Avenue (Hamilton)
AS10	SJTSA	US 9 at Tilton Road	AS25	SJTSA	Jim Leeds Road at Great Creek Road (Galloway)
AS11	SJTSA	US 9 Delilah Road	ANJ1	NJDOT	US 30 at MP 41.22 <i>Ranked 14th out of the 100 intersections statewide with the highest accident rates</i>
AS12	SJTSA	US 9 at Ocean Heights Avenue	ANJ2	NJDOT	US 30 at MP 43.91 <i>Ranked 7th out of the 100 intersections statewide with the highest accident rates</i>
AS13	SJTSA	Shore Road at Ohio Avenue (Absecon)	ANJ3	NJDOT	US 30 at MP 46.41 <i>Ranked 20th out of the 100 intersections statewide with the highest accident rates</i>
AS14	SJTSA	Shore Road at Delilah Road	ANJ4	NJDOT	US 30 at MP 51.16 <i>Ranked 96th out of the 100 intersections statewide with the highest accident rates</i>
AS15	SJTSA	Pitney Road at Ridgewood Avenue	ANJ5	NJDOT	US 40 at MP 56.83 <i>Ranked 82nd out of the 100 intersections statewide with the highest accident rates</i>
Safety Concerns - Cape May County					
Code	Source	Roadway/Intersection	Code	Source	Roadway/Intersection
CMS1	SJTSA	Garden State Parkway Signals	CMS3	SJTSA	NJ 47 (entire)
CMS2	SJTSA	US 9 at NJ 47	CMS4	SJTSA	NJ 52 (entire)
Safety Concerns - Cumberland County					
Code	Source	Roadway/Intersection	Code	Source	Roadway/Intersection
CS1	SJTSA	Big Oak Road at Centerton Road (Upper Deerfield)	CS4	SJTSA	NJ 49 (entire)
CS2	SJTSA	West Park Avenue, CR 621 at Manor Lane (Hopewell - just west of Bridgeton City limit)	CS5	SJTSA	Roadstown Road, CR 646, (Hopewell, Stow Creek - entire)
CS3	SJTSA	Old Deerfield Pike, CR 606 at Laurel Heights Drive, CR 622 (Upper Deerfield)	CNJ1	NJDOT	NJ 56 at Milepost 8.73 <i>Ranked 3rd out of the 100 intersections statewide with the highest accident rates.</i>
Safety Concerns - Salem County					
Code	Source	Roadway/Intersection	Code	Source	Roadway/Intersection
SS1	SJTSA	US 40 at CR 540	SNJ 1	NJDOT	US 40 at MP 1.85 <i>Ranked 9th out of the 100 intersections statewide with the highest accident rates</i>
SS2	SJTSA	New Bridge Road Bridge			

SJTSA - South Jersey Traffic Safety Alliance

NJDOT - New Jersey Department of Transportation

HIGHWAY NEEDS AND PROBLEM ASSESSMENT

The section of Regional Transportation Plan presents an assessment of highway conditions for the region. The technical work program was based on the following tasks: establish baseline conditions; identify existing problem areas; and forecast future transportation conditions.

This assessment is based, in part, on data from the new South Jersey Travel Demand Model. This is the first time this newly upgraded model has been used for an extensive analysis of regional travel conditions and highway system performance. It is important to note that this effort has been undertaken to review and identify needs on a regional basis and develop improvement concepts with a level of detail sufficient to support air quality conformity analysis. These identified needs will require further study at a greater level of detail in order to expand improvement concepts to the project level.

Baseline Highway Conditions

The baseline for this RTP is the year 2000. The establishment of baseline conditions forms the foundation for the RTP's technical work effort. Information was collected and analyzed for the transportation system, demographics, and air quality indicators. From these data, the existing demographic conditions as well as physical and performance characteristics of the transportation network are addressed in sufficient detail to foster an understanding of the problems and opportunities facing the region.

The South Jersey Travel Demand Model (SJTDM) is a traditional four-step model designed to replicate regional travel patterns across Southern New Jersey. It can be used to assess existing travel conditions in the region and forecast and assess future year travel and the impact and/or need for transportation improvements, based on the interaction between population and employment changes and transportation infrastructure.

The model encompasses all four SJTPO counties, plus adjacent counties in Central New Jersey and Philadelphia as well as connections to neighboring Delaware, to accurately capture the regional nature of travel in the area and the interactions among each.

The model consists of a detailed highway networks and demographic data set. The highway network includes about 12,000 lane-miles of roads of varying functional classes. Trips are generated through some 1900 traffic zones using population and employment data sets for base and future years. These demographic data sets were developed by the SJTPO, which is responsible for the regions' demographic projections. The SJTDM incorporates a mode choice model which splits person trips into trips by auto, transit, and walk/bike modes.

This analysis is based on data from the Friday Summer PM Peak period simulation and uses only the highway portion of the model. The highway system model serve as a good measuring stick for the impact of multi-modal strategies. The transit portion of the model was not used in preparation of this plan, as the model has yet to undergo significant testing and evaluation.

The trip table for the year 2000 baseline model is based on projections developed by the SJTPO. Although the official U.S. population count from the 2000 Census was released to the public on December 28, 2000, this analysis was begun well in advance of this date, which accounts for the use of SJTPO projections for 2000.

The initial data set is from the U.S. Census for 1990, with estimates for 1996. Forecasts for population and employment were developed by the four counties for each 5 year period, for 2000 through 2025. Adjustments to the projections were made by the SJTPO. The regional total for each forecast year was held constant and adjustments and redistributions were made based on trends in growth, development, and indicators in key regional sectors, particularly in the gaming industry. The final set of projections was endorsed by the SJTPO Technical Advisory Committee on May 5, 2000.

Atlantic County - Existing Problem Areas

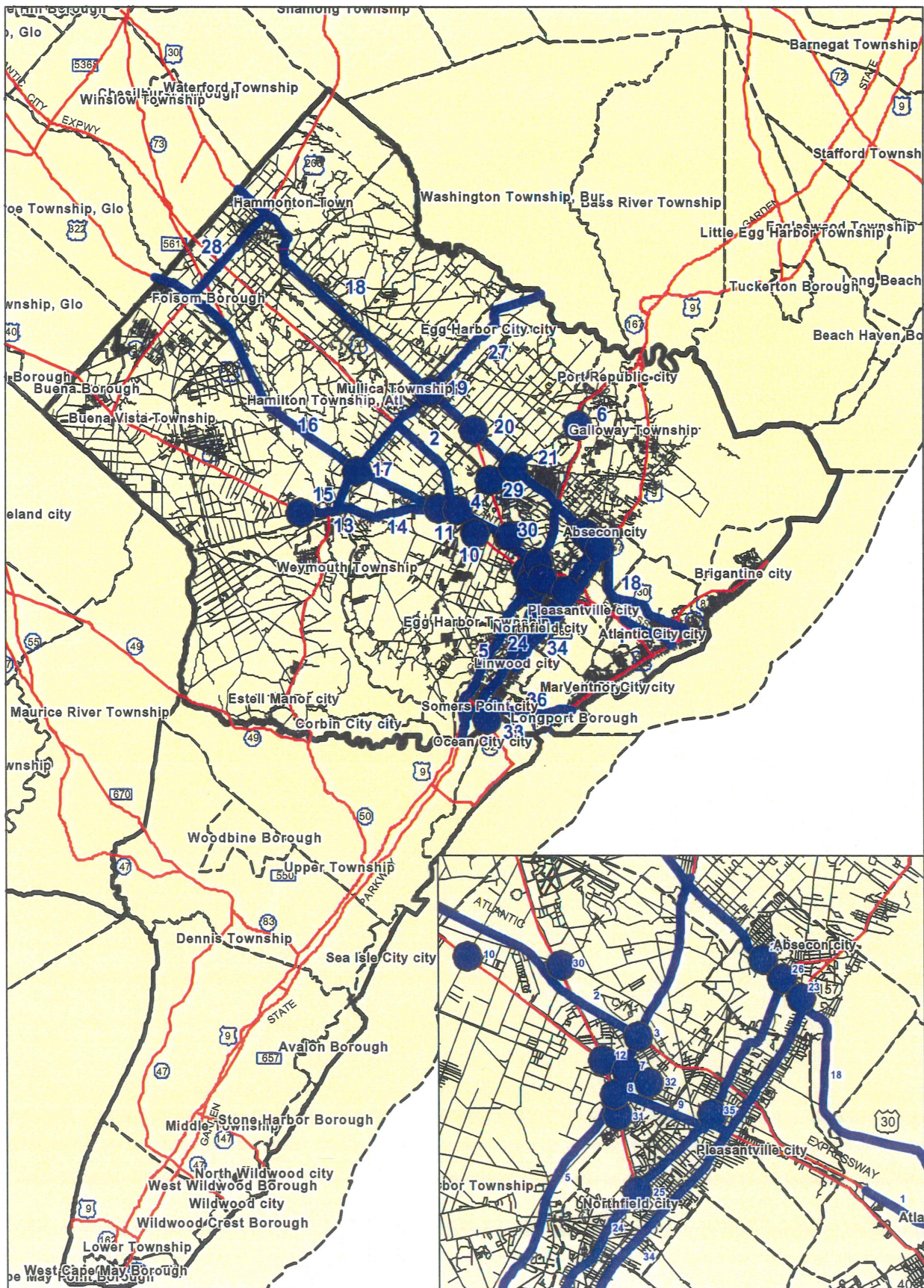


Table 4-12 - Atlantic County - Existing Problem Areas			
	Roadway	Deficient Intersection	Deficient Roadway Segment
A 1	Atlantic City Expressway		Pleasantville Toll Plaza to Atlantic Avenue
A 3	Atlantic City Expressway	Garden State Pkwy Interchange	
A 4	Atlantic City Expressway	Interchange 12 area (Wrangleboro Rd.)	
A 2	Wrangleboro Road/Pomona Rd Corridor		US 30 to US 40/322
A 5	Garden State Parkway		ACE to Cape May County Line
A 6	Garden State Parkway	Exit 44 - CR 561 (Moss Mill Road)	
A 7	Garden State Parkway	Exit 37 - CR 608 (Washington Avenue)	
A 8	Garden State Parkway	Exit 36 - CR 563 (Tilton Road)	
A 9	US 40/322		GSP to CR 585 (Main Street)
A 10	US 40/322	CR 575/CR 603 (English Creek Avenue)	
A 11	US 40/322	CR 575 (Wrangleboro Road)	
A 12	US 40/322	Cardiff Circle - CR 563/CR 608	
A 13	US 40		CR 552 (Millville Avenue) to CR 559 (Somers Point Landing Road)
A 14	US 40		SR 50 to US 322
A 15	US 40	CR 552 (Millville Avenue)	
A 16	US 322		Gloucester County Line to US 40/322 (McKee City)
A 17	US 322	SR 50	
A 18	US 30 (White Horse Pike)		Camden County Line to Fairmount Avenue (Atlantic City)
A 19	US 30 (White Horse Pike)	SR 50 (Cape May Avenue)	
A 20	US 30 (White Horse Pike)	CR 614 (Cologne Avenue)	
A 21	US 30 (White Horse Pike)	CR 575 (Pomona Road)	
A 22	US 30 (White Horse Pike)	CR 685 (Wescoast Road)	
A 23	US 30 (White Horse Pike)	CR 585 (Main Street) / SR 157	
A 24	US 9		US 30 and GSP at Somers Point
A 25	US 9	CR 563 (Tilton Road)	
A 26	US 9	US 30 (White Horse Pike)	
A 27	US 50		US 40 to Burlington County Line
A 28	SR 54		US 322 to CR 561 (Egg Harbor Road)
A 29	CR 563 (Tilton Road)	CR 575 (Wrangleboro Road)	
A 30	CR 563 (Tilton Road)	CR 646 (Delilah Road - Airport Circle)	
A 31	CR 563 (Tilton Road)	CR 561 (Fire Road)	
A 32	CR 651 (Fire Road)	CR 608 (Washington Avenue)	
A 33	SR 52 (Somers Point)	Somers Point Circle - CR585	
A 34	CR 585 (Shore Road)		US 30 to Maple Avenue (Linwood)
A 35	CR 585 (Shore Road)	CR 608 (Washington Avenue)	
A 36	SR 152 (Longport Somers Point Blvd.)		CR 635 (Bay Avenue) to CR 629 (Ventnor Avenue)

Cape May County - Existing Problem Areas

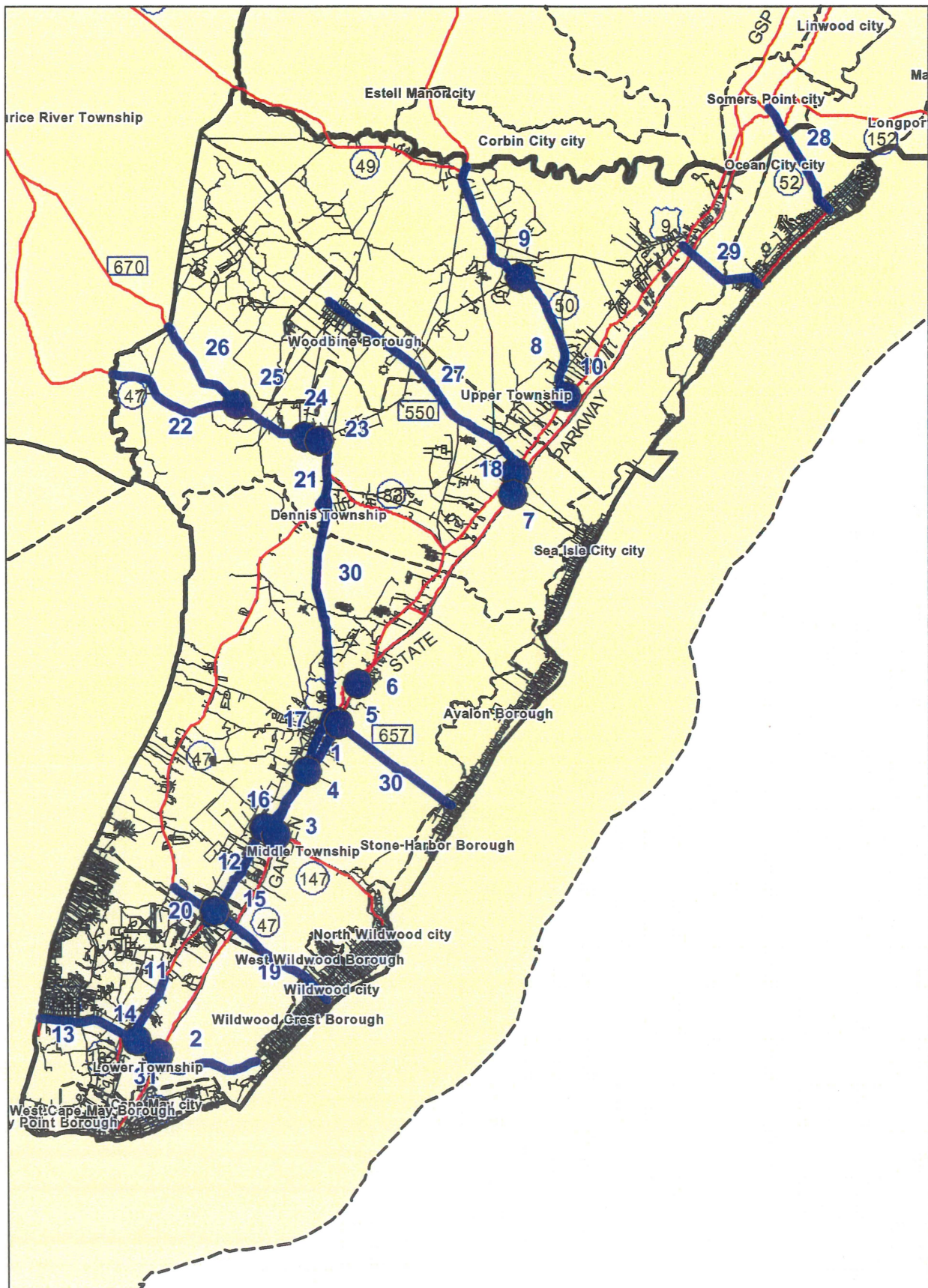


Table 4-13 - Cape May County - Existing Problem Areas			Deficient Intersection	Deficient Roadway Segment
	Roadway			
CM 1	Garden State Parkway			SR 147 to Interchange 12S
CM 2	Garden State Parkway		Southern Termini (SR 109)	
CM 3	Garden State Parkway		Exit 6N - North Wildwood Road (SR147)	
CM 4	Garden State Parkway		Traffic Signal at Shell Bay Avenue	
CM 5	Garden State Parkway		Traffic Signal at (CR 657) Stone Harbor Blvd.	
CM 6	Garden State Parkway		Traffic Signal at Crest Haven Road	
CM 7	Garden State Parkway		Exit 17N - Old Sea Isle Blvd. (CR625)	
CM 8	SR 50			SR 49 to Garden State Parkway
CM 9	SR 50		CR 610 (Petersburg Ave)	
CM 10	SR 50		US 9	
CM 11	US 9			SR109 to Nummytown Road (ERMA)
CM 12	US 9			SR 47 to Stone Harbor Blvd. (CR 657)
CM 13	US 9			SR 109 to Bay Shore Road (CR 607)
CM 14	US 9		SR 109	
CM 15	US 9		SR 47	
CM 16	US 9		SR 147	
CM 17	US 9		CR 657 (Courthouse-South Dennis Rd)	
CM 18	US 9		CR 550 (Woodbine-Oceanview Rd)	
CM 19	SR 47			Wildwood to CR 654 (Fulling Mill Road)
CM 20	SR 47			GSP to CR-654 (Fulling Mill Road)
CM 21	SR 47			CR657 (Courthouse-South Dennis Rd) to CR557 (Washington Ave.)
CM 22	SR 47			CR 657 (Courthouse-South Dennis Rd) and SR 83 to Cumberland County Line
CM 23	SR 47		CR 610 (Dennisville-Petersburg Rd)	
CM 24	SR 47		CR 611 (Tyler Road)	
CM 25	SR 47		SR 347 (East Creek Mill Road)	
CM 26	SR 347 (East Creek Mill Road)			SR 47 to Cumberland County Line
CM 27	CR 550 (Woodbine-Oceanview Rd)			Washington Ave. (CR 557) to Garden State Parkway
CM 28	SR 52			US9 (Somers Point) to Bay Avenue (Ocean City)
CM 29	CR 623 (Roosevelt Blvd)			US 9 to CR 656 (Bay Ave)
CM 30	CR 657 (Courthouse South Dennis)			SR 47 to Second Avenue (Stone Harbor)
CM 31	SR 109			GSP to Lafayette Street (CR 633)

Cumberland County - Existing Problem Areas

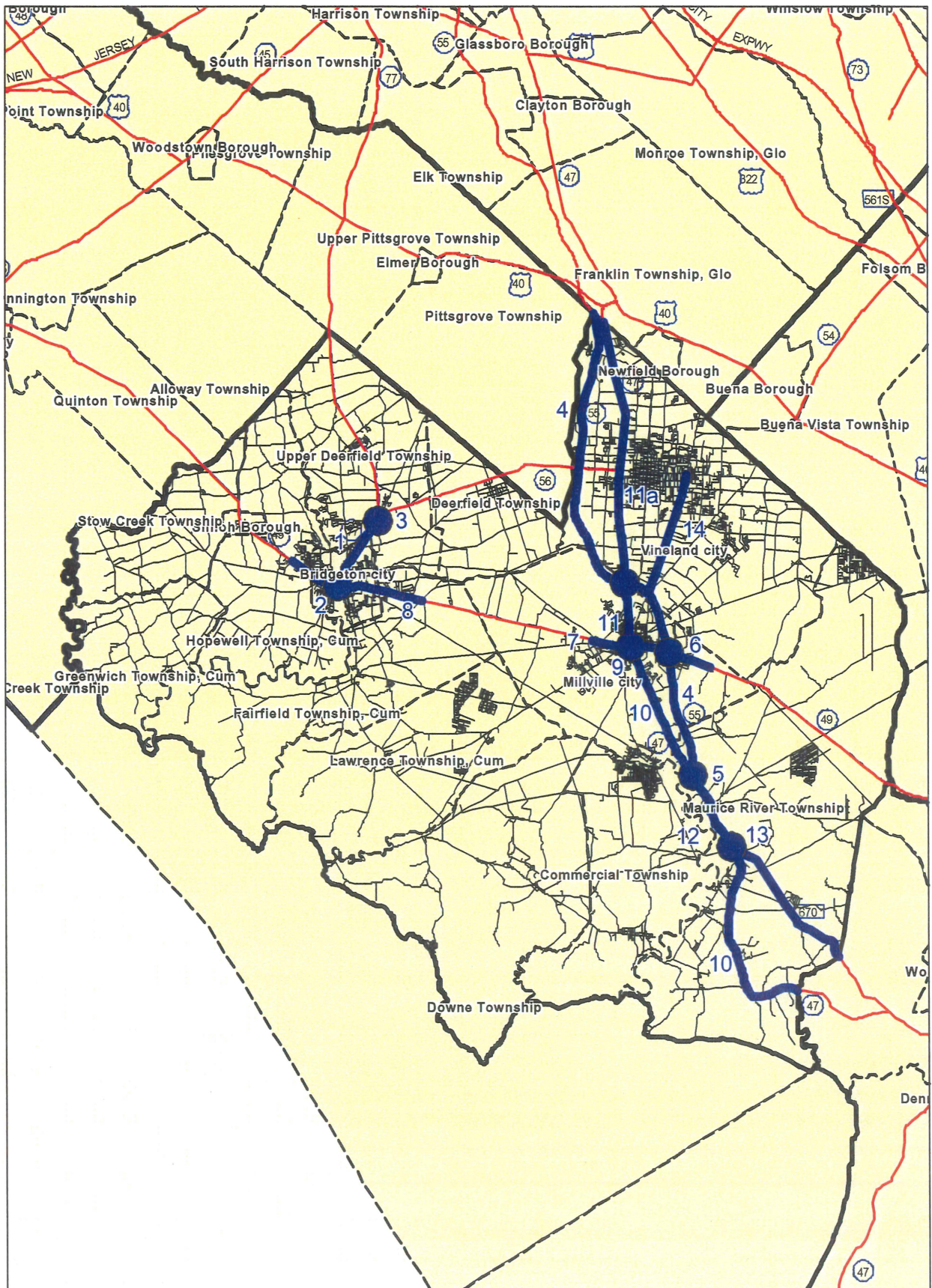


Table 4-14 - Cumberland County - Existing Problem Areas

	Roadway	Deficient Intersection	Deficient Roadway Segment
CU 1	SR 77		SR 49 (Shiloh-Broad St. East) to SR 56 (Landis Ave)
CU 2	SR 77	SR 49 (Shiloh-Broad St. East)	
CU 4	SR 55		SR 47 to Gloucester County Line (During Summer months)
CU 5A	SR 55	SR 47 (Delsea Drive) in Maurice River	
CU 6	SR 55	SR 49 (Cumberland Road)	
CU 7	SR 49 (Shiloh-Broad St. East)		SR 55 to CR 608 (Carmel Road)
CU 8	SR 49 (Shiloh-Broad St. East)		CR 553 (Gouldtown-Woodruff Road) to CR 621 (West Park Road)
CU 9	SR 49 (Shiloh-Broad St. East)	SR 47 (Delsea Drive)	
CU 10	SR 47		Cape May County Line to SR 49
CU 11	SR 47		SR 49 to SR 55
CU 11a	SR 47		SR 55 to Gloucester County Line
CU 12a	CR 670		SR47 to CR 649 Mauricetown Bypass.
CU 12b	SR 347		Hunters Mill Road to SR 47
CU 13	SR 347	SR 47 (Delsea Drive)	
CU 14	CR 555		SR 55 to CR 540 (E. Landis Ave)

Salem County - Existing Problem Areas

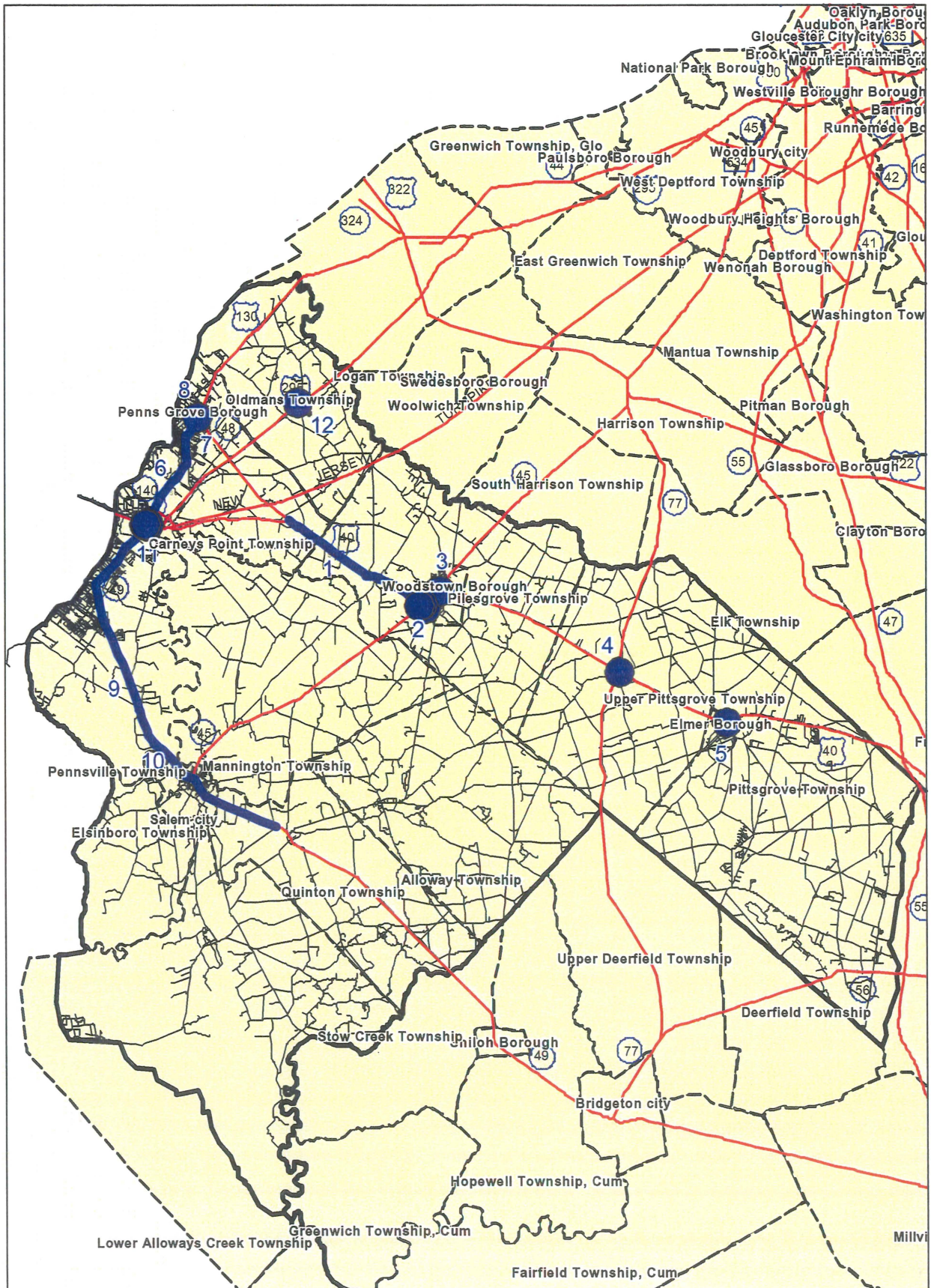


Table 4-15 - Salem County - Existing Problem Areas			
	Roadway	Deficient Intersection	Deficient Roadway Segment
S 1	US 40	US 40 / SR 49 / Hook Road (Pennsville)	SR 48 to SR 45 (Woodstown)
S 2	US 40	SR 45 / CR 616 (Bailey Street)	
S 3	US 40	SR 45 / Main Street (Woodstown)	
S 4	US 40	SR 77 (Upper Pittsgrove)	
S 5	US 40	CR 648 (Main Street- Elmer)	
S 6	US 130		SR 48 to Delaware Memorial Bridge
S 7	US 130	SR 48	
S 8	SR 48		US 130 to CR 607 (Broad Street @ Penns Grove)
S 9	SR 49		I-295/US40 to SR 45 (Salem City)
S 10	SR 49		CR 551 (Hook Road) to SR 45 (Salem City)
S 11	New Jersey Turnpike	I-295 / US 40 / US 130 Interchange	
S 12	I-295 Interchange 7	I-295 Interchange 7 ramps at Straughens Mill Road (CR 643)	

Future Year Highway Conditions

The comprehensive process of multiple sources was again used to identify future problem areas within the SJTPO region for the Year 2025. These sources include problem areas identified for the baseline year analysis; system performance of future condition based on data from the SJTDM, available technical sources such as the NJCMS, previous studies conducted within the subject region, and a review of the SJTPO's adopted Transportation Improvement Program (TIP) for Fiscal Years 2001-2003.

Future conditions of the "no build" network were estimated by SJTDM in terms of volume to capacity (v/c) relationship. The "no build" network consists of the existing network plus all known committed projects. The degree of congestion was grouped into two categories: "moderate" for facilities with v/c ratio of 0.80 to 1.00; and "heavy" for facilities with v/c ratio higher than 1.00. Future problem locations were identified based on these v/c criteria.

Analysis of v/c data for existing year problems verified that all identified locations exhibited consistently deficient or worse capacity in the future. For intersection problems, v/c link data of the future network was analyzed at those locations instead to verify that intersection approaches exhibited consistently deficient or worse capacity in the future years.

Furthermore, analytical results from other studies were evaluated and incorporated into the future problem location list if appropriate. These studies include many also reviewed for the baseline analysis, among them the Shore Connection Committee Report.

Finally, a completeness check included a review of projects on the TIP. Development of the regional TIP is in itself a rigorous and comprehensive process based on both technical analysis and input from local and county planning agencies, NJDOT's Capital Investment Plan, and the general public.

It should be noted that the SJTDM was run for a Friday summer 4-6 pm peak period to identify problem locations. The peaking characteristics of facilities in the SJTPO region, with heavy recreational demands, are very different than typical commuting corridors. Many problems occur on Saturdays, Sundays, or during the week, and these problems may not have been identified through the model. Where possible, these problems were identified by other sources and included as part of the assessment.

Future Year Travel Characteristics and Performance Indicators

The South Jersey Travel Demand Model was used to forecast future year 2025 traffic conditions in the SJTPO area. The basis for the forecasts are the future year population and employment data detailed in Chapter 3 of the RTP. For comparative purposes, the model is first run with year 2000 base year demographic inputs and then run with 2025 demographic inputs. The model outputs are compared to indicate where and to what magnitude travel conditions change.

Driving the changing traffic conditions is the growth forecast in population and employment. In the SJTPO region, population is expected to rise from a 2000 baseline figure of 552,138 people to a 2025 figure of 702,203 people, a 27 percent increase. Employment is forecast to grow from 272,977 jobs in 2000 to 361,696 job in 2025, a 32 percent increase.

In order to gauge the impact of this growth, highway system performance measures are used. The SJTDM generates several performance measures that indicate how well vehicles flow through the highway network and how the system will operate in the future. Indicators used throughout the RTP include the total number of trips made, vehicle miles of travel (VMT), vehicle hours of travel (VHT) and the proportion of travel that occurred under the three levels of service defined as below, approaching, and over capacity). Definitions of the key performance measures are as follows:

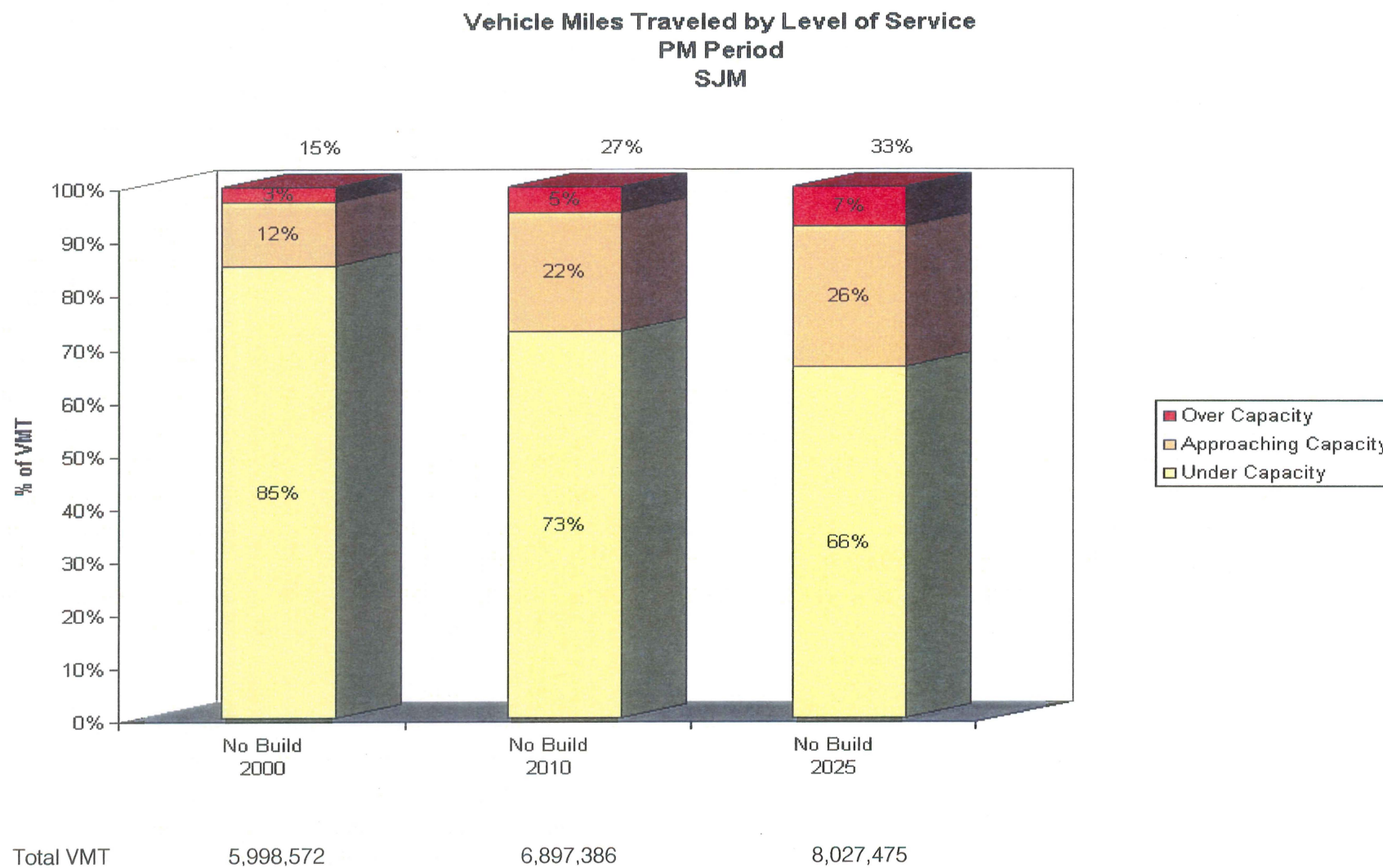


Figure 4- 25 PM Period VMT, SJ Travel demand Model

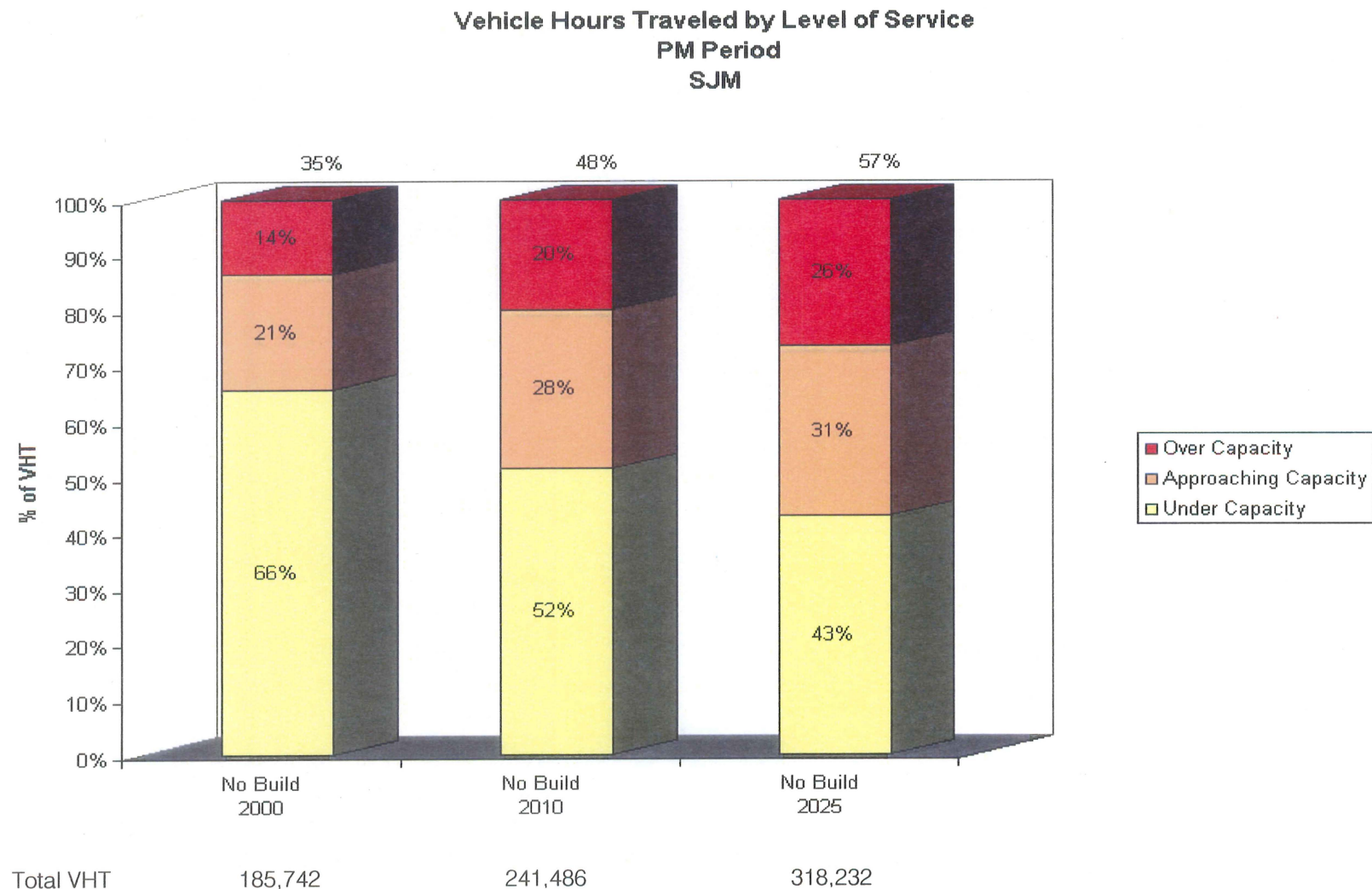


Figure 4- 26 PM Period VMT, SJ Travel demand Model

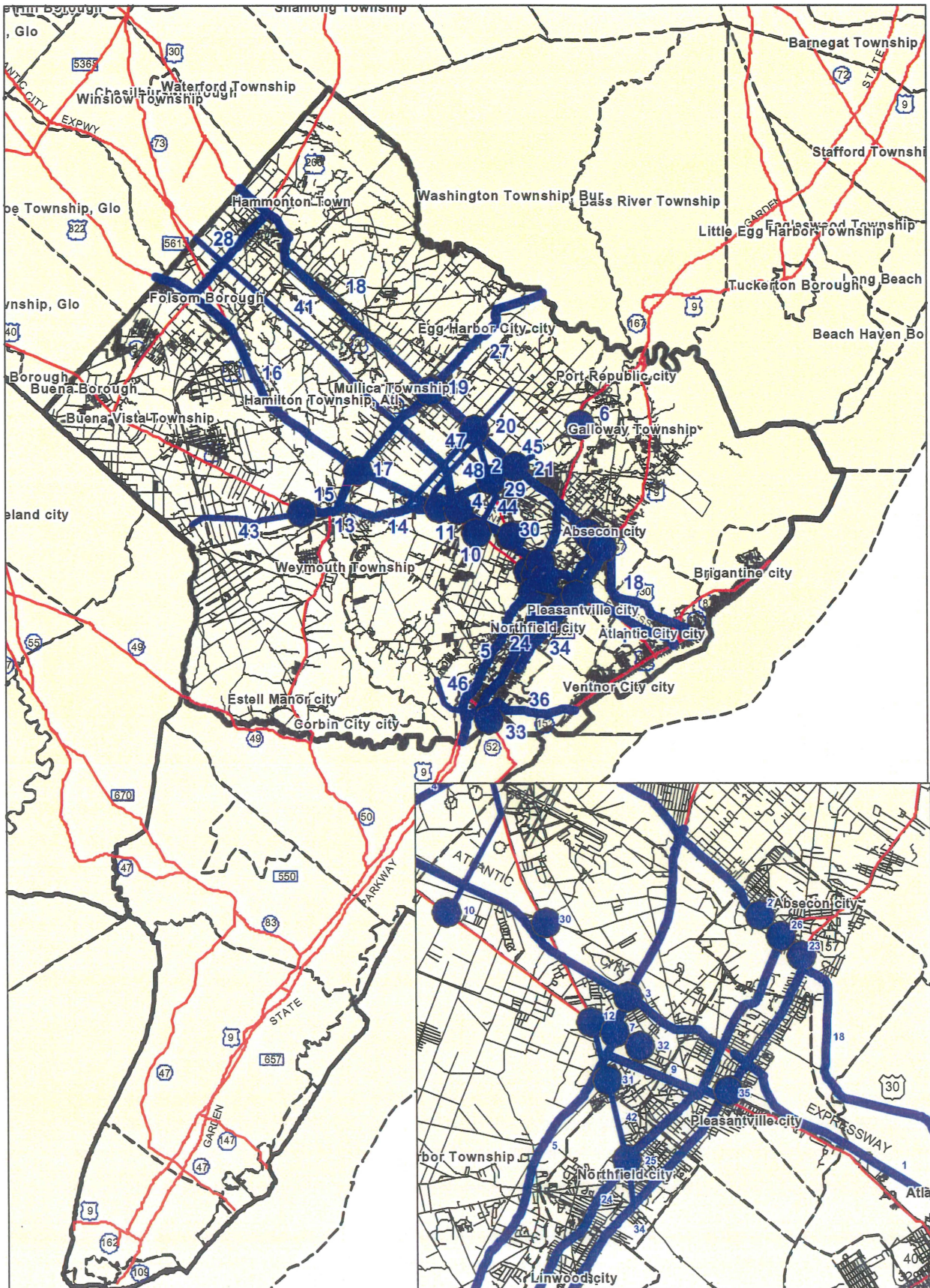
Approach in Defining Potential Improvement Prospects

For each of the identified problem location in the four counties, the extent of the problem was reviewed; using data on the volume to capacity (v/c) ratio, the NJDOT's straight-line diagram, attributes such as functional classification, number of lanes, type of traffic control, access, and signal density. The information was used to assess possible type(s) and cause(s) of the problem and to formulate potential improvement prospects. The short-term improvement prospects were viewed as improvements that could be implemented in a short to medium time period, while the long-term improvement prospects were formulated to address longer-term needs. These improvement prospects will require further study beyond the RTP process in order to determine and quantify problems and develop solutions.

The short-term improvement prospects typically are spot improvements that involve traffic signalization, enhancement to existing traffic operation, coordination of traffic signals located within the influence area, and localized geometric improvement to accommodate demand on critical movements. The long-term improvement prospects include the call to study corridor based improvement concepts that may includes facility/interchange re-configuration and widening for capacity expansion that may involve lane or lanes addition in order to accommodate future travel demand along the entire corridor. When appropriate, implementation of Advanced Traffic Management System (ATMS) should be considered as a corridor-wide solution.

Similar to the baseline analysis, tables and maps of Year 2025 forecast problem areas were prepared for each county. Tables 4-16 to 4-19 provide a general description for each deficient roadway section and intersection, along with the suggested short-term to long-term improvements prospects. Where applicable, projects contained in the Transportation Improvement Plan or proposed for future implementation are noted. Each problem has been assigned a problem number along with map annotation, in a manner that is consistent with the year 2000 tables and maps.

Atlantic County - 2025 Problem Areas



Atlantic County - 2025 Problem Areas

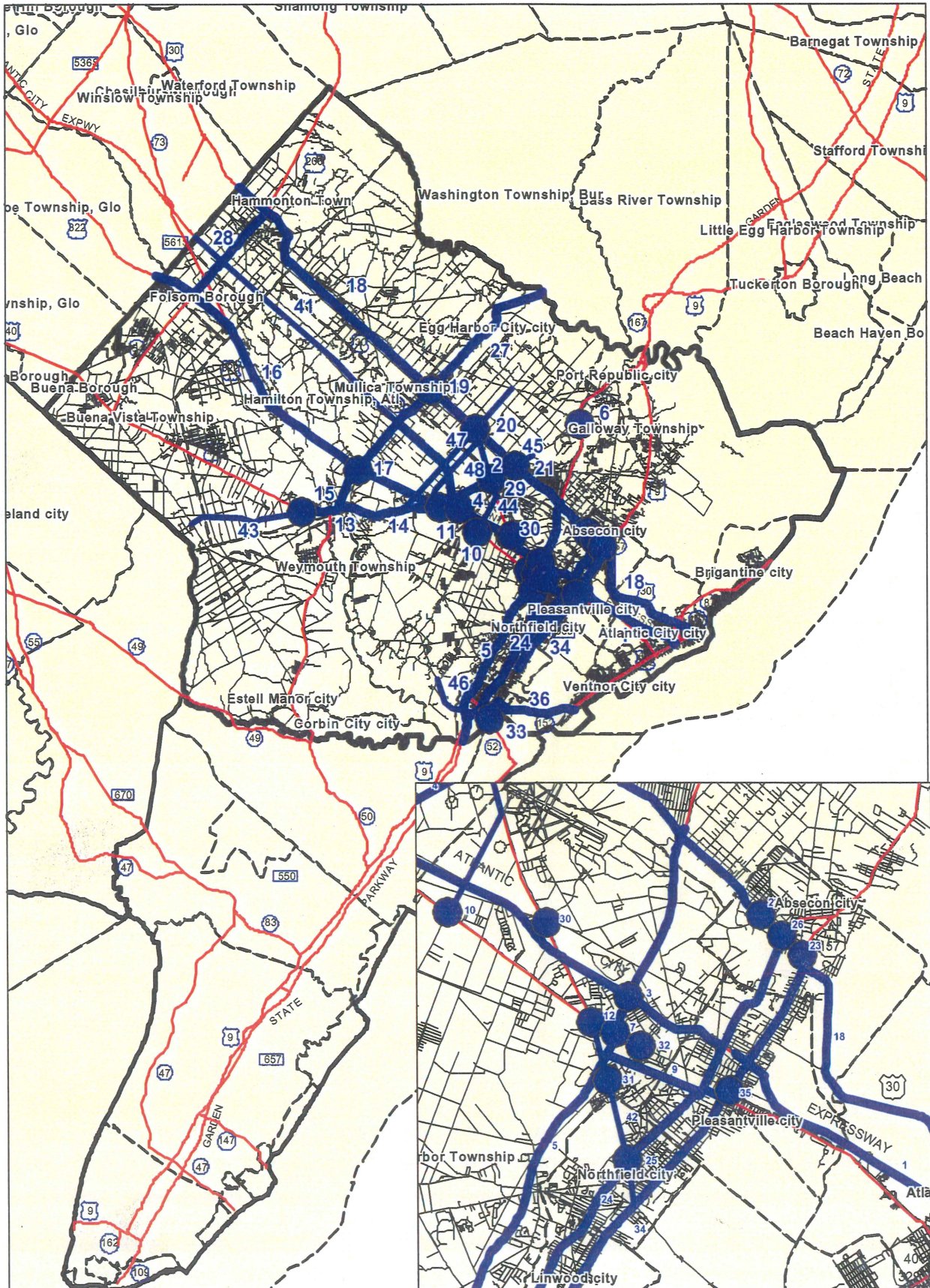


Table 4-16 - Atlantic County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
A 1	Atlantic City Expressway	Pleasantville Toll Plaza to terminus in Atlantic City.		This segment of ACE operates with high congestion during the peak periods. High seasonal demand contributes to capacity problems from Pleasantville Toll Plaza to terminus in Atlantic City.	SJTA improvement project adds a 3rd lane from Pleasantville to Atlantic City, including a widening of the Thorofare Bridge.	
A 41	Atlantic City Expressway	Camden Count Line to Exit 7 (GSP), Westbound direction		The model predicts heavy congestion between Exit 14W (CR 670) and Exit 17W (SR 50). Moderate congestion and delays are anticipated on the ACE in Year 2025 in the westbound direction as the carrying capacity of two lanes in this direction are inadequate to service forecast demand.	Addition of one lane in westbound direction, potentially from Pleasantville to Winslow, Camden County. Requires further study.	
A 3	Atlantic City Expressway		Interchange 7 (Garden State Parkway)	This interchange has been identified by external source as an existing problem. The SJTDM has indicated that in 2025, the interchange will not be able to accommodate (1) the movement from eastbound ACE to southbound GSP and (2) the movement from northbound GSP to westbound ACE. The excess demand also negatively affects the overall operation of the interchange, particularly on the ACE mainline.	Interchange area requires further study and evaluation. SJTA proposed project to complete Interchange 5 by providing westerly access may lessen congestion at Interchange 7.	Continue evaluation as part of the Atlantic City access corridor.
A 4	Atlantic City Expressway		Interchange 12 (Wrangleboro Road.)	This interchange has been identified by external sources as an existing problem. The SJTDM, however, has indicated that in 2025, extensive congestion and delays would occur in the area.	Geometric improvements in the interchange area require further study.	Evaluate as integral part of Wrangleboro/Ponoma Road travel corridor.
A 5	Garden State Parkway	ACE to Cape May County Line		This segment of the GSP has been identified by external sources as an existing problem location and further study is recommended on the nature and extent of the problem. The segment is not classified by the SJTDM as a capacity deficient location in 2025 but would operate with moderate congestion (v/c ratio between 0.80 and 1.00). It is approaching system capacity, particularly the section between Exit 36 and Exit 37.	NJHA proposing improvements to GSP. These include widening from MP 30-48 and improvements to Interchanges 40 and 44, to provide new ramps to/from the south. See A-6.	
A 6	Garden State Parkway		Exit 44 - CR 561 Alt. (Moss Mill Road)	This interchange has been identified by external sources as an existing problem location. However, it is not indicated by the SJTDM as a capacity deficient location for Year 2025. Further investigation is recommended to clarify the nature and extent of the problem.	NJHA proposing improvements to GSP. These include widening from MP 30-48 and improvements to Interchanges 40 and 44, to provide new ramps to/from the south. See A-6.	
A 7	Garden State Parkway		Exit 37 - CR 608 (Washington Avenue)	This interchange has been identified by external source as an existing problem location. The SJTDM anticipates moderate congestion at the ramps by Year 2025 but does not classify it as a capacity deficiency. Further clarification from external sources is recommended on the nature and extent of the problem.	Requires further evaluation. NJHA proposing improvement project at Interchange 36N, which may influence this area. See A-8.	Evaluate as integral part of Route 9/ GSP travel corridor.

Table 4-16 - Atlantic County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
A 13	US 40	CR 552 (Millville Avenue) to CR 559 (Somers Point Mays Landing Road)		This section of US 40 is a 2-lane rural principal arterial that is served by 5 traffic signals along with numbers of cross streets and a railroad crossing. Extensive congestion and delays are anticipated by 2025, in particular between MP 46.3 and MP 47.0 where US 40 merges with SR 50. There is no planned congestion relief improvement under the 5-Year Capital Plan for this location.	Signal enhancement and coordination among the 5 traffic signals. Localized geometric improvements should be considered at the signalized intersections to increase the overall carrying capacity.	Corridor-based evaluation of U.S. 40/322
A 14	US 40	CR 559 to US 322		This section of US 40 is a 2-lane rural principal arterial that is served by 8 traffic signals. It has been identified by external sources as an existing problem location. However, 2025 data from the SJTDM indicated that the majority of the facility would experience light to moderate congestion, with the exception of the segment between SR 50 (MP 47.0) and Cantillon Blvd (MP 48.4) and the section between the Shopping Center access road (MP 51.0) and US 322 (MP 51.7), where an over-capacity condition is anticipated since the demand exceeds the capacity of the facility.	Signal enhancement and coordination of the 8 traffic signals along with localized intersection geometric improvements when warranted. (Should also coordinate with signal improvements recommended by A13).	Corridor-based evaluation of U.S. 40/322
A 15	US 40		CR 552 (Millville Avenue)	This intersection has been identified by external sources as an existing problem location. Further investigation is recommended to clarify the nature and extent of the problem.	Signal optimization and geometric improvements including turn lanes.	Requires further evaluation.
A 16	US 322	Gloucester County Line to US 40/322 (McKee City)		This road segment has been identified by external source as an existing problem location.	Signal optimization and coordination.	Requires further evaluation.
A 17	US 322		SR 50	This intersection has been identified by external sources as an existing problem location. Further investigation is recommended to clarify the nature and extent of the problem.	No recommendation. (Please note recommendation under A27 for SR 50). Further study should be undertaken to analyze local access in vicinity of Interchange.	
A 18	US 30 (White Horse Pike)	Camden County Line to Fairmount Avenue (Atlantic City)		The entire US 30 in Atlantic County has been identified by external sources as an existing problem location and further clarification is recommended on the nature and extent of the problem. Data from SJTDM indicated that by Year 2025, the majority of the segment particularly of segment west of SR 50 would have light-moderate congestion. However, over-capacity conditions are anticipated in the areas of Egg Harbor City, Cologne Road to Tilton Road corridor, Pomona Avenue to GSP corridor and the Mill Road to SR 157 corridor. Most of these problem areas are associated with traffic signals and cross street accesses.	This problem area is included in the 2001-2003 TIP and the recommended improvement includes new ramps to/from the Garden State Parkway South. Additional improvements are proposed between mileposts 50.7 and 52.1 and involve widening, installation of a center barrier, deceleration lanes, jughandles, and signals to address this problem area.	

Table 4-16 - Atlantic County - Year 2025 Problem Areas						
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
A 25	US 9		At MP 38.2 with CR 563 (Tilton Road)	The subject intersection has been identified by external sources as an existing problem location. Data from SJTDM indicates that by Year 2025, exceed demand would occur on all approaches in particular approaches on US 9. Congestion would occur on both the inbound and outbound direction of the intersection mainly due to delays caused by the downstream signal.	Traffic signal enhancement and coordination with other signals within the influence area. Localized geometric intersection improvements on the US 9 approaches should also be considered.	Evaluate as integral part of Route 9/ GSP travel corridor.
A 26	US 9		At MP 42.8 with US 30 (White Horse Pike)	The subject intersection has been identified by external sources as an existing problem location. Data from the SJTDM indicates that by 2025, the intersection will fail due to excess demand on the US 30 approaches.	This problem area is included in the 2001-2003 TIP and the recommended improvement includes new ramps to/from the Garden State Parkway South. Additional improvements are proposed between mileposts 50.7 and 52.1 and involve widening, installation of a center barrier, deceleration lanes, jughandles, and signals to address this problem.	Evaluate as integral part of Route 9/ GSP travel corridor.
A 27	US 50 / CR 563	US 40 to Burlington County Line		The subject segment has been identified by external source as an existing problem. Data from the SJTDM for 2025 indicates two segments as capacity deficient locations. They are (1) Segment between US 40 and US 322 and (2) Segment in the vicinity area of US 30 where extensive congestion and delays would occur.	For Segment 1, signal enhancement and coordination would be warranted, as well as the provision for a third lane as center left-turn lane between US 40 (MP 19.2) and 13th Street (MP20.0). For Segment 2, Signal enhancement and localized geometric improvement at intersection with US 30 as recommended under A19. Provision for a third lane as center left-turn lane between MP 24.2 (ACE) and Moss Mill Road (MP 18.1 of CR 563).	Requires further evaluation.
A 28	SR 54	US 322 to CR 561 (Egg Harbor Road)		This segment of SR 54 is a 2-lane urban minor arterial and has been identified as an existing problem by the SJTDM. Extensive congestion and delays are anticipated in 2025 on all approaches to the traffic signals located along the subject segment.	Traffic signal enhancement and coordination. Localized intersection widening should be considered if the condition is warranted.	Requires further evaluation.
A 42	CR 563 (Tilton Road)	US 40/322 to CR 585 (Main Street)		This 2.5 mile segment is classified as an urban principal arterial. The roadway is served by 6 closely spaced traffic signals and an interchange with GSP. The SJTDM indicated that by 2025, congestion and delays are anticipated between US 9 (M) 4.5) and US 40/322 (MP 6.2) where stop and go operations at the signals are the reason for delays.	Signal enhancement and coordination along with ATMS application.	Corridor-wide study of CR 563 (Tilton Rd.)

Table 4-16 - Atlantic County - Year 2025 Problem Areas						
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
A 34	CR 585 (Shore Road)	US 30 to Maple Avenue (Linwood)		The subject segment has been identified as an existing problem by external sources. Data from the SJTDM indicates that by 2025, extensive congestion and delays are anticipated due to inadequate capacity to accommodate travel demand. The subject segment is a 2-lane urban minor arterial with numerous cross streets (at a density that ranges from 8-12 intersections per half-mile). Turning movements are the main reason for flow interruption and delay along the entire length. There are only 8 traffic signals serving the major intersections with 4 of them located around US 40/322 area.	Signal optimization and coordination with localized intersection geometric improvements.	Requires further evaluation.
A 35	CR 585 (Shore Road)		At MP 7.1 with CR 608 (Washington Avenue)	The subject intersection has been identified by external sources as an existing problem. Data from the SJTDM indicates that by 2025, extensive congestion and delays are anticipated due to inadequate capacity to accommodate the demand. The intersection is one of the four consecutive signals serving a 0.3 mile segment of CR 585.	Signal optimization and coordination with intersection geometric improvements. See also A-34.	Requires further evaluation.
A 36	SR 152 (Longport Somers Point Blvd.)	CR 635 (Bay Avenue) to CR 629 (Ventnor Avenue)		The subject segment has been identified as an existing problem by external sources. Data from the SJTDM indicates that by 2025, extensive congestion and delays are anticipated due to inadequate capacity to accommodate travel demand, in particular the section between the Ocean Drive signal (MP 2.2) to CR 629 (Ventnor Avenue) in Longport. The subject facility is a 2-lane urban principal arterial served by two traffic signals (at the Bay Avenue intersection and at the Ocean Drive intersection). The JFK Memorial Bridge is a bridge preservation project under the 5-Year Capital Plan.	Signal enhancement and geometric intersection improvements at the two signalized intersections would help to reduce travel delay.	Requires further evaluation.
A 43	CR 552	CR 557 (Tuckahoe Road) to US 40 (Harding Highway)		Moderate congestion and delays are anticipated by 2025, particularly between Estell Avenue (MP 22.9) and US 40 (MP 27.5). The subject segment is a 2-lane rural major collector with no signalization.	Signalization at selected major intersections should be considered when warranted by traffic demand.	Requires further evaluation.
A 44	CR 604 (English Creek Ave.) - CR 563 (Tilton Road)	US 40/322 to US 30		Extensive congestion and delays are anticipated by 2025, particularly on the section between MP 11.4 (CR 575-Wrangleboro Road) and MP 13.6 (US 30). The subject segment is a 2-lane rural minor arterial west of CR 575 with traffic signals at intersections with CR 575, US 30 and US 40/322.	Signal enhancement at the 3 major intersections with local improvements would help to reduce delays at these locations. See also recommendations for A-10, 29, and 30.	Requires further evaluation.

Cape May County - 2025 Problem Areas



Table 4-17 - Cape May County - Year 2025 Problem Areas							
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects	
CM 1	Garden State Parkway	SR 147 to Interchange 12S		This segment of the GSP had been identified as an existing problem by the SJTDM. High levels of congestion (V/C above 1.0) are expected in the northbound and southbound directions approaching Stone Harbor Blvd. Moderate levels of congestion (V/C between 0.8 and 1.0) are expected in the segment between Exit 6 (SR-147) and Exit 10 (Stone Harbor Blvd.)	NJHA has proposed a project for this problem area at Interchange 6 and SR 147. The improvements include new ramps to and from southbound GSP. Related to problem at CM 3.G4	Long range needs evaluated as part of GSP/Route 9 Corridor study	
CM 2	Garden State Parkway		Southern Terminus (SR 109)	This segment of the GSP has been identified by an external source as an existing problem related to seasonal travel fluctuation. South of intersection on Route 109, congestion is expected to increase in the future.	Requires further evaluation.	Long range needs evaluated as part of GSP/Route 9 Corridor study	
CM 3	Garden State Parkway		Exit 6N - North Wildwood Road (SR147)	This interchange has been identified by an external source as an existing problem. This interchange is also identified as an existing problem by the SJTDM. Moderate levels of congestion are expected in the northbound and southbound lanes, north of the intersection, and at the SB ramp to SR147. The SJTDM also suggests that the interchange will not be able to accommodate the movement from SB GSP to EB SR147 and from SB GSP to WB SR147, due to high levels of congestion.	NJHA has proposed improvement for this problem area at Interchange 6N and SR 147. The improvements include new ramps to and from the SB GSP. Related to problem at CM 3.	Long range needs evaluated as part of GSP/Route 9 Corridor study	
CM 4	Garden State Parkway		Traffic Signal at Shell Bay Avenue	High levels of congestion are expected in the NB GSP lanes north of the intersection. The SJTDM also suggests the interchange will not be able to accommodate the movement from NB GSP to WB Shell Bay Avenue. Moderate levels of congestion are expected south of the intersection on the GSP.	NJHA has proposed improvement for this problem area that includes GSP mainline grade separation at Shell Bay, Stone Harbor, and Crest Haven, as proposed by NJHA. See also CM 5 and 6.	Long range needs evaluated as part of GSP/Route 9 Corridor	
CM 5	Garden State Parkway		Traffic Signal at (CR 657) Stone Harbor Blvd.	High levels of congestion are expected in the NB GSP lanes south of the intersection, in the SB GSP lanes north of the intersection, and on Stone Harbor Boulevard between GSP and US-9 and WB Stone Harbor Boulevard east of GSP. The SJTDM suggests the interchange will not be able to accommodate the movements from the GSP to WB Stone Harbor Boulevard and movements from US-9 to the GSP on Stone Harbor Boulevard.	NJHA has proposed improvement for this problem area that includes GSP mainline grade separation at Shell Bay, Stone Harbor, and Crest Haven, as proposed by NJHA. See also CM 5 and 6.	Long range needs evaluated as part of GSP/Route 9 Corridor	
CM 6	Garden State Parkway		Traffic Signal at Crest Haven Road	Low levels of congestion at the intersection of the GSP and Crest Haven Road. High levels of congestion on SB GSP begin south of intersection as a result of backup at Exit 10 (Stone Harbor Boulevard)	NJHA has proposed improvement for this problem area that includes GSP mainline grade separation at Shell Bay, Stone Harbor, and Crest Haven, as proposed by NJHA. See also CM 5 and 6.	Long range needs evaluated as part of GSP/Route 9 Corridor	

Table 4-17 - Cape May County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
CM 7	Garden State Parkway		Exit 17N - Old Sea Isle Blvd. (CR625)	Moderate levels of congestion on the GSP, north of the intersection. The SJTDM suggests the interchange will not be able to accommodate the movements from SB GSP to EB and WB Old Sea Isle Blvd.	NJHA has proposed an improvement at Interchange 17 and Sea Isle Blvd. Improvements include new ramps to/from the south.	Long range needs evaluated as part of GSP/Route 9 Corridor
CM 41	Garden State Parkway	Exit 17N to Atlantic County Line		This segment of the GSP has been identified by the SJTDM as a future problem. Moderate levels of congestion are expected on the NB and SB GSP between Exit 17 (Old Sea Isle Boulevard) and Exit 20 (SR 50) and between Exit 25 (Roosevelt Boulevard) and the Atlantic County Line.	NJHA has proposed an improvement Project at Interchange 20 and Rte 50. Improvements include new ramps to/from the north. Related NJHA project at Interchange 17 should also provide benefit, see CM 7.	Long range needs evaluated as part of GSP/Route 9 Corridor
CM 8	SR 50	SR 49 to Garden State Parkway		High levels of congestion occur along SB SR50 between Dennisville-Petersburg Road and US-9 and between SR49 and Tuckahoe Road. Moderate levels of congestion along NB SR50 between Dennisville-Petersburg Road and US-9. SR50 is classified as a rural minor arterial from Tyler Road (MP 2.5) to Atlantic County Line and urban minor arterial from US-9 to MP 2.5. Two lanes in each direction with 3 traffic signals at SR-49, Tuckahoe Road, and Dennisville-Petersburg Road.	Intersection signal enhancement and coordination, geometric improvements at intersections, and addition of left-turn movement lanes.	Corridor-based evaluation of SR-50 should also be considered, possibly as part of the Rte. 55/47 study effort. NJHA has proposed a Regionally Significant Project at Interchange 20 and Rte 50, CM 10,41 that may impact this problem area.
CM 9	SR 50		CR 610 (Dennisville-Petersburg Road)	High levels of congestion occur on NB SR 50 before intersection and moderate levels of congestion occur beyond intersection. There are low levels of congestion on SB SR50 and on Dennisville-Petersburg Road.	Signal enhancement and coordination. Intersection geometric improvements.	Corridor-based evaluation of SR-50 should also be considered, possibly as part of the Rte. 55/47 study effort.
CM 10	SR 50		US 9	Moderate levels of congestion on SB SR50 before intersection, SB US-9 after intersection, and on the connector to SB GSP. There is a high level of congestion on the connector from NB GSP to US-9/NJ50.	Signal enhancement and intersection Geometric improvement.	Corridor-based evaluation of SR-50 should also be considered, possibly as part of the Rte. 55/47 study effort. NJHA has proposed a Regionally Significant Project at Interchange 20 and Rte 50, CM 10,41 that may impact this problem area.
CM 11	US 9	SR109 to Nummytown Road (ERMA)		Moderate levels of congestion exist on SB US-9 before intersection with SR-109. The road comprises two lanes between SR-109 (MP 3) and Bennetts Crossing (MP 4), then increases to four lanes - creating a physical bottleneck condition.	Increase from two-lane facility to four-lane facility along stretch of two-lane road should be considered.	Long range needs evaluated as part of GSP/Route 9 Corridor

Table 4-17 - Cape May County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
CM 18	US 9		CR 550 (Woodbine-Ocean View Rd), Sea Isle Boulevard	The intersection has been identified by the SJTDM as an existing problem. Unsignalized intersection. High levels of congestion on US-9 exist between Woodbine-Ocean View Road and Sea Isle Boulevard. GSP exit ramps at Sea Isle Boulevard contribute to congestion. Moderate congestion exists on SB US-9 approaching intersection. US-9 is a two-lane rural minor arterial along this section.	This section is under study and development by NJDOT as noted by the Shore Connection Committee.	Long term needs evaluated as part of the GSP/Route 9 Corridor. Parallel improvements on GSP at interchange 17N may effect this area.
CM 42	US 9	Nummytown Road (ERMA) to SR 47		This segment of US-9 has been identified by SJTDM as a future problem. There are high levels of congestion along NB US-9 approaching US-9/SR-47 interchange. US-9 is a four-lane rural minor arterial roadway along this section.	Signal enhancement and intersection geometric improvements. Signal coordination with other signals on SR-47	
CM 43	US 9	Stone Harbor Blvd. (CR657) to Atlantic County Line		This segment of US 9 has been identified by the SJTDM as a future problem. There are high levels of congestion along US-9 from GSP ramp at MP 15.1 to SR-50 and along NB US-9 between SR 50 and Roosevelt Boulevard. The segment is a two lane rural minor arterial in Dennis Twp. and a two-lane urban minor arterial in Upper Twp. It becomes Four-lane urban minor arterial at SR-50 interchange	Signal enhancement and coordination. Intersection geometric improvements.	Project on parallel GSP proposed by NJHA at Interchange 20 and Rte 50, see CM 41. Long term needs evaluated as part of the GSP/Route 9 Corridor.
CM 19	SR 47	Wildwood to GSP		Moderate congestion exists from New Jersey Avenue to Old Rio Grande Blvd. This particular segment of SR-47 is a four-lane rural principal arterial, except at Old Rio Grande Blvd, where it is two-lanes - creating a physical bottleneck condition. Seven traffic signals from MP 0 to MP 1, in Wildwood City.	Signal enhancement and coordination.	Requires further evaluation.
CM 20	SR 47	GSP to CR-654 (Fulling Mill Road)		Heavy congestion exists on WB SR-47 from GSP to US-9, and EB SR-47 from Fulling Mill Road to GSP. Segment of SR-47 is a two-lane, rural minor arterial, from GSP (MP 3.1) to SR-83 (MP 17.47). There are three traffic signals between GSP and Fulling Mill Road. The intersection with Fulling Mill Road is an unsignalized intersection.	A portion of this problem area, between the GSP and the Railroad, was included in the 2001-2003 TIP. Recommended improvements include widening and the addition of a center lane to address this problem area.	

Table 4-17 - Cape May County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
CM 27	CR 550 (Woodbine Ocean View Rd)	Washington Ave. (CR 557) to US 9		This segment of CR-550 has been identified by the SJTDM as an existing problem. High levels of congestion occur in the eastbound direction between Dennisville-Petersburg Road and Kings Highway. Moderate levels of congestion can be found in the westbound direction between Dennisville-Petersburg Road and Kings Highway and in the eastbound direction between Washington Avenue and Dennisville-Petersburg Road. The segment is classified as a two-lane, rural minor collector. One traffic signal exists at Corson's Tavern Road. The roadway primarily used as a short-cut between Dennisville and US-9.	Intersection geometric improvements.	Evaluate as integral part of Rte 55/47 travel corridor.
CM 28	SR 52	US9 (Somers Point) to Bay Avenue/CR 656 (Ocean City)		This segment of SR-52 has been identified by an outside source as an existing problem. Heavy congestion exists on EB SR-52 approaching intersection with Bay Ave. Moderate levels of congestion on Bay Avenue approaching intersection. SR-52 is the only thoroughfare between Somers Point and Ocean City.	A portion of this problem area, the Somers Point Circle, is identified in the 2001-2003 TIP improvements include constructing a circle cut-through and adding a through lane totaling 0.5 mile to address this problem. (See Atlantic County A33)	
CM 29	CR 623 (Roosevelt Blvd)	US9 (Somers Point) to Bay Avenue/CR 656 (Ocean City)		This segment of Roosevelt Boulevard has been identified by the SJTDM as an existing problem. Heavy congestion exists along this stretch of road from US-9 to Bay Avenue. The segment is classified as an urban principal arterial. It is a two-lane roadway across bridge, and becomes 3 to 4 lanes at intersections with US-9, GSP, and Bay Avenue - creating a physical bottleneck condition.	Signal coordination and intersection geometric improvements in segment between US-9 and GSP. Intersection geometric improvements at Bay Avenue.	NJHA has proposed improvement to nearby GSP. Benefit may apply to this problem area. See CM 41.
CM 30	CR 657 (Courthouse South Dennis Road)	SR 47 to Second Avenue (Stone Harbor)		This segment of SR-47 has been identified by the SJTDM as an existing problem. High levels of congestion exist in the westbound direction between Third Avenue in Stone Harbor and US-9. High levels of congestion occur in the eastbound direction approaching US-9. Moderate levels of congestion exist between SR-47 and Goshen Road. CR-657 is used as a main thoroughfare from SR-47 in Dennisville to Stone Harbor. The roadway segment is classified as a rural major collector. The road is two lanes except at the segment between GSP and US-9, where it is a four-lane roadway - creating a physical bottleneck condition. Seven traffic signals exist in stretch of roadway.	Requires further evaluation.	

Cumberland County - 2025 Problem Areas

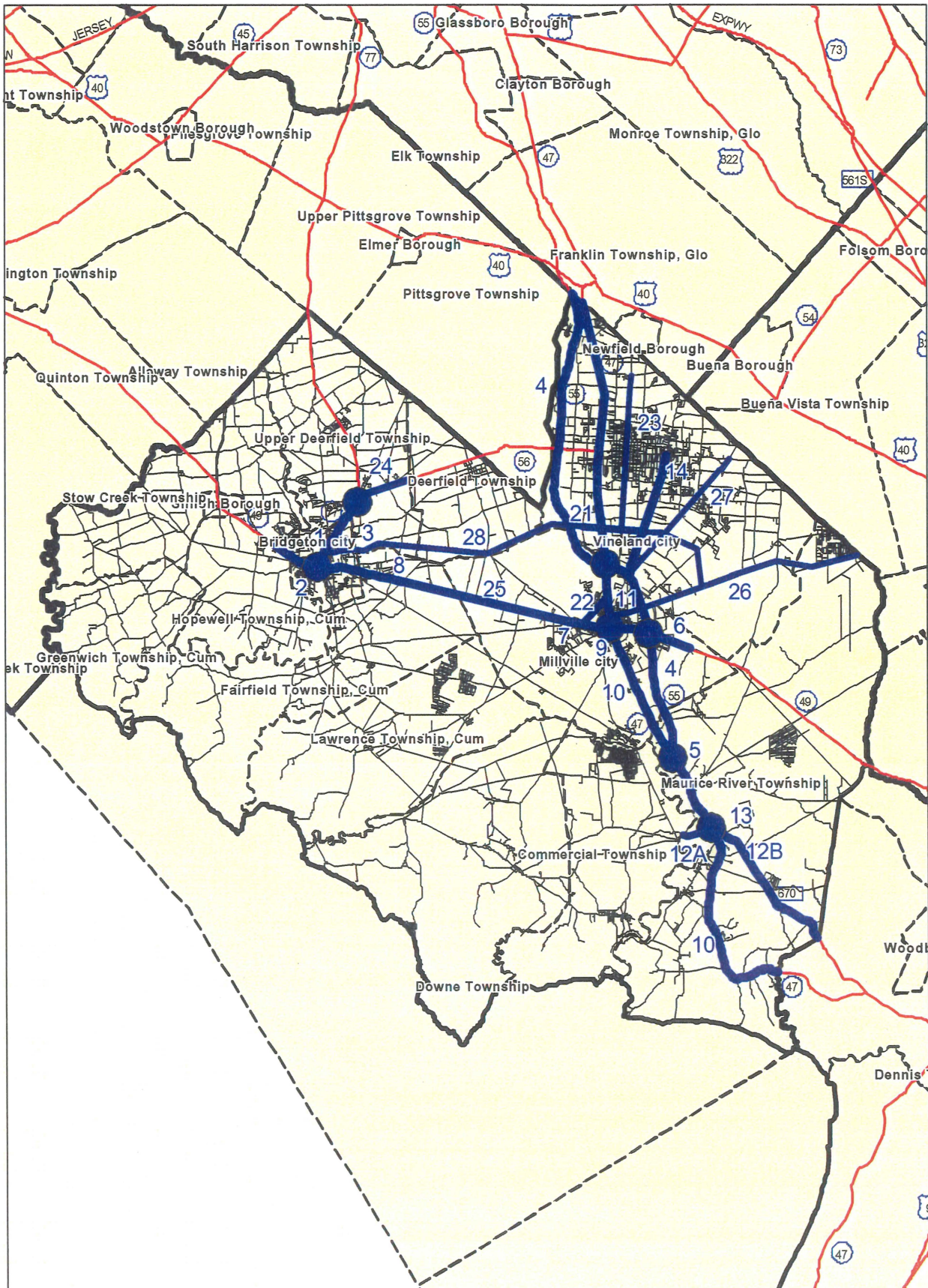


Table 4-18 - Cumberland County - Year 2025 Problem Areas

	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
CU 1	SR 77	SR 49 (Shiloh-Broad St. East) to SR 56 (Landis Ave)		The road segment is expected to operate at an over-capacity condition in 2025. Project is listed on the Statewide CMS Top-60 list for congestion. No planned improvement on the Five-Year Capital Plan.	Signal enhancement and coordination. Intersection geometric improvements. Related to CU2.	Roadway widening with intersection geometric improvements. Related to CU2.
CU 2	SR 77		SR 49 (Shiloh-Broad St. East)	Heavy approaching volumes on all intersection approaches cause extensive delays and congestion. Project is listed on the Statewide CMS Top-60 list for congestion. No planned improvement on the Five-Year Capital Plan.	Intersection widening with signal optimization and coordination. Provision for exclusive turning lanes on SR 49 approaches. Related to CU1.	Same as the Short Term. Related to CU1.
CU 4	SR 55	Southern Terminus at SR 47 to Gloucester County Line (during Summer months)		Heavily congested during the summer months, particularly for traffic to/from the Jersey shore areas. It is however, a network-based problem due to inadequate capacity on SR 47 (southeast of SR 55) to accommodate the seasonal demand.	Capacity improvement on SR 47 south of the Rte 55 terminus should be considered.	Evaluate as integral part of Rte 55/47 travel corridor.
CU 5A	SR 55		SR 47 (Delsea Drive) in Maurice River	Inadequate capacity on SR 47 affects the efficiency of the interchange, causing congestion and delays, in particular during the peak summer months.	Intersection improvements are under study and development by NJDOT as noted by the Shore Connection Committee.	Evaluate as integral part of Rte 55/47 travel corridor.
CU 6	SR 55		SR 49 (Cumberland Road)	Congestion and delays along SR 49 (section northwest of SR 55) have affected the overall operation of the interchange, particularly for vehicles traveling on the interchange ramps.	Intersection improvements are under study and development by NJDOT as noted by the Shore Connection Committee.	Evaluate as integral part of Rte 55/47 travel corridor.
CU 7	SR 49 (Shiloh-Broad St. East) Millville City	SR 55 to CR 608 (Carmel Road)		As the only major facility for east-west travel through Millville City, SR 49 will experience extensive congestion and delays because the demand far exceeds the available capacity. The subject segment is a 2-lane urban principal arterial served by numerous traffic signals in a downtown setting. The speed limit is between 25-35 mph in the majority of the roadway segment under study.	Localized intersection geometric improvements. Signal enhancement and coordination. Related to CU 9.	Evaluate as integral part of Rte 55/47 travel corridor.
CU 8	SR 49 (Shiloh-Broad St. East) Bridgeton City	CR 553 (Gouldtown-Woodruff Road) to CR 621 (West Park Road)		The subject segment of SR 49 is expected to be heavily utilized by east-west travel. Extensive congestion and delays are expected, particularly on the Bridgeton City segment. The majority of the segment is 2 lanes in both directions with a 40 mph speed limit, with the exception of the section between CR 603 (West Ave.) and SR77 where the speed limit is 30 mph on a 4-lane cross section served by 5 traffic signals.	Signal optimization and coordination with selected localized geometric improvements.	Requires further evaluation.

Table 4-18 - Cumberland County - Year 2025 Problem Areas								
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects		
CU 9	SR 49 (Shiloh-Broad St. East) Millville City		SR 47 (Delsea Drive)	This intersection, located in the heart of Millville City, experiences extensive congestion. High volumes and inadequate capacity on SR 49 further affect the operation of the intersection.	Localized intersection geometric improvements. Signal enhancement and coordination. Related to CU 7.	Requires further evaluation.		
CU 10	SR 47	Cape May County Line to SR 49		Congestion and delays are present on this portion of SR 47, especially the segment between SR 347 (MP 31.6) and SR 55 (MP34.9) where future demand is expected to exceed the capacity of a 2-lane facility. The situation worsens during the summer season and holidays.	Improvements on SR 47 / SR 347 through signal enhancement and geometric improvements throughout this roadway segment.	Evaluate as integral part of Rte 55/47 travel corridor.		
CU 11	SR 47	SR 49 to SR 55		Extensive congestion and delays are anticipated on this portion of SR 47, which is classified as a 2-lane urban minor arterial and served by 5 traffic signals.	SR 47 between Sharp Street and Sherman Street, which encompasses a portion of this problem area, is included in the 2001-2003 TIP. Recommended improvements include operational/safety improvements, turn lanes, and the addition of a through lane for 0.7 mile to address this problem area.			
CU 12a	CR 670	SR47 to CR 649 Mauricetown Bypass.		This segment also includes the section of CR 670 (Station Road) from SR 47 to Buckshutem Road. The segment, which is classified as a 2-lane rural principal arterial, is anticipated to experience congestion and delays mainly due to the intersection of SR 47 with SR 347.	It is anticipated that the operational conditions of this intersection would be impacted by any improvements at the SR 47/SR 347 intersection. As such, this location would require further evaluation.			
CU 12b	SR 347	Hunters Mill Road to SR 47		refer to CU12a	refer to CU12a			
CU 13	SR 347		SR 47 (Delsea Drive)	This intersection is expected to experience congestion and delays due to heavy demand on the approaches. There is no improvement planned under the 5-Year Capital Plan at this location.	Intersection improvements are under study and development by NJDOT as noted by the Shore Connection Committee.	Evaluate as integral part of Rte 55/47 travel corridor.		
CU 14	CR 555 (Main Road) Vineland City	SR 55 to CR 540 (E. Landis Ave)		Congestion and delays have been observed on this segment, which is classified as a 2-lane urban minor arterial and served by 5 traffic signals. Problematic intersection include Rte 555 w/Rte 655.	Signal enhancement and coordination together with localized geometric improvements at intersections. Investigate need for left turn-turn lane.	Requires further evaluation.		
CU 21	CR 552 (Sherman Avenue)	CR 655 (S Lincoln Avenue) to CR 628 (S Orchard Road)		This subject segment of CR 552 in Vineland City is classified as a 2-lane urban minor arterial and is served by 5 traffic signals. Congestion and delays are anticipated mainly due to flow interruption from these signals.	Traffic signal optimization and coordination. Local geometric improvements when needed.	Requires further evaluation.		

Salem County - 2025 Problem Areas

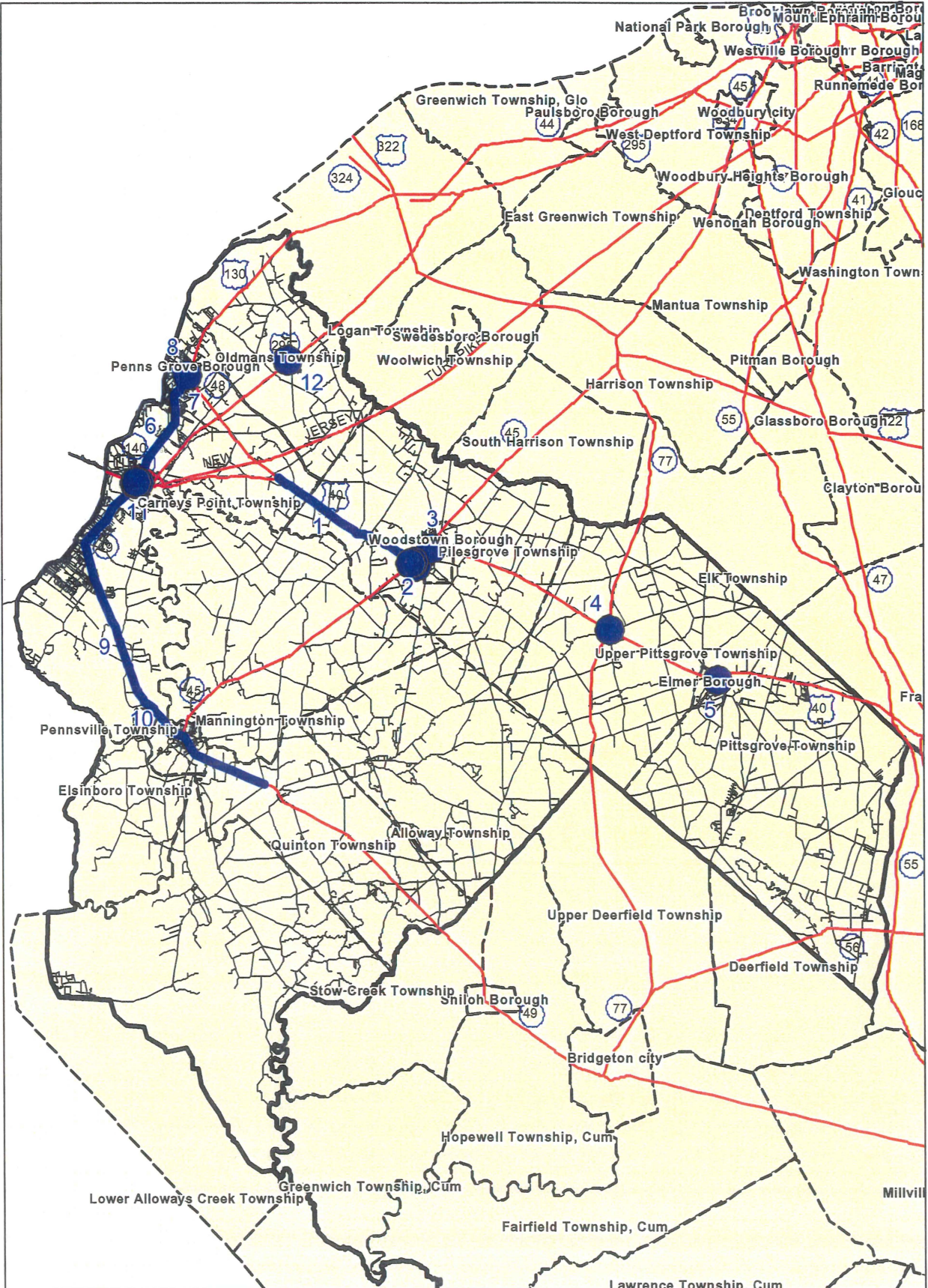
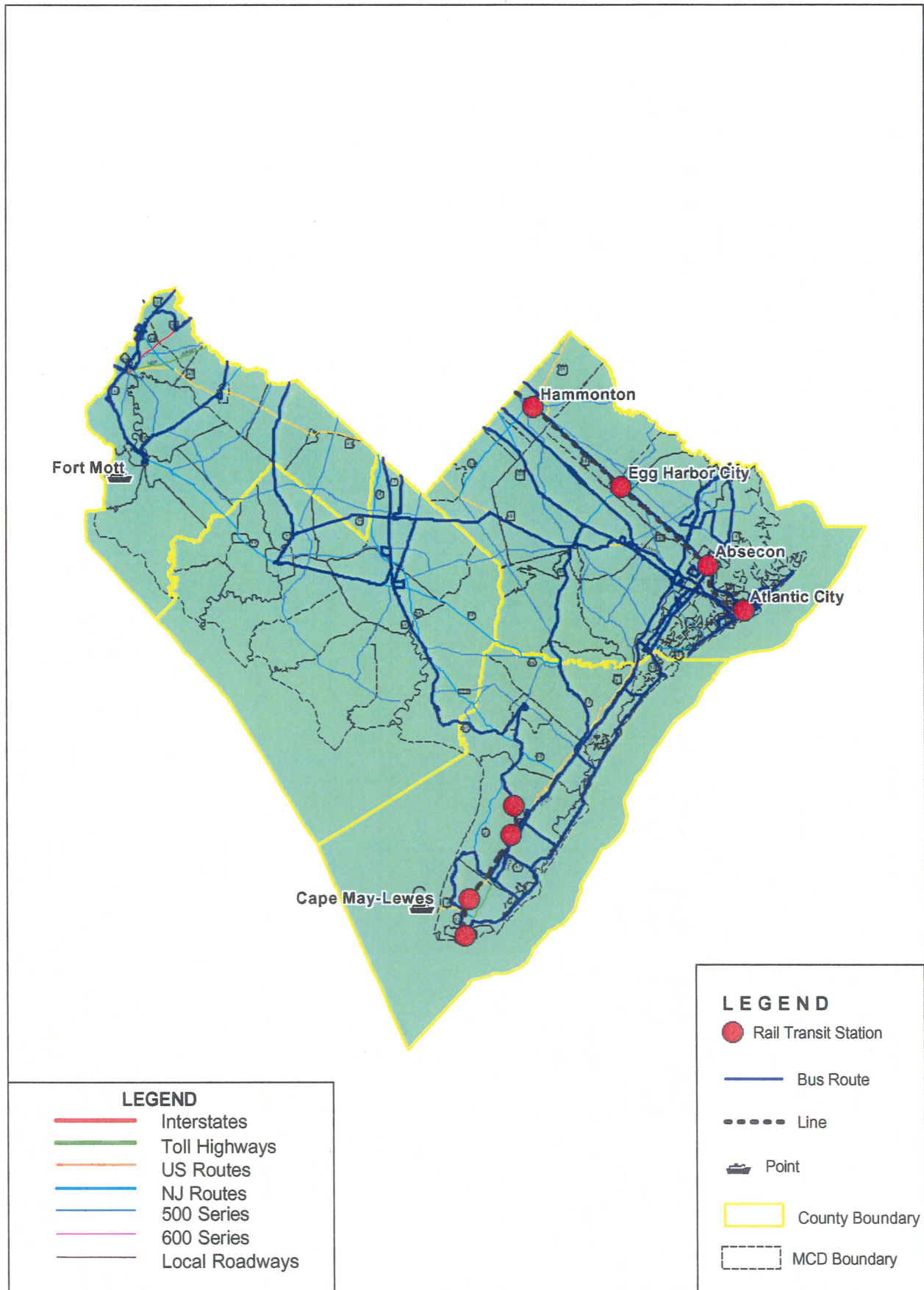


Table 4-19 - Salem County - Year 2025 Problem Areas						
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
S 1	US 40	SR 48 (Harding Highway) to SR 45 (Woodstown)		This section of US 40 is classified as a 2-lane rural principal arterial with a speed limit that ranges from 40-50 mph. There are 3 traffic signals within this segment and over-capacity is anticipated in particular on segments between SR 48 (MP 5.6) and CR 646 (MP 6.3) and between CR 620 (MP 8.4) and SR 45 (MP 10.0). There is no planned improvement on the 5-year Capital Plan for this segment of roadway.	Signal enhancement and intersection geometric improvements. Capacity increases at the signalized intersections along the corridor would help to improve overall traffic flow of the mainline.	Need to study East-West traffic from a corridor-wide perspective.
S 2	US 40		SR 45 / CR 616 (Bailey Street)	Over-capacity is anticipated at this intersection particularly for the eastbound approach due to heavy left-turn demand. No planned improvement on the 5-year Capital Plan for this location.	Traffic signal enhancement and geometrical widening to make provision for left-turn lanes. Related to S-1 problem area, should be addressed as a single project.	Need to study East-West traffic from a corridor-wide perspective.
S 3	US 40		SR 45 / Main Street (Woodstown)	Over-capacity is anticipated at this intersection, particularly for the westbound approach due to heavy left-turn demand. There is no planned improvement on the 5-year Capital Plan for this location.	Traffic signal enhancement and geometrical widening to make provision for left-turn lanes. Related to S-1 problem area, should be addressed as a single project.	Need to study East-West traffic from a corridor-wide perspective.
S 4	US 40		SR 77 (Upper Pittsgrove)	This multi-leg intersection (MP 16.5) was identified as a problem area by a source external to the South Jersey transportation model. The type and extent of the problem needs to be further investigated in order to properly identify the true cause (s) and appropriate solution (s).	Requires further evaluation.	Need to study East-West traffic from a corridor-wide perspective.
S 5	US 40		CR 648 (Main Street- Elmer)	This intersection located at MP 20.0 was identified by an external source as problem area. It is not indicated by SJTDM as capacity deficient location. Further investigation is needed to clarify the type and extent of the problem.	Requires further evaluation.	Need to study East-West traffic from a corridor-wide perspective.
S 6	US 130	SR 48 to Delaware Memorial Bridge		This segment between MP 0.0 and MP 3.7 was identified by external sources as a problem area. It is not indicated by the SJTDM as a capacity deficient location. Further investigation is needed to clarify the type and extent of the problem.	Requires further evaluation. However, NJDOT's Desired Typical Section (DTS) classifies this segment as 4-lane undivided facility.	
S 7	US 130		SR 48	This intersection at MP 3.7 was identified by external sources as problem area. It is not indicated by SJTDM as a capacity deficient location. Further investigation is needed to clarify the type and extent of the problem.	Related to S-6.	Related to S-6.

Table 4-19 - Salem County - Year 2025 Problem Areas						
	Roadway	Deficient Roadway Segment	Deficient Intersection	General Problem Description	Short Term Prospects	Long Term Prospects
S 8	Main Street @ Penns Grove	US 130 to CR 607 (Broad Street @ Penns Grove)		This segment of Main Street was identified by external sources as a problem area. It is not indicated by SJTDM as capacity deficient location. Further investigation is needed to clarify the type and extent of the problem.	Requires further evaluation.	
S 9	SR 49	I-295/US40 to SR 45 (Salem City)	SR 49 & US 40 overpass, Hook Road	This segment between MP 0.0 and MP 9.1 was identified by external sources as a problem area. Also identified is the interchange area of SR 49, US 40, and Hook Road. However, the segment from MP 0.0 to MP 5.4 (CR 551) is not indicated by SJTDM as a capacity deficient location. Further investigation is needed to clarify the type and extent of the problem on this specific segment.	Requires further evaluation. However, NJDOT's Desired Typical Section (DTS) classifies this segment as 4-lane undivided facility.	
S 10	SR 49	CR 551 (Hook Road) to SR 45 (Salem City)		Extensive congestion and delays are anticipated, especially on the segment approaching Salem City. The facility is classified as a 2-lane rural principal arterial with speed limits of between 50 mph and 30 mph as the roadway enters Salem City. There is no congestion relief measure planned under the 5-Year Capital Plan except for state of good repair (240A) at a segment just west of SR 45.	Signal enhancement and geometric improvement (if warranted) at intersections located in Salem City east of Salem River. Improving the operation of these intersections would improve the overall traffic flow of the corridor.	Evaluate need to pp-grade the subject segment to a 4-lane undivided facility as specified under NJDOT's DTS standard.H8
S 11	New Jersey Turnpike		I-295 / US 40 / US 130 Interchange	This interchange was identified by an external source as a problem area. It is not indicated by the SJTDM as a capacity deficient location. Further investigation is needed to clarify the type and extent of the problem.	Two Regionally Significant Projects proposed by NJTA for this problem area. Recommended improvements for New Jersey Turnpike between Exits 1 and 4 include widening the roadway in this area. A second NJTA project involves relocation and additional toll plaza capacity.	
S 12	I-295 Interchange 7		I-295 Interchange 7 ramps at Straughens Mill Road (CR 643)	The widening of these ramps has been recommended by County Economic Development. The County plans to construct a Business Park adjacent to this location. The improvement would facilitate the safe movement of truck traffic at the interchange.	Needs further evaluation.	Needs further evaluation.

Figure 4-27: SJTPO Transit Services



The sections below provide a description of the various transit-services operating in the SJTPO Region.

Passenger Rail Service

Atlantic City Rail Line

NJ Transit offers commuter rail services between 30th Street Station in Philadelphia to the Atlantic City Rail Terminal seven days a week on its Atlantic City Rail Line (ACRL). An ACRL ridership summary by station (for a typical weekday) is provided in Table 4-21.

Table 4-21 - Weekday Average Boardings, Atlantic City Rail Line

From Station	Totals
Philadelphia	303
Cherry Hill	115
Lindenwold	549
Atco	131
Hammonton	161
Egg Harbor	154
Absecon	156
Atlantic City	1,031
Total	2,600

Source: NJ Transit, August 2000.

Table 4-22 below shows ACRL annual ridership statistics for fiscal years 1990 through 1999. Steady ridership growth has occurred on the line. AMTRAK previously provided rail service in addition to NJ Transit, on the ACRL, but service was discontinued in April 1995.

Table 4-22 - ACRL Ridership Statistics (figures in 000s)

Fiscal Year	Annual Ridership
1990	188.4
1991	525.2
1992	589.3
1993	689.0
1994	801.7
1995	853.6
1996	909.5
1997	936.0
1998	1,011.9
1999	998.2

Source: NJ Transit, August 2000.

The Cape May Seashore Line

Through a lease agreement with NJ Transit, The Cape May Seashore Line (CMSL) operates passenger rail service on segments of the 27-mile long rail line between Tuckahoe and Cape May City. The service is seasonal and the rail line focuses on the recreational/tourism market. Currently rail service is only provided between the County 4-H Fairgrounds and Cape May City.

The Five-Mile Beach Electric Railway Company

The Five-Mile Beach Electric Railway Company operates several trolleys and "community-based services" in Cape May County. Service is provided to downtown Wildwood, North Wildwood/Wildwood Crest, North Wildwood/Cape May, Wildwood/Rio Grande/Cape May Court House, and Ocean City/Cape May Court House/Rio Grande weekdays year round. However, some trips are only made once or twice a

day, and the Wildwood/Rio Grande/Cape May Court House service is only offered three trips per week. During the summer only, the service to Wildwood Crest/North Wildwood operates seven days a week with many trips per day.

Passenger Bus Service

Local and Intrastate Bus Service

NJ Transit provides a variety of local and intrastate bus routes within the SJTPO region, as listed in Table 4-23. The table also lists the average number of weekday passenger trips.

Table 4-23 - NJ Transit's Intrastate and Local Bus Services

Route Number	Description	Weekday Passenger Trips
468*	Penns Grove-Woodstown:	700
501	Brigantine: local service	1,179
502	Pleasantville: local service	2,767
504	Bungalow Park-Ventnor Plaza: local service	800
505	Longport-Margate-Atlantic City: local service	5,057
507	Ocean City-Atlantic City:	2,901
508	Pleasantville-Absecon: local service	1,810
509	Somers Point-Atlantic City: local service	1,106
552	Atlantic City-Cape May	1,885
553	Upper Deerfield-Bridgeton-Atlantic City:	3,774
554	Atlantic City-Lindenwold:	2,398
559	Atlantic City-Lakewood:	2,239

Note: *Operated by Salem County Transit under contract with NJ Transit Corporation.

Source: NJ Transit Corporation, August 2000.

In addition to NJ Transit's local bus service, other operators also provide local bus service. In Atlantic City, mobility is further fostered by the Atlantic City Jitneys, providing service along four primary routes. Service is operated 24 hours a day, 365 days a year. Total ridership is estimated at 8 million passenger trips a year. NJ Transit has recently acquired a new fleet of jitneys, which the agency is leasing to the drivers. These new vehicles are accessible to passengers with disabilities.

Additional shuttle bus services are also operated in the region. Adventure Trails, a private carrier, offers bus service from the Atlantic City International Airport to casinos within Atlantic City. Adventure Trails also operates a casino employee shuttle service from the intercept lot on the Atlantic City Expressway to and from Atlantic City. Shoreline Express Tours runs a non-casino hotel/motel shuttle. Shoreline operates scheduled and on-demand shuttles along the White Horse Pike (US Route 30) and the Black Horse Pike (US Route 40) to major chain motels and hotels.

The Delaware River and Bay Authority (DRBA) also provides, via subcontract, bus shuttles from the Cape May Ferry Terminal to the Cape May Bus Terminal. All shuttle bus service is scheduled to coincide with the arrival and departure of the ferry. The shuttle travels along Ferry Road via Seashore Road to the Cape May City Transportation Depot. The shuttle operates with weekend service only from April to mid-June and from mid-October through November. During the summer tourist season it operates daily. Fares are \$1.00 for the shuttle.

A private operator provides bus shuttle services in the city of Cape May called Cape Area Transit (CAT) Shuttle System. This service operates on Fridays and weekends in the late spring and early fall, while service is provided seven days a week during the summer. Fares are \$1.00 for a trip and a daily pass is available for \$4.00.

Recently, DRBA began ferry service at Fort Mott State Park, in Salem County. The DRBA operates a "three fort ferry crossing" linking Fort Dupont in Delaware City, Delaware to Fort Delaware on Pea Patch Island to Fort Mott.

Park-n-Ride Facilities

There are a number of park-and-ride facilities in the SJTPO region, both state-owned and joint-use facilities. Some park-and-rides offer connections to transit services, such as bus or rail, while others are available for carpooling/vanpooling only.

Table 4-25 provides a description of the official park-and-rides available in the SJTPO region.

Table 4-25 - Park-and-Ride Locations in the SJTPO Region

County	Location	Town
Atlantic	Atlantic City Expressway – Employee Intercept Lot – MP 2.0	Pleasantville
Atlantic	Atlantic City Service Area – Garden State Parkway – MP41.2 at Jimmy Leeds Rd	Galloway Twp.
Atlantic	Hammonton Park-Ride – Intersection of US30 and Rt54.	Hammonton
Atlantic	Farley Plaza, Atlantic City Expressway – MP23.0 at Admin. Bldg.	Hammonton
Atlantic	Hamilton Mall – US40-Intesection of US40 and 322	Hamilton Twp.
Atlantic	Hammonton Train Station – Rt.54 (Bellevue Ave. & Front St)	Hammonton
Atlantic	Egg Harbor Train Station	Egg Harbor City
Atlantic	Absecon Train Station	Absecon
Cape May	Elmira and Lafayette Streets, CR663	Cape May City
Cape May	Rio Grande (Conrail Station)	Middle Twp.
Cape May	Jamesway Shopping Center, CR657	Cape May Courthouse
Cape May	Wildwood Transportation Center, Oak St/Train Station	Wildwood City
Cape May	Wildwood Shuttle Bus, CR621, NJ Ave. & Burke St.	Wildwood City
Cape May	Garden State Parkway, MP25.0 (Exit 25)	Upper Twp.
Cape May	Ocean City Transportation Center, 10 th & Haven St.	Ocean City
Cape May	Seaville Service Area-Garden State Parkway MP 18.0	Oceanville
Cumberland	Urban Center, CR540 (Landis Ave. & SW Blvd)	Vineland
Cumberland	Jamesway Shopping Center, CR540 (Landis Ave)	Vineland
Cumberland	Carl's Corner, Rt.56 (Rt.77 & Landis Ave)	Upper Deerfield
Cumberland	Cumberland County Tourism Center, Rt. 49, MP25.0 (West Broad St. & Rt.77)	Bridgeton
Salem	Pennsville Shopping Center, Rt.49, MP1.0 (Rt.49 & South Rd.)	Pennsville

Source: New Jersey Department of Transportation, February 2000

Ridesharing/Alternative Commutation Services

There is no Transportation Management Association (TMA) in Atlantic, Cape May, Cumberland or Salem Counties. TMAs are non-profit member corporations that coordinate local commuter transportation services, including but not limited to, public transportation, vanpools, carpools, bicycling, and pedestrian modes, as well as trip reduction strategies such as alternative work schedules and teleworking; and provide other similar services for New Jersey businesses, employees, developers, individuals and other groups. However, because there is some demand for ridesharing, NJDOT has provided the Cross County Transportation Management Association limited funding to provide rideshare matching in southern New Jersey. The TMA is available to assist any resident, business or local government agency in southern New Jersey with their rideshare or their other transportation needs. The TMA, which operates primarily in Camden and Burlington Counties, keeps potential carpool participants on file for possible matching.

veterans (for medical services), and all rural residents. Service is generally available Monday through Friday, from 8:30 a.m. to 3:00 p.m., and a fifty-cent donation is encouraged. Another rural transportation provider is the *County of Atlantic Rural Transportation System (CARTS)*. CARTS serve residents west of the Garden State Parkway, with no limits on trip purpose.

The City of Atlantic City also provides a fixed route and demand responsive service for city residents, five days a week from 8:30 a.m. to 4:30 a.m. with some weekend service available. Passengers must request the demand responsive service 14 days in advance. Also serving city residents on a demand responsive basis is the *Margate Senior Center*, the *Brigantine Senior Center*, the *Atlantic County Special Services School District*, and the City of Ventnor. All of these public providers serve elderly or disabled residents, with some advance reservations required.

Several private demand responsive services also exist in Atlantic County. Serving disabled residents is the *Arc of Atlantic County*, *Career Opportunity Development Inc.*, *Caring Inc.*, and *Family Service Association*. Transportation sponsored by these organizations is generally operated on a client need basis. Other private organizations/agencies that provide service for their clients, medical trips, and Medicaid transportation are the *AtlantiCare Behavioral Health Division/ System*, *Kessler Memorial Hospital*, *Physician's Choice*, *American Medical Response*, *Senior Transportation*, *Van Go Transport*, and *Atlantic County Transportation*.

Cape May County

Similar to Atlantic County, there are also a number of private, demand responsive service providers in Cape May County. The Cape May County Department of Transportation operates a demand responsive, subscription and contract services known as *Fare Free Transportation*. Service operates Monday through Friday from 6:45 a.m. to 7:00 p.m. The system does not charge a fare and donations are not requested. The County provides service for seniors and persons with disabilities throughout Cape May County. Services include transportation to medical appointments (including trips to Atlantic County and Philadelphia), shopping services for those unable to use regular services, recreational trips for nursing home patients, and transportation to art classes for people with disabilities.

In addition to the above, the *Cape May County Board of Social Services*, *Cape May County Youth Services*, *Cape May County Special Services School District* and the *Wildwood Housing Authority* are also public providers of demand responsive client transportation.

Private organizations also offer demand responsive services for their clients in Cape May County for various trip purposes. The following agencies provide this service: *The Puerto Rican Action Committee*, *The Spanish Community Center*, *Cape Counseling Services*, the *Disabilities Resource Center Inc.*, *Easter Seals Adult Training Center*, *Easter Seals Adult Training Center*, *Magnolia Adult Medical Day Care*, and the *American Cancer Society*.

Cumberland County

The primary provider of specialized transportation services for seniors and disabled persons in Cumberland County is the *Cumberland County Office on Aging* through a service known as CATS (*Cumberland Area Transit Services*). CATS are operated weekdays, from 8:00 a.m. to 4:00 p.m. Reservations for demand-responsive service must be made 48 hours in advance.

Limited, fixed-route service is available to the general public to the Cumberland Mall from different parts of Cumberland County, and a reservation is required. One round trip is operated on each route with service available on selected weekdays, and 48 hours advance reservations are required.

Additionally, the *Cumberland County Board of Social Services*, the *Cumberland County Office of Employment and Training*, and the *Cumberland County Technical Evaluation Center* provide transportation services to their clients. Like many of the other counties, there are also a number of private providers of paratransit services, typically non-profits and hospitals that provide services for their clients in Cumberland County.

bus routes was performed in a study conducted by the SJTA, entitled, Regional Park and Ride Plan. Based on the congestion data received on traveled corridors for both park-n-ride locations and existing bus service in the SJTPO region, several corridors were identified as having potential for new park-n-rides or improvements to existing ones. Those corridors were NJ Routes 40, 41, 42, 47, 49, 50, 54, 73, and 168. Furthermore, several state roads were identified, such as the Atlantic City Expressway, Garden State Parkway, and US Routes 9 and 30.

Additional Needs Derived from Transportation-Economic issues

Based on the Transportation-Economic issues discussed in Chapter Three, the following additional needs have been identified:

Unmet transit need in rural areas – Unmet transit needs have been identified in Pittsgrove Township (Salem County) and a number of Cumberland County municipalities. County representatives would like to see service between Salem City and Bridgeton, with possible extensions into Atlantic City. Additional locations where transit is needed have been documented through the Work First profiles. Many of these transit service needs could be candidates for Job Access/Reverse Commute (JARC) grants or NJ Transit's Community Shuttle grants.

Increased transit dependency among casino workers - An increasing number of casino workers are recent immigrants to the United States who tend to rely on public transportation.

Job Access/Reverse Commute and Community Transportation Plans

NJ Transit is in the process of updating a major planning study to develop plans for more coordinated and integrated local and regional transportation services in each county of the State of New Jersey. Community Transportation/ Mobility Plans were first prepared in 1998 for the New Jersey Department of Transportation, New Jersey Department of Human Services, and NJ Transit, and were organized as a part of the Statewide County and Community Transportation Planning Project. Each county was asked to complete the following tasks with the assistance of consultants:

- Establish a Steering Committee to identify planning goals, objectives, options, and barriers.
- Catalog all existing transportation services, including major origins and destinations.
- Identify Work First and transit dependent populations.
- Identify service gaps and unmet needs.
- Develop alternatives to meet demand.

These county-by-county studies represent an opportunity to provide improved transportation services that meet employment needs and enhance mobility for residents of each county, as well as addressing the emerging transportation needs created by the Work First New Jersey welfare reform initiative. Accordingly, the studies offer an opportunity to improve and better coordinate the specialized services operating in the region.

Transit Needs by County***Atlantic County – General Transit Needs***

Most of the transit service in Atlantic County is oriented around the special transportation needs of Atlantic City, and many bus routes operate around the clock – 24 hours a day, seven days a week. Frequency tends to be limited, as many routes only operate once an hour, although Atlantic City-based jitneys do operate more frequently. This is in contrast to many of the rural sections of the county that receive little or no transit service. Many of the transit service needs identified in this section and the following section, especially in low-density areas, could be candidates for JARC grants or NJ Transit's Community Shuttle grants.

Additional recommendations have been made by several organizations regarding transit in Atlantic County. In June of 1998, The Delaware Valley Association of Railroad Passengers prepared a presentation for the proposed Ocean City-Atlantic City Rail Line Bus Service. The organization stated that improved public transportation would provide commutation options for those employed in the Philadelphia Metro Region. There are currently a large percentage of seasonal residents coming from the Philadelphia metro region, and current transit service in between Philadelphia and Ocean City is extremely limited. This proposed route would further enhance the attractiveness of Ocean City to those employed in the Philadelphia metro region, and reduce vehicle miles traveled, pollution, and increase safety on the roads connecting the two cities.¹⁶

NJ Transit has also identified transit projects requiring further study. Two of those projects pass through Atlantic County: the Atlantic City Expressway Bus Priority project, and the Atlantic City Linwood Rail project; they are listed on NJ Transit's 2020 Transit Map. The Atlantic City Expressway Bus Priority project was identified as a study action in the 1995 SJTPO Plan.

New Jersey's Urban Transportation Supplement has also recommended several strategies for improving the transit system in Atlantic County. Several roadways need congestion mitigation, such as the Garden State Parkway from northern Cape May to the Atlantic City interchange. Easing congestion on regional highways improves the performance of bus service. Suggestions made in the Urban Supplement include linking the residents who live north of Route 40/322 with the jobs in the southern section of the Black Horse Pike. Also, coordinating the start times of casino shifts with the schedules of the Jitneys that run from the Atlantic City Rail Terminal. Finally, providing additional transit information to perspective travelers, perhaps by providing a South Jersey Transit System map. Final suggestions for bus service needs include providing early morning service on Route #319 to accommodate seasonal workers, rationalizing service times with shift schedules, and adding service on Route #553 which experiences overcrowding on some trips.

Atlantic County – Specialized Transit and Community Transportation Plan Needs

Approximately one in three Atlantic County residents work in Atlantic City, making the casino hotels the largest employers in the county. Atlantic County has the highest percentage (88 percent) of intra-county commuting in the state. Furthermore, it is estimated that 73 percent of the jobs in Atlantic County are located within a quarter mile of a fixed bus route,⁷ and 56 percent of employers are also located within a quarter mile of a fixed bus route. As expected, a large percentage of Work First New Jersey (WFNJ) individuals work in Atlantic City for the casino industry.

However, even though there is extensive transit service coverage east of the Garden State Parkway, where most of the employment opportunities are located, it does not guarantee access to job opportunities, especially for welfare clients. Hours of operation for the casinos are 24 hours a day and seven days a week. Most new employees have a good chance of working the night and weekend shifts, when transit service is not as readily available. Jitney service is available, and a few bus routes do accommodate the non-traditional work hours of the casinos. However, jitneys do not accept NJ Transit passes or vouchers.

Several transportation improvement options were proposed by the Steering Committee overseeing the development of the Community Transportation Plan. One recommendation was for employers, who are not well served by transit (due to geography or schedules), to develop vanpool services. Developing vanpool services would potentially improve transportation for employees with a lack of transportation alternatives. It could benefit WFNJ clients, transit dependent individuals, and drivers of single occupancy vehicles. Candidates of the vanpool service program could include the Atlantic City casinos, Kessler Memorial Hospital, Atlantic Community College, and Hamilton Mall/ Consumer's Square. Many WFNJ clients must also cope with child-care transportation issues. Accordingly, the Steering Committee recommended developing a pilot program, specifically devised to address the transportation needs of WFNJ clients making child care trips. This recommendation could provide on-demand services for

¹⁶ The Delaware Valley Association of Railroad Passengers, *Proposed Ocean City-Atlantic City Rail Line Bus Service*, June 1998.

Intergenerational Services indicated problems when trying to meet the needs of their young clients, traveling to Philadelphia Children's Hospital in Voorhees. Finally, the Atlantic City Medical Center suggested that clients are missing appointments due to the lack of convenient transportation. Specifically, they cited the need for transit service from Pleasantville and Egg Harbor Township to the Mainland Division of the Medical Center in Pomona.

Cape May County- General Transit Needs

NJ Transit operates limited fixed-route service in Cape May County – only seven routes operate in the county. However, most of the service is oriented toward Philadelphia, Atlantic City or New York, and provides little in the way of local circulation. Consequently, many parts of Cape May County receive little or no NJ Transit service. Most of the rural parts of the county are completely unserved. Many of the transit service needs identified in this section and the following section, could be candidates for JARC grants or NJ Transit's Community Shuttle grants.

Rail service, albeit limited service, has returned to Cape May County. The Cape May Seashore Line offers service between the county 4-H Fairgrounds and Cape May City. Service is planned to Tuckahoe and eventually the service could link by rail Atlantic City to Cape May City. The current rail service is very limited with four round trips daily between 11:00 a.m. and 5:00 p.m. weekdays and weekends. As such, the service does not serve the commute to work market but instead, is oriented toward the recreational travel/tourist market. Because of the importance of tourism to both Cape May and Atlantic Counties, it is important for the region to support efforts by the Cape May Seashore Line to secure funding for rehabilitation of the railroad and to ensure that the right of way and track are preserved between Tuckahoe and the Atlantic City Rail Line connection.

A study conducted by the SJTA entitled the *Cape May Intermodal Ground Transportation Study* focused on exploring transportation management strategies, which could potentially alleviate traffic congestion into the City of Cape May and surrounding townships.⁸ Of the transit strategies tested in the study, the only proposed transit service recommended for implementation was a local "downtowner" route circulating through the City of Cape May. The route was found to be the most cost effective, provides a service that does not currently exist, and has a large target market of potential users. It was also found to complement the rail service and will provide residents and visitors mobility throughout the City of Cape May for shopping, dining, transportation to the beach and to lodging. Also the report states that this service has the potential for decreasing the number of vehicles traversing the city if used by visitors and residents alike. As a result of this study, the Cape Area Transit (CAT) shuttle system was instituted.

Cape May County - Specialized Transit and Community Transportation Plan Needs

According to the *Community Transportation Plan for Cape May County 1998*, approximately 71 percent of Cape May workers commute to jobs within the county. The most significant reverse commute destination is Atlantic County, with over 20 percent of working residents. Due to the high percentage of intra-county commuting, and the remainder commuting to Atlantic County, commuting trips in general for residents of Cape May County are rather short. Within Cape May County, employment is concentrated in Ocean City, Wildwood, Cape May, North Cape May, Stone Harbor, Rio Grande, and Cape May Court House. Seasonal employment is not included in these identified concentrations.

Similar to Atlantic County, the Cape May County Steering Committee also recommended that major employment centers/ employers establish vanpool services. Vanpool services would certainly advance transportation alternatives for employees, including WFNJ clients, single occupancy vehicles, and transit dependent individuals. Potential candidate areas include the Route 9 corridor between Cape May Court House and Ocean View, which has numerous health-care services, the Crest Haven Complex, and Woodbine, where the Developmental Center is positioned. To improve job access for WFNJ clients, the committee recommended three dial-a-ride service areas to develop additional capacity for existing demand responsive services. Design of this proposal would allow for connections between demand-responsive services and scheduled services, particularly assisting WFNJ clients that currently make child care trips. Also recommended for both Atlantic and Cape May Counties was the extension of the transitional period of reimbursement related to the "Get a Job, Get a Ride Program." Throughout the

Center and several other private demand responsive services identified clients experiencing difficulties in reaching evening support groups and meetings.

Cumberland County – General Transit Needs

Most of the population characteristics in Cumberland County reveal a dual character that distinguishes the urban centers of Bridgeton, Millville, and Vineland from the other less densely developed areas. A study conducted for the Cumberland County Improvement Authority has found that the central portions of these municipalities exhibit many characteristics associated with significant transit need such as high population density and low automobile ownership.¹⁰ Population density outside of the three urban centers was found to be generally sparse and not of the magnitude typically associated with the operation of economically viable, conventional, fixed route transit service. The portions of Cumberland County outside of the three urban centers were found to vary widely in their demographic and socio-economic characteristics. In general, these areas were found to possess several characteristics that indicate some level of need for transit services. Large portions of the less densely developed areas in Cumberland County, for example, were found to feature significant concentrations of youths. However, the report states that this finding must be balanced with the relatively small travel markets in these areas, low population densities and low numbers of total persons. Large portions of the urban centers and outlying areas are beyond reasonable walking distance. The relatively infrequent services of most routes are not conducive to many trips within Cumberland County that are of short distances. As a result, for most residents, travel needs are not being met by the current public transportation system. The public transportation system is limited in terms of its coverage and its availability to most residents. Many of the transit service needs identified in this section and the subsequent section, especially in low-density areas, could be candidates for JARC grants or NJ Transit's Community Shuttle grants.

NJ Transit bus routes serve the urban centers of Millville, Vineland, Bridgeton, and Upper Deerfield. Employment centers are also served by Route #553, including Cumberland Mall and Cumberland County College in Cumberland County. Other employment centers served by this bus route are the Hamilton Mall, Hamilton Business Park, and Atlantic City. The route 553 service is hourly and operates 24 hours a day, with connections to the Atlantic City Rail Terminal. Besides this route there are very few others that serve Cumberland County. Route #408 serves the large employment centers of Philadelphia, Camden, Deptford, and Glassboro. However, service times are very limited on weekends and run only on an hourly basis Monday through Friday. Given this, there are large gaps in service for residents in Cumberland County, especially outside of the urban centers of Vineland, Bridgeton, and Millville. There is also no existing rail service within the county. The closest connection would be taking bus route 553 to the Atlantic City Rail Terminal.

With the exception of work trips to Atlantic City, the transit mode share is 1-2 percent in Cumberland County. However, there is significant transit usage among workers who reside in Cumberland County and work in Atlantic County. Such trips have a transit mode share of almost 13%. This may be due in part, to the attractive employment opportunities in Atlantic City, as well as the relatively frequent bus service provided by NJ Transit Route 553. With the second wave of casino development and expansion on the horizon, the maintenance and enhancement of transit to Atlantic City from areas in Cumberland County is crucial.¹¹

A study submitted to the SJTPO and to Cumberland County Department of Planning and Development by the SJTA entitled the *Bridgeton Urban Service Study* does not however, offer much hope for the re-institution of traditional, local bus service within the urban centers.¹² The goal of this study was to examine the feasibility of re-instituting the Bridgeton Urban Service (BUS), a local bus service. BUS had been discontinued in 1988 as a result of low ridership and funding. The study concluded that based on current ridership data, existing and future transit generators and passenger transit projections, the future demand would not be sufficient to support the reinstitution of regular fixed-route transit service.

¹¹ NJDOT/NJ Transit/ Human Services, *Cumberland County Community Transportation Plan*, September 1998.

¹² South Jersey Transportation Planning Organization, *Bridgeton Urban Service Study*, prepared by the South Jersey Transportation Authority, August 1996.

corresponding shift in the coordination of transportation services in Salem County to meet the needs of residents in these less densely populated areas. Currently, county residents close to transit services reside in Penns Grove, Pennsville, Salem, Woodstown, and Carney's Point. Many of the transit service needs identified in this section and the following section, especially in low density areas of Salem County, could be candidates for JARC grants or NJ Transit's Community Shuttle grants.

There are five bus routes that provide coverage, in some form or another, to the county's major urban centers of Penns Grove, Pennsville, Salem, and Woodstown. Current NJ Transit service does not serve the more suburban/rural areas of Salem County like Pittsgrove Twp. or Elmer. Route #468 is the most localized route, serving employment centers throughout Salem County. Employment centers served by this route include: Salem Community College, Pennsville Shopping Center, Ames Shopping Center, Pennsville Market, Salem Shopping Center, Salem Memorial Hospital, Salem County Nursing Home, Salem County Vo-Tech, and the Woodstown Acme. Route #423 operates service Monday through Friday only, but despite the limited service, serves the major employment center of Wilmington, Delaware, with four round trips daily. The other three bus routes all serve Camden and Philadelphia, linking Salem County with two other significant employment hubs.

In 1998, Salem County identified that there may be a need to alter the existing NJ Transit 402 bus route to serve the Pureland Industrial Park in Logan Township, Gloucester County. The park is a major employer of Salem County residents. Currently the 402 bus only circles the perimeter of the park and does not enter the park to provide direct access to the businesses inside. Also, the 402 provides very limited service and this may prove a hardship to riders relying on buses to get to employment centers, especially if the jobs require shift work during off-peak hours. Recently, a Transportation Block Grant has been received from the NJ Department of Human Services to provide service to the Pureland Industrial Park.

There also may be some need to provide bus service to the Vineland/Millville area and/or also to Atlantic City in order to increase access to employment centers for Salem County residents. Currently, Salem County is the only county in the SJTPO region without bus service to Atlantic City. Given the second wave of casino development and expansion, combined with higher than average unemployment levels in Salem County (especially Penns Grove and Salem City) a potential market for transit services to Atlantic City may exist. Current bus service in Salem County is oriented toward Philadelphia, Camden and Wilmington, Delaware.

In Salem County, a transportation recommendation has been made to continue Salem County Transit (SCOT) services to Wilmington, Delaware. Discussions were initiated between NJ Transit, the Delaware Department of Transportation, and DART First State concerning service improvements between SCOT and DART buses to provide commuters with transportation in reaching employment centers in Christiana. Currently, workers must transfer to a DART First State bus from a SCOT bus in order to reach the Christiana area, due to the SCOT bus providing access only to downtown Wilmington.

Salem County - Specialized Transit and Community Transportation Plan Needs

Approximately 60 percent of county residents work within Salem County. The largest concentrations of employers are located within the communities of Salem, Penns Grove, Pennsville, and Woodstown. The second highest percentage of the resident workforce reverse commutes to the state of Delaware.

Comparable to Cumberland County, Salem County also has "feeder services" atop their list of priorities for providing alternatives to commuters and expanding the job market. Also recommended for other counties, Salem County is no different in adopting proposals for ridesharing and vanpools to provide quick and easy alternatives to fixed route service for many employees. In a rural county, such as Salem, WFNJ clients struggle with commuting to job opportunities and employment centers. An option for aiding this job access struggle is the "Automobile Purchase Program." This program would identify eligible WFNJ participants, who generally have found employment, but have no vehicle to transport them to the job. Automobiles for the program would be obtained through donations or purchased by a non-profit or

3. BICYCLE AND PEDESTRIAN

INTRODUCTION

It is Federal transportation policy to promote the increased use and safety of bicycling and walking as transportation modes. TEA 21 requires that MPO's, like the South Jersey Transportation Planning Organization, are to develop long-range plans that address the needs of bicyclists and pedestrians and to include such facilities in their annual Transportation Improvement Program (TIP). The organization of this chapter follows the FHWA/ FTA Guidance for Bicycle and Pedestrian Planning for metropolitan plans.

Residents of southern New Jersey and elsewhere in the state have become aware of the energy, efficiency, health and economic benefits of bicycling for transportation and recreational purposes. In 1995, the New Jersey Department of Transportation (NJDOT) completed a statewide plan that established policies, goals and programmatic steps to promote safe and efficient bicycling and walking for transportation and recreation in New Jersey. In the *Transportation Vision for the 21st Century* document, it is the Governor's intent to build 2,000 miles of bicycle paths throughout the state.

SJTPO has made bicycle and pedestrian mobility and safety one of their top priorities and have taken many steps to address those needs. The initial long-range Regional Transportation Plan for the SJTPO region, adopted in August 1995, contained a section on bicycle and pedestrian strategies and also identified action steps to support bicycle and pedestrian travel. Correspondingly, the Transportation Improvement Program has identified bicycle and pedestrian projects, which include bicycle compatibility improvements to NJ49 between the Salem River and NJ55 (Cumberland and Salem Counties). This project will include correcting and eliminating existing gaps on a primarily bicycle compatible route, and may include installing crosswalks, striping and signage, and regarding and improving bridge access. Another project includes bicycle improvements in Lower Township, Cape May County on Route 109 to Delaware Bay. This project is currently undergoing a local feasibility assessment and will move into the final scope of development sometime in 2001. Another significant project in Cape May County is the Ninth Street Corridor Bicycle and Pedestrian Improvement Program, which has been funded for Ocean City. These improvements are targeted at better enabling pedestrians to cross Ninth Street and providing a link between the boardwalk and the downtown business district. On Route 52, design plans are progressing to finalization and include a sidewalk and bicycle compatible lanes. The Ninth Street project includes also the extension of Route 52's non-motorized travel improvements to the boardwalk.

Counties and municipalities are also part of the equation and their role is two-fold. First, counties and municipalities should develop local bicycle and pedestrian facility plans and secondly, should draft and adopt bicycle and pedestrian-friendly comprehensive plans and to make requirements for bicycle facilities part of the development review process. SJTPO and its counties are actively engaged in a great number of bicycle and pedestrian activities and studies, and much of this work is documented in this chapter.

Many counties and municipalities in the SJTPO region have acted upon these identified roles. For example Cape May County in 1996 completed a Bicycle Facilities Study and adopted a revised Subdivision and Site Plan Resolution that includes a comprehensive set of design criteria for proposed bicycle facilities. Atlantic County prepared a Bicycle Element to their Master Plan and recently received approval from the Pinelands Commission for an eight mile segment of a proposed 23 mile cross-county bikeway extending to Buena Vista Township along the former West Jersey and Reading Seashore rail line. The eight-mile segment will connect the Shore Mall in Egg Harbor Township to the Atlantic County Vocational Technical School in Mays Landing. Municipalities are also developing plans. Ocean City has completed the development of a bicycle and pedestrian plan. Cumberland and Salem Counties have also completed in 1998 a *Bicycle Facilities Study*. Cumberland County additionally completed a draft in September 2000 of the *Cumberland County Bike Trail Study*.

Performance Criteria

The policy of the SJTPO is to promote walking and bicycling as a legitimate means of personal transportation for short trips. Correspondingly, the following criteria will be adopted by SJTPO and will be applied during transportation project and program development:

- Transportation facilities, at a minimum, shall be planned, designed, constructed and maintained to accommodate shared use by motor vehicles, bicycles and pedestrians;
- Where appropriate, and especially when a roadway project is an integral element of a city, town, or village center development plan, transportation facilities shall be designed, constructed and maintained to encourage pedestrian activity;
- Where appropriate, or when a roadway project is an integral element of a bicycle transportation plan or designated bicycle facility system, transportation facilities shall be designed, constructed and maintained to encourage use by bicyclists;
- Pedestrian traffic shall be given primacy over motor vehicle traffic in the design of projects located within zones dedicated to pedestrian movement; and,
- Bicycle traffic shall be given primacy over motor vehicle traffic in the design of projects that encourage use by bicyclists.

ASSESSMENT OF CURRENT CONDITIONS AND NEEDS

Journey to Work

Bicycling and walking capture relatively small percentages of work trips in the region compared to most other modes. Walking to work in the region is more prevalent than bicycling to work. However, the shares of bike and walk to work in the SJTPO region (0.47% and 4.9%) are higher than the overall state shares of 0.24 percent for biking to work and 4.11 percent for walking to work. Within the region, the greatest shares of walk and bike to work trips are found in Atlantic and Cape May Counties. Table 4-26 below depicts the percentage of bike and walk to work by county from the 1990 Census.

Table 4-26 - Biking and Walking to Work

	Atlantic		Cape May		Cumberland		Salem		New Jersey	
	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total
Workers 16 years and over	111,467		41,117		59,774		29,320		3,812,684	
Bicycle	463	0.4%	401	1.0%	182	0.3%	104	0.4%	9183	.24%
Walk	6,789	6.1%	2,183	5.3%	2,038	3.4%	809	2.8%	156,523	4.11%

Source: 1990 U.S. Census Data

A number of factors contribute to the higher bike/walk shares found in the region, especially in Atlantic and Cape May Counties. The barrier islands in Atlantic and Cape May have high population and employment densities as well as mixed land uses and a resort environment, which foster a good environment for bicycle and pedestrian travel. There are also some high density population centers in Cumberland County (Bridgeton, Millville and Vineland) and Salem County (Penns Grove and Salem City) where walking or biking can be used for some work, school, and shopping trips. Additionally, the 1990 Census shows that the region also had higher percentages of intra-county work trips than the state overall, shorter travel times and lower motor vehicle availability. It is important to note that Census only reports on travel to and from work and excludes trips to school, shopping and other frequent destinations. Data are collected for a one-week period during the last week in March, making it likely that bicycling and walking trips are underreported due to cold weather. Moreover, only the predominant mode is requested, so that occasional bicycling and walking trips as well as bicycle and walking trips made to access transit or other travel modes are not recorded. Also, bicycling and walking are common

Counties all point favorably toward an expanding market for bicycle and pedestrian travel in the region. Facilities need to be provided to effectuate potential increases in foot and bicycle traffic for both tourism and non-tourism related travel in the region.

Transit Services & Intermodal Connections

Bicycle Linkages and Parking

Providing bicycle-parking facilities at transit stops and stations is one way of linking bicycling with transit use. A recent study performed for the SJTPO entitled, “*Atlantic County Intermodal Pedestrian and Bicycle Facility Plan*”, examined bicycle and pedestrian access to Atlantic City Rail Line (ACRL) stations in Atlantic County, specifically the stations of Hammonton, Egg Harbor, and Absecon. The study found a general lack of facilities at and near the stations for bicycle and pedestrian access.

Ensuring that roadways that provide access to either major bus transit stops and/or rail stations are bicycle compatible is another way of linking bicycles to transit.

A third way to create intermodal linkages to transit is to allow commuters to carry bicycles onto transit vehicles. By combining bicycles with transit, commuters may have more options especially where a transit stop is beyond walking distance. NJ Transit allows bicycles on the Atlantic City Rail Line (the Bike Aboard Program), restricted hours apply and bicycle use is confined to off-peak hours. Bicycles are not permitted on-board NJ Transit trains during major holidays. Up to 2 standard frame bicycles are accepted by permit only and they must be secured in the accessible areas of the train and secured by two cords. There is no charge for the permit. For commuters wishing to use their bicycles during peak hours, a folding bicycle can be carried on at all times and no permit is required.

Recently, a program has been created which makes it possible for bike riders to commute on buses. The program named “Rack ‘n’ Roll” has fastened bike racks to the front of NJ Transit buses in South Jersey. This program will allow bicyclists in selected areas to secure their bikes on two racks attached to the front of the bus, and then ride the bus to a desired location, or their employment site. This will save commuters from parking hassles, and will help reduce pollution levels caused by traveling in a motor vehicle. There is only one exception: if both spaces are full on the bus, then a commuter will be forced to wait for the next bus available with racks. Racks are fastened to a number of 30 and 40-foot buses in Atlantic, Cape May, Cumberland, and Salem Counties. A list of the routes that have the “Rack ‘n’ Roll” program is provided in Table 4-27.

Table 4-27 - “Rack N Roll” Bus Routes in Southern New Jersey

Route Number	Destination
423	Penns Grove-Pennsville-Wilmington (DE)
463	Woodbury-Avondale Park and Ride
468	Penns Grove-Woodstown
501	Atlantic City-Brigantine
502	Atlantic City-Pleasantville
503	Atlantic City School Service (Seasonal)
504	Bungalow Park-Ventnor Plaza
505	Longport-Margate-Atlantic City
507	Atlantic City-Ocean City
508	Atlantic City-Pleasantville-Absecon
509	Atlantic City-Somers Point

Source: NJDOT

Bicycles are generally allowed on-board ferryboats in the region. Bicycles are allowed on-board the two ferries operated by the DRBA: the Cape May - Lewes Ferry and the Fort Mott Ferry (Delafoert Ferry). However, for the Fort Mott Ferry, bicycles are not allowed to disembark on Pea Patch Island, Fort

Table 4-28 - Existing Designated Centers by County - SJTPO Region

COUNTY	DESIGNATED CENTER	TYPE OF CENTER	DATE OF DESIGNATION
ATLANTIC	ATLANTIC CITY	URBAN	JUNE 12, 1992
CAPE MAY	The WILDWOODS CAPE MAY POINT BOROUGH OF AVALON BOROUGH OF STONE HARBOR CITY OF CAPE MAY	REGIONAL VILLAGE TOWN TOWN TOWN	APRIL 22, 1998 APRIL 23, 1997 OCTOBER 27, 1999 OCTOBER 27, 1999 OCTOBER 27, 1999
CUMBERLAND	MILLVILLE/ VINELAND	REGIONAL	MAY 20, 1994
SALEM	CITY OF SALEM ELMER WOODSTOWN	REGIONAL TOWN TOWN	DECEMBER 1, 1999 DECEMBER 3, 1997 OCTOBER 29, 1993

Source: Office of State Planning

Centers are the focus of community activity and their core areas are the domains of pedestrians. With the exception of limited access highways, the SDRP states that sidewalks should be included on both sides of all roadways in Centers, unless unique land use patterns assure that no pedestrians will walk on one side. The SDRP advocates that sidewalks should be required in all residential and commercial development plans in Centers and in almost all development plans in Planning Areas 1 (Metropolitan) and 2 (Suburban). Where sidewalks are not to be provided, but where pedestrian movement may occur, the SDRP recommends the provision of shoulders to accommodate this need.

In the SJTPO region, every effort should be made to add sidewalks to all existing streets in Centers where they do not exist, and to complete missing links. The priority for completing these links should go to areas serving schools, parks, transit station and bus stops, libraries, military bases, recreation centers, tourist zones, and where high levels of elderly pedestrians can be anticipated.

The center-based land development patterns advocated by the SDRP benefit bicycle travel, as well. Since bicycle trips are generally shorter than trips made by other vehicular modes, there must be a manageable distance between origins and destinations such as between residential areas and employment areas. The SDRP calls for coordinating job growth with new housing areas so as to reduce lengthy solo auto trips and their associated pollution and to encourage greater amounts of bicycle and walking trips. Mixed-use cities, towns and villages, all advocated by the SDRP, are likely to generate bicycle traffic if good bicycle facilities are available.

SDRP recommends that growth should be guided towards Centers and other areas in Planning Areas 1 and 2 with Endorsed Plans. SDRP advocates that public investment be prioritized towards these areas. Thus investments for pedestrian and bicycle access and mobility should be targeted to centers in the SJTPO region.

Proposed Facilities

Bicycle Facilities

Both Atlantic and Cape May Counties have facilities for bicyclists proposed in their respective planning documents.

Atlantic County's Bicycle Element for the Atlantic County Master Plan advocates bicycle compatible state highways that are signed, striped and mapped to provide the most direct route to and from employment centers. According to Atlantic County's plan, the primary role of county and municipal roadways would be to distribute cyclists to state highways and a secondary role would be to provide access to employment centers not directly served by state highways such as the FAA Technical Center and the casinos.

A second project is a proposed bicycle route (Signed Shared Roadway) from the City of Cape May to Lighthouse Avenue along Sunset Boulevard (County Route 606). This proposed route serves to link Cape May Point State Park and the City of Cape May, two major regional, cultural centers.

Another proposed shared use path is the Cold Spring Bikeway. This proposed facility would connect Historic Cold Spring Village to the existing Seashore Road bike lanes. The path would run along Seashore Road beginning at the terminus of the bicycle lane, then proceed along the northern side of Ferry Road to the intersection with Atlantic Electric's right-of-way. The path would continue along the right-of-way to the village. A later phased element, a proposed 2.2-mile shared use path, would link the historic village to Sally Marshall's Crossing. According to the County's Bicycle Facilities Study, these two paths would provide a separate means of travel parallel to the Route 9/Seashore Road corridor from the northern portion of Lower Twp. into West Cape May and Cape May City. As a result, the path would connect major cultural, recreational and public facilities, including schools.

Together, Cape May County and Middle Township have also proposed a shared use path. The proposed 1.4-mile path would begin in near the center of Cape May Court House and link to the existing bikeway system that connects the recreation complex and the County Park. NJ Transit buses and the Cape May Seashore Line Railroad serve the area.

The City of North Wildwood also has plans for a shared use path. Their proposed 1.36-mile path would be along the oceanfront and Hereford Inlet sections of the city. This proposed path would provide a continuous link from Wildwood Crest, through the City of Wildwood, to North Wildwood. The path would link major entertainment and cultural areas, such as the boardwalk amusement piers, the Wildwood Convention Center, and the Hereford Inlet Lighthouse and park.

The Boro of Woodbine also has plans for a 1.46 mile shared use path along the 100-foot wide median strip of DeHirsch Avenue. The path would connect areas such as the commercial district, the Woodbine State School, and a recreation complex.

The City of Ocean City has plans for a shared use path between 18th and 29th street on Haven Avenue. This planned path would connect to the existing path that spans between 29th and 35th Streets. Extending the path would provide linkages to the Ocean City Intermediate School, the Little League complex, the Public Library, an aquatic and fitness center and the Cultural Arts Center.

Additionally targeted for bicycle compatibility, in the City of Ocean City's Master Plan, was the Ninth Street Corridor (from Rt.52 to the Ocean City Boardwalk). SJTPO funded the *Ninth Street Corridor Bike/Pedestrian Improvement Program*, which examines several improvements for the corridor to make the area considerably safer for pedestrians to cross and provides a linkage between the boardwalk and downtown business district. The *Route 52 Project*, mentioned in conjunction with the *Ninth Street Corridor Project*, includes a sidewalk and bicycle compatible lanes along the causeway into Ocean City at Bay Avenue. The *Ninth Street Project* extends Route 52's non-motorized travel improvements to the boardwalk. Both of these projects will make the City of Ocean City a safer place to walk and bike.

Cumberland County is also making efforts to advance bicycling for transportation and recreation in their municipalities. In September of 2000, a draft bike trail study (*Cumberland County Bike Trail Study*) was issued and provides an extensive review of system improvements, programs, and actions, which will help to expand and integrate bicycling in the county. One aspect of the study is mapping 300 miles of county roadways for bicycle compatibility, along with recommendations for improving the safety and attraction of bicycling. Another aspect is formulating various strategies for hosting bicycle races and touring events, and advertising Cumberland County's favorable bicycling environment, with wide shoulders, low traffic volumes and flat terrain. Several other suggested improvements and strategies are contained within this study.

- Route 47 in Vineland and Millville running from West Chestnut Avenue to Route 49 with a loop surrounding Cumberland County College and on Rte 47 in Millville to G Street.
- From East Chestnut Avenue to Sherman Avenue on Route 555 in Vineland
- From the Airport Industrial Park to Route 610, and along Route 610 to the intersection of Route 49 in Millville
- In Millville on Orange Street connecting South Wade Blvd. with Route 47 and heading north on Route 47 to Henderson Avenue to provide pedestrian access for the Millville Industrial Park
- In Millville on South Wade Blvd/Route 678 from Route 49 and heading southeast into the Millville Industrial Park
- Route 77 in Upper Deerfield, where it intersects Routes 56 (Landis Avenue) and 611 and continuing south to the intersection of Route 659.
- In Bridgeton, on Route 609 between Routes 706 and 626
- In Bridgeton on Route 49 in between Routes 553 and 638, and also in between the intersection of Route 669 and 77.
- In Shiloh on Route 49 through its entirety as it traverses the municipality.

Also, a fully funded infrastructure master plan is being developed in Pleasantville to both improve and expand the tracks and crossings for freight rail delivery to local businesses and to upgrade the track for passenger rail service connecting Atlantic City to the downtown.

Roadway Infrastructure

East-west access needs/Route 40 deficiencies.

The lack of a convenient east-west truck route into the region presents a problem for commercial trucking. Users characterize Route 40 as congested and not designed to adequately accommodate large trucks. Similar problems exist outside the region on Route 322. In general, congestion on the region's highways impedes the ability of trucks to move freight efficiently.

Outdated designs/weight restrictions.

Outdated designs (turning movement radius) for commercial vehicles at intersections is a continuing problem. For example, many intersection designs allowed only a 50 foot vehicle turning radius based on the clearance needs of 40 foot truck trailers. These clearance needs have been superseded by the 48-53 foot trailers now in general use. Improvements in standardizing design specifications may be needed. Restrictions on bridges due to weight limits impose limits on the movement of trucks.

Intermodal Needs

Warehousing shortage/intermodal needs.

Warehousing, particularly refrigerated warehousing, is in short supply in the region. The development of additional intermodal access facilities and warehouses would allow direct rail to truck, air to truck, and possibly even air to rail loading, unloading and storage. It is believed that better intermodal services and increased rail weight limits are important to the region's ability to remain competitive in the future.

Air Freight

Potential for air cargo expansion.

The increasing landside congestion at the Philadelphia International Airport has made air cargo through Philadelphia a more costly shipping alternative, giving southern New Jersey new potential to compete in this market. The Atlantic City International Airport has experienced increased demand for belly cargo services for higher value, perishable items such as fresh flowers. The dramatic increase in just-in-time inventory management performed largely via carriers such as UPS and FedEx, and their expanding need for on-airport loading space for larger cargo aircraft such as the 727 provides another strong market for competition. In the SJTPO region, much of this high-value freight is destined for the Atlantic City, Vineland and Cape May areas.

In Millville, approximately 1,000 acres of the Millville Municipal Airport and an adjacent area have been designated a Federal Empowerment Zone. This designation provides millions of dollars over a ten year period that will be leveraged by state and local dollars to construct a vast array of airport improvements plus a new 360 acre industrial park. A Foreign Trade Zone is located on the airport and will offer businesses involved in international sales to minimize custom duties and related import/export charges. SJTPO has allocated planning funds for an in-depth study of the current and future transportation needs of the Airport/Industrial Park complex.

Infrastructure – General

Overall condition of infrastructure/funding for improvements.

The need to improve the overall condition of the regions freight infrastructure, including bridges, highways, rail lines and port facilities, as well as the issue of obtaining stable funding for these improvements is a concern of operators throughout the region.

and other tenants. This expansion was completed May 7, 1996; apron, taxiway and related improvements were completed during 1997.

Runway 13-31, the primary runway, is 10,000 feet long and 180 feet wide. It is equipped with an Instrument Landing System. Runway 4-22, the crosswind runway, is 6,144 feet long and 150 feet wide. An extension to 8,150 feet is under consideration.

Approximately one million passengers used ACY in 1999, over a 30% increase from 1996 figures. The expanded terminal can accommodate up to 1.3 million passengers per year. USAir Express offers scheduled daily service to Philadelphia International Airport and Baltimore-Washington International Airport. Spirit Airlines offers direct, scheduled low-cost jet flights to Boston, Cleveland, Detroit, Ft. Lauderdale, Ft. Myers, Myrtle Beach, Orlando and Tampa. Several charter companies provide regular service for casino patrons and others. Statistics are shown below in Table 4-29.

Table 4-29 - Atlantic City International Airport, 1999 Statistics

	Carriers	Flights	Passengers
Commercial	3	12,493	691,532
Charters	11	5,416	309,304
Corporate/Private	NA	NA	NA

Source: Atlantic City International Airport Passenger and Operations Statistics, 1999

Recent Developments

Raytheon Aircraft Services has begun work on a \$5.9 million, 50,000-square-foot maintenance facility at ACY for business aircraft. Two new fuel farms have been built and a \$2 million maintenance facility was recently completed by Midlantic Jet Aviation Inc. Passenger parking facilities have been expanded by 75%, to 1,110 spaces; additional parking is planned. The U.S. Customs Service operates at ACY, allowing direct international flights to the airport.

Future Prospects

The South Jersey Transportation Authority is proceeding with an extensive master plan for airside and landside improvements at Atlantic City International. The impacts to this improvement program will be more fully explored following the scoping phase, which is underway as of this writing.

General Aviation Airports

In addition to Atlantic City International, the SJTPO region is home to several smaller publicly and privately owned and operated airports including Spitfire Aerodrome (formerly Oldman's Airport) and Millville Municipal Airport. These general aviation airports serve private passenger, agricultural, and/or commercial charter and freight aircraft. Several of the larger of these airports are listed in Table 4-30.

Table 4-30 - General Aviation Airports

Other Airports	Location	County
Spitfire Aerodrome (formerly Oldman's)	Oldmans Twp	Salem
Buck's	Bridgeton	Cumberland
Bader Field	Atlantic City	Atlantic
Cape May	Wildwood	Cape May
Hammonton Municipal	Hammonton	Atlantic
Kroelinger	Vineland	Cumberland
Li Calzi	Bridgeton	Cumberland
Millville Municipal	Millville	Cumberland
Ocean City	Ocean City	Cape May
Piney Hollow	Hammonton	Atlantic
Rudy's	Vineland	Cumberland
Vineland-Downtown	Vineland	Cumberland
Woodbine Municipal	Woodbine	Cape May

Source: Economic Impact of New Jersey's General Aviation Airports

5. TOURISM

As an economic generator, tourism is critical to the SJTPO region. It provides numerous jobs and creates large amounts of revenue from visitors. Mobility is essential to ensuring that this source of economic vitality will last well into the future. To serve this important segment of the economy, the infrastructure requires planning and development to meet the unique demands placed on the system. This is increasingly important as the tourist season stretches from a few months a year to a twelve-month continual source of revenue and employment.

ISSUES AND NEEDS IDENTIFICATION

There are many issues that contribute to tourism mobility and accessibility needs. This variety of issues doesn't lend itself to technical evaluation. The plan relies mainly on direct input received from stakeholders. A significant source of that input was a focus group used to identify key issues. This focus group was held May 4, 2000 in order to generate suggestions for improving recreational travel in the region. In attendance were various members of the region's commerce departments, travel & tourism offices, and several other representatives from planning, transportation, and the environment, and other representatives. In an effort to solicit a variety of submissions from the group, each participant was asked to identify an issue of special concern to their organization or community at the start of the meeting. The following issues are drawn from comments and input received from the focus group, additional outreach activities, and others.

Getting to and from the region

There are few viable east-west connections that exist within the region, and access to and from points south (Delaware and Maryland) are limited. This presents a problem for both the heavy seasonal tourist travel, as well as for emergency evacuations year round. The connections that do exist carry both local and regional travel. Significant improvements such as expansion and construction of roadways would improve east-west access for both routine tourism needs and to provide efficient routes for emergency evacuation. A short-term option is to implement the recommendations of the Shore Connection study, including TSM treatments along sections of Route 47 and 347. In the longer term, consideration should be given to high-level access improvements, such as completing Route 55 or another viable east-west connection. In addition, bypasses or widening along major travel corridors such as Route 40 should also be considered to alleviate congestion, especially in areas where local trips hinder regional trips.

Current access by passenger rail is limited to the Atlantic City Rail Line. Although this line runs seven days a week, no direct service from Philadelphia to Atlantic City is available, which makes it difficult for rail to be competitive with the auto for long distance trips. Also, the current rail system doesn't provide any access to other areas of the region. A candidate project to extend the Cape May Seashore Line to the ACRL may improve this condition.

The region is gaining importance as a recreation and business center to those outside the region, so providing access to travelers beyond the reach of autos or transit will become more important. Attracting service from a major air carrier into Atlantic City Airport would improve access to and from numerous longer distance destinations outside the region – although this has proven to be a significant challenge. Improved access to the airport would aid in providing mobility to visitors once they arrive at the airport.

Getting around within the region

The transportation modes that are offered within the region reflect both the tourist and commuter nature of travel in the four counties. The travel patterns within the region causes specific issues that need unique solutions, especially as tourism extends beyond the summer months and as more residences become permanent rather than seasonal homes. These solutions should aim to recognize the different needs of each group, and accommodate both types of travel.

Another signage concern is that opportunities are being missed to make travelers aware of the region as a whole at its major entry points. For example, there could be more signage from the Delaware Memorial Bridge to shore points. Signage could also be improved at the end of Route 55 and in Mays Landing, as well as other common entry points to the region. Installing signs at the edges of the region may promote tourism from outside areas that previously were unaware of the attractions the SJTPO region has to offer.

Sign pollution, or the avoidance of excessive signage, needs to be addressed along with any positive signage measures that are developed. A regional, interagency approach including participation from the private sector would facilitate this effort. Sign maintenance programs are needed to ensure satisfactory sign quality and condition. Worn signs, older non-reflective signs and overgrown vegetation are common problems, particularly in Salem County. Care should be taken that signs are maintained to remain effective and informative, and old worn signs are replaced as the need arises.

Bicycles/scenic byways

Bicycle trail development needs to meet the growing interest in recreational cycling. A coordinated trail development process could include the establishment of support facilities such as bike racks, rest rooms, visitor centers and parking facilities for recreational cyclists. The region is considered to have outstanding potential for bicycle-compatible scenic byways, but funding must first be identified to implement them.

Proposed Areas for Future Studies

- The Pinelands Commission initiative to create two interconnected scenic byways in the Delsea Region and Pinelands Region; in addition, a potential link from the end of the Delsea Trail to Ocean City via the Cape May County bikeway network
- The bi-state Around the Bay Bike Trail concept
- In the longer term, the Ocean Drive scenic byway
- Establishing small-scale visitor facilities in Salem and Cumberland Counties and a larger regional visitor center in Port Elizabeth/Mauricetown (Route 47/670)

V. IMPLEMENTATION PLAN

INTRODUCTION

The previous chapters of the RTP identified the region's transportation goals and policies, the context within which transportation takes place in the region including factors influencing travel demand, an assessment of the existing and future condition of transportation resources, and the needs and problems of the multi-modal transportation system serving the region. This information and analysis leads to the development of a series of issues, or concepts, that should be advanced in order to improve the transportation system, better serve the mobility needs of people and goods, and move toward fulfillment of the RTP's goals and objectives. This chapter of the RTP defines actions items relating to the conceptual improvement of the transportation system, response to identified needs and problems, and the process used to evaluate and plan for the future health and function of the transportation system. The implementation plan is divided into two sections: System Enhancements – a multimodal description of actions proposed; and Process - activities focused to advance the planning process and project development procedures.

1. SYSTEM ENHANCEMENTS - SERIES OF ACTION ITEMS BY MODE

HIGHWAY SYSTEM

A number of issues and needs have been identified for the roadways serving each of the four SJTPO Counties. This section of the implementation plan will outline a series of measures believed to help mitigate the identified deficiencies and improve the ability of the transportation system to serve both existing and future demand.

Regional Corridor Improvements

The SJTPO regions covers a relatively large land mass, yet the primary highway system consists of a limited number of arterials. These arterials must serve the dual purpose of providing regional mobility and access to centers of activities for longer distance travel, as well as localized mobility and access for commuters and residents. The amount of travel demand placed on the roadways varies significantly based on the day of the week and the season of the year. The primary roadways are required to provide both accessibility and mobility functions, competing functions that are not easily accommodated together. This set of circumstances places a serious strain on the region's primary roadways. Minor improvement concepts have been proposed or are being advanced to improve the efficiency of the existing system. However, a comprehensive assessment of the long term needs of the primary corridors in the SJTPO region is necessary to determine the extent of the deficiencies and the development of comprehensive improvement plans. It is anticipated that these improvements will include, where needed, high level capacity additions such as lane additions and possible new roadways on new alignments. The following corridors are proposed as priority corridors for study and concept development.

- **Routes 55 /47 Corridor**, extending from Route 55 and 47 in Vineland to the terminus of Route 55 at Route 47 in Port Elizabeth, and following Route 47/347 toward Cape May County and the shore. Several areas along this corridor are identified as significant problem areas both now and in the future. Interim improvement concepts under development, such as signalized intersection upgrades and the first phase of a motorist information system, may provide some mitigation of the short range needs, but a long term solution to this growing regional problem must be advanced. This corridor serves two vital functions in the region, a primary recreational corridor, and a primary emergency evacuation corridor. As the tourist season and the demands it places on the system extend in duration with each passing year, more stress is placed on the primarily local roadways that service

the project is a widening of the bridge over the Atlantic City Expressway. The SJTA has recently taken the lead role in overseeing a study to evaluate the corridor.

Near term enhancements including operational improvements and intersection upgrades.

There are a series of problem areas identified throughout the SJTPO region that are found mainly at or near intersection or appear on smaller segments of roadway, usually less than 3 miles in length. Based on preliminary evaluation of these problem areas, potential improvement concepts involve operational upgrades to the intersections or segment of roadways consisting of capacity increasing measures such as channelization, lane additions, jug handles, or signal systems. Those identified as most severe should be advanced to the scoping process, where improvement projects are development. This proposal is consistent with the process currently undertaken by the SJTPO.

State of Good Repair.

The need to maintain the existing highway system in a state of good repair is of paramount importance to the SJTPO region. There are many bridges throughout the region that appear on the bridge deficiency list, indicating that they are either structurally deficient or functionally obsolete. This backlog of bridge projects must be systematically addressed to bring all bridges into a state of good repair. At the same time, funds needed to maintain and preserve the system must be made available, as deferring maintenance leads to increased long term maintenance cost and shortened useful lifecycles.

Safety

Facilities identified as being areas of safety concerns should be evaluated to determine appropriate corrective action measures to minimize safety issues. The work of the South Jersey Traffic Safety Alliance should be continued in order to provide valuable local input into the problem identification process. Also, as stated in the management system section of this plan, work to bring the statewide Safety Management system into full operation should be continued by the NJDOT.

ITS Implementation and Regional Architecture

Maximizing the efficiency of the existing highway system is a priority as this process provides maximum capacity or preservation of capacity at low environmental costs. Intelligent Transportation Systems (ITS) including motorist information systems and incident detection systems are particularly important to the South Jersey region due to the large number of motorists who are unfamiliar with the highways, mainly recreation travelers, and the limited capacity of primary and secondary routes to absorb incident related capacity reductions. Variable message signs (VMS) have been used in the region during peak periods and have proven effective. This summer, a new system of closed circuit cameras linked to VMS signs and the South Jersey Traffic Operation Center operated by NJDOT will provide motorist of "live" traffic information regarding route selection during the peak travel periods. Additional measures, such as the expansion of the Atlantic City Computerized Traffic Signalization system and other signal systems, are also effective at improving vehicle throughput.

Implementation of ITS technology in the SJTPO region must advance at an accelerated pace. Selection of system components and operational protocols must be compatible the ITS national or regional architecture being developed by NJDOT and others.

Additionally, innovative use of newly implemented technology, such as EZ-Pass, should be investigated. Market penetration of EZ-Pass has been very good, and the ability to use the system to foster automated electronic payment of other motorist services should be evaluated.

are many competing destinations and this region needs to maintain a competitive advantages as much as possible. The SJTPO supports work of the regional transportation authorities and will continue to work with them, the New Jersey Department of Transportation, and the Federal Highway Administration to promote comprehensive, continuing, and coordinated planning efforts to improve the transportation system.

The SJTPO believes that an interagency working group should be formulated to foster regional planning in order to address the regional travel needs and facility interactions. Participants should include the SJTPO, NJDOT, the Delaware Valley Regional Planning Commission (DVRPC), the North Jersey Transportation Planning Authority (NJTPA), the Wilmington Area Planning Council (WILMAPCO), the South Jersey Transportation Authority (SJTA), the New Jersey Turnpike Authority (NJTA), the Delaware River Bay Authority (DRBA), and the Delaware River Port Authority (DRPA).

TRANSIT

Transit service is available in every county in the SJTPO region. However, most services are centralized in Atlantic County, particularly Atlantic City. The tens of thousands of commuters and tourists that work in the city provide the demand for accessible, efficient transit operations. Because of relatively low population densities, transit service is generally sparse. As a result, only a few travel markets are served well and these are the regional employment markets of Atlantic City and Philadelphia.

However, there are many transit needs in the region. There are unmet needs for transit dependent populations and rural populations in the region. Additionally as employment continues to spread out along highway corridors, new bus services may be needed and expansions of existing services may be warranted. Further, it is critical to build upon the transit services that currently operate in the region so that the mobility offered by these essential services are maintained and improved.

The following are proposed as priority actions for transit in the SJTPO region.

Support the current Regional Passenger Rail study to preserve rail corridors and prioritize most the promising

This study is very important to the future of passenger rail service can be provided in South Jersey. Currently, the only rail corridor offering commuter rail service is the Atlantic City Rail Line serving the towns of Hammonton Egg Harbor City, Absecon and Atlantic City in the SJTPO region. The Regional Passenger Rail Study is examining and prioritizing existing and abandoned rail corridors to determine the potential travel demand for passenger rail service. The outcome of the study will be an assessment of the costs and benefits of restoring rail passenger service along selected corridors. It is critical that the corridors identified as most promising be moved forward in the project development and environmental review process. Importantly, rail ROW in the SJTPO region should be publicly acquired and preserved to ensure that these corridors can serve transportation purposes in the future.

Initiate demonstration transit services to the Atlantic City International Airport

South Jersey residents and visitors need mobility alternatives to this important regional facility. Currently, there is no public transportation service to the Atlantic City International Airport (ACY). Based on an analysis and report prepared for the SJTA, door-to-door or on-call van service was the only effective option available for new public transportation access to ACY as other options would not be economically feasible. The report argues that a door-to-door van service can probably succeed if there are enough airline passengers to support it, but the existence of a ground transportation system will not make more people use the airport. Instead, there have to be enough flights to attract air passengers who, in turn, generate sufficient door-to-door van passengers. The report recommends a thorough analysis of costs and revenues and a limited demonstration service before full implementation.

need to provide bus service to the Bridgeton/Vineland/Millville area and/or also to Atlantic City in order to increase access to employment centers for Salem County residents.

While recognizing that fixed route services have limited viability in lower density areas, alternative services may prove feasible. The SJTPO will work with NJTransit and the counties to promote new ideas and explore partnerships to implement enhanced transit services in the region.

Enhance and enable linkages to transit services in the region

This can be accomplished by developing Regional Transportation Centers including one proposed in the City of Vineland. An option for expanding access to job opportunities within counties and to neighboring counties through transit is the gathering of travelers in neighborhoods and rural areas with "feeders." Feeder services gather passengers and then feed them directly to line-haul routes typically at regional transportation centers. As a result of implementing feeder service and instituting regional transportation centers, transit service is extended outside of traditional corridors. Continuous connections could be made to Atlantic City and Philadelphia job markets at the regional transportation centers as well as connections to important intra-county destinations.

BICYCLE/PEDESTRIAN

SJTPO has taken many steps to address the needs of bicyclists and pedestrians. The initial long-range Regional Transportation Plan (RTP) for the SJTPO region, adopted in August 1995, contained a section on bicycle and pedestrian strategies and also identified action steps to support bicycle and pedestrian travel. Correspondingly, various TIPs for the region have identified several bicycle and pedestrian projects to include sidewalk restoration in Millville and bicycle compatibility improvements to NJ49 between the Salem River and NJ55, among others.

The following are proposed as priority actions for bicycle and pedestrian travel in the SJTPO region.

Support efforts by Counties to advance bicycle and pedestrian projects

The SJTPO will support efforts by counties to advance bicycle and pedestrian projects so that more short trips can be served in the region by these alternative modes. Counties and municipalities are part of the equation to increase bicycling and walking in the region. Many counties and municipalities in the region have either developed local bicycle and pedestrian facility plans, adopted bicycle and pedestrian-friendly comprehensive plans and/or made requirements for bicycle facilities part of the development review process. The improvements called for in these plans should be prioritized for funding.

Continue to work with NJDOT to maximize new facility mileage in South Jersey

The use of bike and walk modes continues to grow in the region. The shares of bike and walk to work in the SJTPO region are higher than the overall state shares, and within the region, the greatest shares of walk and bike to work trips are found in Atlantic and Cape May Counties. A number of factors contribute to the higher bike/walk shares found in the region, especially in Atlantic and Cape May Counties. The barrier islands in Atlantic and Cape May have high population and employment densities as well as mixed land uses and a resort environment, which foster a good environment for bicycle and pedestrian travel. There are also some high density population centers in Cumberland County (Bridgeton, Millville and Vineland) and Salem County (Penns Grove and Salem City) where walking or biking can be used for some work, school, and shopping trips.

Given the developed tourism markets in Atlantic and Cape May Counties as well as growing tourism along the Delaware Bay shore and other developing eco-tourism sites throughout Salem and Cumberland Counties, all point favorably toward an expanding market for bicycle as well as pedestrian travel in the region. Facilities need to be provided to effectuate potential increases in foot and bicycle traffic for both tourism and non-tourism related travel in the region. Highway improvements in the region should be planned, designed, constructed and maintained to accommodate shared use by motor

characteristics common to recreational travel. This is nowhere more true than in the Route 55/47 corridor, which, as mentioned earlier, lacks a long-term solution to the chronic and growing congestion, delay, and environmental degradation brought about by tourism-related travel.

2. PROCESS - ACTIVITIES FOCUSED TO ADVANCE THE PLANNING PROCESS AND PROJECT DEVELOPMENT PROCEDURES.

Management Systems

The RTP Update contains information from the NDOT Bridge, Pavement, and Congestion Management Systems. It does not contain information from the Safety Management System, as this data was not readily available for use in the RTP. As the data is made available, it should be processed and mapped in a similar format as the data provided by the Traffic Safety Alliance, in order to form a more complete inventory of the safety problem areas found in the SJTPO region.

The Congestion Management System was utilized in the RTP to help identify congested locations. The CMS identified only a handful of existing congestion problems in the SJTPO region, as it does not portray conditions experienced during peak travel periods in the region. This is due primarily to the nature of the data contained in the CMS. The CMS uses data from a typical weekday, and for a typical non-summer period. While this is appropriate to examine reoccurring congestion caused by primarily commuter traffic, it is not suitable for examining recreational travel. In order for the CSM to more accurately reflect peak travel conditions in the SJTPO region, a revision to the database is required.

Federal law requires that capacity increasing projects are the outgrowth of a fully operational CMS. As such, the CMS should form the basis for corridor evaluation and planning. The CMS screening process is used to evaluate congested travel corridors and to assess the feasibility of mitigating measures to eliminate the need for a capacity increasing project or to serve as complimentary strategies where capacity increases are warranted. In order for the CMS process to work effectively and generate useful results in the SJTPO region, measures must be taken to improve its portrayal of congested locations that reflect the seasonal nature of peaking in this region.

Corridor Evaluation

The RTP identified a number of problems on roadways and travel corridor throughout the region. The next step in the process is to develop comprehensive corridor assessments and improvement plans. This can be accomplished by integrating information from the management systems, the South Jersey Regional Travel Model, and public outreach activities. As a first step, composite mapping of existing information of state of good repair and safety and congestion problems should be developed. This information can then be used to advance dialog on the transportation needs and issues of the travel corridors and lead to a vision for improvements.

A primary use of census data are the derived input parameters used in the travel demand modeling process. Information on households, persons, and employment are primary input values. The new 2000 data will provide the ability to update the values estimated from the past census to 2000 figures and provide a revised starting point to build future year forecasts. Projections to the year 2025 should be reevaluated once the new census data is available and reviewed.

NJDOT Long Range Plan

Concurrent with the development of the regional transportation plan, the New Jersey Statewide Long-Range Transportation Plan is being developed. To coordinate planning processes, the SJTPO will integrate products available from the LRP into the SJTPO planning process in the future. This includes acting upon the investments identified in the Urban Supplement for Atlantic City, instituting the Urban Investment Policy, incorporating the results of the statewide financial analysis at the regional level, and implementing the strategic transportation investment direction contained in the state plan for the SJTPO region. An additional item is the review, discussion and incorporation of state plan performance indicators into the SJTPO planning process as appropriate.

Model Enhancements

The South Jersey Travel Demand Model was placed into service in 2000. The RTP Update is the first major application of the model for regional transportation planning and conformity assessment. Like all new models, testing and enhancement of the model is necessary to improve its performance and tailor the tool for detailed applications.

The model has two analysis modules, a highway module and a transit module. Enhancements to the highway module proposed include the further testing and refinement of the highway network and the ability of the process to accurately depict existing problems area and system performance characteristics. In addition, the model has the ability to analyze several peak and off-peak travel periods. Currently, the Friday summer PM peak period is in use. Work to develop a set of standard analysis periods is needed.

The transit module has yet to be fully integrated into the planning process. Further testing and refinement of the transit modules capabilities is needed to bring this module "on line".

Two new sources of data will provide a basis for updating and upgrading the models capabilities and performance. The first is the use of the 2000 Census data, including demographic data and journey to work data. The second is the information being gathered by the home travel survey.

VI. FINANCIAL OUTLOOK

INTRODUCTION

This chapter describes current financial mechanisms and analyzes future spending requirements for the SJTPO. This chapter demonstrates that the proposed transportation investment agenda contained in the plan is consistent with reasonably available sources of funds.

Federal transportation planning requirements assert that financial plans are a required element of regional transportation plans for Metropolitan Planning Organizations (MPO). However, MPO plans may include for illustrative purposes, additional projects that would be included beyond identified resources of the financial plan if those resources were to become available.

The transportation requirements of the region go far beyond those listed in the annual Transportation Improvement Program (TIP), which can only address the most pressing needs because of funding limitations. The SJTPO must strike a balance between funds used for maintenance and improvements to substandard infrastructure, and those used for new construction to meet growing travel demands.

CURRENT FUNDING COMMITMENTS

Current funding for transportation improvements in the SJTPO region is dedicated through 2005.

The actual budgeting of federal and state funds for projects within the MPO is a product of the development of three regional Transportation Improvement Programs (TIP), the State Transportation Improvement Program (STIP), and the Annual Capital Program. There may be significant variations in the amount of funds actually programmed within an MPO, as needs and specific project implementation schedules dictate. These programming decisions are made by cooperative participation of NJDOT, NJ Transit, local government representatives, and other agencies.

The Transportation Improvement Program (TIP) for the SJTPO lists state and federally funded state and local highway projects, public transit projects, and statewide transportation programs scheduled for implementation within the next three fiscal years (2001 through 2003). The TIP provides for over \$240 million of transportation investments in southern New Jersey for this period. The TIP includes a detailed description and a funding schedule for each project and program.

The FY2001-2003 TIP is constrained to currently available funding and the remaining two years, FY2004-2005 are estimates, which total \$278 million, and are provided for informational purposes only. These latter two years are not financially constrained.

The FY2001-2003 TIP was developed over a number of months by NJDOT, NJ TRANSIT and the SJTPO. To develop the TIP, projects are screened for their ability to be advanced for implementation and to verify their scope and cost. Projects that pass this initial screening are placed in the project pool for further evaluation and review. The SJTPO employs a project prioritization process that is used to evaluate the project pool.

The current project prioritization process, coupled with funding limitations, leaves many projects with little or no financial backing. This leads to future challenges as the region continues to develop and transportation needs increase. Insufficient funding means these needs will continue to grow, especially as the region's existing transportation system ages.

Continued federal and state funding is required to support the SJTPO's short-term investment program. Although adequate funding levels are in place to support this plan's short-term investments, on-going planning studies will identify additional short and long-term investments needed in the region. The actual budgeting of funds with the funding categories will be a product of the planning process: needs

Table 6-1 – FY 2001 to FY2003 TIP

South Jersey Transportation Planning Organization (SJTPO) Distribution of Funds* NJDOT and NJ TRANSIT (\$ millions)				
Funding Category	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total</u>
<u>NJDOT</u>				
FHWA: Bridge	14.025	11.670	3.100	28.795
FHWA: CMAQ	0.400	0.400	0.400	1.200
FHWA: Minimum Guarantee	0.500	11.800	2.000	14.300
FHWA: NHS	6.790	0.150	8.650	15.590
FHWA: STP-Statewide	5.350	4.700	3.000	13.050
FHWA: STP-SJ	4.710	4.800	4.900	14.410
FHWA: STP-Safety	1.600	2.100	1.600	5.300
FHWA: High Priority	5.400	5.700	5.700	16.800
FHWA: Planning	0.725	0.725	0.725	2.175
Bond 99	13.780	0.000	0.000	13.780
<u>Transportation Trust Fund</u>	<u>16.548</u>	<u>45.596</u>	<u>23.276</u>	<u>85.420</u>
Subtotal	69.828	87.641	53.351	210.820
<u>NJ TRANSIT</u>				
CMAQ	0.461	0.452	0.232	1.145
MATCH-LOCAL	0.233	0.244	0.256	0.733
MATCH-OPER	0.232	0.244	0.256	0.732
Other	0.540	0.540	0.540	1.620
Section 5307	2.405	2.815	3.055	8.275
Section 5310	0.097	0.102	0.107	0.306
Section 5311	0.465	0.488	0.512	1.465
<u>State</u>	<u>4.973</u>	<u>6.098</u>	<u>6.318</u>	<u>17.389</u>
Subtotal	9.406	10.983	11.276	31.665
Total	79.234	98.624	64.627	242.485

*Does not include expenditures from "Statewide" programs within the region.

authorities. It is assumed that the Trust Fund will continue to provide stable funding for transportation in New Jersey through the plan horizon of 2025.

Specific investments that will be pursued over the period of the plan cannot be fully identified. Current experience indicates that the majority of funding will be targeted toward investments that preserve, maintain and improve our region's existing transportation facilities. The majority of the region's future transportation system is already in place, and this system must be maintained and preserved so it can continue to serve both current and future needs. Deferring maintenance cannot continue, or the system will lose its ability to satisfy travel demand in a safe and efficient manner.

Given the needs for maintenance and preservation, the SJTPO will face tough choices allocating limited remaining funds to proposals for capacity expansion for the highway and transit system.

Projected Capital Funding Requirements

Financial analysis conducted as part of New Jersey's Statewide Long-Range Transportation Plan provides information on future capital costs statewide over the next twenty-five years (to 2025). The capital costs required to maintain and expand New Jersey's transportation network are significant. In the discussion below, all dollars are expressed in year of expenditure dollars.

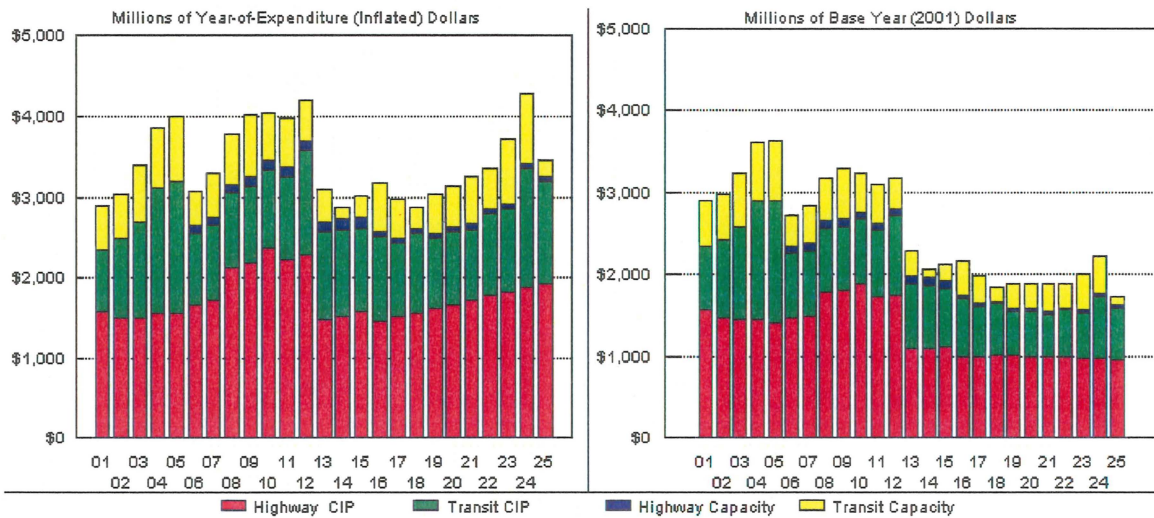
The state transportation plan asserts that the cumulative capital costs will grow to \$85.8 billion by FY 2025 for New Jersey. Assuming a 6% share of that need for the SJTPO region, a figure of \$5.1 billion by 2025 can be assumed for the RTP. The NJDOT's portion of capital costs represent 53.2 percent of the FY 2025 horizon year. NJ TRANSIT's portion of these costs equals 46.8 percent of the FY 2025 horizon year. NJDOT's and NJ TRANSIT's capital costs would likely be funded from a combination of federal and New Jersey Transportation Trust Fund sources or possibly other innovative sources.

Over the long-range planning period, NJ TRANSIT will need \$40.1 billion statewide by FY 2025 to maintain its existing facilities in a state of good repair, provide for the normal replacement of the bus and rail fleet, and implement new bus, commuter rail, and light rail services to meet the state's growing mobility needs. In contrast to the highway long-range capital costs discussed below, the transit capital costs have a greater percentage allocated to new services and capacity expansion (33.7 percent of the FY 2025 totals, respectively). Baseline transit system capital costs, bus and rail car replacements, and regular rehabilitation and replacement of capital assets for system expansion projects equals 66.3 percent of the FY 2025 totals.

Highway capital costs are primarily for addressing the deficiencies of the current network and for bringing assets to a state of good repair. Over the long-range period, NJDOT will need \$45.7 billion statewide for capital costs. On the highway side, overall, expenditures to bring bridges to a state of good repair represent the largest percentage of projected capital costs (33.4 percent through 2025). This is followed by initiatives to enhance highway operations and capital project delivery (18.8 percent through 2025) and support for local highway systems (16.7 percent through 2025). Providing additional highway capacity represents a small portion of total highway capital costs (4.1 percent of the total through FY 2025 total).

The figure below shows the capital funding requirements for transportation in New Jersey in both year of expenditure dollars (inflated) and base year dollars. As can be seen the capital costs required to maintain and expand New Jersey's transportation network are significant.

Figure 6-1 - Capital Funding Requirements for Transportation - Statewide



As part of the state long-range transportation plan financial analysis, long-range forecasts of current Trust Fund revenue sources were developed. Forecasts were based on projected growth in population, employment, and vehicle miles traveled as well as increased motor vehicle fuel efficiency. Current New Jersey Transportation Trust Fund revenues would be available to pay annual debt service on existing bonds and a portion of annual debt service and capital costs associated with future highway and transit needs.

However, the financial analysis found that current Trust Fund revenues projected into the future will not be sufficient to meet the capital funding needs (net of federal funding) identified in the statewide long-range plan.

The statewide financial analysis projected the amount of supplemental revenues that would be required to bridge the gap between current revenue sources and projected statewide long-range plan highway and transit capital costs. Supplemental revenues could be provided from a variety of sources, including user fees dedicated to the Transportation Trust Fund such as an increase in the state gas tax and/or sales tax; an increased allocation of revenues from the highway authorities; and/or additional, dedicated appropriations of General Fund sources. The specific amount and mix of supplemental revenues dedicated to the Transportation Trust Fund will ultimately need to be agreed upon by New Jersey's citizens, elected officials, and transportation policy makers.

The specific funding sources to meet the long-term capital needs for transportation in New Jersey will need to be evaluated by the state's citizens and policy makers, to include stakeholders in the SJPTO region, based on:

- The benefits of the recommended transportation improvement strategies in maintaining the state's quality of life and enhancing its economic competitiveness
- The potential adverse environmental, economic, and social impacts from not maintaining existing transportation assets and providing capacity to accommodate future growth

- The increased financial burden on New Jersey's citizens and businesses associated with the increased transportation funding need
- The impacts on other state programs if existing resources were to be diverted to meet increased funding requirements for transportation.

OPERATING FUNDING

Operating budgets are directly impacted by capital expenditures. On the transit side, operating costs include expenditures for personnel to operate and maintain vehicles and facilities as well fuel and materials. For NJDOT, operating costs are associated with road maintenance personnel and materials. Frequently operating costs are overlooked and instead should be included as part of the total cost for a capital investment. However, some capital investments work to lower operating costs as they can improve the efficiency of the existing system, like bridge reconstruction. However, these operating cost impacts vary project to project.

A stable funding mechanism for NJ TRANSIT's operations is very important, as operating costs for NJ TRANSIT are projected to increase as a result of annual inflation and the operation of new services in New Jersey. Recently, state operating subsidies and revenues from increased ridership have helped to fill the federal funding gap and allowed NJ TRANSIT to avoid fare increases and service cutbacks. However, over the plan's horizon, it will be critically important for the SJTPO to work with NJ TRANSIT, other state transportation agencies and state officials to review funding mechanisms to support transit operations in New Jersey and in the SJTPO region.

NJDOT's operating costs are projected to increase in the future. This increase is mostly attributable to annual inflation. In real terms, operating costs are forecasted to grow but only a small percent would be from the result of new needs associated with maintenance and the operation of additional highway capacity, enhanced maintenance and operation of the existing system, and ITS. As almost one half of NJDOT operating funds come from state appropriations, if NJDOT is to use its limited capital funding effectively over the plan horizon, state officials must maintain a commitment to fund NJDOT operations adequately.

VII. CONFORMITY

INTRODUCTION

The Regional Transportation Plan must demonstrate conformity with federal Clean Air Act requirements as set forth in U.S. Environmental Protection Agency regulations. Without conformity, the Plan cannot be fully adopted and the advancement of transportation projects is severely limited.

In order to demonstrate conformity, an assessment of air quality in the SJTPO region was performed. The purpose of the assessment was to show that the improvements proposed in the Plan would result in the generation of emissions that are below the applicable emissions budgets, thereby demonstrating conformity.

Computer models were used to generate estimates of mobile source emissions resulting from the highway system. Conformity was determined by testing estimated emission levels against applicable emission budgets for the required test years. These years included: 2002, the anticipated milestone year under the upcoming Rate of Progress Plan; 2005, the Ozone attainment year; 2007, the CO budget test year; 2015, the interim year; and 2025, the RTP's horizon year.

As the SJTPO region is designated non-attainment for ozone, emissions of volatile organic compounds and oxides of nitrogen, precursors of ozone, were evaluated. Portions of the SJTPO region have also been designated as maintenance areas for carbon monoxide. Therefore, carbon monoxide emissions were evaluated in Salem and Atlantic Counties.

METHODOLOGY

Ozone (O₃) is a colorless gas associated with smog or haze conditions. Ozone is not a direct emission, but a secondary pollutant formed when precursor emissions, volatile organic compounds (VOCs), also known as hydrocarbons (HC), and oxides of nitrogen (NO_x), react in the presence of sunlight. Carbon monoxide (CO) is a colorless gas formed by the incomplete combustion of fuel. Anywhere combustion takes place (i.e. industrial processes, home heating, vehicle engines, etc.) high concentrations of CO can develop.

As part of the Clean Air Act Amendments of 1990, federal officials grouped areas into air quality control regions (AQCR) based on Consolidated Metropolitan Statistical Areas (CMSA) for the purpose of air quality planning. In the SJTPO region, Atlantic and Cape May Counties were grouped into the Atlantic City AQCR. Cumberland and Salem Counties, along with Burlington, Camden, Cumberland, Gloucester, and Mercer Counties, were included in New Jersey's portion of the Philadelphia AQCR. Both of these AQCR were designated as Non-attainment Areas for ozone. However, in order to assist in the evaluation of air quality conformity in the SJTPO region, emission budgets for VOCs and NO_x were established for the SJTPO region as a whole. Two areas, Atlantic City and part of Penns Grove, are also now considered maintenance areas for CO. For the purposes of evaluating CO emissions, budgets were established for all of Atlantic County and Salem County, which encompass the maintenance areas.

A combination of computer programs centered around MOBILE5a and PPAQ (Post Processor for Air Quality) were used to assess air quality in the SJTPO region. MOBILE5a is a software package developed by the USEPA to calculate mobile source emissions. PPAQ is a software package used to pre-format and post-format data to and from MOBILE5a. It provides a linkage between MOBILE5a and the transportation model, the South Jersey Travel Demand Model (SJTDM). Emissions are calculated for three categories of pollutants: volatile organic compounds, oxides of nitrogen, and carbon monoxide.

Planning Assumptions

The latest planning assumptions must be used in the conformity analysis. Key elements utilized in the conformity assessment follow.

- **Population & Employment**

Population and employment forecasts (as endorsed by the SJTPO TAC on May 5, 2000) were used to forecast future year traffic conditions in the SJTPO area. These are the same forecasts used to develop the anticipated new emissions budgets. The assumptions for population and employment provide for three additional casinos, including the Borgata, but are lower than previously used. These forecasts were derived over time from forecasts originally developed for SJTPO's first Regional Transportation Plan. For those forecasts, regional totals were taken from forecasts promulgated by NJDOT following a long collaboration with Urbanomics Associates, with a straight-line extension from 2010 to 2015. The base year was 1990. Forecasts for counties and municipalities were similarly developed, but were adjusted based on county planners knowledge of local development patterns.

During development of the South Jersey Travel Demand Model, new 1996 baseline estimates were established using 1995 Census population estimates and 1996 Rutgers University employment estimates. In the 1998 Regional Transportation Plan Update, the previous forecasts for 2015 were extended to 2018 because of slower than anticipated growth between 1990 and 1996, as well as delays in major developments anticipated in Atlantic City.

For the May 5, 2000 forecasts, those 1996 and 2018 figures were used to straight-line interpolate the mid-term years and to extrapolate to 2025. The results were then adjusted based on analysis of the growth rates, current plans for development in Atlantic City, and planners knowledge of development patterns. A comparison of the 1999 population from these forecasts to the 1999 Census estimates showed a difference of less than 1%, so these forecasts were adopted without further adjustment.

- **Travel & Congestion**

For all analysis years, VMT and VHT are calculated by the South Jersey Travel Demand Model. Base year VMT was adjusted based on NJDOT's Highway Performance Monitoring System (HPMS) estimates.

- **Transit Operation Policy and Fare Changes**

NJTRANSIT, the statewide public transportation agency, has not had a fare increase in over 10 years. Transit ridership has continued to grow, providing a favorable effect on emissions.

- **Transportation Control Measures (TCMs)**

Transportation Control Measures that were implemented in the region, as identified in previous SIPs, are included in the base network. The current SIP does not include any Transportation Control Measures. Therefore, neither the budgets nor the conformity analysis reflect any additional Transportation Control Measures.

Models and Inputs

There are several requirements for travel demand models for severe ozone areas. They are:

- General Model Requirements
- Consistency with the Highway Performance Monitoring System (MPMS)
- Vehicle Miles Traveled (VMT) estimates
- Reasonable Methods to Estimate Off-Network VMT
- Capacity and Volume Sensitive Speed and Delay Estimates
- Consistency with SIP Emissions Modeling Assumptions

The South Jersey Travel Demand Model (SJTDM) was used along with PPAQ (Post Processor for Air Quality). This model has been accepted and was used to establish the current 2005 budgets, as well as

overall estimates of VMT, VHT, and emissions generated in the SJTPO region. A summary of the population, employment, VMT, and VHT values generated in the SJTPO region is found in Table 7-3 below. The VMT and VHT data is summarized by analysis period, winter or summer, and is presented for comparative purposes.

Table 7-3 - Regional Travel Summary

	2000	2002 ACTION	2005 ACTION	2015 ACTION	2025 ACTION
Population	552,146	562,273	578,550	639,131	702,203
Employment	274,980	279,606	309,020	331,713	361,696
VMT Winter	29,131,102	29,985,731	32,204,843	36,824,356	41,414,674
VHT Winter	701,591	722,502	784,298	907,497	1,051,913
VMT Summer	39,416,847	40,354,430	43,594,850	48,695,072	54,545,220
VHT Summer	1,038,666	1,082,473	1,209,839	1,376,725	1,815,835

ASSESSMENTS

Action Scenarios

The conformity assessment depicts the results of the Action Scenarios testing versus the budgets established for each emission level for the analysis years. To develop the action scenarios, the base year highway network, the highway system as it existed in the model in the year 2000, is used as the starting point. For each analysis year, the highway network is modified based on the projects to be analyzed, as identified in Figure 7-1. For each analysis year, the SJTDM is re-run with the appropriate future year demographic inputs and the modified, "action" highway network assumed in place by the analysis year. The corresponding emissions generated are a result of both the future year demographic inputs and the new projects, or actions, added to the base network in the appropriate year. The emissions from these "action" scenarios are then compared to the corresponding analysis year emission budgets.

Budget Tests

As was previously stated, SJTPO regional budgets anticipated under the proposed Rate of Progress Plan are used for VOC and NOX. Budgets for the analysis years for VOC and NOX, previously stated as 2002, 2005, 2015 and 2025, are listed below. CO budgets under the maintenance plan are evaluated at the county level to account for Atlantic City and part of Penns Grove. CO budgets are also listed below for years 2002, 2005, 2007, 2015 and 2025.

Budget tests were performed for VOC and NOX for the SJTPO region. The tests show whether improvement actions, or the action scenarios, keep emissions within budget. Results are determined by subtracting projected emissions from the budgeted amounts. The VOC and NOX budget tests for analysis years 2002, 2005, 2015 and 2025 all passed, as seen in the Tables 7-4 and 7-5 below.

PLAN CONFORMITY DETERMINATION

As all tests passed for all required years, and all related requirements were met as reviewed above, the Regional Transportation Plan complies with federal Clean Air regulations and is a conforming plan.