

Shore Connection Committee Report

Route 55/47 Corridor Transportation Study



prepared for
South Jersey Transportation Planning Organization

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Rts. 55/47 Corridor

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SHORE CONNECTION COMMITTEE REPORT

Rts. 55/47 Corridor

1 EXECUTIVE SUMMARY

The Shore Connection Committee (SCC) was established as a forum of vested state and local parties to evaluate the Rt. 55 and Rt. 47 corridor, come to agreement on the problems in the corridor, and come to agreement on a solution or range of solutions that could advance in the project development process. Through a series of working meetings, the SCC approved of a core program of measures that begins to address congestion while minimizing environmental and community impacts.

An incremental improvement program for the corridor was developed by the SCC based on traffic issues, environmental constraints, and community concerns. The program forms the basis of the identification, programming, and advancement of improvement projects through the South Jersey Transportation Planning Organization's (SJTPO) regional planning process.

The improvement program focuses on two main areas: operational improvements proposed to increase the efficiency and maximize the capacity of the existing system, and capital improvements proposed to supplement or enhance the system and add capacity. At this stage in the process, the improvement program consists of concepts for study purposes, as they have not been fully defined or analyzed. There will be opportunities for further public involvement as part of the SJTPO's study and development process.

The proposed improvement program follows:

Manage Recreational Travel - Operational program to increase efficiency of existing system.

- Develop an annual deployment plan for Variable Message Signs (VMS)/Highway Advisory Radio (HAR) in the corridor.
- Advocate 24 hour weekend coverage by the Southern Region Traffic Operations Center to monitor traffic activity throughout the summer.
- Evaluate need for Emergency Service Patrol (ESP) coverage in the corridor.
- Gauge annual corridor performance and report to the SJTPO. Monitor traffic growth and characteristics and report findings - including aerial surveillance every 3 years.
- Review regional recreational travel signing. Update/modify sign system to take advantage of alternative routes with excess capacity, particularly where signing may encourage travel in areas where economic benefits may result.
- Explore modifying shore property rental periods. Desirable to change a portion of the rentals from Saturday - Saturday to Sunday - Sunday.

Atlantic City Expressway and Garden State Parkway Corridor - Maintain and enhance the corridor's role as a provider of service to the shore/recreational market.

- Support/Advocate Garden State Parkway improvements through Cape May Court House, Interchange 0, 6, and 17 improvements.
- Support Garden State Parkway program/effort to widen the GSP between the ACE and

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Interchange 30.

- Reduce congestion on Rt. 9 by increasing access to the GSP. Identify interchange capacity, accessibility, and operational deficiencies.
- Investigate innovative toll structure/price incentives aimed at capturing more regional recreational market (possible discount to ACE/GSP link users, value pricing).

Capital Improvements – Near Term - Capital highway improvement studies that can be activated or advanced immediately. These projects were placed in the near term category due to their full support of the SCC.

- Advance intersection improvement studies in FY 1999-2001 at:
 1. US 9/CR. 550/Sea Isle Blvd. at GSP (Interchange 17).
 2. Rts. 347/47 in Port Elizabeth.
 3. Rts. 347/47 in Dennisville.
 4. Rts. 55/49 in Millville.
 5. Rts. 55/47 in Maurice River.

Capital Improvements – Mid Term - Capital highway improvement studies for projects that will require longer evaluation, scoping, and development time due to their increased magnitude and impacts.

- Rt. 47 Corridor Reversible Third Lane.
- Rts. 49/50 Corridor Capacity/Operational Improvements.
- CR. 550 Corridor Improvements.
- Rt. 49 to CR. 550 Access Improvements – Upgrade Linkage.

Capital Improvements – Long Term - Capital highway improvements projects that will not be activated immediately, but can be drawn upon if needed following study or implementation of near and mid term programs. These projects may have significant impacts and were not fully supported by all SCC members.

- Rt. 47 to CR. 550 Access Improvements via Weatherby or Hunter's Mill Road and former rail ROW – New Linkage.
- Rt. 55 Freeway.

2 BACKGROUND

The New Jersey Shore has a long history of attracting thousand of in-state and out-of-state visitors to its many beaches and recreational attractions. During the peak summer season, roadways leading to the shore communities are often very congested, resulting in delays to both visiting motorists and local residents.

Cape May County is located in the southeast corner of the State, and is the home to many of New Jersey's most popular beaches. This shore area draws traffic from the entire region, including many Pennsylvania, New York, and southern New Jersey motorists. Most of these motorists rely on major highways to complete a portion of their trip, including the Atlantic City Expressway, the Garden State Parkway, and Rt. 55.

The existing Rt. 55 Freeway serves as the predominant north-south highway in Gloucester and Cumberland Counties. With the completion of segments of Rt. 55 in the fall of 1989, the highway quickly became a principal route for summer traffic headed to and from Cape May County shore points. Rt. 55 freeway ends in Maurice River Township, Cumberland County, New Jersey, where it flows into Rt. 47. From this point, about 20 miles from the Cape May shore, two-lane roadways including Rt. 47, Rt. 347, Rt. 49, and Rt. 50, are utilized to reach the shore. These roads are highly congested during the summer peak period.

A feasibility study was completed in 1994 on constructing a twenty-mile southern extension of Rt. 55 as a new four lane freeway from Maurice River Township into Cape May County. The report concluded that it would be very difficult to advance a freeway option in light of overwhelming environmental constraints and major project costs.

The Rts. 55/47 Corridor experiences severe traffic conditions in the summer months, and therefore a program to improve traffic flow in the area is needed. As there are many diverse objectives and interests in the region, it has been difficult to formulate an improvement program that possesses a broad base of support. To address this problem, the South Jersey Transportation Planning Organization (SJTPPO) decided to bring representatives of the area's interest groups together in a cooperative fashion in an attempt to develop a "home grown" program that would enjoy a broad base of local support.

The Shore Connection Committee (SCC) was established as a forum of vested state and local parties to evaluate the corridor, come to agreement on the problems in the corridor, and come to an agreement on a solution or range of solutions that could advance in the project development process. The New Jersey Department of Transportation supported the SCC by working with the committee to examine options and by providing consultant assistance to evaluate the options and facilitate the SCC's meetings.

The study began in the summer of 1997 and concluded in the summer of 1998. This report summarizes the work of the Shore Connection Committee. It includes an overview of the study process and the development and evaluation of improvement concepts conducted by the SCC. It also presents an improvement program built upon the spirit and results of the SCC process. The program areas form the basis of a near term and a longer range plan for the identification, programming, and advancement of improvement projects through the SJTPPO's regional planning process.

3 SCC COMMITTEE

3.1 Composition

The SCC was composed of over twenty individuals organized as members, invited guests, and the project support team. Groups represented as members, with direct participation and decision-making power, included:

- Cape May County
- Cumberland County
- Maurice River Township
- Upper Township
- Dennis Township
- Woodbine Borough
- Millville City
- Council of Mayors for Cape May County
- Council of Mayors for Cumberland County
- The Nature Conservancy
- New Jersey Conservation Foundation
- New Jersey Highway Authority
- South Jersey Transportation Authority.

Groups represented as invited guests, and participants in the discussion process, included:

- New Jersey State Assembly and Senate
- Pinelands Commission
- South Jersey Economic Development Council
- New Jersey Department of Environmental Protection (NJDEP)
- Citizens United
- New Jersey Audubon Society
- Cape May County Chamber of Commerce
- Vineland Chamber of Commerce
- Millville Chamber of Commerce.

The project support team consisted of staff from the SJTPO, the NJDOT, and consultants assisting in the technical evaluation process and meeting facilitation.

3.2 Committee Purpose & Goals

The purpose of the Shore Connection Committee was to discuss the issues and concerns of local municipalities and interest groups regarding the problems faced in the Rts. 55/47 Corridor and to help shape a range of options that could be advanced to improve conditions in the corridor. The SCC members provided input, feedback, and pertinent information to the Project Support team regarding the transportation needs, environmental issues, and infrastructure improvements needed in the study area.

The goals of the SCC were to:

- Convey the interests and concerns of local residents, organizations, municipalities and businesses in the study area.
- Actively participate in developing transportation solutions that maximized safety and

traffic efficiency while minimizing environmental impacts, historic and community disruption, and costs.

- Provide input to the Project Support Team in a collaborative fashion utilizing consensus to reach agreement.
- Assist in communications with the community in order to enhance the project understanding.
- Maximize broad-based public participation in the transportation planning process.

4 PROJECT NEED

The Rts. 55/47 Corridor experiences significant seasonal variation due to the influence of recreational travel. Average daily traffic during summer weekends increases approximately 70 percent over non-summer periods. At present, the existing routes provide a satisfactory Level of Service (LOS) for an average day, but summer weekend traffic experiences heavy spot congestion. Year 2005 traffic estimates generated by previous transportation studies predict limited spot congestion for an average day, but severe, widespread congestion during summer weekend periods.

4.1 Routes to the Shore - How Visitors Get to Cape May

There are a limited number of primary travel corridors serving Cape May County. Evidence from past motorists surveys indicate that the selection of a travel corridor depends mainly on the origin of a trip, the destination of a trip, and sensitivity to tolls. From the northern part of New Jersey, most motorists reach Cape May County via the Garden State Parkway (GSP), a toll road. US 9 roughly parallels the GSP down to Cape May, and some motorists use this non-tolled roadway to complete a portion of their trip.

A portion of motorists from central New Jersey and parts of southeastern Pennsylvania use the Atlantic City Expressway (ACE) to access the GSP. The ACE is also a toll facility. A portion of motorists from southern New Jersey and from southeastern Pennsylvania utilize Rt. 55 to head toward Cape May County. These motorists then use Rt. 49, Rt. 50, Rt. 47, and Rt. 347, along with a number of county roads, to complete the trip into Cape May County, where they continue mainly via Rt. 47, US 9, or the GSP.

These combinations of roadways form the primary corridors for accessing Cape May County, and are depicted in Figure 1:

- Rt. 49 and Rt. 50 - serve primarily northern and central Cape May County.
- ACE to GSP - serve all of Cape May County.
- US 9 and GSP - serve all of Cape May County.
- Rt. 47 and Rt. 347 - serve mainly southern Cape May County.
- CR. 550 - serves mainly central and southern Cape May County.

Motorist travel patterns in this corridor are well established. Re-occurring delays are found on many routes even though there are some less direct alternatives, indicating a percentage of motorists who are not likely to divert from their selected route. This is important, as it indicates that improvement concepts should be explored on corridors where problems are known to exist. It doesn't diminish, however, the need to explore alternative routings for a portion of motorists who may alter their selection of route given clearly signed options.

4.2 Historic, Weekly, and Seasonal Variation

A review of changes in traffic volumes over time was made along Rts. 49, 50, 47, 347, and 55. Limited data was available for the years 1991 and 1997. In general, peak hour volumes and daily total volumes have grown, and the peak period is spreading, with overall longer periods of congestion in 1997. Highlights follow.

- Rt. 49 peak traffic has grown more than 50 percent in both the EB and WB directions.
- Rt. 50 traffic has grown, but moderately.
- Rt. 347 peak traffic has grown significantly, with volumes more than three times higher in 1997 than in 1991, reflecting the roadway becoming a major travel route.
- Rt. 55 peak period traffic has grown and spread, while peak hour volumes have remained flat or decreased slightly.

A review of 1991 and 1997 aerial surveillance data indicates that the problem areas are generally the same in 1997 as they were in 1991. Improvements made in the corridor over that time period did have a positive impact on the problem areas.

A review of weekly variation revealed that:

- Rts. 49, 50, and 347 weekday peak hour volumes are about 1/2 to 1/3 of the weekend peak hour volumes.
- Rt. 47 peak hour volume is about 3/4 of weekend peak hour volume.

Limited data was available to gauge seasonal variation. It indicated that non-summer peak period and daily volumes were about one-half of the summer volumes for a weekend. Weekday non-summer volumes were only slightly less than weekday summer volumes, indicating most of the seasonal variation occurs during the weekend periods.

Details of the traffic data can be found in a technical memorandum documenting the existing conditions in the study area.

4.3 Issues and Problems in the Corridor

An early charge of the SCC was to define the problems and issues facing the corridor. The group reached agreement that traffic congestion, safety concerns, and the resulting impact on the local quality of life including local access were problems that must be addressed. There was also a strong desire to preserve the quality of the environment of the area and the rural character of the area. Many wanted to balance the scope of the solution with the scope of the problem and its environmental impacts. The need for a major highway project with year round impacts to address problems that occur during the limited summer season was questioned. All recognized the importance of tourism to the local economy, and some noted the need to plan for future growth, as the land is already over burdened in the shore areas. A concern about the ability to evacuate the region in an emergency was also voiced.

4.3.1 Problem locations

The peak movement of travel toward the shore occurs on a Saturday from mid morning to early afternoon. The predominant directions of travel in this period are southbound (SB) and eastbound (EB). Saturday existing conditions and problem locations grouped by travel corridors can be found on the next page.

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Rts. 49/50 Corridor from Rt. 55 to GSP/US 9

- Queuing on Rt. 55 at Rt. 49.
- Congestion on Rt. 50 through Tuckahoe, and at times at the Rt. 49 signals
- No flow problems through to US 9.

US 9/GSP Corridor from Rt. 50 to Cape May

- GSP congestion at Cape May toll plaza, Sea Isle Blvd. exit ramps, and Stone Harbor Blvd. intersection (CR. 550).
- Severe Rt. 9 congestion at Sea Isle Blvd. and at Stone Harbor Blvd./GSP.

Rts. 47/347 Corridor from Rt. 55 to Rio Grande

- No flow problems at south end of Rt. 55.
- Spotty congestion at Rts. 47/347 split (SB).
- Severe congestion at Rts. 47/347 convergence (SB) - Queue 3-4 miles long.
- Congestion at Tyler Road intersection.

The peak movement of travel back from the shore occurs on a Sunday from afternoon to early evening. The predominant directions of travel in this period are northbound (NB) and westbound (WB). Sunday existing conditions and problem locations grouped by travel corridors follow.

Rts. 49/50 Corridor from GSP/US 9 to Rt. 55

- Continuous, steady flow through corridor.
- Heavy traffic on Rt. 50 through Tuckahoe.

US 9/GSP Corridor from Cape May to Rt. 50

- Continuous, steady flow through corridor.
- Heavy traffic on US 9 in several areas.
- Congestion at US 9 and Sea Isle Blvd.

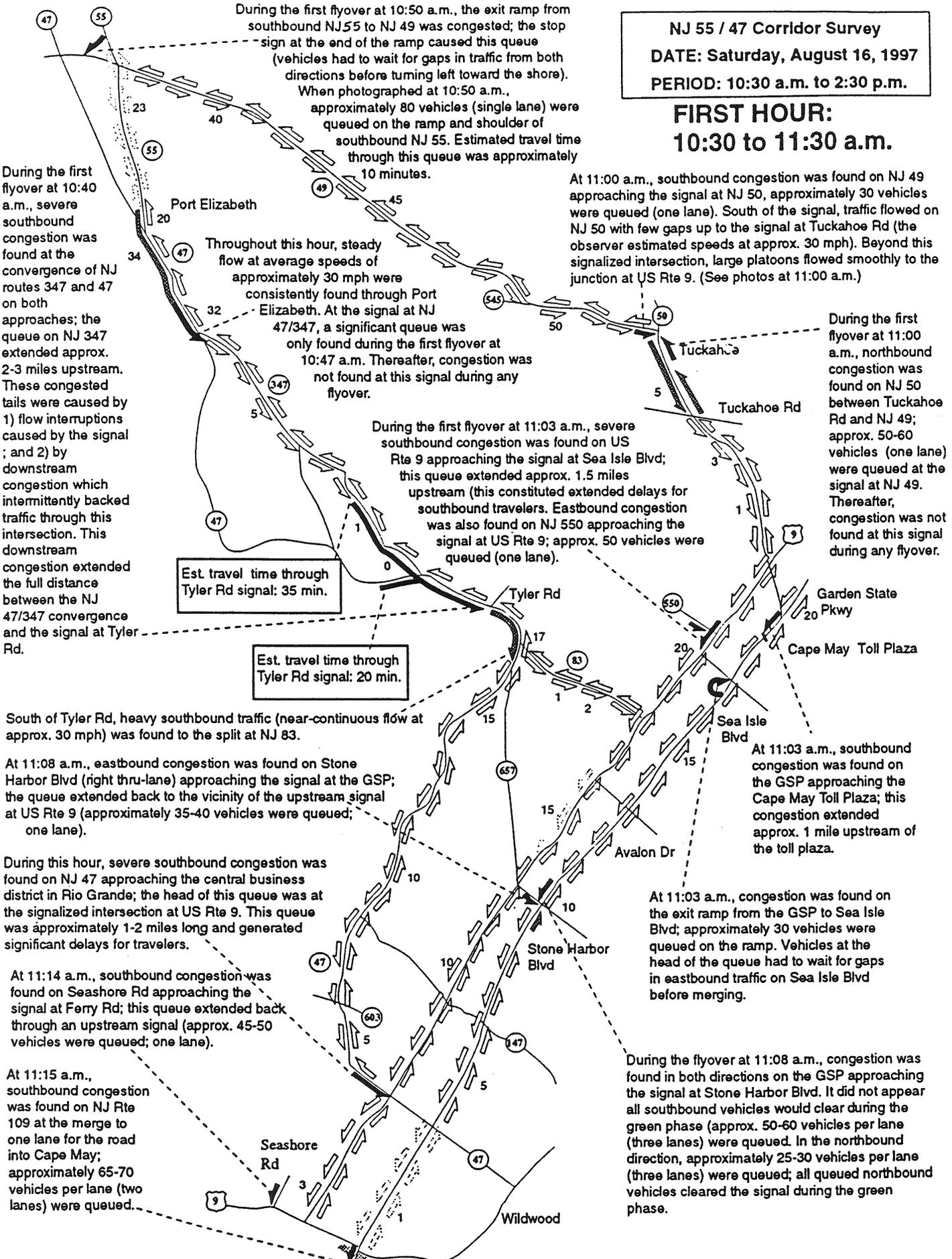
Rts. 47/347 Corridor from Rio Grande to Rt. 55

- Continuous, steady flow through corridor.
- Heavy traffic on Rt. 47 at CR. 585 and Rt. 83.
- Heavy traffic between Rt. 83 and Tyler Road.
- Congestion at Rts. 47/347 convergence (NB).
- Congestion on Rt. 47 through Port Elizabeth central business district.

Figures 2 and 3 depict the problem locations.

NJ 55 / 47 Corridor Survey
DATE: Saturday, August 16, 1997
PERIOD: 10:30 a.m. to 2:30 p.m.

**FIRST HOUR:
 10:30 to 11:30 a.m.**



During the first flyover at 10:50 a.m., the exit ramp from southbound NJ 55 to NJ 49 was congested; the stop sign at the end of the ramp caused this queue (vehicles had to wait for gaps in traffic from both directions before turning left toward the shore). When photographed at 10:50 a.m., approximately 80 vehicles (single lane) were queued on the ramp and shoulder of southbound NJ 55. Estimated travel time through this queue was approximately 10 minutes.

During the first flyover at 10:40 a.m., severe southbound congestion was found at the convergence of NJ routes 347 and 47 on both approaches; the queue on NJ 347 extended approx. 2-3 miles upstream. These congested tails were caused by 1) flow interruptions caused by the signal; and 2) by downstream congestion which intermittently backed traffic through this intersection. This downstream congestion extended the full distance between the NJ 47/347 convergence and the signal at Tyler Rd.

Throughout this hour, steady flow at average speeds of approximately 30 mph were consistently found through Port Elizabeth. At the signal at NJ 47/347, a significant queue was only found during the first flyover at 10:47 a.m. Thereafter, congestion was not found at this signal during any flyover.

At 11:00 a.m., southbound congestion was found on NJ 49 approaching the signal at NJ 50, approximately 30 vehicles were queued (one lane). South of the signal, traffic flowed on NJ 50 with few gaps up to the signal at Tuckahoe Rd (the observer estimated speeds at approx. 30 mph). Beyond this signalized intersection, large platoons flowed smoothly to the junction at US Rte 9. (See photos at 11:00 a.m.)

During the first flyover at 11:00 a.m., northbound congestion was found on NJ 50 between Tuckahoe Rd and NJ 49; approx. 50-60 vehicles (one lane) were queued at the signal at NJ 49. Thereafter, congestion was not found at this signal during any flyover.

During the first flyover at 11:03 a.m., severe southbound congestion was found on US Rte 9 approaching the signal at Sea Isle Blvd; this queue extended approx. 1.5 miles upstream (this constituted extended delays for southbound travelers. Eastbound congestion was also found on NJ 550 approaching the signal at US Rte 9; approx. 50 vehicles were queued (one lane).

Est. travel time through Tyler Rd signal: 35 min.

Est. travel time through Tyler Rd signal: 20 min.

South of Tyler Rd, heavy southbound traffic (near-continuous flow at approx. 30 mph) was found to the split at NJ 83.

At 11:08 a.m., eastbound congestion was found on Stone Harbor Blvd (right thru-lane) approaching the signal at the GSP; the queue extended back to the vicinity of the upstream signal at US Rte 9 (approximately 35-40 vehicles were queued; one lane).

At 11:03 a.m., southbound congestion was found on the GSP approaching the Cape May Toll Plaza; this congestion extended approx. 1 mile upstream of the toll plaza.

During this hour, severe southbound congestion was found on NJ 47 approaching the central business district in Rio Grande; the head of this queue was at the signalized intersection at US Rte 9. This queue was approximately 1-2 miles long and generated significant delays for travelers.

At 11:03 a.m., congestion was found on the exit ramp from the GSP to Sea Isle Blvd; approximately 30 vehicles were queued on the ramp. Vehicles at the head of the queue had to wait for gaps in eastbound traffic on Sea Isle Blvd before merging.

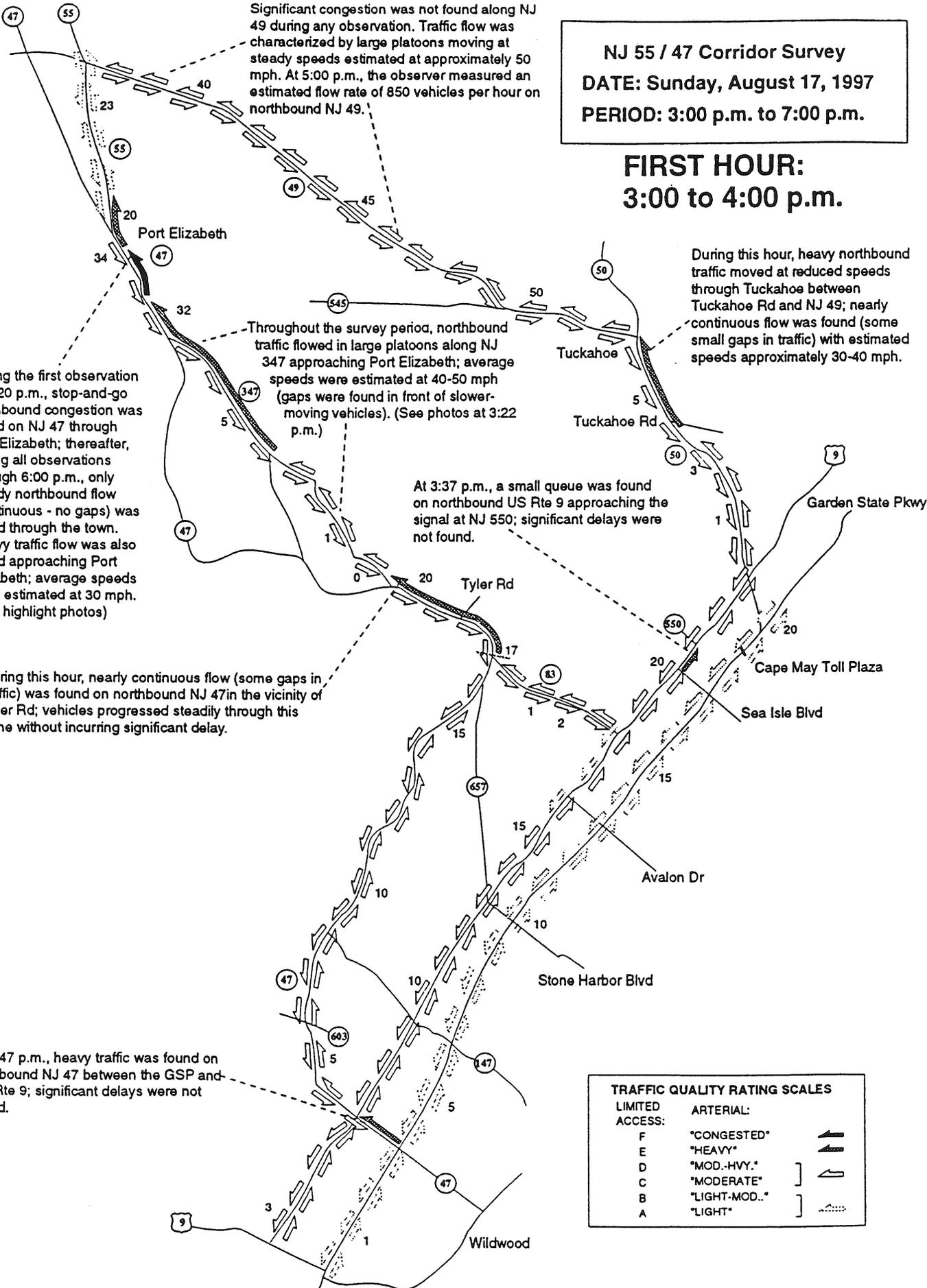
At 11:14 a.m., southbound congestion was found on Seashore Rd approaching the signal at Ferry Rd; this queue extended back through an upstream signal (approx. 45-50 vehicles were queued; one lane).

During the flyover at 11:08 a.m., congestion was found in both directions on the GSP approaching the signal at Stone Harbor Blvd. It did not appear all southbound vehicles would clear during the green phase (approx. 50-60 vehicles per lane (three lanes) were queued. In the northbound direction, approximately 25-30 vehicles per lane (three lanes) were queued; all queued northbound vehicles cleared the signal during the green phase.

At 11:15 a.m., southbound congestion was found on NJ Rte 109 at the merge to one lane for the road into Cape May; approximately 65-70 vehicles per lane (two lanes) were queued.

NJ 55 / 47 Corridor Survey
DATE: Sunday, August 17, 1997
PERIOD: 3:00 p.m. to 7:00 p.m.

**FIRST HOUR:
 3:00 to 4:00 p.m.**



Significant congestion was not found along NJ 49 during any observation. Traffic flow was characterized by large platoons moving at steady speeds estimated at approximately 50 mph. At 5:00 p.m., the observer measured an estimated flow rate of 850 vehicles per hour on northbound NJ 49.

During this hour, heavy northbound traffic moved at reduced speeds through Tuckahoe between Tuckahoe Rd and NJ 49; nearly continuous flow was found (some small gaps in traffic) with estimated speeds approximately 30-40 mph.

During the first observation at 3:20 p.m., stop-and-go northbound congestion was found on NJ 47 through Port Elizabeth; thereafter, during all observations through 6:00 p.m., only steady northbound flow (continuous - no gaps) was found through the town. Heavy traffic flow was also found approaching Port Elizabeth; average speeds were estimated at 30 mph. (See highlight photos)

Throughout the survey period, northbound traffic flowed in large platoons along NJ 347 approaching Port Elizabeth; average speeds were estimated at 40-50 mph (gaps were found in front of slower-moving vehicles). (See photos at 3:22 p.m.)

At 3:37 p.m., a small queue was found on northbound US Rte 9 approaching the signal at NJ 550; significant delays were not found.

During this hour, nearly continuous flow (some gaps in traffic) was found on northbound NJ 47 in the vicinity of Tyler Rd; vehicles progressed steadily through this zone without incurring significant delay.

At 3:47 p.m., heavy traffic was found on westbound NJ 47 between the GSP and US Rte 9; significant delays were not found.

TRAFFIC QUALITY RATING SCALES		
LIMITED ACCESS:	ARTERIAL:	
F	"CONGESTED"	
E	"HEAVY"	
D	"MOD.-HVY."	}
C	"MODERATE"	
B	"LIGHT-MOD.."	}
A	"LIGHT"	

5 STUDY PROCESS

The study process was comprised of four main components:

- Establishment of background parameters.
- Re-Assessment of project need.
- Identification and evaluation of possible solutions.
- Development of near and long term planning options.

The primary study area was defined as portions of Cumberland and Cape May counties lying along the Rts. 55/47 corridor extending from Port Elizabeth to Cape May. Arterial roadways serving as shore routes to Cape May County were the focus of the study. These roadways include Rt. 49, Rt. 50, CR. 550, the Garden State Parkway, the Atlantic City Expressway, US 9, Rt. 47, and Rt. 347.

The study process first solicited information from the SCC on the scope and magnitude of the transportation problems found in the corridor. Existing conditions in the study area were used to establishment background parameters on the transportation system's performance. The analysis focused on data collected from the summer of 1997. It included an assessment of historic data from the corridor based on traffic counts and aerial surveillance. The project Support team used the information to portray existing conditions in the corridor, how the conditions have changed over time, and to define the problem locations. Based on input and feedback from the SCC, the transportation needs for the area were defined.

The SCC recognized that the transportation problems in the corridor need mitigation. As such, the group identified a wide range of improvement concepts to address the traffic flow conditions and satisfy the overall goals of the study. The concepts included improvements to existing roadways within existing right-of-way, construction of new roadways or improvements to existing roadways on new right-of-way, improved management of existing transportation infrastructure to maximize efficiency, and management of transportation demand to spread or lessen the peak period traffic loads or encourage the use of alternative modes.

The improvement concepts were evaluated based on their ability to meet the transportation needs of the corridor, their community and social impacts, and their environmental impacts. The study utilized a modified version of the South Jersey Highway model to assess the ability of the existing system to serve summer peak travel demand. The model was used to evaluate, at a screening level, the traffic impact of each improvement concept on the highway system. This information, along with a screening level summary of possible environmental and historical constraints, and an assessment on the buildability of each concept was presented to the SCC.

The SCC, through a series of meetings, debated the merit of each improvement concept. After all were reviewed, the concepts were reorganized to facilitate their grouping into an improvement program. The concepts were then assessed by the SCC to identify those that meet the project's needs and should be given further consideration and to identify those that should be dismissed or set aside for later consideration. During this process, new or modified improvement concepts were introduced by SCC members for consideration by the group.

Building on the results of the SCC process, an improvement plan for the corridor was proposed. An incremental improvement program was developed based on traffic issues, environmental constraints, and community concerns. The program focuses on two main areas: operational improvements and capital improvements. The program areas form the basis of a near term and a longer range plan for the identification, programming, and advancement of improvement

projects through the SJTPO's regional planning process.

6 INITIAL IMPROVEMENT CONCEPTS

The formulation of improvement concepts for the corridor was guided by the goals established by the SCC. These goals included improving traffic flow, improving safety, improving the local quality of life, and preserving the quality of the environment of the area and its rural characteristics. A wide range of concepts were initially developed as possible solutions including improvement to existing parallel facilities, transportation system management (TSM) and intelligent transportation system (ITS) options, travel demand management (TDM) options, a full extension of the Rt. 55 freeway, and the utilization of alternative modes, such as rail.

Initially, over 20 concepts were identified and evaluated. The concepts are defined in Appendix A and listed below. Some are also depicted in Figure 3 - Improvement Concepts Evaluated:

Rail - New passenger rail line from Millville to Woodbine following existing and former rail right-of-way.

CR. 550 Northern Arterial - Two lane arterial roadway using new and existing alignments from Rt. 49 and near CR. 548 or CR 557, to CR. 550, to Sea Isle Boulevard Extension to the GSP.

CR. 550 Southern Arterial - Two lane arterial using new and existing alignments from Rt. 347 to CR. 550 to Sea Isle Boulevard, including a widening of Rt. 47 north to Rt. 55 and the Sea Isle Blvd. Extension to the GSP.

CR. 550 Middle Arterial - Two lane arterial using new and existing alignment from Rt. 47 and CR. 548 to CR. 550 to Sea Isle Boulevard, including a widening of Rt. 47 north to Rt. 55 and the Sea Isle Blvd. Extension to the GSP.

Sea Isle Blvd. Extension - Two lane arterial roadway on new alignment to extend Sea Isle Blvd. to connect CR. 550 with US 9 and the GSP.

Rt. 83 Extension - Two lane arterial on new alignment to extend Rt. 83 to the GSP.

Rts. 49 & 50 Connection with GSP (Interchange 20) - Upgrade interchange with GSP from partial to full (currently active).

Tyler Road Intersection - Improvements to increase capacity on Rt. 47.

Rts. 47 & 347 Intersection - North and South Merge Improvements to increase capacity.

Port Elizabeth Bypass - Two lane arterial roadway on new alignment from Rt. 55 to Rt. 347.

Dennisville Bypass - Two lane arterial roadway on new alignment from CR. 557 to Rt. 83.

Tuckahoe Bypass - Two lane arterial roadway on new alignment from Rt. 49 to Rt. 50.

Rt. 55 Freeway - Four lane roadway on new alignment to the GSP.

CR. 557 & CR. 550 Intersection - Capacity improvements.

Rt. 47: Reversible Lane - Provide additional, reversible lane in the peak travel direction on summer weekends from Rt. 55 to Rt. 347 and from Rt. 347 to Rt. 657.

GSP Intersections - Grade separate signalized intersections in Cape May Court House at: Crest Haven Boulevard, Shell Bay Drive, Stone Harbor Boulevard (CR 550).

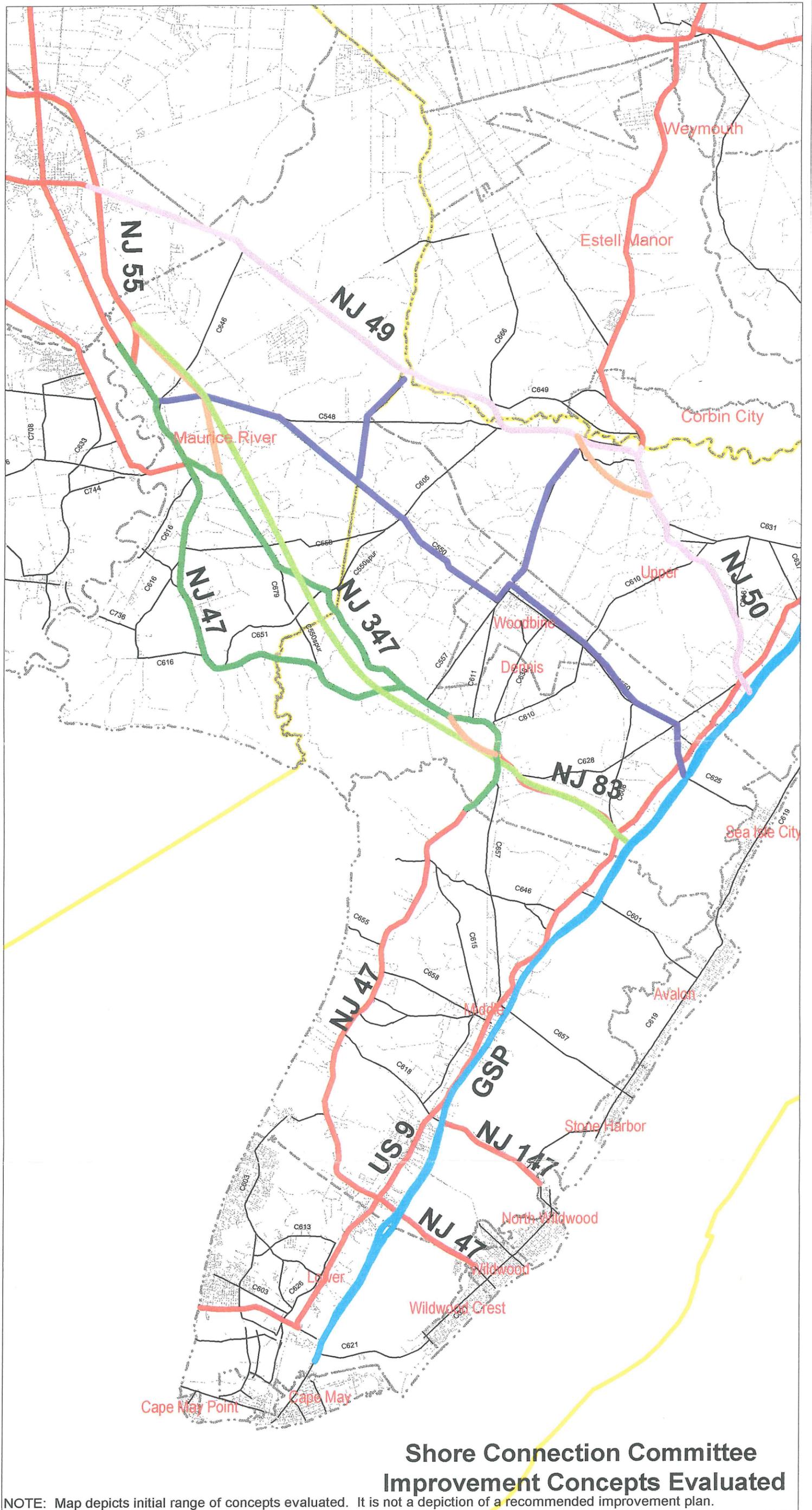
ACE & GSP Interchange - Improvements to interchange area.

Traffic Demand Management (TDM) - Create better balance between system supply and

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demand to improve traffic flow conditions.

Intelligent Transportation Systems/Transportation System Management (ITS/TSM) – Employ technology to increase capacity through increasing efficiency. ITS systems include Highway Advisory Radio, Variable Message Signs, and Incident Management.



LEGEND

Corridors

- 49/50
- 550
- 47/347
- ACE/GSP

Freeways

- By-pass
- Route 55

Not Depicted

- ITMS
- TDM

**Shore Connection Committee
Improvement Concepts Evaluated**

NOTE: Map depicts initial range of concepts evaluated. It is not a depiction of a recommended improvement plan.

7 SCREENING OF THE IMPROVEMENT CONCEPTS

The improvement concepts were evaluated based on their ability to improve current travel conditions, their impact on the environment, and on community issues. For each concept, an assessment of the traffic impact, a screening level summary of possible environmental and historical constraints, and an assessment on the buildability of each concept was presented to the SCC. The evaluation process at this level was geared to eliminate fatally flawed concepts, or concepts that did not achieve the study's goals and objectives.

The SCC debated the merit of each concept. Some were dismissed as not meeting the transportation objectives of the study, including:

Rt. 83 Extension - Dismissed, as it would not serve traffic needs. It would serve the same destination as existing CR. 657 and would prove difficult to tie-in with the GSP. CR. 657 offers a comparable travel benefit, is shorter, and doesn't have a toll.

Rts. 49 & 50 Northbound Connection with GSP (Interchange 20) - This concept primarily serves movements to and from the Ocean City, New Jersey area. It would have little impact on southern Cape May bound traffic and it would provide minimal help to the Rts. 55/47 corridor. Therefore, it was not further evaluated in the context of this study.

Rail - New passenger rail line from Millville to Woodbine - Dismissed as it was inconsequential as a traffic solution. This concept has low potential to capture original recreational travel in the corridor and would likely have little impact on roadway flow conditions. It is not likely to be attractive to recreational travelers as an intercept/mode transfer station in Millville, and therefore would have little impact on relieving congestion in the corridor. As a tourist attraction, it is possible, but such a system would have little impact on the regional highway system.

An outgrowth of this concept was the desirability of exploring regional rail service in the corridor. This will be accomplished via the SJTPO's Regional Transportation Plan update process.

The remaining concepts were reorganized to facilitate grouping one or several concepts into an improvement program. The concepts were then assessed by the SCC to identify those that met the project's needs and should be given further consideration and to identify concepts that should be dismissed or set aside for later consideration. The resulting transportation improvement concepts were categorized into five groups depicted below.

- Corridors.
- TDM/ITS Concepts.
- Freeways.
- Bypasses.
- Regional Rail.

7.1 Corridors

This group of transportation improvement concepts consisted of new or upgraded arterial roadways that would primarily follow existing or former road or rail right-of-ways (ROW). The primary objective of these concepts was to provide additional roadway capacity to better serve overall travel demand.

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7.1.1 Rts. 49/50 Corridor

Improvements proposed in this corridor include the upgrading of the Rt. 49 and Rt. 55 interchange, minor capacity improvements along the corridor utilizing mainly existing ROW, and a bypass of Tuckahoe partially built on new alignment. The improvements were proposed as a means of decreasing the overall travel time associated with this route, thereby making it more attractive for motorists to divert from Rt. 55 and use the Rts. 49/50 corridor to access Cape May County.

The traffic advantages of this concept are that motorists diverting from Rt. 55 before the Port Elizabeth area would reduce congestion on Rt. 47 and Rt. 347 in the southwestern portion of the study area. The number of such motorists who are destined for southern Cape May County that would use this route is likely low based on travel demand modeling results, as it may not reduce overall travel time significantly. Therefore, this concept may offer limited benefit to the overall study area. However, as this route is currently under-utilized, it is a candidate for signing and VMS/HAR treatment to allow motorists the opportunity to better utilize this alternative route, especially if improvements are made in the corridor to make it more attractive.

The upgrade of the existing interchange and the existing Rt. 49 and Rt. 50 corridor should not pose any significant environmental difficulties. The bypass of Tuckahoe was not fully explored, as it was added to the evaluation process at a late date. However, any roadway constructed on new alignment would likely pose environmental difficulties. There was also concern expressed about bypassing a small urban center and its potential negative impacts on the commerce of Tuckahoe.

7.1.2 Rts. 47/347 Corridor

This concept consisted of developing a reversible lane on Rt. 47 from Rt. 55 to the Rts. 47/347 split and a reversible lane on Rt. 47 from the Rts. 47/347 merge to Rt. 83 and CR. 657. As proposed, the reversible lane would operate in the peak travel direction on summer weekends. Included would be key intersection improvements to increase capacity, including the intersection of Rt. 47 and 347 at the northern and southern merge points and at Tyler Road and Rt. 47.

The traffic advantages of this concept is to provide additional capacity on Rt. 47 in highly congested areas when it is needed the most - during the peak summer weekends. The additional roadway and intersection capacity should improve traffic flow through these bottleneck areas, thereby benefiting the overall Rts. 47/347 corridor. As this is a major route for (Rt. 55) travelers destined to southern Cape May County, it would have significant transportation benefits.

The difficulties with this concept are that a reversible lane would require the need for some ROW and an advanced traffic operations control system. New lane control technology must serve to limit safety concerns, and the lane would operate only on a limited schedule. A concern to be addressed is the resident's ability to safely access the roadway and the impact of this concept on their local access. The minor widening associated with the third lane and the proposed intersection improvements could pose environmental constraints. However, these may not prove to be major environmental barriers.

7.1.3 Rt. 550 Corridor

This concept evolved from a number of options that would use a new roadway to link Rts. 55/47 to existing CR. 550, then upgrade existing CR. 550 to US 9, and construct a new roadway link to Sea Isle Blvd. with US 9 and the GSP. One concept would run northeast from Rt. 47 following

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CR. 548, then easterly on new alignment following former rail ROW, then connect with existing CR. 550 at CR. 607. It would then follow existing CR. 550 on through Woodbine to connect with Sea Isle Boulevard. It would also include a widening of Rt. 47 north to Rt. 55 and an extension of Sea Isle Blvd. to connect with US 9 and the GSP on new alignment.

A northerly variation would start as a T-connector from Rt. 49 following the county line to CR. 548, then southeasterly to CR. 557, then following existing CR. 550 to connect with Sea Isle Boulevard, again extending to connect with a US 9 and the GSP.

This concept is divided into three pieces, the first connecting either Rt. 47 or Rt. 49 to CR. 550, the second upgrading capacity on existing CR. 550, and the third extending Sea Isle Blvd.

From a traffic perspective, the CR. 550 Corridor concept would improve flow in the region by helping absorb a portion of traffic from the Rts. 49/50 and Rts. 47/347 corridors. The northern alignment has less impact on Rt. 47 and Rt. 347, as it serves as more of an alternative to Rt. 49 and Rt. 50, and therefore lower utility potential.

The proposed improvements to CR. 550, including a new access roadway from Rt. 55, would upgrade the function of this roadway. If the connection to Rt. 55 and US 9/GSP is included, the roadway would likely carry significant traffic volumes, on par with existing arterials in the area. The key to generating high traffic demand is the Sea Isle Blvd. extension.

The Sea Isle Blvd. extension connecting CR. 550 to US 9 and the GSP has significant independent value. This connector would facilitate movements among the local roadways and the major arterials, and improve overall traffic flow in the area.

The new alignment segment at the western end of the corridor, proposed to follow an old rail ROW, has significant environmental impacts associated with its development as a new roadway link. Much of the route is an upgrade to CR. 550, which would require an evaluation of the ability to improve capacity within its ROW and the environmental impacts of a widening. The extension to US 9 and the GSP is significant from a traffic perspective. It would require new alignment for a small distance. The identification of environmental impacts is a key task to advancing this concept.

7.1.4 ACE/GSP Corridor

This concept would improve traffic flow conditions in the ACE/GSP Corridor, thereby increasing its attractiveness to regional travelers. It is believed that an improved ACE/GSP route would attract traffic from Rt. 55 and out of the Rts. 55/47 corridor. Major components include improvements to the ACE/GSP interchange area, the GSP just south of the interchange area, the ACE mainline, and the GSP in the Cape May County area.

The benefits and constraints of this concept were not fully evaluated because it was outside of the primary study area. From a traffic perspective, the concept has merit. Further study is needed to evaluate the benefits of the EZPass system, an electronic toll collection system, on both the ACE and the GSP. Methods of making these roadways more attractive should also be explored. A disadvantage of this concept is that the roadways are tolled facilities, which may discourage a portion of motorists from utilizing them.

7.2 TDM/ITS Concepts

This group of transportation improvement concepts consisted of strategies whose goal is to reduce, or manage travel demand to better match it to existing capacity (TDM), and strategies aimed to increase the efficiency of the existing system, thereby increasing capacity without major capital projects (ITS).

Intelligent Transportation Systems (ITS) make use of existing and evolving technology to improve the movement of people and goods to provide safer and quicker travel. Essentially, ITS is about providing the right people with the right information at the right time, and using that information to improve the transportation system. ITS solutions supply travelers with real-time information about the transportation system, and can increase the efficiency of all modes of transportation.

A central part of those concepts is to gain a better understanding of the travel demand in the area. A corridorwide traffic-monitoring program to gather data on the summer peak conditions would be included in this concept. A better understanding of the system can lead to the development and implementation of managed corridor strategies to improve traffic flow. This program would include the ITS concepts of improved signage programs, motorist information programs including variable message signs (VMS) and highway advisory radio (HAR), and incident management programs including emergency service patrols (ESP).

Travel demand management (TDM) strategies focus on altering or reducing travel during the peak periods. Two such concepts are incentive or value pricing programs, tolls, or altering the rental changeover day from a Saturday to a Sunday.

The transportation merits of ITS/TDM are that they increase the efficiency of the existing system, thereby moving more traffic.

7.3 Freeways

This transportation improvement concept consisted of the completion of the Rt. 55 Freeway from its present terminus to the GSP. This would be a four lane, limited access freeway built mainly as new road extending southeasterly from Rt. 55 to cross CR. 548, Hunter's Mill Road, CR. 550, and CR. 651 to Rt. 83, then follow Rt. 83 (on existing, upgraded alignment) to US 9 and the Garden State Parkway.

From a traffic perspective, existing segments of Rt. 55 gain significant volume and the new segment of Rt. 55 is forecast to carry significant summer traffic volume. This roadway would draw recreational and long distance traffic from Route 47, Route 347, Route 49, and Route 50, and other county and local roads in the area, providing significant traffic relief to the roadway system. It would, however, increase volume on the GSP, taxing the ability of the roadway to serve its existing demand and the new demand resulting from the completion of Rt. 55. It would likely require a widening of the GSP to accommodate increased demand.

This project would involve the construction of new roadway through environmentally sensitive areas and public lands. It would face extreme environmental problems, particularly wetland impacts, which would make it difficult to permit and costly to mitigate. It would also be very costly to build.

7.4 Bypasses - Port Elizabeth, Dennisville, Tuckahoe

This group of transportation improvement concepts consisted of building bypasses around some of the more heavily congested segments of Rt. 47 and Rts. 49/50 that pass through local communities. The concept is that a bypass alone would divert traffic away from the local communities.

All were proposed as two lane major arterials that would require new alignment to build. Two were proposed for the heavily congested segments of Rt. 47 that pass through Port Elizabeth and Dennisville. A third was proposed to bypass Rts. 49/50 through Tuckahoe, and is discussed in the Rts. 49/50 Corridor section 7.1.1 of this report.

The Port Elizabeth bypass would diverge southeasterly from Rt. 55 to connect with Rt. 347, thereby bypassing Rt. 47 through Port Elizabeth. This roadway would carry significant traffic volume and provide relief to Rt. 47 in the bypass area. However, its traffic impact is generally localized, and corridor benefits would not be maximized without the addition of the Dennisville Bypass. It would be not practical to build one bypass without the other, as they function best as a pair.

Environmentally, it may prove very difficult to build, as it has significant wetland impacts.

The Dennisville bypass would diverge from Rt. 47 south of CR. 557 and join with Rt. 83. This roadway would carry significant volume and decreases traffic filtering down from the Rts. 49/50 corridor. Its impact would be less localized than the Port Elizabeth bypass, but it would still need to be combined with the Port Elizabeth bypass to achieve corridorwide improvements.

Environmentally, it may prove very difficult to build, as it has significant wetland impacts.

7.5 Regional Rail

This concept is to improve regional rail serving the area, making it a stronger alternative to the automobile. An example would be a new linkage of Atlantic City with Ocean City and Cape May. It was decided that the best approach to evaluating the potential of regional rail service enhancements in the corridor, as well as the region, would be through the SJTPO as part of their long-range transportation planning assessments.

8 CANDIDATE IMPROVEMENTS

The last work effort of the SCC was to develop recommendations for near and long term improvement plans. Each transportation improvement concept was debated by the SCC to determine what action, if any, should follow for the concept. The concepts were placed into two tiers, indicating their relative priority and timing. The fate of some concepts was unresolved by the committee. The tiers are described below:

Tier 1 (Near Term Plan) : Signifies improvement concepts that should go to the SJTPO Board for action. This may include implementation (e.g. for simple operational improvements) or may mean advancement to further study and development.

Tier 2 (Long Term Plan) : Signifies improvement concepts that may not be activated immediately, but can be drawn upon if needed following study or implementation of the Tier 1 components.

Unresolved : Signifies improvement concepts that the SCC did not directly address or only partially addressed the issues associated with the concept.

8.1 Tier 1 – (Near Term Plan)

This signifies improvement concepts that should go to the SJTPO Board for action. Concepts that were placed in Tier 1 in general were those that will provide significant traffic benefits and were believed to be the most immediately buildable, regarding environmental impacts, community impacts and project costs. The SCC reached consensus that the following should be in Tier 1:

RTS. 49/50 CORRIDOR

- A. Rts. 55/49 Interchange improvements.
- B. Minor capacity improvements along the corridor.

RTS. 55/47 Terminus

- A. Rts. 55/47 Interchange improvements.

RT. 550 CORRIDOR

- A. Improvements to CR. 550.
- B. Rt. 49 to CR. 557 to CR. 550 improvements.
- C. Sea Isle Blvd. Extension.

ACE/GSP CORRIDOR

- A. Improve ACE/GSP Interchange.
- B. GSP Interchanges Improvements.
- C. GSP Mainline Improvements.
- D. ACE Mainline Improvements.

TSM/ITS STRATEGIES

- A. Corridorwide traffic monitoring.
- B. Managed Corridor strategies.
- C. Signage program.
- D. Motorist information/VMS.
- E. Incident management/ESP.
- F. Demand Management.

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Due to environmental and community concerns, the SCC did not reach consensus as to the placement of the following concepts into Tier 1. A vote was taken to determine where these concepts should be placed. A majority voted to place these concepts into Tier 1, with the remaining desiring placement into Tier 2.

RT. 47/347 CORRIDOR

- A. Reversible lane on Rt. 47 from Rt. 55 to the Rts. 47/347 split and Rts. 47/347 merge to Rt. 83, CR. 657.
- B. Key Intersection improvements.

RT. 550 CORRIDOR

- A. Middle Arterial - Two lane major arterial using new and existing alignment from Rt. 47 to CR. 550.

8.2 Tier 2 - (Long Term Plan)

This group signifies concepts that may not be activated immediately, but can be drawn upon if needed following study or implementation of Tier 1 components.

RAIL

A. Regional Rail

This concept will be addressed as part of the SJTPO's Regional Transportation Plan Update. It will focus on a wider basis of need than recreational travel. However, rail service improvements may also offer benefits to recreational travel issues.

FREEWAY

A. New four lane freeway from existing terminus to GSP

The SCC did not reach consensus as to the placement of this concept into Tier 2. A vote was taken and a majority voted to place this concepts into Tier 2 and re-examination its warrant based on future traffic needs, with the remaining desiring to dismiss this concept altogether.

8.3 Dismissed or Unresolved

The SCC agreed that the Port Elizabeth and Dennisville bypasses should be dismissed from further consideration. The group did not directly address or only partially addressed the issues associated with the concept of the Tuckahoe Bypass and widening Rt. 47 to four lanes through Port Elizabeth and Dennisville, therefore these concepts were unresolved.

9 CORRIDOR IMPROVEMENT PROGRAM

A corridor improvement program was developed based on the outcome of the SCC study process. The SCC approved of a core program of measures that would provide some congestion relief while minimizing environmental and community impacts. More effective, yet more extensive improvements were supported by most, as it was recognized that the magnitude of the congestion problem warranted some larger scale projects. Major capital improvement concepts gathered the least overall support. It was clear, however, that the group strongly desired to advance projects to mitigate the congestion problems in the corridor.

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Building on the results of the SCC, an improvement program has been formulated for the corridor. An incremental improvement program is proposed based on traffic issues, environmental constraints, and community concerns. The program focuses on two main areas: operational improvements, and capital improvements.

Operational improvements are proposed to better manage the existing resources in the corridor and maximize capacity to improve traffic flows. Capital improvements are proposed that will incrementally add system capacity starting with improvements within existing ROWs to minimize adverse impacts.

Improvements proposed to build roadways on new alignments are part of a longer-term program. The need for those improvements will be further evaluated after the early term improvements are advanced. As the support for high capital projects is limited, those types of investment, both financially and environmentally, will require a more thorough assessment of overall corridor need beyond the summer season.

9.1 Improvement Program Areas

A. MANAGE RECREATIONAL TRAVEL

Operational based program to increase efficiency of existing system.

Action Items:

- Develop an annual deployment plan for Variable Message Signs (VMS)/Highway Advisory Radio (HAR) in the corridor. Include a promotional/marketing campaign for the system.
Lead Unit: NJDOT - Traffic Operations South
- Advocate 24-hour weekend coverage by the Southern Region Traffic Operations Center to monitor traffic activity throughout the summer season.
Lead Unit: SJTPO
- Evaluate need for Emergency Service Patrol (ESP) coverage in the corridor.
Lead Unit: SJTPO
- Gauge annual corridor performance and report to the SJTPO to determine if the improvements are successful. Monitor traffic growth and characteristics and report findings - including aerial surveillance every 3 years.
Lead Unit: NJDOT, Cape May and Cumberland Counties
- Review regional recreational travel signing. Update/modify sign system to take advantage of alternative routes with excess capacity, particularly where signing may encourage travel in areas where economic benefits may result.
Lead Unit: Cape May and Cumberland Counties
- Explore modifying shore property rental periods. Desirable to change a portion of the rentals from Saturday - Saturday to Sunday - Sunday.
Lead Unit: SJTPO and Cape May County

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B. Atlantic City Expressway and Garden State Parkway Corridor

Maintain and enhance the corridor's role as a provider of service to the shore/recreational market.

Action Items:

- Support/Advocate Garden State Parkway improvements through Cape May Court House including Interchange 0, 6, 17 and 20 improvements.
Lead Unit: SJTPO
- Support Garden State Parkway program/effort to widen GSP between the ACE and Interchange 30.
Lead Unit: SJTPO
- Reduce congestion on US 9 by increasing access to GSP. Identify interchange capacity, accessibility, and operational deficiencies.
Lead Unit: NJDOT, GSP, Cape May, and Atlantic Counties
- Investigate innovative toll structure/price incentives aimed at capturing more regional recreational market (possible discounts to ACE/GSP link users, value pricing).
Lead Unit: SJTPO

C. Capital Improvements – Short Term

Capital highway improvements that can be activated or advanced immediately. These projects address existing problem areas where an immediate benefit can be achieved and were fully supported by the SCC.

Action Items:

- Advance intersection improvement studies in FY 99-01 at:
 1. US 9/CR. 550/Sea Isle Blvd. at GSP (Interchange 17)
 2. Rts. 347/47 Port Elizabeth
 3. Rts. 347/47 in Dennisville
 4. Rts. 55/49 in Millville
 5. Rts. 55/47 in Maurice RiverLead Unit: SJTPO/NJDOT

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D. Capital Improvements – Mid Term

Capital highway improvements that will require longer evaluation, scoping, and development time due to their increased magnitude and impacts.

Action Items:

- Rt. 47 Corridor Reversible Third Lane
Lead Unit: SJTPO
- Rts. 49/50 Corridor Capacity/Operational Improvements
Lead Unit: SJTPO
- CR. 550 Corridor Improvements
Lead Unit: SJTPO
- Rt. 49 to CR. 550 Access Improvements – Upgrade Linkage
Lead Unit: SJTPO

E. Capital Improvements – Long Term

Capital highway improvements that may not be activated immediately, but can be drawn upon if needed following study or implementation of near and mid term programs. These projects may have significant impacts and were not fully supported by all SCC members.

- Rt. 47 to CR 550 Access Improvements via Weatherby or Hunter's Mill Road and former rail ROW – New Linkage
Lead Unit: SJTPO
- Rt. 55 Freeway
Lead Unit: SJTPO

APPENDIX A

Transportation Improvement Concepts

Concept 1: Rail Line

New passenger rail line from Millville to Woodbine with connections to the Cape May Seashore Line and stations at Millville, Woodbine, etc. The line would follow existing and former rail line ROW.

Concept 2: Southern Arterial

Two Lane Major Arterial using new and existing alignments. The road would run north from Rt. 347 following existing Hunter's Mill Road to railroad ROW, continuing easterly to connect with existing CR. 550 at CR. 607, then following existing CR. 550 on through Woodbine to connect with Sea Isle Boulevard. This concept would include a widening of Rt. 47 north to Rt. 55 and the Sea Isle Blvd. Extension listed as concept 4.

Concept 3: Middle Arterial

Two Lane Major Arterial using new and existing alignments. The road would run northeast from Rt. 47 following CR. 548, then easterly on railroad ROW, then connect with existing CR. 550 at CR. 607. It would follow existing CR. 550 on through Woodbine to connect with Sea Isle Boulevard. This concept would include a widening of Rt. 47 north to Rt. 55 and the Sea Isle Blvd. Extension listed as concept 4.

Concept 4: Sea Isle Blvd. Extension

Two Lane Major Arterial roadway that would require new alignment to extend Sea Isle Blvd. to connect with US 9 and the Garden State Parkway.

Concept 5: Rt. 83 Extension

This is a Two Lane Major Arterial that would require new alignment to extend Rt. 83 to the Garden State Parkway.

Concept 6: Rts. 49 & 50 Connection with GSP

Upgrade Rts. 49 & 50 interchange with Garden State Parkway from partial to a full connection.

Concept 7: Tyler Road Intersection

Tyler Road & Rt. 47 Intersection improvements to improve capacity on Rt. 47.

Concept 8: Rts. 47 & 347 Intersection - South

Intersection of Rt. 47 & Rt. 347 - South. Improve capacity on Rt. 347 via a minor through lane on Rt. 347.

Concept 9: Rts. 47 & 347 Intersection - North

Rt. 47 & Rt. 347 Intersection - North. Improve capacity on Rt. 347 via a minor through lane.

Concept 10: Port Elizabeth Bypass

Two Lane Major Arterial roadway that would require new alignment to bypass Rt. 47 through Port Elizabeth. The bypass would diverge southeasterly from Rt. 55 to connect with Rt. 347.

Concept 11: Dennisville Bypass

Two Lane Major Arterial roadway that would require new alignment to bypass Rt. 47 through Dennisville. The bypass would diverge south of CR. 557 and join with Rt. 83.

Concept 12: Rt. 55 Freeway

Extension of Rt. 55 Freeway - Four Lanes to the GSP. This would be mainly a new road to extend southeasterly from Rt. 55 to cross CR. 548, Hunter's Mill Road, CR. 550, and CR. 651 to Rt. 83, then follow Rt. 83 (on existing alignment) to Rt. 9 and Garden State Parkway.

Concept 13: Rts. 55 & 49 Intersection

Capacity improvements.

Concept 14: Rts. 49 & 50 Intersection

Capacity improvements.

Concept 15: CR. 557 & CR. 550 Intersection

Capacity improvements.

Concept 16: Rts. 9 & 47 & GSP Intersection

Capacity Improvements.

Concept 17: Reversible Lane

Rt. 47 capacity improvement utilizing a reversible third lane on Rt. 47 in two segments from approximately Rt. 55 to Rt. 347 and from Rt. 347 to Rt. 657. Reversible lane would operate in the peak travel direction on summer weekends.

Concept 18: Northern Arterial

Two Lane Major Arterial roadway that would use new and existing alignments. It would start as a T-Connector from Rt. 49 following the county line to CR. 548, then southeasterly to CR. 557, then following existing CR. 550 to connect with Sea Isle Boulevard Extension. It would include a widening of Rt. 47 north to Rt. 55 and the Sea Isle Blvd. Extension listed as concept 4.

Concept 19: GSP Intersections

Grade Separation of three presently signalized Intersections in Cape May Court House at: Crest Haven Boulevard, Shell Bay Drive, Stone Harbor Boulevard.

Concept 20: ACE & GSP Interchange

Atlantic City Expressway & Garden State Parkway Interchange.

Concept 21: TDM Concepts

Traffic Demand Management. The concept of deducing or controlling demand to improve traffic flow conditions.

Concept 22: ITS/TSM Concepts

Intelligent Transportation Systems/Transportation System Management. The concept of increasing capacity through increasing the efficiency of the existing system rather than making major capital improvements. ITS systems include Highway Advisory Radio, Variable Message Signs, and Incident Management.