

SALEM COUNTY TRAFFIC AND TRANSPORTATION PLAN ELEMENT

June, 2012



SALEM COUNTY PLANNING BOARD
SALEM COUNTY OFFICES
164 Route 45
Salem, NJ 08079

SALEM COUNTY
TRAFFIC AND TRANSPORTATION
PLAN ELEMENT

June, 2012

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I. INTRODUCTION TO THE SALEM COUNTY TRANSPORTATION PLAN

The primary concern of the Salem County Transportation Plan is the maintenance and improvement of a transportation system that provides for the safe and efficient movement of vehicles and people. Its focus is facilities under County jurisdiction, as well as the total interconnected county system of roads, mass transit and pedestrian and cycling facilities. In addition to the responding to problems created by increasing traffic volumes and system deterioration, the Plan recognizes the general importance of:

- Supporting economic development (including movement of goods and services)
- Providing service to transit-dependents and others
- Reducing vehicular-related air pollution (e.g., by developing strategies to discourage growth in traffic volumes and encourage alternative means of transportation such as mass transit)
- Providing safe and user-friendly facilities for pedestrians and bicyclists
- Preserving the rural character of the County and its towns and villages (e.g., by mitigating the disruptive effects of increasing volumes of through-traffic on rural communities)
- Preserving and protecting the natural environment, farmland, and historic sites and structures

As a result of these concerns, the County Planning staff, Planning Board, and other County departments, committees and officials are involved in a wide range of transportation planning activities. These activities include the maintenance and improvement of the County road system, land use planning, e.g., State Plan development process, the improvement and upgrading of the mass transit system, promotion of strategies that reduce the volume of single occupancy automobiles (ridesharing, bicycling), and improvement of intermodal connections between the various modes of goods movement

The transportation planning process must balance conflicting goals and values and limited financial resources in an effort to deal with a wide range of transportation needs and problems. While the apparent solution to a traffic problem might be widening of an existing road, this increased capacity can result in an increase in traffic volumes and vehicular air pollution. The traffic increase can also have a negative impact on the rural character of towns and villages, and the new construction can impact on wetlands, T & E species habitat areas or farmland.

Due to the complex and regional nature of the issues, the planning process must have both a local and regional perspective. County planning must consider and be coordinated with the plans and programs of adjacent counties, the State Department of Transportation, New Jersey Transit, the State Plan, and the County's metropolitan planning organization (MPO) and others. The South Jersey Transportation Planning Organization (SJTPO), which is the four-county MPO that serves Salem County, helps to provide this regional approach and inter-county coordination, as well as the coordination of state and federal funding for transportation projects and studies. SJTPO is responsible for the development of a regional transportation plan (RTP) and an annual transportation improvement program.

The basic elements of the Salem County Transportation Plan are:

- General statement of purpose and objectives of the Plan
- Identification of existing facilities
- Identification of problems and needs
- The Transportation Plan – which includes a statement of goals and objectives, the County Circulation Plan, and a review of proposed/recommended major road improvements

II. EXISTING FACILITIES AND CONDITIONS

The purpose of this section is to identify and define the County transportation system including the State and US routes that impact on the County road network, and to identify existing deficiencies and problem areas, such as congestion and high accident locations, along this system.

COUNTY ROAD NETWORK

Total Road Mileage

A network of municipal, County, State and Federal routes serve local and inter-county travel. **Table 1** lists total route mileage of each County, State and Federal route, and total mileage of local routes within each municipality. The following is a summary of the mileage breakdown from Table 1:

TABLE 1
Road Mileage by Jurisdiction

Jurisdiction	Mileage	Percent of Total Mileage
Municipal	447	50 %
County	354	40 %
State +	47	5 %
Federal	32	4 %
I-295	9	1 %
NJ Turnpike	7	<1 %
Total	896	100 %

+ Although NJ 55 serves the travel needs of residents in the eastern portion of the County, it cannot be viewed as being located within Salem County and so its mileage is not included in this table.

Regional System

As can be seen in **Figure 1** the County is well situated with respect to a regional transportation system.

- The Delaware Memorial Bridge links Salem County with Wilmington, Baltimore and Washington, D.C. via Interstate 95
- Highway access from the County to Philadelphia and to central/northern New Jersey is provided by the New Jersey Turnpike and I-295 in the west and by NJ 55 in the east (which connects with I-295 via NJ 42.)
- US 40 connects the Delaware Memorial Bridge and the western urbanized portion of the County to the cities of Vineland and to Atlantic County and City
- NJ 49 shares approximately the same western terminus as US 40, providing access to the cities of Bridgeton and Millville, and to the shore area of Cape May County
- The regional north-south routes in the County, which serve inter-county travel to Gloucester County and beyond, are US 130 in the west and NJ 45 in the central portion of the County. NJ 77 connects the Bridgeton area in Cumberland County to NJ 45 in Mullica Hill.

- County Route 540 also serves as a major inter-county east-west route, linking the County's western urban area with Vineland City in Cumberland County

Of the above, only I-295, the NJ Turnpike and NJ 55 are limited access highways. The rest are unlimited access roads, passing through and sometimes causing traffic problems for towns and rural communities, and functioning both as regional and local routes and even urban main streets.

Figure 2 shows traffic volumes on US, State, and County routes. As might be expected, the highest volumes can be found on the multi-lane, limited access highways, such as the NJ Turnpike and I-295. Of the remaining State/US routes that serve both regional and local travel needs, the highest traffic volumes can be found on -

- **NJ 49/US 130** - within the urban areas of Pennsville Township. Average daily volumes on NJ 49 are over 18,000 vehicles per day at some locations.
- **US 40** - from its western terminus adjacent to the Turnpike to an area several miles east of Woodstown Borough. Average daily volumes are not as high as those recorded on NJ 49 and are generally less than 16,000 vehicles per day..
- **NJ 56** - in Pittsgrove Township. Only a few miles of this route, which primarily serves the intra-county travel needs of Cumberland County, pass through Salem County. Traffic volumes on this route are comparable to those on the more heavily traveled sections of NJ 49.

On the remaining State roads (NJ 77, 45 and 48), traffic volumes are relatively low and comparable to the volumes found on the more heavily traveled County arterial roads.

Figure 3 shows the inter-county work commuting patterns for Salem County. As can be seen in the map, a high number of daily work trips occur between Salem and the Delaware State. This map is based on US Census Bureau Estimates published for 2009.

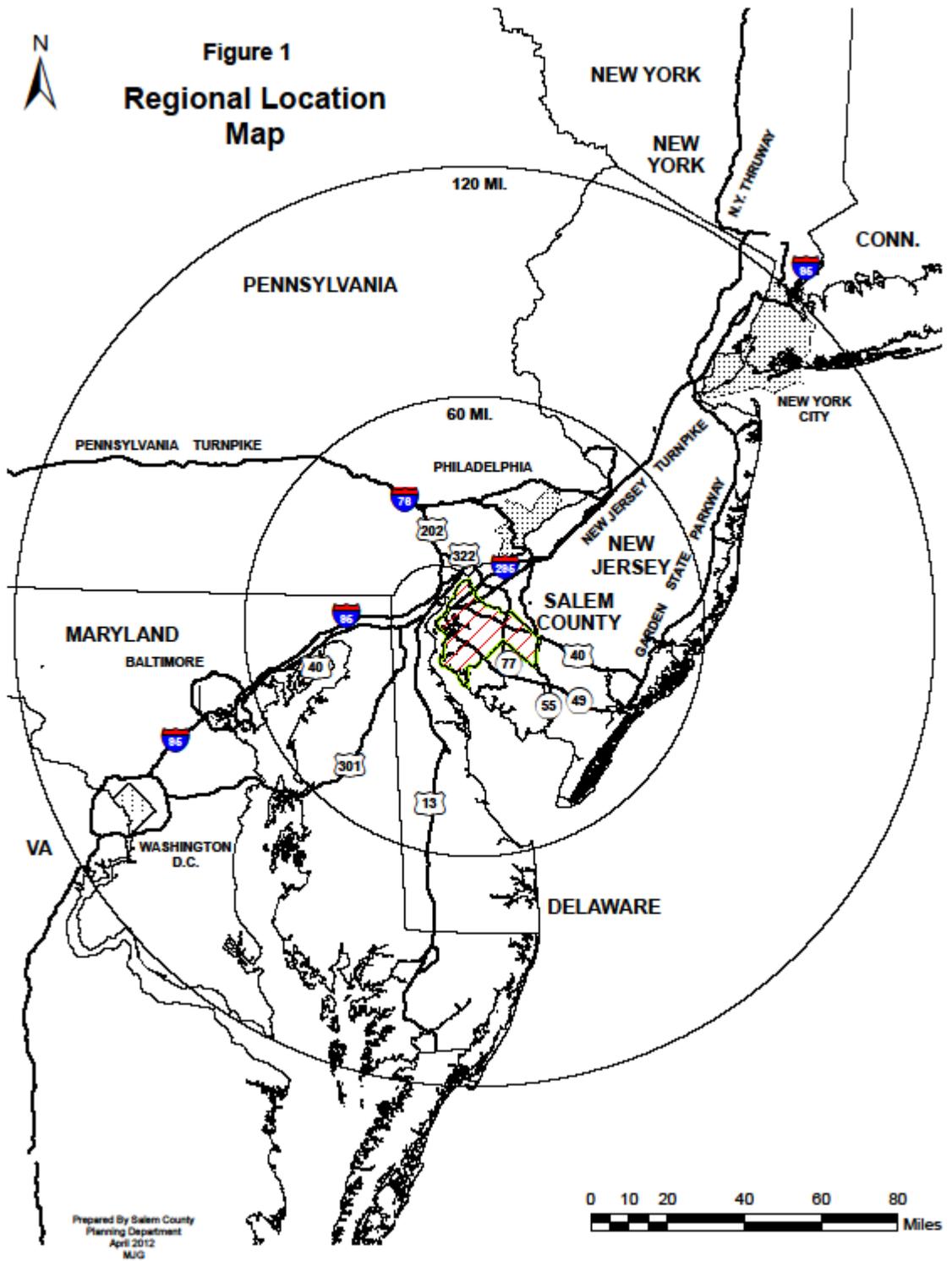
The County Road System

As noted above, the County of Salem has jurisdiction over approximately 354 miles of roadway. The County is responsible for its day-to-day maintenance, the identification and correction of hazardous conditions on this network, and the general functioning of this system with respect to the movement of traffic in an efficient manner. To accomplish this, it is necessary to understand the system with respect to its use traffic distribution, function, and design deficiencies, and to be aware of the traffic problems along this system.

Traffic Volumes and Distribution

The traffic volumes and distribution of traffic on the roads under County jurisdiction were illustrated in Figure 2. Based on this information, the major County roads functioning as regional rather than local or inner-city circulation routes are:

- **Route 540** in its entirety
- **Route 551** between NJ49 and US 40 in Pennsville



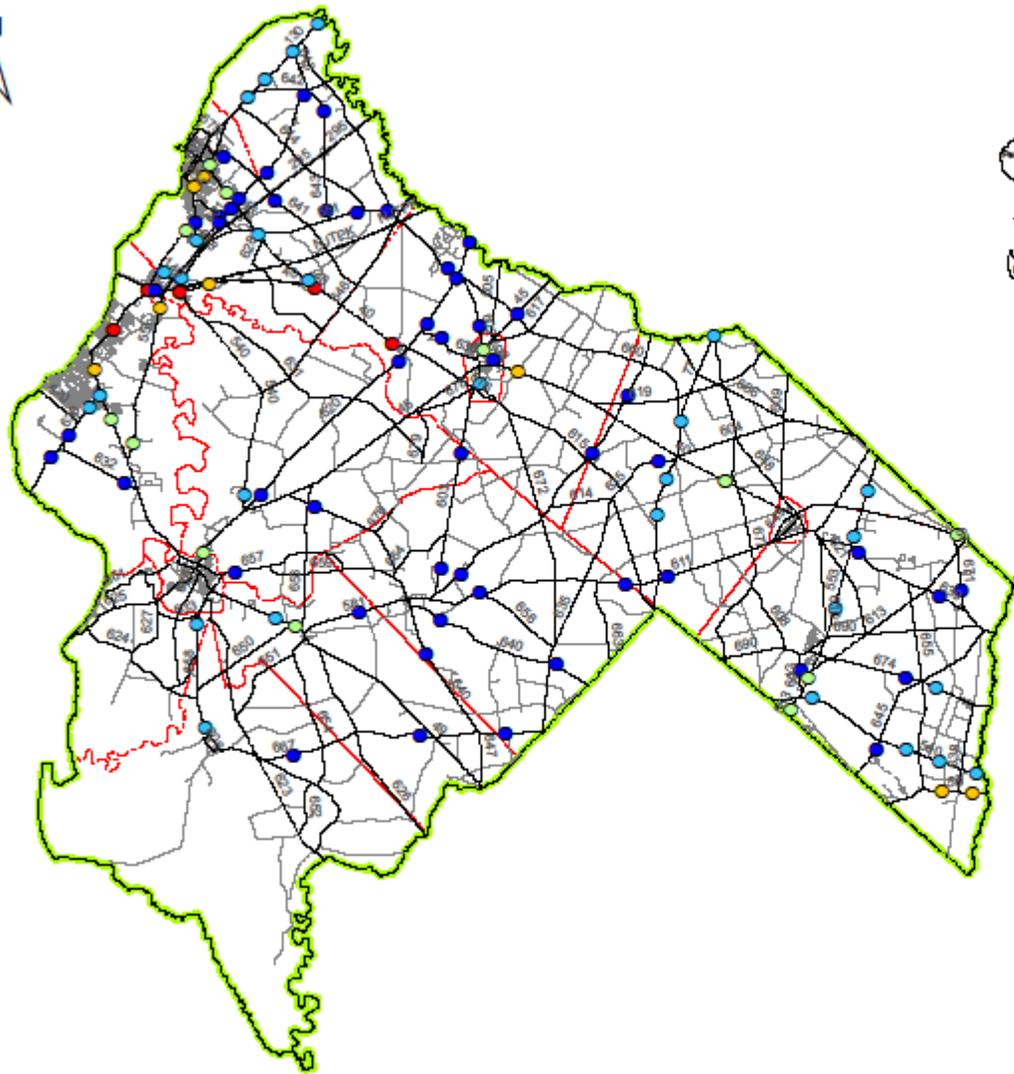


Figure 2
Traffic Counts
County Roads 2010 - 2011
State Roads 2010 - 2011
Salem County,
New Jersey

Traffic Counts

- 14444 - 18055
- 10833 - 14444
- 7222 - 10833
- 3611 - 7222
- 392 - 3611

Prepared By Salem County Planning Department
June 2012
M.J.G.

TABLE 2

ROAD MILEAGE

MUNICIPAL	
<u>MUNICIPALITY</u>	<u>MILES</u>
ALLOWAY	37.49
CARNEYS PT.	32.76
ELMER	4.12
ELSINBORO	7.29
LAC	26.88
MANNINGTON	32.82
OLDMANS	44.50
PENNS GROVE	14.00
PENNSVILLE	70.56
PILESGROVE	41.84
PITTSGROVE	47.91
QUINTON	21.92
SALEM CITY	14.11
U. PITTSGROVE	43.00
WOODSTOWN	7.80

STATE/FEDERAL	
<u>ROAD #</u>	<u>MILES</u>
NJ 45	11.84
NJ 48	4.26
NJ 49	18.76
NJ 56	2.69
NJ 77	7.82
NJ 140	0.95
US 40	22.96
US 130	8.81
NJ Turnpike	7.00
I-295	8.95

COUNTY							
<u>ROAD #</u>	<u>MILES</u>						
601	- 5.98	621	- 2.87	642	- 1.48	663	- 2.13
602	- 9.84	623	- 7.96	643	- 4.71	664	- 1.76
603	- 5.79	624	- 3.71	644	- 4.32	665	- 3.19
604	- 4.89	625	- 4.06	645	- 5.36	666	- 3.82
605	- 1.97	626	- 5.80	646	- 6.20	667	- 5.87
606	- 0.80	627	- 2.64	647	- 1.54	668	- 0.25
607	- 1.94	628	- 3.68	648	- 5.92	669	- 1.06
608	- 2.26	629	- 1.33	649	- 0.97	670	- 1.30
609	- 3.30	630	- 3.28	650	- 3.02	671	- 2.19
610	- 2.84	631	- 6.05	651	- 3.00	672	- 7.85
611	- 13.40	632	- 2.39	652	- 1.46	674	- 5.11
612	- 1.06	633	- 1.14	653	- 3.86	675	- 1.82
613	- 5.37	634	- 1.06	654	- 3.69	676	- 0.77
614	- 4.94	635	- 8.71	655	- 5.55	677	- 6.03
615	- 3.70	636	- 1.75	656	- 2.38	678	- 1.64
616	- 1.09	637	- 1.33	657	- 6.25	679	- 1.49
617	- 2.50	638	- 2.35	658	- 10.04	690	- 7.56
618	- 0.91	639	- 4.97	659	- 2.08	540	- 22.45
619	- 5.00	640	- 5.30	660	- 7.55	551	- 11.60
620	- 9.51	641	- 5.58	661	- 2.50	553	- 7.30
				662	- 0.88	581	- 13.05

TOTAL ROAD MILES	
MUNICIPAL	447.00
COUNTY	354.05
STATE/ US	78.09
I-295 / NJ TURNPIKE	15.95

- **Route 658** between Salem City and the central portion of Lower Alloways Creek Township and the nuclear generating plants at Artificial Island
- **Route 553** in Pittsgrove Township

Other short but heavily traveled County routes include Route 618 -Hollywood Avenue (1 ¾ miles) in Carneys Point and Route 636- Marlton Road in Pilesgrove Township and Woodstown Borough (¾ miles).

Functional Classification

As can be seen in **Figure 4**, all roads under County jurisdiction were classified as urban or rural major collector, urban or rural minor collector or local roads. Arterial roads are, or should be, designed to handle large volumes of traffic for long distances at relatively high speeds. Collector roads are, by definition, routes, which connect arterial roads with local roads, although roads may be so classified because their function falls between that of an arterial and local road. Local roads provide access to land uses (e.g., residential dwellings) and so are not designed for heavy traffic volumes. However, relatively long distance rural roads, which provide minimal access to adjacent land uses, may also be classified as "local".

A primary focus of the transportation planning process is to protect the function of the County road system. This is especially true of the arterial road system, which can have the highest vehicle volumes and speeds, and therefore the greatest potential for traffic problems. Furthermore, by identifying the major arterial system, and giving priority to this system for road widening, reconstruction, etc., the County can make the most efficient use of limited road improvement funds.

Associated with the arterial and the collector/local system are roadway design standards specifying ideal travel lane and right-of-way widths. These standards are summarized below.

TABLE 3

Required Minimum Widths				
Classification	Lane	Shoulder	Travelway	Right-of-way
Arterials/Collectors	12'	6'	36'	66'
County Local Roads	12'	6'	36'	50'

In addition to road widening easements to bring a road into conformity with its design standards, the County can, through its development review process, require sight triangle easements to maintain sight distance at intersections. For major subdivisions or for major commercial or industrial development along a County road, the County can require curbing to control access to and from the site, and to channel drainage. In certain circumstances, the County may require marginal access roads and acceleration or deceleration lanes. These improvements would be required where necessary to protect the function of the road as defined in this Plan.

It should be noted that Figure 4 represents the existing functional classification system which is a view of the present County road network. Figure 19 in Section V shows the Future Functional Classification System, which (theoretically) takes into account the effect of major changes in traffic patterns or improvements to the system.

Pavement Width and Road Right-of -Way (ROW)

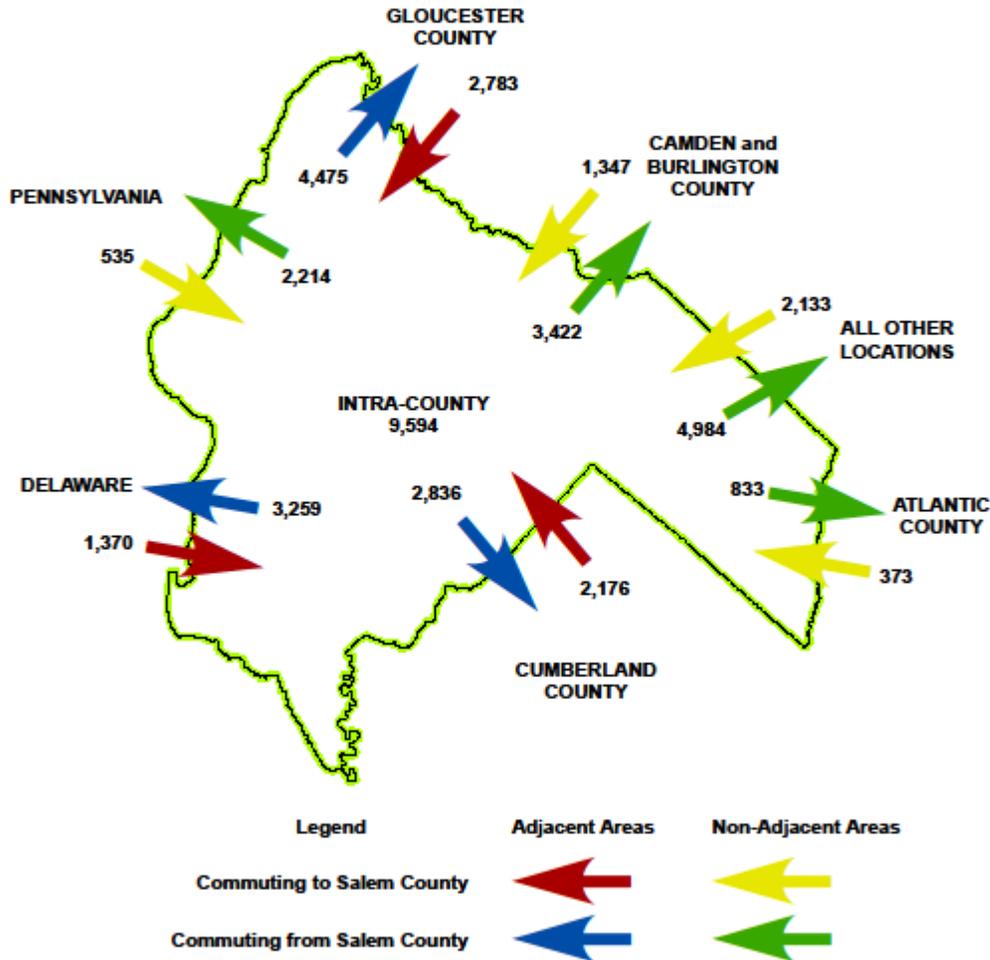
The paved travelway (lane and shoulder) width is one of the factors that determine the amount of traffic a road can adequately accommodate while maintaining a reasonable level of service. The standards for all classifications of two-lane County roads require a travelway of 12 foot lanes and 6 foot shoulders (a total of 36 feet). Most County roads are below this minimum standard for shoulder widths (see **Figure 5**), resulting in problems for motorists, bicyclists and pedestrians.

The road right-of-way (ROW) includes not only the actual travelway, but also a "fringe area" which can be used for future road widening, and which can provide an area for the channeling of stormwater away from the roadway or a place to locate utilities and sidewalks. The road ROW width also determines how far new structures should be placed from the roadway. Common existing or historical ROW widths are 33, 41¼, 49 ½, 50 and 66 feet.

FIGURE 3

**Inter-County Commuting
Salem County
New Jersey**

Working in County - 20,311
Commuting to County - 10,717
Commuting from County - 22,023



Prepared By Salem County Planning Department
April 2012 M/JG
Source: 2000 US Census

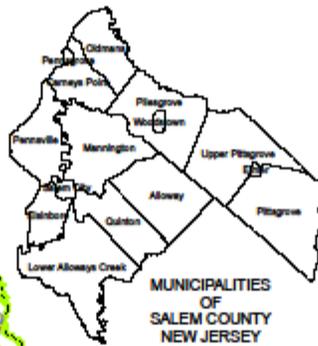
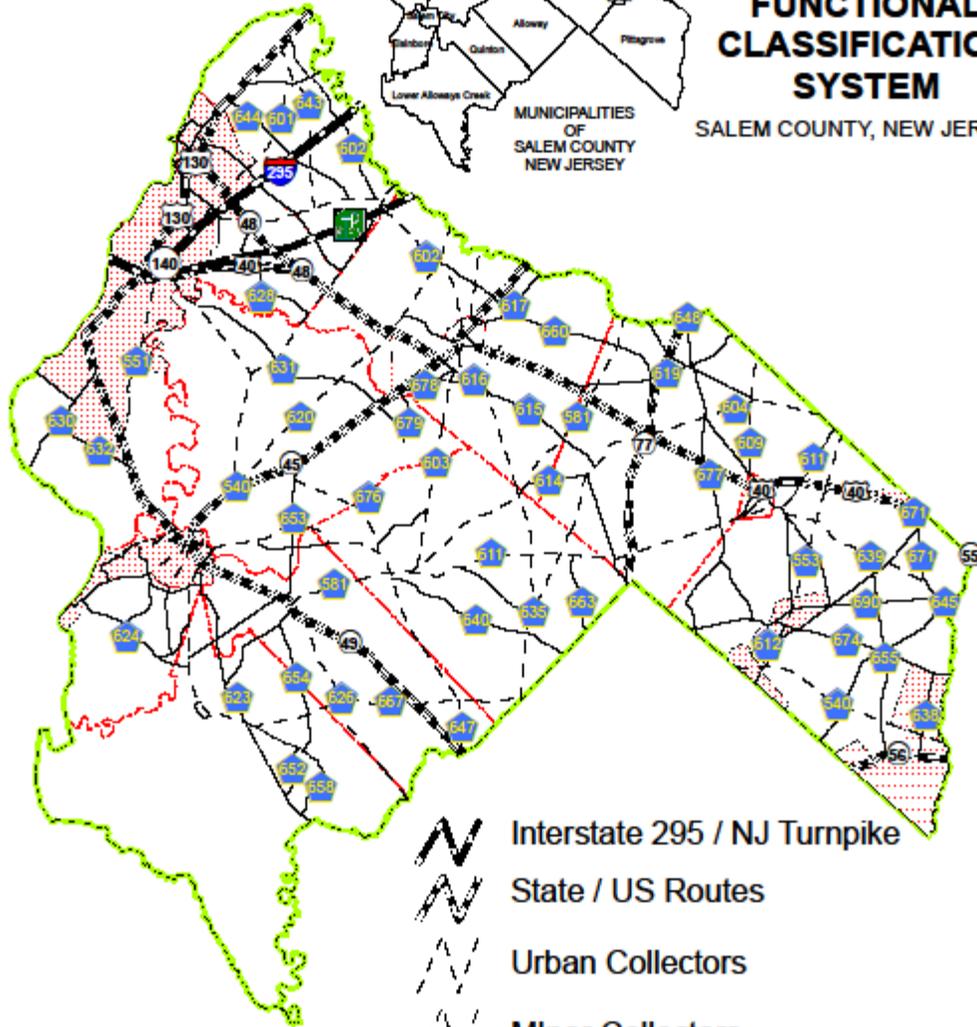


Figure 4
EXISTING
FUNCTIONAL
CLASSIFICATION
SYSTEM
SALEM COUNTY, NEW JERSEY



-  Interstate 295 / NJ Turnpike
-  State / US Routes
-  Urban Collectors
-  Minor Collectors
-  Local Roads
-  Urban Area

Prepared By Salem County
Planning Department
February 2012
MJS

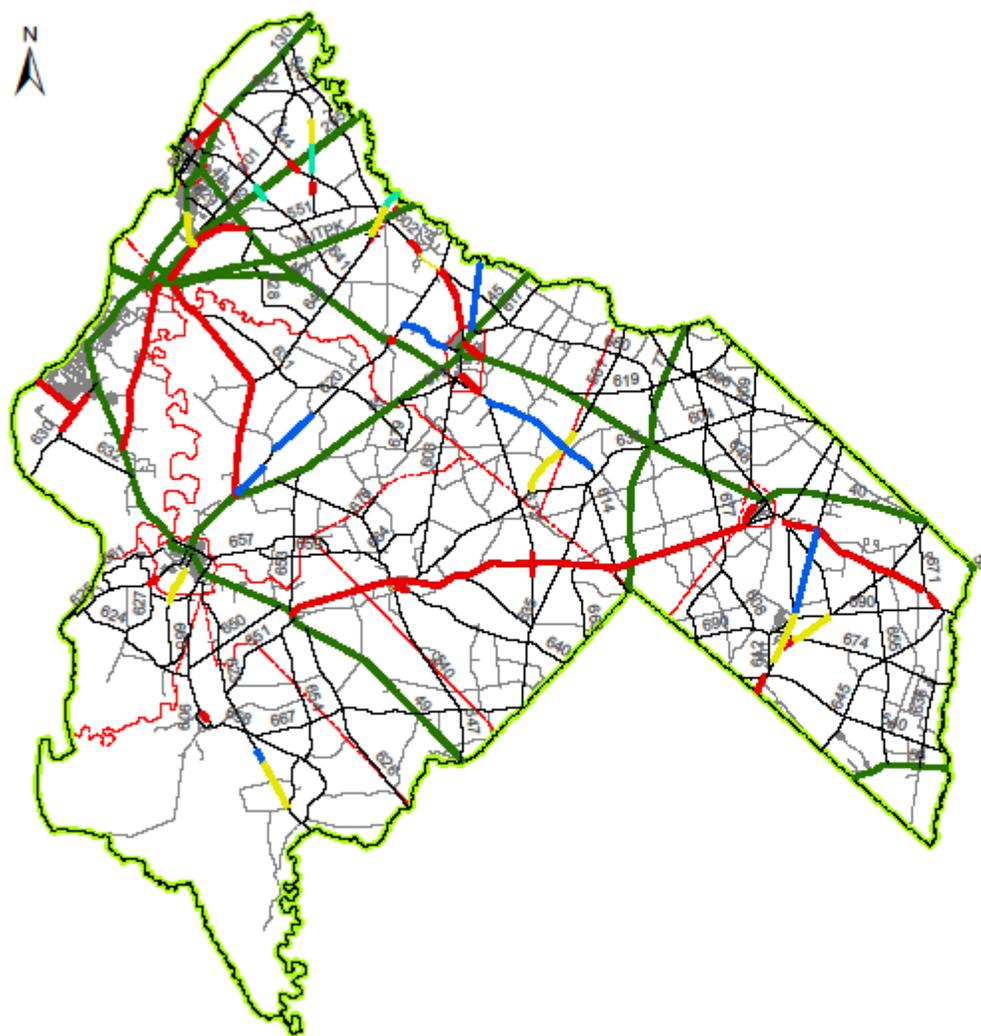


Figure 5
Existing Shoulder
Widths
Salem County, NJ
2011

-  Federal & State Hwys.*
-  7 Feet +
-  6 to 7 Feet
-  5 to 6 Feet
-  4 to 5 Feet
- * 6 Feet and Over

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 Salem County
 Planning Department
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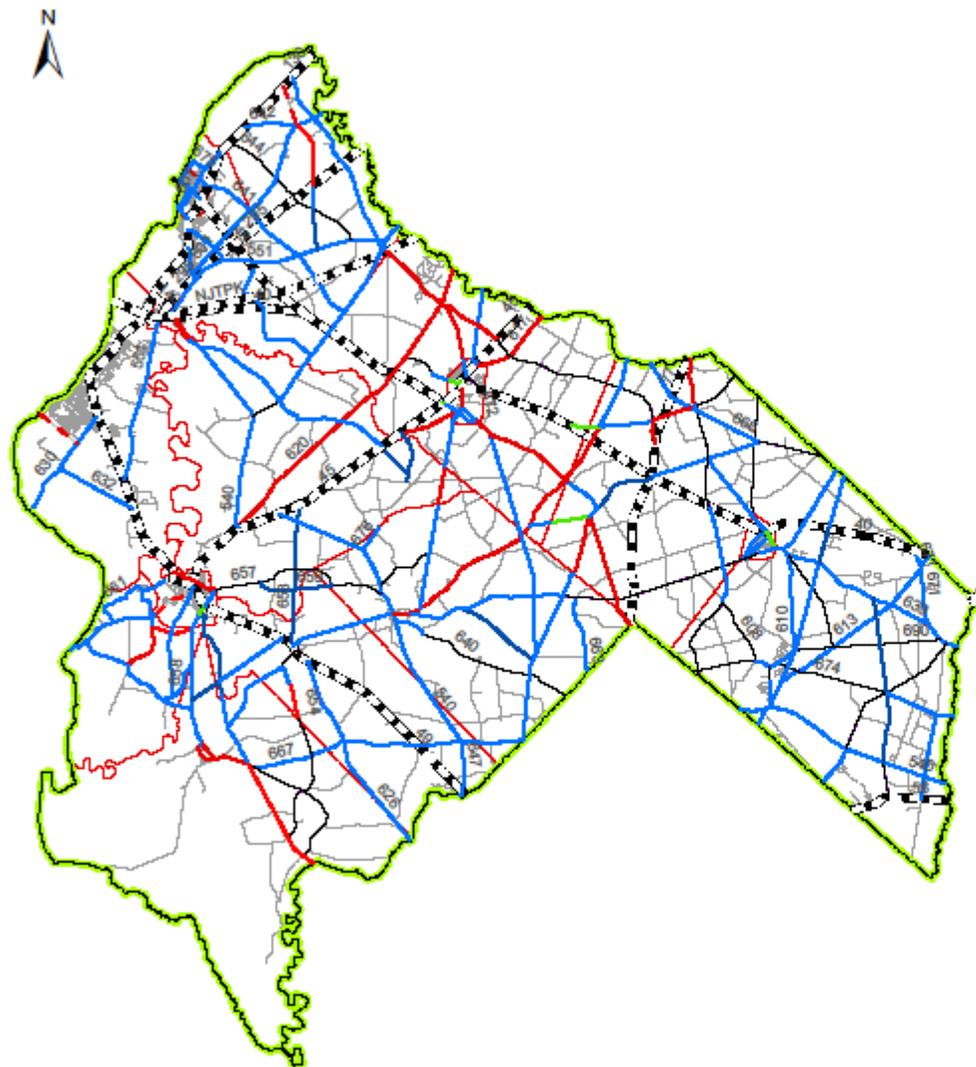


Figure 6
Existing Roadway Right Of Ways
OF
Salem County, New Jersey

-  US & State Roads
 -  66'+ Road Width
 -  66' Road Width
 -  60' Road Width
 -  50' Road Width *
 -  40' Road Width **
 -  33' Road Width
- * 49.50' TO 50'
 ** 40' TO 41.25'

Prepared By Salem County Planning Department
 Information from Salem County Engineering Department
 February 2012
 M/G

Of the total road mileage under County jurisdiction, approximately 102 miles, or 29 %, have a ROW of less than 50 feet. If the ROW of each substandard road could be increased to a minimum of 50 feet (e.g., through the County development review process or direct acquisition), sufficient width for the construction of a 36 foot travelway would be provided, leaving 7 feet per side for a drainageway, residential setbacks, or other uses. **Figure 6** is a generalized map showing right-of way widths on County roads.

Traffic Control Devices

Traffic signals and even flashing warning beacons can be a significant improvement to the safety of an intersection. As shown in **Figure 7**, there are only 3 signalized road intersections that do not involve either a State or County route.

TRAFFIC PROBLEM AREAS – COUNTY AND REGIONAL SYSTEM

Most of the traffic "problem" areas in Salem County occurred along the two lane, high volume, regional routes such as US 40, US 130, NJ 45 in Woodstown Borough and NJ 49, particularly where these routes intersect with other high volume roads and/or pass through urban areas or boroughs. For the most part, the problems are directly related to high traffic volumes and road design, due to the fact that many of the Federal and State routes were constructed decades ago and were designed for much lower traffic volumes than they must now accommodate. Efforts to correct these problems are often frustrated by the difficulty in obtaining the right-of-way and funding needed to widen the road or construct an urban bypass.

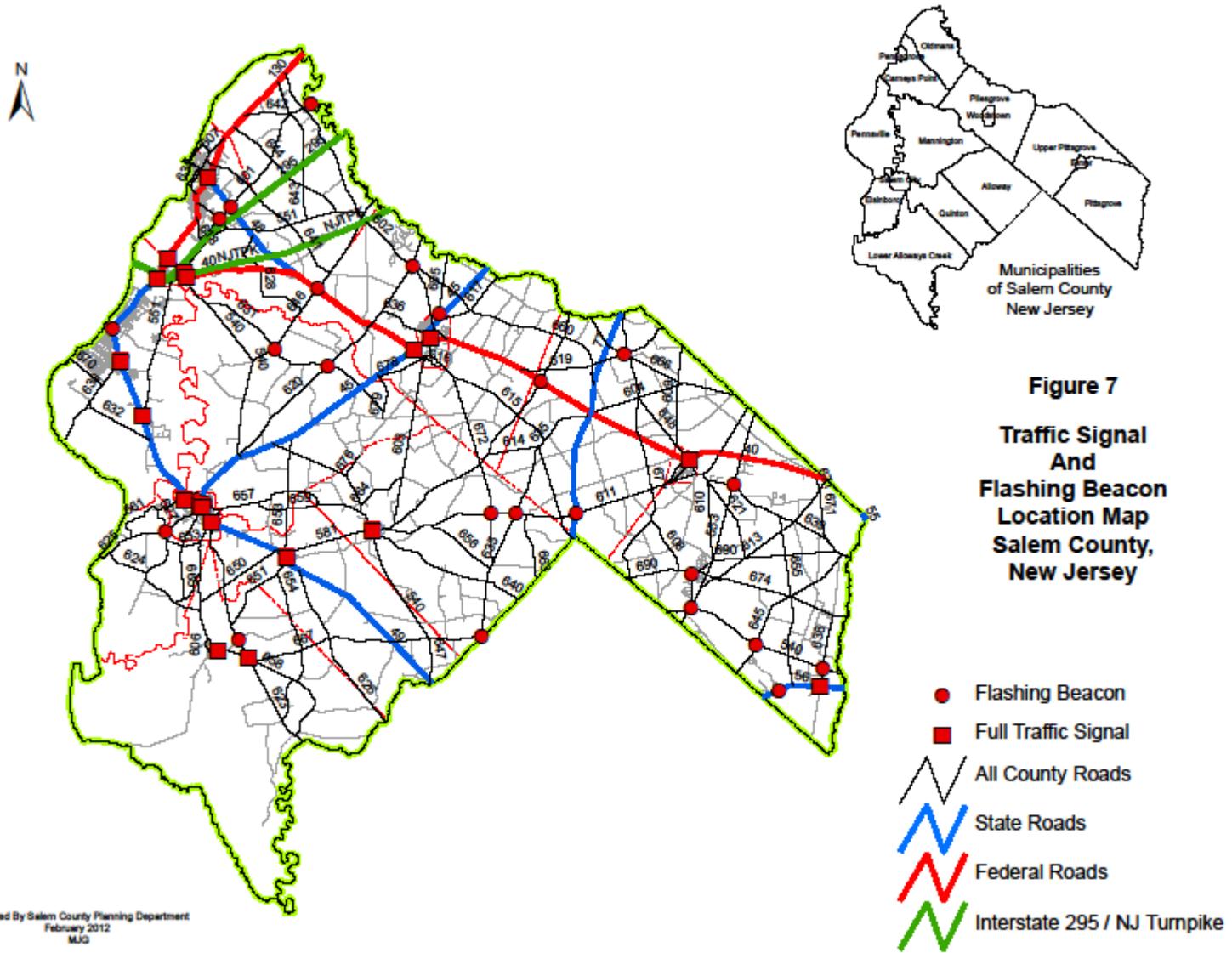
High Accident Locations

Figure 8 identifies intersections with 10 or more accidents in a three year period (limited access highways such as I-295 and the Turnpike were not included). As can be seen in this figure and Table 4 below, most of the high accident intersections for this period occurred on State/US regional routes,

TABLE 4

Intersections with 10 or More Accidents – 2008 to 2010						
Located On Route(s)	Total High Accident Locations	Number of Intersection with -			Of Intersections with Over 20 Accidents	
		10 - 14 Acc.	15 - 19 Acc.	20 or More Acc.	Total Accidents at intersection	Intersecting Road
US 40	5	4	1		.	
NJ 49	4	3		1	22 acc.	Hook Rd
US 130	2	2			.	
NJ 56	1		1			
NJ 140	1		1		.	
NJ 77	2	1	1			
Co. 607	6	5	1			
Co. 553	1	1				
Co. 619, 638	3	3	1			
Total -	25	19	6	1		

As can be seen above, most of the intersections with 10 or more accidents and the intersection with over 20 accidents in the three-year period were located on State/US routes (particularly on US 40 and 130 and NJ 49).



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 February 2012
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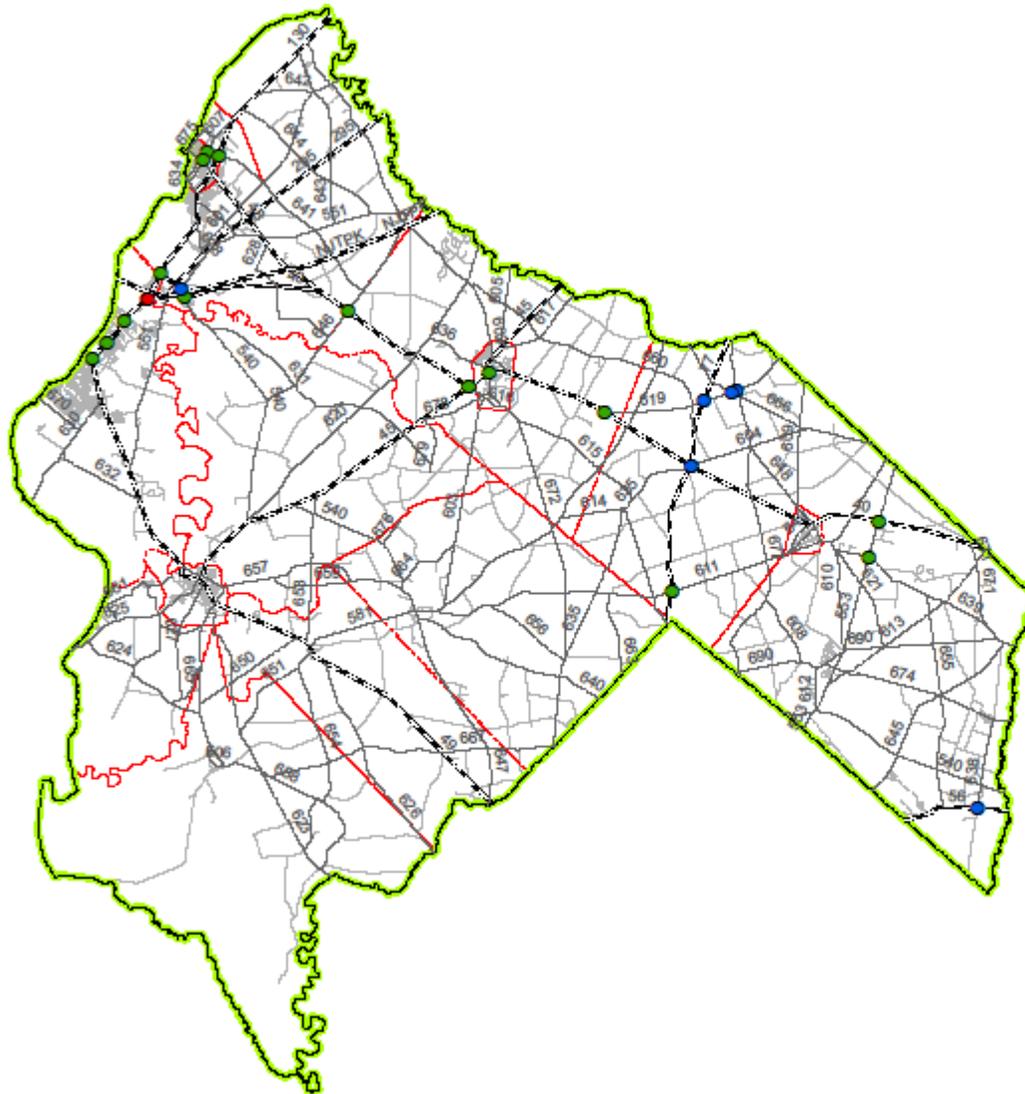


Figure 8
County, State and U.S.
Routes
Salem County
Intersections With
10 or More Accidents
2008 - 2010

- 20 or More
- 15-19
- 10-14

Prepared By Salem County Planning Department
February 2012
MJG

For the most part, this apparent problem could be attributed to high traffic volumes on the regional roads and to the disruption to this traffic flow at intersecting roads which may also carry heavy traffic volumes.

In comparison to their traffic volumes, the number of accidents at most intersections were not inordinately high. However, an analysis of accident data for the 2008-2010 periods identified several locations which could be considered problem intersections. This includes the three intersections noted above (all of which are in Carneys Point Township and within a mile from each other) and the intersection of County routes 619 and 638 in Upper Pittsgrove Township, which has a relatively high number of accidents (3 or more) in comparison to the low traffic volume recorded for this intersection. Accident information in this report will be updated when more recent state-wide data is released by the New Jersey Bureau of Accident Records (NJDOT).

Congested Areas

One of the major tasks in the transportation planning process is the identification of congested roads and intersections. This is particularly true of roads that carry high volumes of through-traffic, which should be designed to move traffic efficiently at reasonably high speeds. Possible improvements that may mitigate the problem of congested roads include:

- Construction of an urban bypass or the upgrading of existing roads to function as a bypass
- Addition of a new lane, widening of existing lanes or shoulders, or construction of a left turn lane
- Reconstruction / improvement of intersections to facilitate traffic movement
- Installation of traffic lights or improved timing of existing signals
- Control of traffic access to/from land uses along the road.

Information about existing problem areas along the State and Federal route system is available from the SJTPO Regional Transportation Plan., while similar information for County roads was calculated by the County Planning Office. Based on this information, problem or “deficient” road sections and intersections include the following -

- **US 130:** from Penns Grove (NJ 48) to the Delaware Memorial Bridge. The only deficient intersection identified in the study is US 130 at NJ 48 (Penns Grove Borough).
- **NJ 49:** From the I-295 overpass in Pennsville Township to NJ 45 in Salem City. From Co. Route 551 (Hook Road) to NJ 45 (in Salem City).
- **US 40:** was identified as being deficient from NJ 48 in Carneys Point Township to NJ 45 in Woodstown Borough. Deficient intersections include the two US 40/NJ 45 intersections US 40 (in and near Woodstown), US 40/NJ 77 in Upper Pittsgrove and US 40/CR 648 in Elmer Borough.
- **NJ 140:** US-130 to I-295 (existing), NJ Turnpike (future).
- **NJ 45:** Co. Route 540 (Pointers-Auburn Rd.) to NJ 49 (Broadway Salem City).
- **Co Route 658:** NJ 49 to Co. Route 650 (Quinton-Hancock’s Bridge Rd.).
- **NJ 56:** Cumberland Co. Route 717 to NJ 55.

The following **County arterial roads** were estimated to have a significantly high traffic count relative to their design capacity:

- **Route 551 (Hook Road)** in Pennsville is well designed (12 foot lanes, 8 foot shoulders) but heavily traveled because, it serves as an alternate route for NJ 49 in Pennsville.
- **Route 540** from NJ 45 to US 40 provides access to I-295 and the NJ Turnpike.
- **Route 658** in Salem City and Lower Alloways Creek (LAC) is used by workers from the nuclear generating plant at Artificial Island in LAC and so has traffic volumes which are unusually high
- **Route 553** in the Centerton/ Norma area in Pittsgrove Township is heavily traveled (route 553 in its entirety has as high traffic counts).

Bridges

The County maintains all bridges and culverts on County roads and all such structures that have a span of 5 feet or more. In all, the County is responsible for 100 bridges and 42 culverts. Ninety-four of the 142 structures are on roads under County jurisdiction.

Figure 9 identifies the location of bridges (20 feet and over) under State or County jurisdiction that have a sufficiency rating of less than 65 and which were identified within the Department of Transportation's Bridge Management System as being structurally deficient or functionally obsolete. Although bridge condition is not necessarily related to traffic congestion or hazards, it relates to system maintenance problems and needs that must be recognized and monitored as part of the transportation planning process.

Air Quality

The problems of increasing traffic volumes extend beyond congestion and accidents. Vehicular emissions can create ozone smog, carbon monoxide (CO) and other pollutants that can negatively affect health and quality of life. Ozone is created when hydrocarbons and oxides of nitrogen from emissions react in sunlight and, carbon monoxide is formed by incomplete vehicular fuel combustion.

The transportation planning process is required to address the vehicular emission/pollution problem. The Federal Environmental Protection Agency has established standards for pollution such as CO and ozone as well as the emission pollutants that creates ozone. The SJTPO Regional Transportation Plan must demonstrate conformity with EPA Clean Air standards or risk losing State and Federal funding for transportation projects.

Salem County, which, along with Cumberland County is included in the Philadelphia CMSA air quality region, is in nonattainment (severe-1) for ozone. Air quality regions that exceed these standards will have difficulty in securing approval for any projects that could result in a significant increase in vehicular emissions such as new roads or construction of additional travel lanes.

OTHER MODES OF TRANSPORTATION

Modes of transportation, such as mass transit, rail and truck transport services can have an impact on the local road system. Mass transit and rail can have positive air quality and congestion management

benefits by reducing the number of vehicles on the road. The latter may have the additional benefit of reducing the heavy truck traffic which can contribute to the deterioration of roadway surfaces. Port facilities (such as the Port of Salem) are of interest because they potentially generate freight traffic, as goods must be transported from the port by truck or rail. **Figure 10** shows the route and location of the various transit systems in the County, and **Figure 11** shows the location of the rail lines, airports and the Salem Port facility in the County.

Mass Transit

As it relates to transportation in general and the County Transportation Plan, mass transit has at least a potential benefit. It can help to reduce traffic congestion in urban areas and major highways, as well as reduce air pollution generated from automobile emissions. However, in an era in which most individuals prefer the convenience of their private automobile to bus travel, its primary function is to provide a means of transportation to a segment of the population who cannot afford to own or are unable to drive an automobile.

Mass transit in Salem County consists exclusively of bus transportation. Three types of transportation services are available to County residents:

- Local, intra-urban transit, providing riders with transportation within and between the urban areas of Penns Grove Borough, Carneys Point and Pennsville Townships, Salem City and Woodstown Borough
- Inter-county and interstate transit in Salem County, consists of transportation to the cities of Philadelphia and Camden, as well as points in between (no direct transit is provided to Atlantic City or New York City from Salem County)
- Specialized transportation services to a select population group

Mass transit in Salem County is provided by Salem County Transit (SCOT) and New Jersey Transit (NJT). Specialized services are provided by Office on Aging senior citizen/handicapped transport services.

Salem County Transit provides one route: (the route to Wilmington, DE was eliminated by NJ Transit) –

- **468 Bus Service** - to Penns Grove Borough, Pennsville and Carneys Point Townships, Salem City, Mannington Township and Woodstown Borough

New Jersey Transit currently provides three inter-county and interstate routes serving Salem County:

- **402 Bus**- originates in the Township of Pennsville and has stops in Penns Grove Borough, Pureland Industrial Park, Woodbury, Camden and Philadelphia
- **401 Bus**- originates in Salem City and travels to Philadelphia via Woodstown Borough, Swedesboro, Deptford, Gloucester and Camden Cities.
- **410 Bus** - originates in the City of Bridgeton (Cumberland County) and passes through Salem County via NJ 77. The route has only one stop in Salem County, that being Pole Tavern in Upper Pittsgrove Township. It provides transportation to the town of Mullica Hill, Camden City and the City of Philadelphia.

Municipal Special Transit Services are provided by the County Office on Aging for senior citizens and the disabled and handicapped. Service is provided to shopping centers, public facilities and non-emergency hospital visits. Vehicles provide lift services for those confined in wheelchairs.

Rail Service

There are currently two active rail lines providing freight service (there is no passenger rail service in the County) that pass through Salem County, they are:

- **Salem County Short Line** -is an 18.6 mile line that runs from Swedesboro, Gloucester County, through Woodstown and Alloway Junction to its terminus at Salem Port. Connection to Conrail service is available at Swedesboro. The line, known as the Salem Secondary Track was purchased by Salem County from Conrail in 1985 and is operated by Southern Railroad of New Jersey.

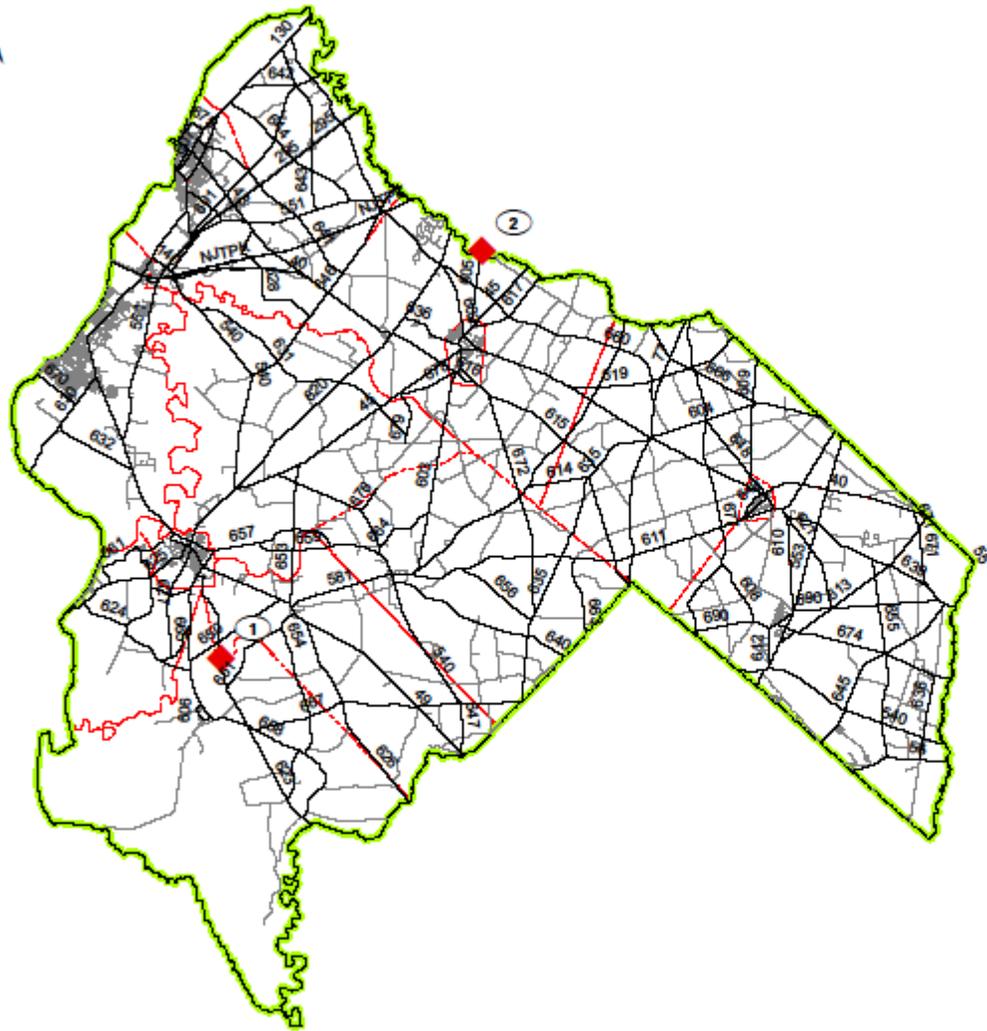


Figure 9
Structurally
Deficient Bridges
Salem County

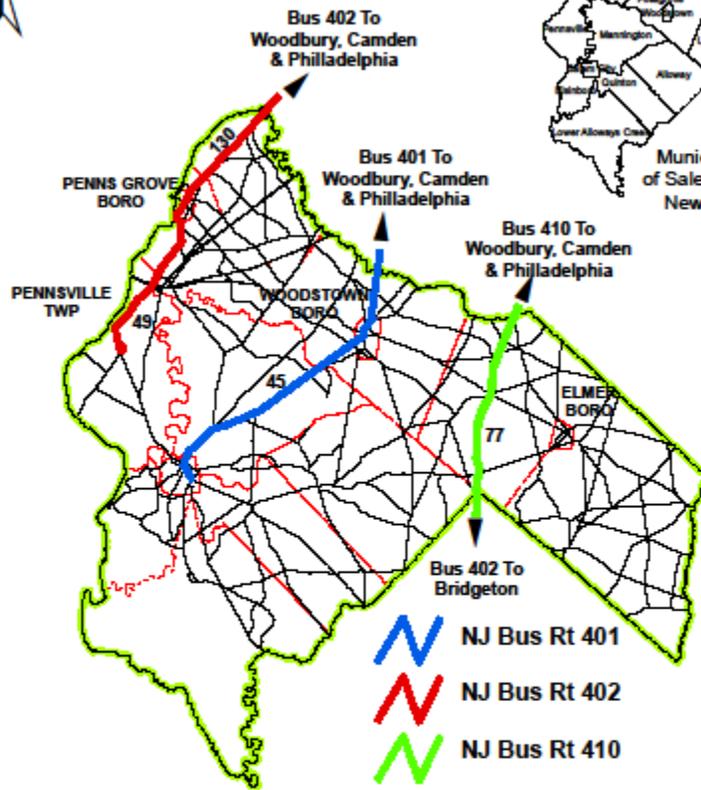
ID	Route #	Stream
1	CR 623	Alloway Creek
2	CR 605	Oldman's Creek

Source: New Jersey Dept. of Transportation -
Bridge Management System

Prepared By Salem County Planning Department
March 2012
MJG



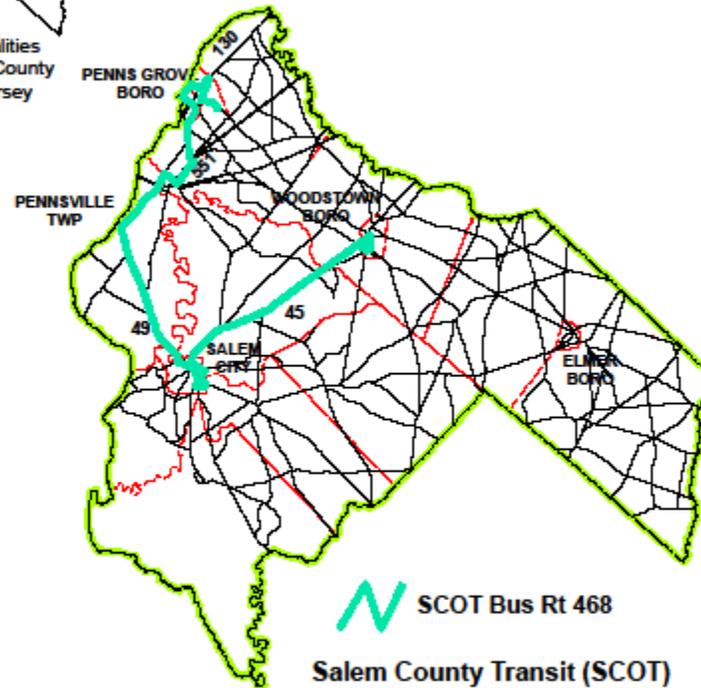
Figure 10
Public Transportation Routes
Salem County
New Jersey



New Jersey Transit

- Intercounty and Interstate System -

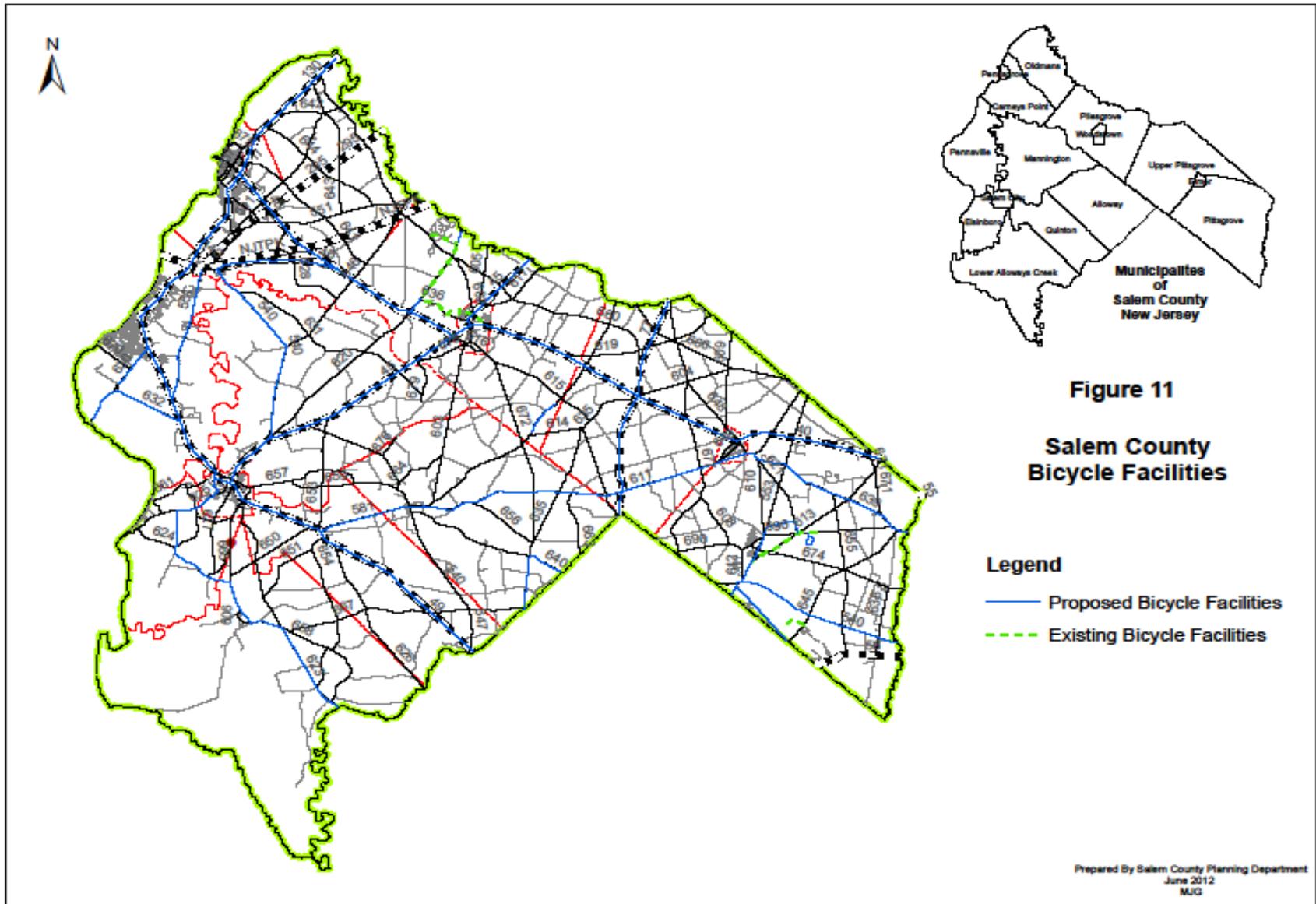
Service Provided To -
 Woodbury, Camden,
 Philadelphia and Bridgeton
 (Rt. No.'s 401, 402 & 410)
 Transfer available to Deptford Mall

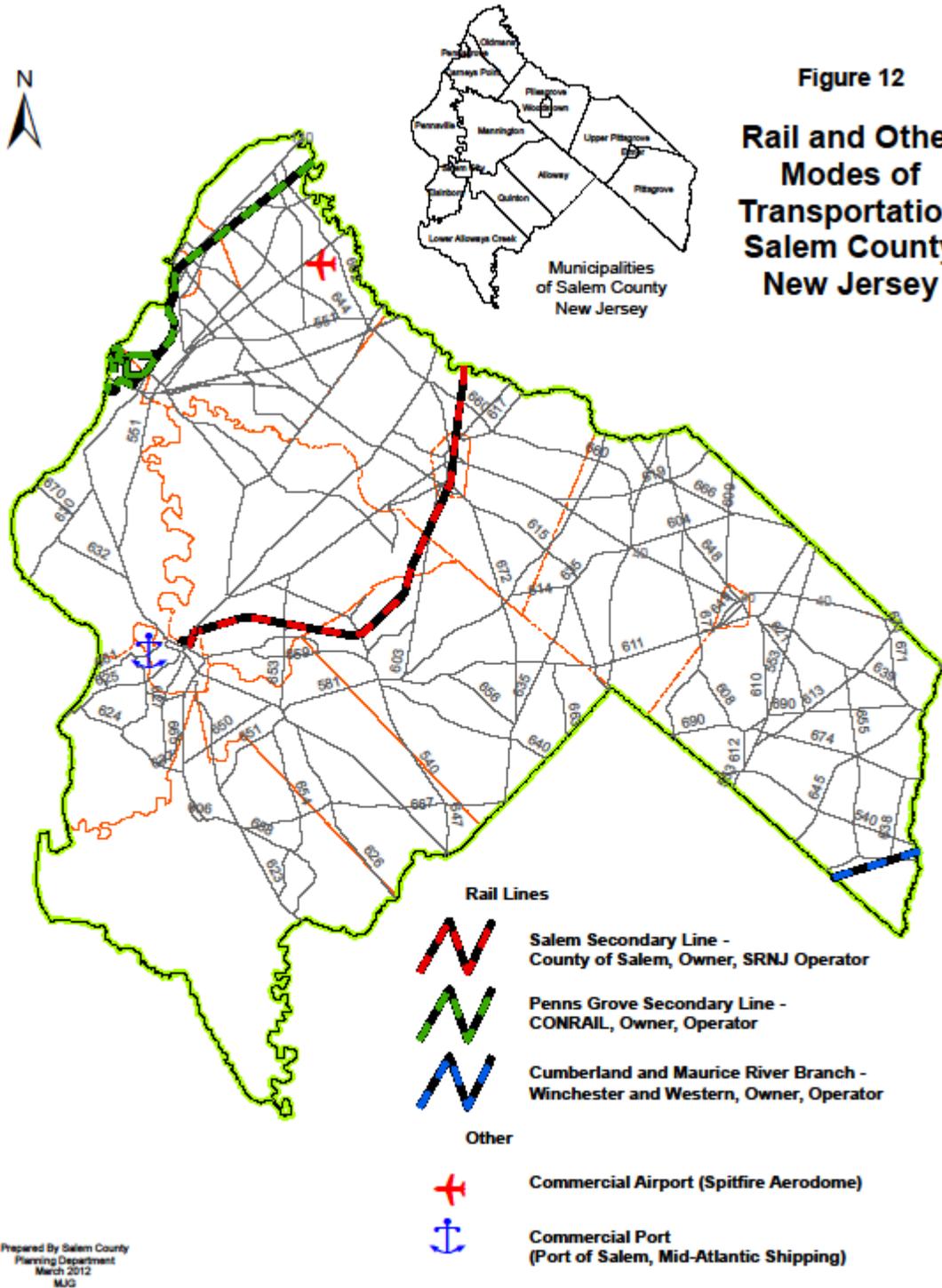


Salem County Transit (SCOT)

- County of Salem -

Prepared By Salem County Planning Department
 March 2012
 MJG





Penns Grove Secondary Line is owned and operated by Conrail runs southward from Woodbury in Gloucester County, through Oldmans Township and Penns Grove Borough, to Deepwater in Pennsville Township. The line provides service to DuPont and several other industries in Salem County.

Ports

The Port of Salem is owned by the South Jersey Port Corporation and is leased to a private operator. Located at the west end of Broadway (NJ 49) on the Salem River (which has a depth of 17 feet) in Salem City, it is a complex consisting of warehousing. The County's rail line (Salem Secondary Track) and the line operator (Southern Railroad of New Jersey) serve the Port and provide connections to CSX/Norfolk Southern. The Port is designated as a Foreign Trade Zone (FTZ) and therefore goods imported into the FTZ may be excluded from US Customs regulations, which greatly reduces shipping and importing costs (see Figure 11 for the location of Salem Port).

It should be noted that the docking facilities downstream or southwest of the Port are privately owned and operated by Mid-Atlantic Shipping and Stevedoring. They are not part of the South Jersey Port Corporation facility, and are not served by the County rail line.

The location of the port makes it easily accessible from not only the Delaware Bay, but also the Chesapeake and Delaware Canal. It occupies a central location in the Boston-to-Washington megalopolis, not only via waterways, but also by means of surface transport as provided by the County rail line and I-295 and the New Jersey Turnpike via NJ 49.

Airports

Salem County has numerous privately owned airports and airstrips, of which only one, the airport in Oldmans Township (Spitfire Aerodrome), is a public use facility licensed with the Federal Aviation Administration. The remaining airfields are solely for private use. There are no publicly-owned airports in the County.

Spitfire Aerodrome, formerly known as Oldmans Airport, has a 2,450 feet runway and 20 aircraft based at the airport. On-site flight instruction, air taxi service, maintenance repairs, limited hanger space and rental aircraft are available. Located adjacent to I-295, the airport offers the possibility of increased economic activity for the County. (See Figure 11 for location).

Bicycle Facilities

With the assistance of Cross County Connection Transportation Management Association, Salem County has been able to inventory and analyze the existing and proposed commuter bicycle facilities. The ultimate goal of the Cross County Connection bicycle facility work is to create a region-wide network of bicycle facilities that, in conjunction with public transit, can be used by commuters to reach employment and other destinations throughout the region.

The emphasis of this study is on the identification of bicycle facilities for commuting purposes only. Cross County Connection's inventory does not include closed loop systems, such as bike facilities in a local

park. These recreational facilities were not included in the inventory or analysis, unless they could be opened and effectively be connected to a regional bicycle facility.

As of 2007 Salem County has an existing bicycle facilities network total of 6.8 miles in 13 segments. Of those 13 segments, 11 totaling 5.7 miles, are on-road facilities. This leaves only 2 segments, totaling 1.1 miles of off-road facilities. The County is proposing an additional 22 segments, totaling 114.7 miles of on-road facilities. Both the existing and proposed facilities will provide direct access to all of the NJ Transit bus routes serving the County. The ability to link a bicycle trip with public transit provides commuters with access to the region-wide public transit system.

The Bicycle Facilities Inventory and Analysis (2007) has documented the existing and proposed bicycle facilities in Salem County and provided a ranking process to help prioritize the facilities that should be constructed initially. The inventory will be updated periodically to reflect changes made at the local and county level. Salem County and its municipalities have made good progress towards proposing a bicycle network that links to public transit and provides inter-county connections. The ground work has been laid, and a solid foundation has been established, however there is considerable opportunity in Salem County to improve the County's bicycle network, through the implementation of these proposed bicycle facilities.

III. GROWTH TRENDS AND POPULATION PROJECTIONS

In the process of planning for future transportation needs and anticipating possible traffic problems, it is important to understand how growth is occurring throughout the County. Residential growth in a particular region will most probably result in more automobiles and an increase in home-based trips and in higher traffic volumes on roads serving the growth area.

It is fortunate that the County Transportation Plan can include the most recent year 2010 Census data in its analysis, rather than rely on population estimates as was done with the 2001 Transportation Plan. By comparing growth trends from 1980 to the present and developing relatively simple linear projections and reviewing projections from other sources, such as the South Jersey transportation Planning Organization, it is possible to gain insight as to how and at what rate the County is developing.

Past Trends

According to the US Census, the 2010 Salem County population was 66,083 people, or less than one percent of the total State population of 8,791,894. Salem County has the lowest population count and is the least densely population county in New Jersey. Over the past two hundred years, the population has grown at an unsteady rate, with the largest growth spurs occurring in the post-war decades (1910 to 1920 and 1940 to 1960), averaging 30% to 40 % growth per decade. Since the 1960's, growth has slowed considerably to just over 7 % between 1970 and 1980, 1 % between 1980 and 1990 and a 1.5% decline from 1990 to 2000. There was a 2.80% increase from 2000-2010.

Despite this slowing growth rate there were according to 2000 to 2010 Census data a few high to moderate growth municipalities in the County. Whether this localized growth is the result of intra-county population redistribution or inter-county in-migration, it is still significant in that it results in new construction and possibly even the need for additional infrastructure.

As can be seen in **Table 5, Figure 12 and Table 7**, the leading growth municipalities for the last decade were:

TABLE 5

Municipality	<u>2000</u> Pop.	<u>2010</u> Pop.	<u>2000-2010</u> Inc.	<u>% Inc.</u>
Alloway	2774	3450	676	24.3%
Carneys Point	7684	8049	365	4.75%
Mannington	1559	1823	264	16.9%
Pittsgrove	8893	9393	500	5.6 %
Woodstown	3136	3505	369	11.8%

Alloway Township, in the central part of the County, has had both the largest 10-year population increase of any of the County's municipalities, and the largest rate of increase between 2000 and 2010. Pilesgrove, Pittsgrove and Upper Pittsgrove Townships have seen an increase that is a continuation of the past 20 year

trend. It should be noted, however, that while there was an increase in the population of Mannington Township and the Woodstown Borough in the last decade, both had experienced a loss of population in the 1990 to 2000 period. Elmer, Penns Grove, Pennsville and Carneys Point Township recorded population increases from 2000-2010 but their populations remain below the 1990 levels. Elsinboro, Lower Alloways Creek and Salem City continue to record slow declining population. Finally Quinton and Oldmans Township showed a decline in population but both remain above their 1990 numbers.

Population Projections

The South Jersey Transportation Planning Organization or SJTPO (see Section IV for a discussion of SJTPO) developed complex population projections for Salem County (with assistance from the County Planning Office). This was based on the 2010 Census. The year 2040 projections, which were developed for the SJTPO Regional Transportation Plan, show a 10 % increase in the County’s population from 2010 to 2040. According to the SJTPO population projections, all of the County’s municipalities, including those that experienced a decline in the last 20 years, are projected to grow within the next 30 years. The municipalities that were projected to receive the largest actual increase (i.e., an increase of 400 or more persons) were:

TABLE 6

Municipality	Census	Projected	<u>2010 - 2040</u>	
	2010	2040	Inc.	% Inc.
Alloway	3450	4987	1537	45 %
Pennsville	13409	17286	3877	29 %
Pittsgrove	9393	12018	2652	28 %
Mannington	1823	2277	454	25 %
Carneys Point	8049	9957	1908	24 %

Source: SJTPO 2040 Population and Employment Projections by Municipality

It should be noted that the projections were not generally based on past growth trends, but on a consideration of where the County and State are focusing their efforts to encourage new development. For example, Carneys Point and Pennsville Townships are within the planned growth area of both the County and State Plan (see Figure 14 in Section IV), and this is the region, with its existing infrastructure and services, where development should be channeled.

Projections were calculated only for those that experienced a population increase between 2000 and 2010. It is, however, unlikely that the growth spurt experienced by Pittsgrove and Mannington Townships will continue over the next 30 years to the extent indicated in the County’s linear projections, particularly if both implement measures through zoning and farmland and open space preservation to manage and control growth in the rural areas.

Table 7
GROWTH TRENDS - 1980 - 2010

SALEM COUNTY

Municipality	1980	1990	2000	2010	1980-1990		1990-2000		2000-2010	
					Amnt	% Inc	Amnt	% Inc	Amnt	% Inc
Pittsgrove	6954	8121	8893	9393	1167	16.8%	772	9.5%	500	5.6%
Pilesgrove	2810	3250	3923	4016	440	15.7%	673	20.7%	93	2.4%
Upper Pittsgrove	3139	3140	3468	3505	1	0.0%	328	10.4%	37	1.1%
Oldmans	1847	1683	1798	1773	-164	-8.9%	115	6.8%	-25	-1.4%
Quinton	2887	2511	2786	2666	-376	-13.0%	275	11.0%	-120	-4.3%
LAC	1547	1858	1851	1770	311	20.1%	-7	-0.4%	-81	-4.4%
Alloway	2680	2795	2774	3450	115	4.3%	-21	-0.8%	676	24.4%
Woodstown	3250	3154	3136	3505	-96	-3.0%	-18	-0.6%	369	11.8%
Elsinboro	1290	1170	1092	1036	-120	-9.3%	-78	-6.7%	-56	-5.1%
Mannington	1740	1693	1559	1823	-47	-2.7%	-134	-7.9%	264	16.9%
Elmer	1569	1571	1384	1395	2	0.1%	-187	-11.9%	11	0.8%
Penns Grove	5760	5228	4886	5147	-532	-9.2%	-342	-6.5%	261	5.3%
Pennsville	13848	13794	13194	13409	-54	-0.4%	-600	-4.3%	215	1.6%
Carneys Point	8396	8443	7684	8049	47	0.6%	-759	-9.0%	365	4.8%
Salem City	6959	6883	5857	5146	-76	-1.1%	-1026	-14.9%	-711	-12.1%
Salem County	64676	65294	64285	66083	618	1.0%	-1009	-1.5%	1798	2.7%

Source: US Census

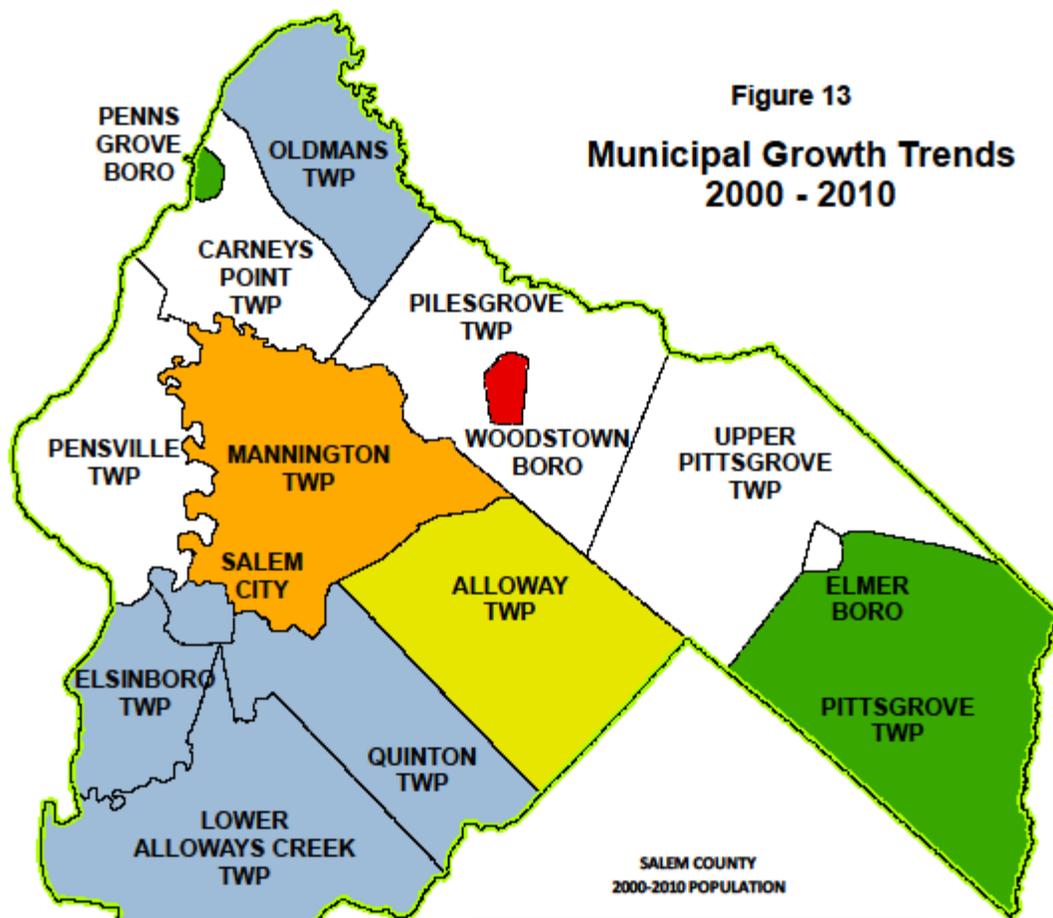
**TABLE 8
POPULATION PROJECTIONS -2010 - 2030**

Municipality	2010	SJTPO (RTP+)				Trend (Linear++)			
		2030	2010-2030		% Inc	2030	2010-2030		% Inc
Alloway	3450	4461	1011		29.3%	5337	1887		54.7%
Mannington	1823	2121	298		14.0%	2493	670		36.8%
Woodstown	3505	4061	556		13.7%	4377	872		24.9%
Pittsgrove	9393	11145	1752		15.7%	10479	1086		11.6%
Penns Grove	5147	5776	629		10.9%	5712	565		11.0%
Carneys Point	8049	9330	1281		13.7%	8793	744		9.2%
Pilesgrove	4016	4334	318		7.3%	4208	192		4.8%
Pennsville	13409	16068	2659		19.8%	13851	442		3.3%
Upper Pittsgrove	3505	3716	211		6.0%	3579	74		2.1%
Elmer	1395	1433	38		2.7%	1417	22		1.6%
Subtotal	53692	62445	8753		16.3%	60246	6554		12.2%
Oldmans	1773	1796	23		1.3%				
Quinton	2666	2667	1		0.0%				
LAC	1770	1771	1		0.1%				
Elsinboro	1036	1027	-9		-0.9%				
Salem City	5146	5104	-42		-0.8%				
	12391	12365	-26		-0.2%				
Salem County	66,083	74,810	8,727		13.2%				

+ South Jersey Regional Transportation Planning Organization- Regional Transportation Plan - (year 2012)

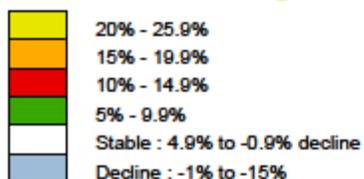
++ Simple linear trend projection. Projections were prepared only for those municipalities that experienced an increase in population between 2000 and 2010.

Figure 13
Municipal Growth Trends
2000 - 2010



SALEM COUNTY
2000-2010 POPULATION

TOWNSHIP	2010	2000	% CHANGE
ALLOWAY	3,450	2,774	24.37%
CARNEYS PT.	8,049	7,684	4.75%
ELMER	1,395	1,384	0.79%
EL SINBORO	1,036	1,092	-5.13%
LAC	1,770	1,851	-4.38%
MANNINGTON	1,823	1,559	16.93%
OLDMANS	1,773	1,798	-1.39%
PENNS GROVE	5,147	4,886	5.34%
PENNSVILLE	13,409	13,194	1.63%
PILESGROVE	4,016	3,923	2.37%
PITTS GROVE	9,393	8,893	5.62%
QUINTON	2,666	2,786	-4.31%
SALEM CITY	5,146	5,857	-12.14%
U. PITTS GROVE	3,505	3,468	1.07%
WOODSTOWN	3,505	3,136	11.77%
COUNTY TOTAL	66,083	64,285	2.80%



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Planning Department
March 2012
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Source: US Census

Anticipated Growth Municipalities in Salem County- to Year 2025

- **Pittsgrove Township**

Given its advantageous location (i.e., its proximity to NJ Route 55 and the Vineland-Millville urban region), and the amount of developable land in the municipality, it is safe to assume that the Township will continue to attract the majority of residential in-migration and intra-county population redistribution that will occur over the next 25 years, although not necessarily at the 2000 – 2010 rate. There were 260 new lots created in the municipality from 2000-2010. It should be noted that, even though the Township has neither public sewer nor water, it is still one of the major growth areas in the County. The Township’s recently approved municipal Plan and zoning ordinance were developed with the objective of discouraging growth in the rural areas and the County and State Plan have identified growth centers within the Township where new development is encouraged to occur. The State Plan has classified most of the Township as being within an Environmentally Sensitive Rural Planning Area.

- **Pilesgrove Township**

Like Pittsgrove Township, the number of new residential lots created in 2010 (5 lots) in Pilesgrove was lower than any other year in the last decade. The Township has certain locational advantages both US 40 and NJ 45 run through the center of the municipality and it still has considerable developable land. A relatively large percentage of this rural land has been preserved from development under the Farmland Preservation program). It is anticipated that the Township will continue to be a growth area in the County, although the loss of rural land through suburban sprawl is a concern.

- **Upper Pittsgrove Township**

While the municipality only experienced a 1.07% growth during the 2000-2010 period, the 2001 County Transportation Plan identified it as a probable future growth area. It should be noted that the Township has taken measures in its municipal Plan and zoning ordinance and through its extensive farmland preservation efforts, to discourage growth in the rural areas. Like Pittsgrove Township, a large portion of the municipality is classified as Environmentally Sensitive Rural in the State Plan, a designation that may help to slow the rate of growth in the rural areas.

- **Oldmans Township**

The population loss for this municipality for the 2000-2010 period does affect its gain in population during the 1990-2000 period. Within the scope of the State Development and Redevelopment Plan and the County Growth Management Plan, the Township is identified with being at least partially within the planned “urban growth area” (i.e., the Suburban Planning Area) of the County (refer to the State Plan Map in Section IV). Interchange #7 of I-295 is located approximately within the center of the Township, and the area around this interchange is planned for industrial/commercial development. For these reasons, growth is anticipated within the Township, and possibly within the County’s entire urban area along the Delaware River in the next 25 years.

- **Quinton Township**

The fact that this municipality saw a decrease in population during the last decade was expected in the 2001 County Transportation Plan. As with Oldmans Township, the population loss for Quinton (-120) during the 2000-2010 period affects the gain in population (275) during the 1990-2000 period.

- **Planned Growth Areas - County Growth Management Plan and State Plan**

As indicated in the discussion above, general estimates of the location of future growth areas are not only based on past trends, but on plans and visions for the management of growth in the County. Both the County Growth Management Plan and State Development and Redevelopment Plan have identified the Metropolitan, Suburban and Fringe Planning Areas in Pennsville, Carneys Point and Oldmans Townships and Penns Grove Borough as the County's urban growth area. In the Year 2000, the County received funding (under the DCA Smart Growth Grant) to prepare a regional strategic plan for this area that would make recommendations for the enhancement and rehabilitation of this area as a growth center for the County. The plan included recommendations for strategies and improvements related to economic development, center-based growth, urban revitalization, and improvement of infrastructure and amenities, such as parks and recreation facilities. For this reason, there is reason to believe that the municipalities located in this urban area will experience at least a modest population increase over the next 25 years, despite the population loss experienced by Oldmans Township over the last decade.

IV. TRANSPORTATION PLANNING OVERVIEW

One of the objectives of this report is to provide an overview of the various federal, state and regional transportation or transportation-related plans which are in some way concerned with the Salem County transportation system. In addition to these general planning efforts, this section also discusses and includes the specific designations of the various state systems and their related programs that classify and in some cases regulate all or part of this system.

South Jersey Transportation Planning Organization

Because a county's major transportation system and the problems associated with it are usually of a regional nature, federal law requires that transportation planning and decision-making for urbanized areas be carried out through regional metropolitan planning organizations (MPO's). This organization coordinates the planning activities of its member counties and participating agencies (NJDOT, NJ Transit, etc.) and involves both responsible State, County and local officials and the general public in the MPO decision-making process. Both the Intermodal Surface Transportation Efficiency Act and the 1990 Clean Air Act Amendments (CAAA) have expanded the MPO's responsibilities in the area of capital programming, air quality planning and general transportation planning. Among the foremost responsibilities of an MPO are the development of a regional transportation plan, the annual development of a five-year transportation improvement program (TIP) of federally funded transportation projects, and involvement in the implementation of the regional plan.

In July of 1992, the State formed the South Jersey Transportation Planning Organization, (SJTPO) which encompasses the counties of Salem (formally a member of WILMAPCO), Cumberland, Atlantic and Cape May. SJTPO consists of a Policy Board of elected officials, as well as a Technical and a Citizens Advisory Committee. Since its inception, SJTPO has been involved in the annual development of a Transportation Improvement Plan (TIP), and the completion of several transportation studies such as the analysis of traffic problems along the NJ 49 and US 40 corridors. In March of 2001, SJTPO, with assistance from a team of project consultants, completed and adopted the 2035 Regional Transportation Plan. The 2040 RTP is planned for adoption in July, 2012.

In addition to describing baseline conditions within the four counties, the Plan also identified future traffic problems including highway capacity-based, safety, and bridge and road pavement problem areas (see **Figure 14** for map of traffic problem areas). The RTP also included a comprehensive list of goals, policy statements and action steps to correct identified problems and improve and maintain the regional transportation system.

State Transportation Plan

The State Department of Transportation also updated its transportation plan, which is essentially a policy plan. The State Plan does not include specific recommendations for road improvements, leaving that to the MPO's, counties and municipalities.

State Management Systems

In response to the mandate of the SAFETEA-LU, the State has developed six management systems designed to deal with facility maintenance, safety and traffic movement problems along the federal/state system and along certain major county routes. The management systems are:

- Highway Pavement
- Bridge
- Highway Safety
- Traffic Congestion
- Public Transportation Facilities Equipment
- Intermodal Transportation Facilities System

State Strategic Plan

The proposed State Strategic Plan is New Jersey's revised and readapted State Development and Redevelopment Plan. It is designed to improve sustainable economic growth; economic prosperity that is balanced with natural resource preservation and personal satisfaction with one's surroundings. It will focus its policies and investments in vibrant regions by fostering targeted job growth, supporting effective regional planning and preserving critical resources. It intends to coordinate public and private investments which support sustainable communities that will attract and provide strong economic opportunities, preserve natural resources and create healthier communities in which to work and reside (see **Figure 15**).

The State Strategic Plan includes transportation policies relating to:

- Transportation system preservation
- Provision of public transit services and maintenance of aviation facilities
- Integration of land use and natural resources (including air quality) protection with transportation planning
- Efficient use of the existing transportation network and its existing capacity
- Economic development and redevelopment
- Goods movement

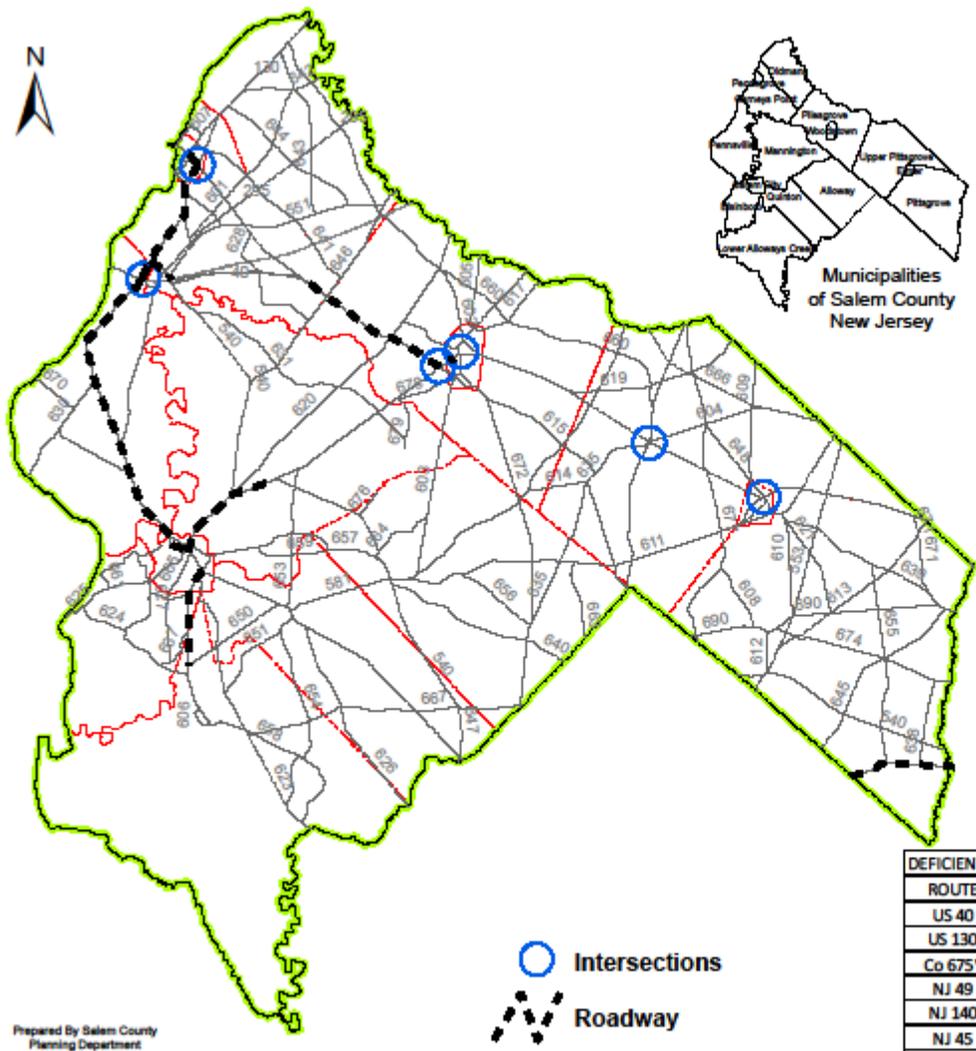


Figure 14
SJTPO
2025 Regional
Transportation
Plan For
Traffic
Problem Areas

DEFICIENT INTERSECTION		
ROUTE	AT	TO
US 40	Co 616	PILES GROVE
US 40	NJ 45	WOODSTOWN
US 40	NJ 77	UPPER PITTSBORO
US 40	Co 648	ELMER
US 130	NJ 48	PENNS GROVE
NJ/Tp	I-295/40	PENNSVILLE

DEFICIENT ROADWAY SEGMENTS		
ROUTE	AT	TO
US 40	NJ 48	NJ 45 (WOODSTOWN)
US 130	NJ 48	DELAWARE MEMORIAL BRIDGE
Co 675*	US 130	Co 607
NJ 49	I-295/40	NJ 45 (SALEM)
NJ 140	US 130	I-295
NJ 45	Co 540	NJ 49
Co 658	NJ 49	Co 650
NJ 56	Cumberland Co/CR 717	Cumberland Co/NJ 56

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State Highway Access Management Code (HAMC)

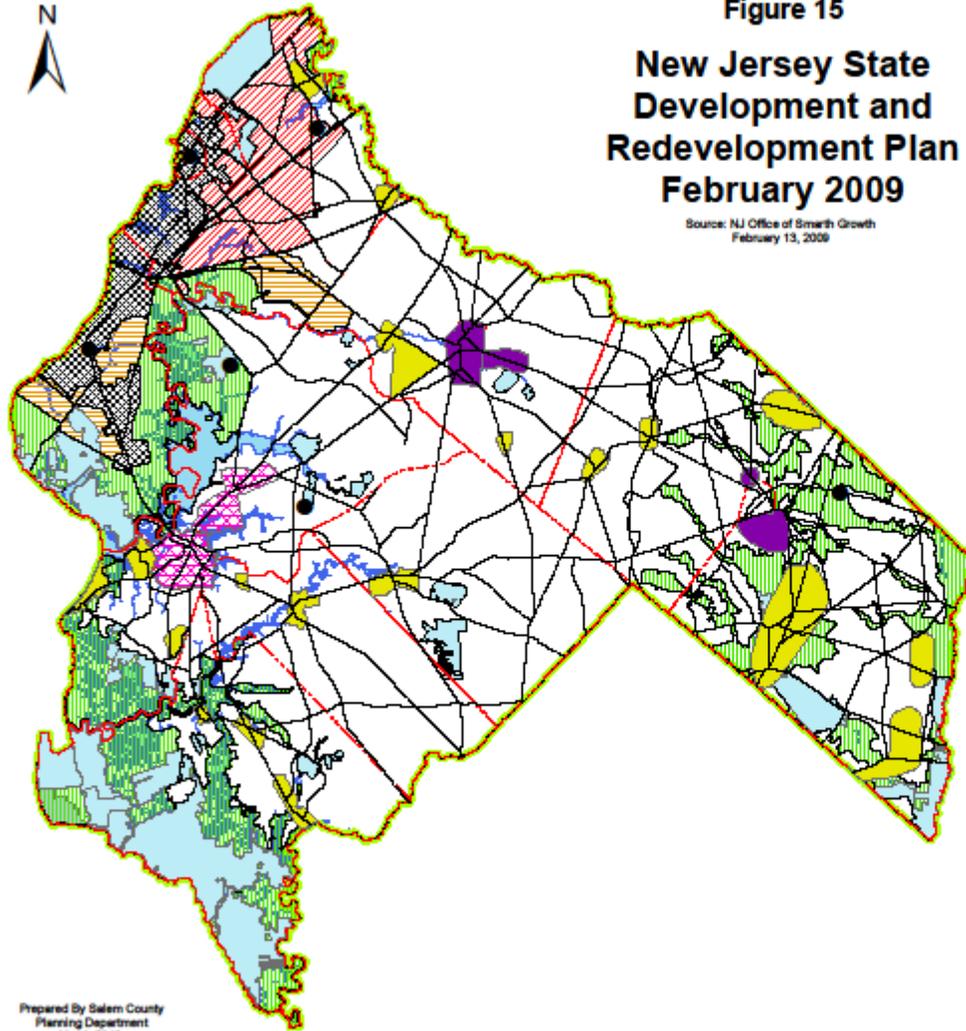
The purpose of the State Highway Access Management Code and classification system is to control access on the state and federal road system from adjacent land uses in order to promote traffic safety on, and to preserve the function of this system. NJDOT, in cooperation with the MPO's and local representatives, classified the State system into one of six access levels, ranging from full-controlled access to almost unlimited access with a few restrictions. The classification of the highway system in Salem County can be seen in **Figure 16**. As this map shows, most of the County's highways are classified as level 4, which permits driveways from new development if left turn lanes are provided. The code, which applies to new development, can have a significant impact on the design of subdivisions along the State system.

The HAMC also specifies the desirable typical sections (DTS) for the State highway system. The DTS identifies the planned cross-section (right-of-way width, numbers of lanes, lane/shoulder width, etc.) for every segment. This determines the ideal or desired design of the road, as well as setbacks for new development which must conform to the proposed right-of-way for a road's DTS. Most of the highways in Salem County are classified as 4C, which is a four-lane road with a 102 foot right-of-way. The County Planning Staff has been working with NJDOT to reclassify highway segments passing through urban or other developed areas such as 1A, which would make the DTS for these segments the same as what now exists.



Figure 15
New Jersey State
Development and
Redevelopment Plan
February 2009

Source: NJ Office of Smart Growth
February 13, 2009



- Future Center
- ▨ Regional Center
- Town Center
- Village/Hamlet Centers
- ▨ Metropolitan (PA 1)
- ▨ Suburban (PA 2)
- ▨ Fringe (PA 3)
- Rural Area (PA 4a)
- Environmentally Sensitive Rural (PA 4b)
- ▨ Environmentally Sensitive Area (PA 5)

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State Functional Classification System

NJDOT classifies all roads in the States according to their function as arterial, collector or local roads. The Functional Classification system, which can be seen in **Figure 17**, is used to determine the eligibility of a road for various (and particularly Federal) road funding programs, as well as to provide information about the functional hierarchy of the State highway system.

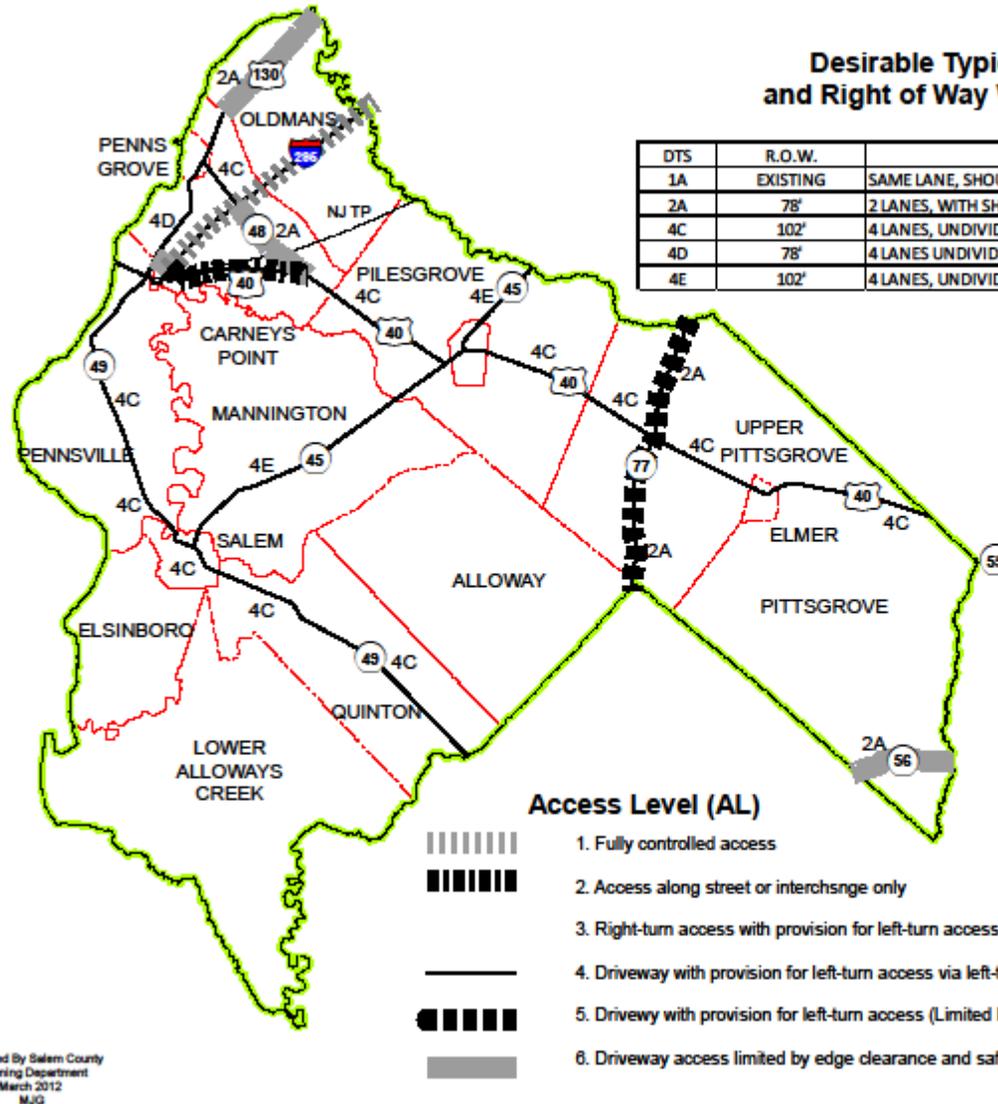
National Highway System (NHS)

The NHS, which consists primarily of Interstate routes, has been established to focus federal resources on roads that are the most important to interstate travel, national defense and international commerce. Federal funding, under ISTEA, will be allocated to the NHS for its maintenance and improvement. The NHS designations in Salem County can be seen in **Figure 18**

Figure 16

Desirable Typical Sections (DTS) Codes and Right of Way Widths (R.O.W.) Descriptions

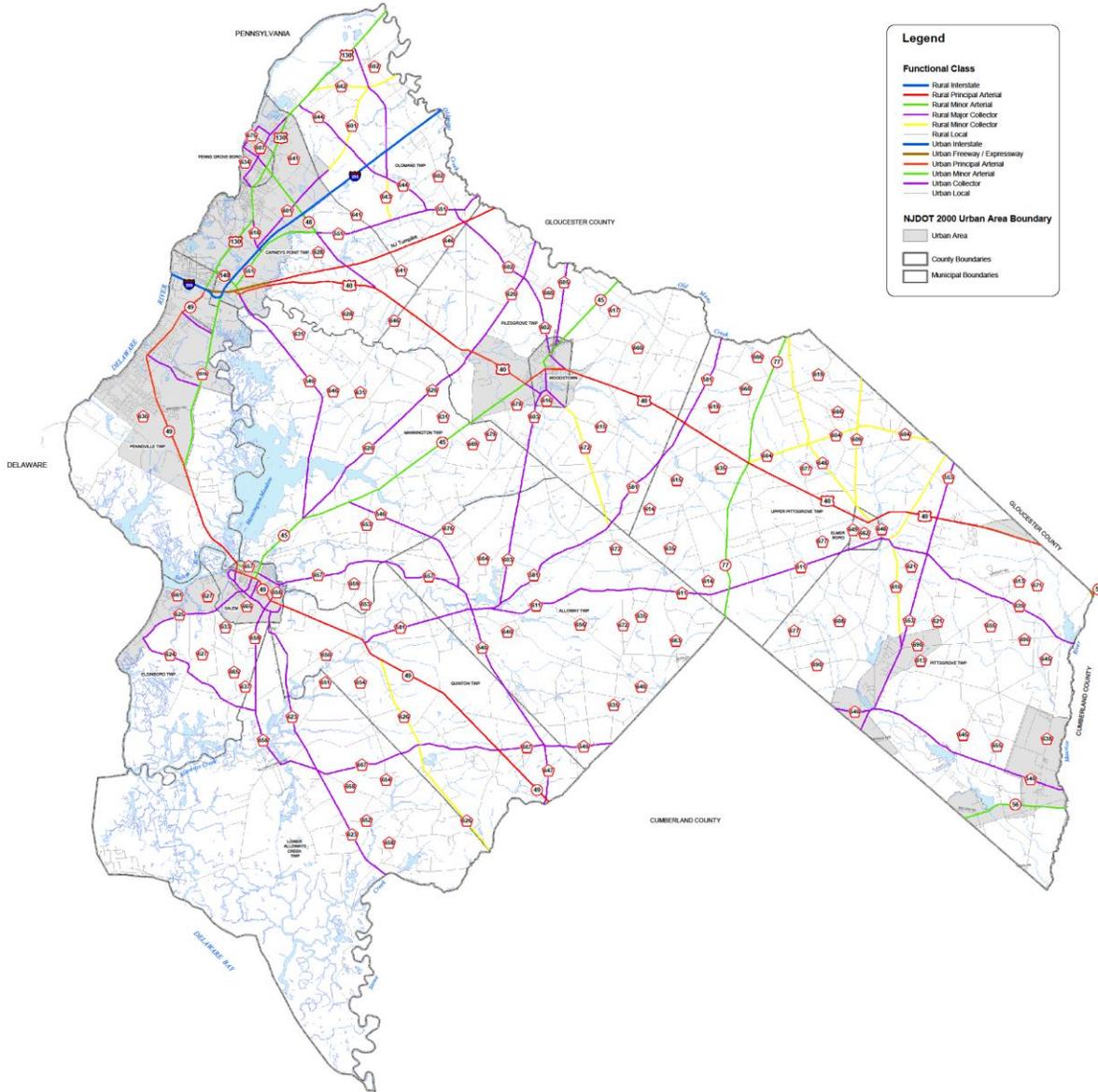
DTS	R.O.W.	DESCRIPTION
1A	EXISTING	SAME LANE, SHOULDER, AND PARKING CONDITIONS AS EXISTING
2A	78'	2 LANES, WITH SHOULDERS OR PARKING
4C	102'	4 LANES, UNDIVIDED WITH SHOULDERS OR PARKING
4D	78'	4 LANES UNDIVIDED WITHOUT SHOULDERS
4E	102'	4 LANES, UNDIVIDED WITH SHOULDERS OR PARKING (URBAN SITUATION)



Prepared By Salem County
 Planning Department
 March 2012
 M.J.G.

2000 URBAN FUNCTIONAL CLASSIFICATION SALEM COUNTY

June 2, 2004



Legend

Functional Class

- Rural Interstate
- Rural Principal Arterial
- Rural Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Rural Local
- Urban Interstate
- Urban Freeway / Expressway
- Urban Principal Arterial
- Urban Minor Arterial
- Urban Collector
- Urban Local

NJDOT 2000 Urban Area Boundary

- Urban Area
- County Boundaries
- Municipal Boundaries



SALEM COUNTY		SUMMARY - FUNCTIONAL CLASS BY RELEASE PERCENT RANGE		
FUNCTIONAL CLASS	MILES	CATEGORY	ACTUAL PERCENT	FWHA ALLOWABLE PERCENT RANGE
RURAL INTERSTATE (I, I1)	0.07	RURAL PRINCIPAL ARTERIAL (I, I1)	0.17%	2.0-4%
RURAL PRINCIPAL ARTERIAL (I, I1)	10.80	RURAL PRINCIPAL ARTERIAL PLUS MINOR ARTERIAL (I, I, I, I1)	0.26%	0.0-1%
RURAL MINOR ARTERIAL (I, I1)	11.80	RURAL COLLECTOR (I, I, I)	0.28%	0.0-1%
RURAL MAJOR COLLECTOR (I, I)	117.81	RURAL LOCAL (I, I, I)	0.30%	0.0-1%
RURAL MINOR COLLECTOR (I, I)	14.14			
RURAL LOCAL (I, I)	402.00	URBAN PRINCIPAL ARTERIAL (II, II, II)	0.16%	0.0-10%
URBAN INTERSTATE (II, II)	0.00	URBAN PRINCIPAL ARTERIAL PLUS MINOR ARTERIAL (II, II, II, II)	11.41%	0.0-20%
URBAN PRINCIPAL ARTERIAL (II, II)	14.87	URBAN COLLECTOR (II, II)	12.30%	0.0-30%
URBAN MINOR ARTERIAL (II, II)	17.50			
URBAN MAJOR COLLECTOR (II, II)	20.00			
URBAN MINOR COLLECTOR (II, II)	20.00			
URBAN LOCAL (II, II)	671.00			
TOTAL MILEAGE	871.00			
TOTAL RURAL MILEAGE	661.00			
TOTAL URBAN MILEAGE	210.00			

STATE OF
NEW JERSEY

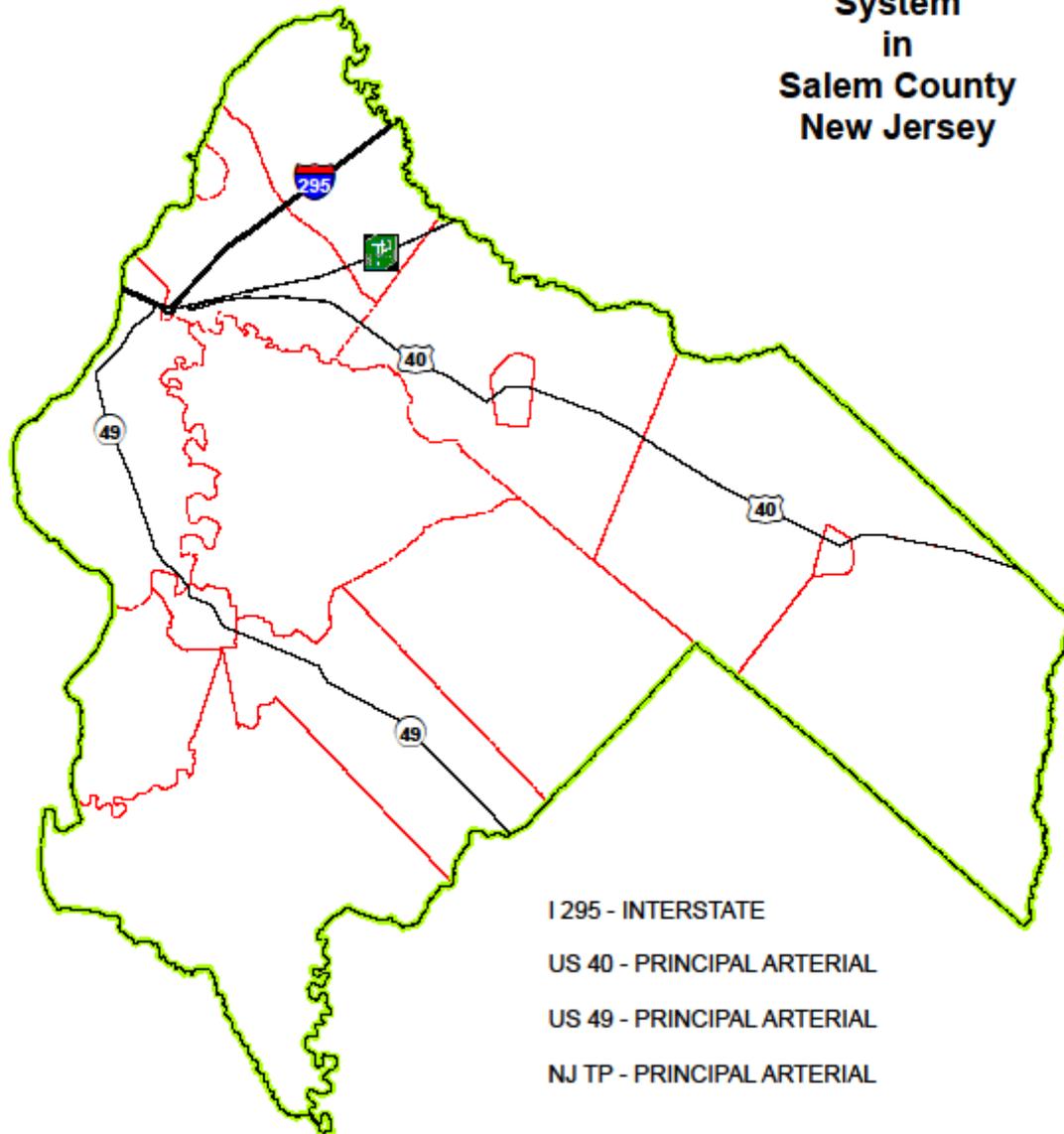
COMPUTER GENERATED BY THE
NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING AND SAFETY
BUREAU OF TRANSPORTATION DATA DEVELOPMENT

IN COOPERATION WITH
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



Figure 18

**National Highway System
in
Salem County
New Jersey**



Prepared By Salem County
Planning Department
March 2012
MJG



V. COUNTY TRANSPORTATION PLAN

The traffic circulation and general transportation plan contained in this section is, in part, an update of the 2001 County Traffic and Transportation Plan. It is based on traffic studies undertaken or initiated by the County Planning staff and other plans and studies, such as the :

- South Jersey Transportation Planning Organization Regional Transportation Plan (2010)
- NJ 49 Alternate Route Study (1990)
- New Jersey State Development and Redevelopment Plan (2001)
- County Work-First NJ Plan (1998)
- Bicycle Facilities Inventory and Analysis (2007)

The County Transportation Plan is used by the County Planning Board in the County development review process. It also serves as a guide in the road and bridge capital improvement programming process, and provides an agenda and direction for the County planning staff in its continuing involvement in a wide range of transportation planning activities.

GOALS OF THE SALEM COUNTY TRANSPORTATION PLAN

Transportation and Traffic Planning is an integral part of the comprehensive planning process, and an important factor in ensuring sound growth management. As has been mentioned earlier in this document, Salem County is heavily dependent upon its road and highway network for effective transportation. Consequently, the recommendations of this Plan will focus primarily on road and highway developments and improvements. The information presented in this document will serve as a guide for public decisions that affect County transportation and circulation system. The County Planning Board will utilize the plan when reviewing issues that impact on or are impacted by the goals and strategies identified herein.

PLAN GOALS AND STRATEGIES

GOAL I: PLAN, CONSTRUCT, AND MAINTAIN THE TRANSPORTATION, PUBLIC TRANSIT AND CIRCULATION NETWORK TO ADVANCE THE GROWTH AND DEVELOPMENT OF THE COUNTY.

Objective A: Direct transportation resources within the County to enhance existing economic development patterns.

Strategies:

1. Use the Main Street Zone and other designations as catalyst for transportation, transit and circulation projects that promote the growth and development of the zones.
 - Parking Improvements in downtown Salem City, Penns Grove, etc.
 - Sidewalk and bicycle in the zone.

- Target roadways in zone for improvements.
 - Increase public transit service.
 - Support the development of a new transportation center in Salem City to act as the hub for transit activity and to provide for intermodal connections, i.e. bike, pedestrian and automobile to bus.
2. Identify and construct improvements that enhance access to tourism destinations and ecotourism activities including facilities that promote connections from water to land based destinations, including the Coastal Heritage Trail and proposed Bayshore Heritage Byway.
 - Promote the development of docks for boating.
 - Provide new public access boat ramps.
 - Expand public access parking and boat ramps.
 - Promote development of bike and pedestrian trails.
 - Provide signage for existing facilities.
 - Work with the National Park Service to implement the Coastal Heritage Trail/Bayshore Heritage Byway.

Objective B: Direct transportation resources within the County to promote new economic opportunities.

Strategies:

1. Identify and construct highway and rail improvements that enhance access to key industrial parks, commercial areas and centers of economic activity.
 - Work with Gateway Business Park to insure adequate access to any future proposed facilities
 - Provide support as required for any large-scale economic centers.
2. Identify potential locations for intermodal facilities
 - Park and ride lots for improved access to transit facilities.
 - Freight transfer and access to industrial parks
3. Promote transit service to key employment centers.

Objective C: Expand, enhance and maintain mass transit (bus) service as a transportation option for transit dependents and Work First New Jersey (WFNJ) clients.

Strategies:

1. Work with NJ Transit, Salem County Transit, SJTPO and other organizations in maintaining, marketing and expanding the County bus system.
 - Better service to the public
 - Reduce the volume of vehicles on the County road system.

GOAL II: PLAN, DESIGN, CONSTRUCT, MAINTAIN AND MANAGE A CIRCULATION SYSTEM, WHICH PROVIDES FOR EFFICIENT VEHICULAR MOVEMENT WITHIN AND THROUGH THE COUNTY.

Objective A: Improve directional and destination signage. Identify key locations for signage improvements and begin process for implementing those recommendations.

Strategies:

1. Work with the NJDOT to improve signage on State highways, particularly at intersections and interchanges, i.e., Route 40 & Route 140 and Route 140 & I-295, I-295 exits 4 and 7 and NJ Turnpike exit 1.
2. Coordinate improvements with other governmental agencies.
3. Work with County Tourism and Public Information Department to set priorities.

Objective B: Maintain and improve the efficiency of the existing transportation system in order to reduce travel time, congestion and associated environmental and social cost such as air and noise pollution and increase the ease of movement of people and goods throughout the County. Identify key roadway improvements important to industrial, agricultural, business and tourism related commerce.

Strategies:

1. Explore formulating an access management strategy to help reduce traffic congestion along key County highways.
2. Identify areas where traffic signal timing can be synchronized to improve the flow of traffic along key roadways in the county.
 - Identify county/municipal intersections requiring timing coordination.
 - Encourage State and municipalities to evaluate signal timing on key corridors.
3. Develop and implement an Intelligent Transportation System and Smart Highway strategies to enhance the efficient flow of traffic and reduce congestion.
 - Route 40
 - Route 49
 - Route 77
4. Identify potential truck routes to minimize conflicts between automobiles and commercial truck traffic and minimize the impact on County roadways.
 - Develop recommended routes based upon LOS/roadway suitability.
 - Provide signage.
 - Provide public information to the trucking industry.
5. Identify those bypasses and missing highway links in the County highway network that, with completion will enhance the movement of people and goods in and around the County.
 - North – South movement through Pennsville, Carneys Point and Penns Grove.
 - Efficient movement around congested areas.
6. Identify areas of existing and potential traffic congestion and work on design improvements to alleviate congestion at those locations.
 - Utilize existing traffic counts and road widths to identify problems.
 - Create priority lists by working with cooperatively with SJTPO and NJDOT.
 - Design Improvements.
7. Identify areas for potential park/ride lots.
 - Coordinate park and ride strategies in conjunction with New Jersey Transit.
 - Implement actions.
8. Right-of-way
 - Update guidelines.
 - Identify areas where additional ROW is required (intersections, angle points).
 - Establish priorities for acquisition through the development review process and other efforts.
9. Major road improvements and maintenance

- Develop a list of major road improvements and maintenance to be submitted for Federal or State funding
 - Work with SJTPO/NJDOT in the process of including or programming improvements in the SJTPO Transportation Improvement Program (TIP).
10. Trip Reduction
- Promote voluntary commute options and strategies to reduce single-occupancy vehicles.
 - Promote growth management as a strategy for reducing total vehicular travel miles.
11. Classification
- Coordinate the functional classification of highways with the surrounding counties.

GOAL III: MAINTAIN AND IMPROVE THE TRAFFIC SAFETY FEATURES OF THE COUNTY ROAD NETWORK.

Objective: To improve the safety of the County transportation system by increasing knowledge of the accident trends and focusing investment to reduce future vehicle/vehicle and pedestrian/vehicle conflicts. Develop a list of those roads and intersection projects that enhance turning movements at key intersections, provide appropriate signage and signalization, and offer good circulation on heavily traveled roadways.

Strategies:

1. Continue to enhance the County’s database for a wide range of roadway features such as traffic volumes, signage, paving history, etc.
 - Maintain existing GIS database and mapping for signals, roadway widths, easements, cores, pavement condition and volume.
 - Expand database for signage and pavement history.
 - Maintain database for new information.
 - Continue to monitor traffic volumes on a regular cycle.
2. Obtain and monitor accident data to provide guidance on roadway and intersection improvements.
 - Develop/maintain GIS database and mapping.
 - Establish improved mechanism to obtain traffic accident information.
3. Work with municipal governments to identify areas where there are traffic speeding hazards and develop strategies for reducing and/or enforcing speed limits.
 - Encourage enforcement.
 - Utilize new techniques in future designs to meet established safe speed limits.
 - Use portable speed indicators.
4. Continue involvement with the South Jersey Traffic Safety Alliance.
5. Work with County, State and Federal officials to identify clearly those County roads that serve as part of the coastal evacuation routes.
 - Review existing evacuation plan.
 - Identify high capacity roadways.
 - Revise routes where appropriate with involved agencies.
 - Develop signage (fixed and variable).
6. Work with State and local emergency management officials to coordinate an incident management program.
7. Identify areas where improvements to rail/highway grade crossings are necessary and work with appropriate State, Federal and rail officials to implement those improvements.
 - Contact rail operators.

- Identify ownership.
 - Review accident and traffic volume data.
 - Identify priority crossing and mitigation measures.
8. Develop and maintain an information file on other (non-auto) modes of transportation in the County, such as bus, rail, air and water transportation systems.
- Utilize County GIS mapping system where applicable.

GOAL IV: ENHANCE REGIONAL CONNECTIONS TO AND FROM SALEM COUNTY.

Objective: Economically and socially Salem County is dependent upon those transportation linkages between the County and the rest of the region. Improvements to those connections will aid regional accessibility and mobility for County residents as well as increase the importance of Salem County to the region.

Strategies:

1. East-West Connection

- Improvements to existing corridors such as Route 540, Route 40 and Route 49.
- Form a committee to work with the other counties in the region and the NJDOT to examine alternatives, which will enhance east-west travel.
- Use the SJTPO Shore Connection Committee as a model.
- Look specifically at connections to the Delaware Memorial Bridge, the Commodore Barry Bridge and Atlantic City.

2. North-South Connection

- Improvements to existing corridors such as Route 45, Route 77, Route 553 and Route 130.
- Explore methods to reduce congestion in this area.

GOAL V: MAINTAIN INTERMODAL FREIGHT SERVICE IN SALEM COUNTY.

Objective: Maintenance of and improvement to the existing rail system in the county provides a key opportunity to develop a goods movement system, which is both economical and reduces the incidence of truck traffic on the County highways. Rail and Port service can effectively reduce highway congestion, air and noise pollution and improve safety.

Strategies:

1. Work with Conrail and Southern Railroad of New Jersey to identify and lobby for key freight rail improvements on Salem County network.
2. Bring rail service into industrial areas.
3. Work with NJDOT to secure funding for repairs and rehabilitation.
4. Work through the SJTPO and NJDOT Rail Plan to identify key regional rail improvements that can enhance the movement of goods to and from the County.
5. Cooperate with SJTPO, SJPC, NJDOT and other involved parties in improvement and maintenance of the transportation and intermodal systems that serve the general port activities.

GOAL VI: EXPAND AND IMPROVE PEDESTRIAN AND BICYCLE FACILITIES IN THE COUNTY.

Objectives: Pedestrian and bicycle transportation has recently been recognized at the Federal and State level as an important component in the overall transportation network. Improving facilities for these modes

increases mobility and accessibility, improves safety and quality of life, enhances environmental and land use objectives.

Strategies:

1. Reference and integrate the strategies of the Bicycle Facilities Inventory and Analysis with other regional and State plans.
 - Incorporate results of ongoing study.
2. Identify areas where new sidewalks, hiking trails and other pedestrian links can be made to the existing transportation network.
 - Incorporate bike racks in park and ride lots where applicable.
 - Evaluate county road design projects for compatibility with bicycle pedestrian uses.
3. Use the subdivision and site plan process to inventory existing sidewalks and to identify where sidewalks would be appropriate.
4. Adopt a Complete Streets policy utilizing the design guidelines from NJDOT
5. Work with the NJDOT, DRBA, National Park Service and other organizations to promote regional bicycle routes and other recreational trails and tours.
 - Implement recommendations of County Bicycle Inventory and Analysis.
 - Work with the National Park Service, Coastal Heritage Trail, Bayshore Heritage Byway, Greenways, DRBA and surrounding regions.

GOAL VII: COORDINATE TRANSPORTATION PLANNING WITH ENVIRONMENTAL AND LAND USE PROGRAMS

Objectives: The relationship between transportation and land use/environmental objectives has been clearly established. As such, policy and investment in both areas can directly benefit the other. Sound transportation policy and planning must consider the impacts upon land use and the environment. Conversely, land use policy should be evaluated and adjusted to take into account both positive and negative implications to the transportation system.

Strategies:

1. Coordinate transportation improvements to compliment and coordinate with local and County plans and programs.
 - Insure consistency with the Land Development Standards of the County of Salem.
2. Develop the transportation network in ways that coordinate proposed improvements with the New Jersey State Development and Redevelopment Plan (State Strategic Plan).
3. Work with the SJTPO, the State of New Jersey, the USEPA Air Quality Plans and other organizations to implement the County Transportation Plan’s goals and objectives.

GOAL VIII: MAXIMIZE FUNDING OPPORTUNITIES AND PROMOTE A WELL COORDINATED FUNDING STRATEGY FOR TRANSPORTATION PROJECTS AND PROGRAMS

Objectives: Maximizing the funding opportunities for transportation investments ensures the opportunity to maximize goals I through VII.

Strategies:

1. Continue to work with NJDOT and the U.S. Department of Transportation on highway maintenance and construction funding:
 - TEA-21 Funding Sources:

Safety Programs
Highway Programs
Surface Transportation
Highway/Bridge Replacement/Rehabilitation
Congestion Mitigation/Air Quality
Intelligent Transportation System Enhancements
Recreational Trails
Bicycle/Pedestrian
Transit Programs
Job Access Reverse Commute (JARC)
Urbanized Area Grants
Non-Urbanized Area Grants
Elderly and Disabled Transit Enhancements
Rural Transit Accessibility
ADA/Paratransit

- Maximize opportunities under New Jersey Transportation Trust Fund
2. Lobby for enhanced federal and state funding to county and municipalities to address key municipal roadway maintenance and construction needs.
 3. Provide funding for the public works department to maintain a good inventory of project designs.
 4. Minimize cost of transportation improvements:
 - Alternative routes
 - Intelligent Transportation System
 - Reduced cartway widths (in accordance with ASHTO Standards).

SUMMARY OF PROBLEMS AND NEEDS

The previous subsection identified or indicated traffic problems on the County road system, such as high accident intersections and congested areas. However, in a broader sense, transportation problems and needs are a matter of public perception and expectations, which can vary from one region to another. They also relate to Plan goals and objectives.

In an attempt to summarize all of the concerns and considerations noted above, the major problems relating to the County transportation system appear to be:

1. Traffic congestion on-
 - US 40 in Woodstown and Elmer Boroughs (Woodstown also has a major problem with the large volume of truck traffic on US 40)
 - NJ 49 in Pennsville Township and Salem City
 - US 130 in Carneys Point Township and Penns Grove Borough
 - Numerous high accident locations on US 40 and NJ 49 (accidents primarily related to high traffic volumes, particularly in urban areas) and several rural road intersections (accidents related to high speeds and in some cases, sight distance problems)
2. County roads with insufficient lane and shoulder widths in relation to their corresponding design standards
3. Roads in poor-marginal condition that are in need of resurfacing or reconstruction

4. Bridges in poor to marginal condition that are in need of major reconstruction or replacement
5. Lack of mass transit (bus) service in certain parts of the County (e.g., outside of the County's urban areas and in the eastern areas of the County).
6. Need to provide or maintain choices and alternatives regarding modes of transportation for and goods movement

Future Functional Classification System

Traditionally, a circulation plan consists of a map showing the functional classification of the roadway system and all proposed new roads, as well as the roadway design standards and regulations and requirements relating to road access, acceleration lanes and sight distance and drainage easements which implement the plan. Even without the identification of any proposed new roads, the functional classification system represents a circulation plan element for the County road system that, in addition to defining the system, specifies the ideal or design travelway and road right-of-way for every road under County jurisdiction. The "Future" Functional Classification System and corresponding roadway design standards for Salem County can be seen in **Figure 19**. The five levels of this system are as follows:

1. **Freeways/Turnpike** - Limited access highways with no grade crossing. Includes the New Jersey Turnpike, a portion of US 40, and I-295.
2. **State/US Routes** - All State and Federal routes other than the Turnpike and freeways.
3. **Urban Collector** - The major County road system. It is intended for mobility and serves to connect the collector and local street system with the Federal/State system.
4. **Rural Collector** - Basically serves the same function as an urban collector, but is characteristically a rural road with low traffic volumes.
5. **Urban/Rural Local** - Provides direct access to adjacent land uses, or simply does not fit the definition of an arterial or collector road.

The roadway cross-section standards are included on the map in **Figure 19**. The regulations that relate to the County functional levels can be found in the Salem County Land Development Standards.

Major Road Improvements

The 1967 Salem County Transportation Plan included proposals for the construction of a system of major inter-county highways and urban bypasses across Salem County reflecting the circulation element of the State Transportation Plan. In recent decades, the Federal Government has, as a result of financial constraints and environmental concerns, adopted a policy of strongly discouraging the construction of new roadway or the creation of any new road capacity.

Due to the uncertain future of any new road proposal, no new road construction or urban circulatory routes are shown on the functional classification map in **Figure 19**. On the other hand, the traffic problems of congestion and traffic hazards identified by the County and SJTPO Transportation Plans still exists on the major and county arterial road system. No alternative that would correct these problems should be entirely ruled out. The range of options or alternative actions and improvements that have been or are being considered are as follows:

US 40 Bypass- Woodstown Borough- NJDOT is no longer pursuing the Woodstown bypass alternative and the Borough's surrounding municipality where most of the bypass route would be located has opposed it. The alternative of utilizing existing roads was examined by the County and SJTPO but, due to its residential impact, was not pursued. However, the traffic problems still exist, and SJTPO will be examining the need for a Woodstown bypass in their Regional Transportation Plan (to be completed in 2012).

US 40: Elmer Borough - The Borough has included a US 40 bypass (north of US 40) in its transportation Plan and it is mentioned in their Center Designation Report Implementation Agenda. However, with the exception of the general recommendations of the 1988 South Jersey Highway Needs Study, NJDOT has not indicated that it is pursuing this improvement.

NJ 49: Salem City - Grieves Parkway was constructed as an alternate to NJ 49 in Salem City but, for a number of reasons including the location of stop signs at every intersection along this route, does not currently represent a convenient or practical bypass for the State road. The City has formally requested that the Parkway be upgraded to function as an NJ 49 bypass for truck traffic which will require some road improvements, traffic signal installation and signage changes. A recent traffic engineering study, commissioned by SJTPO at the request of the County Planning Board examined the feasibility and cost of this improvement, and made a number of recommendations regarding the phasing of a City bypass improvement project.

NJ 49: Pennsville Township - In 1995, SJTPO, in cooperation with the County Planning and Engineering staff and the Township of Pennsville, completed a traffic management study of the congestion problems in the Township. In addition to several relatively minor road and traffic signal improvements, recommendations included enhancing the function of County Route 551 (Hook Road) as a NJ 49 alternate route and major improvements to the NJ 49/US 40 - Pennsville-Auburn Road area.

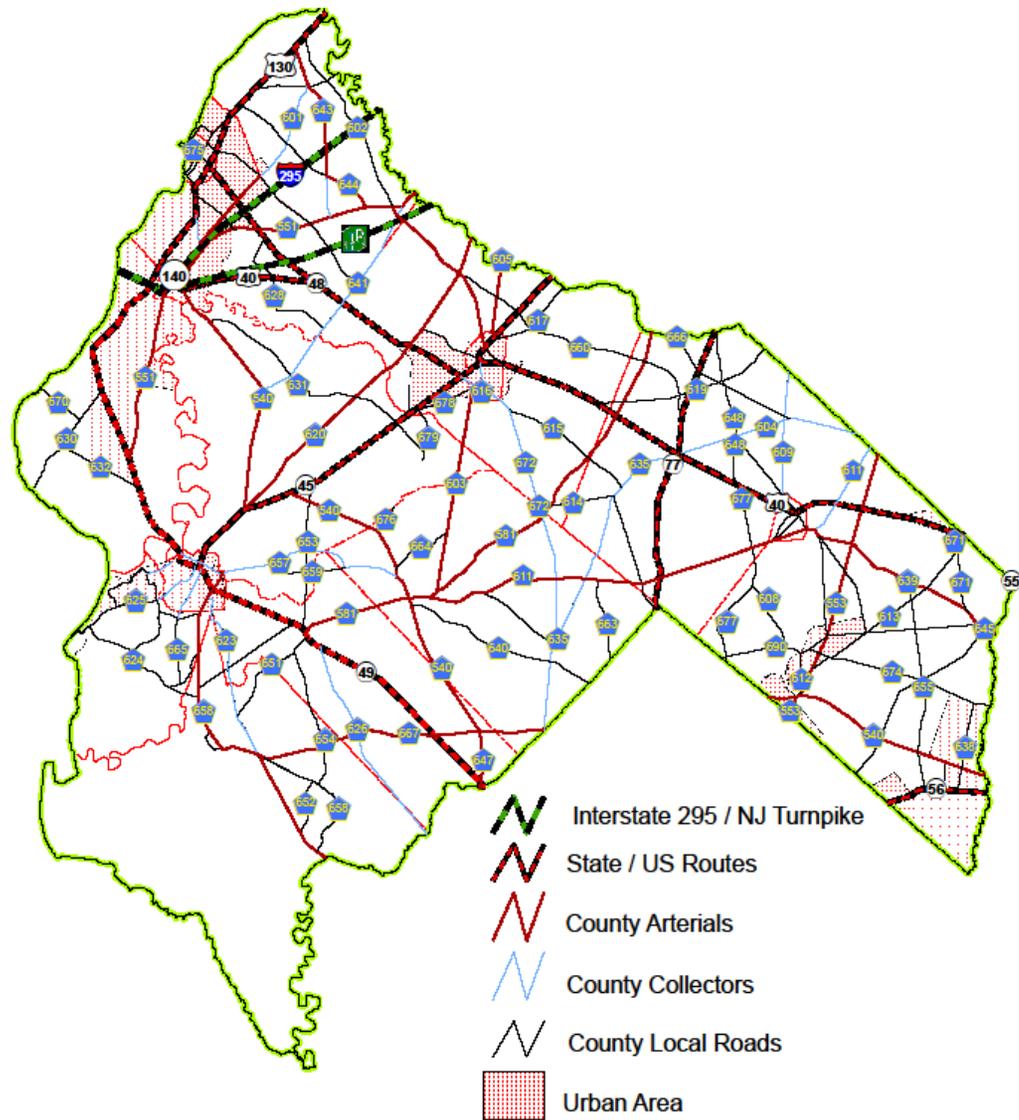
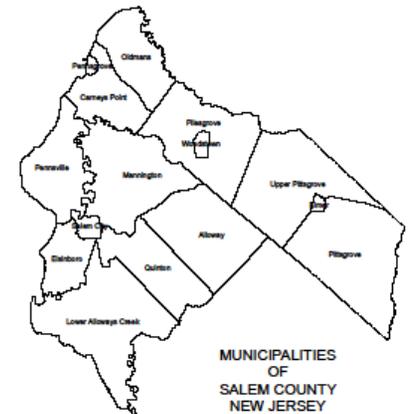


FIGURE 19
Future
Functional
Classification
System



PLANNED MINIMUM WIDTHS

County Road Classification	No. of Lanes	Lane (feet)	Shoulder (feet)	Paved Travelway (feet)	R.O.W. Fringe (feet)	Total R.O.W. (feet)
Arterial 4 Lane	4	12	8	64	22	86
Arterial/Collector	2	12	6	36	30	66
Local	2	12	6	36	14	50

End of Document