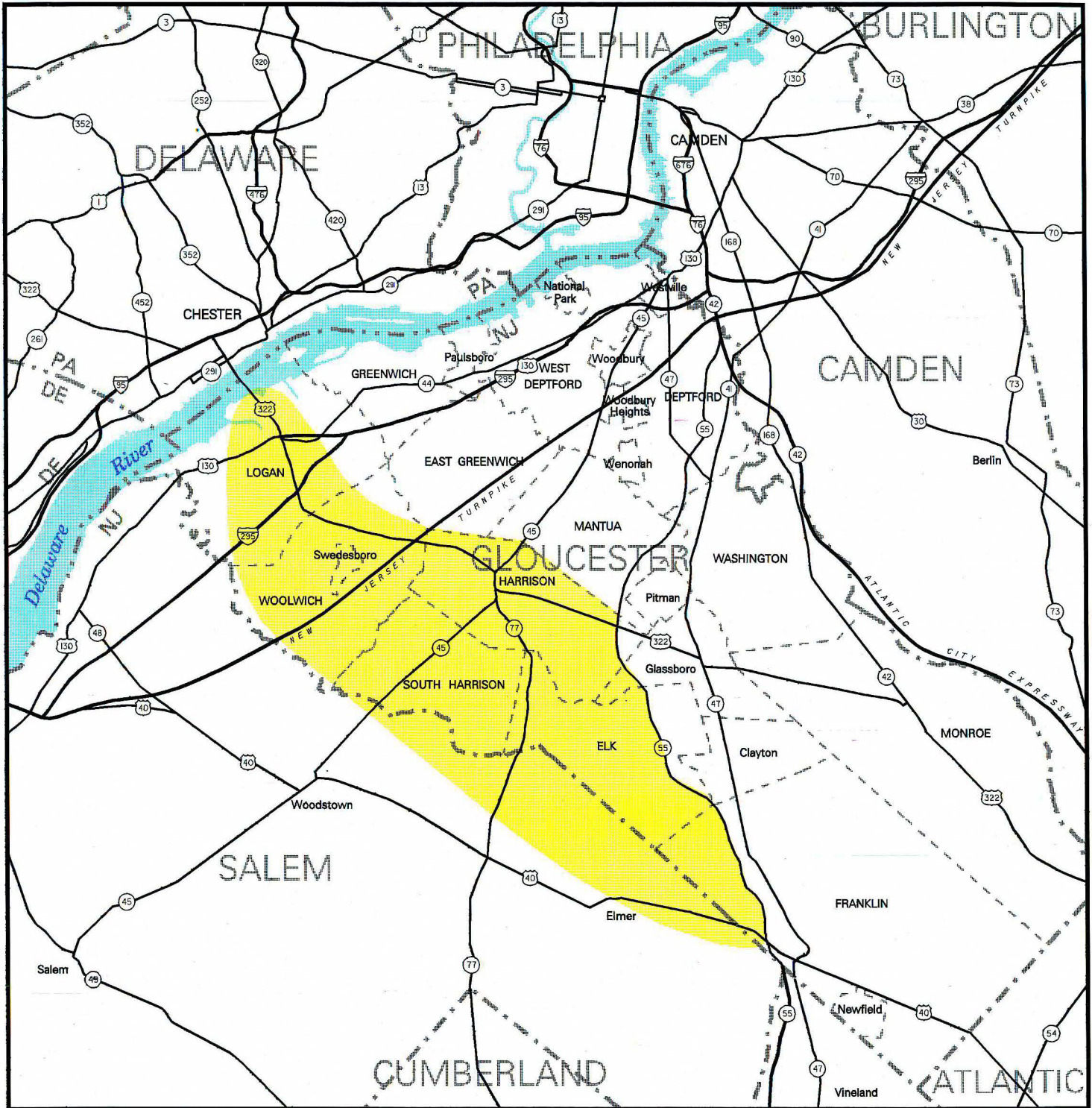


GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY PHASES I AND II



GLOUCESTER COUNTY
EAST - WEST CORRIDOR TRAFFIC STUDY

Draft Interim Report

June 1995



Delaware Valley
Regional Planning Commission

This report, prepared by the Transportation Planning Division of the Delaware Valley Regional Planning Commission, was financed in part by the Federal Highway Administration, the New Jersey Department of Transportation and Gloucester County. The authors, however, are solely responsible for its finding and conclusions, which may not represent the official views or policies of the funding agencies.

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DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: June 1995
Gloucester County East-West Corridor Traffic Study	Publication No. 95011

Geographic Area Covered:

Logan Township, Woolwich Township, Borough of Swedesboro, Harrison Township, South Harrison Township, Borough of Glassboro, Elk Township and Franklin Township in Gloucester County and Pilesgrove Township and Upper Pittsgrove Township in Salem County.

Key Words:

off-season traffic counts, seasonal traffic counts, summertime traffic, highway network, traffic congestion

ABSTRACT

This interim report documents the first two phases of a three-phase effort to identify a network of highways that can adequately serve east-west travel across Gloucester County. This travel corridor runs between the Commodore Barry Bridge and NJ 55. Demand in this corridor gets extremely heavy in the summer months as the New Jersey Shore becomes a popular destination.

Because US 322 provides a direct link between the Commodore Barry Bridge and NJ 55 and the non-locally generated traffic is not familiar with alternative routes, this facility experiences greater than normal increases in summertime traffic. Impacts from this seasonal traffic have typically resulted in recurring localized congestion along this corridor and are especially acute on weekends.

For More Information Contact:



Delaware Valley Regional Planning Commission
Regional Information Services Center
The Bourse Building - 8th Floor
111 S. Independence Mall East
Philadelphia, PA 19106-2515
(215) 592-1800

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INTRODUCTION

This interim report documents the first two phases of a three-phase effort to identify a network of highways that can adequately serve east-west travel across Gloucester County. This travel corridor runs between the Commodore Barry Bridge and NJ 55. Demand in this corridor gets extremely heavy in the summer months as the New Jersey Shore becomes a popular destination. Traffic travelling between southeastern Pennsylvania and resort locations in Cape May and Atlantic Counties traditionally has passed through Gloucester County. The completion of I-476 in Pennsylvania has improved access to the Commodore Barry Bridge and subsequently US 322 in Gloucester County. This new connection is expected to increase US 322's attractiveness as an option for travelling to the shore. Because US 322 provides a direct link between the Commodore Barry Bridge and NJ 55 and the non-locally generated traffic is not familiar with alternative routes, this facility experiences greater than normal increases in summertime traffic. Impacts from this seasonal traffic have typically resulted in recurring localized congestion along this corridor and are especially acute on weekends. NJ 55 is an important facility in serving this travel pattern; as a limited access roadway, it provides high speed travel through Gloucester, Salem and Cumberland Counties.

The Gloucester County Planning Department has requested that the Delaware Valley Regional Planning Commission review the traffic patterns in this corridor and identify improvements to a network of roads that will relieve the congested conditions created by this pass-thru traffic. The intention is to disperse the traffic over an interconnected network of facilities thus reducing the burden to any one facility.

The objective of Phases I and II is to perform the necessary data collection activities that will serve as input to the development of the alternative improvement scenarios to be undertaken during Phase III.

During Phase I, an inventory of the existing conditions within the study area was

undertaken. This included, 1) identifying a highway network between the Commodore Barry Bridge and NJ 55 and preparing a detailed physical description of that network, 2) identifying cultural and historical features which could be potential constraints to highway improvements and 3) identifying existing intersection controls. The traffic collection program for the seasonal and off-season counts was designed during this phase and the off-season counts were conducted.

Collection of seasonal traffic count data initiated the Phase II activities and a comparison was conducted between the seasonal and off-season counts. Also in this phase, the traffic conditions of the network were observed and documented during the peak seasonal travel periods (summer weekends).

EXISTING CONDITIONS

The data collected on the existing conditions of the study area will be used during Phase III to evaluate the appropriateness of potential improvement scenarios. Those improvements will be developed by taking into account the existing physical and operating conditions of the roadway network and the features of the study area presented in this section of the report.

Network Physical Description

The section of Gloucester County most likely to be effected by east-west traffic traveling between southeastern Pennsylvania and the South Jersey Shore communities is the area generally south of US 322 and west of NJ 55. This area has been defined as the study area for this report and includes all or parts of the following municipalities: Logan Township, Woolwich Township, Borough of Swedesboro, Harrison Township, South Harrison Township, Borough of Glassboro, Elk Township and Franklin Township in Gloucester County and Pilesgrove Township and Upper Pittsgrove Township in Salem County. Figure 1 graphically depicts the area identified for study in this analysis.

The highway network identified in the study area is a combination of state, county and municipal roads and can be seen on Figure 2. A physical description was prepared for each road in the network and this data can be found in Appendix A. It is from this network, based on the physical and operating conditions, that potential alternative routes will be identified and evaluated. Field views were conducted to collect data such as lane widths, shoulder widths, posted speed limit, adjacent land use and other general observations. In general, the highway network is characterized by: two-lane roads with narrow shoulders, 10 to 12 foot lanes, speed limits of 45 to 50 MPH in a rural setting.

Study Area Features

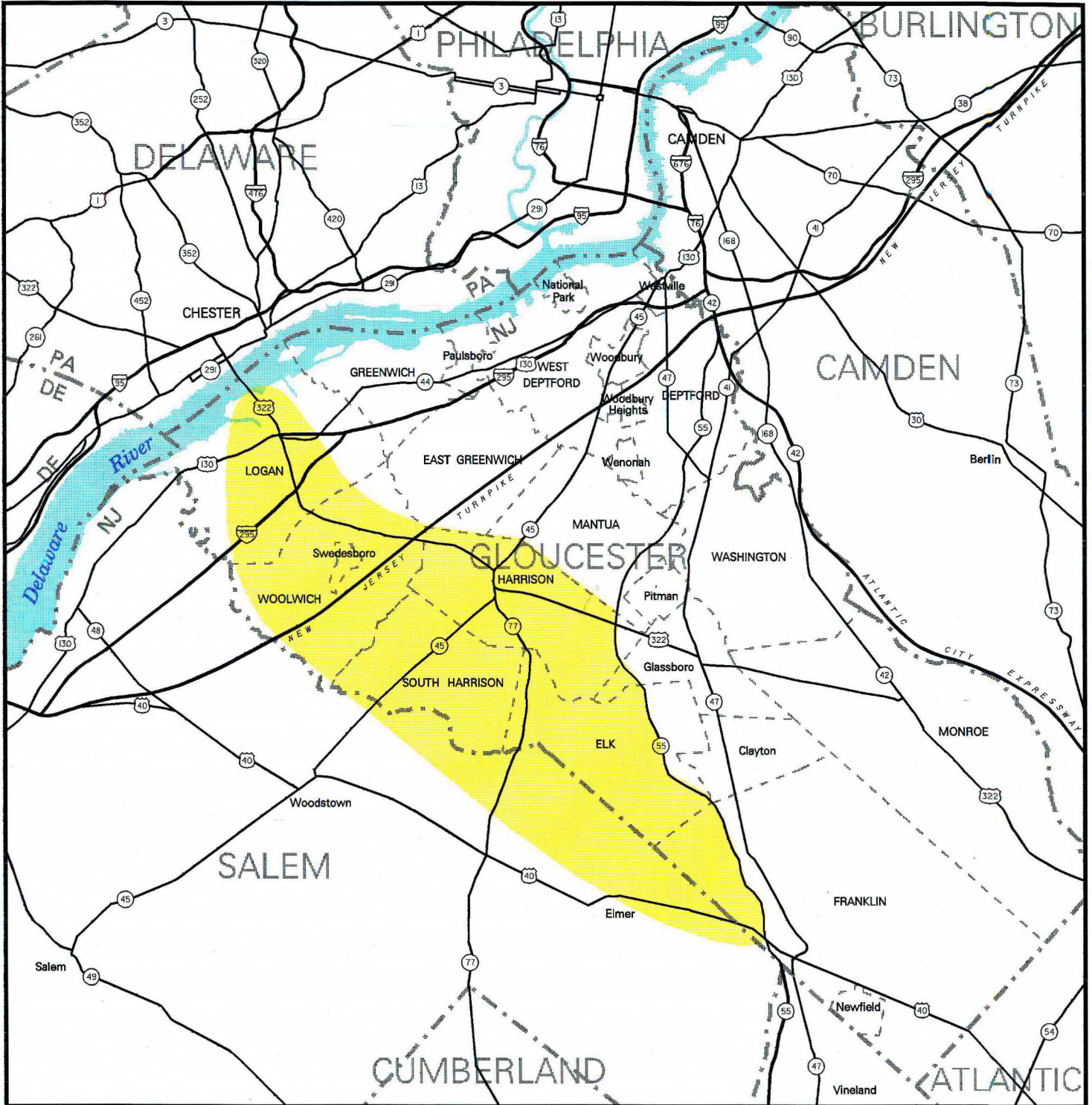
Physical improvements to a highway could cause impacts to existing cultural features.

In that light, we have identified several types of features within the study area which we need to be sensitive to when developing improvement scenarios to adjacent roadways. The following types of features were identified for each municipality in the study area :schools, libraries, municipal facilities, churches, cemeteries, parks/recreation areas, historic properties, post offices, fire houses and land protected under the Farmland Easement Purchase Program or Farmland Preservation Program. These features are plotted on Figures 3a through 3c and are listed in Appendix B. Although, improvements to an adjacent highway or nearby intersection can sometimes even enhance access to a particular feature and actually provide positive impacts, special care should be taken when identifying potential network improvements to avoid creating any adverse impacts to those features listed especially if the county intends to seek federal funding for improvements.

Intersection Control

The intersection control for each of the intersections created by the study area network were inventoried. The traffic control device and the major movement were recorded for each location. This information, found in Appendix C, will be used during Phase 3 of the study to evaluate how well the intersection control addresses the predominant movement through the intersection during the time of peak seasonal traffic. The dominant traffic flow may be different during this time than during the daily peak periods for which the traffic control is designed. For example, the intersection of NJ 45 and CR 538 is controlled by stop signs on the CR 538 approaches. NJ 45 may carry the dominant flow of traffic during the daily AM and PM peak periods, however field observations on Friday and Sunday evenings in the summer indicated a heavier flow on CR 538. Queues of five to ten vehicles were consistently observed on CR 538 during the field observations.

FIGURE 1
GLOUCESTER COUNTY
EAST-WEST CORRIDOR TRAFFIC STUDY
STUDY AREA LOCATION MAP



DELAWARE VALLEY
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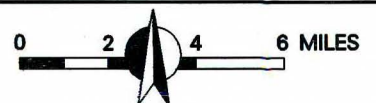
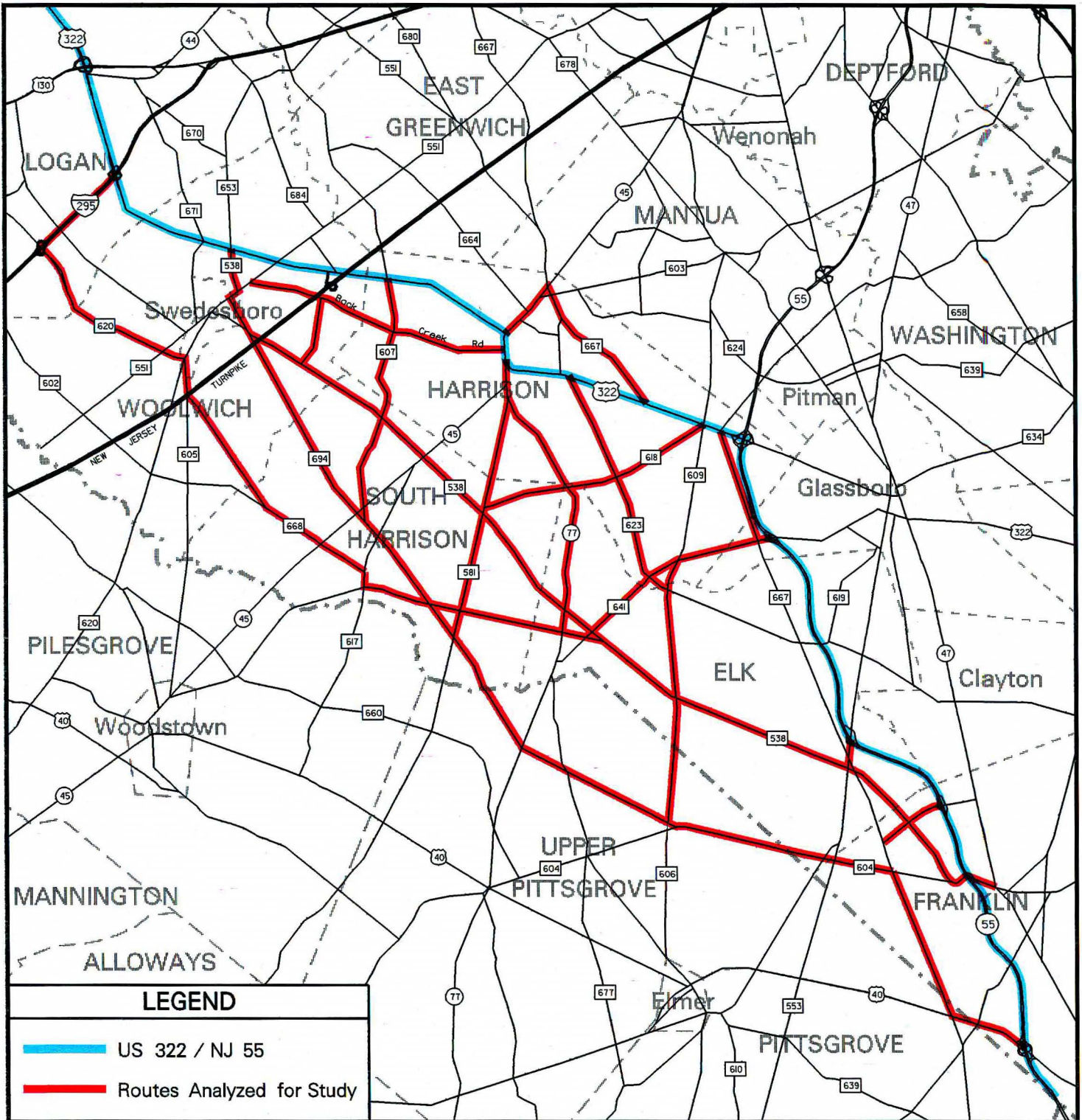


FIGURE 2 **GLOUCESTER COUNTY** **EAST-WEST CORRIDOR TRAFFIC STUDY** **STUDY AREA ROAD NETWORK**



DELAWARE VALLEY
 REGIONAL PLANNING COMMISSION
 JUNE 1995

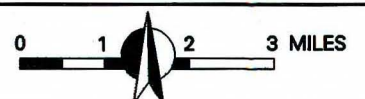


FIGURE 3
GLOUCESTER COUNTY
EAST-WEST CORRIDOR TRAFFIC STUDY
CULTURAL FEATURES KEY MAP

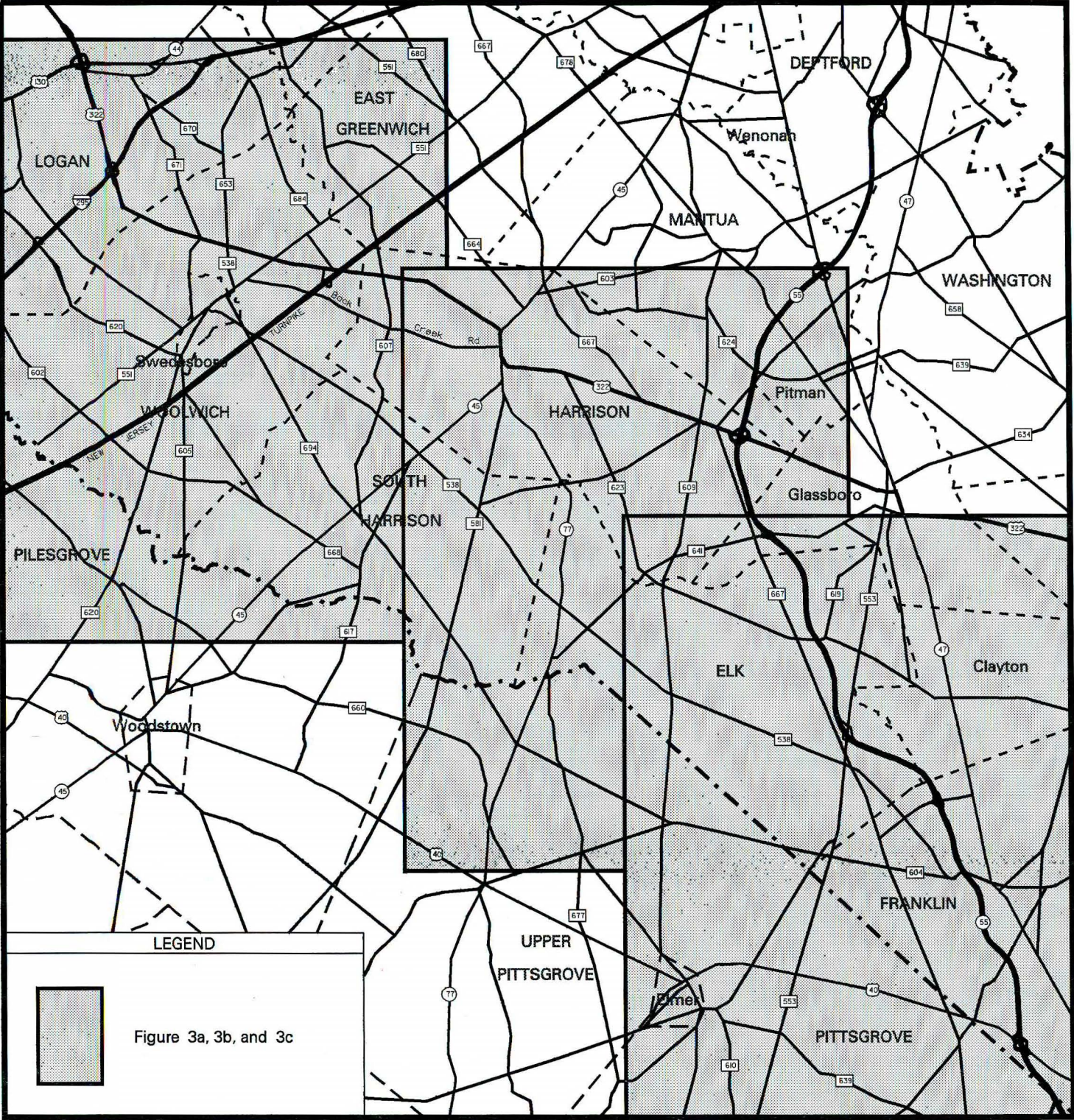


FIGURE 3a

GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY INVENTORY OF CULTURAL FEATURES

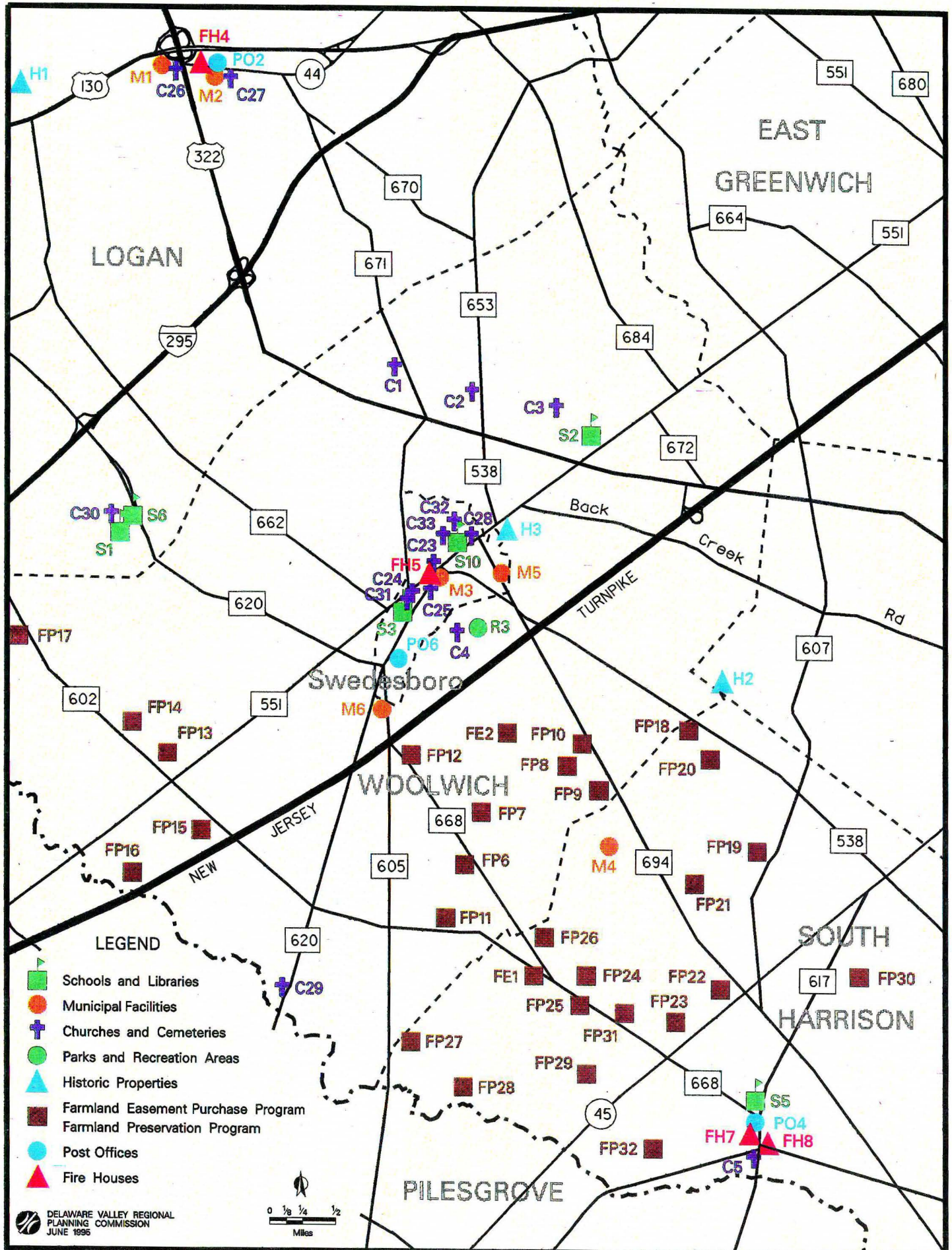
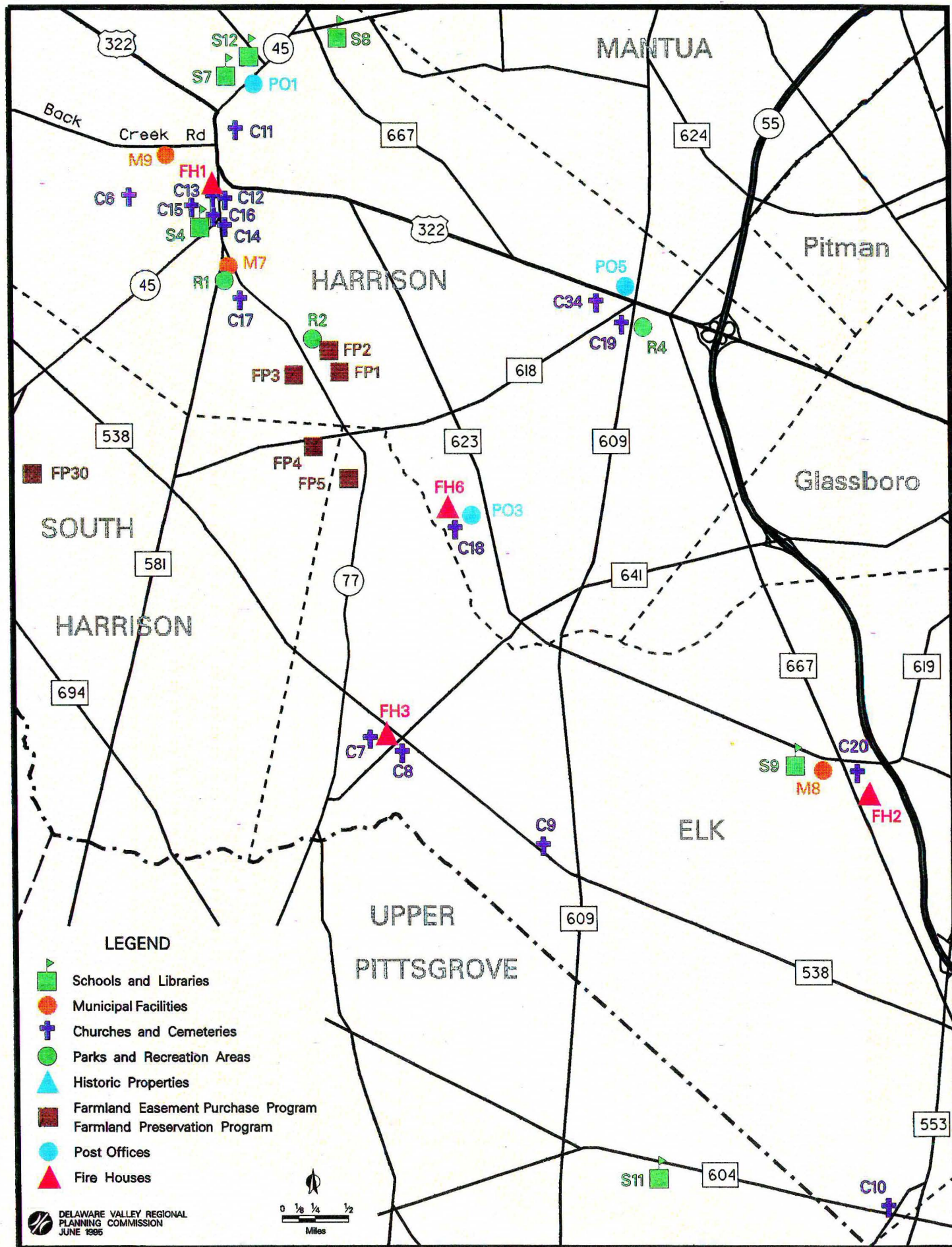


Figure 3b

GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY INVENTORY OF CULTURAL FEATURES



GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY

INVENTORY OF CULTURAL FEATURES



Seasonal Peak Surveillance

Field views were conducted for each of the roads in the network during the times of peak seasonal traffic: Friday evening August 12, 1994 between 4:30 and 8:00 PM, and Sunday evening August 28, 1994 between 5:00 and 8:00 PM. Special attention was given to US 322, CR 538 and CR 694/CR 604. The purpose of this exercise was to observe and document the actual operating conditions during the times of heaviest seasonal traffic flow.

US 322

Consistent with the traffic counts taken in July, 1994, the facility which experienced the worst traffic congestion was US 322. Based upon field observations, congested conditions occurred in the vicinity of the following intersections along US 322: CR 538/CR 653, NJ 45 north, NJ 45 south, CR 609/CR 618 and CR 667/CR 635. Although traffic volumes were noticeably heavier than in the off-season, traffic was able to flow generally at or near the posted speed limits outside the influence of those choke points. The most severe conditions commonly occurred between 5:30 and 7:30 in the Mullica Hill and Richwood areas. Queues exceeding 20 vehicles in Mullica Hill and 40 vehicles in Richwood were typically observed eastbound on Friday and westbound on Sunday in these locations. Although still existent, queues were considerably shorter outside the 5:30 to 7:30 window. Observations of vehicle license plates indicated a significant number of out-of-state vehicles on US 322, especially from Pennsylvania.

Another congested spot on US 322 was in the vicinity of the driveway to the Commodore 295 Business Park. Congestion occurred on US 322 at this location on Friday evening as employees left the premises. The congestion was short lived as employees leave the site in a concentrated time period; this situation does not occur on Sundays when the business park is closed.

CR 538

Observations of Friday evening traffic flow on CR 538 found no significant problems.

There is a noticeable right turn volume from eastbound US 322 onto CR 538 but it does not create a problem. Traffic on CR 551 is light and does not effect the right turns from eastbound CR 538. Vehicles turning left from Kings Highway onto eastbound CR 538 had no problems. At the intersection with NJ 45, CR 538 is stop controlled and typical queues on eastbound CR 538 were consistently around five vehicles. Traffic on NJ 45 was observed to be generally lighter than traffic on CR 538. The same conditions were observed to exist at the intersection with NJ 77. At the intersection with CR 553, several vehicles with out-of-state license plates turned left towards the NJ 55 interchange. Operating conditions were very good at the intersection with NJ 47 and very few of the vehicles entering the intersection from eastbound CR 538 were from out-of-state.

On Sunday, the following conditions were observed: traffic on CR 538 was fairly light and traveled at or near the posted speed limit. The majority of the westbound vehicles had Pennsylvania license plates. Several Pennsylvania vehicles were observed turning right from southbound CR 553 onto westbound CR 538. Queues of five to ten vehicles are commonly observed on the westbound CR 538 approach at both NJ 77 and NJ 45. Even though the weekend peak traffic is considerably lighter on both NJ 77 and NJ 45 than on CR 538, the stop control is on the CR 538 approaches. In spite of this condition, the wait time on CR 538 is minimal. Left turns from Kings Highway onto westbound CR 538 are relatively heavy. The light traffic on Kings Highway presents minimal conflict to these left turns. Queues exceeding 15 vehicles were commonly observed on the westbound CR 538 approach to US 322. This queue rarely cleared the cycle.

CR 694/CR 604

Although several vehicles with Pennsylvania tags were observed, traffic remains extremely light on these roads. Daily traffic volumes counted during the summer did not exceed 3,000 vehicles per day. There were no traffic flow problems observed along these roads.

TRAFFIC COUNTING PROGRAM

Program Design

The intent of the traffic counting program was to collect traffic data on the study area road network in both the off-season and seasonal periods. This was done to identify the magnitude of traffic increase on these roads due to summertime travel. To achieve this objective it was essential to collect these counts in the exact same locations during both periods and every effort was made to do so. The increases between off-season and seasonal traffic are generally believed to be attributable to two factors; 1) in general, overall trip making increases during the summer months when the weather is nice, this includes locally-generated trips and 2) to a large extent most of the increase on the weekends is related to vehicles destined to or from the South Jersey Shore Area. The off-season counts were taken in April and the seasonal counts were taken in July and August.

The locations of the counts are shown in Figure 4 and are based upon three screen lines set up within the study area. The screen lines were developed to monitor traffic flow through the study area. For this reason, screen lines were placed in a north-south orientation parallel to the New Jersey Turnpike and NJ 55. A third screen line was oriented in an east-west direction across the study area just below US 322. The purpose of the screenline along the turnpike was to identify which roads were being used to enter or exit the study area to or from the west. The screenline along NJ 55 was used to provide an indication of which interchanges were being used as access to or from NJ 55. A screenline was placed below US 322 as an indicator of the amount of traffic that turned off of US 322 between the turnpike and NJ 55.

In addition to the screenlines, supplemental counts were taken within the study area to identify any roads which have unused capacity during the peak travel time and on selected ramps to and from NJ 55 to identify changes in travel patterns. A total of 42 count locations were selected.

Automatic machine counters were placed at each of the locations to gather both a typical weekday count and the entire weekend period, including Friday and Monday. The weather forecasts were monitored so that the summertime counts could be done on a representative weekend. Table 1 lists all counts taken for this study and represents traffic volumes for a typical weekday, Friday, Saturday and Sunday during both the off-season and season. The count number on the table corresponds to the count station number on Figure 4.

In addition to the comparison of off-season vs. season, the county requested that selected counts be taken on a holiday weekend in the summer to see if they caused additional traffic volumes on the network. Seven of the previously identified locations were counted over either the Fourth of July weekend or Labor Day weekend. These counts and their comparisons to the off-season and seasonal counts are listed in Table 2.

Off-Season Counts

The off-season counts were collected during Phase I of the study and represent base line data against which the other counts will be compared. Generally, the volume of traffic counted on the road network during the off-season is considered to be low and presents no significant traffic flow problems. There are few instances where traffic volumes exceeded 10,000 vehicles per day (US 322, NJ 40, NJ 45) and most of the counts were well below 5,000 vehicles per day. Due to the rural nature of the study area these volumes are not atypical. Except for some occasional minor peak period congestion on US 322 in Mullica Hill the study network adequately handles the traffic volumes which occur on a typical weekday or weekend.

Seasonal Counts

These counts were taken during Phase II of the study and represent typical traffic volumes occurring on the network on an average summer weekday and weekend. In almost all cases, the aggregate traffic crossing the cordon lines is noticeably higher in the summer than in the off-season counts. The few location where the seasonal counts are lower can be explained

FIGURE 4 **GLOUCESTER COUNTY** **EAST-WEST CORRIDOR TRAFFIC STUDY** **STUDY AREA TRAFFIC COUNT LOCATIONS**

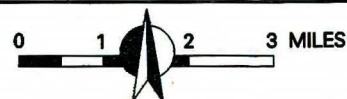
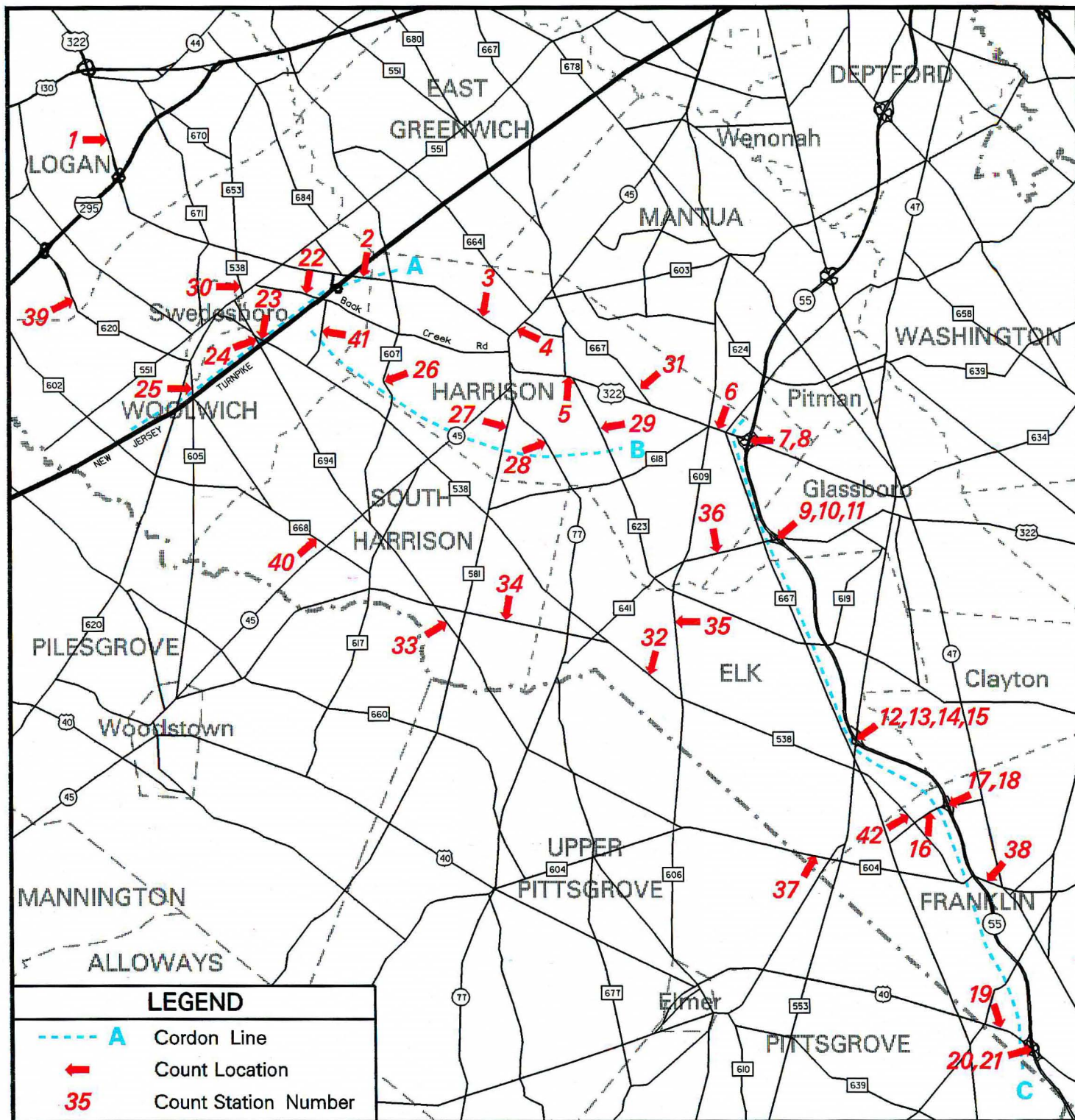


TABLE 2

Gloucester County East—West Corridor Traffic Study

HOLIDAY TRAFFIC COUNTS

No	Road	from	to	WEEKDAY (Tuesday)			Difference S vs. H			FRIDAY			Difference S vs. H		
				Off Season	Season	Holiday	Absolute	Percent		Off Season	Season	Holiday	Absolute	Percent	
1	US 322 (L)	US 130	I-295	17,591	19,984	22,590	2,626	13.2%		18,978	23,866	N/A	N/A	N/A	N/A
2	US 322 (L)	NJ Tpk ramp	CR 607	12,235	15,105	16,557	1,452	9.6%		13,475	17,293	17,915	622	3.6%	
3	US 322 (L)	Milford Rd	Bridgeton Pike	N/A	N/A	15,110	N/A	N/A		N/A	N/A	19,238	N/A	N/A	N/A
22	Back Creek Rd (4)	CR 551	NJ Tpk	2,250	2,163	2,151	(12)	-0.6%		2,228	2,275	2,294	19	0.8%	
23	CR 538 (4)	CR 694	NJ Tpk	2,343	2,794	3,190	396	14.2%		2,956	4,409	3,678	(731)	-16.6%	
24	CR 694 (L)	CR 538	NJ Tpk	2,001	2,268	2,671	403	17.8%		2,266	2,973	3,287	314	10.6%	
25	CR 605 (4)	CR 620	NJ Tpk	3,879	4,149	3,901	(248)	-6.0%		3,789	4,082	4,286	204	5.0%	

No	Road	from	to	SATURDAY			Difference S vs. H			SUNDAY			Difference S vs. H		
				Off Season	Season	Holiday	Absolute	Percent		Off Season	Season	Holiday	Absolute	Percent	
1	US 322 (L)	US 130	I-295	14,803	21,333	N/A	N/A	N/A		12,353	20,567	16,062	(4,505)	-21.9%	
2	US 322 (L)	NJ Tpk ramp	CR 607	10,869	16,626	15,695	(931)	-5.6%		9,381	16,097	12,853	(3,244)	-20.2%	
3	US 322 (L)	Milford Rd	Bridgeton Pike	N/A	N/A	16,099	N/A	N/A		N/A	N/A	13,220	N/A	N/A	N/A
22	Back Creek Rd (4)	CR 551	NJ Tpk	1,792	1,775	1,647	(128)	-7.2%		1,254	1,350	1,224	(126)	-9.3%	
23	CR 538 (4)	CR 694	NJ Tpk	2,062	3,701	2,680	(1,021)	-27.6%		2,213	3,355	2,113	(1,242)	-37.0%	
24	CR 694 (L)	CR 538	NJ Tpk	1,669	2,342	2,262	(80)	-3.4%		1,374	2,466	1,637	(829)	-33.6%	
25	CR 605 (4)	CR 620	NJ Tpk	2,990	3,149	2,718	(431)	-13.7%		1,952	2,264	2,001	(263)	-11.6%	

by the fact that those roads don't carry traffic in an east-west direction (the flow of Shore related traffic) or that they are minor back roads carrying primarily local traffic. For the supplemental counts, those not located along a cordon line, the absolute increases in traffic are not substantial.

Of the three primary east-west routes across the study area, on which the peak period surveillance was conducted, US 322 experienced the heaviest increases in traffic over the off-season. At selected locations along US 322 the weekday increases range from about 800 to 2,900 (5% - 23%) vehicles per day while the Sunday increases range from almost 5,700 to 8,200 (47% - 66%) vehicles per day. Along CR 538 the summer traffic increases are much less substantial: typical weekday increases range from about 300 to 1,000 (16%) and Sunday traffic increases range from 1,100 to 2,600 (52% - 64%). Traffic volumes on the CR 694/CR 604 route had small absolute increases in the summer: typical weekday volumes increased by less than 300 (13%) vehicles per day and Sunday volumes increased by around 1,100 (79%) vehicles per day during the summer.

It is obvious from these counts that a large percentage of the increase in traffic entering the study area during the summer uses US 322 to cross the study area even though alternative routes exist to accommodate this traffic movement. There are several possible reasons for this behavior; 1) most of the increase in traffic is from out of state drivers who are not familiar with the alternatives, 2) if they are familiar with alternatives to US 322 they don't perceive them to be better or faster or 3) US 322 is their traditional route and the congestion they might encounter is not enough of a deterrent to get them to try an alternate route. Phase III of this study will address the issue of identifying alternative routes, identifying potential improvements that will make them effective and educating drivers on their existence. Recognizing that some drivers will continue to use US 322, the identified alternatives will provide the opportunity to siphon some of the added traffic from US 322 and spread it across the network.

Holiday Counts

Selected locations were counted over the Fourth of July weekend or Labor Day weekend

to see how much traffic increased over a typical summer weekend. In 1994, both the Fourth of July and Labor Day fell on a Monday extending the weekend and spreading the return trip from the Shore over two possible days (Sunday or Monday). Therefore the holiday Sunday counts are lower than a typical summer Sunday. The holiday Saturday counts are also lower than the typical summer Saturday. This is in part due to the fact typical summer Saturday traffic volumes are generally equal in both directions while Friday is much heavier eastbound and Sunday is much heavier westbound. Since Labor Day is the end of the summer season and considerably less people are headed towards the Shore for vacation overall Saturday traffic is lowered. Holiday Friday counts are slightly higher than typical summer Friday counts. All this information leads to conclude that although total traffic across this study area may be slightly higher on holiday weekends, the impacts at any specific location on any specific day may not be noticeably worse and in many cases may be lighter than other summer weekends because there are more days to spread the traffic across.

Background Seasonal Variation

The county requested information concerning the seasonal variation in traffic that is not related to trips to or from the Shore. DVRPC staff researched the historical traffic count database to find locations in Gloucester County where previous traffic counts had been taken during both the off-season and summer. It was important to find locations where there were no impacts from Shore bound traffic. These counts are shown in Table 3 and clearly indicate higher traffic volumes during the summer months. Although at some locations the counts did not occur in the same years the locations are not generally considered to be in high growth areas that would create such an increase. At the locations which were counted in the same year, the summer counts are clearly higher.

To further substantiate the point that summer traffic is generally higher than non-summer traffic, the New Jersey Department of Transportation (NJDOT) average annual daily traffic (AADT) correction factors are presented in Table 4. NJDOT applies these factors to the raw

counts collected in the field to present a number which represents the average count for any given day within a specific year. The factor used in the summer months is lower than those used for the non-summer months. This lower factor has the effect of reducing the raw summer count below what was actually counted to bring it more in line with an average day within the whole year.

In light of this seasonal variation, it can be concluded that at least some part of the increase in traffic on the study area network during the summer is from locally generated traffic and not due wholly to the pass-thru traffic.

TABLE 3 SEASONAL VARIATION OF TRAFFIC				
ROAD	LIMITS	COUNTS (Date)		
NJ 45	CR 534 to CR 551 Woodbury	30,260 (6/92)	30,704 (7/92)	
NJ 45	CR 534 to CR 551 Woodbury	26,625 (2/91)	29,992 (5/91)	
CR 551	CR 551 Spur to CR 667 East Greenwich	5,982 (3/92)	7,346 (6/92)	
CR 551	CR 667 to CR 678 East Greenwich	6,652 (3/90)	7,671 (5/91)	8,209 (6/92)
CR 551 Spur	US 130 to CR 680 East Greenwich	1,921 (3/92)	2,228 (6/92)	2,473 (7/92)
CR 667	CR 551 to Friendship Rd East Greenwich	5,901 (3/90)	6,180 (5/91)	6,340 (7/92)
CR 667	CR 551 to Jessup Mill Rd East Greenwich	4,355 (3/90)	4,831 (5/91)	5,207 (6/92)
CR 678	CR 551 to CR 667 East Greenwich	6,791 (3/90)	7,542 (5/91)	8,425 (6/92)

TABLE 4**NJ DOT AADT Correction Factors**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Urban Interstate	0.96	0.96	0.96	0.90	0.89	0.88	0.88	0.89	0.90	0.91	0.90	0.93
Urban All Other	0.99	0.97	0.99	0.92	0.91	0.89	0.92	0.92	0.93	0.94	0.94	0.90
Rural Interstate	1.00	1.00	0.99	0.93	0.89	0.86	0.87	0.85	0.90	0.91	0.91	0.90
Rural All Other	1.01	1.01	1.05	0.93	0.90	0.90	0.89	0.91	0.94	0.94	0.95	0.95

APPENDIX A

Gloucester County East-West Traffic Corridor
Highway Network Physical Description

Facility Segment	Lane Widths	Shoulder Widths	Speed Limit	% No Pssing	Land Use	Major Intersections	Comments
US 322							
US 130 - I-295	12	3	50	20	agric. vacant		newly repaved
I-295 - 551	11	4	50	30	agric. res.	CR 538	RR Xing, surface deterioration, potholes
551 - NJ 45	11	4	50	10	agric. res.	CR 551, NJ 45 NJ TPK	longitudinal cracking, pothole patch
NJ 45 - NJ 45	12	6	30	100	res. comm.	US 322 & 45 both ends	school north of 322 & 45 intersection
NJ 45 - NJ 55	11	4	50	30	res. agric.	CR 609, CR 667	
NJ 40							
NJ 55 - 553	12	8	50	35	wooded vacant res.	signal at 613 signal at 553	
NJ 45							
US 322 - NJ 77	12	6	30	100	res. comm.	US 322 & 45 both ends	on-street parking
NJ 77							
NJ 45 - 616	12	8	50	50	town agric.		Church south of 581 35 MPH in town
CR 538							
322 - 551	12	4	40	30	agric. res.	signal at 322	potential wetlands, RR Xing
551 - 551	11	4	40	100	comm.		bridge over creek
551 - 694	12.5	2	35	100	res. vacant	551	

SOURCE: DVRPC field views

Gloucester County East-West Traffic Corridor
Highway Network Physical Description

Facility Segment	Lane Widths	Shoulder Widths	Speed Limit	% No Pssing	Land Use	Major Intrsections	Comments
694 - 45	11	2	50	30	agric.		
45 - 77	11	1	50	35	agric. vac. wooded	77	poor road surface,
77 - 553	11.5	1	45	20	vac. res. wooded ag		poor road surface,
553 - 604	11.5	1	50	20	agric. res.	553 flashing beacon	poor road surface
604 - 47	12	6	45	100	vacant res.	signal at 47	residential east of 55
CR 553							
538 - NJ 55	12.5	3	50	100	agric. wooded	538 flashing beacon, 55,	
CR 581							
NJ 77 - 694	11.5	1	45	30	wooded res.	694 flashing beacon	playground south of 77
CR 604							
Aura Rd - 609	10	1	NP	20	agric. res.		school and small community in Monroeville, 25 MPH
CR 605							
620 - 602	10	3	50	10	agric.		abutments to TPK overpass very narrow
CR 607							
694 - 538	9	2	NP	60	agric. res.		
538 - 322	10	2	NP	50	agric. res.		S-curve, southern curve has steep grade, 8 ton bridge south of Back Creek Rd

SOURCE: DVRPC field views

**Gloucester County East-West Traffic Corridor
Highway Network Physical Description**

Facility Segment	Lane Widths	Shoulder Widths	Speed Limit	% No Pssing	Land Use	Major Intrsections	Comments
CR 609							
604 - 623	10	2	50	40	agric.		45 MPH in Salem Co.
CR 614							
Back Creek Rd - 694	12	1	NP	100	vacant		8 ton bridge south of Back Creek Rd, very narrow intersection with 538
CR 617							
668 - Harrisonville-Ferrel Rd	12	0	30	100	res.		community of Harrisonville, homes close to road, on-street parking
CR 620							
I-295 - 605	12	1	45	10	res.Beckett agric.	Beckett Rd CR 551	RR Xing
CR 623							
609 - US 322	10	0	NP	40	argic. res.		community near 622
CR 641							
616 - 623	11	1	45	10	wooded, agric., res	CR 538	potential wetland, church-cemetery & social hall near 538, pond & lake on east side
623 - NJ 55	11	0	NP	10	wooded res.	CR 667	potenyial wetlands on south side near 667, poor surface potholes alligator cracking
CR 667/Aura Rd.							
NJ 40 - 538	11	0	50	20	wooded agric. res.		
641 - US 322	12	1	NP	20	agric. res.	US 322	

SOURCE: DVRPC field views

**Gloucester County East-West Traffic Corridor
Highway Network Physical Description**

Facility Segment	Lane Widths	Shoulder Widths	Speed Limit	% No Pssing	Land Use	Major Intrsections	Comments
US 322 - Walters Rd	12	0	NP	30	wooded res., agric.	US 322	steep slope on east side south of 627
CR 668							
605 - Pedricktown-Harrisonville Rd	10	0	NP	50	agric.		surface deterioration, potholes
617 - Pedricktown-Harrisonville Rd	10	0	NP	0	agric.		there is a school located at intersection with 617, buildings and playground very close to 668
CR 694							
609 - NJ 77	10.5	1	NP	10	agric.		
NJ 77 - NJ 45	13	0	50	30	agric. wooded		
NJ 45 - 538	12.5	0	45	10	landfill ag wooded		
Back Creek Rd							
551 - 607	11	1	50		agric.,res. wooded	CR 551	
607 - US 322	12	0	50	50	agric.,res. wooded	US 322 transverse crkg in older sects.	some sections newly paved, bridge abutments are narrow at streams, homes are close to narrow road near Mullica Hill
Colson Rd							
Walters Rd - NJ 45	10	0	NP	25	vacant,res. wooded,ag	NJ 45	hill and curve at stream,
Pleasant Valley Rd.							
NJ 55 - Aura Rd.	11	0	35	50	vacant res		

SOURCE: DVRPC field views

**Gloucester County East-West Traffic Corridor
Highway Network Physical Description**

Facility Segment	Lane Widths	Shoulder Widths	Speed Limit	% No Pssing	Land Use	Major Intrsections	Comments
Harrisonville-Ferrel Rd							
617 - 538	10	0	40	30	res. agric.	CR 538	weight limit 4 tons, surface deterioration,
Laux Rd.							
641 - 619	11	0	NP	100	agric. res.		
Pedricktown-Harrisonville Rd							
605 - 668	10	0	NP				no lane markings, narrow road, several homes located relatively close to road
Walters Rd							
US 322 - Colson Rd	10	0	NP	0	agric. res.	US 322	stream crossing,

SOURCE: DVRPC field views

APPENDIX B

STUDY AREA FEATURES

Features which could potentially be sensitive to highway improvements were identified for the study area. The sources of this information include: Gloucester County Planning Department, New Jersey and National Register of Historic Places (Office of New Jersey Heritage), maps, telephone directories and field views.

- Schools and Libraries
- Municipal Facilities
- Churches and Cemeteries
- Parks and Recreation Areas
- Historic properties
 - National or State Register
- Farmland Easement Purchase Program
- Farmland Preservation Program
- Post Offices
- Fire Houses

Schools and Libraries

- | | |
|---|---|
| S1. Logan Twp Elementary School
School La and Heide La
Logan Twp. | S2. Kingsway Regional High School
US 322 and CR 551
Woolwich Twp. |
| S3. Walter Hill School
CR 605 and Bridgeport Ave
Swedesboro | S4. Mullica Hill Friends School
NJ 45 west of Main Street
Harrison Twp. |
| S5. South Harrison Twp Elem School
CR 617 and CR 668
South Harrison Twp. | S6. Sonlight Christian Academy
CR 620 and School La
Logan Twp. |
| S7. Harrison Township School
NJ 45 north of US 322
Harrison Twp. | S8. Clearview Regional High School
CR 603 and CR 667
Harrison Twp. |
| S9. Aura School
CR 623 and CR 619
Elk Township | S10. St. Joseph's School
CR 551 and Ashton Ave
Swedesboro |
| S11. Monroeville School
Franklinville Monroeville Rd
Upper Pittsgrove Twp | S12. Gloucester Co Public Library
NJ 45 and CR 664
Harrison Twp |

Municipal Facilities

- | | |
|---|--|
| M1. Logan Twp Municipal Building
Main St west of Church St | M2. Logan Twp New Municipal Bldg
Main St west of Steelman Ave |
| M3. Swedesboro Borough Hall
Kings Highway and Lake Ave | M4. Gloucester Co Solid Waste Complex
CR 694 north of NJ 45
South Harrison Twp |
| M5. Gloucester Co Public Works Yard
CR 538 east of Haybrook St
Swedesboro | M6. Woolwich Twp Municipal Building
CR 605 north of NJ TPK |
| M7. Harrison Twp Municipal Building
NJ 77 south of CR 581 | M8. Elk Township Municipal Building
CR 619 and CR 623 |
| M9. Sewage Treatment Plant
Woodland Ave
Harrison Twp | |

Churches and Cemeteries

- | | |
|---|--|
| C1. Oaklawn Cemetery
CR 671 north of US 322
Woolwich Twp | C2. St. Joseph's Cemetery
CR 653 north of Gilcriss Dr
Woolwich Twp |
| C3. Mt. Zion AME Church
and Cemetery
Kelley Rd south of RR Tracks
Woolwich Twp | C4. Lake Park Cemetery
Park Ave
Woolwich Twp |
| C5. St. John's United Methodist Church
and Cemetery
CR 617 and Harrsnvll Frrll Rd
South Harrison Twp | C6. Mt. Calvary Baptist Church
High St
Harrison Twp |
| C7. Ferrell United Methodist Church
and Cemetery
CR 641 and CR 538
Elk Twp | C8. Ferrell United Methodist Church
Social Hall
CR 641 and CR 538
Elk Twp |
| C9. Hardingville Bible Church
and Cemetery
CR 538 and CR 619
Elk Twp | C10. Chickery Chapel Baptist Mission
and Cemetery
CR 604 and CR 611
Elk Twp |

- | | |
|---|---|
| C11. Holy Name of Jesus Church
and Cemetery
Earlington Ave
Harrison Twp | C12. Trinity United Methodost Church
NJ 45 north of High St
Harrison Twp |
| C13. Mullica Hill Baptist Church
and Cemetery
NJ 45 and Church St
Harrison Twp | C14. Cemetery
NJ 45 and Folwell La
Harrison Twp |
| C15. Cemetery
High St just west of Eric Rd
Harrison Twp | C16. Mullica Hill Friends Meeting
and Cemetery
NJ 45 and Main St
Harrison Twp |
| C17. Springs of Life Christian Center
Church
NJ 77 south of CR 581
Harrison Twp | C18. Ewan Methodist Church
CR 622 east of New St
Harrison Twp |
| C19. Richwood United Methodist Church
and Cemetery
CR 609 south of US 322
Harrison Twp | C20. Aura United Methodist Church
and Cemetery
CR 667 and CR 610
Elk Twp |
| C21. Zion United Methodist Church
and Cemetery
CR 613 north of NJ 40
Franklin Twp | C22. Zion United Methodist Church
Social Hall
CR 613 north of NJ 40
Franklin Twp |
| C23. Bethesda Methodist Church
and Cemetery
CR 551 west of Railroad Ave
Swedesboro | C24. St. James Pentacostal Church
CR 551 and CR 671
Swedesboro |
| C25. First Presbyterian Church
CR 605 and Poplar St
Swedesboro | C26. St. Paul's United Methodist Church
Main St and Church St
Logan Twp. |
| C27. Cemetery
Main St and Springers Rd
Logan Twp | C28. Trinity Church and Cemetery
CR 551 and Church St
Swedesboro |
| C29. Moravian Church and Cemetery
CR 620 and Morvn Church Rd
Woolwich Twp | C30. Beckett Assembly of God
CR 620 and School La
Logan Twp |

C31. First Baptist Church
CR 551 and CR 671
Swedesboro

C33. St. Joseph's Church
Broad St west of Third St
Swedesboro

C32. Cemetery
Third St and Church St
Swedesboro

C34. Holy Trinity Pentacostal
Church of God
dirt road south of US 322 and
west of CR 618

Parks and Recreation Areas

R1. Ella Harris Park
CR 581 south of NJ 77
Harrison Twp

R3. Lake Narraticon Park
Park Ave
Swedesboro/Woolwich Twp

R2. Gloucester County 4-H
NJ 77 south of CR 581
Harrison Twp

R4. Richwood Playground
CR 609 south of US 322
Harrison Twp

Historic Sites

SR - State Register

NR - National Register

SHPO - State Historic Preservation Office

M3. Swedesboro Borough Hall
Kings Highway and Lake Ave
Swedesboro
SHPO Opinion 9/8/77

C28. Trinity Church and Cemetery
CR 551 and Church St
Swedesboro
SR 5/1/72, NR 1/25/73

H1. Salisbury Farm
North of US 130 near CR 662
Logan Twp
SR 4/12/76, NR 3/7/79

H3. Gov. Charles C. Stratton House
CR 551 north of CR 538 north
Woolwich Twp

C19. Richwood United Methodist Church
and Cemetery
CR 609 south of US 322
Harrison Twp
SR 7/12/78, NR 1/19/79

C29. Moravian Church and Cemetery
CR 620 and Morvn Church Rd
Woolwich Twp
SR 5/1/72, NR 4/3/73
Gloucester Co Historic Site 80

H2. Butler Farm
Mullica Hill Swedesboro Rd
Harrison Twp
SR 7/12/78, NR 12/1/78

H. Horner Farm
Mullica Hill Harrisonville Rd
Harrison Twp

SR 5/1/72, NR 1/29/73

SR 7/12/78

H. Jessup Farm
High Street
Harrison Twp
SR 7/12/78

H. Sherwin Farm
US 322
Harrison Twp
SR 7/12/78

H. Vanleer Cabin
off Swedesboro Bridgeport Rd,
along Racoon Creek
Woolwich Twp
SR 3/30/72

H. Mullica Hill Historic District
Main St, Mullica Hill
Harrison Twp

Farmland Easement Purchase Program

FE1. Garlack Farm
CR 668 and Pedricktown
Harrisonville Rd
South Harrison Twp

FE2. J. DiBella Farm
CR 614 west of Russl Mill Rd
Woolwich Twp

Farmland Preservation Program

FP1. Grasso Farm
NJ 77 north of CR 618
Harrison Twp

FP2. Catalano Farm
NJ 77 south of CR 581
Harrison Twp

FP3. Eachus Farm
NJ 77 north of CR 618
Harrison Twp

FP4. Eachus Farm
CR 618 west of NJ 77
South Harrison

FP5. Eachus Farm
NJ 77 south of CR 618
Elk Twp

FP6. String Farm
CR 668 and Russell Mill Rd
Woolwich Twp

FP7. R. DiBella Farm
CR 668 north of Russl Mill Rd
Woolwich Twp

FP8. Greene Farm
Russl Mill Rd w of CR 614
Woolwich Twp

FP9. A. Leone Sr. Farm
CR 694 and S Harrishn twp line
Woolwich Twp

FP10. C. DiBella Farm
CR 694 and Russell Mill Rd
Woolwich Twp

FP11. G. Sorbello Farm
Pedricktown Harrisonville Rd
and Russell Mill Rd
Woolwich Twp

FP13. Maugeri Farm
CR 551 and CR 602
Woolwich Twp

FP15. G. Leone Farm
CR 602 and NJ Tpk
Woolwich Twp

FP17. Maccierone Farm
CR 602 south of Homan Rd
Woolwich Twp

FP19. McCann Farm
CR 607 south of CR 538
South Harrison Twp

FP21. A. Leone Farm
CR 694 north of NJ 45
South Harrison Twp

FP23. H. Marino Farm
NJ 45 and CR 668
South Harrison Twp

FP25. F. Sorbello Farm
CR 668 and Marl Rd
South Harrison Twp

FP27. T. Sorbello Farm
Oliphant Mill Rd north of Old
Vespers Rd
South Harrison Twp

FP29. Gattuso Farm
Marl Rd north of NJ 45
South Harrison Twp

FP12. Roberts Farm
CR 668 and CR 605
Woolwich Twp

FP14. Nicolosi Farm
CR 602 north of CR 551
Woolwich Twp

FP16. G. Leone Farm
Mrvian Church Rd and NJ Tpk
Woolwich Twp

FP18. Rita Marino Farm
CR 538 & Woolwich twp line
South Harrison Twp

FP20. Butler Farm
CR 538 north of CR 607
South Harrison Twp

FP22. Peplowski Farm
CR 694 and NJ 45
South Harrison Twp

FP24. F. Sorbello Farm
CR 668 and Old Vespers Rd
South Harrison Twp

FP26. West Farm
CR 668 near Pedricktown
Harrisonville RD
South Harrison Twp

FP28. Russel Marino Farm
Oliphant Mill Rd and Old
Vespers Rd
South Harrison Twp

FP30. Garlack Farm
Lincoln Rd north of Cedar
Grove Rd
South Harrison Twp

FP31. Harry Marino Jr. Farm
CR 668 north of NJ 45
South Harrison Twp

FP32. Hackett Farm
CR 617 west of Mill St
South Harrison Twp

Post Offices

PO1. Mullica Hill
NJ 45 and Colson La
Harrison Twp

PO2. Bridgeport
Main St west of Springers Rd
Logan Twp

PO3. Ewan
CR 622 west of CR 623
Harrison Twp

PO4. Harrisonville
CR 617 south of CR 668
South Harrison Twp

PO5. Richwood
US 322 and CR 609
Harrison Twp

PO6. Swedesboro
CR 605 north of CR 620
Swedesboro

Fire Houses

FH1. Harmony Fire Co.
NJ 45 north of Church St
Harrison Twp

FH2. Aura Fire Co.
CR 667 just south of CR 619
Elk Twp

FH3. Ferrell Fire Co.
CR 538 west of CR 641
Elk Twp

FH4. Bridgeport Fire Department
Main St and Steelman Ave
Logan Twp

FH5. Woolwich Fire Department
CR 605 south of CR 551
Swedesboro

FH6. Ewan Fire Co.
CR 622 west of CR 623
Harrison Twp

FH7. Harrisonville Fire Co.
CR 617 south of CR 668
South Harrison

FH8. Harrisonville Fire Co.
CR 617 north of Mill St
South Harrison

APPENDIX C

**Gloucester County East-West Corridor Study
Intersection Controls**

Facility Cross Street	Traffic Control Device	Free Flow or Major Approach	Controlled Flow or Minor Approach
US 40			
CR 613	Signal	US 40 EB US 40 WB	CR 613 NB CR 613 SB
CR 667	Two-way Stop	US 40 EB US 40 WB	CR 667 NB CR 667 SB
CR 553	Signal	US 40 EB US 40 WB	CR 553 NB CR 553 SB
US 322			
CR 538/CR 653	Signal	US 322 EB US 322 WB	CR 538 NB CR 653 SB
CR 551	Signal	US 322 EB US 322 WB	CR 551 NB CR 551 SB
NJ Turnpike	Stop Sign	US 322 EB US 322 WB	NJ TPK off-ramp
NJ 45 Bridgeton Pike/ Main Street	Signal	US 322 EB US 322 WB/Main St NB	NJ 45 Bridgeton Pk SB
Main St	Stop Sign	Main St NB NJ 45 NB Main St SB 322\45 SB	Mill Rd\US 322 WB
CR 623	Stop Sign	US 322 EB US 322 WB	CR 623 NB
CR 667 West	Stop Sign	US 322 EB US 322 WB	CR 667 SB
CR 609/CR 618	Signal	US 322 EB US 322 WB	CR 609 NB and SB CR 618 NB
CR 667 East\CR 635	Signal	US 322 EB US 322 WB	CR 667 NB CR 635 SB
CR 538			
US 322/CR 653	Signal	US 322 EB US 322 WB	CR 538 NB CR 653 SB
CR 551 North	Stop Sign	CR 551 NB CR 551 SB	CR 538 EB

Gloucester County East-West Corridor Study
Intersection Controls

Facility Cross Street	Traffic Control Device	Free Flow or Major Approach	Controlled Flow or Minor Approach
CR 551 South	Stop Sign	CR 551 NB CR 551 SB	CR 538 WB
CR 694	Two-way Stop	CR 694 EB CR 694 WB	CR 538 EB CR 538 WB
NJ 45	Stop Sign	NJ 45 NB NJ 45 SB	CR 538 EB CR 538 WB
NJ 77	Flashing Beacon	NJ 77 NB NJ 77 SB	CR 538 EB CR 538 WB
CR 641	Two-way Stop	CR 538 EB CR 538 WB	CR 641 NB CR 641 SB
CR 619	Two-way Stop	CR 538 EB CR 538 WB	CR 619 NB CR 619 SB
CR 609	Flashing Beacon	CR 538 EB CR 538 WB	CR 609 NB CR 609 SB
CR 553	Flashing Beacon Four-way Stop Signal under const.		CR 553 NB CR 538 EB CR 553 SB CR 538 WB
CR 604			
CR 609	Two-way Stop	CR 604 EB CR 604 WB	CR 609 NB CR 609 SB
CR 611	Two-way Stop	CR 604 EB CR 604 WB	CR 611 NB CR 611 SB
CR 553	Flashing Beacon	CR 553 NB CR 553 SB	CR 604 EB CR 604 WB
Aura Rd	Flashing Beacon	CR 604 EB CR 604 WB	Aura Rd NB Aura Rd SB
CR 616			
CR 538	Stop Sign	CR 538 EB CR 538 WB	CR 616 EB
CR 617			
CR 668	Stop Sign	CR 617 NB CR 617 SB	CR 668 EB

**Gloucester County East-West Corridor Study
Intersection Controls**

Facility Cross Street	Traffic Control Device	Free Flow or Major Approach	Controlled Flow or Minor Approach
Harrisonville Ferrll Rd	Stop sign	CR 617 NB CR 617 SB	Harrisnvile Ferrel Rd WB
CR 620			
CR 551	Flashing Beacon	CR 551 NB CR 551 SB	CR 620 EB CR 620 WB
CR 605	Stop Sign	CR 605 NB CR 605 SB	CR 620 EB CR 620 NB
CR 623			
US 322	Stop Sign	US 322 EB US 322 WB	CR 623 NB
CR 641	Two-way Stop	CR 641 EB CR 641 WB	CR 623 NB CR 623 SB
CR 609	Two-way Stop	CR 609 NB CR 609 SB	CR 623 EB CR 623 WB
CR 667 East			
US 322	Signal	US 322 EB US 322 WB	CR 667 NB CR 667 SB
CR 641	Signal		
CR 553	Two-way Stop	CR 553 NB CR 553 SB	CR 667 NB CR 667 SB
CR 538	Two-way Stop	CR 538 EB CR 538 WB	CR 667 NB CR 667 SB
CR 668			
NJ 45			
CR 617	Stop Sign	CR 617 NB CR 617 SB	CR 668 EB
CR 694			
CR 538	Two-way Stop	CR 694 EB CR 694 WB	CR 538 EB CR 538 WB

**Gloucester County East-West Corridor Study
Intersection Controls**

Facility Cross Street	Traffic Control Device	Free Flow or Major Approach	Controlled Flow or Minor Approach
NJ 45	Two-way Stop	NJ 45 NB NJ 45 SB	CR 694 EB CR 694 WB
CR 617	Flashing Beacon	CR 617 NB CR 617 SB	CR 694 EB CR 694 WB
CR 581	Flashing Beacon		
NJ 77	Two-way Stop	NJ 77 NB NJ 77 SB	CR 694 EB CR 694 WB
Aura Rd			
CR 604	Flashing Beacon	CR 604 EB CR 604 WB	Aura Rd NB Aura Rd SB
Bridgeton Rd (Taylor Rd)	Two-way Stop	Bridgeton Rd EB Bridgeton Rd WB	Aura Rd NB Aura Rd SB
US 40	Two-way Stop	US 40 EB US 40 WB	Aura Rd NB Aura Rd SB
Harrisonville Ferrell Rd			
CR 617	Stop Sign	CR 617 NB CR 617 SB	Harrisnvllle Ferrel Rd WB
CR 581	<i>Two-way Stop</i>		
NJ 77	Two-way Stop	NJ 77 NB NJ 77 SB	CR 616 EB CR 616 WB
Swedboro Monroville Rd			
CR 609	Stop Sign	Swedbro Monrovl Rd EB Swedbro Monrovl Rd WB	CR 609 NB CR 609 SB