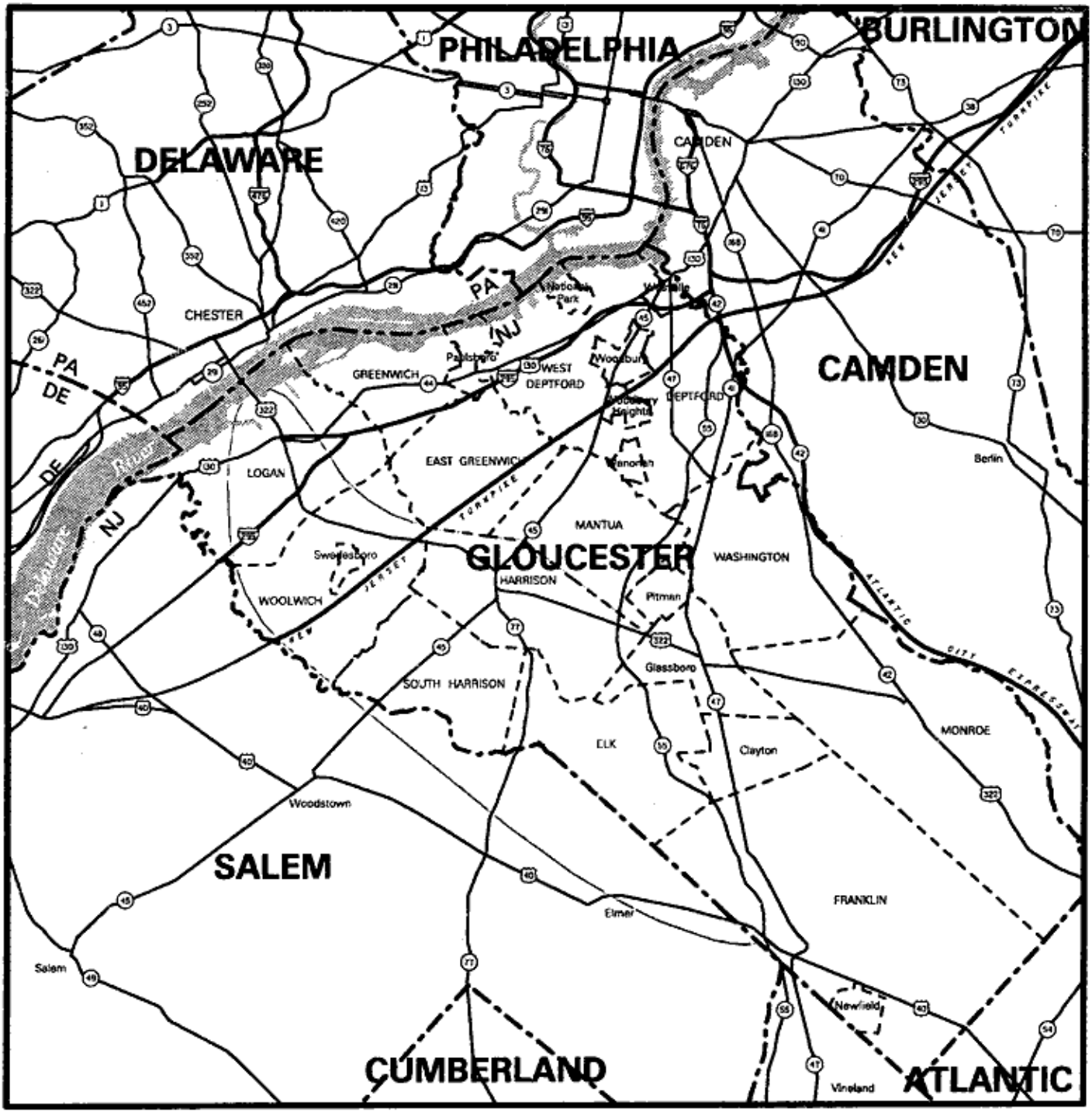
GLOUCESTER COUNTY
EAST–WEST CORRIDOR TRAFFIC STUDY
PHASE III – RECOMMENDATIONS



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION

JANUARY 1997

GLOUCESTER COUNTY

EAST-WEST CORRIDOR

TRAFFIC STUDY

PHASE III
RECOMMENDATIONS

Delaware Valley
Regional Planning Commission

JANUARY 1997

The preparation of this report was funded through grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and DVRPC's member governments. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency which provides continuing, comprehensive and coordinated planning for the orderly growth and development of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties as well as the City of Philadelphia in Pennsylvania and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. The Commission is an advisory agency which divides its planning and service functions among the Office of the Executive Director, the Office of Public Affairs, and three line Divisions: Transportation Planning, Regional Planning and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.

The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: January 1997
Gloucester County East-West Corridor Traffic Study Phase III - Recommendations	Publication No. 96022

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, alternative routes, level of service analysis, recommended improvements

ABSTRACT

This report documents the three-phase effort to identify and evaluate 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.

Improvements are recommended to several county-owned roads which facilitate east-west travel through this section of Gloucester County

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TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

This report culminates a three-phase effort to identify a network of highways that can adequately serve east-west travel across Gloucester County. This east-west travel corridor runs between the Commodore Barry Bridge and NJ 55. Demand for travel in this corridor gets extremely heavy in the summer months as the New Jersey Shore becomes a popular destination. In addition to this pass-through traffic, significant development is occurring in the corridor and is resulting in an increase in locally-generated traffic. Impacts from this mix of local and seasonal through traffic is causing recurring localized congestion along this corridor, which is especially acute on weekends.

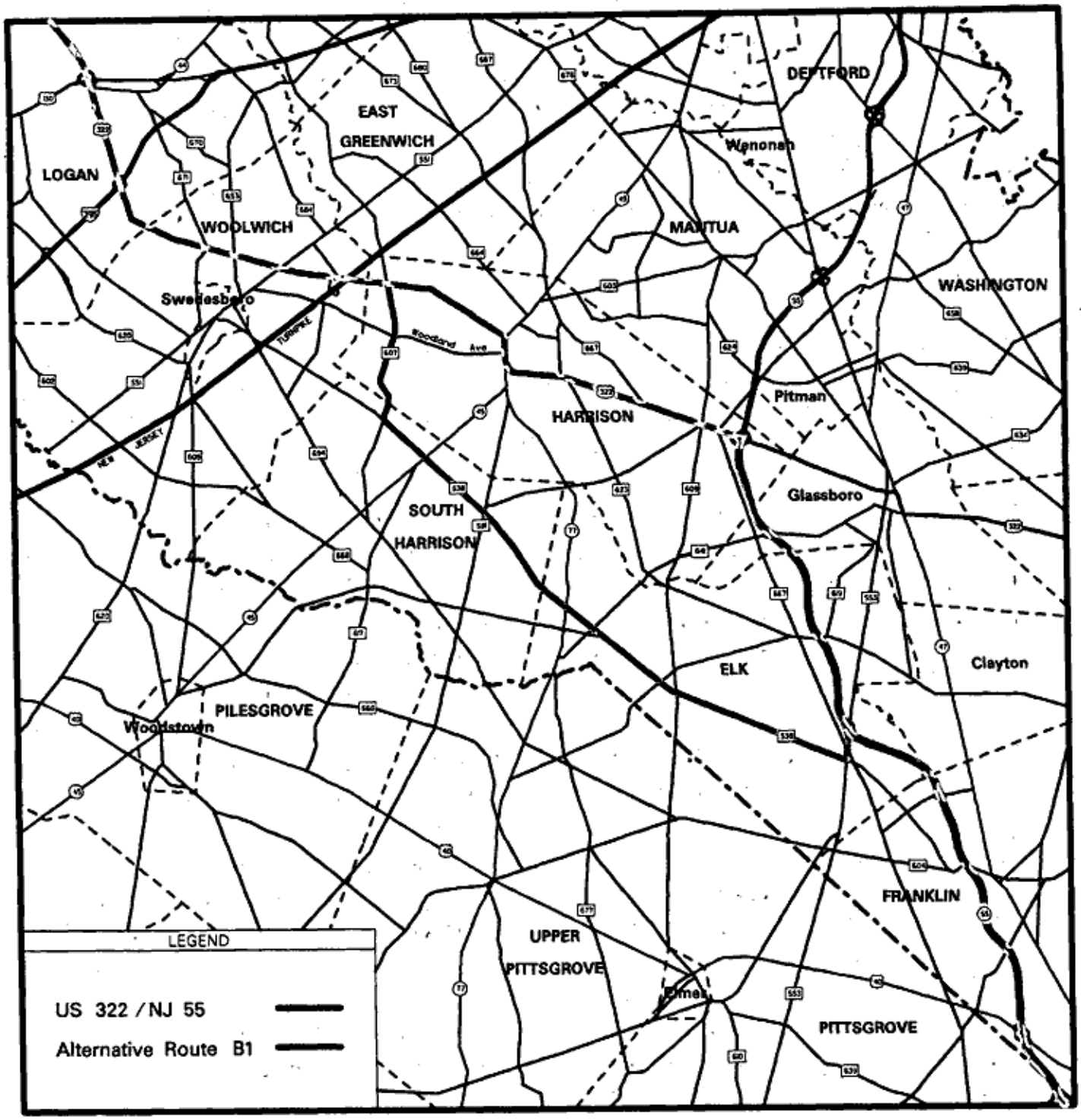
The Gloucester County Planning Department has requested that the Delaware Valley Regional Planning Commission (DVRPC) review the highway network and traffic patterns in this corridor and identify improvements to a network of roads that will relieve the congested conditions focused along US 322. The intention 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 was to perform the necessary data collection activities that served as input to the development of the alternative improvement scenarios to be evaluated during Phase III. Prior to initiating Phase III, DVRPC conducted a public participation outreach program to provide opportunities for the general public and municipal officials to identify traffic problems and suggest potential improvement strategies in the east-west corridor. During the final phase of this effort, several alternative improvement scenarios were identified and evaluated.

Taking into account the data collected in Phases I and II, the input gathered through the public outreach process and the evaluation of the alternative routes conducted during this phase, this report recommends Alternative B-1 (Figure 1) as the route which can most efficiently serve east-west travel through this section of the county while providing the least community disruption. Route B-1 begins at the intersection of US 322 and CR 607. The route follows CR 607 south for 2.2 miles to CR 538, then goes east along CR 538 for 9.3 miles to CR 553. From there, a left turn puts travelers a half-mile from NJ 55.

The original intention of this study was to identify improvements to a combination of state, county and municipal roads which would serve as an interconnected network of facilities to improve east-west travel across the county. For a facility to be effective in serving east-west travel and offer

FIGURE 1
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE B–1



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

travelers an attractive option to their existing route, the facility should have fewer or less severe existing congestion points; (2) it should be easy to follow with few required turns; (3) it should minimize impacts on sensitive areas (small towns, schools, churches, parks, etc.) and (4) it should offer travel time savings. Of the nine alternatives evaluated, only those facilities grouped together as B-1 meet those criteria. Recommending any other alternative or part of any other alternative in combination with B-1 would not be practical. Therefore, a true network in terms of many alternative roads branching across the county is not recommended.

The recommended route allows traffic to avoid congested conditions in Swedesboro, Mullica Hill and Richwood. This route is easy to follow and consists primarily of two roads (CR 607, CR 538). Unlike most other alternatives evaluated, this one does not impact small communities such as Swedesboro, Ewan, Harrisonville or Monroeville. Travel time runs taken on a Friday evening in the summer in the eastbound direction, indicate that this route is faster than taking US 322 and NJ 55 to get across the county. Route B-1 is actually a shorter route to get from the Commodore Barry Bridge to the NJ 55 interchange at US 40. Comparison of the off-season and seasonal traffic counts indicate that there is currently some familiarity with sections of this alternative by shore-bound summer time traffic.

Improving route B-1 provides safety benefits for the facilities which comprise this route. The detailed improvement recommendations to the roads and intersections which comprise this route are presented later in this document. The specific improvements are generally recommended to conform to the standards of the American Association of State Highway and Transportation Officials (AASHTO) and the New Jersey Department of Transportation (NJ DOT) where applicable.

It must be noted that improvements to Route B-1 do not eliminate the need to provide improvements along US 322 between the Commodore Barry Bridge and NJ 55. This route is not intended to be a replacement of US 322, but a way to safely aid the east-west flow of traffic in this area of the county. Regardless of the condition of the county road network, US 322 remains a vital east-west highway and has several existing deficiencies which need to be addressed. These deficiencies include the sharp curve east of I-295 and congestion points in Mullica Hill and Richwood.

Traffic volumes on CR 607 and CR 538 are expected to increase primarily on summer weekends

as a result of improvements to Route B-1. However, any improvements to US 322 would reduce the traffic increases expected on Route B-1. The improvements recommended in this report for Route B-1 are expected to provide sufficient capacity to safely handle traffic which may be diverted from other roads. A phased program of improvements is recommended, with safety projects (intersections, vertical curves and horizontal curves) addressed first.

INTRODUCTION

This report culminates a three-phase effort to identify a network of county-owned highways that can adequately serve east-west travel across Gloucester County. This east-west travel corridor runs between the Commodore Barry Bridge and NJ 55 (Figure 1). Demand for travel 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 New Jersey Shore. Because US 322 provides a direct link between the Commodore Barry Bridge and NJ 55 and much of the through traffic is not familiar with alternative routes, this facility experiences greater than normal increases in summertime traffic.

In addition to this pass-through traffic, significant development is occurring in the corridor and is resulting in an increase in locally-generated traffic. Impacts from this mix of local and seasonal through traffic is resulting in recurring localized congestion along this corridor, which is especially acute on weekends.

The Gloucester County Planning Department has requested that the Delaware Valley Regional Planning Commission (DVRPC) review the highway network and traffic patterns in this corridor and identify improvements to a network of roads that will relieve the congested conditions focused along US 322. The study area road network is displayed in Figure 2. The intention is to disperse the traffic over an interconnected network of facilities, thus reducing the burden to any one facility. Dispersion of east-west traffic should not be encouraged until the recommended improvements to those facilities can be implemented.

The objective of Phases I and II was to perform the necessary data collection activities that served 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

FIGURE 2
GLOUCESTER COUNTY
EAST–WEST CORRIDOR TRAFFIC STUDY
STUDY AREA LOCATION MAP

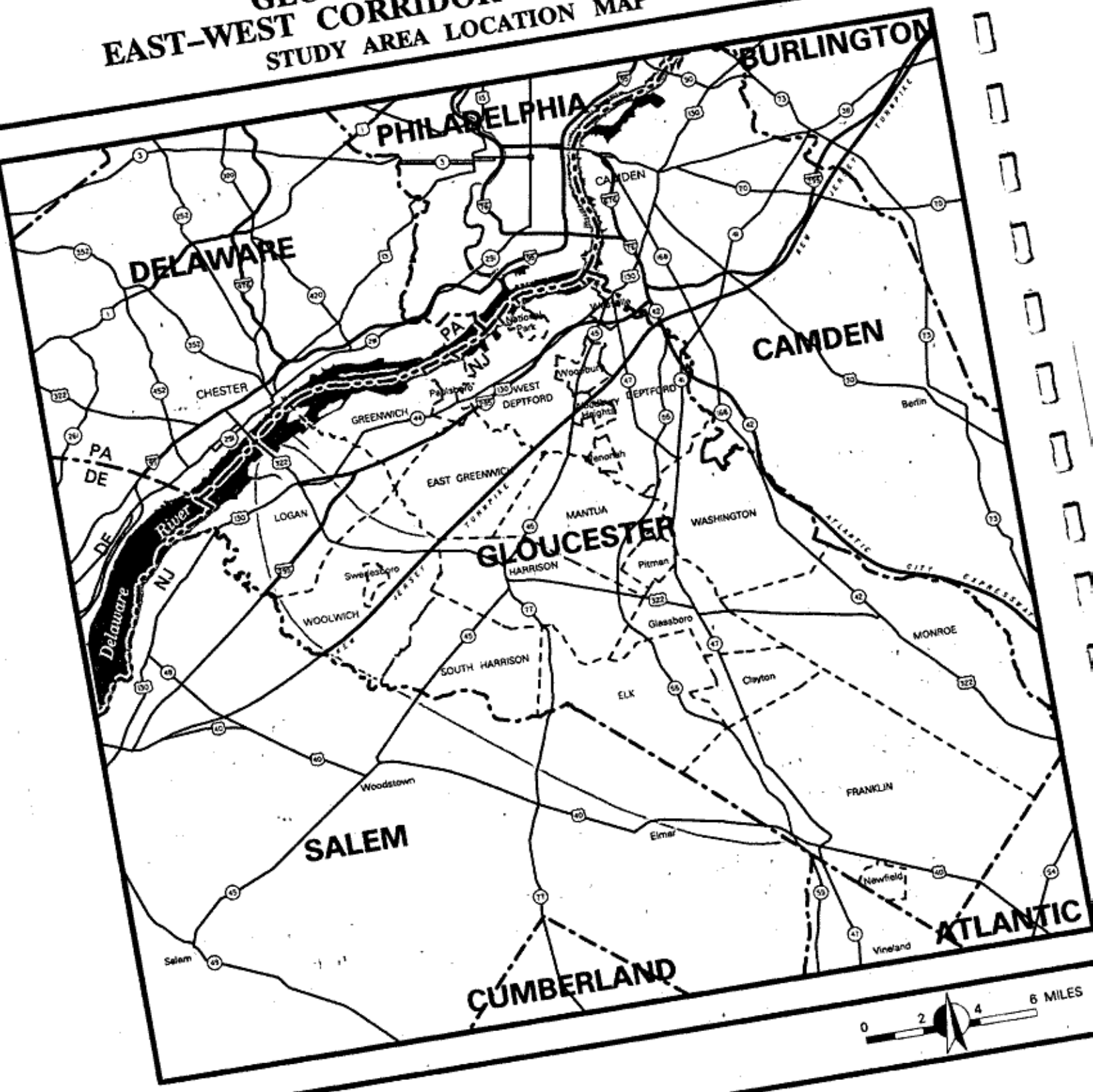


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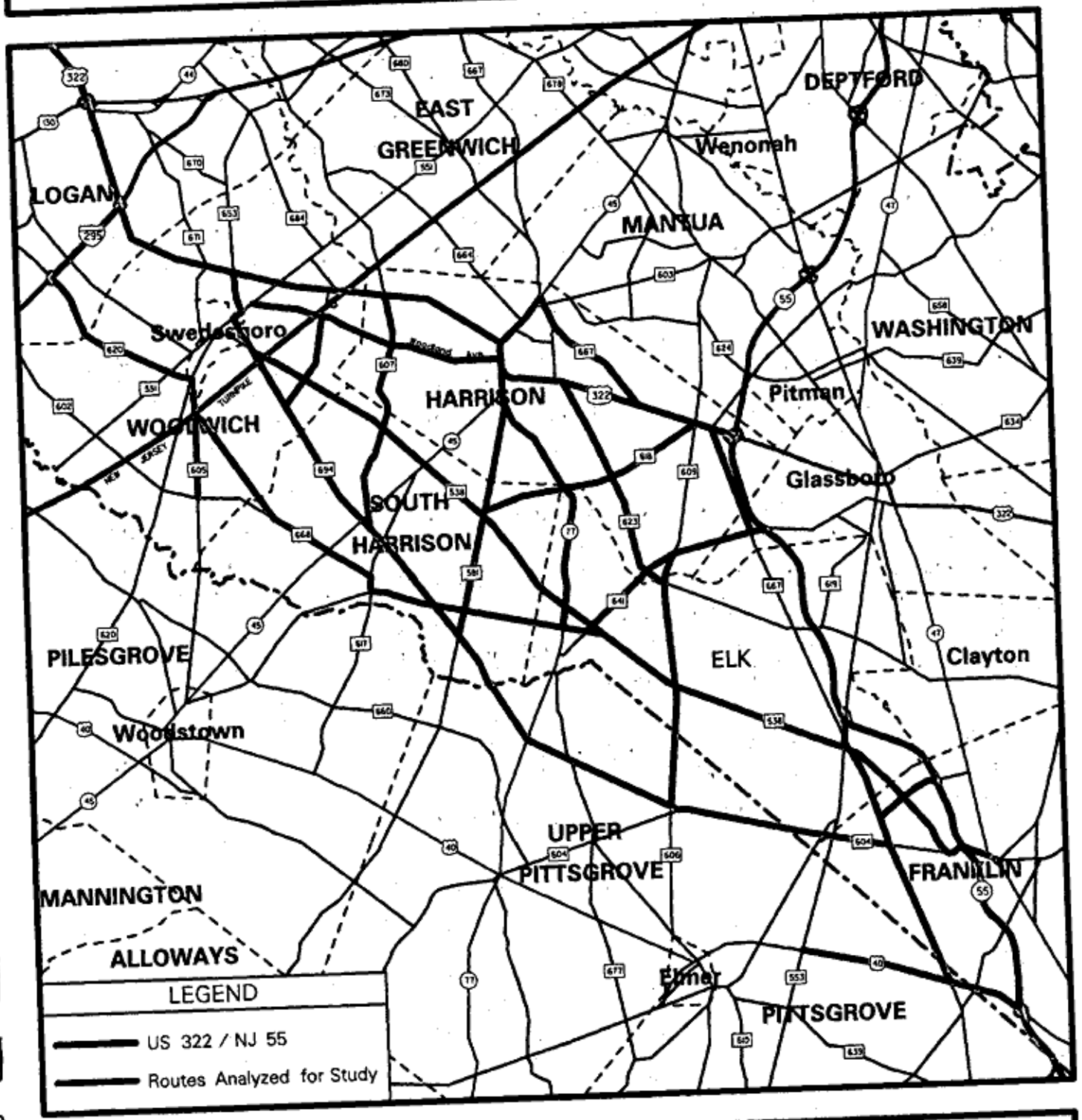
FIGURE 3
GLOUCESTER COUNTY
EAST–WEST CORRIDOR TRAFFIC STUDY
STUDY AREA ROAD NETWORK



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JANUARY 1997

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 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 made 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).

Prior to initiating Phase III, DVRPC was requested by the New Jersey Department of Transportation (NJ DOT) and Gloucester County to conduct a Public Participation Outreach Program. The intent of that effort was to provide opportunities for the general public and municipal officials to identify traffic problems and suggest potential improvement strategies in the east-west corridor. The input gained from that program was documented and presented to NJ DOT and the County in a report titled *Gloucester County East-West Corridor Transportation Evaluation - Public Participation Outreach Initiative*, October 1996. It was also used in the development and evaluation of the alternative improvement scenarios during Phase III. This report included a set of recommended actions which were deemed necessary to keep the momentum moving towards developing a capital improvement plan for the corridor. These recommended actions can be found in Appendix C.

During the final phase of this effort, several alternative improvement scenarios were identified and evaluated. The scenario or scenarios recommended for improvement are those that serve desired east-west movements most efficiently and with the least community disruption.

BACKGROUND DATA COLLECTION

The data collected during Phases I and II on the existing physical and operating conditions of the roadway network in the study area are briefly reviewed in this section. This data were used during Phase III to evaluate the appropriateness of potential improvement scenarios. The improvements were developed by taking into account these conditions and the features of the study area presented in this section of the report.

NETWORK PHYSICAL DESCRIPTION

In General, the section of Gloucester County most likely to be affected by east-west traffic traveling between southeastern Pennsylvania and the New Jersey Shore communities is the area 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 delineates 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 were 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 in a rural setting, narrow shoulders, 10-to-12 foot travel lanes and speed limits of 45 to 50 MPH.

STUDY AREA FEATURES

Physical improvements to a roadway could cause impacts to existing cultural features. In that light, several types of features have been identified within the study area which need to be considered when developing improvement scenarios to adjacent roadways. The following 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 roadway or nearby intersection can sometimes enhance access to a particular feature and thereby provide positive impacts, special care should be taken when identifying potential network improvements to avoid creating adverse impacts, especially if the county intends to seek federal funding for improvements.

TRAFFIC COUNTS

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 same locations during both periods. The increases between off-season and seasonal traffic are generally believed to be attributable to two factors: (1) in general, trip-making increases during the summer months when the weather is nice, and 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 New Jersey Shore. The off-season counts were taken in early 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 screenlines set up within the study area. The screenlines were developed to monitor traffic flow through the study area. For this reason, screenlines were placed in a north-south orientation parallel to the New Jersey Turnpike and NJ 55. A third screenline 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 was monitored

FIGURE 4
GLOUCESTER COUNTY
EAST–WEST CORRIDOR TRAFFIC STUDY
CULTURAL FEATURES KEY MAP

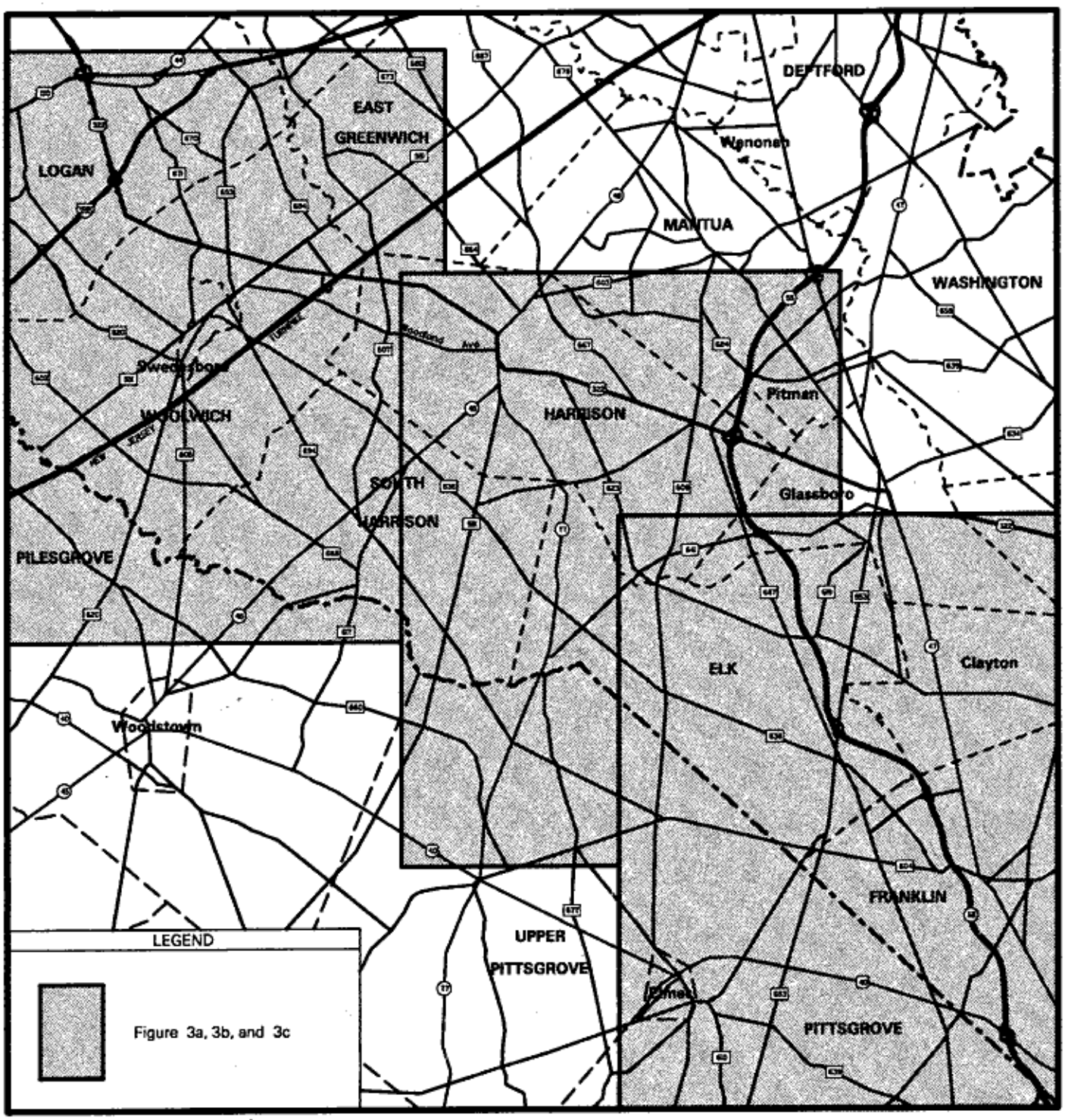

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FIGURE 4a

GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY

INVENTORY OF CULTURAL FEATURES

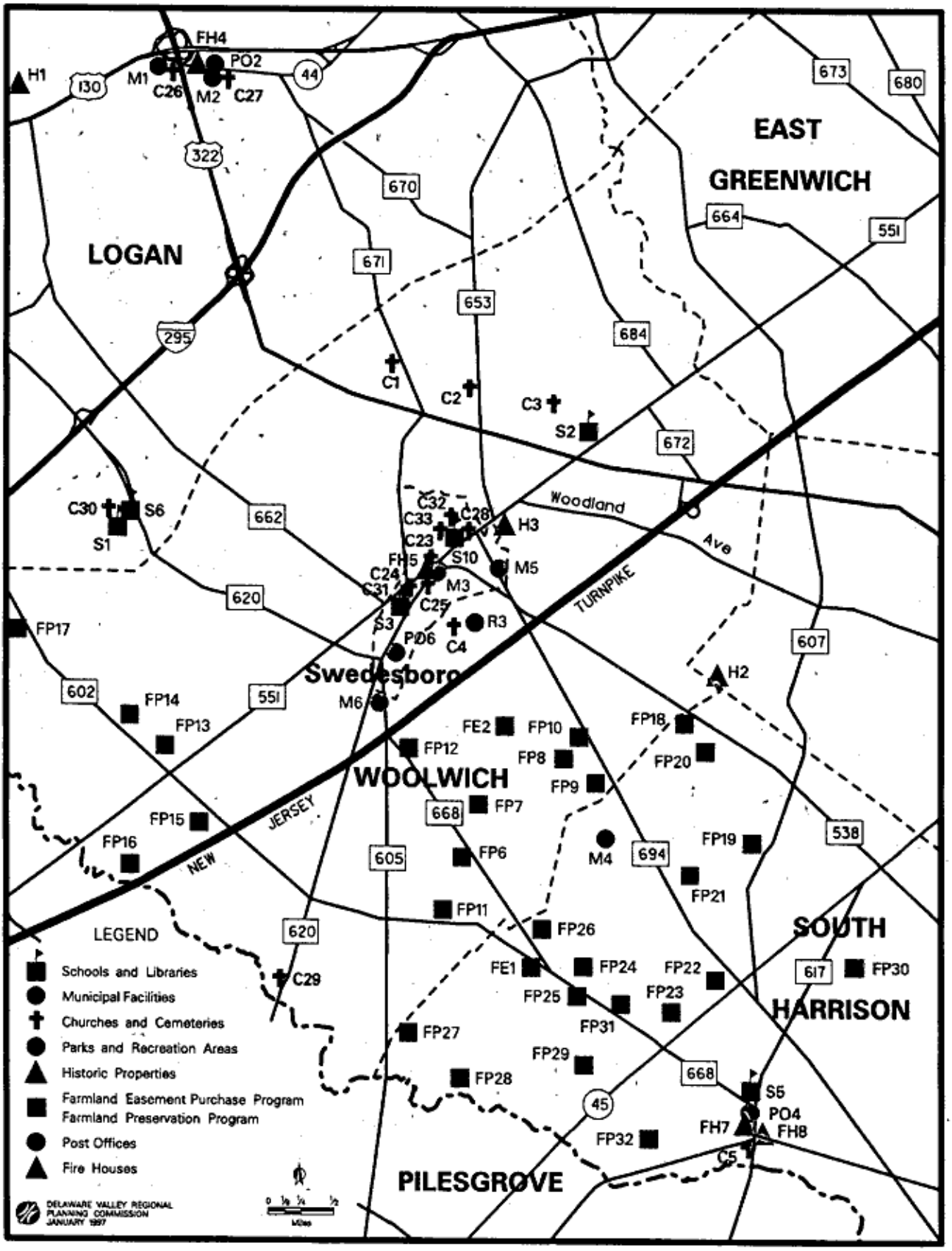


Figure 4b

GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY

INVENTORY OF CULTURAL FEATURES

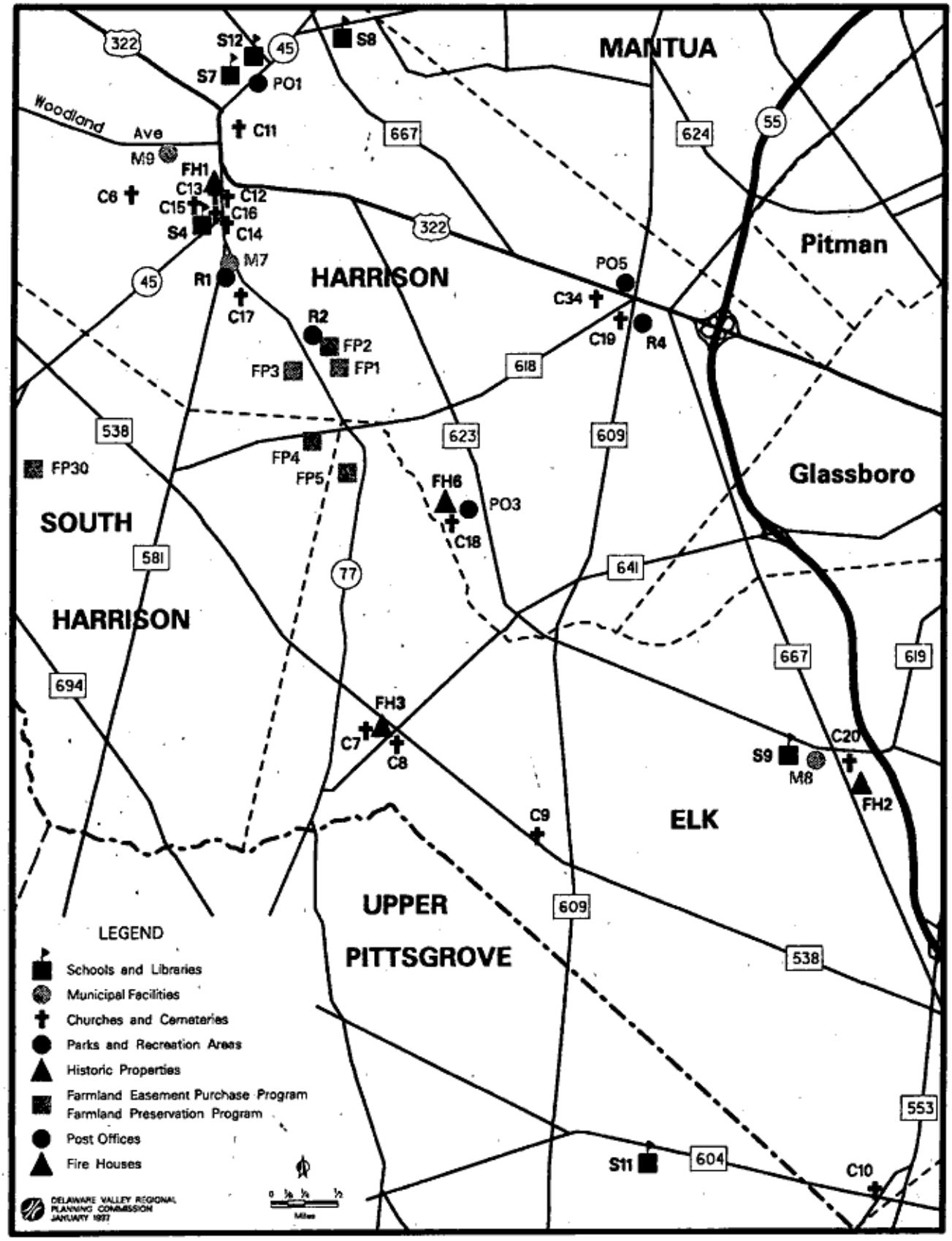
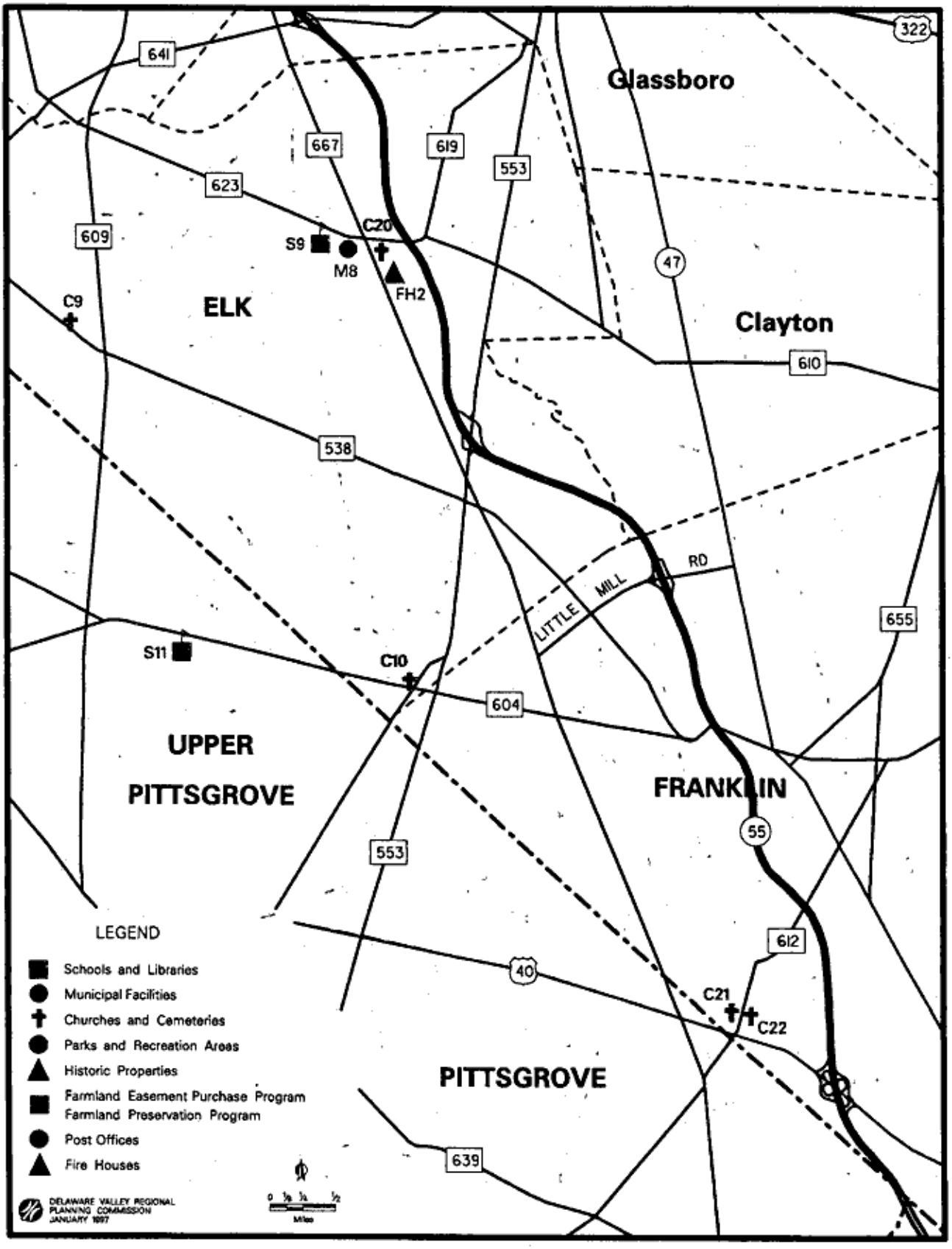


Figure 4c

GLOUCESTER COUNTY EAST-WEST CORRIDOR TRAFFIC STUDY

INVENTORY OF CULTURAL FEATURES



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 numbers on the table correspond to the count station numbers on Figure 4.

Off-Season Counts

The off-season counts were collected during Phase I of the study and represent baseline 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. These volumes are typical for a rural area. Except for some peak period congestion on US 322 in Mullica Hill and in Richwood the study network adequately handles the traffic volumes which occur on a typical weekday or weekend.

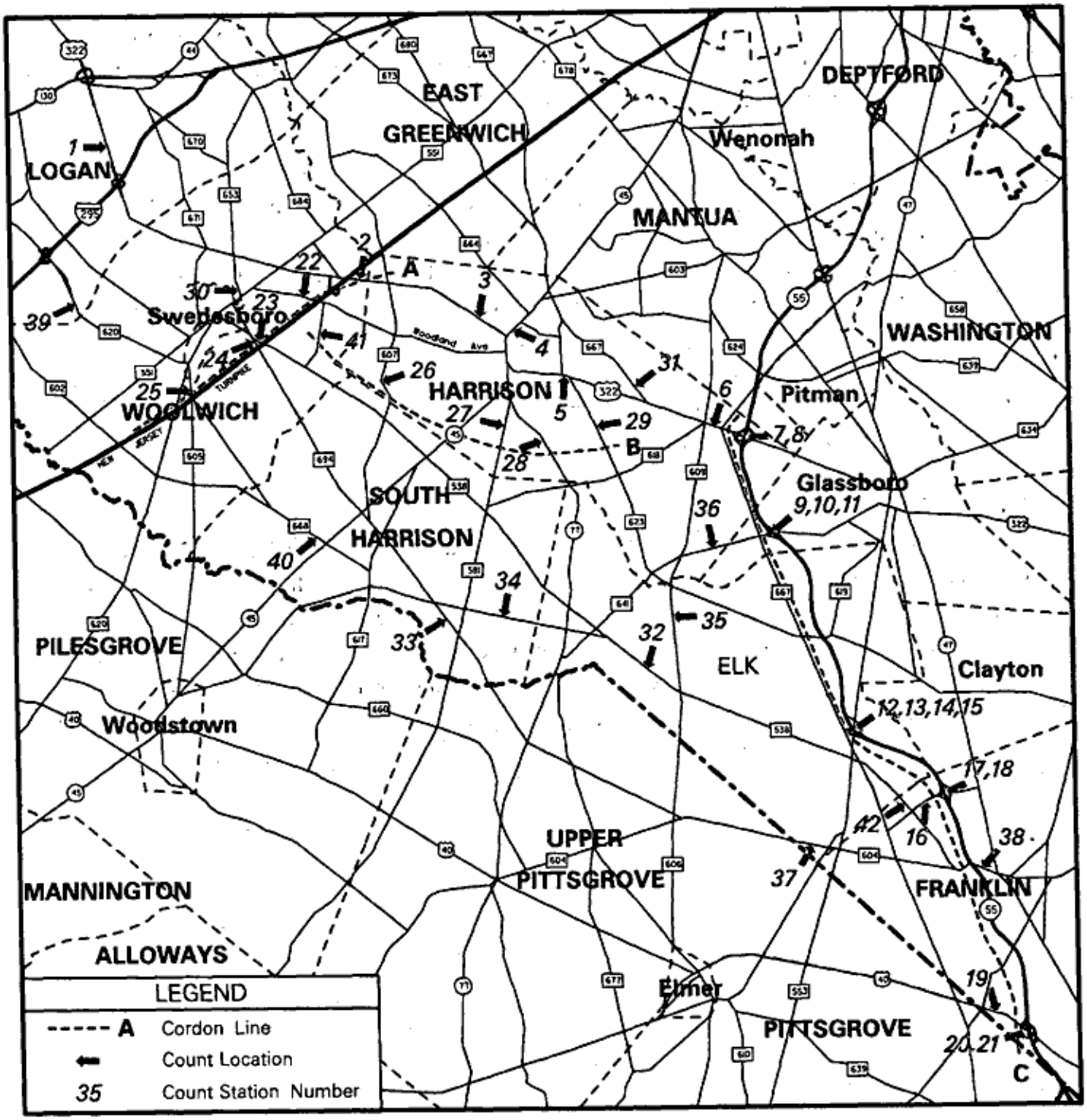
Seasonal Counts

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 locations where the seasonal counts are lower can be explained by the fact that those roads do not 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.

FIGURE 5

GLOUCESTER COUNTY
EAST–WEST CORRIDOR TRAFFIC STUDY

STUDY AREA TRAFFIC COUNT LOCATIONS



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JANUARY 1997

0 1 2 3 MILES

TABLE 1

Gloucester County East-West Corridor Traffic Study

AVERAGE DAILY TRAFFIC COUNTS (1994)

5/10/95

Cordon A

No.	Road	from	to	WEEKDAY Off Season	WEEKDAY Season	WEEKDAY Difference Absolute	WEEKDAY Difference Percent	FRIDAY Off Season	FRIDAY Season	FRIDAY Difference Absolute	FRIDAY Difference Percent	SATURDAY Off Season	SATURDAY Season	SATURDAY Difference Absolute	SATURDAY Difference Percent	SUNDAY Off Season	SUNDAY Season	SUNDAY Difference Absolute	SUNDAY Difference Percent
2	US 322	NJ Tpk ramp	CR 607	12,235	15,105	2,870	23.5%	13,475	17,293	3,818	28.3%	10,869	16,626	5,757	53.0%	9,381	16,097	6,716	71.6%
22	Back Creek Rd	CR 551	NJ Tpk	2,250	2,163	(87)	-3.9%	2,228	2,275	47	2.1%	1,792	1,775	(17)	-0.9%	1,254	1,350	96	7.7%
23	CR 538	CR 694	NJ Tpk	2,343	2,794	451	19.2%	2,956	4,409	1,453	49.2%	2,062	3,701	1,639	79.5%	2,213	3,355	1,142	51.6%
24	CR 694	CR 538	NJ Tpk	2,001	2,268	267	13.3%	2,266	2,973	707	31.2%	1,669	2,342	673	40.3%	1,374	2,466	1,092	79.5%
25	CR 606	CR 620	NJ Tpk	3,879	4,149	270	7.0%	3,789	4,082	293	7.7%	2,990	3,149	159	5.3%	1,952	2,264	312	16.0%
	TOTAL			22,708	26,479	3,771	16.6%	24,714	31,032	6,318	25.6%	19,382	27,593	8,211	42.4%	16,174	25,532	9,358	57.9%

Cordon B

	Road	from	to	WEEKDAY Off Season	WEEKDAY Season	WEEKDAY Difference Absolute	WEEKDAY Difference Percent	FRIDAY Off Season	FRIDAY Season	FRIDAY Difference Absolute	FRIDAY Difference Percent	SATURDAY Off Season	SATURDAY Season	SATURDAY Difference Absolute	SATURDAY Difference Percent	SUNDAY Off Season	SUNDAY Season	SUNDAY Difference Absolute	SUNDAY Difference Percent
26	CR 607	Mt Swedsbro Rd	CR 538	494	510	16	3.2%	568	627	59	10.4%	347	464	117	33.7%	302	387	85	28.1%
27	CR 581	NJ 77	CR 618	1,363	1,302	(61)	-4.5%	1,443	1,476	33	2.3%	1,327	1,375	48	3.6%	1,328	1,068	(260)	-19.6%
28	NJ 77	CR 581	CR 616	5,500	5,707	207	3.8%	5,943	5,925	(18)	-0.3%	5,007	6,110	1,103	22.0%	4,236	5,586	1,350	31.9%
29	CR 623	Griffin Rd	CR 618	699	721	22	3.1%	774	784	10	1.3%	598	752	154	25.8%	631	592	(39)	-6.2%
41	Russell Mill Rd	Back Creek Rd	CR 538	233	161	(72)	-30.9%	213	154	(59)	-27.7%	304	130	(174)	-57.2%	176	102	(74)	-42.0%
	TOTAL			8,289	8,401	112	1.4%	8,941	8,966	25	0.3%	7,583	8,831	1,248	16.5%	6,673	7,735	1,062	15.9%

Cordon C

	Road	from	to	WEEKDAY Off Season	WEEKDAY Season	WEEKDAY Difference Absolute	WEEKDAY Difference Percent	FRIDAY Off Season	FRIDAY Season	FRIDAY Difference Absolute	FRIDAY Difference Percent	SATURDAY Off Season	SATURDAY Season	SATURDAY Difference Absolute	SATURDAY Difference Percent	SUNDAY Off Season	SUNDAY Season	SUNDAY Difference Absolute	SUNDAY Difference Percent
8	US 322	CR 667	CR 609	14,540	16,050	1,510	10.4%	15,163	19,132	3,969	26.2%	15,471	N.A.	N.A.	N.A.	14,004	19,905	5,901	42.1%
9	CR 641	CR 667	NJ 55 Ramp	3,750	3,755	5	0.1%	4,055	4,096	41	1.0%	3,320	3,293	(27)	-0.8%	2,578	2,603	25	1.0%
12	CR 553	CR 667	NJ 55 Ramp	7,670	7,953	283	3.7%	8,590	8,781	191	2.2%	7,069	7,879	810	11.5%	5,773	6,733	960	16.6%
16	Pleasant Valley Rd	Dogwood Ave	NJ 55 Ramp	1,154	1,527	373	32.3%	1,518	2,513	995	65.5%	1,499	2,033	534	35.6%	1,107	2,146	1,039	93.9%
19	NJ 40	CR 613	Little Ease Creek	12,466	15,176	2,710	21.7%	15,307	19,552	4,245	27.7%	14,241	20,101	5,860	41.1%	13,153	18,390	5,237	39.8%
	TOTAL			39,580	44,461	4,881	12.3%	44,633	54,074	9,441	21.2%	41,600	N.A.	N.A.	N.A.	36,615	49,777	13,162	35.9%

INFILL COUNTS

	Road	from	to	WEEKDAY Off Season	WEEKDAY Season	WEEKDAY Difference Absolute	WEEKDAY Difference Percent	FRIDAY Off Season	FRIDAY Season	FRIDAY Difference Absolute	FRIDAY Difference Percent	SATURDAY Off Season	SATURDAY Season	SATURDAY Difference Absolute	SATURDAY Difference Percent	SUNDAY Off Season	SUNDAY Season	SUNDAY Difference Absolute	SUNDAY Difference Percent
1	US 322	US 130	I-295	17,591	19,964	2,373	13.5%	18,978	23,866	4,888	25.8%	14,803	21,333	6,530	44.1%	12,353	20,567	8,214	66.5%
3	US 322	Milford Rd	Bridgeton Pike	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4	NJ 45	Colson Rd	US 322	16,102	14,652	(1,450)	-9.0%	16,717	14,667	(2,050)	-12.3%	12,556	12,959	403	3.2%	11,617	11,640	(177)	-1.5%
6	US 322	Walters Rd	CR 623	14,507	15,288	781	5.4%	14,544	18,221	3,677	25.3%	13,321	18,208	4,887	36.7%	12,301	18,064	5,763	46.8%
7	NJ 55 on ramp	US 322 eb	NJ 55 main line	2,165	3,275	1,110	51.3%	3,196	6,384	3,188	99.7%	2,473	5,406	2,933	118.6%	1,476	2,844	1,368	92.7%
8	NJ 55 off ramp	NJ 55 main line	US 322 wb	2,081	3,228	1,147	55.1%	2,109	3,411	1,302	61.7%	1,835	3,997	2,162	117.8%	2,650	6,244	3,594	135.6%
10	eb CR 641 off ramp	CR 641	NJ 55 sb on ramp	316	367	51	16.1%	329	306	(23)	-7.0%	238	206	(32)	-13.4%	201	269	68	33.8%
11	CR 641 wb on ram	NJ 55 nb off ramp	CR 641	366	372	6	1.6%	364	358	(6)	-1.6%	303	320	17	5.6%	249	394	145	58.2%
13	nb CR 553 off ramp	CR 553	NJ 55 sb on ramp	131	174	43	32.8%	279	692	413	148.0%	174	480	286	164.4%	64	170	106	165.6%
14	CR 553	CR 553 sb off ramp	NJ 55 nb off ramp	2,547	2,557	10	0.4%	2,730	2,673	(57)	-2.1%	2,320	2,435	115	5.0%	1,788	2,003	215	12.0%
16	CR 553	NJ 55 nb off ramp	NJ 55 sb off ramp	2,731	2,716	(15)	-0.5%	2,811	2,813	2	0.1%	2,436	2,624	188	7.7%	2,122	2,532	410	19.3%
17	PV Rd eb off ramp	Pleasant Valley Rd	NJ 55 sb on ramp	81	108	27	33.3%	181	480	319	196.1%	139	275	136	97.8%	77	116	39	50.6%
18	NJ 55 nb off ramp	NJ 55 main line	Pleasant Valley Rd	483	609	126	26.1%	545	579	34	6.2%	477	584	107	22.4%	507	874	367	72.4%
20	NJ 55 sb on ramp	NJ 40 eb	NJ 55 mainline	3,033	2,664	(369)	-12.2%	4,505	4,968	463	10.3%	3,697	4,191	494	13.4%	2,435	2,340	(95)	-3.9%
21	NJ 55 nb off ramp	NJ 55 main line	NJ 40 wb	1,907	3,394	1,487	78.0%	2,296	3,468	1,172	51.0%	1,885	3,777	1,892	100.4%	2,006	5,304	3,298	164.4%
30	CR 538	US 322	CR 551	6,961	7,023	962	15.9%	6,958	9,144	2,186	31.4%	5,539	7,500	1,961	35.4%	4,104	6,718	2,614	63.7%
31	CR 667	US 322	Jackson Rd	3,514	3,764	250	7.1%	3,666	3,628	(37)	-1.0%	1,516	4,031	2,515	165.9%	2,504	3,573	1,069	42.7%
32	CR 538	CR 616	CR 619	2,180	2,525	345	15.8%	2,736	4,146	1,410	51.5%	2,239	3,551	1,312	58.6%	2,375	N.A.	N.A.	N.A.
33	CR 694	CR 616	CR 581	1,920	2,214	294	15.3%	2,441	2,818	377	15.4%	1,483	2,232	749	50.5%	1,606	2,547	942	58.7%
34	Hrrsnville Ferrell R	CR 581	NJ 77	679	626	(53)	-7.8%	675	618	(57)	-8.4%	705	667	(38)	-5.4%	535	532	(3)	-0.6%
35	CR 609	CR 623	CR 619	1,302	1,318	16	1.2%	1,466	1,318	(148)	-10.1%	1,112	1,221	109	9.8%	1,101	1,153	52	4.7%
36	CR 641	CR 609	CR 667	2,879	2,983	104	3.6%	3,317	3,258	(59)	-1.8%	2,606	2,764	158	6.1%	2,411	2,223	(188)	-7.8%
37	CR 604	CR 611	Pinard Rd	1,720	1,955	235	13.7%	1,853	2,012	159	8.6%	1,605	1,828	223	13.9%	1,526	1,480	(46)	-3.0%
38	CR 538	Railroad Ave	Wilson Ave	3,909	3,912	3	0.1%	4,122	4,827	705	17.1%	3,555	4,555	1,000	28.1%	2,760	3,472	712	25.8%
39	CR 620	Beckett Rd	Homan Rd	4,274	4,220	(54)	-1.3%	4,602	4,330	(272)	-5.9%	3,456	3,425	(31)	-0.9%	2,486	2,564	78	3.1%
40	CR 668	Mart Rd	NJ 45	601	585	(16)	-2.7%	583	651	68	11.7%	409	503	94	23.0%	418	365	(53)	-12.7%
42	CR 538	Pleasant Valley Rd	Ferrel Rd	1,979	2,349	370	18.7%	2,438	3,303	865	35.5%	2,088	2,930	842	40.3%	1,552	2,668	1,116	71.9%
	TOTAL			95,059	102,842	7,783	8.2%	104,420	122,939	18,519	17.7%	82,970	111,982	29,012	35.0%	73,423	100,656	29,608	40.3%

ALTERNATIVES DEVELOPMENT

The first step in developing potential alternatives for east-west travel was to review the network of roads available to serve these movements. The objective was to form routes by putting together roads that keep the traveler moving in an east-west direction as much as possible with the aim of reaching one of the interchanges along NJ 55. All of the routes identified for evaluation are located south of US 322. Any alternative suggested north of US 322 would have had to use the CR 553 interchange with NJ 55 or come through Richwood to reach the US 322 interchange with NJ 55. These were not considered viable options, because they involved backtracking or travel through a congested area. Each alternate facility had to be looked at in terms of its existing traffic volumes, adjacent land uses, impacts on sensitive areas and traffic carrying capacity.

LEVEL OF SERVICE ANALYSIS

The level of service of a given roadway segment relates to drivers' ability to choose their travel speeds and/or their ability to pass slower vehicles. When a two-lane highway operates under uninterrupted flow conditions the level of service is measured in terms of average travel speed or the volume to capacity ratio. The capacity of a roadway is a function of a number of physical and operating characteristics: number of travel lanes, lane width, shoulder width, percentage of "no passing zones", truck percentage, directional split in traffic flow and grade. A subjective description of each level of service is given in Table 2. Service flows at each level are expressed for ideal conditions. Any deviation from these conditions (e.g. lane width less than 12 feet) will reduce the service flow volume.

A level of service analysis for two-lane highways was conducted on the study area network. The results are displayed on Figure 5. The analysis was performed using the methodology and procedures of the *Highway Capacity Manual* (Special Report 209, Transportation Research Board, Washington, D.C., 1985). This procedure evaluates the conditions along the roadway segments and does not address the operations at the intersections.[1] To simulate the worst case conditions of this network, the traffic volumes for a summer Friday peak hour were used in the analysis. These peak hour volumes were derived from the traffic counts presented in Table 1. The daily

[1]The spacing between intersections was the determining factor in choosing the two-lane highway methodology over the intersection methodology in calculating the level of service for the study area roads. Based on the layout of this network, the conditions of the roadway segments (not the conditions at the intersections) dictate how well the network functions.

TABLE 2
Level of Service Criteria - Two Lane Highways

LEVEL OF SERVICE A - Average speeds at or above speed limit. Passing demand is well below passing capacity; almost no platoons of three or more vehicles are observed. A maximum flow rate of 420 vehicles per hour, total in both directions, may be achieved under ideal conditions.

LEVEL OF SERVICE B - In order to maintain desired speeds, the demand for passing becomes significant and approximately equals passing capacity at the lower boundary of LOS 'B'. The number of platoons forming in the traffic stream begins to increase dramatically. Service flow rates of 750 vehicles per hour, total in both directions, can be achieved under ideal conditions.

LEVEL OF SERVICE C - Noticeable increase in platoon formation, platoon size, and frequency of passing impediment. At higher volume levels, chaining of platoons and significant reductions in passing capacity begin to occur. While traffic flow is stable, it is becoming susceptible to congestion due to turning traffic and slow-moving vehicles. A service flow rate of up to 1,200 vehicles per hour, total in both directions, can be accommodated under ideal conditions.

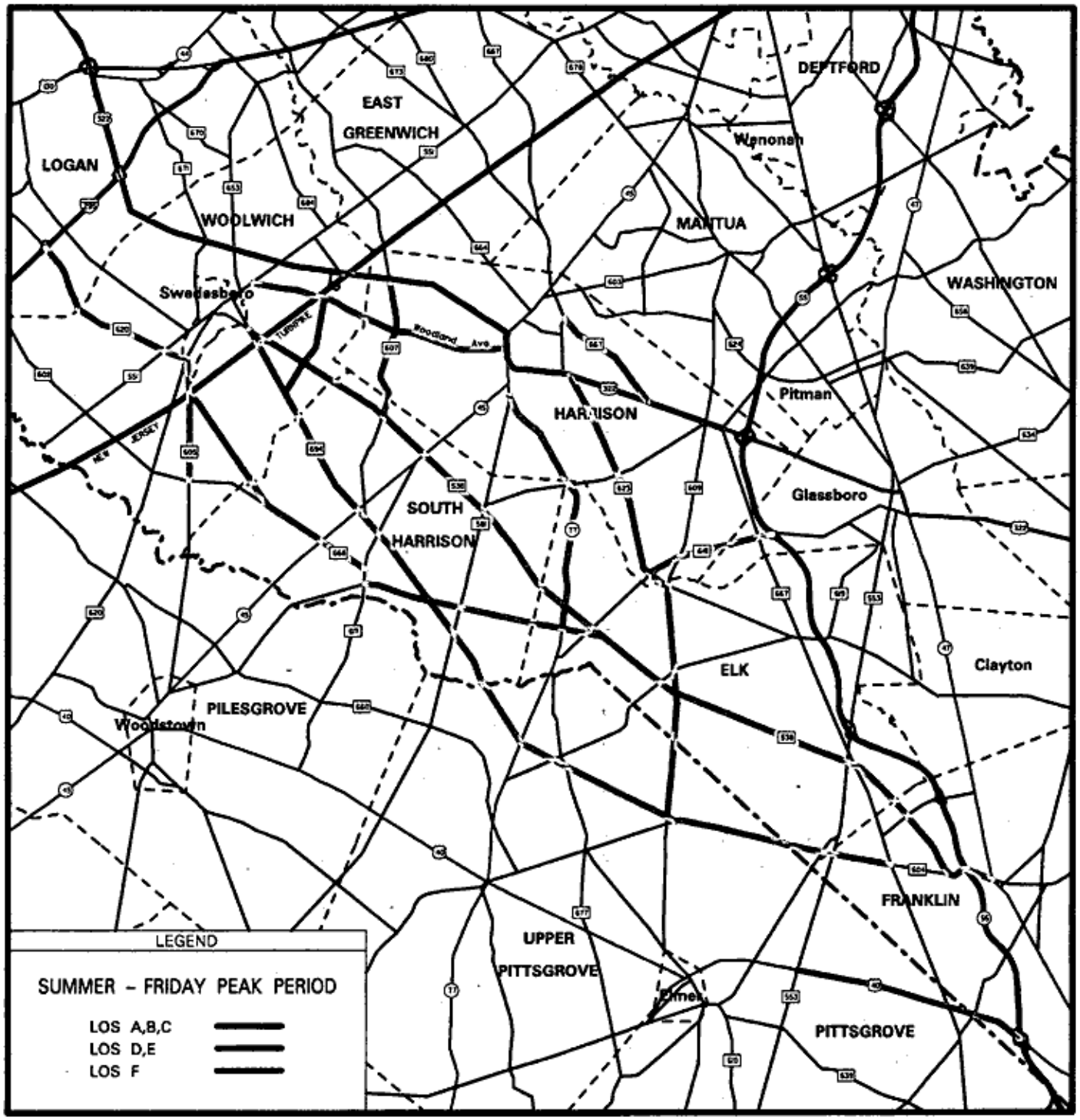
LEVEL OF SERVICE D - Unstable flow is approached, passing becomes extremely difficult as a consequence of increasing traffic volume. The availability of passing areas within the segment has little influence on passing. Turning vehicles and/or roadside distractions cause major shock waves in the traffic stream. This is the highest flow rate that can be maintained for any length of time without a high probability of a breakdown. A service flow rate of up to 1,800 vehicles per hour, total in both directions, can be accommodated under ideal conditions.

LEVEL OF SERVICE E - Passing is virtually impossible and platooning becomes intense when slower vehicles or other interruptions are encountered. The highest volume attainable under LOS 'E' is by definition the capacity of the highway. Under ideal conditions, capacity is 2,800 vehicles per hour total in both directions. For other conditions, capacity is lower.

LEVEL OF SERVICE F - Represents heavily congested flow with traffic demand exceeding capacity. Frequently, perturbations in traffic flow as level 'E' is approached cause a rapid transition to level of service 'F'.

Source: *Highway Capacity Manual*, Transportation Research Board, Special Report 209, 1985

FIGURE 6
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
LEVEL OF SERVICE ANALYSIS



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

TABLE 3
Level of Service Volume Data

Facility Segment	ADT (Fri.)	VPH
US 322		
US 130 - I-295	23,866	1,987
551 - NJ 45	17,293	1,276
NJ 45 - CR 609	18,221	1,273
NJ 40		
NJ 55 - 553	19,552	1,529
NJ 77		
NJ 45 - 616	5,925	462
CR 538		
694 - 45	4,409	495
45 - 77	4,146	472
77 - 553	4,146	472
553 - 604	3,303	396
604 - 47	4,827	435
CR 604		
Aura Rd - 609	2,012	186
CR 605		
620 - 602	4,082	346
CR 607		
322 - 538	627	68
CR 609		
604 - 623	1,318	125

Facility Segment	ADT (Fri.)	VPH
CR 614		
Back Creek Rd - 694	154	17
CR 620		
I-295 - 605	4,330	359
CR 623		
US 322 - 609	784	74
623 - NJ 55	3,267	306
CR 667		
US 322 - Walters Rd	3,628	265
CR 668		
605 - Pedricktown-Harrisonville Rd	651	50
617 - Pedricktown-Harrisonville Rd	651	50
CR 694		
538 - NJ 45	2,973	272
NJ 45 - NJ 77	2,818	277
NJ 77 - 609	2,012	186
Back Creek Rd		
551 - US 322	2,275	179
Harrisonville-Ferrel Rd		
617 - 538	618	59

ADT - Average Daily Traffic (Summer Friday)
VPH - Vehicles Per Hour (Peak Hour)

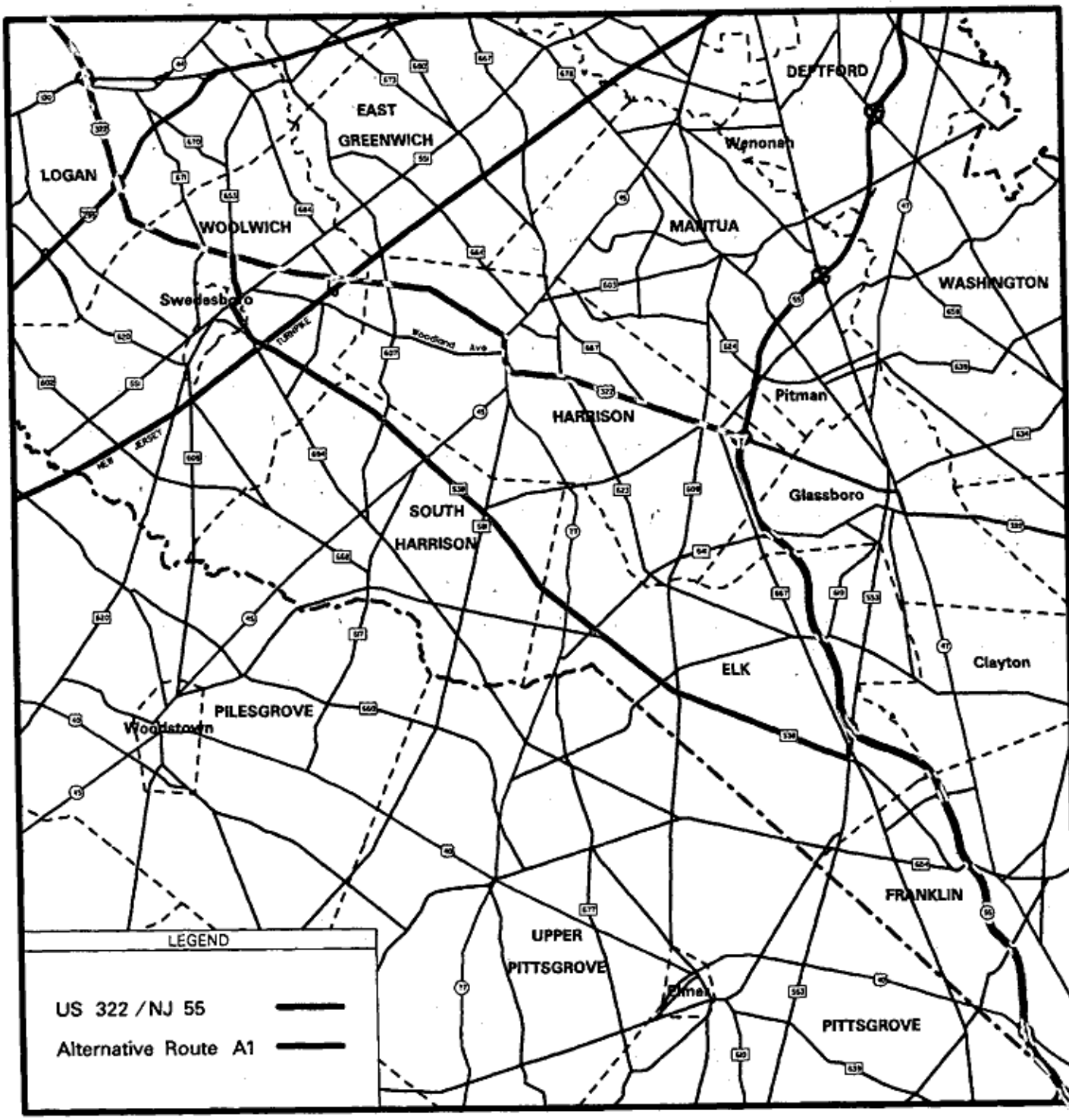
were counted and summarized by hour when collected. Table 3 displays the peak hour volumes for a Friday evening during the summer which were used in the level of service analysis.

All the county-owned roads in the study area which were evaluated in this report experience level of service C (acceptable) or better during the summer Friday peak hour. The two-lane segments of US 322, between the Commodore Barry Bridge and NJ 55, operate at level of service E and F during this peak period. The segment of US 40 between CR 553 and NJ 55 experiences level of service E during this period. (Since the remainder of US 40 is outside the study area of this report, no other sections of US 40 were evaluated.)

ROUTE EVALUATIONS

Currently, the most popular route for east-west travel between the Commodore Barry Bridge and NJ 55 is via US 322. For a route to be an effective option to US 322 and NJ 55, there are certain criteria it should meet. These include: (1) there should be fewer or less severe existing congestion points, (2) it should be easy to follow with few required turns, (3) it should minimize impacts on sensitive areas (small towns, schools, churches, parks, etc.) and (4) it should offer travel time savings. A description of the nine potential alternative routes is provided below along with its potential advantages and disadvantages. The routes are grouped together by their departure point form US 322. Group A starts at CR 653, group B starts at CR 607, group C leaves US 322 at CR 623 and group D turns off US 322 at I-295. These routes are displayed individually on Figures 6 through 14.

FIGURE 7
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE A–1



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route A-1

See map at left

Proposed eastbound route

- US 322
- Right onto CR 653
- Right CR 551
- Left onto CR 538
- Left onto CR 553
- Right onto NJ 55

Advantages

- Avoids congestion in Mullica Hill and Richwood
- Uses a long stretch of one road (CR 538)
- Faster than taking US 322 on Friday evenings in the summer
- Some familiarity with this route by shore-bound traffic

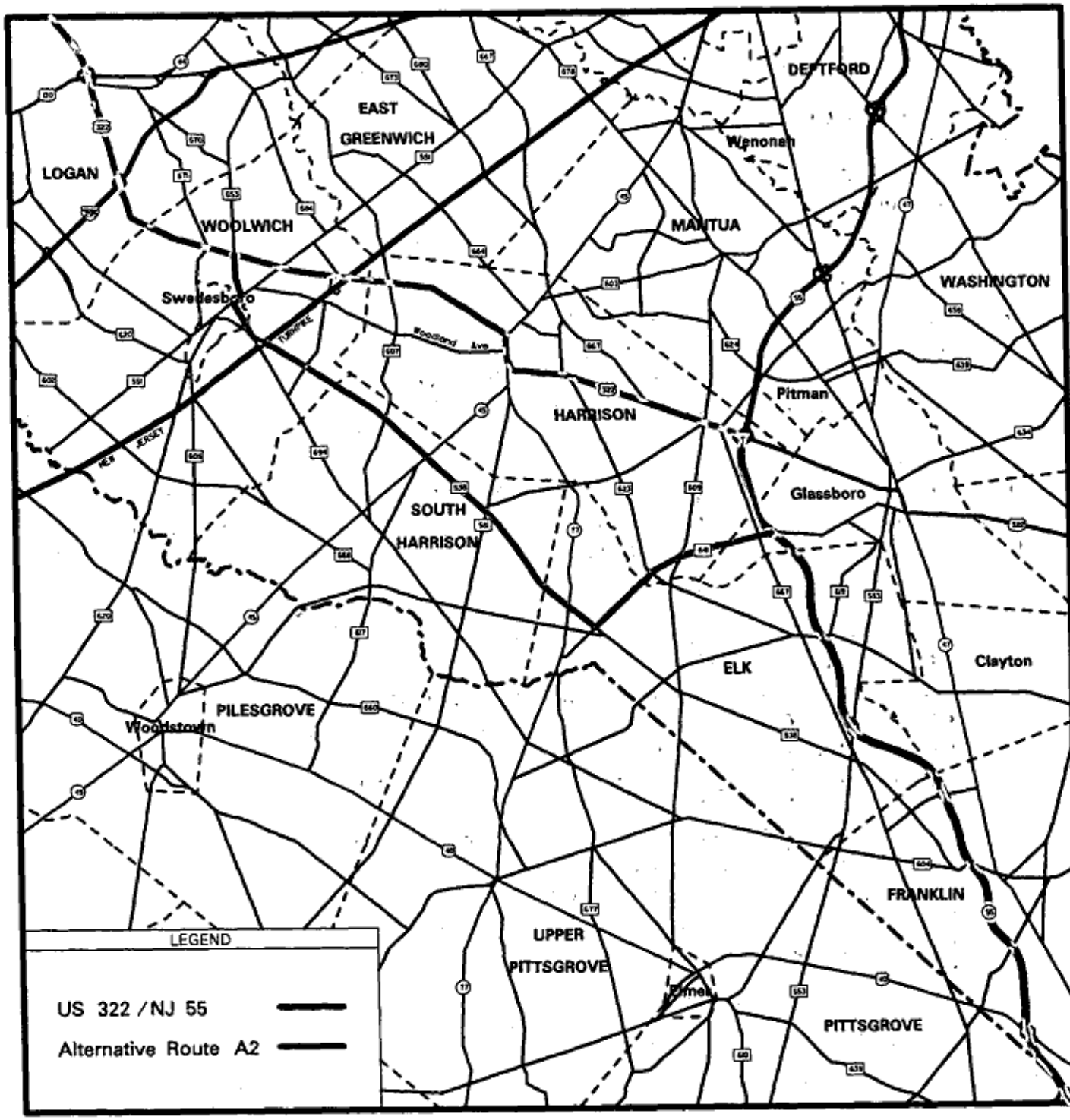
Disadvantages

- South Harrison officials oppose increasing traffic on CR 538
- Intersections with US 322 and with CR 551 already congested on summer weekends
- Geometric improvements needed on CR 538

Potential Improvements

US 322 and CR 653 - intersection improvements
CR 653 and CR 551 - signalization, intersection improvements
CR 538 and CR 551 - signalization, intersection improvements
CR 538 and CR 694 - intersection improvements
CR 538 and NJ 45 - signalization
CR 538 and CR 581 - signalization, intersection improvements
CR 538 and NJ 77 - signalization
CR 538 and CR 641 - signalization, intersection improvements
CR 538 and CR 619 - intersection improvements
CR 538 and CR 609 - intersection improvements
CR 538 and CR 553 - intersection improvements
CR 553 and NJ 55 Ramps - signalization
Upgrade CR 538
Review speed limits on CR 538
Review passing zones on CR 538

FIGURE 8
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE A–2



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route A-2

See map at left

Proposed eastbound route

- US 322
- Right onto CR 653
- Right CR 551
- Left onto CR 538
- Left onto CR 641
- Right onto NJ 55

Advantages

- Avoids congestion in Mullica Hill and Richwood
- Faster than taking US 322 on Friday evenings in the summer
- Some familiarity with sections of this route by shore-bound traffic

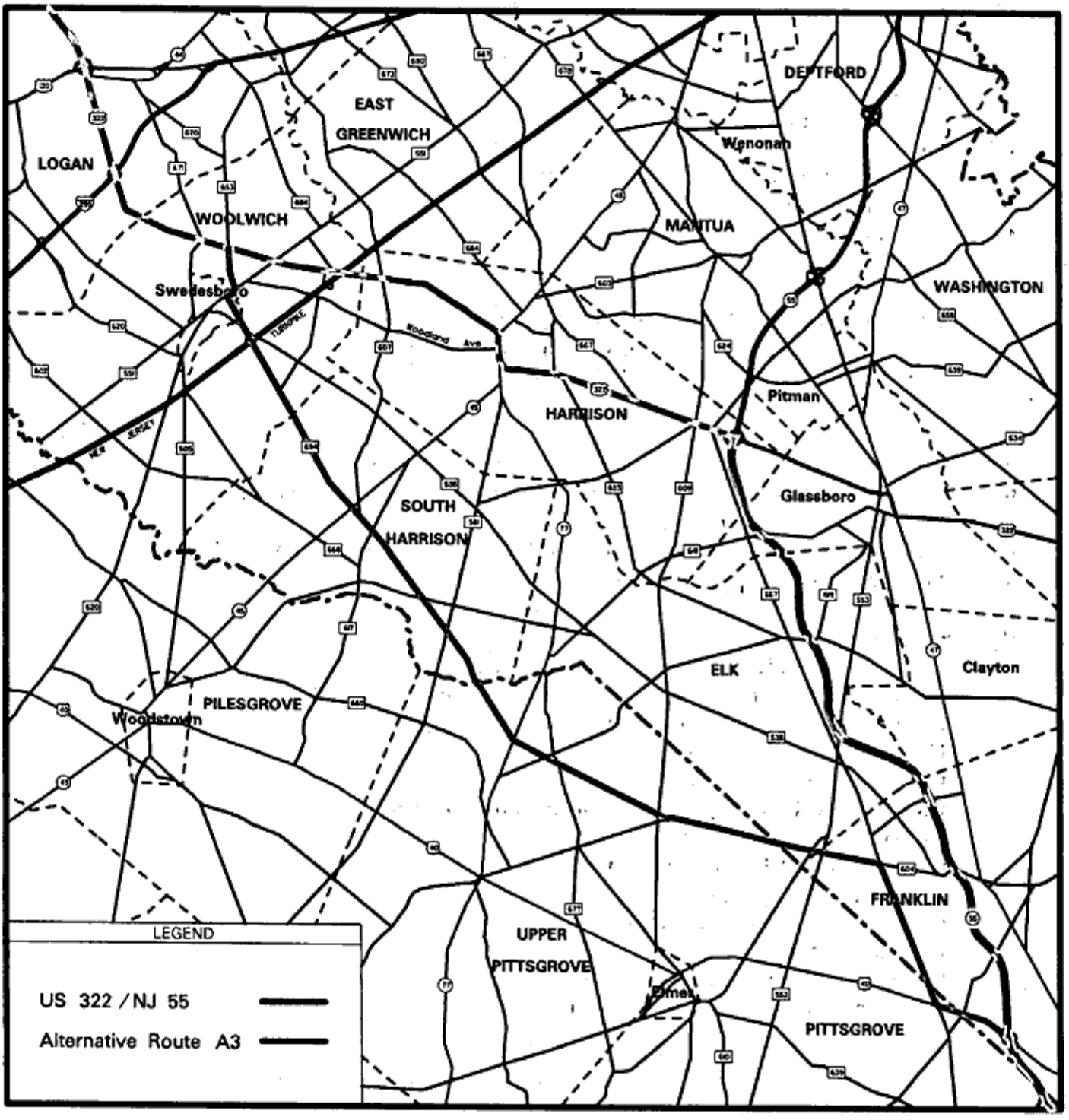
Disadvantages

- South Harrison officials oppose increasing traffic on CR 538
- Intersections with US 322 and with CR 551 already congested on summer weekends
- Geometric improvements needed on CR 538 and CR 641
- Turning movements between CR 538 and CR 641 are not easily accommodated
- Potential wetland impacts on CR 641

Potential Improvements

US 322 and CR 653 - intersection improvements
CR 653 and CR 551 - signalization, intersection improvements
CR 538 and CR 551 - signalization, intersection improvements
CR 538 and CR 694 - intersection improvements
CR 538 and NJ 45 - signalization
CR 538 and CR 581 - signalization, intersection improvements
CR 538 and NJ 77 - signalization
CR 538 and CR 641 - signalization, intersection improvements
CR 641 and CR 623 - intersection improvements
CR 641 and CR 609 - intersection improvements
Upgrade CR 538 and CR 641
Review speed limits on CR 538 and CR 641
Review passing zones on CR 538 and CR 641

FIGURE 9
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE A–3



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route A-3

See map at left

Proposed route to NJ 55

- US 322
- Right onto CR 653
- Right onto CR 551
- Left onto CR 538
- Straight onto CR 694
- Straight onto CR 604
- Right onto Willow Grove Road
- Left onto US 40
- Right onto NJ 55

Advantages

- Avoids congestion in Mullica Hill and Richwood
- Uses a long stretch of one road (CR 694/CR 604)
- Faster than taking US 322 on Friday evenings in the summer
- Some familiarity with this route by shore-bound traffic

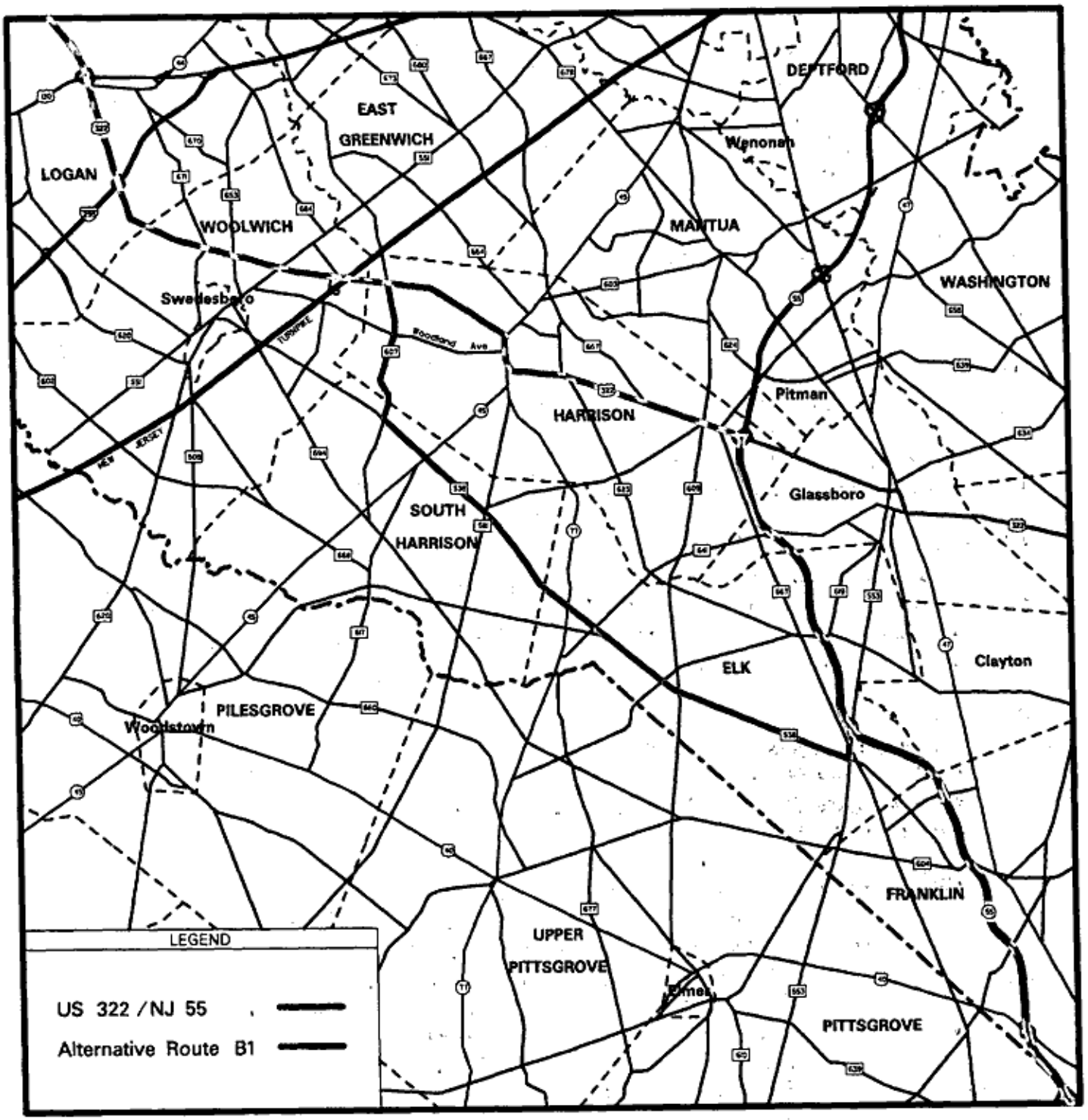
Disadvantages

- South Harrison officials oppose increasing traffic on CR 694
- Intersections with US 322 and with CR 551 already congested on summer weekends
- Geometric improvements needed on CR 694/CR 604 and Willow Grove Road
- Impacts to town of Monroeville

Potential Improvements

US 322 and CR 653 - intersection improvements
CR 653 and CR 551 - signalization, intersection improvements
CR 538 and CR 551 - signalization, intersection improvements
CR 538 and CR 694 - intersection improvements
CR 694 and NJ 45 - signalization, intersection improvements
CR 694 and CR 581 - intersection improvements
CR 694 and NJ 77 (Salem County) - signalization, intersection improvements
CR 694 and CR 609 (Salem County) - intersection improvements
CR 604 and CR 553 - signalization, intersection improvements
CR 604 and Willow Grove Road - signalization, intersection improvements
Willow Grove Road and US 40 - signalization, intersection improvements
Upgrade CR 694 and CR 604 and Willow Grove Road
Review speed limits on CR 694, CR 604 and Willow Grove Road
Review passing zones on CR 694, CR 604 and Willow Grove Road

FIGURE 10
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE B-1



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route B-1

See map at left

Proposed Route to NJ 55

- US 322
- Right onto CR 607
- Left onto CR 538
- Left onto CR 553
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro, Mullica Hill and Richwood
- Very few turns
- Uses a long stretch of one road (CR 538)
- Faster than taking US 322 on Friday evenings in the summer
- Some familiarity with sections of this route by shore-bound traffic

Disadvantages

- South Harrison officials oppose increasing traffic on CR 538
- Improvements are required to smooth two curves on CR 607
- Geometric improvements needed on CR 607 and CR 538

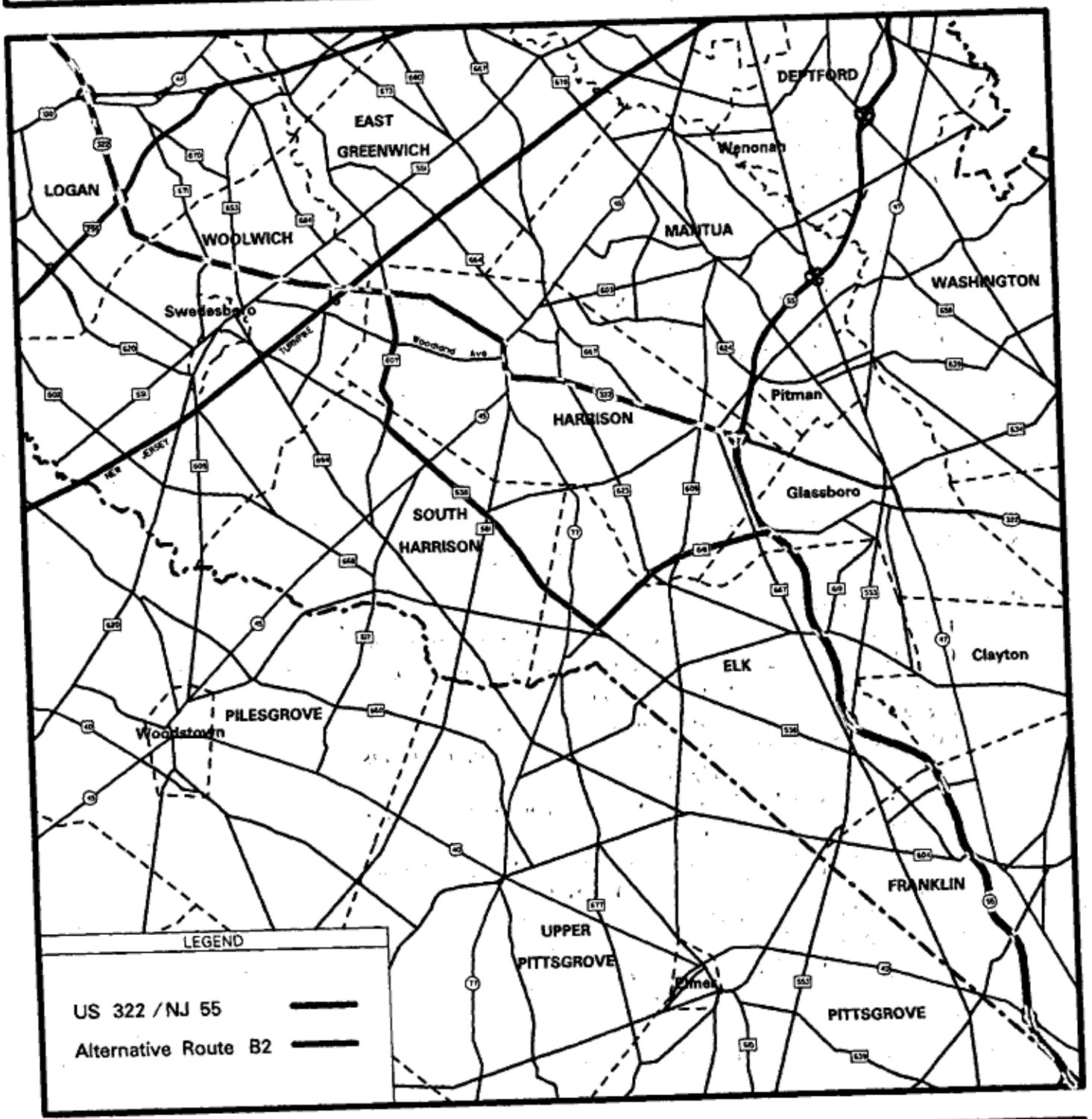
Potential Improvements

US 322 and CR 607 - signalization, intersection improvements
CR 607 and Woodland Avenue - intersection improvements
CR 607 and High Street- intersection improvements
CR 607 S curve south of High Street- ease curve
CR 607 and CR 538 - signalization, intersection improvements
CR 538 and NJ 45 - signalization
CR 538 and CR 581 - signalization, intersection improvements
CR 538 and NJ 77 - signalization
CR 538 and CR 641 - signalization, intersection improvements
CR 538 and CR 619 - intersection improvements
CR 538 and CR 609 - intersection improvements
CR 538 and CR 553 - intersection improvements
CR 553 and NJ 55 Ramps - signalization
Upgrade CR 607 and CR 538
Review speed limits on CR 607 and CR 538
Review passing zones on CR 607 and CR 538

[redacted] indicates some improvement since study's publication

1997

FIGURE 11
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE B–2



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

Alternative Route B-2

See map at left

Proposed route to NJ 55

- US 322
- Right onto CR 607
- Left onto CR 538
- Left onto CR 641
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro, Mullica Hill and Richwood
- Very few turns
- Faster than taking US 322 on Friday evenings in the summer

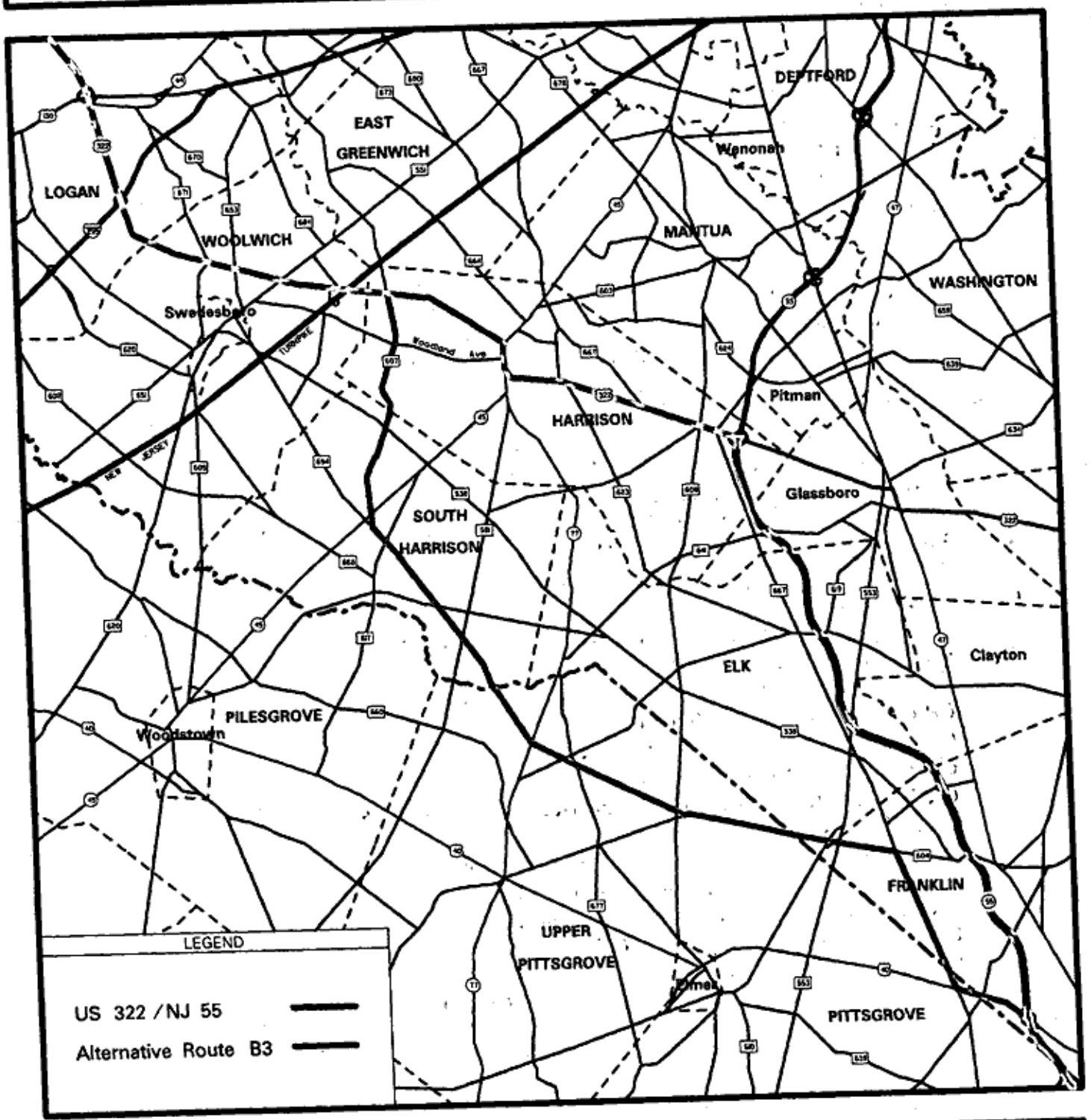
Disadvantages

- South Harrison officials oppose increasing traffic on CR 538
- Improvements are required to smooth two curves on CR 607
- Geometric improvements needed on CR 607, CR 538 and CR 641
- Turning movements between CR 538 and CR 641 are not easily accommodated
- Potential wetland impacts on CR 641

Potential Improvements

US 322 and CR 607 - signalization, intersection improvements
CR 607 and Woodland Avenue - intersection improvements
CR 607 and High Street - intersection improvements
CR 607 S curve south of High Street - ease curve
CR 607 and CR 538 - signalization, intersection improvements
CR 538 and NJ 45 - signalization
CR 538 and CR 581 - signalization, intersection improvements
CR 538 and NJ 77 - signalization
CR 538 and CR 641 - signalization, intersection improvements
CR 641 and CR 623 - intersection improvements
CR 641 and CR 609 - intersection improvements
Upgrade CR 607, CR 538 and CR 641
Review speed limits on CR 607, CR 538 and CR 641
Review passing zones on CR 607, CR 538 and CR 641

FIGURE 12
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE B–3



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route B-3

See map at left

Proposed Route to NJ 55

- US 322
- Right onto CR 607
- Left onto CR 694
- Straight onto CR 604
- Right onto Willow Grove Road
- Left onto US 40
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro, Mullica Hill and Richwood
- Not too many turns
- Uses a long stretch of one road (CR 694/CR 604)
- Faster than taking US 322 on Friday evenings in the summer

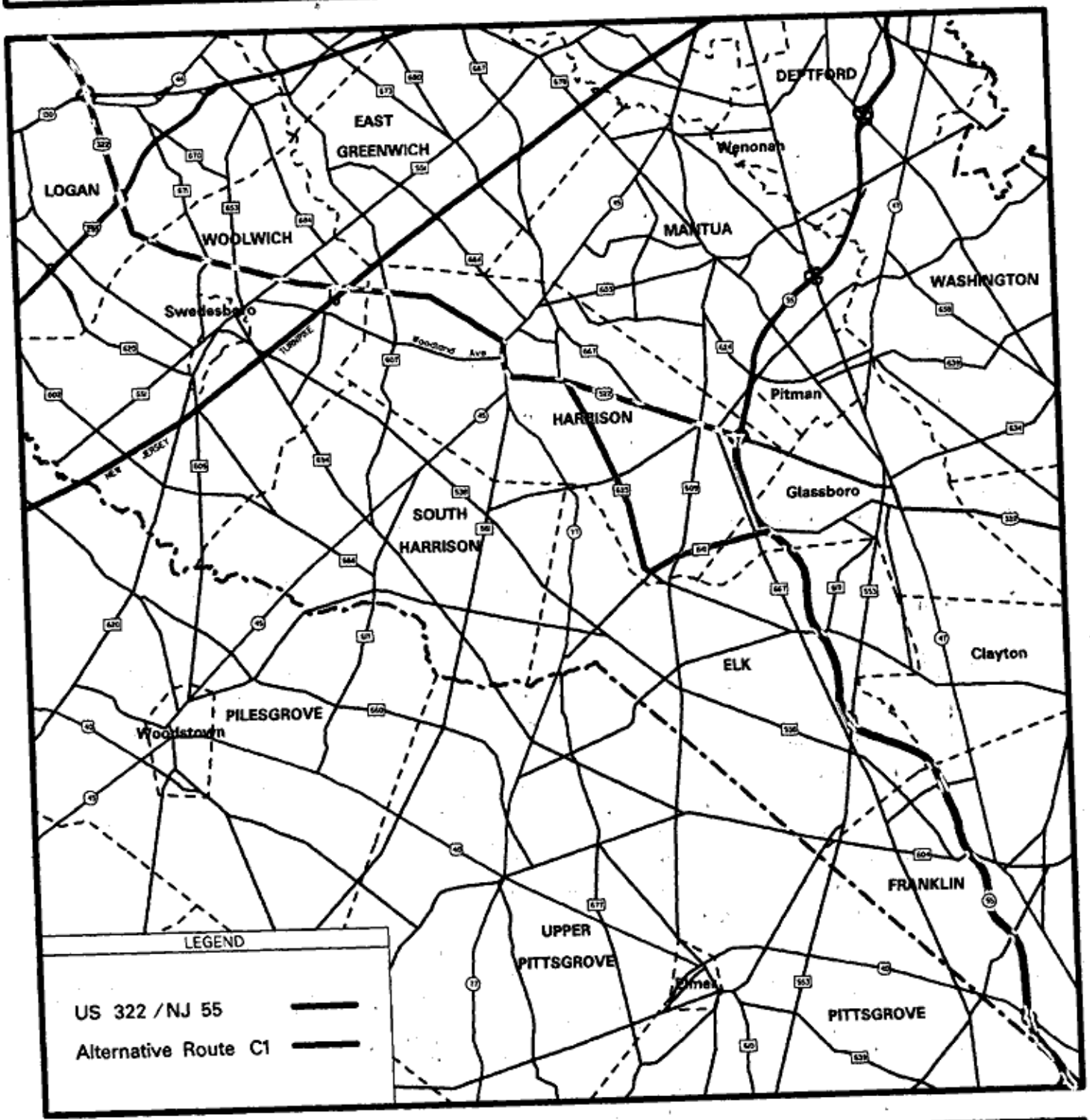
Disadvantages

- South Harrison officials oppose increasing traffic on CR 694
- Improvements are required to smooth two curves on CR 607
- Geometric improvements needed on CR 607, CR 694/CR 604 and Willow Grove Road
- Impacts to town of Monroeville

Potential Improvements

US 322 and CR 607 - signalization, intersection improvements
CR 607 and Woodland Avenue - intersection improvements
CR 607 and High Street - intersection improvements
CR 607 S curve south of High Street - ease curve
CR 607 and CR 538 - signalization, intersection improvements
CR 607 and NJ 45 - signalization, intersection improvements
CR 607 and CR 694 - intersection improvements
CR 694 and CR 581 - intersection improvements
CR 694 and NJ 77 (Salem County) - signalization, intersection improvements
CR 694 and CR 609 (Salem County) - intersection improvements
CR 604 and CR 553 - signalization, intersection improvements
CR 604 and Willow Grove Road - signalization, intersection improvements
Willow Grove Road and US 40 - signalization, intersection improvements
Upgrade CR 607, CR 694, CR 604 and Willow Grove Road
Review speed limits on CR 607, CR 694, CR 604 and Willow Grove Road
Review passing zones on CR 607, CR 694, CR 604 and Willow Grove Road

FIGURE 13
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE C-1



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route C-1

See map at left

Proposed route to NJ 55

- US 322
- Right onto CR 623
- Left onto CR 641
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro and Richwood
- Very few turns
- Very low traffic volumes on CR 623

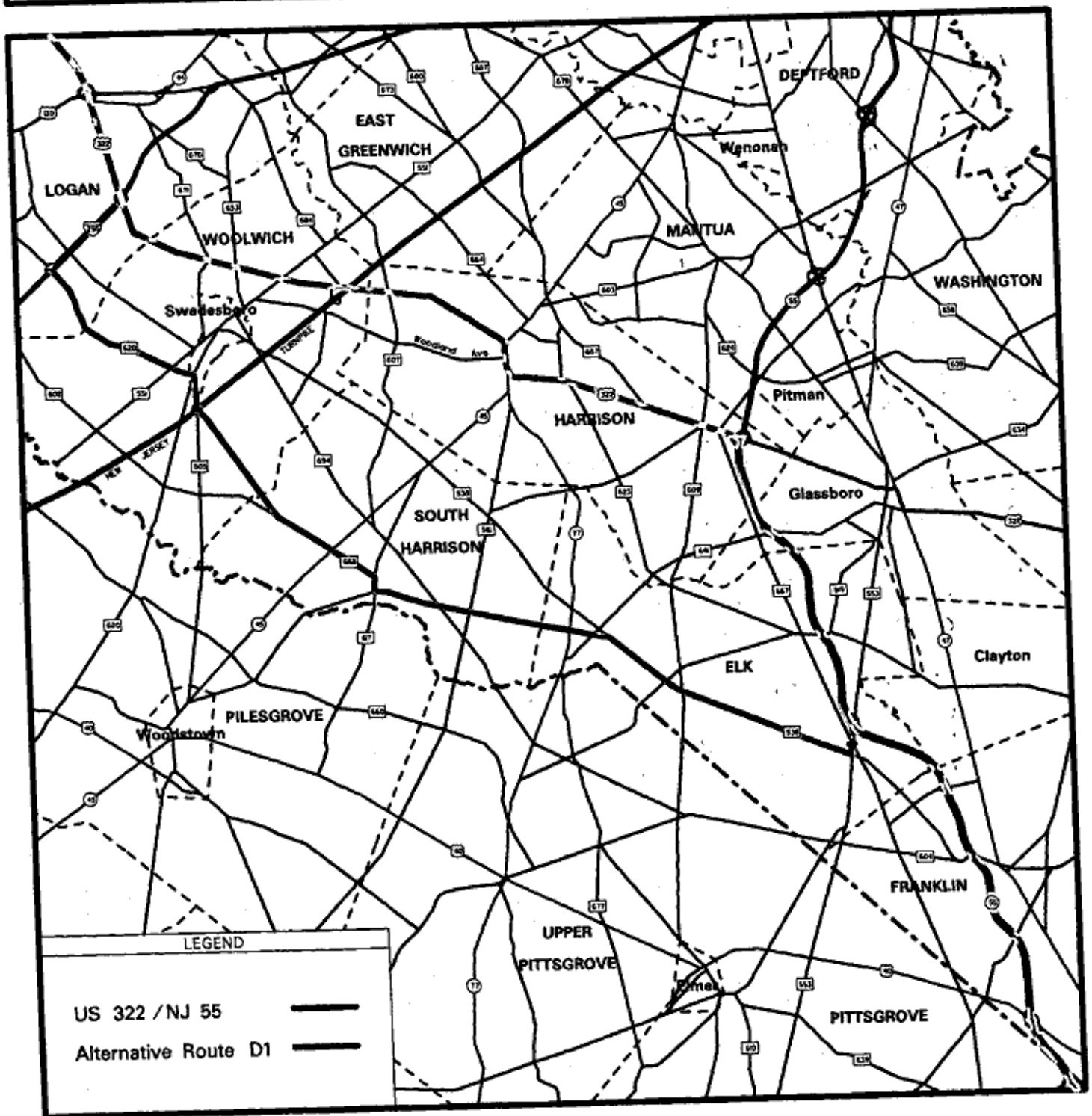
Disadvantages

- Does nothing to relieve traffic congestion in Mullica Hill
- Impacts to town of Ewan
- Geometric improvements needed on CR 623 and CR 641
- Turning movements between CR 623 and CR 641 are not easily accommodated
- Potential wetland impacts on CR 641

Potential Improvements

US 322 and CR 623 - signalization, intersection improvements
CR 623 and CR 622- intersection improvements
CR 623 and CR 641 - intersection improvements
CR 641 and CR 609 - intersection improvements
Upgrade CR 623 and CR 641
Review speed limits on CR 623 and CR 641
Review passing zones on CR 623 and CR 641

FIGURE 14
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE D–1



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

0 1 2 3 MILES

Alternative Route D-1

See map at left

Proposed route to NJ 55

- US 322
- South on I-295
- Left onto CR 620
- Right onto CR 605
- Left onto CR 668
- Right onto CR 617
- Left onto Harrisonville Ferrell Road/CR 616
- Right onto CR 538
- Left onto CR 553
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro, Mullica Hill and Richwood

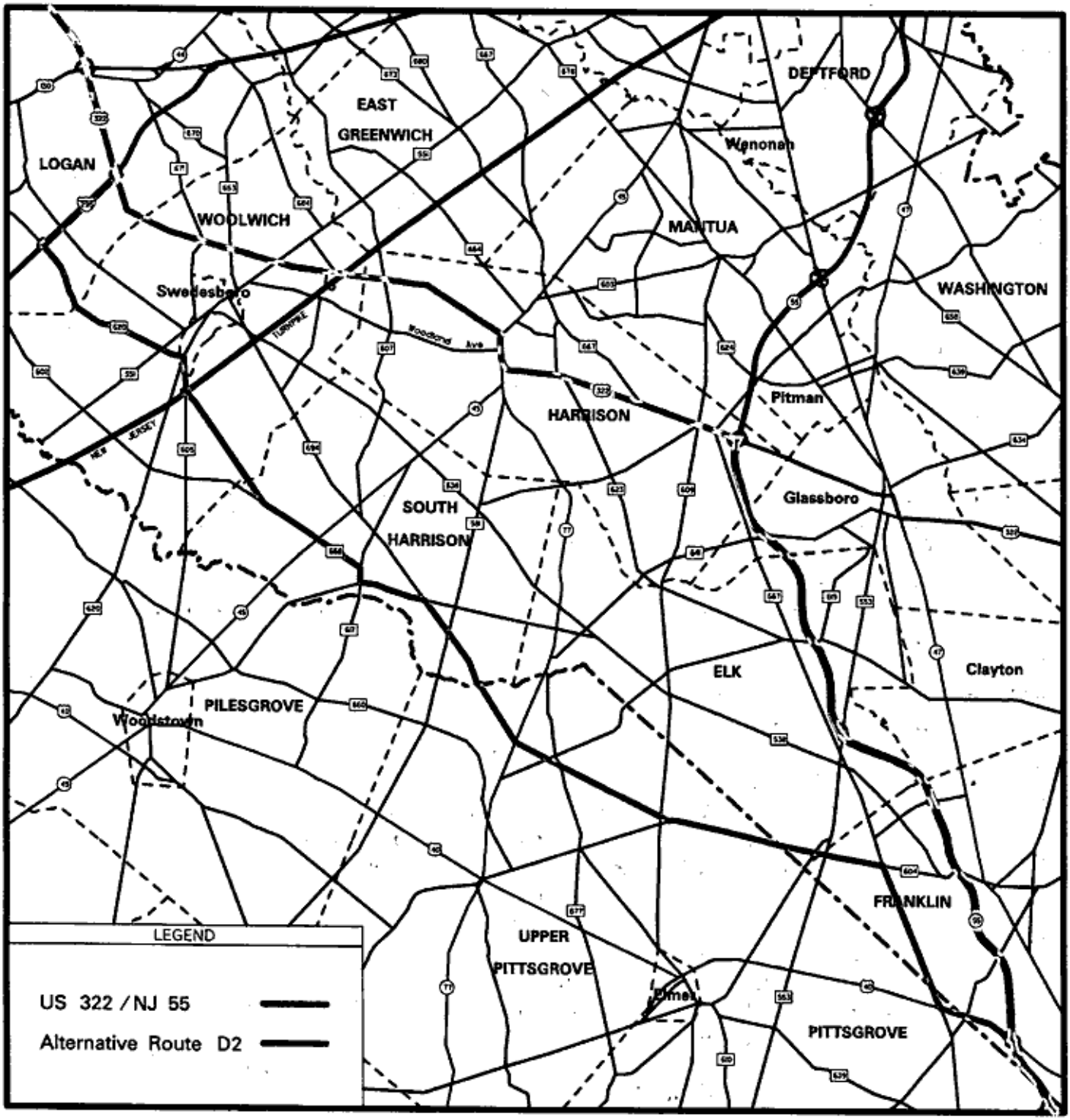
Disadvantages

- Requires many turns
- On-street parking is permitted on CR 617
- Impacts to town of Harrisonville
- Geometric improvements needed on CR 605, CR 668, CR 617, Harrisonville Ferrell Road, CR 616 and CR 538

Potential Improvements

CR 620 and CR 605 - signalization, intersection improvements
CR 668 and NJ 45 - intersection improvements
CR 668 and CR 617- intersection improvements
CR 617 and Harrisonville Ferrell Road - intersection improvements
Harrisonville Ferrell Road and CR 694 - intersection improvements
Harrisonville Ferrell Road and CR 581 - intersection improvements
Harrisonville Ferrell Road and NJ 77 - intersection improvements
CR 616 and CR 538 - intersection improvements
CR 538 and CR 609 - intersection improvements
CR 538 and CR 553 - intersection improvements
Upgrade CR 605, CR 668, Harrisonville Ferrell Road, CR 616 and CR 538
Remove on-street parking from CR 617
Review speed limits on CR 620, CR 668, Harrisonville Ferrell Road and CR 538
Review passing zones on CR 620, CR 668, Harrisonville Ferrell Road and CR 538

FIGURE 15
GLOUCESTER COUNTY
EAST – WEST CORRIDOR TRAFFIC STUDY
ALTERNATIVE ROUTE D–2



DELAWARE VALLEY
REGIONAL PLANNING COMMISSION
JANUARY 1997

Alternative Route D-2

See map at left

Proposed route to NJ 55

- US 322
- South on I-295
- Left onto CR 620
- Right onto CR 605
- Left onto CR 668
- Right onto CR 617
- Left onto Harrisonville Ferrell Road
- Right onto CR 694
- Straight onto CR 604
- Right onto Willow Grove Road
- Left onto US 40
- Right onto NJ 55

Advantages

- Avoids congestion in Swedesboro, Mullica Hill and Richwood

Disadvantages

- Requires many turns
- On-street parking is permitted on CR 617
- Impacts to town of Harrisonville
- Geometric improvements needed on CR 668, CR 617, Harrisonville Ferrell Road, CR 694/CR 604 and Willow Grove Road
- Impacts to town of Monroeville

Potential Improvements

CR 620 and CR 605 - signalization, intersection improvements
CR 668 and NJ 45 - intersection improvements
CR 668 and CR 617- intersection improvements
CR 617 and Harrisonville Ferrell Road - intersection improvements
Harrisonville Ferrell Road and CR 694 - intersection improvements
CR 694 and CR 581 - intersection improvements
CR 694 and NJ 77 (Salem County) - signalization, intersection improvements
CR 694 and CR 609 (Salem County) - intersection improvements
CR 604 and CR 553 - signalization, intersection improvements
CR 604 and Willow Grove Road - signalization, intersection improvements
Willow Grove Road and US 40 - signalization, intersection improvements
Upgrade CR 668, Harrisonville Ferrell Road, CR 694, CR 604 and Willow Grove Road

Review speed limits on CR 620, CR 668, Harrisonville Ferrell Road, CR 694, CR 604 and Willow Grove Road

Review passing zones on CR 620, CR 668, Harrisonville Ferrell Road, CR 694, CR 604 and Willow Grove Road

RECOMMENDED IMPROVEMENTS

This section presents a physical description of the roads and intersections recommended to be improved in order to facilitate east-west travel across the county using county roads. The improvements, which are necessary to better serve east-west travel, as well as provide safety benefits, are also presented below.

All of the alternative routes have some disadvantages. However, actions should be taken which will minimize the disadvantages while stressing the advantages that the improvements will provide. Taking into account the data collected in Phases I and II, the input gathered through the public outreach process, the review of the alternative routes and the level of service analysis conducted during this phase, this report recommends B-1 as the route which can most efficiently serve east-west travel through this section of the county while providing the least community disruption. Route B-1 begins at the intersection of US 322 and CR 607. The route follows CR 607 south for 2.2 miles to CR 538, then goes east along CR 538 for 9.3 miles to CR 553. From there, a left turn puts travelers a half-mile from NJ 55.

This route allows traffic to avoid congested conditions in Swedesboro, Mullica Hill and Richwood. The proposed route is easy to follow and consists primarily of two roads (CR 607, CR 538). Unlike most other alternatives (A-1, A-2, A-3, B-3, C-1, D-1, D-2), this one does not impact small communities such as Ewan, Harrisonville or Monroeville. Travel time runs taken on a Friday evening in the summer, in the eastbound direction, indicate that this route is faster than taking US 322 and NJ 55 to get across the county. Comparison of the off-season and seasonal traffic counts indicate that there is currently some familiarity with sections of this alternative by shore-bound summer traffic.

The findings of the public participation process conducted in conjunction with this effort are documented in a report titled *Gloucester County East-West Corridor Transportation Evaluation - Public Participation Outreach Initiative*, October 1996. An opinion survey, conducted during this effort, indicated 73% of the respondents agreed with a strategy to improve CR 538 as a way of improving east-west travel across the county. Although a large majority of the respondents agreed with this strategy, officials from South Harrison Township have indicated opposition to any efforts which would increase traffic on CR 538. The county should meet with officials from Harrison, South Harrison and Elk Townships to discuss the improvements identified in their municipality.

Improving route B-1 increases the travel capacity of the east-west corridor, offers an alternative to using US 322 and provides safety benefits for the facilities which comprise this route. Route B-1 is actually a shorter route to get from the Commodore Barry Bridge to the NJ 55 interchange at US 40. The distance from the toll booths at the base of the Commodore Barry Bridge, along US 322 to NJ 55 and along NJ 55 to US 40 is 24.9 miles. A traveler would cover 24.4 miles between these endpoints using US 322, route B-1 and NJ 55.

Gloucester County's official map, adopted February 3, 1993, designates CR 607 as a collector road with a desired right of way width of 76 feet and a desired roadway width of 56 feet. CR 538 and CR 553 are designated as arterial roads with a desired right of way width of 88 feet and a desired roadway width of 68 feet. It must be noted that improvements to Route B-1 do not eliminate the need to provide improvements along US 322 between the Commodore Barry Bridge and NJ 55. This route is not intended to be a replacement of US 322, but a way to safely aid the east-west flow of traffic in this area of the county. Regardless of the condition of the county road network, US 322 remains a vital east-west highway and has several existing deficiencies which need to be addressed. These deficiencies include the sharp curve east of I-295 and congestion points in Mullica Hill and Richwood. The recommended improvements to Route B-1 are presented below.

CR 607: FROM US 322 TO CR 538 (2.2 MILES)

In order to create continuity of movement for this east-west route, the section of CR 607 (Tomlin Station Road) between US 322 and CR 538 should be redesignated as CR 538. The section of CR 538 (Swedesboro Franklinville Road) between CR 551 and CR 607 should be redesignated as a 600 series county route and the segment of CR 607 between CR 538 and CR 694 could be renamed CR 607 Spur. This renumbering will reinforce the use of the recommended sections of existing CR 607 and CR 538 as a continuous cross county route.

AT US 322

This intersection is controlled by stop signs on CR 607. The northwest, southeast and southwest quadrants are used for agriculture and the northeast corner is undeveloped. The posted speed limit on US 322 is 50 MPH.

Recommendations

(1) Add a right turn lane on eastbound US 322 and a left turn lane on northbound CR 607.

(2) Conduct a traffic signal warrant analysis for this intersection with consideration given to

post-improvement volumes.

(3) Review the speed limit on US 322 according to NJ DOT standards with the intent to reduce it if conditions warrant.

US 322 TO WOODLAND AVENUE

The roadway carries a 10 foot lane and a one foot shoulder in each direction. The adjacent land use is predominantly agricultural with a few residences which are typically set back from the road. The pavement is generally in poor condition throughout this segment. A cross road warning sign (W2-1) is posted on CR 607 north of Woodland Avenue along with a speed advisory plate of 25 MPH. Another sign that warns of a dip in the roadway (W8-2) is posted on the CR 607 approach to the Woodland Avenue intersection. The posted speed limit on CR 607 is 45 MPH

Recommendations

(1) Upgrade CR 607 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Resurface the roadway.

AT WOODLAND AVENUE

Stop signs on Woodland Avenue control the operation of this intersection. There is a sharp depression in the profile of CR 607 as it crosses Woodland Avenue This dip is signed on both CR 607 approaches to the intersection. Overgrown vegetation on the undeveloped northeast and southeast quadrants restricts sight distance. There is a house located in the southwest quadrant. It is a sufficient distance from the intersection as to have no impact on operations, however, several mature evergreen trees on the edge of the property restrict sight distance. The northwest quadrant is used for agriculture. The speed limit on Woodland Avenue is posted at 50 MPH.

Recommendations

(1) Regrade the intersection to eliminate the dip in the roadway for traffic on CR 607.

(2) Cut back the vegetation on the northeast, southeast and southwest quadrants to increase sight distance.

(3) Review the speed limit on Woodland Avenue according to NJ DOT standards with the intent to reduce it if conditions warrant.

WOODLAND AVENUE TO HIGH STREET

The roadway consists of a 10 foot lane and a one foot shoulder in each direction. South of Woodland Avenue , CR 607 drops downhill to a bridge over the Raccoon Creek. The bridge is 29 feet wide and 46 feet long and is posted for a weight restriction of 8 tons per single axle or 10 tons per multi axle. The adjacent land use is predominantly wooded with a few residences. The pavement surface of the roadway is in poor condition. On northbound CR 607, coming up the hill towards Woodland Avenue, a sign warns of a dip in the roadway (W8-2), but even though the intersection is partially obscured there is no cross road warning sign posted. The posted speed limit on CR 607 is 40 MPH.

Recommendations

(1) Upgrade CR 607 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Resurface the roadway.

(3) Replace the bridge over the Raccoon Creek.

(4) Install a cross road warning sign on the northbound CR 607 approach.

AT HIGH ST

Traffic at the intersection is controlled by stop signs on High Street. There are no centerlines painted on High Street to delineate the separation of opposing traffic flows. There is a house located in the southwest quadrant. The location of the house has no impact on traffic operations, however, vegetation around the property restricts sight distance on that corner. The southeast and northwest quadrants are used for agriculture and the northeast quadrant is wooded. The speed limit on High Street is posted at 45 MPH.

Recommendations

(1) Apply center line markings on the High Street approaches to the intersection to position the traffic and to prohibit passing.

(2) Cut back the vegetation on the northwest and southwest quadrants to increase sight distance.

HIGH STREET TO CR 538

This section of CR 607 is slightly narrower with travel lane widths of nine feet and shoulder widths of one foot. The pavement surface is in poor condition in this section also. The adjacent land use is a mix of agricultural and wooded with a few scattered residences and the

speed limit is posted at 40 MPH. Approximately 1,600 feet south of High St, CR 607 makes a sharp turn. In the southbound direction, a turn sign (W1-1) is posted with an advisory speed plate (W13-1) of 25 MPH and in the northbound direction, a turn sign (W1-1) is posted for this curve with an advisory speed plate (W13-1) of 30 MPH. The land on the inside of this curve is used for agriculture. Approximately 1,300 feet south of the first curve, CR 607 curves back in the opposite direction. Southbound, a turn sign (W1-1) is posted with an advisory speed plate (W13-1) of 25 MPH; the northbound direction has the same sign combination posted for this curve. The land on the inside of the curve is wooded and slopes down away from the road. The sharpness of this curve and the adjacent trees severely limit sight distance. Approximately 800 feet south of the second curve, CR 607 makes a gentler curve in the same direction. Southbound, a curve sign (W1-2) is posted with an advisory speed plate (W13-1) of 40 MPH; the northbound direction has the same sign combination with an advisory speed plate (W13-1) of 35 MPH. The trees growing on the inside of this curve have an impact on sight distance.

Recommendations

(1) Upgrade CR 607 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Resurface the roadway.

(3) Ease the curve located approximately 1,600 feet south of High Street by encroaching on the field inside the curve.

(4) Ease the curve located approximately 2,900 feet south of High Street by encroaching on the wooded area inside the curve.

(5) Cut back the vegetation on the inside of the gentle curve located approximately 3,700 feet south of High Street to improve sight distance.

AT CR 538

Traffic operations are controlled at this intersection by stop signs on CR 607. A house located on the northeast corner impacts sight distance for westbound CR 538 traffic and for southbound CR 607 traffic. There is a drainage ditch located adjacent to the CR 607 southbound approach. The northwest, southeast and southwest quadrants are all used for agricultural purposes.

Recommendations

(1) To emphasize the east-west route, improvements at this intersection should clearly

accentuate the southbound left turn from CR 607 and the westbound right turn from CR 538. For this purpose, addition of a southbound left turn lane on CR 607 and a westbound right turn lane on CR 538 are recommended.

(2) Conduct a traffic signal warrant analysis for this intersection with consideration given to post-improvement volumes.

(3) Upgrade the county route signing at this intersection to stress these turns.

According to the level of service analysis, the existing physical and operating conditions on this section of CR 607 can accommodate a total of 369 (543% increase) additional vehicles per hour on a summer Friday peak period before the roadway experienced an unacceptable level of service D. If this section were upgraded to AASHTO standards, it could accommodate a total of 642 (844% increase) additional vehicles per hour during this period before the roadway experienced an unacceptable level of service D.

CR 538: FROM CR 607 TO CR 553 (9.3 MILES)

CR 607 TO NJ 45

The roadway consists of an 11 foot lane and a two foot shoulder in each direction. Traveling eastbound from CR 607, CR 538 begins to climb uphill at .2 miles, crests slightly at .4 miles and peaks at about .6 miles; from there, it is a gradual downhill to NJ 45. The adjacent land use is predominantly agricultural with two cold storage businesses and a few residences which are typically set back from the road. The posted speed limit along this section of CR 538 is 50 MPH.

Recommendations

(1) Upgrade CR 538 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Review the speed limit on CR 538 according to NJ DOT standards with the intent to reduce it if conditions warrant.

AT NJ 45

Traffic operations are controlled by an intersection control beacon; CR 538 is controlled by a flashing red indication and oversized stop signs while NJ 45 is controlled by a flashing yellow indication. During the growing season, mature corn stalks in the northwest quadrant can have an impact on sight distance. The traffic signal standard is located very close to the

roadway on the southwest corner. A seasonal produce stand is set back from the road in the southeast quadrant. The northeast and southwest quadrants are used for agricultural purposes

Recommendations

(1) Conduct a traffic signal warrant analysis for this intersection with consideration given to post-improvement volumes.

(2) Move the traffic signal standard back away from the intersection.

According to the level of service analysis, the existing physical and operating conditions on the section of CR 538 between CR 607 and NJ 45 can not accommodate any additional vehicles per hour on a summer Friday peak period before the roadway experiences an unacceptable level of service D. If this section were upgraded to AASHTO standards, it could accommodate a total of 166 (36% increase) additional vehicles per hour during this period before the roadway experienced an unacceptable level of service D.

NJ 45 To CR 581 / Cedar Grove Road

The roadway consists of an 11 foot lane and a two foot shoulder in each direction. Approximately .2 miles east of NJ 45, CR 538 crosses a small stream. The adjacent land use is a mix of wooded and agricultural with several scattered residences which are typically set back from the road. The roadway pavement condition is poor. The speed limit throughout this segment of CR 538 is posted at 50 MPH.

Recommendations

(1) Upgrade CR 538 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Resurface the roadway

(2) Review the speed limit on CR 538 according to NJ DOT standards with the intent to reduce it if conditions warrant.

AT CR 581 / CEDAR GROVE ROAD

This five-leg intersection is controlled by an intersection control beacon; CR 538 is controlled by a flashing yellow indication; CR 581 and Cedar Grove Road are controlled by flashing red indications and supplemented by stop signs. Both cross streets intersect CR 538 at oblique angles, creating tight turning radii for some right turns. The southbound CR 581 approach contains a channelized right turn lane. Right turns from eastbound CR 538 to Cedar Grove

Road. are difficult due to the tight turning radius; vehicles typically turn off the road and cut across the dirt area to make this turn. The traffic signal standards and a utility pole are located close to the roadway in the southwest quadrant. A hedge located adjacent to the eastbound CR 538 approach restricts sight distance. Each quadrant is occupied by a house and they are situated as to have no impact on traffic operations.

Recommendations

(1) Conduct a traffic signal warrant analysis for this intersection with consideration given to post-improvement volumes and move the traffic signal standards back away from the roadway.

(2) Provide a channelized right turn for eastbound CR 538 across the dirt area to ease these turns.

CR 581 / CEDAR GROVE ROAD TO NJ 77

Traveling eastbound from CR 581, CR 538 begins to drop slightly downhill and crosses a small stream; this hill slightly impacts sight distance for traffic on westbound CR 538. The northbound CR 581 and Cedar Grove Road approaches are partially obscured. A recent roadway resurfacing begins approximately .4 miles east of CR 581 and continues to just west of NJ 77. The roadway consists of an 11 foot lane and a two foot shoulder in each direction. The adjacent land use is a mix of wooded and agricultural with several scattered residences. Leaving CR 581 in the eastbound direction, the posted speed limited is 50 MPH; leaving NJ 77 in the westbound direction, the posted speed limited is 45 MPH.

Recommendations

(1) Upgrade CR 538 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Review the speed limit on CR 538 according to NJ DOT standards with the intent to reduce it if conditions warrant.

AT NJ 77

The intersection is controlled by an intersection control beacon; CR 538 is controlled by a flashing red indication and supplemented with stop signs; NJ 77 is controlled by a flashing yellow indication. The sight distance for westbound CR 538 is obscured by a vacant building on the southeast corner and slightly impacted by a small berm on the northeast corner. There is a house set back from the road in the northwest quadrant. The southwest quadrant is

undeveloped and a small barn is located in the northeast quadrant

Recommendations

(1) Conduct a traffic signal warrant analysis for this intersection with consideration given to post-improvement volumes and move the traffic signal standards back away from the roadway.

According to the level of service analysis, the existing physical and operating conditions on the section of CR 538 between NJ 45 and NJ 77 can accommodate a total of 23 (5% increase) additional vehicles per hour on a summer Friday peak period before the roadway experiences an unacceptable level of service D. If this section were upgraded to AASHTO standards, it could accommodate a total of 193 (41% increase) additional vehicles per hour during this period before the roadway experienced an unacceptable level of service D.

NJ 77 To CR 553

The roadway consists of an 11 foot lane and a two foot shoulder in each direction. A recent roadway resurfacing begins approximately .3 miles east of CR 641 and continues to the vicinity of CR 619; the road surface is basically in good condition throughout this segment. The adjacent land use is predominantly agricultural with some wooded areas and scattered residences. The speed limited on CR 538 is 45 MPH. Approximately 1.4 miles west of CR 553 the roadway crosses an abandoned railroad right of way; this bump in the road is signed (W8-1) and an advisory speed sign (W13-1) is posted for 35 MPH.

Recommendations

(1) Upgrade CR 538 to AASHTO standards which stipulates a 40 foot cartway (12 foot travel lane and 8 foot shoulder in each direction). The vertical and horizontal curves also need to be addressed/upgraded to AASHTO standards in regards to proper sight distance.

(2) Smooth the bump in the roadway over the abandoned railroad right-of-way.

AT CR 641

Traffic through this four-leg intersection is controlled by stop signs on CR 641. Approaching CR 641 from either direction, CR 538 dips down into a slight valley where CR 641 crosses and sight distance is partially obscured. It is possible for drivers on CR 538 to momentarily lose sight of a vehicle in this valley; skid marks were observed on CR 538 on the westbound approach approximately 600 feet from the intersection. CR 641 provides direct access to NJ 55 and turning movements at the intersection are temporarily obscured to traffic on CR 538

because of the dip in the road. Both the northwest and southeast quadrants are occupied by residences which are located very close to the roadway. These homes and their surrounding vegetation create sight distance problems. On the eastbound approach, a firehouse is located approximately 250 feet west of the intersection. The firehouse parking lot is located in the southwest quadrant. The northeast quadrant is a vacant field.

Recommendations

(1) Conduct a traffic signal warrant analysis for this intersection with consideration given to post-improvement volumes

(2) Cut back the vegetation on the northwest and southeast quadrants to improve sight distance.

(3) Ease vertical curves on CR 538 approximately 300 feet west and 700 feet east of CR 641

AT CR 619

This intersection is controlled by stop signs on CR 619. A house and several trees, located on the southeast corner, restricts sight distance for traffic on westbound CR 538 and on northbound CR 619. A seasonal produce stand is located on the northeast corner. A church and cemetery are located in the northwest quadrant, the cemetery is adjacent to CR 538 and the church is situated along CR 619. An auto repair business located on the southwest corner provides a 20 foot wide shoulder along CR 538 adjacent to the frontage of the property. In addition to the wide shoulder, the cross section of CR 538 in front of the auto repair business includes a 12 foot eastbound travel lane and a 12 foot travel lane and four foot shoulder in the westbound direction. On the eastern leg of the intersection, the cross section of CR 538 consists of a 12 foot travel lane and two foot shoulder in each direction.

Recommendations

(1) Cut back the vegetation on the southeast corner to improve sight distance.

AT CR 609

An intersection control beacon regulates the movements at this four-leg intersection; CR 609 is controlled by a flashing red indication and stop signs, the CR 538 approaches are given a flashing yellow indication. The northwest and southeast quadrants are undeveloped. A house, located on the southwest corner is situated very close to the roadway. A house, situated in the northeast quadrant, is removed from the roadway, however its vegetation makes it difficult for westbound CR 538 traffic to see vehicles approaching the intersection on southbound CR 609. A berm and vegetation in the southeast quadrant makes it difficult for westbound CR 538

traffic to see vehicles approaching the intersection on northbound CR 609.

Recommendations

(1) Cut back the vegetation on the northeast corner to improve sight distance.

(2) Cut back the berm and the vegetation in the southeast quadrant to improve sight distance.

AT CR 553

This intersection has been recently improved to include a traffic signal with a two-phase operation. In addition, each approach leg has been widened to accommodate a shared through and right turn lane along with a center left turn lane. The westbound CR 538 center left turn lane is 11 feet wide and 100 feet long. Cross county traffic destined to NJ 55 turns left at this intersection onto northbound CR 553 and a right turn from southbound CR 553 is made by traffic on the return trip. There is a seasonal produce stand located on the northwest corner; all other quadrants are undeveloped.

Recommendations

(1) Add a southbound right turn lane on CR 553 and lengthen the westbound center left turn lane on CR 538 taking into account expected post-improvement volumes.

(2) Retime the traffic signal to add an advance phase for westbound CR 538 left turns simultaneous with a protected southbound CR 553 right turn movement.

According to the level of service analysis, the existing physical and operating conditions on the section of CR 538 between NJ 77 and CR 553 can accommodate a total of 27 (6% increase) additional vehicles per hour on a summer Friday peak period before the roadway experiences an unacceptable level of service D. If this section were upgraded to AASHTO standards, it could accommodate a total of 193 (41% increase) additional vehicles per hour during this period before the roadway experienced an unacceptable level of service D.

CR 553: FROM CR 538 TO NJ 55 (0.5 MILES)

CR 538 TO NJ 55

The roadway consists of a 12 foot lane and a two foot shoulder in each direction. The adjacent land use is a mix of agricultural and wooded areas; a utility company maintenance facility is located on the west side of CR 553 adjacent to NJ 55. North of CR 667 the roadway is widened to accommodate turning movements to and from the NJ 55 interchange. The posted speed limited along this section of CR 553 is 50 MPH.

Recommendations

(1) Conduct a traffic signal warrant analysis for the intersections of CR 553 and the NJ 55 on/off ramps with consideration given to post-improvement volumes

(2) Close the section of CR 667 between CR 538 and CR 553; this will eliminate the eastern leg of the CR 553 and CR 667 intersection and eliminate cross traffic at an oblique angle intersection. These movements can easily be accommodated by going through the CR 553 and CR 538 intersection approximately 800 feet to the south.

Many of these recommendations are aimed at addressing existing safety deficiencies and as a by-product, they facilitate east-west travel. This recommended route will not function effectively and may experience safety problems if traffic is encouraged to use this route for east-west movements before these improvements are implemented. For CR 538 and CR 607 to operate effectively and safely, the geometric conditions of these facilities should be brought up to AASHTO standards.

Upgrading these facilities to AASHTO standards will have impacts to the adjacent land uses in selected areas. Throughout the 12 mile section of CR 607 and CR 538, identified as Route B-1, there are several residential properties which would experience different levels of impact from the improvements. The majority of the residential properties will experience insignificant impacts from the improvements. There are nine homes which sit close enough to the existing roadway in which the improvements could potentially take a noticeable portion of their front yard. Another eleven homes sit significantly close to the existing roadway as to potentially be located within an upgraded right-of-way. Seven of these eleven homes are located along CR 538 in the vicinity of CR 641. It is suggested, that an exception be made to the AASHTO standards which would scale back the improvements in this vicinity so as to not severely impact these homes.

In addition to these homes, the parking area of four seasonal produce stands would be encroached upon and two seasonal residences used to house farm workers would be impacted. There are five stream crossings along this route which would have to be addressed. A cemetery, located along westbound CR 538, just west of CR 619, is situated close to the existing roadway. CR 538 carries a 12-foot lane and a four-foot shoulder in the westbound direction adjacent to the cemetery. It is suggested, that an exception be made to the AASHTO standards which would allow the existing conditions to suffice at this location.

NEXT STEPS

To the extent that these improvements make CR 538 more attractive and safer for east-west travel, they also provide some relief to US 322. For that reason, NJ DOT has a responsibility to be involved with the implementation of these improvements. They should work cooperatively with the county and local officials to define the roles and responsibilities of the stakeholders involved, including funding, designing, constructing and maintaining the improvements in this corridor.

Before any additional time and resources are spent detailing the improvements, NJ DOT and the involved municipalities should join with the county and indicate their support for this concept of improving east-west travel across Gloucester County. Once this partnership has been formed, the technical work must be done which would estimate the magnitude of traffic diversion considering improvements to US 322 as well as route B-1. The determination of the traffic estimate is needed for proper design of the improvements. Preliminary engineering could follow in which cost estimates of the improvements would be developed. Knowing the traffic and cost estimates, the county, NJ DOT and local officials should re-evaluate their support and determine if the project should move forward.

— Orange highlighted material was provided to J Fisher 11/30/00.

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 Intrsections	Comments
US 322							
US 130 - I-295	12	3	50	20	agriculture vacant		newly repaved
I-295 - 551	11	4	50	30	agriculture residential	CR 538	RR Xing, surface deterioration, potholes
551 - NJ 45	11	4	50	10	agriculture residential	CR 551, NJ 45 NJ TPK	longitudinal cracking, pothole patch
NJ 45 - NJ 45	12	6	30	100	residential commercial	US 322 & 45 both ends	school north of 322 & 45 intersection
NJ 45 - NJ 55	11	4	50	30	residential agriculture	CR 609, CR 667	
NJ 40							
NJ 55 - 553	12	8	50	35	wooded vacant residential	signal at 613 signal at 553	
NJ 45							
US 322 - NJ 77	12	6	30	100	residential commercial	US 322 & 45 both ends	on-street parking
NJ 77							
NJ 45 - 616	12	8	50	50	town agriculture		Church south of 581 35 MPH in town

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 538							
322 - 551	12	4	40	30	agriculture residential	signal at 322	RRXing
551 - 551	11	4	40	100	commercial		bridge over creek
551 - 694	12.5	2	35	100	residential vacant	551	
694 - 45	11	2	50	15	agriculture		
45 - 77	11	2	50	30	agriculture vacant wooded	77	
77 - 553	11	2	45	20	vacant residential wooded agriculture		
553 - 604	11	2	50	20	agriculture residential	553 flashing beacon	poor road surface
604 - 47	12	6	45	100	vacant residential	signal at 47	residential east of 55
CR 553							
538 - NJ 55	12.5	3	50	100	agriculture wooded	538 flashing beacon, 55,	

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 581							
NJ 77 - 694	11.5	1	45	30	wooded residential	694 flashing beacon	playground south of 77
CR 604							
Aura Road - 609	10	1	50	20	agriculture residential		school and small community in Monroeville, 25 MPH
CR 605							
620 - 602	10	3	50	10	agriculture		abutments to TPK overpass very narrow
CR 607							
322 - 538	10	1	45	50	agriculture residential		S-curve, southern curve has steep grade, 8 ton bridge south of Woodland Ave, poor road surface
538 - 694	9	1	50	60	agriculture residential		
CR 609							
604 - 623	10	2	50	40	agriculture		45 MPH in Salem Co.
CR 614							
Back Creek Road - 694	12	1	50	100	vacant		8 ton bridge south of Back Creek Rd, very narrow intersection with 538

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 617							
668 - Harrisonville-Ferrel Road	12	0	30	100	residential		community of Harrisonville, homes close to road, on-street parking
CR 620							
I-295 - 605	12	1	45	10	residential agriculture	Beckett Road CR 551	RR Xing
CR 623							
609 - US 322	10	0	50	40	agriculture residential		community near 622
CR 641							
616 - 623	11	1	45	10	wooded agriculture residential	CR 538	church-cemetery & social hall near 538, pond & lake on east side
623 - NJ 55	11	0	50	10	wooded residential	CR 667	poor surface, potholes, alligator cracking
CR 667/Aura Road							
NJ 40 - 538	11	0	50	20	wooded agriculture residential		
641 - US 322	12	1	50	20	agriculture residential	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	50	30	wooded residential, agriculture	US 322	steep slope on east side south of 627
CR 668							
605 - Pedricktown-Harrisonville Road	10	0	50	50	agriculture		surface deterioration, potholes
617 - Pedricktown-Harrisonville Road	10	0	50	0	agriculture		there is a school located at intersection with 617, buildings and playground very close to 668
CR 694							
609 - NJ 77	10.5	1	50	10	agriculture		
NJ 77 - NJ 45	13	0	50	30	agriculture wooded		
NJ 45 - 538	12.5	0	45	10	landfill ag riculture wooded		
Back Creek Road							
551 - 607	11	1	50		agriculture, residential wooded	CR 551	
607 - US 322	12	0	50	50	agriculture, residential 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

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
Colson Road							
Walters Rd - NJ 45	10	0	50	25	vacant, residential wooded agriculture	NJ 45	hill and curve at stream,
Pleasant Valley Road							
NJ 55 - Aura Road	11	0	35	50	vacant residential		
Harrisonville-Ferrel Rd							
617 - 538	10	0	40	30	residential agriculture	CR 538	weight limit 4 tons, surface deterioration,
Laux Road							
641 - 619	11	0	50	100	agriculture residential		
Pedricktown-Harrisonville Road							
605 - 668	10	0	50				no lane markings, narrow road, several homes located relatively close to road
Walters Road							
US 322 - Colson Road	10	0	50	0	agriculture residential	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

C32. Cemetery
Third St and Church St
Swedesboro

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

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

R3. Lake Narraticon Park
Park Ave
Swedesboro/Woolwich 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

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

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

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

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

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

H3. Gov. Charles C. Stratton House
CR 551 north of CR 538 north
Woolwich Twp
SR 5/1/72, NR 1/29/73

H. Horner Farm
Mullica Hill Harrisonville Rd
Harrison Twp
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 Harrisn 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

FP12. Roberts Farm
CR 668 and CR 605
Woolwich Twp

FP13. Maugeri Farm
CR 551 and CR 602
Woolwich Twp

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

FP29. Gattuso Farm
Marl Rd north of NJ 45
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

Recommended Actions from the *Gloucester County East-West Corridor Transportation Evaluation - Public Participation Outreach Initiative*, October 1996

This section of the report will identify those actions needed to keep the momentum moving towards developing a capital improvement plan for this corridor. The public outreach effort was aimed at understanding the problems faced by the residents of this corridor and assessing the level of support for various suggested improvements. Local officials now have an opportunity to use this document as a vehicle to formulate an improvement plan for this corridor. It is important that any improvements identified have the support of the local municipalities. The actions listed below should be considered the next steps towards defining the specific improvement recommendations, conducting technical analyses where necessary and advancing the appropriate improvements to implementation. A specific long range plan of improvements will not be presented here.

In addition to the actions presented here, DVRPC is working with Gloucester County, as mentioned earlier, to develop a set of smaller scale improvements to the existing roadway network which will improve east-west mobility in the corridor between the Commodore Barry Bridge and NJ 55. These improvements will be presented in a report titled Gloucester County East-West Corridor Traffic Study.

Through this public participation process as well as in response to previous plans for a New Jersey Turnpike Connector, the majority of citizens and elected officials made it clear that they did not want a new highway built on a new alignment across the county. Neither a limited access toll road nor a freeway would be embraced by the residents of this corridor. Therefore, this study does not recommend that a new east-west highway be constructed across Gloucester County.

Because of conflicting interests within the corridor and often within municipalities, no single strategy has risen to the forefront as the clear favorite through this public outreach process. Even the do-nothing strategy had some support. However, based on the responses to the opinion survey of the suggested improvement strategies, the questionnaire and the testimony at the public meetings, it was possible to identify a level of support for each strategy. The following actions appear to be the most widely accepted and beneficial to the corridor.

A. Reconstruct Horizontal Curve on US 322 East of I-295 - The existing alignment of the roadway includes a sharp curve which has been the site of numerous accidents. The north side of the road is currently undeveloped and owners of the industrial park on the south side have agreed to work with NJ DOT to facilitate this improvement. NJ DOT should complete this improvement.

B. Pursue Operational and Safety Improvements Along US 322 - These are short term improvements which can provide operational and safety benefits as well as increase the efficiency of the existing infrastructure and produce some congestion relief along the corridor. Many of the public comments indicated a desire to fix-up the problems on the existing road system. Locally acceptable improvement recommendations should be developed jointly by the municipalities, the county and NJ DOT. These public comments are consistent with current federal guidelines which discourage the construction of major new highways or major widenings to solve traffic congestion problems. The emphasis now is to make the existing transportation system operate as efficiently as possible. This means using a mix of strategies such as traffic engineering and operational improvements where appropriate. A number of operational and/or safety issues were identified by the public or municipal officials at the public meetings and NJ DOT has agreed to address the following issues:

- overhead signing at US 130 and US 322
- street lighting east of US 130 where US 322 narrows from four lanes to two lanes
- signing at the Conrail Bridge east of US 130
- liquor store access and median breaks east of I-295
- warning signing in the vicinity of the curve east of I-295
- remove 50 MPH speed sign in the eastbound direction between I-295 and the curve
- signal operation at the Commodore 295 Industrial Park
- signal operation at US 322 and NJ 45 intersection
- "No Turn On Red" signing at US 322 and NJ 45 intersection
- pedestrian crosswalks on Main Street in Mullica Hill
- repositioning stop sign at Mill Road(US 322) and Church Road in Mullica Hill
- signal progression in Richwood
- speed limits along US 322
- installation of raised pavement markings
- passing zones
- US 322 and CR 538
  - relocate signal standard
  - repair shoulders
  - investigate channelization, restriping for left turn lanes
  - obtain count data
- US 322 and CR 551
  - review signal operation
  - investigate channelization, restriping for left turn lanes
  - obtain count data
- US 322 and NJ Turnpike Entrance

- investigate channelization, restriping for westbound left turn lane
- obtain count data

C. Construct Missing Movement Ramps at NJ 42 and I-295 - This improvement was recognized during the public participation process as having potential benefits for the US 322 corridor. New Jersey DOT is actively working on this project. In addition to other benefits, the construction of these ramps is expected to remove some traffic from the east-west corridor .

D. Spread Traffic Among Existing Facilities While Considering Local Sensitivities - The existing roadway network provides options, both inside and outside the corridor, for east-west travel across the corridor. Available options could be identified at any given time through the use of variable message signs. Each option has something to offer in terms of serving east-west travel but also has its own limitations. These limitations (ability to serve the need, safety, local opposition, etc) must be addressed before a facility is promoted as an alternative. If the missing ramps between I-295 and NJ 42 were constructed, this route would be an excellent option for east-west travel across the county for traffic to/from Atlantic County. However, its limitation is the ability to serve the needs of traffic to/from Cape May County. CR 538 has potential to be an option for east-west travel but also has some limitations. Residents and elected officials of South Harrison Township have expressed opposition to any measures which would increase east-west traffic on CR 538.

E. Use Intelligent Transportation Systems (ITS) Technologies - These technologies increase the effectiveness of a transportation system without adding new capacity. ITS includes using changeable message signs, highway advisory radio and closed circuit TV among others to get real time traffic information to motorists so they can make the most informed choice about the best route to take. Strategically placed closed circuit TV cameras could monitor traffic flow on area highways; appropriate messages concerning alternate routes could be sent to changeable message signs positioned at the base of the Commodore Barry Bridge and real-time traffic information could be broadcast over highway advisory radio.

F. Add New Capacity Where Necessary - In some instances, traffic engineering improvements to the existing system may not be sufficient and it may be appropriate to add new capacity to US 322. Examples of new capacity include: major intersection widening, localized roadway widening, major roadway widening or bypasses. DVRPC's Fiscal Year 1997 - 2001 Transportation Improvement Program (TIP) provides an opportunity to implement capacity improvements along US 322. The TIP includes a project to do the preliminary design for improvements on US 322 between US 130 to NJ 45. The limits of this project should be extended eastward to NJ 55. The specific improvements have not been identified yet and should be

developed in conjunction with and supported by affected municipalities. This project, funded by New Jersey DOT, is programmed for FY 97 and provides local municipalities with a chance to work together with NJ DOT towards implementing improvements along US 322.

G. Continue to Provide Opportunities for Public Input - The local residents and elected officials should be continuously involved in the improvement process. The Gloucester County Mayor's Association could play this important role by establishing and strengthening the Transportation Task Force to keep the public informed about the status of issues facing the east-west corridor. As NJ DOT and Gloucester County develop improvement recommendations, they should be presented to the public for their review. Adoption of resolutions of support by local officials is recommended to show NJ DOT and the County their acceptance of improvements.

H. Develop Coordinated Multi-Jurisdictional Circulation Plans (especially west of NJ 55) - Neighboring municipalities should work together to develop local circulation plans. This improves mobility for local residents and can help reduce congestion on major roads. Developments in one municipality can have spillover effects into other municipalities. A coordinated approach towards addressing local mobility can ease some of these effects and reduce congestion.