Corridor Study

PEMBERTON DRIVE

Wicomico County, Maryland

August 9, 2007

Prepared for:
Salisbury/Wicomico County
Metropolitan Planning Organization

The Traffic Group

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APPENDICES

APPENDIX A - Intersection Turning Movement Counts, 24-Hour Machine Counts, Condition Diagrams and Photographs

APPENDIX B - Trips Assignment for Future Developments

APPENDIX C - Intersection Capacity Analysis Worksheets (HCM Methodologies) and HCM Link Analysis Worksheets

APPENDIX D - Accident Analysis for Pemberton Drive Corridor

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INTRODUCTION AND SUMMARY OF FINDINGS

Corridor Study

Pemberton Drive
Wicomico County, Maryland

Prepared for
Salisbury/Wicomico County
Metropolitan Planning Organization

STUDY PURPOSE

The Traffic Group, Inc. has conducted a Corridor Study to evaluate the operational and safety characteristics of the Pemberton Drive Corridor under existing conditions as well as for the identified target years of 2010, 2020, and 2030. The purpose of this study is to analyze current conditions; to project future conditions and needs; and to develop recommended prioritized improvements based upon realistic assumptions regarding available resources.

The Pemberton Drive Corridor is located within Wicomico County, Maryland. Its eastern terminus begins at its intersection with MD 349, Nanticoke Road within the incorporated limits of the City of Salisbury. It extends westward passing through areas of the City of Salisbury as well as Wicomico County. The other terminus of the Pemberton Drive Corridor, for the purposes of this study, is at its western intersection with Nanticoke Road, within the boundaries of the Salisbury/Wicomico County Metropolitan Planning Organization.

BACKGROUND

The Salisbury-Wicomico Metropolitan Planning Organization (S/WMPO) was officially established in the fall of 2003, with its primary mission to perform transportation planning and to coordinate those efforts within the region. The S/WMPO was established under Title 23, Section 134 of the United States Code which defines an Metropolitan Planning Organization (MPO) as an urbanized area with a population of more than 50,000 persons and having a density of at least 1,000 persons per square mile.

The S/WMPO member jurisdictions include:

- The City of Salisbury, MD
- The City of Fruitland, MD
- The Town of Delmar, MD
- The Town of Delmar, DE
- Wicomico County, MD
- Sussex County, DE

Only a portion of the unincorporated areas of Wicomico and Sussex Counties surrounding the municipalities are included in the S/WMPO area.

SCOPE OF SERVICES

The principal scope of services undertaken as part of this study was as follows.

- *CONDUCT A MEETING WITH REPRESENTATIVES FROM THE S/WMPO TO CONFIRM THE SCOPE AND IDENTIFY SOURCES OF NEEDED DATA AND INFORMATION*
- *CONDUCT FIELD INSPECTIONS TO COLLECT PHYSICAL INFORMATION FOR EACH ROADWAY SEGMENT AND KEY INTERSECTCIONS, INCLUDING CONDTION DIAGRAMS AND PHOTO SURVEYS*
- *CONDUCT TWENTY-FOUR (24) HOUR MACHINE COUNTS FOR A THREE (3) DAY PERIOD FOR THE ROADWAY SEGMENTS COMPRISING THE PEMBERTON DRIVE CORRIDOR AND THE KEY INTERSECTINOS WHICH SERVE AS NODES FOR THESE SEGMENTS. THESE COUNTS WILL DETERMINE 2-WAY HOURLY VOLUMES BY DIRECTION, SPEED OF VEHICLES, AND THE VEHICLE CLASSIFICATION*
- *CONDUCT INTERSECTION TURNING MOVEMENT COUNTS BETWEEN THE HOURS OF 6 AND 9 AM AND 4 AND 7 PM ON A WEEKDAY WHILE SCHOOL IS IN SESSION AT THE FOLLOWING KEY INTERSECTIONS*
- *OBTAIN INFORMATION FROM THE CITY OF SALISBURY, WICOMICO COUNTY, AND SHA REGARDING ROAD RIGHTS-OF-WAY AND SIGNAL TIMING FOR ANY EXISTING AND PROPOSED SIGNAL IN THE CORRIDOR*
- *CONDUCT CAPACITY ANALYSES FOR EACH ROADWAY SEGMENT AND KEY INTERSECTION WITHIN THE STUDY AREA TO DETERMINE THE EXISTING LEVELS OF SERVICE. IDENTIFY EXISTING AREAS OF "HIGH CONGESTION AND/OR FORCED FLOW CONDITIONS"*
- *OBTAIN AND EVALUATE THE MOST RECENT THREE (3) YEARS OF ACCIDENT DATA FOR EACH ROADWAY SEGMENT AND INTERSECTION. IDENTIFY HIGH ACCIDENT SEGMENTS AND INTERSECTIONS*
- *IDENTIFY AND EVALUTE ANY EXISTING FACTORS THAT MAY BE PRESENTLY CONTRIBUTING TO POOR LEVELS OF SERVICE AND HIGH ACCIDENT RATES WITHIN THE STUDY AREA. IDENTIFY AND EVALUTE SPECIFIC ROADWAY SEGMENTS WHERE THESE LOCAL FACTORS PLAY A SIGNIFICANT ROLE*
- *IDENTIFY APPROVED AND POTENTIONAL DEVELOPMENT LIKELY TO BE BUILT ON OR BEFORE THE TARGET YEARS OF 2010, 2020, AND 2030*
- *CONDUCT TRIP GENERATION AND TRIP DISTRIBUTION ANALYSES FOR POTENTIAL DEVELOPMENT AND DETERMINE WEEKDAY TRAFFIC VOLUME PROJECTIONS AND AVERAGE*

DAILY TRAFFIC PROJECTIONS FOR THE TARGET YEARS FOR EACH ROADWAY SEGMENT AND INTERSECTION

- *IDENTIFY ANY PLANNED IMPROVEMENTS THAT WILL BE CONSTRUCTED PRIOR TO ANY OF THE TARGET YEARS FOR INCLUSION IN THE ANALYSIS*

- *CONDUCT CAPACITY ANALYSES FOR EACH ROADWAY SEGMENT AND KEY INTERSECTION WITHIN THE STUDY AREA TO DETERMINE THE LEVELS OF SERVICE FOR EACH TARGET YEAR. IDENTIFY EXISTING AREAS OF "HIGH CONGESTION AND/OR FORCED FLOW CONDITIONS" FOR EACH TARGET YEAR*

- *IDENTIFY RECOMMEND IMPROVEMENT ALTERNATIVES TO ALLEVIATE PROJECTED POOR LEVELS OF SERVICE AND HIGH ACCIDENT RATES FOR EXISTING CONDITIONS AND FOR EACH TARGET YEAR OF 2010, 2020, AND 2030.*

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The study area for the Pemberton Drive Corridor included the following intersections:

1. Pemberton Drive & Upper Ferry Road,
2. Pemberton Drive & Rockawalkin Road,
3. Pemberton Drive & Crooked Oak Road,
4. Nanticoke Rd & Rockawalkin Road,
5. Nanticoke Rd & Crooked Oak Road,
6. Pemberton Drive & Parsons Road,
7. Nanticoke Rd & Parsons Road, and
8. Nanticoke Rd & Pemberton Drive

A computer simulation model of the Pemberton Drive Corridor was developed for existing and future (2010, 2020 and 2030) conditions using Synchro and SimTraffic. These models utilize the Highway Capacity Manual (HCM) methodology to assess capacity and operations at the study intersections and roadway segments.

The analysis of existing conditions showed all study intersections to be operating at an acceptable Level of Service (LOS) except the Pemberton Drive & Parsons Road intersection. The Pemberton Drive & Parsons Road intersection, which is controlled with a 4-way STOP, is presently operating at an unsatisfactory Level of Service for the eastbound approach during the morning weekday peak hour period and operating at an acceptable Level of Service "C" condition for the evening weekday peak hour period.

Information was obtained from the Salisbury/Wicomico County Department of Planning on anticipated development along the Pemberton Drive Corridor (under existing zoning) for the 2010, 2020, and 2030 analysis time periods. Additionally, two

roadway improvement projects, which are anticipated to be constructed by the target year of 2010) were included in the analyses of future conditions. The projects included:

- The Westside Collector which will connect US 50 Business, north of Salisbury at Naylor Mill Road, to Crooked Oak Lane. Crooked Oak Lane south to Nanticoke Road (MD 349), and
- A combined City of Salisbury and the State Highway Administration plan to improve traffic operations at the Nanticoke Road & Pemberton Drive, Nanticoke Road & Parsons Road, and Pemberton Drive & Parsons Road intersections which form a triangle at the western terminus of the Pemberton Drive Corridor.

As a result of the analyses of 2010, 2020, and 2030 traffic conditions, the following recommended roadway improvements were identified for the target years of 2010, 2020, and 2030:

2010 Improvements

- At Crooked Oak Lane & Nanticoke Road, consider adding left turn lanes along Nanticoke Road and consider signalization.
- The addition of the collector road connecting Crooked Oak Lane to US 50 is important to alleviating congestion at the Nanticoke/Parsons/Pemberton triangle.

2030 Improvements

- At Nanticoke Road & Parsons Road, double left turns for the westbound Nanticoke Road approach and for the northbound Parsons Road approach.
- Parsons Road, between Nanticoke Road and Pemberton Drive, construct an additional southbound thru lane to accept double left turns.
- At Pemberton Drive & Parsons Road, lengthen the eastbound Pemberton Drive right turn lane.

General Considerations

- Exclusive left turn lanes should be considered along Pemberton Drive for large developments (particularly in the westbound direction).
- A 2-lane roadway section should be sufficient along the length of Pemberton Drive. Consideration should be given to providing a separate bike lane along Pemberton Drive from its intersection to the west at Nanticoke Road to Parsons Road to the east.

The data and methodology used to undertake this study is detailed in the sections that follow.

EXISTING TRAFFIC CONDITIONS

SITE INFORMATION

The Traffic Group, Inc. has conducted a Corridor Study to evaluate the operational and safety characteristics of the Pemberton Drive Corridor under existing conditions as well as for the identified target years of 2010, 2020, and 2030. The purpose of this study is to analyze current conditions; to project future conditions and needs; and to develop recommended prioritized improvements based upon realistic assumptions regarding available resources.

STUDY AREA

The Pemberton Drive Corridor is located within Wicomico County, Maryland. It provides access for residential developments north of the Wicomico River and south of Nanticoke Road, MD 349. Its eastern terminus begins at its intersection with MD 349, Nanticoke Road within the incorporated limits of the City of Salisbury. It extends westward passing through areas of the City of Salisbury as well as Wicomico County. The western terminus of the Pemberton Drive Corridor, for the purposes of this study, is at its western intersection with Nanticoke Road, within the boundaries of the Salisbury/Wicomico County Metropolitan Planning Organization. The Pemberton Drive Corridor Study Area is depicted in Exhibit 1.

Pemberton Drive is classified as a Minor Arterial from its intersection with MD 349 to Crooked Oak Lane. From Crooked Oak Lane westward, it is classified as a Collector. Existing lane use, intersection traffic control, and posted speed limits are provided in Exhibit 2.

The following intersections were identified to be included in the corridor analysis.

- Pemberton Drive and Upper Ferry Road
- Pemberton Drive and Rockawalkin Road
- Pemberton Drive and Crooked Oak Lane
- Pemberton Drive and Parsons Road
- Pemberton Drive and Nanticoke Road, MD 349

The Wicomico County Department of Public Works plans to construct, by the year 2010, a Westside Collector which will connect US 50 Business, north of Salisbury at Naylor Mill Road, to Crooked Oak Lane. Crooked Oak Lane south to Nanticoke Road, MD 349, would also be improved as part of the Westside Collector. This roadway is

depicted on Exhibit 1. The Westside Collector will enable traffic volumes on Pemberton Drive, and Nanticoke Road, to access US 50 Business and US 50 Bypass to the north without traveling through the City of Salisbury. Therefore, to determine the traffic volumes that may divert to the Westside Collector, two other intersections were identified to be included in the corridor analysis.

- Nanticoke Road and Rockawalkin Road
- Nanticoke Road and Crooked Oak Lane

The City of Salisbury and the State Highway Administration plan to improve traffic operations at the following three intersections which form a triangle at the western terminus of the Pemberton Corridor. These intersections are as follows.

- Pemberton Drive and Parsons Road
- Pemberton Drive and Nanticoke Road, MD 349
- Parsons Road and Nanticoke Road, MD 349

These plans include the signalization of the intersection of Pemberton Drive and Parsons Road and the prohibition of left turns from Nanticoke Road onto Pemberton Drive. Also, exclusive left turn lanes will be provided on Nanticoke Road at Parsons Road. An additional lane will be constructed along Parsons Road from Nanticoke Road to Pemberton Drive. These improvements are anticipated to be constructed by the target year of 2010 as shown in Exhibit 2A.

TRAFFIC VOLUMES

The existing morning and evening peak hour traffic volumes on a weekday when school is in session were collected and are summarized in Exhibit 3. These turning movement counts were collected during the fall of 2006 and during the spring of 2005. Condition diagrams and photo surveys were also prepared. These, along with the turning movement count summaries, are provided in Appendix A.

Twenty-four hour traffic volumes along the following roadway segments were collected in December 2006 utilizing traffic counting equipment. The ADT's and average speed for these segments are provided in Exhibit 3.

- Pemberton Drive - west of Upper Ferry Road, east of Wells Road
- Pemberton Drive - between Crooked Oak Lane and Rockawalkin Road, north of Scotland Road
- Pemberton Drive - east of Crooked Oak Lane

West of Upper Ferry Road, passenger cars and 2-axle trucks account for approximately 89 percent of the vehicles on Pemberton Drive. East of Rockawalkin Road, passenger cars and 2-axle trucks on Pemberton Drive account for approximately 97 percent of the vehicles. The machine count data sheets are provided in Appendix A.

As previously discussed, two roadway improvement projects will affect existing traffic volumes through our study intersections. First, the prohibition of left turns from Nanticoke Road onto Pemberton Drive will divert these traffic volumes to a left turn at the intersection of Nanticoke Road and Parsons Road which will also affect the turning movement volumes at the intersection of Pemberton Drive and Parsons Road. These adjustments are depicted in Exhibit 4.

Second, the construction of the Westside Collector will divert traffic from Pemberton Drive and Nanticoke Road. For the purposes of this analysis, it was assumed that 15% of the thru traffic on Pemberton Drive and 25% of the thru traffic on Nanticoke Road will be diverted to the Westside Collector. These adjustments are also depicted in Exhibit 4.

ANALYSIS OF EXISTING TRAFFIC CONDITIONS

A computer simulation model of the Pemberton Drive Corridor was conducted using Synchro and SimTraffic. These models utilize the Highway Capacity Manual (HCM) methodology to assess capacity and operations at the study intersections and roadway segments. The results are presented in Exhibit 18A and17B and are discussed by intersection below.

Pemberton Drive and Upper Ferry Road: This intersection, which is controlled with a 2-way STOP on Upper Ferry Road, is presently operating at Levels of Service "A" for all approaches during both the morning and evening weekday peak periods.

Pemberton Drive and Rockawalkin Road: This intersection, which is controlled with a STOP on Rockawalkin Road, is presently operating at Levels of Service "B" or better for all approaches during both the morning and evening weekday peak periods.

Pemberton Drive and Crooked Oak Lane: This intersection, which is controlled with a STOP on Crooked Oak Lane, is presently operating at Levels of Service "B" or better for all approaches during both the morning and evening weekday peak periods.

Pemberton Drive and Parsons Road: This intersection, which is controlled with a 4-way STOP, is presently operating at a Level of Service "D" for both the morning and evening weekday peak periods. However, the eastbound approach during the morning weekday peak hour period is experiencing Level of Service "F" Conditions.

Nanticoke Road and Rockawalkin Road: This intersection, which is controlled with a 2-way STOP on Rockawalkin Road, is presently operating at acceptable Levels of

Service "C" or better for all approaches during both the morning and evening weekday peak periods.

Nanticoke Road and Crooked Oak Lane: This intersection, which is controlled with a 2-way STOP on Crooked Oak Lane, is presently operating at acceptable Levels of Service "D" or better for all approaches during both the morning and evening weekday peak periods.

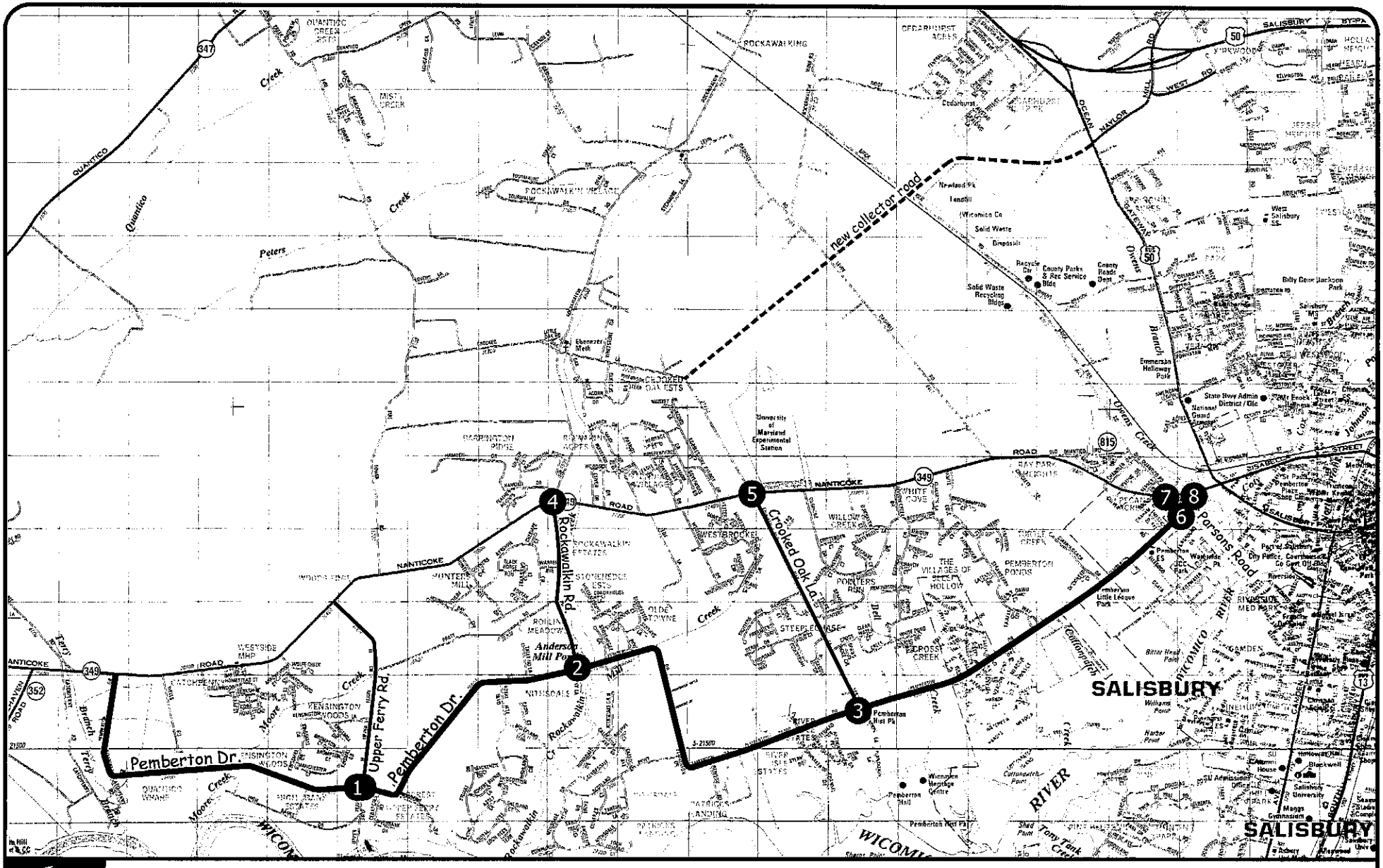
Nanticoke Road and Parsons Road: This signalized intersection is operating at acceptable Levels of Service "C" or better during both the morning and evening weekday peak periods.

ANALYSIS OF THREE YEAR COLLISION DATA

The SHA Collision data base was consulted to identify the number of collisions occurring along the Pemberton Drive corridor during the past three years for which data has been compiled. These three years are 2003, 2004, and 2005.

Twenty-nine (29) collisions have occurred along this corridor during this three-year time period; from a high of 14 in 2003 to a low of 6 in 2005. The majority of these accidents, 65%, are non-intersection related.

Exhibits contained in Appendix D summarize the information on these collisions.



ADC Permitted Use Number 20303127

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EXHIBIT 1
PEMBERTON DRIVE CORRIDOR
STUDY AREA

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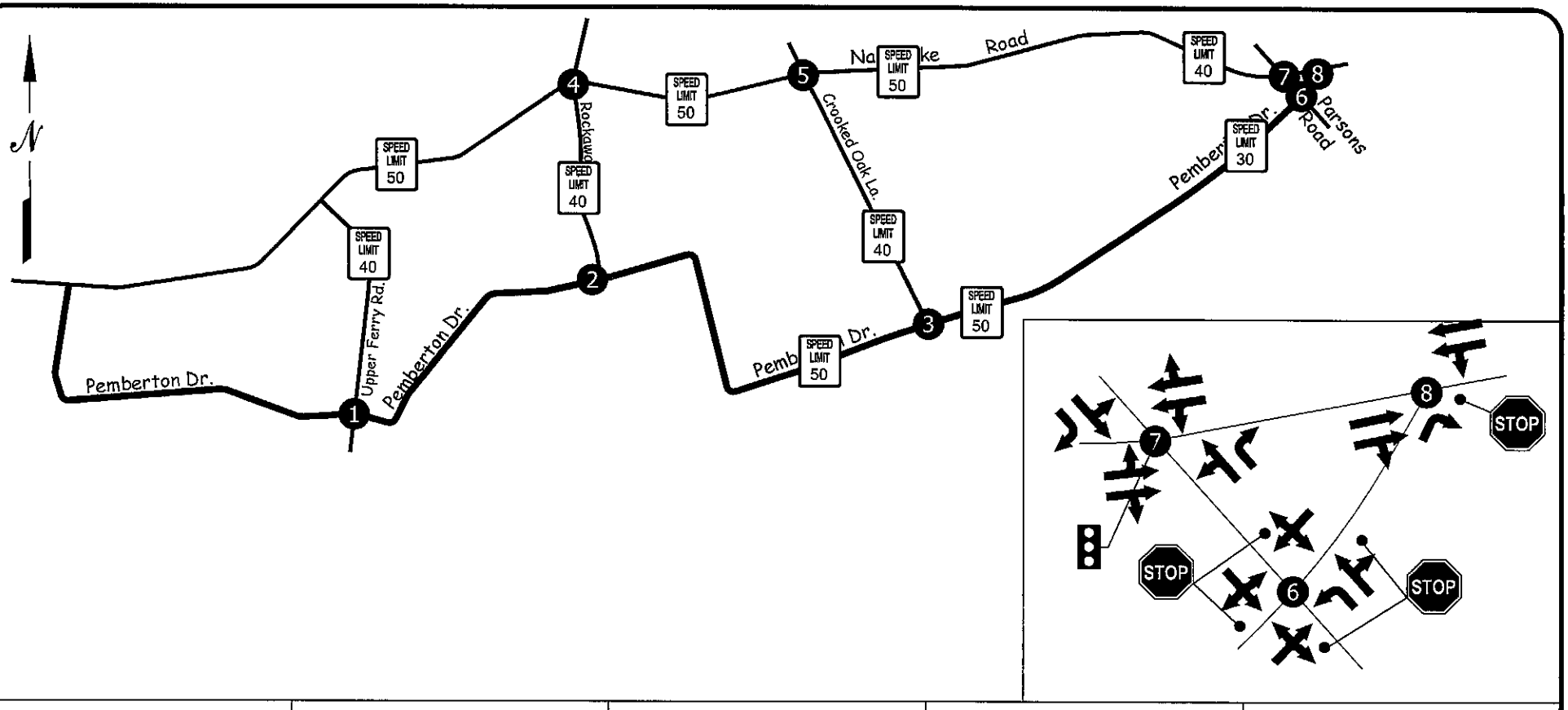

NOT TO SCALE

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EXHIBIT 2
EXISTING LANE USE

dj, 060628\pemberton.dwg-sha improvements, 08/01/07

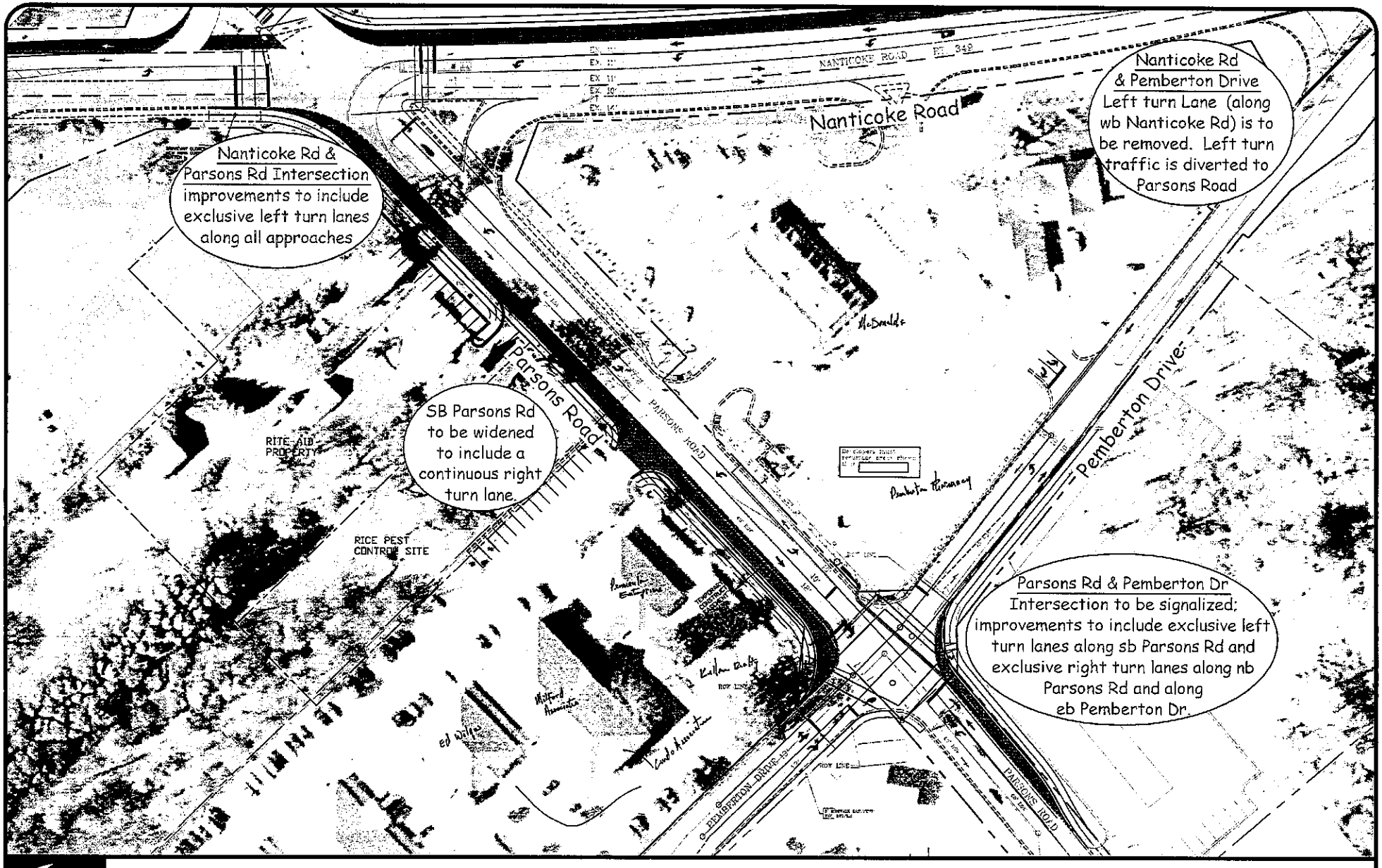

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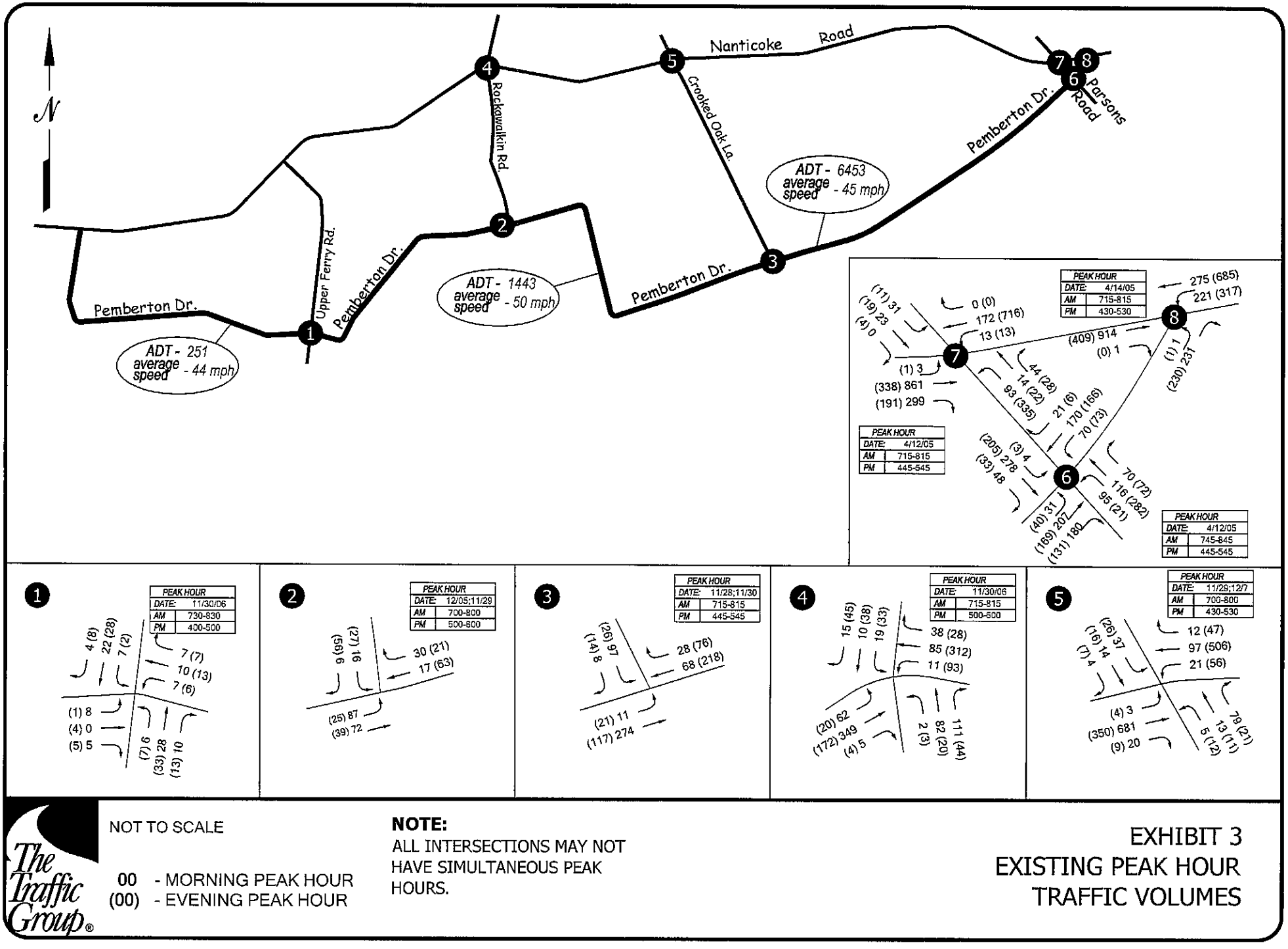
EXHIBIT 2A
PLANNED IMPROVEMENTS
BY MSHA AND CITY OF SALISBURY



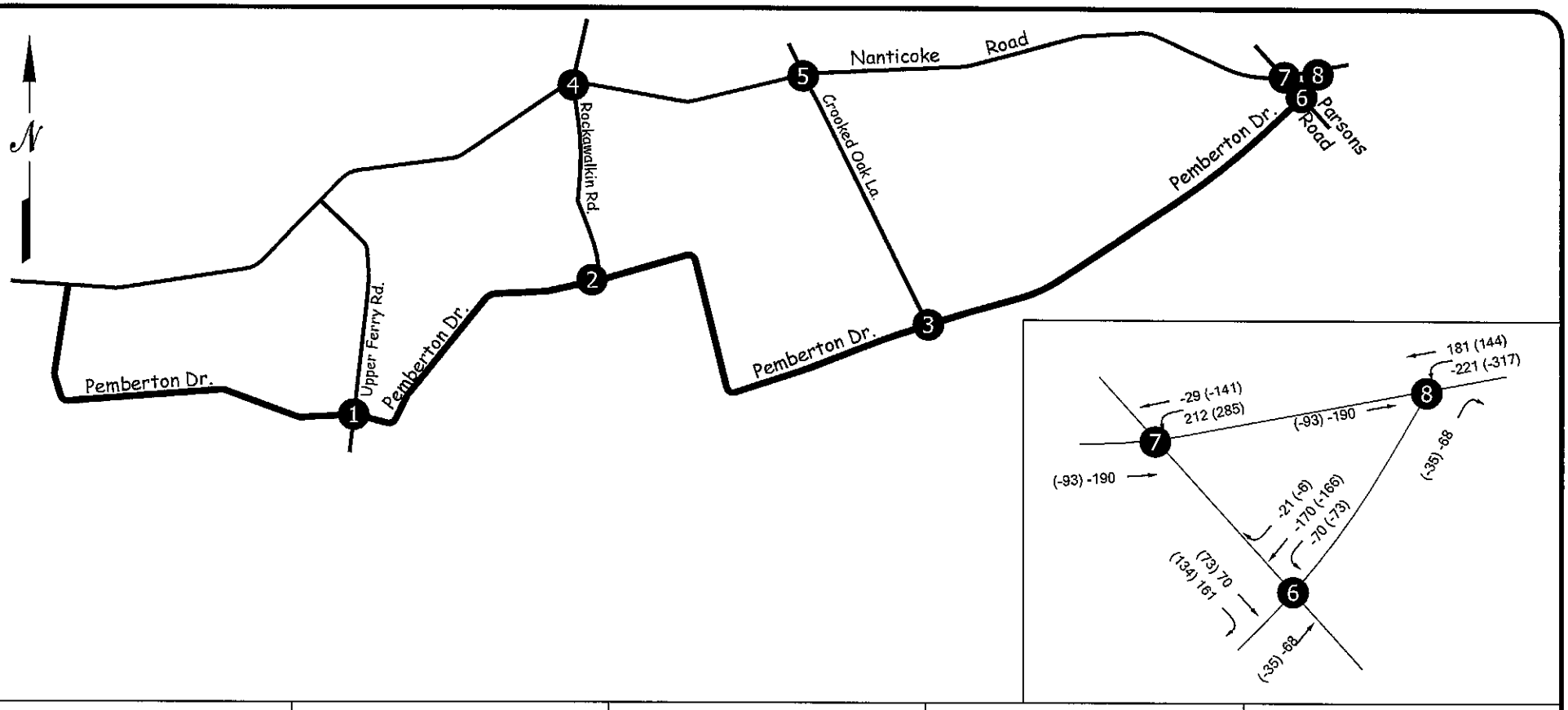
NOT TO SCALE

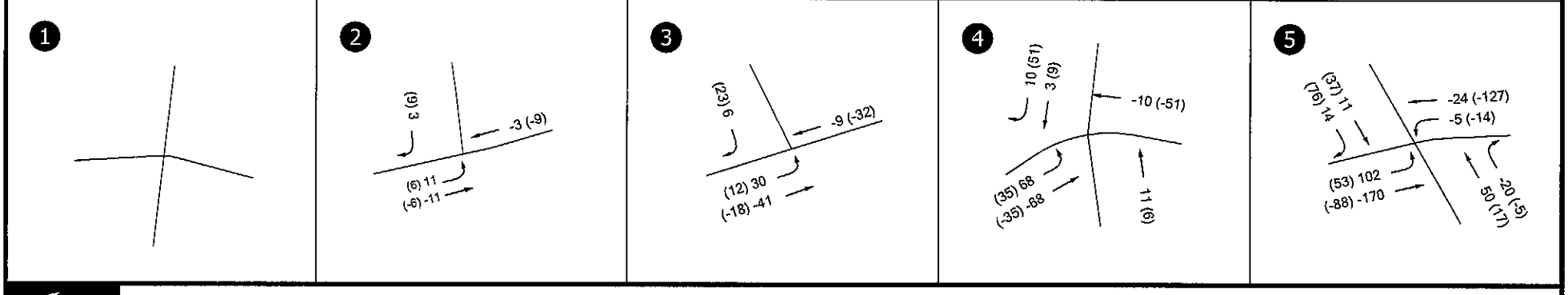
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

NOTE:
ALL INTERSECTIONS MAY NOT HAVE SIMULTANEOUS PEAK HOURS.

EXHIBIT 3
EXISTING PEAK HOUR TRAFFIC VOLUMES

dj, 060628tpemberton.dwg-exist, 07/19/07





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00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Adjustments include elimination of westbound left turn lane at intersection #8. Also includes diversion of traffic to utilize new collector road connecting Crooked Oak Lane to US 50 at Naylor Mill Road - 25% of thru traffic along Nanticoke Road (intersections #4 and #5) and 15% of thru traffic along Pemberton Road (intersections #2 and #3).

EXHIBIT 4
ADJUSTMENTS TO EXISTING PEAK HOUR TRAFFIC VOLUMES

FUTURE TRAFFIC CONDITIONS – 2010

PLANNED ROADWAY IMPROVEMENTS - 2010

As previously discussed, two roadway improvement projects will affect existing traffic volumes through our study intersections by the year 2010. First, the prohibition of westbound left turns from Nanticoke Road onto Pemberton Drive will divert these traffic volumes to a westbound left turn at the intersection of Nanticoke Road and Parsons Road which will also affect the turning movement volumes at the intersection of Pemberton Drive and Parsons Road. These adjustments are depicted in Exhibit 4.

Second, the construction of the Westside Collector will divert traffic from Pemberton Drive and Nanticoke Road. For the purposes of this study, it was assumed that 15% of the thru traffic on Pemberton Drive and 25% of the thru traffic on Nanticoke Road will be diverted to the Westside Collector. These adjustments are also depicted in Exhibit 4. It was also assumed that a traffic signal will be installed at the intersection of Nanticoke Road and the Westside Collector/Crooked Oak Lane.

ANTICIPATED DEVELOPMENT - 2010

Information was obtained from the Salisbury/Wicomico County Department of Planning on anticipated development along the Pemberton Drive Corridor. This data, presented in Exhibit 5, consists of 3 tables. The first table lists developments along the corridor for which plans have been submitted, most of which are anticipated to be built out by the year 2010.

Table 2 provides information on the type of development that may occur, based on existing zoning, on properties along the Pemberton Drive Corridor. This future development is categorized by anticipated build-out year.

Table 3 provides information on the vacant lots in existing subdivisions along the Corridor. Again, this future development is categorized by anticipated build-out year.

The anticipated developments for the target year of 2010 are located on the site map in Exhibit 6.

The Institute of Transportation Engineers' (ITE's) Trip Generation Report, Seventh Edition, 2003 was consulted to determine the trip generation rates and totals for these developments. The resulting trip generation rates and totals are provided in Exhibit 7.

The trip generation totals for the background developments were assigned to the key intersections utilizing the trip distributions depicted in the Exhibits contained in Appendix B. These trips were assigned to each intersection in combination as shown in Exhibit 8.

Because of the congestion at the intersection of Pemberton Drive and Parsons Road, it was anticipated that 5% of the traffic on Nanticoke Road making a left onto Parsons Road will continue west on Nanticoke Road and make the left turn to travel southbound at another location. These adjustments are provided in Exhibit 8A.

The total 2010 peak hour traffic volumes and project ADT's are provided in Exhibit 9.

ANALYSIS OF FUTURE TRAFFIC CONDITIONS - 2010

The computer simulation model of the Pemberton Drive Corridor was updated to incorporate 2010 peak hour traffic volumes and the planned roadway improvements. The results of the HCM capacity analysis are presented in Exhibit 18A and18B and are discussed by intersection below.

Pemberton Drive and Upper Ferry Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Rockawalkin Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Crooked Oak Lane: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Parsons Road: This intersection was analyzed as a signalized intersection and is projected to operate at a Level of Service "B" or better during both the morning and evening weekday peak periods for the target year of 2010.

Nanticoke Road and Rockawalkin Road: No change in Level of Service of Existing conditions is projected for this intersection.

Nanticoke Road and Crooked Oak Lane: This intersection was analyzed as a signalized intersection and is projected to operate at a Level of Service "A" during both the morning and evening weekday peak periods during the target year of 2010.

Nanticoke Road and Parsons Road: This signalized intersection is operating at acceptable Levels of Service "C" or better during both the morning and evening weekday peak periods for the target year of 2010.

Table 1 - Proposed Developments (Plans Have Been Submitted)

#	NAME	DESCRIPTION	BUILDOUT	AS OF 2010	AS OF 2020	AS OF 2030
1	Royal Farm Store	Convenience store	6,088 s.f. of retail	6,088 s.f.	Same	Same
2	Pemberton Pharmacy	Pharmacy	4,400 s.f. of retail	4,400 s.f.	Same	Same
3	Rice's/Rite Aid	Offices & Drug Store	21,300 s.f. of office & 14,564 s.f. of retail	21,300 s.f. of office & 14,564 s.f. of retail	Same	Same
4	Skipjack Seafood/Mini storage*	Retail/warehouse	5,760 s.f. of retail & 67,200 s.f. of storage	5,760 s.f. of retail & 67,200 s.f. of storage	Same	Same
5	Ace Shop. Center	Retail	18,171 s.f. of retail	18,171 s.f.	Same	Same
6	Heritage	Residential – TH, condos	500 units	100 units	250 units	450 units
7	Cottages at River House**	Senior Apartments – 79 built as of 2006	158 units	158 units (79 more than 2006)	158 units	158 units
8	Ponds at Pemberton	SF Res.	97 lots	50 lots	80 lots	87 lots
9	Steeplechase, Sec. 6	SF Res.	151 lots	20 lots	90 lots	135 lots
10	Nithsdale, Sec. 13	SF Res.	83 lots	10 lots	45 lots	74 lots
11	Old Town, Sec. 4	SF Res.	10 lots	0 lots	5 lots	9 lots
12	West Nithsdale, Sec. 4	SF Res.	62 lots	15 lots	50 lots	55 lots
13	Oakwood Estates	SF Res.	11 lots	0 lots	6 lots	10 lots
14	Twelve Oaks	SF Res.	26 lots	10 lots	20 lots	23 lots
15	Potts Property	Mixed Use – Commercial, Lt. Industrial & Hotel	172,000 s.f. of commercial; 150,000 s.f. Lt. Industrial; 100 room Hotel	---	172,000 s.f. of commercial; 150,000 s.f. Lt. Industrial; 100 room Hotel	172,000 s.f. of commercial; 150,000 s.f. Lt. Industrial; 100 room Hotel
TOTAL			**70,283 s.f. of off/retail; 67,200 s.f. of storage; 1,098 lots/units**	**70,283 s.f. of off/retail & 67,200 s.f. of storage; 363 lots/units**	**242,283 s.f. of off/retail; 67,200 s.f. of storage; 150,000 s.f. Lt. Ind.; 100 room hotel; 704 lots/units**	**242,283 s.f. of off/retail; 67,200 s.f. of storage; 150,000 s.f. Lt. Ind.; 100 room hotel; 1,001 lots/units**

NOTES: * *As of 2007, 14,000 s.f. of mini-storage had been constructed.*

** *As of 2007, half (79 units) of the total number of units approved for the Cottages at River House had been constructed. The second phase is under construction.*

EXHIBIT 5
FUTURE DEVELOPMENT

Table 2 - Other Development Areas (No Plans Have Been Submitted)

#	NAME	DESCRIPTION	BUILDOUT	AS OF 2010	AS OF 2020	AS OF 2030
1	N/A	Pemberton Dr. near WWTP	107	0	21	54
2	N/A	Pemberton Dr. near Harbor Pointe	189	0	37	90
3	N/A	Pemberton Dr. near River Isle	23	0	5	11
4	N/A	Pemberton Dr. near Nithsdale	72	0	14	36
5	N/A	Pemberton Dr. at Crooked Oak	332	0	66	166
6	N/A	Pemberton Dr. near Steeplechase	82	0	16	41
7	N/A	Nanticoke Rd. near Centennial	62	0	12	31
8	N/A	Pemberton Dr. near W. Nithsdale	30	0	6	15
9	N/A	Upper Ferry Rd. at Pratt Road	52	0	10	26
10	N/A	Nanticoke Rd. at Fire Tower Rd.	31	0	6	15
11	N/A	Homestead Farm	570	0	114	285
12	N/A	Nanticoke Rd. at Levin Dashiell Rd.	830	0	166	415
13	N/A	Nanticoke Rd. at Crockett Lane	325	0	65	162
TOTAL			**2,705 lots**	**0 lots/units**	**538 lots/units**	**1,347 lots/units**

Table 3 - Potential Development in Existing Subdivisions (Currently Vacant Lots)

#	NAME	Total # Of Vacant Lots	AS OF 2010 (Additional Vacant Lots Developed)	AS OF 2020 (Additional Vacant Lots Developed)	AS OF 2030 (Additional Vacant Lots Developed)
1	Westover Heights	19	0	4	9
2	The Green at Heritage	33	15	25	30
3	Harbor Pointe	84	10	21	42
4	Village of Sleepy Hollow	121	30	80	109
5	Steeplechase	15	0	3	7
6	Olde Towne	10	0	2	5
7	Nithsdale	16	2	4	8
8	Idyllwood	11	0	2	5
9	Hunters Mill	12	0	3	6
10	Riawakin Acres & Centennial	19	0	4	9
TOTAL		**334**	**57**	**148**	**230**

EXHIBIT 5 (CONT.)
FUTURE DEVELOPMENT

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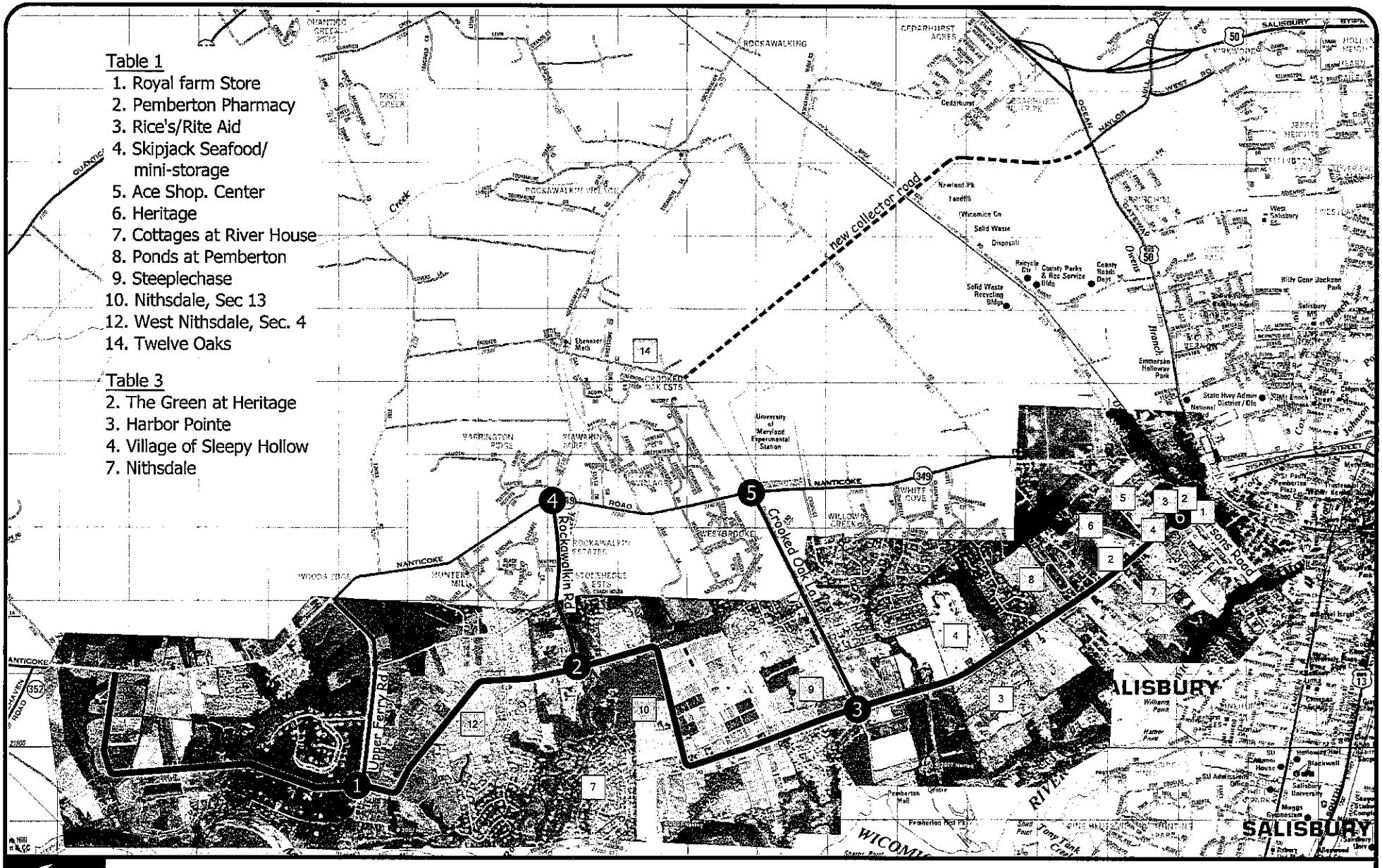

ADC Permitted Use Number 20303127

Study Intersection

x Table 1 Developments

x Table 2 Developments

x Table 3 Developments

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EXHIBIT 6
LOCATION MAP FOR 2010
BACKGROUND DEVELOPMENTS

TRIP GENERATION RATES

LAND USE	FORMULA	IN/OUT
Single-Family Detached (ITE-210, Units)		
	Morning Trips = 0.70 x (Units) + 9.43	25/75
	Ln(Evening Trips) = 0.90 x Ln(Units) + 0.53	63/37
Townhouse Units (ITE-230, Units)		
	Ln(Morning Trips) = 0.80 x Ln(Units) + 0.26	17/83
	Ln(Evening Trips) = 0.82 x Ln(Units) + 0.32	67/33
Senior Adult Housing - Detached (ITE-251, Units)		
	Morning Trips = 0.20 x Units	40/60
	Evening Trips = 0.26 x Units	61/39
Pharmacy/Drugstore w/Drive Thru (ksf, ITE-881)		
	Morning Trips = 2.66 x ksf	57/43
	Evening Trips = 8.62 x ksf	49/51
General Office (ksf, ITE-710)		
	Morning Trips = 1.55 x ksf	88/12
	Evening Trips = 1.49 x ksf	17/83
Convenience Market w/Gasoline Pumps (ksf, ITE-853)		
	Morning Trips = 45.58 x ksf	50/50
	Evening Trips = 60.61 x ksf	50/50
Shopping Center (ksf, ITE-820)		
	Ln(Morning Trips) = 0.6 x Ln(ksf) + 2.29	61/39
	Ln(Evening Trips) = 0.66 x Ln(ksf) + 3.40	48/52
	Morning Trips = 1.03 x ksf (rates used for low ksf)	61/39
	Evening Trips = 3.75 x ksf (rates used for low ksf)	48/52

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EXHIBIT 7
TRIP GENERATION RATES AND TOTALS
FOR BACKGROUND DEVELOPMENTS

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TRIP GENERATION TOTALS

TABLE #			Morning Peak Hour			Evening Peak Hour		
			In	Out	Total	In	Out	Total
1. 1	**Royal Farm**	6,088 sf Convenience Mkt	138	139	277	184	185	369
		65% Pass-by Trips	-90	-90	-180	-120	-120	-240
		New Trips	**48**	**49**	**97**	**64**	**65**	**129**
1. 2	**Pemberton Pharmacy**	4,400 sf Pharmacy	8	6	14	19	19	38
		53% Pass-by Trips	-4	-3	-7	-10	-10	-20
		New Trips	**4**	**3**	**7**	**9**	**9**	**18**
1. 3	**Rite-Aid Pharmacy**	14,564 sf Pharmacy	22	17	39	62	64	126
		50% Pass-by Trips	-11	-9	-20	-31	-32	-63
		New Trips	**11**	**8**	**19**	**31**	**32**	**63**
		21,300 sf General Office	29	4	33	5	27	32
1. 4	**Skipjack Seafood**	5,760 sf retail	4	2	6	11	11	22
		50% Pass-by Trips	-2	-1	-3	-6	-6	-12
		New Trips	**2**	**1**	**3**	**5**	**5**	**10**
1. 5	**Ace Shop. Center**	18,171 sf retail	34	22	56	97	106	203
		50% Pass-by Trips	-17	-11	-28	-49	-53	-102
		New Trips	**17**	**11**	**28**	**48**	**53**	**101**
1. 15	**Mini-Storage**	53,200 sf Mini-Warehouse	5	3	8	7	7	14
1. 6	**Heritage**	100 TUs	9	43	52	40	20	60
1. 7	**Cottages at River House**	79 Senior Units	6	10	16	13	8	21
1. 8	**Pemberton Ponds**	50 SFUs	9	28	37	34	18	52
1. 9	**Steeplechase**	20 SFUs	4	11	15	13	7	20
1. 10	**Nithsdale, Sec 13**	10 SFUs	2	6	8	6	4	10
1. 12	**West Nithsdale, Sec. 4**	15 SFUs	3	8	11	9	6	15
1. 14	**Twelve Oaks**	10 SFUs	2	6	8	6	4	10
3. 2	**The Green at Heritage**	15 SFUs	3	8	11	9	6	15
3. 3	**Harbor Pointe**	10 SFUs	2	6	8	6	4	10
3. 4	**Village of Sleepy Hollow**	30 SFUs	6	17	23	20	11	31
3. 7	**Nithsdale**	2 SFUs	0	2	2	1	1	2
		341 Residential Units						

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EXHIBIT 7 (CONT.)
TRIP GENERATION RATES AND TOTALS
FOR 2010 DEVELOPMENT

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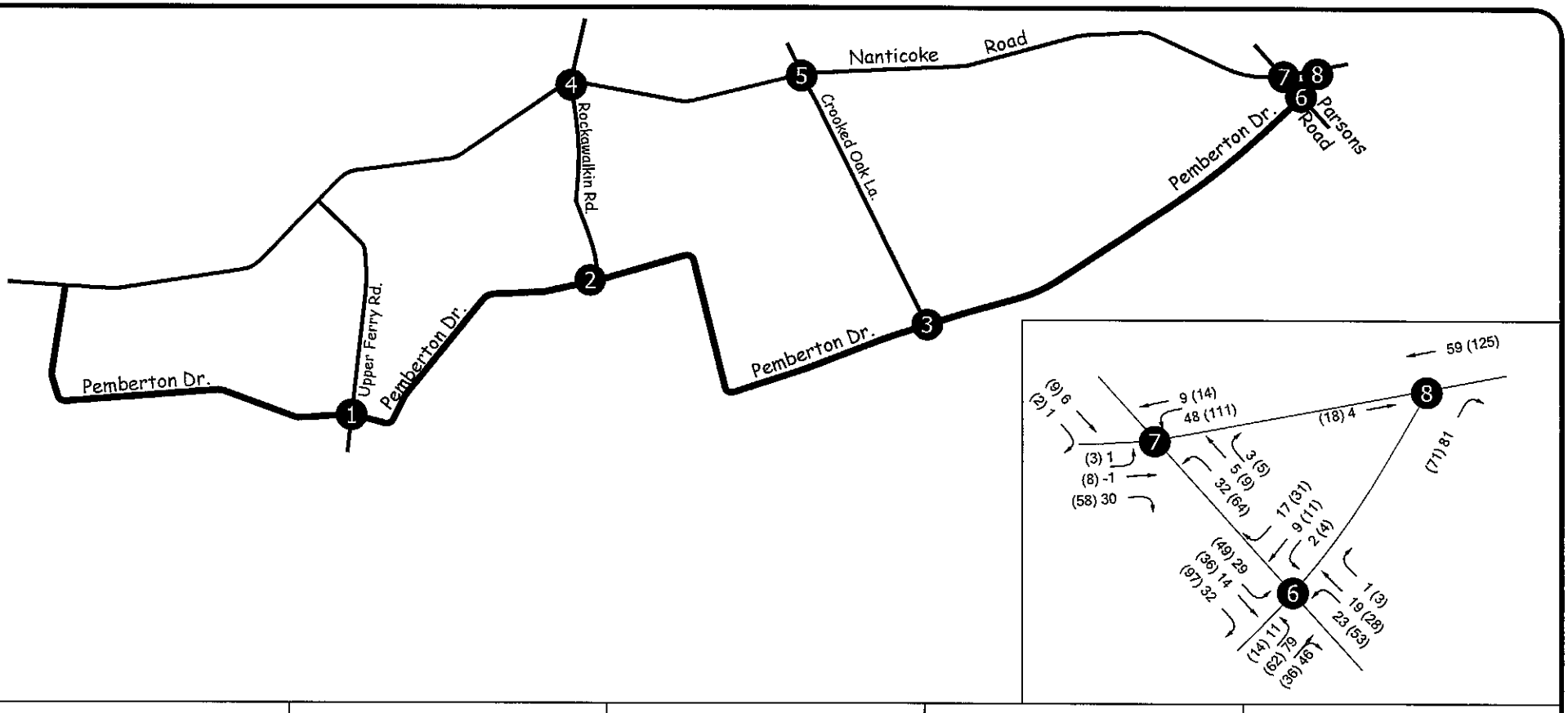

NOT TO SCALE

00 - MORNING PEAK HOUR
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EXHIBIT 8
COMBINED TRIPS GENERATED BY PROJECTED 2010 DEVELOPMENTS

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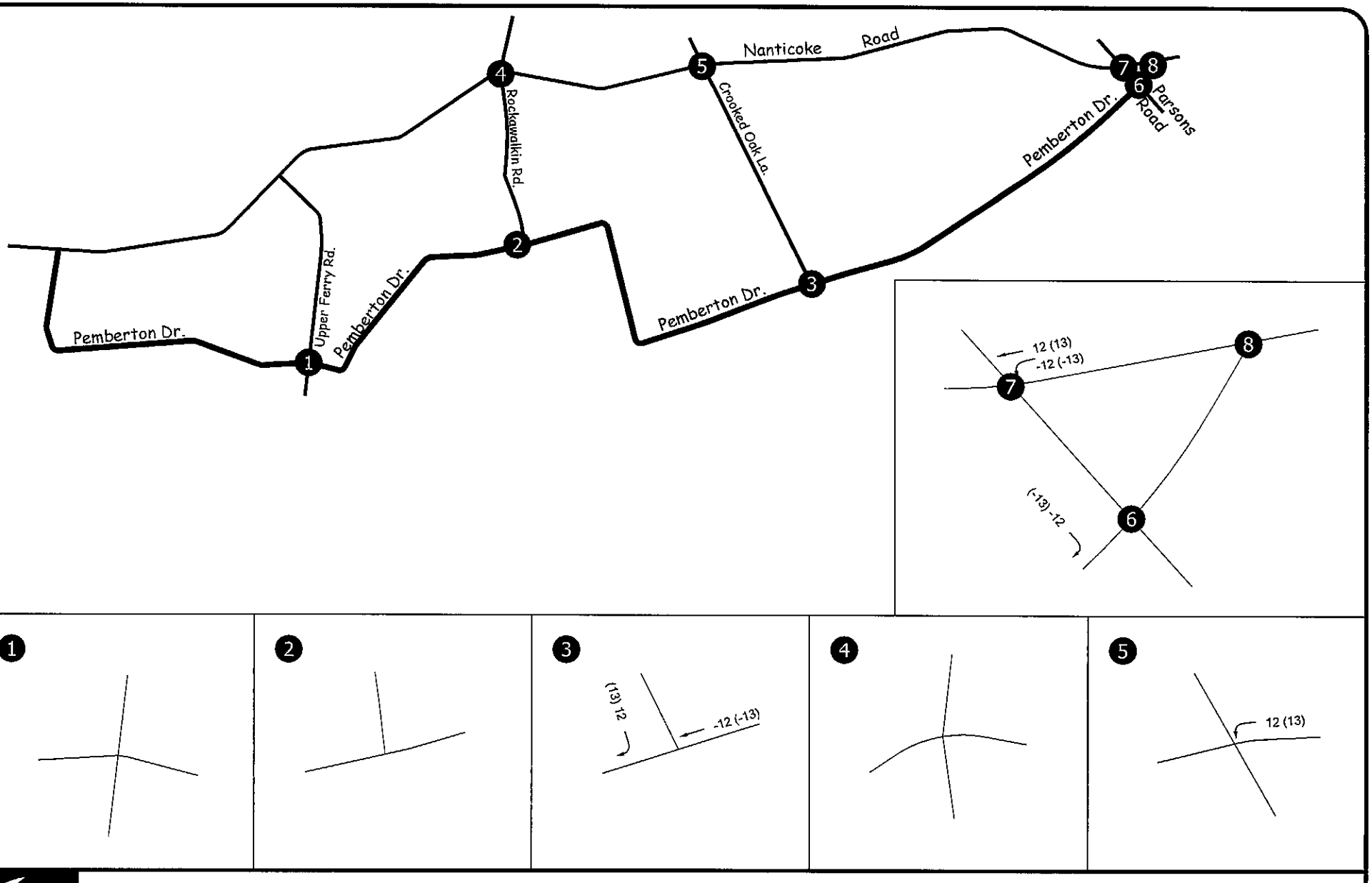

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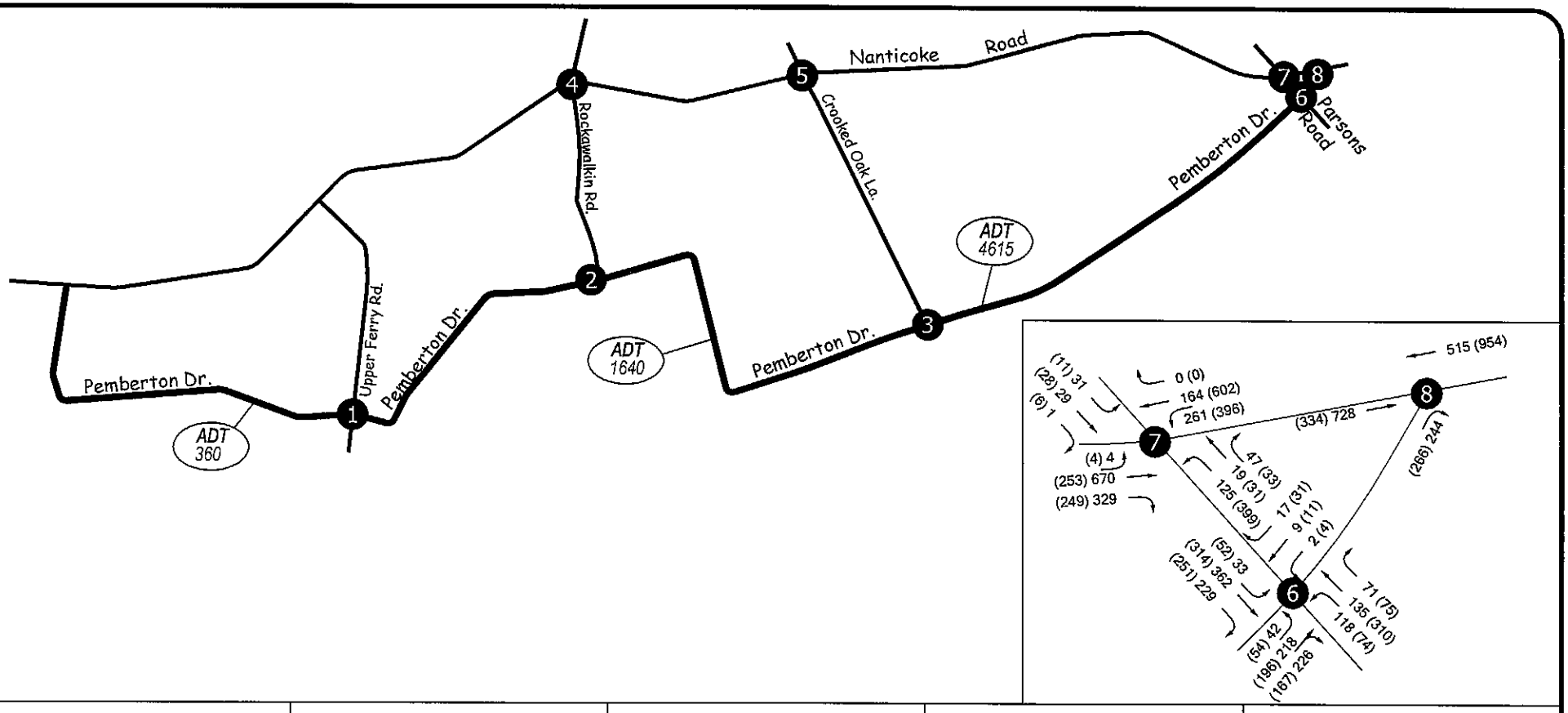
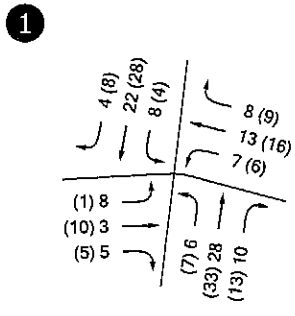
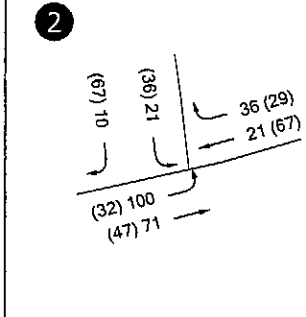
(00) - EVENING PEAK HOUR

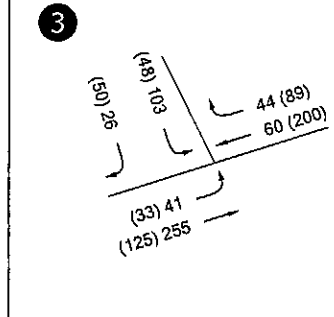
NOTE: A 5% diversion of the southbound right turns along Parsons Road was assumed to avoid the congestion along Parsons between Parsons Rd. and Nanticoke Rd.

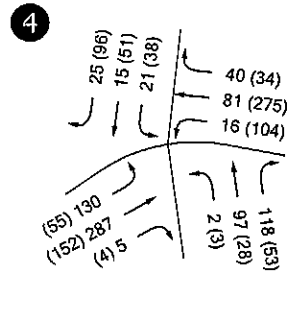
EXHIBIT 8A
ADJUSTMENTS TO 2010
PEAK HOUR TRAFFIC VOLUMES

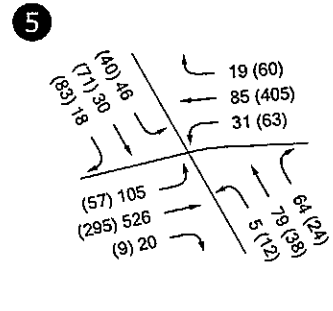












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00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 9
TOTAL 2010 PEAK HOUR TRAFFIC VOLUMES

FUTURE TRAFFIC CONDITIONS – 2020

ROADWAY IMPROVEMENTS - 2020

No additional roadway improvements are planned through the target year of 2020.

ANTICIPATED DEVELOPMENT - 2020

As for the target year of 2010, information on anticipated development along the Pemberton Drive Corridor for the target year of 2020 was obtained from the Salisbury/Wicomico County Department of Planning. This data is presented in Exhibit 5. The anticipated developments for the future target year of 2020 are located on the site map in Exhibit 10.

As for the target year of 2020, the Institute of Transportation Engineers' (ITE's) Trip Generation Report, Seventh Edition, 2003 was consulted to determine the trip generation rates and totals for these developments. The resulting trip generation rates and totals are provided in Exhibit 11.

The trip generation totals for the background developments were assigned to the key intersections utilizing the trip distributions depicted in the Exhibits contained in Appendix B. These trips were assigned to each intersection in combination as shown in Exhibit 12.

Because of the congestion at the intersection of Pemberton Drive and Parsons Road, it was anticipated that 10% of the traffic on Nanticoke Road making a left onto Parsons Road will continue west on Nanticoke Road and make the left turn to travel southbound at another location. These adjustments are provided in Exhibit 12A.

The total 2020 peak hour traffic volumes and projected ADT's are provided in Exhibit 13.

ANALYSIS OF FUTURE TRAFFIC CONDITIONS - 2020

The computer simulation model of the Pemberton Drive Corridor was updated to incorporate 2020 peak hour traffic volumes and the planned roadway improvements. The results of the HCM capacity analysis are presented in Exhibit 17A and17B and are discussed by intersection below.

Pemberton Drive and Upper Ferry Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Rockawalkin Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Crooked Oak Lane: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Parsons Road: This intersection is projected to operate as a signalized intersection at a Level of Service "B" or better during both the morning and evening weekday peak periods for the target year of 2020.

Nanticoke Road and Rockawalkin Road: This intersection is projected to operate at acceptable Levels of Service "D" or better for all approaches, except the southbound approach, during both the morning and evening weekday peak periods for the target year of 2020. A Level of Service "E" is anticipated for the southbound approach for the evening weekday peak period.

Nanticoke Road and Crooked Oak Lane: This intersection was analyzed as a signalized intersection and is projected to operate at a Level of Service "A" during both the morning and evening weekday peak periods during the target year of 2020.

Nanticoke Road and Parsons Road: This signalized intersection is projected to operate at acceptable Levels of Service "C" or better during both the morning and evening weekday peak periods for the target year of 2020.

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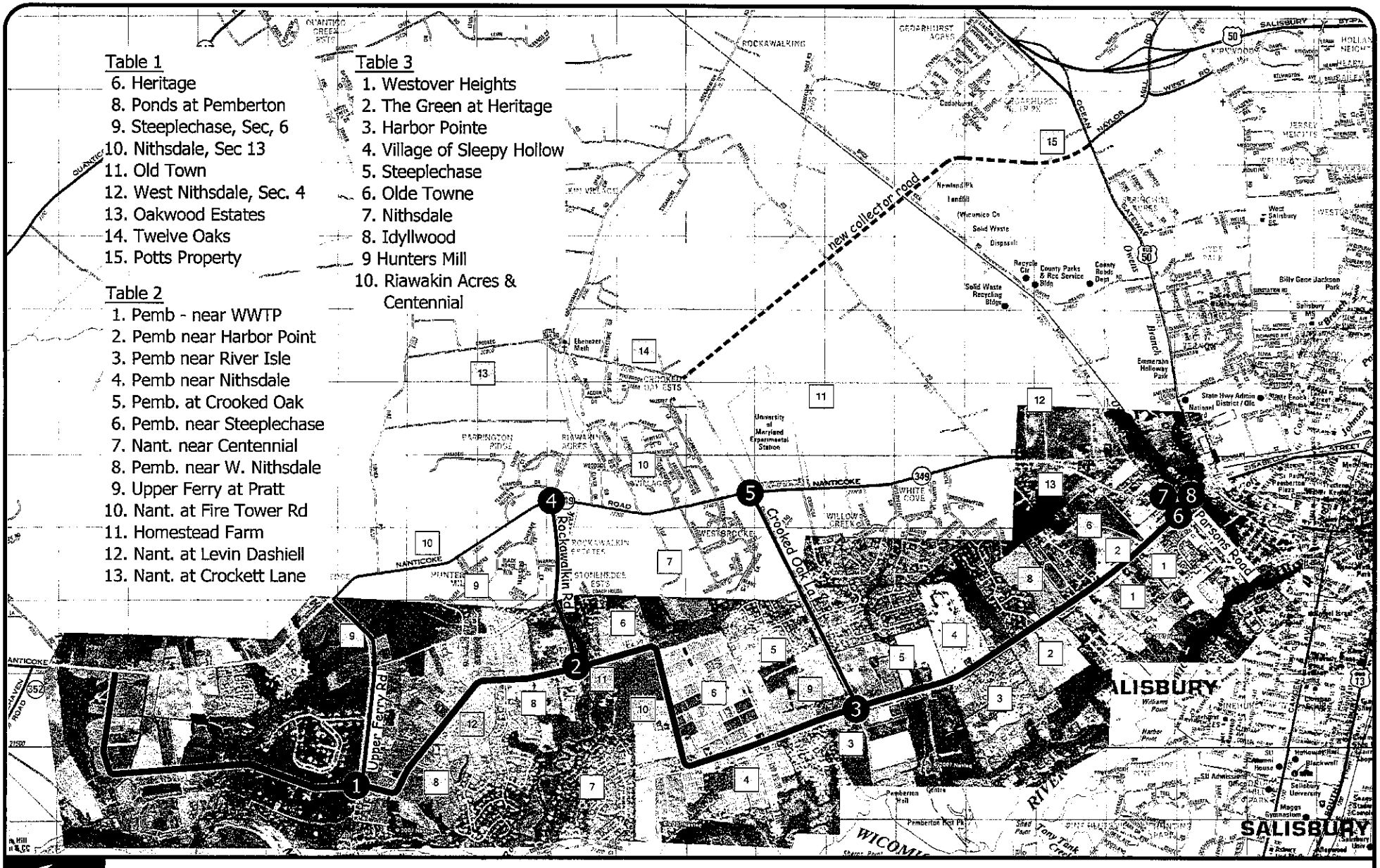

ADC Permitted Use Number 20303127

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x Table 1 Developments

x Table 2 Developments

x Table 3 Developments

EXHIBIT 10
LOCATION MAP FOR 2020
BACKGROUND DEVELOPMENTS

TRIP GENERATION TOTALS

TABLE			Morning Peak Hour			Evening Peak Hour		
			In	Out	Total	In	Out	Total
1.	16 **Potts Property**	172,000 sf Shop. Ctr	132	85	217	430	465	895
		Pass-by Trips (AM-23%; PM-33%)	***-30***	***-20***	***-50***	***-142***	***-153***	***-295***
		New Trips	**102**	**65**	**167**	**288**	**312**	**600**
		150,000 sf Gen. Lt. Industrial	121	17	138	18	129	147
		100 Hotel Rooms	25	16	41	31	28	59
		Total New Trips	***248***	***98***	***346***	***337***	***469***	***806***
1.	6 **Heritage**	150 SFUs	27	79	106	79	48	127
1.	8 **Pemberton Ponds**	30 SFUs	5	16	21	16	10	26
1.	9 **Steeplechase; Sec 6**	70 SFUs	12	38	50	38	22	60
1.	10 **Nithsdale, Sec 13**	35 SFUs	6	19	25	19	11	30
1.	11 **Old Town**	5 SFUs	1	3	4	3	1	4
1.	12 **West Nithsdale, Sec. 4**	35 SFUs	6	19	25	19	11	30
1.	13 **Oakwood Estates**	6 SFUs	1	3	4	3	2	5
1.	14 **Twelve Oaks**	10 SFUs	2	5	7	6	3	9
2.	1 **Pemb- near WWTP**	21 SFUs	4	11	15	11	7	18
2.	2 **Pemb- near Harbor Point**	37 SFUs	6	20	26	20	12	32
2.	3 **Pemb- near River Isle**	5 SFUs	1	3	4	3	1	4
2.	4 **Pemb- near Nithsdale**	14 SFUs	2	8	10	8	4	12
2.	5 **Pemb- at Crooked Oak**	66 SFUs	12	35	47	35	21	56
2.	6 **Pemb- near Steeplechase**	16 SFUs	3	8	11	9	5	14
2.	7 **Nant- near Centennial**	12 SFUs	2	7	9	6	4	10
2.	8 **Pemb- near W.Nithsdale**	6 SFUs	1	3	4	3	2	5
2.	9 **Upper Ferry at Pratt**	10 SFUs	2	5	7	6	3	9
2.	10 **Nant- at Fire Tower Rd**	6 SFUs	1	3	4	3	2	5
2.	11 **Homestead Farm**	114 SFUs	21	60	81	61	36	97
2.	12 **Nant- at Levin Dashiell**	166 SFUs	31	88	119	89	52	141
2.	13 **Nant- at Crockett Lane**	65 SFUs	11	35	46	35	20	55
3.	1 **Westover Heights**	4 SFUs	1	2	3	2	1	3
3.	2 **The Green at Heritage**	10 SFUs	2	5	7	6	3	9
3.	3 **Harbor Pointe**	11 SFUs	2	6	8	6	3	9
3.	4 **Village of Sleepy Hollow**	50 SFUs	9	26	35	27	16	43
3.	5 **Steeplechase**	3 SFUs	0	2	2	2	1	3
3.	6 **Olde Towne**	2 SFUs	0	1	1	1	1	2
3.	7 **Nithsdale**	2 SFUs	0	1	1	1	1	2
3.	8 **Idyllwood**	2 SFUs	0	1	1	1	1	2
3.	9 **Hunters Mill**	3 SFUs	0	2	2	2	1	3
3.	10 **Riawakin Acres & Centennial**	4 SFUs	1	2	3	2	1	3
		970 Single Family Units	172	516	688	522	306	828

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EXHIBIT 11
TRIP GENERATION RATES AND TOTALS
FOR 2020 DEVELOPMENT

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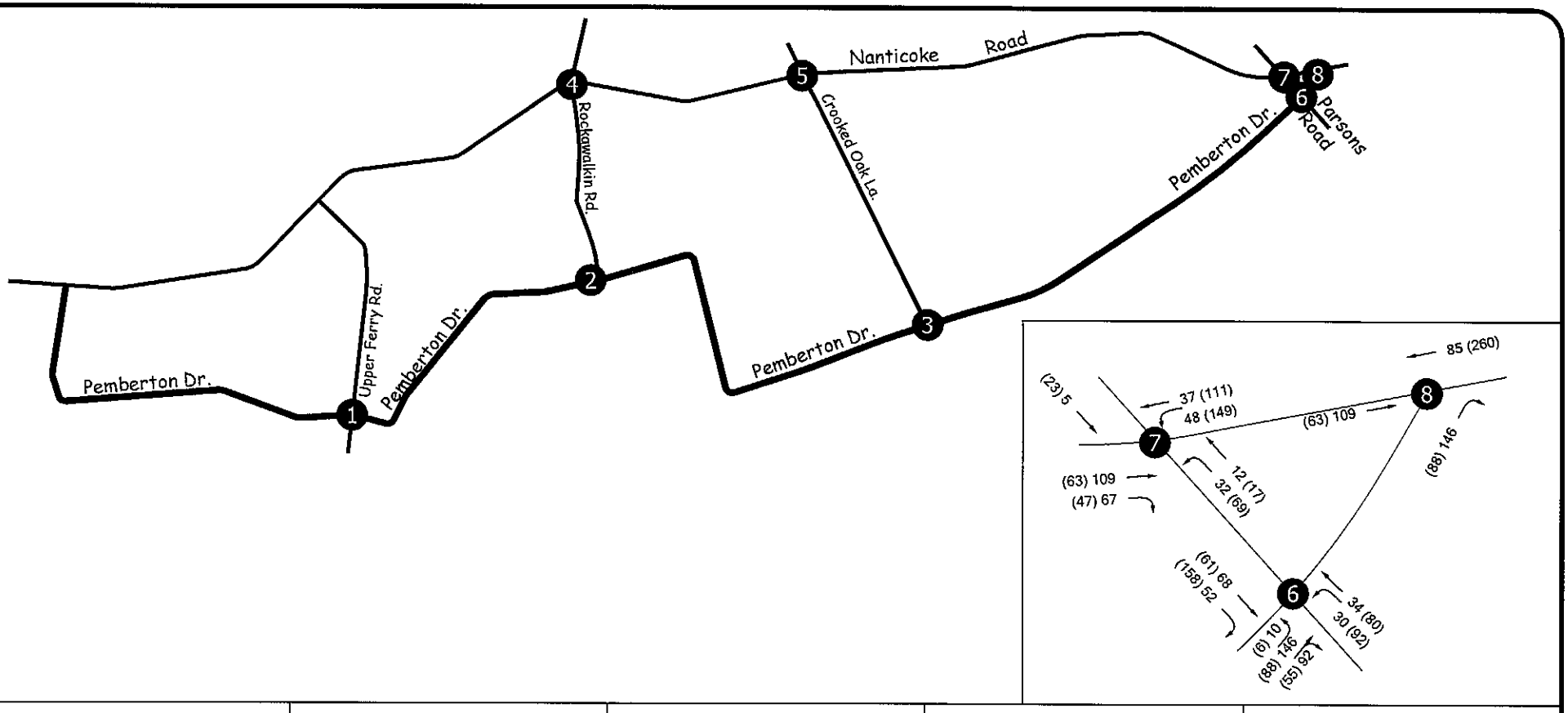

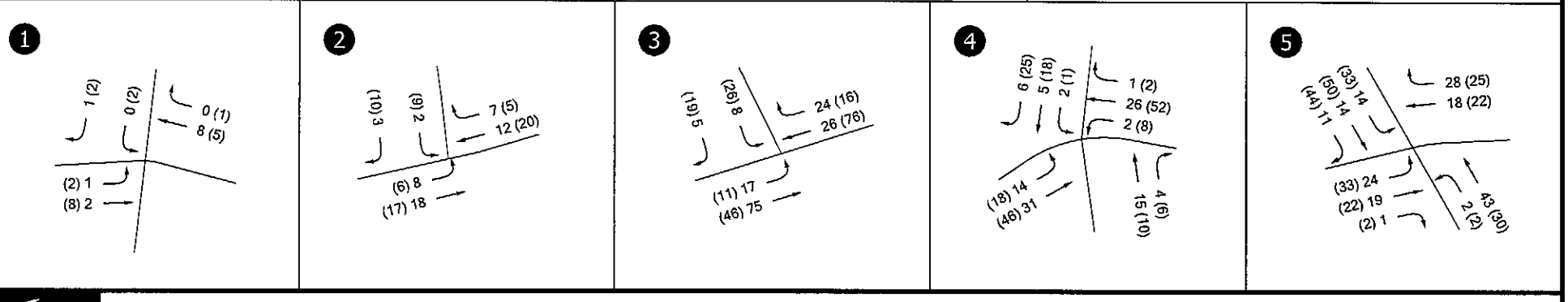

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EXHIBIT 12
COMBINED TRIPS GENERATED BY PROJECTED 2020 DEVELOPMENTS

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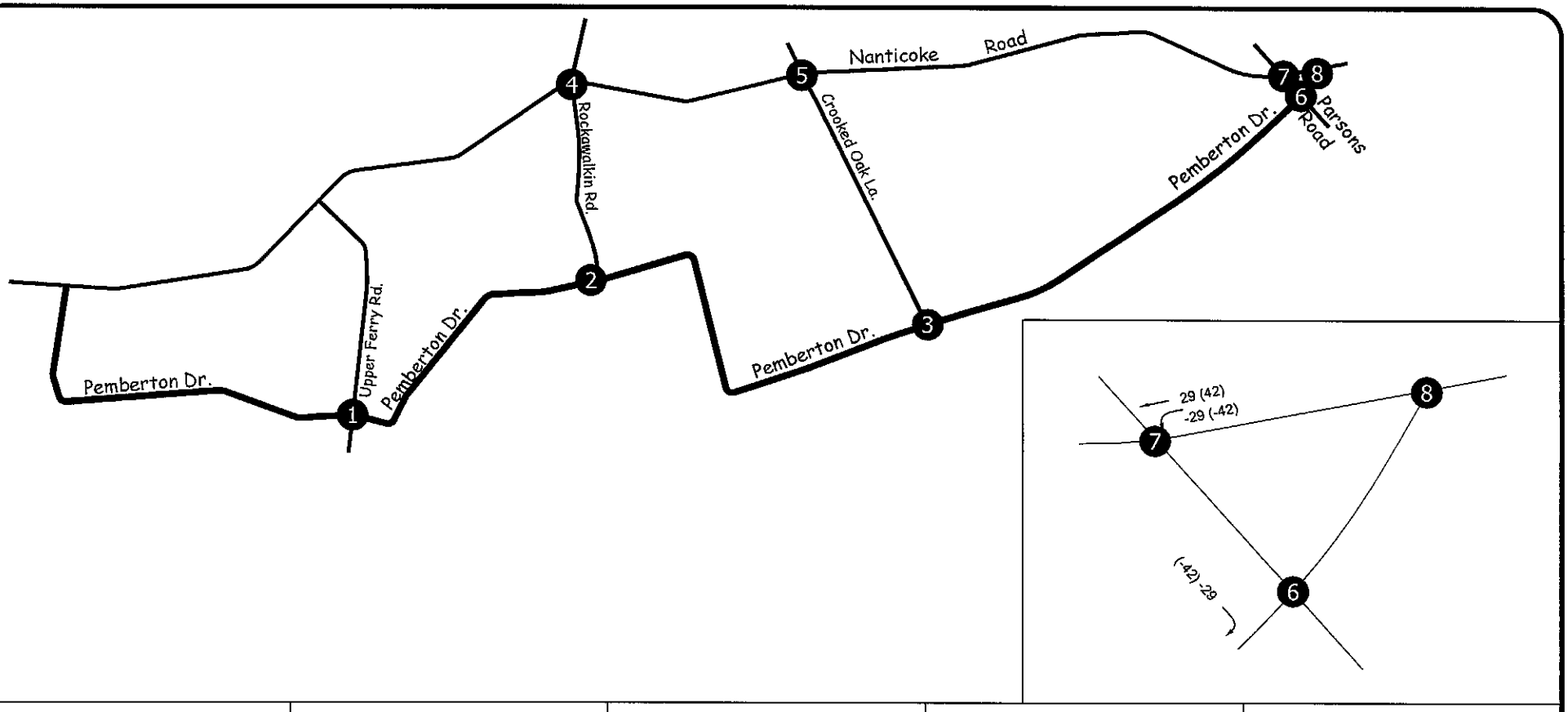

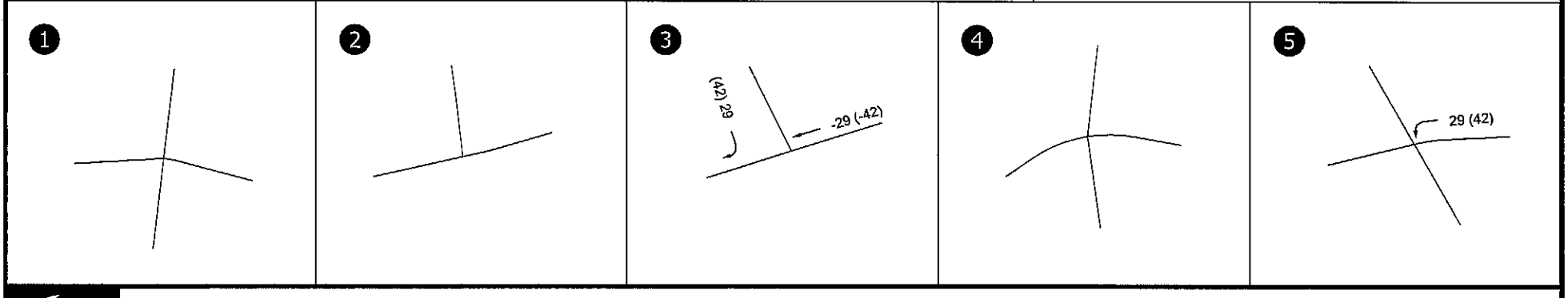

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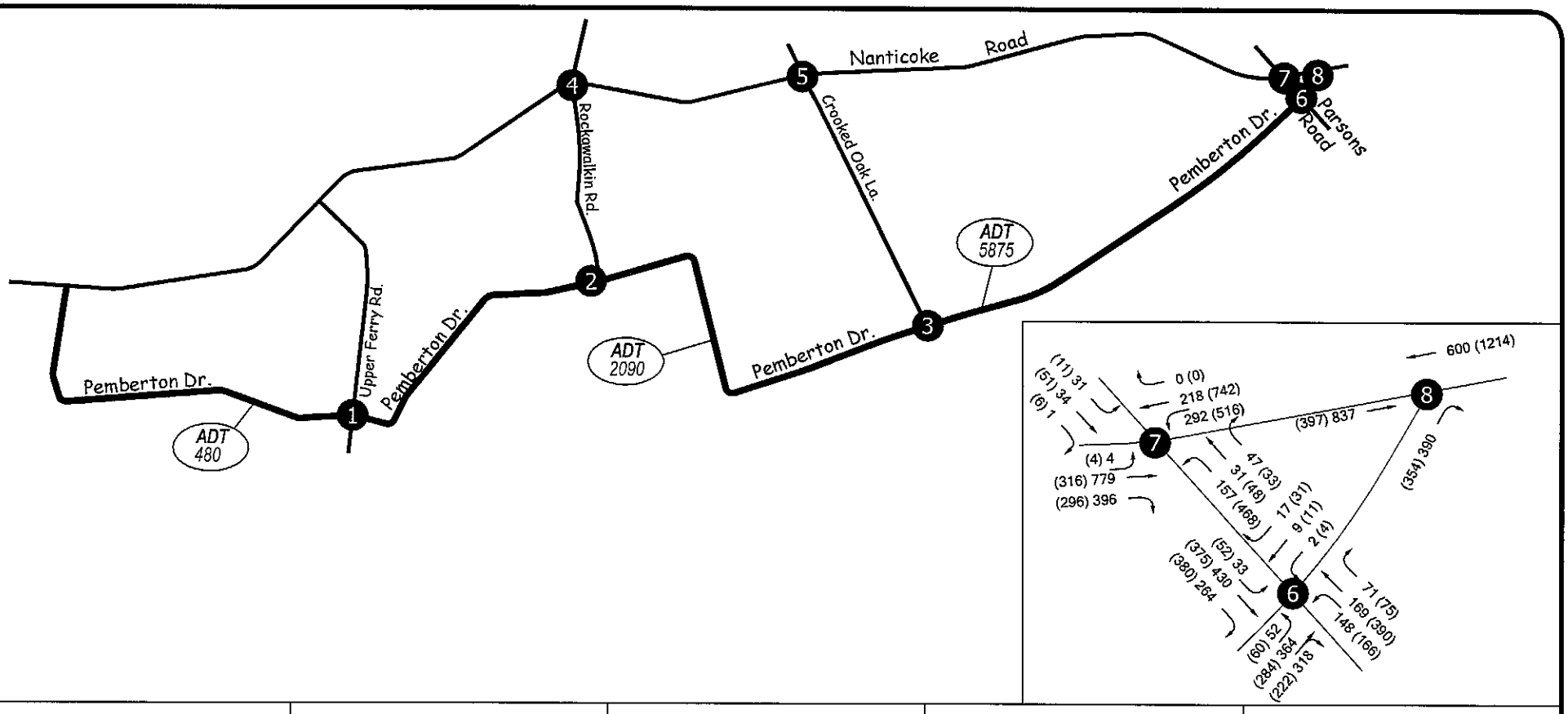
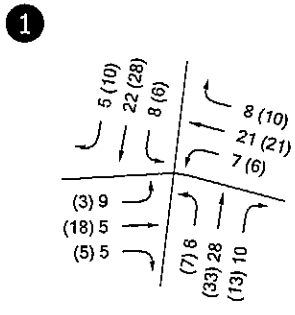
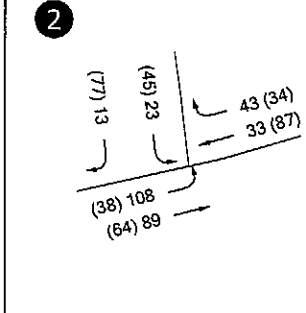
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

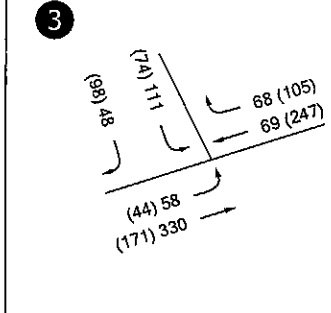
NOTE: A 10% diversion of the southbound right turns along Parsons Road was assumed to avoid the congestion along Parsons between Parsons Rd. and Nanticoke Rd.

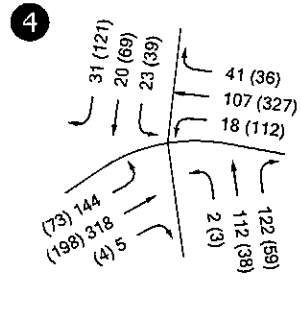
EXHIBIT 12A
ADJUSTMENTS TO 2020 PEAK HOUR TRAFFIC VOLUMES

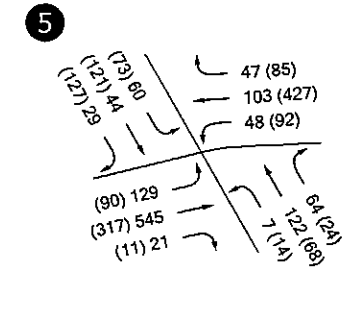












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00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 13
TOTAL 2020 PEAK HOUR TRAFFIC VOLUMES

FUTURE TRAFFIC CONDITIONS – 2030

ROADWAY IMPROVEMENTS - 2030

No additional roadway improvements are planned through the target year of 2030.

ANTICIPATED DEVELOPMENT - 2030

As with the target year of 2020, information on anticipated development along the Pemberton Drive Corridor for the target year of 2030 was obtained from the Salisbury/Wicomico County Department of Planning. This data is presented in Exhibit 4. The anticipated developments for the future target year of 2030 are located on the site map in Exhibit 14.

The Institute of Transportation Engineers' (ITE's) Trip Generation Report, Seventh Edition, 2003 was consulted to determine the trip generation rates and totals for these developments. The resulting trip generation rates and totals are provided in Exhibit 15.

The trip generation totals for the background developments were assigned to the key intersections utilizing the trip distributions depicted in the Exhibits contained in Appendix B. These trips were assigned to each intersection in combination as shown in Exhibit 16.

Because of the congestion at the intersection of Pemberton Drive and Parsons Road, it was anticipated that 15% of the traffic on Nanticoke Road making a left onto Parsons Road will continue west on Nanticoke Road and make the left turn to travel southbound at another location. These adjustments are provided in Exhibit 16A.

The total 2030 peak hour traffic volumes and projected ADT's are provided in Exhibit 17.

ANALYSIS OF FUTURE TRAFFIC CONDITIONS - 2030

The computer simulation model of the Pemberton Drive Corridor was updated to incorporate 2030 peak hour traffic volumes and the planned roadway improvements. The results of the HCM capacity analysis are presented in Exhibit 18A and18B and are discussed by intersection below.

Pemberton Drive and Upper Ferry Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Rockawalkin Road: No change in Level of Service of Existing conditions is projected for this intersection.

Pemberton Drive and Crooked Oak Lane: This Intersection is projected to operate at Levels of Service "B" or better for all approaches during the morning peak hour and at a Level of Service "C" during the evening weekday peak periods for the target year of 2030.

Pemberton Drive and Parsons Road: This intersection was analyzed as a signalized intersection and is projected to operate at a Level of Service "D" or better during both the morning and evening weekday peak periods for the target year of 2030.

Nanticoke Road and Rockawalkin Road: This intersection is projected to operate at acceptable Levels of Service "A" for the eastbound and westbound approaches during both the morning and evening weekday peak periods for the target year of 2030. The northbound and southbound approaches may experience considerable delay during morning and evening weekday peak periods.

Nanticoke Road and Crooked Oak Lane: This intersection was analyzed as a signalized intersection and is projected to operate at a Level of Service "B" during both the morning and evening weekday peak periods during the target year of 2030.

Nanticoke Road and Parsons Road: This signalized intersection is projected to operate at acceptable Levels of Service "D" or better during both the morning and evening weekday peak periods for the target year of 2030 with the additional improvements depicted in Exhibit 18. These improvements include

- Construct double left turn lanes along westbound Nanticoke Road
- Construct double left turn lanes along northbound Parsons Road
- Modify southbound continuous right turn lane along Parsons Road as a shared thru/right lane

Estimated costs are also provided on Exhibit 18.

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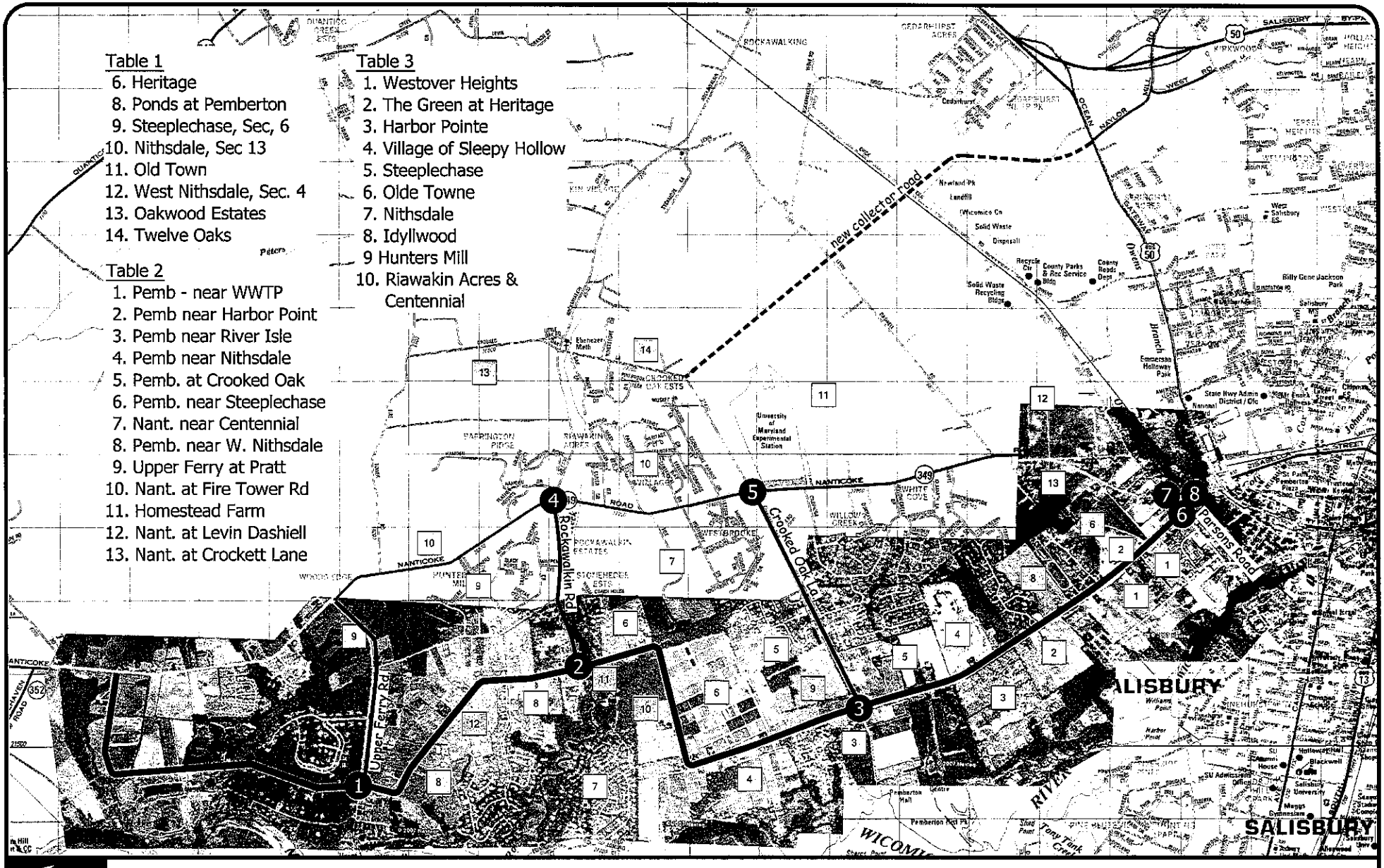

TRIP GENERATION TOTALS

TABLE			Morning Peak Hour			Evening Peak Hour		
			In	Out	Total	In	Out	Total
1. 6	**Heritage**	200 SFUs	36	105	141	104	63	167
1. 8	**Pemberton Ponds**	7 SFUs	1	4	5	4	2	6
1. 9	**Steeplechase; Sec 6**	45 SFUs	8	24	32	24	14	38
1. 10	**Nithsdale, Sec 13**	29 SFUs	5	16	21	15	9	24
1. 11	**Old Town**	4 SFUs	1	2	3	2	1	3
1. 12	**West Nithsdale, Sec. 4**	5 SFUs	1	3	4	3	1	4
1. 13	**Oakwood Estates**	4 SFUs	1	2	3	2	1	3
1. 14	**Twelve Oaks**	3 SFUs	0	2	2	2	1	3
2. 1	**Pemb- near WWTP**	33 SFUs	6	17	23	18	10	28
2. 2	**Pemb- near Harbor Point**	53 SFUs	9	29	38	28	16	44
2. 3	**Pemb- near River Isle**	6 SFUs	1	3	4	3	2	5
2. 4	**Pemb- near Nithsdale**	22 SFUs	4	12	16	11	7	18
2. 5	**Pemb- at Crooked Oak**	100 SFUs	18	53	71	53	31	84
2. 6	**Pemb- near Steeplechase**	25 SFUs	4	14	18	13	8	21
2. 7	**Nant- near Centennial**	19 SFUs	3	10	13	10	6	16
2. 8	**Pemb- near W.Nithsdale**	9 SFUs	1	5	6	5	3	8
2. 9	**Upper Ferry at Pratt**	16 SFUs	3	8	11	8	5	13
2. 10	**Nant- at Fire Tower Rd**	9 SFUs	1	5	6	5	3	8
2. 11	**Homestead Farm**	171 SFUs	31	89	120	90	53	143
2. 12	**Nant- at Levin Dashiell**	249 SFUs	45	130	175	130	78	208
2. 13	**Nant- at Crockett Lane**	97 SFUs	17	52	69	51	30	81
3. 1	**Westover Heights**	5 SFUs	1	3	4	3	1	4
3. 2	**The Green at Heritage**	5 SFUs	1	3	4	3	1	4
3. 3	**Harbor Pointe**	21 SFUs	4	11	15	11	7	18
3. 4	**Village of Sleepy Hollow**	29 SFUs	5	16	21	15	9	24
3. 5	**Steeplechase**	4 SFUs	1	2	3	2	1	3
3. 6	**Olde Towne**	3 SFUs	0	2	2	2	1	3
3. 7	**Nithsdale**	4 SFUs	1	2	3	2	1	3
3. 8	**Idyllwood**	3 SFUs	0	2	2	2	1	3
3. 9	**Hunters Mill**	3 SFUs	0	2	2	2	1	3
3. 10	**Riawakin Acres & Centennial**	5 SFUs	1	3	4	3	1	4
		1188 Single Family Units	210	631	841	626	368	994

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EXHIBIT 15
TRIP GENERATION RATES AND TOTALS
FOR 2030 DEVELOPMENT

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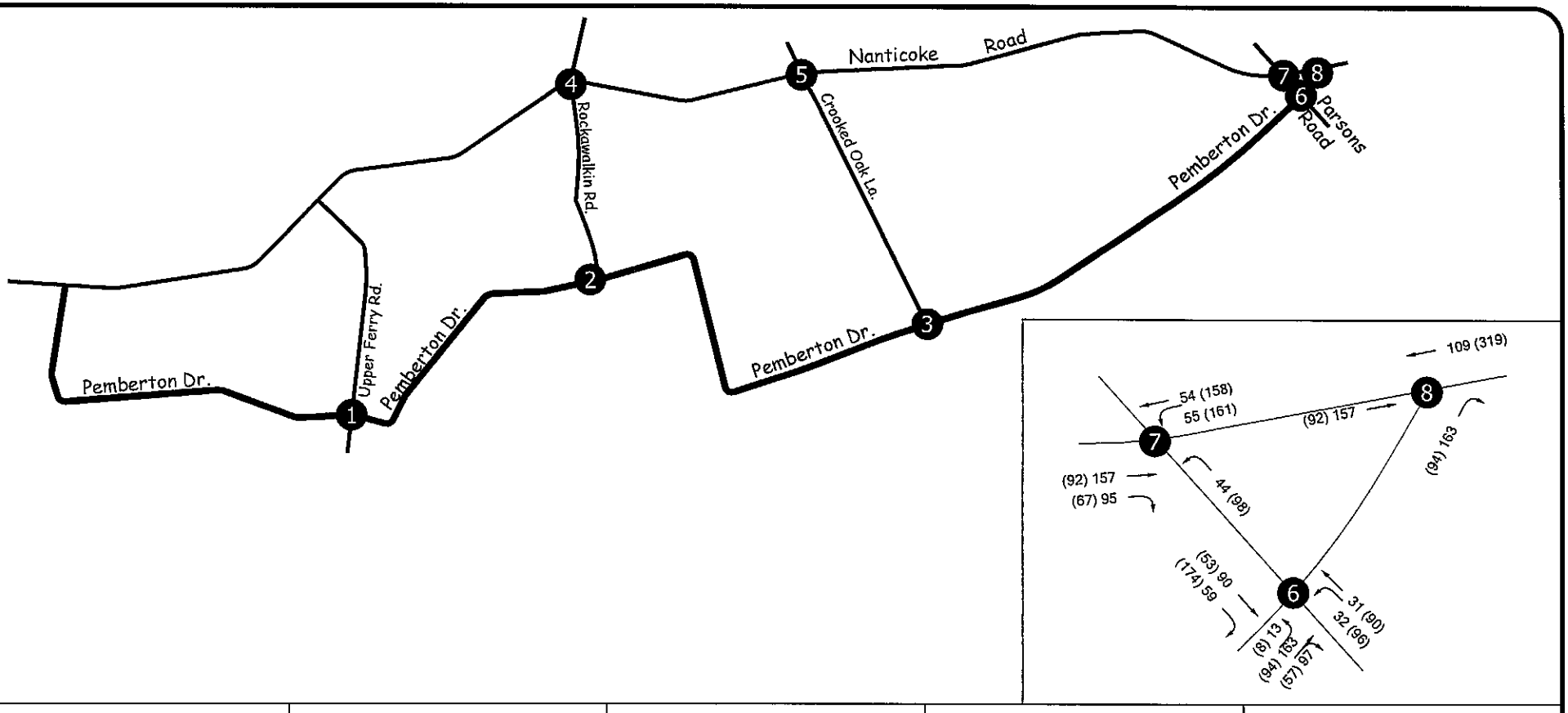

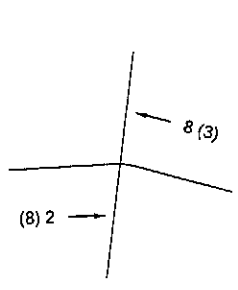

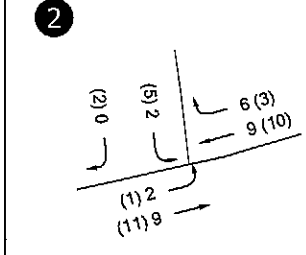

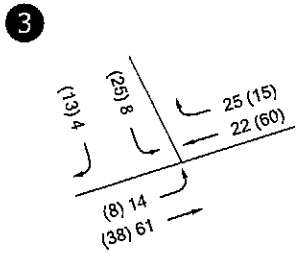

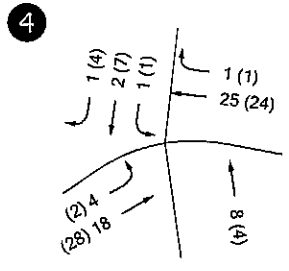

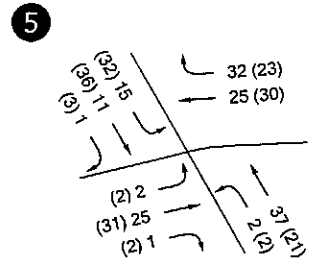

NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 16
COMBINED TRIPS GENERATED BY PROJECTED 2030 DEVELOPMENTS

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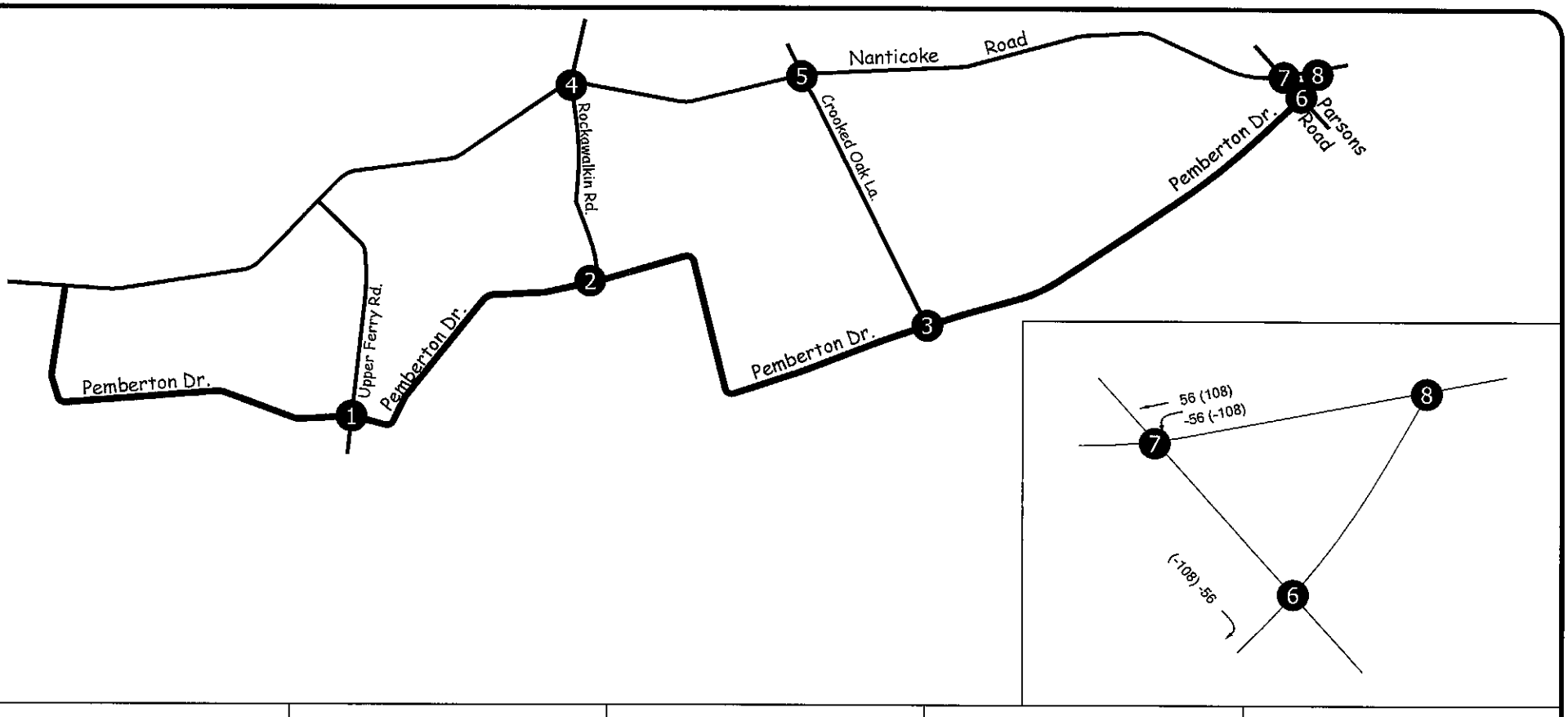
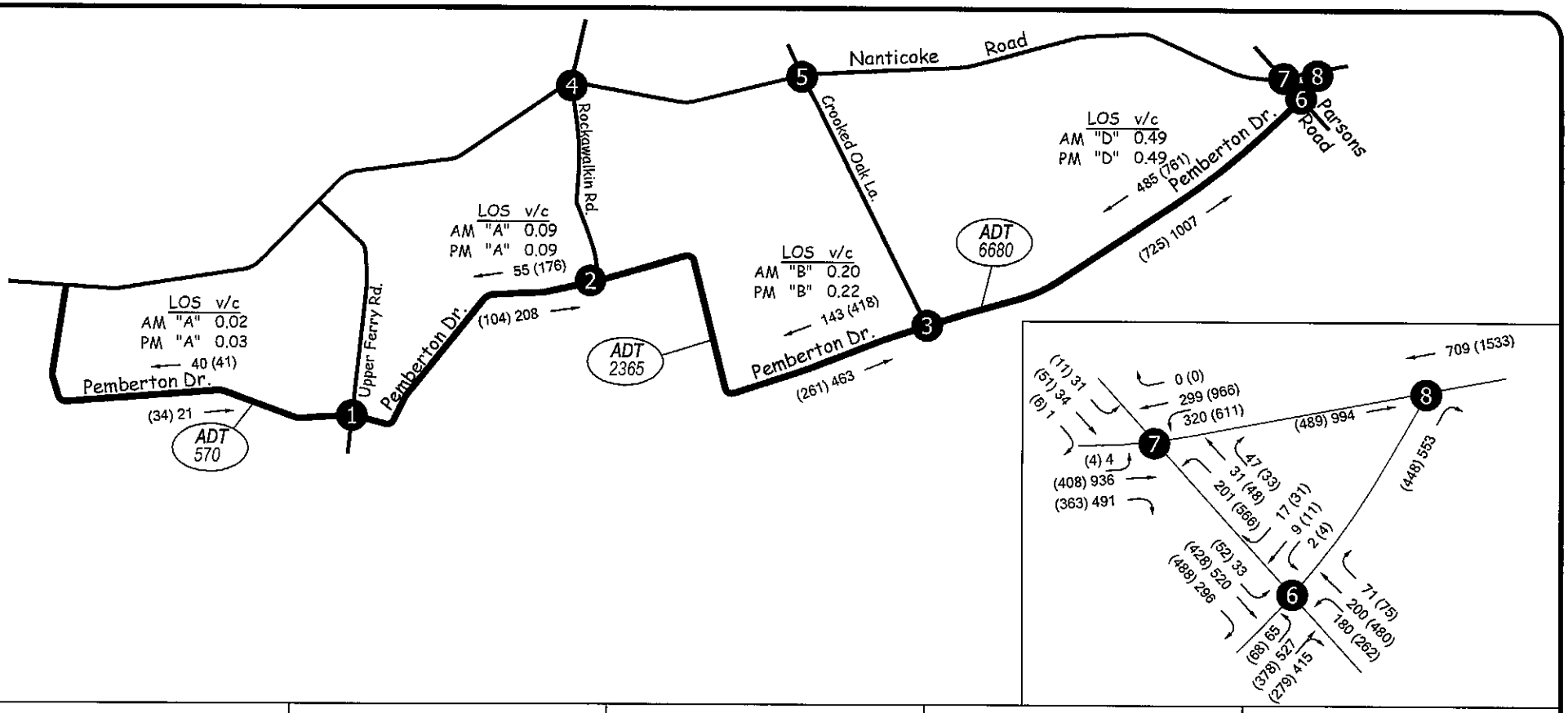


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

NOTE: A 15% diversion of the southbound right turns along Parsons Road was assumed to avoid the congestion along Parsons between Parsons Rd. and Nanticoke Rd.

EXHIBIT 16A
ADJUSTMENTS TO 2030 PEAK HOUR TRAFFIC VOLUMES



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

EXHIBIT 17
TOTAL 2030 PEAK HOUR TRAFFIC VOLUMES

RESULTS AND RECOMMENDATIONS

A computer simulation model of the Pemberton Drive Corridor was developed for existing and future (2010, 2020 and 2030) conditions using Synchro and SimTraffic. These models utilize the Highway Capacity Manual (HCM) methodology to assess capacity and operations at the study intersections and roadway segments. The results of the capacity analyses are provided in Exhibits 18A and 18B.

The analysis of existing conditions showed all study intersections to be operating at an acceptable Level of Service (LOS) except the Pemberton Drive & Parsons Road intersection. The Pemberton Drive & Parsons Road intersection, which is controlled with a 4-way STOP, is presently operating at an unsatisfactory Level of Service for the eastbound approach during the morning weekday peak hour period and operating at an acceptable Level of Service "C" condition for the evening weekday peak hour period.

Information was obtained from the Salisbury/Wicomico County Department of Planning on anticipated development along the Pemberton Drive Corridor (under existing zoning) for the 2010, 2020, and 2030 analysis time periods. Additionally, two roadway improvement projects, which are anticipated to be constructed by the target year of 2010) were included in the analyses of future conditions. The projects included:

- The Westside Collector which will connect US 50 Business, north of Salisbury at Naylor Mill Road, to Crooked Oak Lane. Crooked Oak Lane south to Nanticoke Road (MD 349), and
- A combined City of Salisbury and State Highway Administration plan to improve traffic operations at the Nanticoke Road & Pemberton Drive, Nanticoke Road & Parsons Road, and Pemberton Drive & Parsons Road intersections which form a triangle at the western terminus of the Pemberton Drive Corridor.

The analysis of future 2010, 2020, and 2030 traffic conditions resulted in the following observations and recommendation:

The Pemberton Drive & Parsons Road intersection was analyzed as a signalized intersection for future conditions and is projected to operate at Level of Service "B" conditions or better during both the morning and evening weekday peak periods for the target years of 2010 and 2020. For the target year of 2030, it is recommended that the eastbound right turn lane on Pemberton Drive be lengthened to address significant queuing anticipated for that movement. With this improvement, this intersection is projected to operate at Level of Service "C" conditions or better during both the morning and evening weekday peak periods for the target year of 2030.

The Nanticoke Road & Parsons Road intersection is projected to operate at acceptable Level of Service "C" conditions or better during both the morning and evening weekday peak periods for the target years of 2010 and 2020. For the target year of 2030, it is

recommended that this intersection be improved to provide double left turn lanes from westbound Nanticoke Road onto southbound Parsons Road. Also, double left turn lanes are recommended for northbound Parsons Road onto westbound Nanticoke Road. Both of these improvements are needed to address operational concerns and anticipated queuing. With these improvements, this signalized intersection is projected to operate at a Level of Service "D" conditions or better during both the morning and evening weekday peak periods for the target year of 2030.

Exhibit 19 shows these recommended improvements as presented in the Synchro/ SimTraffic program.

The intersections of Nanticoke Road with Crooked Oak Lane (Westside Collector) and with Rockawalkin Road were included on the computer simulation to demonstrate the diversion of traffic to the Westside Collector. Therefore, anticipated peak hour traffic conditions are reported; however no specific roadway improvements have been identified for this intersection as it is outside the scope of the Pemberton Drive Corridor Study

As a result of the analyses of 2010, 2020, and 2030 traffic conditions, the following summarizes the recommended roadway improvements were identified for the target years of 2010, 2020, and 2030:

2010 Improvements

- At Crooked Oak Lane & Nanticoke Road, consider adding left turn lanes along Nanticoke Road and consider signalization.
- The addition of the collector road connecting Crooked Oak Lane to US 50 is important to alleviating congestion at the Nanticoke/Parsons/Pemberton triangle.

2030 Improvements

- At Nanticoke Road & Parsons Road, double left turns for the westbound Nanticoke Road approach and for the northbound Parsons Road approach.
- Parsons Road, between Nanticoke Road and Pemberton Drive, construct an additional southbound thru lane to accept double left turns.
- At Pemberton Drive & Parsons Road, lengthen the eastbound Pemberton Drive right turn lane.

General Considerations

- Exclusive left turn lanes should be considered along Pemberton Drive for large developments (particularly in the westbound direction).
- A 2-lane roadway section should be sufficient along the length of Pemberton Drive. Consideration should be given to providing a separate bike lane along Pemberton Drive from its intersection to the west at Nanticoke Road to Parsons Road to the east.

Our recommendation for these roadway improvements are conceptual in nature and are based upon the mathematical computations/capacity analyses that are provided in this report.

	Intersection Analysis	Existing Traffic	2010 Traffic	2020 Traffic	2030 Traffic
	Morning Peak Hour Traffic	**LOS/delay**	**LOS/delay**	**LOS/delay**	**LOS/delay**
1	Pemberton Dr & Upper Ferry Rd				
	EB major approach	A/4.5	A/3.7	A/3.5	A/3.2
	WB major approach	A/2.1	A/1.8	A/1.4	A/1.2
	NB minor approach	A/9.3	A/9.3	A/9.4	A/9.4
	SB minor approach	A/9.4	A/9.4	A/9.4	A/9.5
2	Pemberton Dr & Rockawalkin Rd				
	EB major approach	A/4.3	A/4.6	A/4.4	A/4.3
	SB minor approach	B/10.2	B/10.3	B/10.6	B/10.9
3	Pemberton Dr & Crooked Oak Ln				
	EB major approach	A/0.4	A/1.3	A/1.5	A/1.7
	SB minor approach	B/12.2	B/12.6	B/14.6	C/16.7
4	Nanticoke Rd & Rockawalkin Rd				
	EB major approach	A/1.5	A/3.0	A/3.1	A/3.2
	WB major approach	A/0.7	A/1.0	A/1.0	A/0.8
	NB minor approach	C/18.1	C/20.8	D/28.4	E/35.4
	SB minor approach	C/18.6	C/20.6	D/26.9	D/33.3
5	Nanticoke Rd & Crooked Oak Ln				
	EB major approach	A/0.1	----	----	----
	WB major approach	A/1.7	----	----	----
	NB minor approach	C/18.4	----	----	----
	SB minor approach	D/30.9	----	----	----
	traffic signal	----	A/8.5	A/10.0	B/11.2
6	Pemberton Dr & Parsons Rd				
	ALL-WAY STOP NB approach	C/16.1	----	----	----
	SB approach	D/33.7	----	----	----
	EB approach	E/47.9	----	----	----
	WB approach	C/23.9	----	----	----
	intersection	D/32.5	----	----	----
	traffic signal	----	B/15.4	B/19.1	C/23.5
	w/additional improvements	----	----	----	C/27.1
7	Nanticoke Dr & Parsons Rd				
	traffic signal	B/12.7	C/27.1	C/30.3	D/43.6
	w/additional improvements	----	----	----	D/36.2

Link Analysis of Pemberton Drive (LOS/"v/c")

East of Upper Ferry Road	A/0.01	A/0.01	A/0.02	A/0.02
East of Rockawalkin Road	A/0.06	A/0.07	A/0.09	A/0.09
East of Crooked Oak Lane	A/0.13	A/0.13	A/0.18	B/0.21
East of Parsons Road	B/0.24	B/0.28	C/0.38	D/0.49

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EXHIBIT 18A
RESULTS OF INTERSECTION
CAPACITY ANALYSES - MORNING PEAK HOUR

dj, 060628\los.xls-results-am, 07/19/07

	Intersection Analysis	Existing Traffic	2010 Traffic	2020 Traffic	2030 Traffic
	Evening Peak Hour Traffic	**LOS/delay**	**LOS/delay**	**LOS/delay**	**LOS/delay**
1	Pemberton Dr & Upper Ferry Rd				
	EB major approach	A/0.7	A/0.5	A/0.9	A/0.7
	WB major approach	A/1.7	A/1.4	A/1.2	A/1.1
	NB minor approach	A/9.3	A/9.3	A/9.4	A/9.5
	SB minor approach	A/9.3	A/9.3	A/9.4	A/9.5
2	Pemberton Dr & Rockawalkin Rd				
	EB major approach	A/3.0	A/3.1	A/2.9	A/2.7
	SB minor approach	A/9.4	A/9.6	B/10.0	B/10.3
3	Pemberton Dr & Crooked Oak Ln				
	EB major approach	A/0.4	A/1.8	A/2.0	A/2.0
	SB minor approach	B/12.2	B/11.4	B/14.1	C/18.6
4	Nanticoke Rd & Rockawalkin Rd				
	EB major approach	A/1.0	A/2.4	A/2.6	A/2.0
	WB major approach	A/2.2	A/2.4	A/2.5	A/1.9
	NB minor approach	B/13.4	B/14.5	C/19.1	C/21.3
	SB minor approach	C/20.8	C/23.7	E/48	F/69
5	Nanticoke Rd & Crooked Oak Ln				
	EB major approach	A/0.1	----	----	----
	WB major approach	A/1.3	----	----	----
	NB minor approach	C/20.4	----	----	----
	SB minor approach	D/29.1	----	----	----
	traffic signal	----	A/7.4	B/10.7	B/12.3
6	Pemberton Dr & Parsons Rd				
	ALL-WAY STOP: NB approach	D/32.1	----	----	----
	SB approach	C/20.0	----	----	----
	EB approach	D/26.6	----	----	----
	WB approach	C/20.3	----	----	----
	intersection	D/25.7	----	----	----
	traffic signal	----	A/14	B/16.4	D/36.4
	w/additional improvements	----	----	----	C/23.1
7	Nanticoke Dr & Parsons Rd				
	traffic signal	C/21.6	C/27.1	C/33.5	E/70.1
	w/additional improvements	----	----	----	D/45.7

Link Analysis of Pemberton Drive (LOS/"v/c")

East of Upper Ferry Road	A/0.01	A/0.02	A/0.02	A/0.03
East of Rockawalkin Road	A/0.06	A/0.08	A/0.09	A/0.10
East of Crooked Oak Lane	A/0.13	A/0.14	B/0.20	B/0.24
East of Parsons Road	B/0.19	B/0.25	C/0.37	D/0.49

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EXHIBIT 18B
RESULTS OF INTERSECTION
CAPACITY ANALYSES - EVENING PEAK HOUR

dj, 060628\los.xls-results-pm, 07/19/07

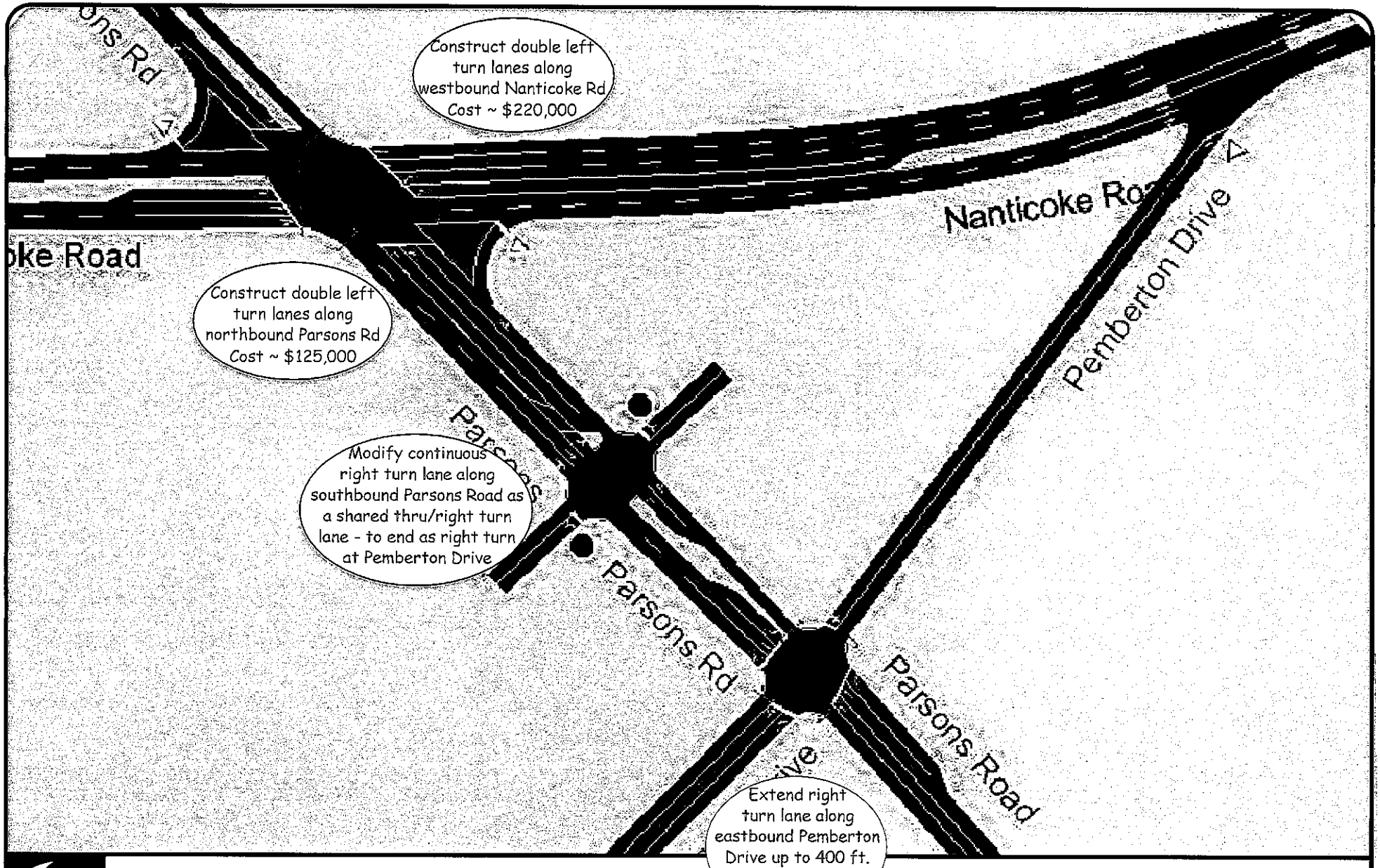

EXHIBIT 19
RECOMMENDED IMPROVEMENTS

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dj, 060628\pemberton.dwg-improvements, 07/31/07

APPENDIX A

Intersection Turning Movement Counts,

24-hour Machine Counts,

Condition Diagrams and Photos

VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Pemberton Drive
and: Upper Ferry Road
Location: Wicomico County, MD

Counted by: JF/KF
Date: November 30,2006
Weather: Partly cloudy, 50's-70's
Entered by: TB

Day: Thursday

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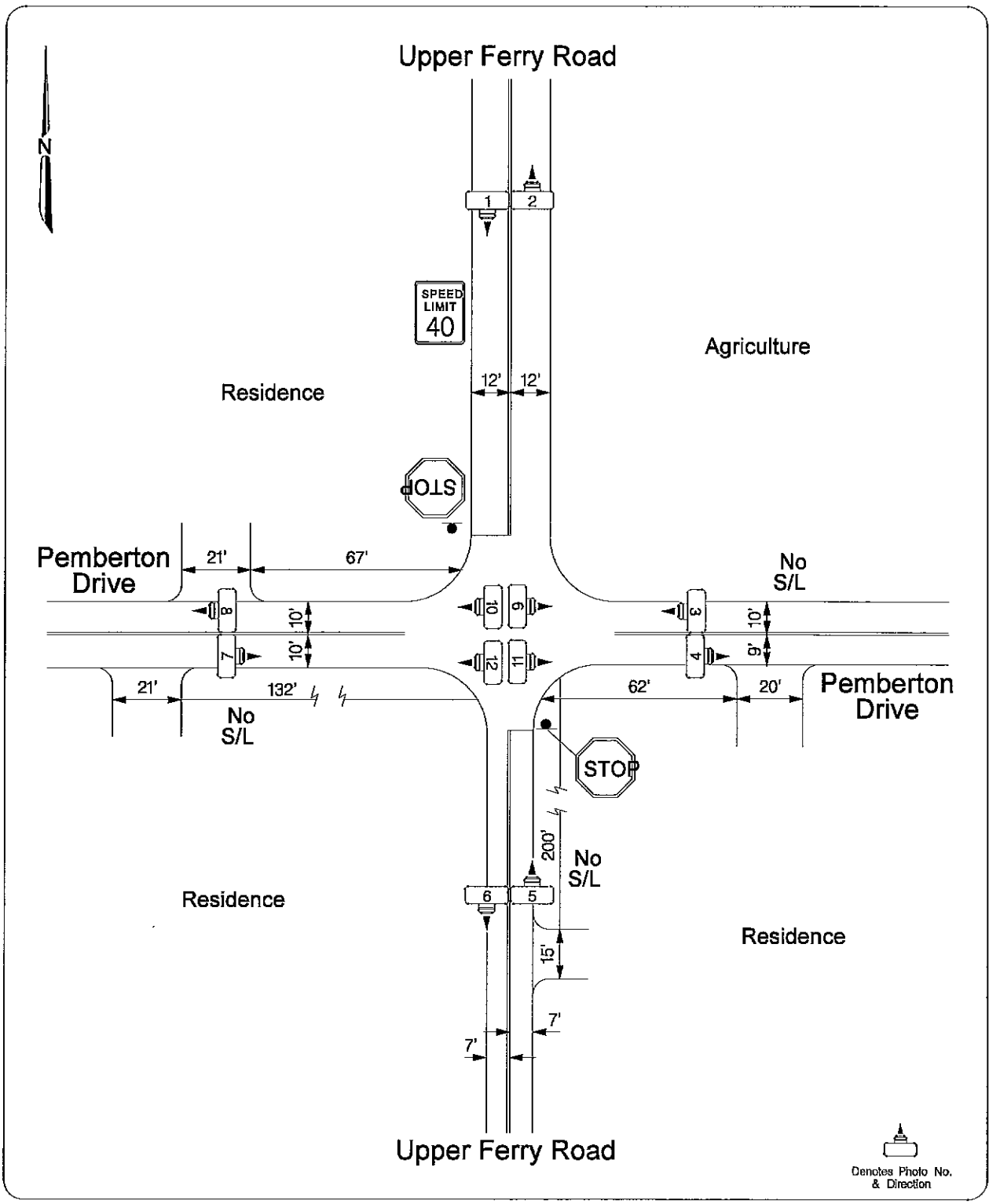
TIME	TRAFFIC FROM NORTH on: Upper Ferry Road					TRAFFIC FROM SOUTH on: Upper Ferry Road					TRAFFIC FROM EAST on: Pemberton Drive					TRAFFIC FROM WEST on: Pemberton Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
06:0-15	2	0	0		2	2	2	0		4	1	2	0		3	0	0	1		1	10
15-30	1	1	0		2	0	1	0		1	0	0	0		0	0	0	0		0	3
30-45	1	1	0		2	0	1	0		1	0	0	0		0	0	0	1		1	4
45-00	0	2	0		2	1	2	0		3	2	1	1		4	1	0	0		1	10
07:0-15	0	5	2		7	1	4	1		6	0	0	3		3	1	1	1		3	19
15-30	0	9	1		10	0	4	1		5	2	0	2		4	1	0	0		1	20
30-45	0	6	1		7	2	11	0		13	1	0	4		5	1	0	3		4	29
45-00	1	6	3		10	3	6	2		11	3	1	1		5	2	0	1		3	29
08:0-15	2	4	1		7	2	6	1		9	3	2	2		7	2	0	2		4	27
15-30	1	6	2		9	3	5	3		11	0	7	0		7	0	0	2		2	29
30-45	0	4	0		4	2	6	2		10	0	1	0		1	2	0	1		3	18
45-00	0	7	0		7	5	10	2		17	4	5	4		13	2	1	0		3	40
3 Hr Totals	8	51	10	0	69	21	58	12	0	91	16	19	17	0	52	12	2	12	0	26	238
1 Hr Totals																					
06-07	4	4	0	0	8	3	6	0	0	9	3	3	1	0	7	1	0	2	0	3	27
615-715	2	9	2	0	13	2	8	1	0	11	2	1	4	0	7	2	1	2	0	5	36
630-730	1	17	3	0	21	2	11	2	0	15	4	1	6	0	11	3	1	2	0	6	53
645-745	0	22	4	0	26	4	21	2	0	27	5	1	10	0	16	4	1	4	0	9	78
07-08	1	26	7	0	34	6	25	4	0	35	6	1	10	0	17	5	1	5	0	11	97
715-815	3	25	6	0	34	7	27	4	0	38	9	3	9	0	21	6	0	6	0	12	105
730-830	4	22	7	0	33	10	28	6	0	44	7	10	7	0	24	5	0	8	0	13	114
745-845	4	20	6	0	30	10	23	8	0	41	6	11	3	0	20	6	0	6	0	12	103
08-09	3	21	3	0	27	12	27	8	0	47	7	15	6	0	28	6	1	5	0	12	114
PEAK HOUR																					
730-830	4	22	7	0	33	10	28	6	0	44	7	10	7	0	24	5	0	8	0	13	114
PM																					
04:0-15	1	8	0		9	3	6	3		12	2	1	0		3	3	2	0		5	29
15-30	1	7	0		8	1	6	4		11	1	3	2		6	0	1	0		1	26
30-45	5	5	1		11	4	9	0		13	4	7	2		13	1	0	0		1	38
45-00	1	8	1		10	5	12	0		17	0	2	2		4	1	1	1		3	34
05:0-15	0	10	2		12	0	5	1		6	2	2	3		7	1	2	0		3	28
15-30	2	7	1		10	1	2	0		3	2	0	0		2	1	2	2		5	20
30-45	0	0	0		0	0	1	0		1	2	1	2		5	1	0	0		1	7
45-00	0	2	1		3	1	1	0		2	3	5	2		10	0	0	0		0	15
06:0-15	0	2	2		4	1	0	0		1	1	2	0		3	0	2	1		3	11
15-30	0	3	3		6	1	0	0		1	1	3	1		5	0	0	0		0	12
30-45	0	5	1		6	0	2	1		3	2	2	2		6	0	0	1		1	16
45-00	3	4	0		7	1	0	0		1	0	0	0		0	0	0	1		1	9
3 Hr Totals	13	61	12	0	86	18	44	9	0	71	20	28	16	0	64	8	10	6	0	24	245
1 Hr Totals																					
04-05	8	28	2	0	38	13	33	7	0	53	7	13	6	0	26	5	4	1	0	10	127
415-515	7	30	4	0	41	10	32	5	0	47	7	14	9	0	30	3	4	1	0	8	126
430-530	8	30	5	0	43	10	28	1	0	39	8	11	7	0	26	4	5	3	0	12	120
445-545	3	25	4	0	32	6	20	1	0	27	6	5	7	0	18	4	5	3	0	12	89
05-06	2	19	4	0	25	2	9	1	0	12	9	8	7	0	24	3	4	2	0	9	70
515-615	2	11	4	0	17	3	4	0	0	7	8	8	4	0	20	2	4	3	0	9	53
530-630	0	7	6	0	13	3	2	0	0	5	7	11	5	0	23	1	2	1	0	4	45
545-645	0	12	7	0	19	3	3	1	0	7	7	12	5	0	24	0	2	2	0	4	54
06-07	3	14	6	0	23	3	2	1	0	6	4	7	3	0	14	0	2	3	0	5	48
PEAK HOUR																					
04-05	8	28	2	0	38	13	33	7	0	53	7	13	6	0	26	5	4	1	0	10	127



The Traffic Group

Upper Ferry Road @ Pemberton Drive

FIELD WORK BY: G. Ashton
DRAWN BY: K.Hurley
DATE: January, 2006
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: Upper Ferry Roode Pemberton Drive.dgn
LOCATION: Wicomico County, MD
SHEET NO.: 2 OF 5

...\Upper Ferry Road@Pemberton Dri 7/17/2007 9:44:49 AM

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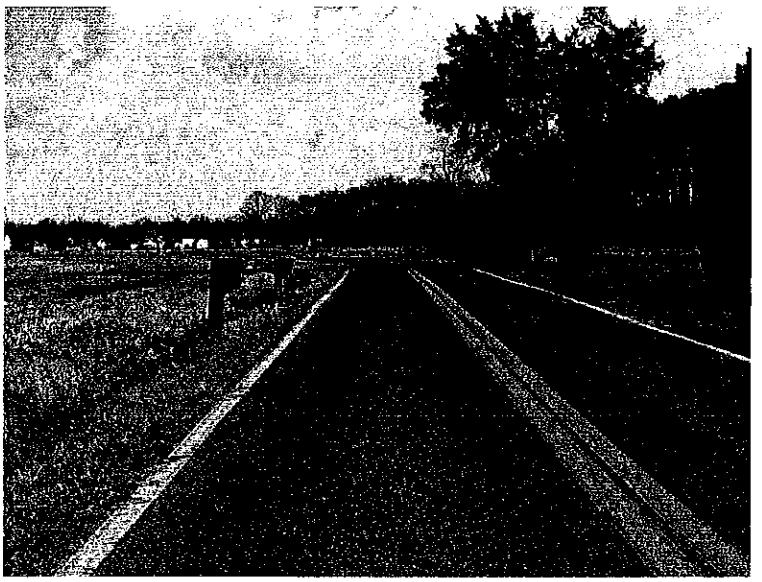

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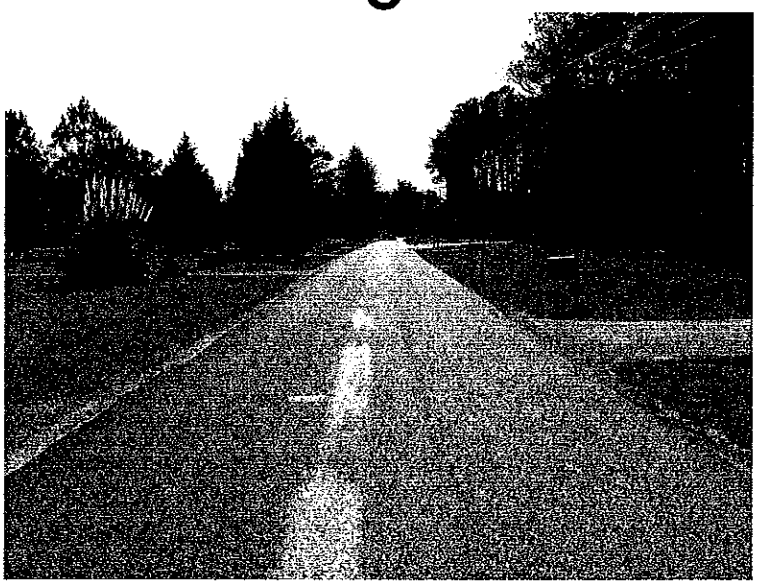

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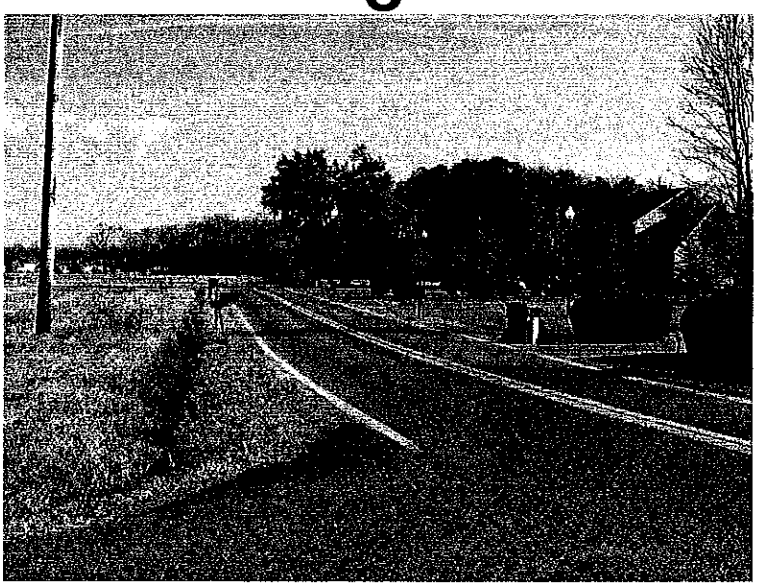

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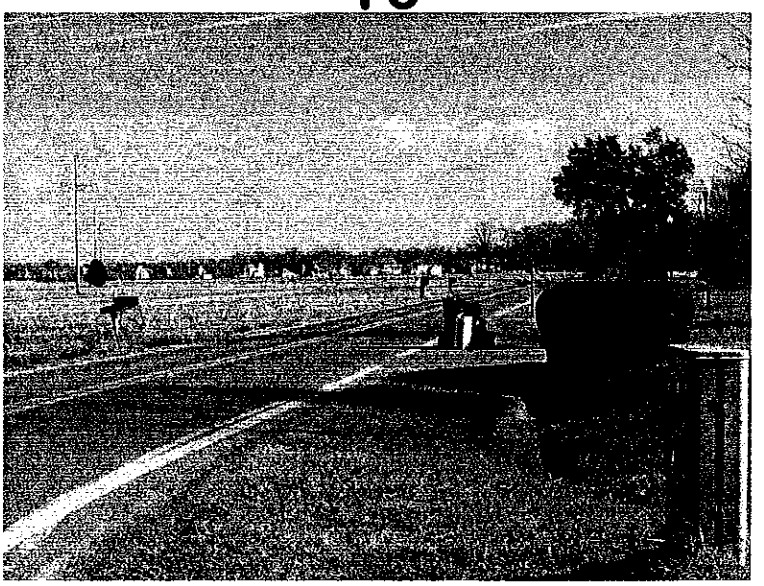

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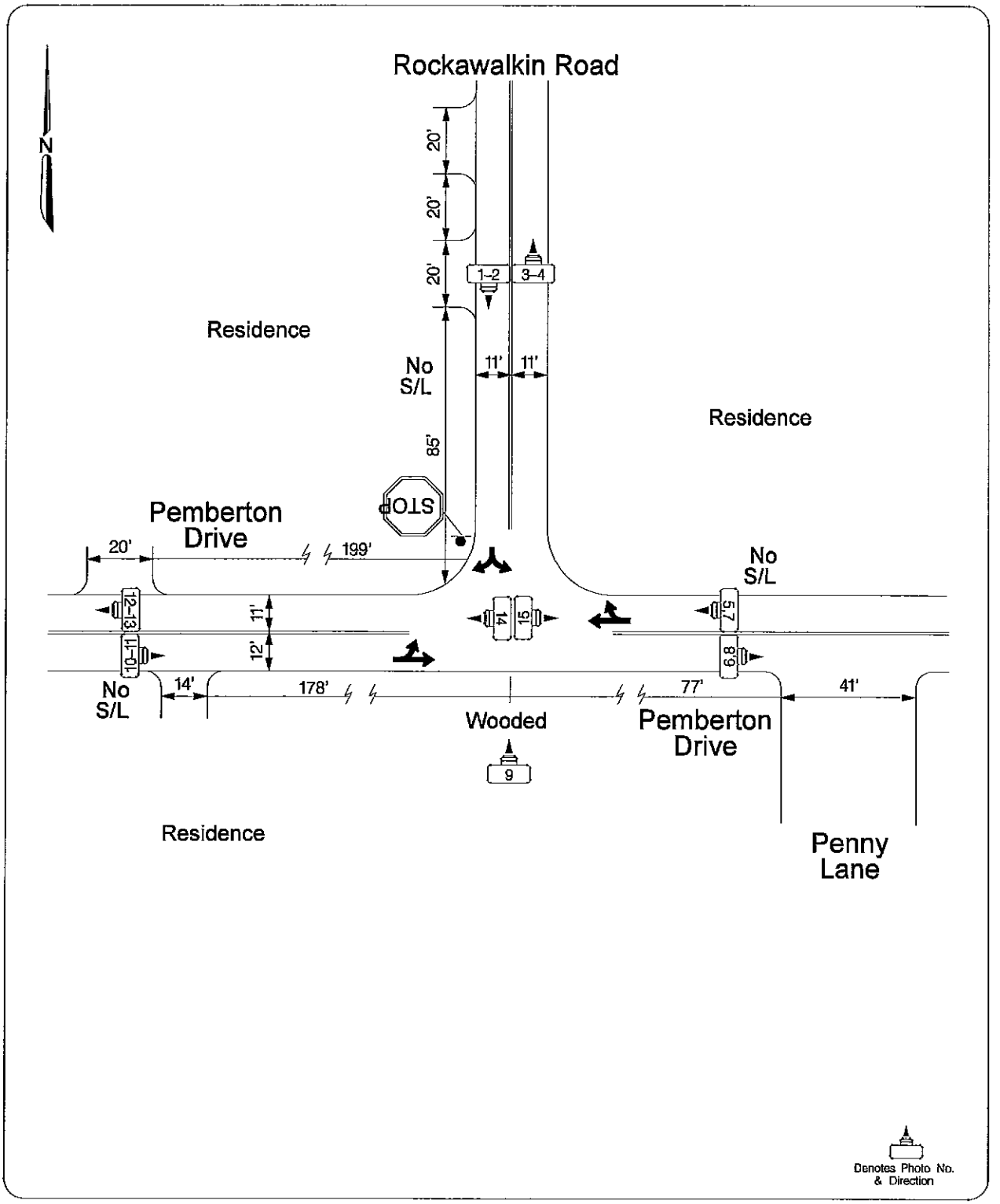
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Pemberton Drive
and: Rockawalkin Road
Location: Wicomico County, MD

Counted by: DP/HT
Date: December 5,2006-Nov29, 2006
Weather: Clear, 30-50's
Entered by: GA

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Rockawalkin Road					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST on: Pemberton Drive					TRAFFIC FROM WEST on: Pemberton Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
06:0-15	0		0		0					0	1	1			2		0	3		3	5
15-30	1		0		1					0	3	1			4		0	4		4	9
30-45	1		2		3					0	3	0			3		8	8		16	22
45-00	1		6		7					0	2	1			3		9	9		18	28
07:0-15	2		5		7					0	7	5			12		8	24		32	51
15-30	1		5		6					0	6	6			12		26	28		54	72
30-45	0		4		4					0	6	4			10		18	20		38	52
45-00	3		2		5					0	11	2			13		20	15		35	53
08:0-15	6		9		15					0	7	13			20		7	13		20	55
15-30	5		3		8					0	8	7			15		25	20		45	68
30-45	6		1		7					0	5	10			15		10	13		23	45
45-00	5		3		8					0	3	5			8		11	10		21	37
3 Hr Totals	31	0	40	0	71	0	0	0	0	0	62	55	0	0	117	0	142	167	0	309	497
1 Hr Totals																					
06-07	3	0	8	0	11	0	0	0	0	0	9	3	0	0	12	0	17	24	0	41	64
615-715	5	0	13	0	18	0	0	0	0	0	15	7	0	0	22	0	25	45	0	70	110
630-730	5	0	18	0	23	0	0	0	0	0	18	12	0	0	30	0	51	69	0	120	173
645-745	4	0	20	0	24	0	0	0	0	0	21	16	0	0	37	0	61	81	0	142	203
07-08	6	0	16	0	22	0	0	0	0	0	30	17	0	0	47	0	72	87	0	159	228
715-815	10	0	20	0	30	0	0	0	0	0	30	25	0	0	55	0	71	76	0	147	232
730-830	14	0	18	0	32	0	0	0	0	0	32	26	0	0	58	0	70	68	0	138	228
745-845	20	0	15	0	35	0	0	0	0	0	31	32	0	0	63	0	62	61	0	123	221
08-09	22	0	16	0	38	0	0	0	0	0	23	35	0	0	58	0	53	56	0	109	205
PEAK HOUR																					
07-08	6	0	16	0	22	0	0	0	0	0	30	17	0	0	47	0	72	87	0	159	228
PM																					
04:0-15	12		4		16					0	5	11			16		9	6		15	47
15-30	12		5		17					0	9	17			26		5	7		12	55
30-45	20		5		25					0	4	16			20		6	10		16	61
45-00	9		9		18					0	2	11			13		5	7		12	43
05:0-15	16		7		23					0	6	18			24		11	10		21	68
15-30	9		3		12					0	7	19			26		13	3		16	54
30-45	23		3		26					0	6	11			17		7	10		17	60
45-00	8		14		22					0	2	15			17		8	2		10	49
06:0-15	19		7		26					0	5	14			19		6	6		12	57
15-30	11		2		13					0	4	11			15		9	8		17	45
30-45	10		2		12					0	1	8			9		7	9		16	37
45-00	8		4		12					0	4	4			8		2	4		6	26
3 Hr Totals	157	0	65	0	222	0	0	0	0	0	55	155	0	0	210	0	88	82	0	170	602
1 Hr Totals																					
04-05	53	0	23	0	76	0	0	0	0	0	20	55	0	0	75	0	25	30	0	55	206
415-515	57	0	26	0	83	0	0	0	0	0	21	62	0	0	83	0	27	34	0	61	227
430-530	54	0	24	0	78	0	0	0	0	0	19	64	0	0	83	0	35	30	0	65	226
445-545	57	0	22	0	79	0	0	0	0	0	21	59	0	0	80	0	36	30	0	66	225
05-06	56	0	27	0	83	0	0	0	0	0	21	63	0	0	84	0	39	25	0	64	231
515-615	59	0	27	0	86	0	0	0	0	0	20	59	0	0	79	0	34	21	0	55	220
530-630	61	0	26	0	87	0	0	0	0	0	17	51	0	0	68	0	30	26	0	56	211
545-645	48	0	25	0	73	0	0	0	0	0	12	48	0	0	60	0	30	25	0	55	188
06-07	48	0	15	0	63	0	0	0	0	0	14	37	0	0	51	0	24	27	0	51	165
PEAK HOUR																					
05-06	56	0	27	0	83	0	0	0	0	0	21	63	0	0	84	0	39	25	0	64	231



The Traffic Group

Rockawalkin Road @ Pemberton Drive

FIELD WORK BY: G. Ashton
DRAWN BY: K.Hurley
DATE: January, 2006
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: Rockawalkin Road@ Pemberton Drive.dgn
LOCATION: Wicomico County, MD
SHEET NO.: 3 OF 5

...\Rockawalkin Road@Pemberton Dri 7/17/2007 9:49:11 AM

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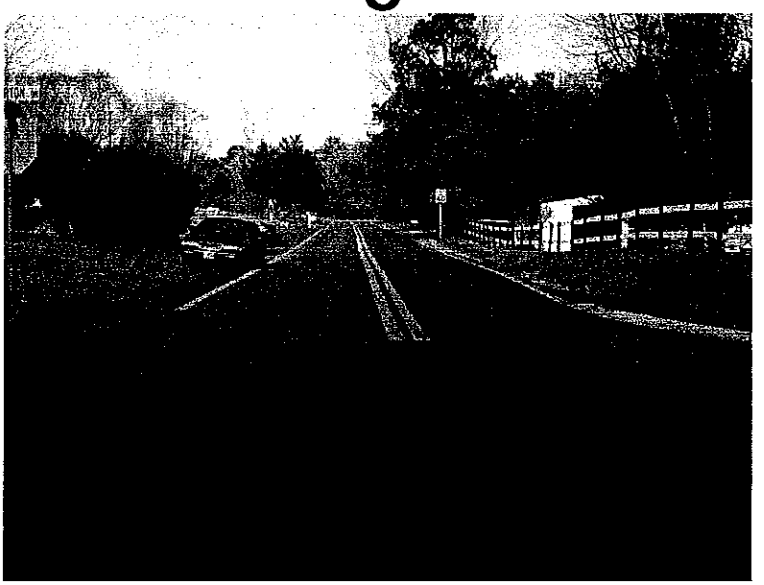

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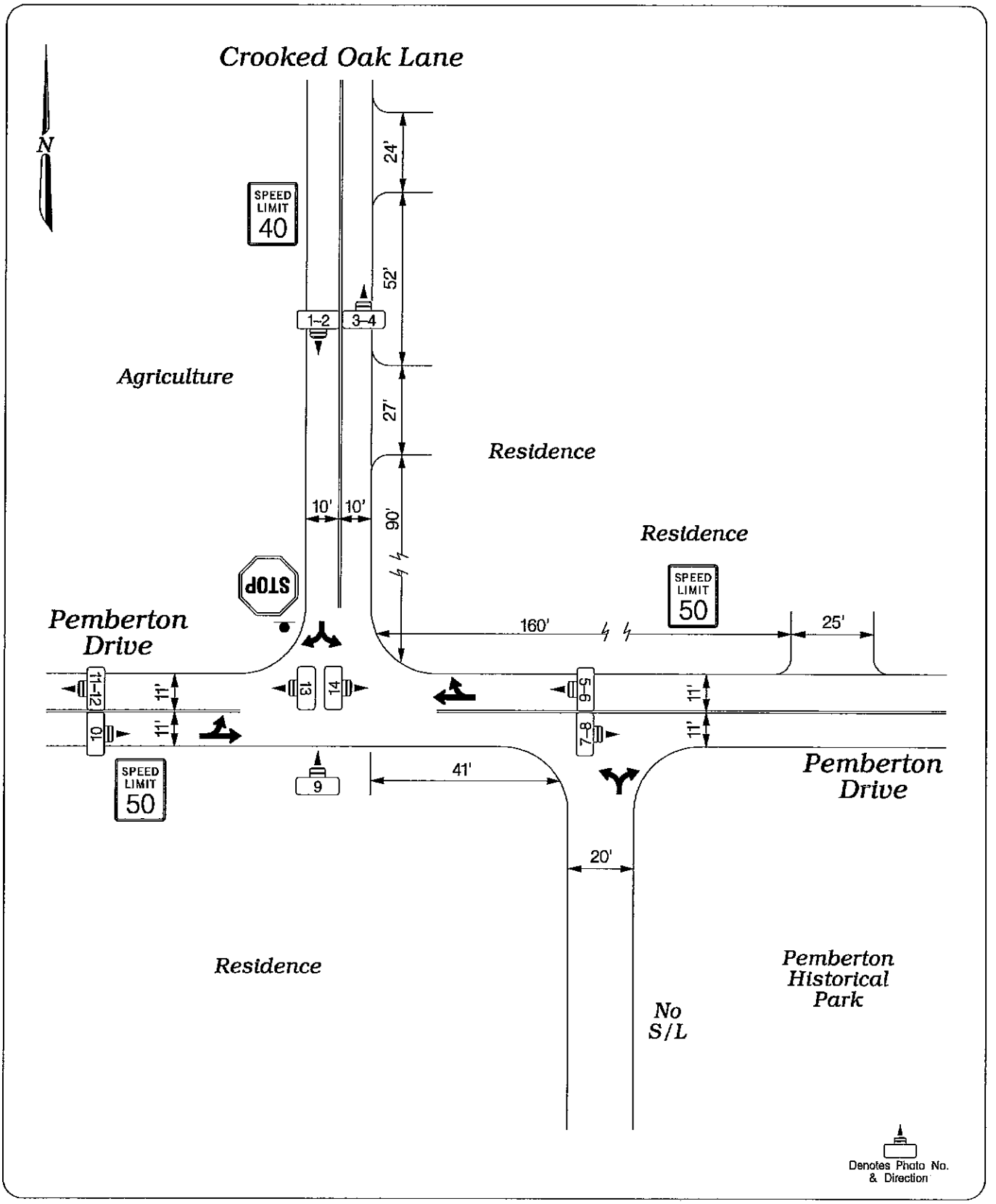
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Pemberton Drive
and: Crooked Oak Lane
Location: Wicomico Count , MD

Counted by: GA/SC
Date: November 28, Nov. 30, 2006
Weather: Partly cloudy, 50's-70's
Entered by: TB

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Crooked Oak Lane					TRAFFIC FROM SOUTH on:					TRAFFIC FROM EAST on: Pemberton Drive					TRAFFIC FROM WEST on: Pemberton Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
06:0-15	0		1		1					0	0	4			4		16	0		16	21
15-30	1		1		2					0	1	10			11		14	1		15	28
30-45	4		8		12					0	2	12			14		24	1		25	51
45-00	1		17		18					0	5	15			20		27	2		29	67
07:0-15	2		11		13					0	3	4			7		39	4		43	63
15-30	0		22		22					0	6	9			15		69	4		73	110
30-45	1		17		18					0	5	13			18		70	2		72	108
45-00	5		26		31					0	5	14			19		69	1		70	120
08:0-15	2		32		34					0	12	32			44		66	4		70	148
15-30	2		11		13					0	3	16			19		50	1		51	83
30-45	2		26		28					0	4	20			24		41	4		45	97
45-00	1		11		12					0	9	22			31		28	2		30	73
3 Hr Totals	21	0	183	0	204	0	0	0	0	0	55	171	0	0	226	0	513	26	0	539	969
1 Hr Totals																					
06-07	6	0	27	0	33	0	0	0	0	0	8	41	0	0	49	0	81	4	0	85	167
615-715	8	0	37	0	45	0	0	0	0	0	11	41	0	0	52	0	104	8	0	112	209
630-730	7	0	58	0	65	0	0	0	0	0	16	40	0	0	56	0	159	11	0	170	291
645-745	4	0	67	0	71	0	0	0	0	0	19	41	0	0	60	0	205	12	0	217	348
07-08	8	0	76	0	84	0	0	0	0	0	19	40	0	0	59	0	247	11	0	258	401
715-815	8	0	97	0	105	0	0	0	0	0	28	68	0	0	96	0	274	11	0	285	486
730-830	10	0	86	0	96	0	0	0	0	0	25	75	0	0	100	0	255	8	0	263	459
745-845	11	0	95	0	106	0	0	0	0	0	24	82	0	0	106	0	226	10	0	236	448
08-09	7	0	80	0	87	0	0	0	0	0	28	90	0	0	118	0	185	11	0	196	401
PEAK HOUR																					
715-815	8	0	97	0	105	0	0	0	0	0	28	68	0	0	96	0	274	11	0	285	486
PM																					
04:0-15	2		8		10					0	15	41			56		24	4		28	94
15-30	4		7		11					0	7	57			64		25	4		29	104
30-45	4		10		14					0	12	44			56		25	3		28	98
45-00	4		3		7					0	15	46			61		22	8		30	98
05:0-15	5		4		9					0	14	56			70		34	5		39	118
15-30	3		6		9					0	27	61			88		31	2		33	130
30-45	2		13		15					0	20	55			75		30	6		36	126
45-00	1		9		10					0	19	39			58		28	1		29	97
06:0-15	2		13		15					0	16	42			58		27	0		27	100
15-30	0		4		4					0	13	27			40		19	1		20	64
30-45	1		9		10					0	9	24			33		18	1		19	62
45-00	1		4		5					0	13	25			38		16	1		17	60
3 Hr Totals	29	0	90	0	119	0	0	0	0	0	180	517	0	0	697	0	299	36	0	335	1151
1 Hr Totals																					
04-05	14	0	28	0	42	0	0	0	0	0	49	188	0	0	237	0	96	19	0	115	394
415-515	17	0	24	0	41	0	0	0	0	0	48	203	0	0	251	0	106	20	0	126	418
430-530	16	0	23	0	39	0	0	0	0	0	68	207	0	0	275	0	112	18	0	130	444
445-545	14	0	26	0	40	0	0	0	0	0	76	218	0	0	294	0	117	21	0	138	472
05-06	11	0	32	0	43	0	0	0	0	0	80	211	0	0	291	0	123	14	0	137	471
515-615	8	0	41	0	49	0	0	0	0	0	82	197	0	0	279	0	116	9	0	125	453
530-630	5	0	39	0	44	0	0	0	0	0	68	163	0	0	231	0	104	8	0	112	387
545-645	4	0	35	0	39	0	0	0	0	0	57	132	0	0	189	0	92	3	0	95	323
06-07	4	0	30	0	34	0	0	0	0	0	51	118	0	0	169	0	80	3	0	83	286
PEAK HOUR																					
445-545	14	0	26	0	40	0	0	0	0	0	76	218	0	0	294	0	117	21	0	138	472



The Traffic Group

Crooked Oak Lane @ Pemberton Drive

FIELD WORK BY: G. Ashton
DRAWN BY: K.Hurley
DATE: January, 2006
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: Crooked Oak Lane@ Pemberton Drive.dgn
LOCATION: Wicomico County, MD
SHEET NO.: 1 OF 5

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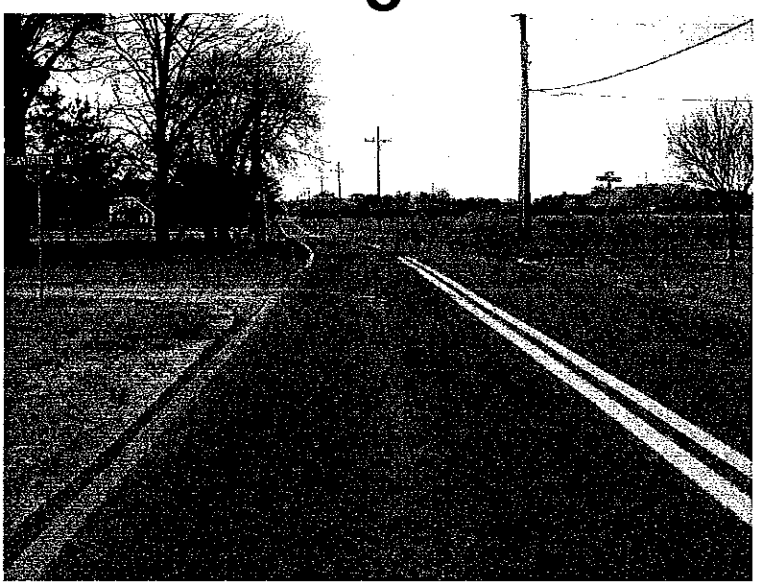

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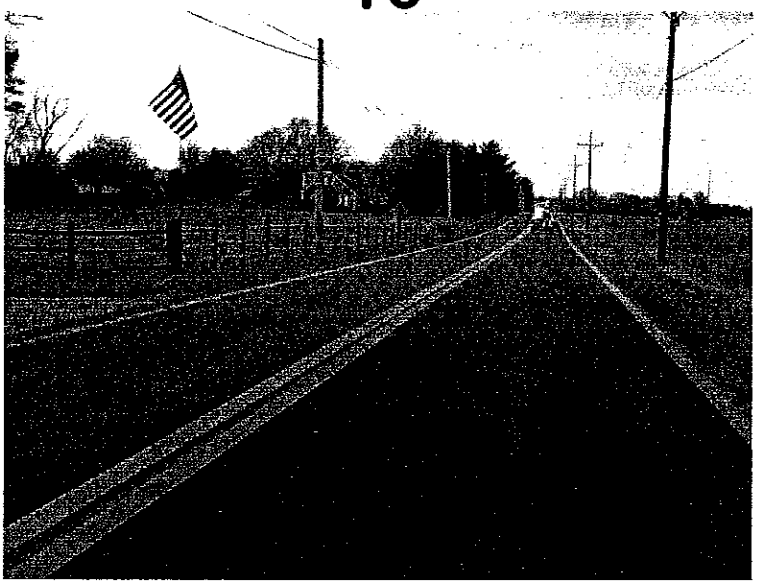

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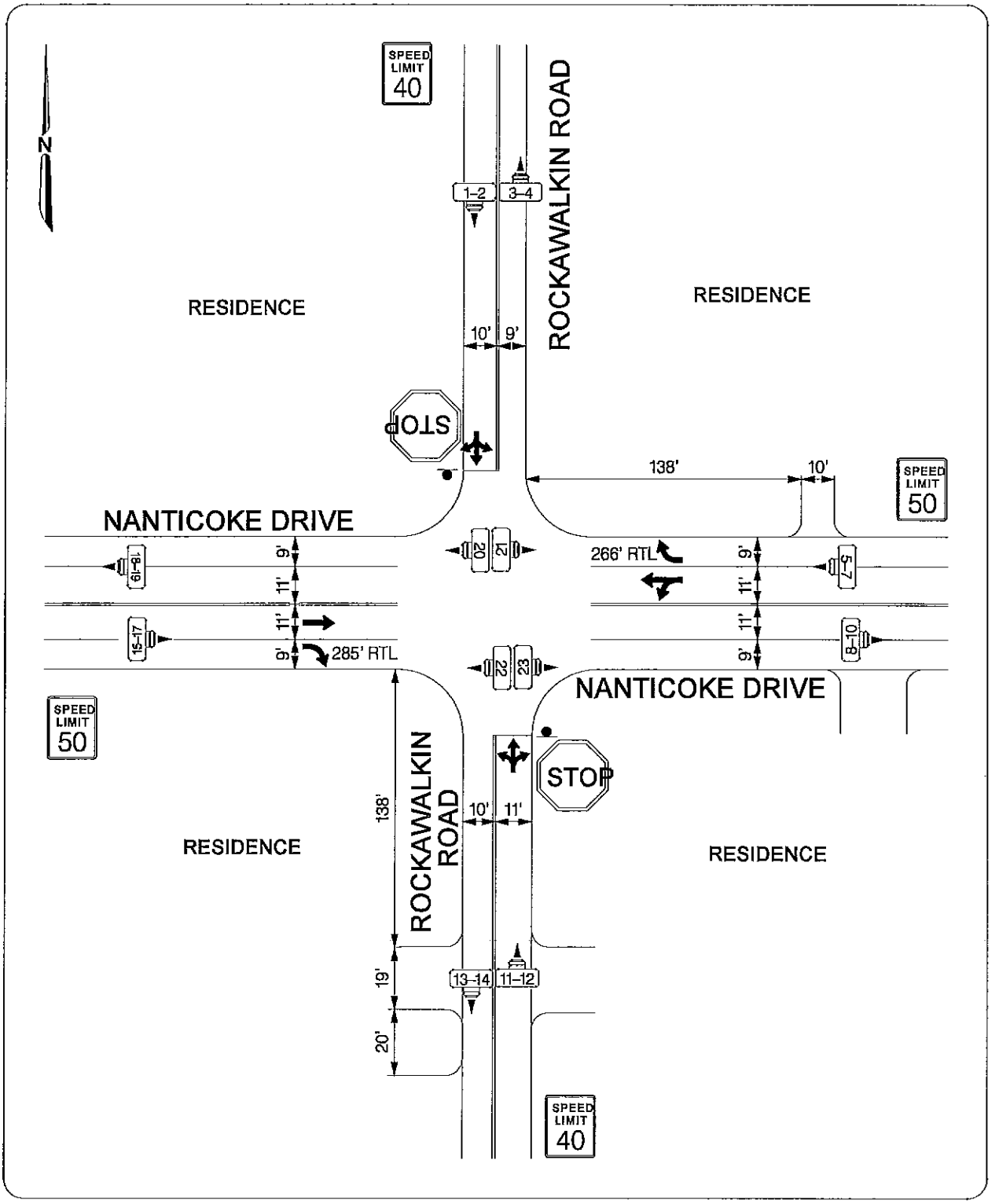
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Nanticoke Road
and: Rockawalkin Road
Location: Wicomico County, MD

Counted by: DP/HT
Date: November 30, 2006
Weather: Clear,50's-70's
Entered by: TB

Day: Thursday

TIME	TRAFFIC FROM NORTH on: Rockawalkin Road					TRAFFIC FROM SOUTH on: Rockawalkin Road					TRAFFIC FROM EAST on: Nanticoke Road					TRAFFIC FROM WEST on: Nanticoke Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
06:0-15	0	0	0		0	11	5	0		16	3	8	2		13	0	40	7		47	76
15-30	3	0	1		4	3	6	0		9	1	10	1		12	0	56	6		62	87
30-45	0	0	3		3	10	8	0		18	3	12	1		16	0	57	10		67	104
45-00	2	3	2		7	16	10	2		28	5	7	1		13	1	67	11		79	127
07:0-15	2	2	5		9	27	10	0		37	4	13	3		20	0	73	7		80	146
15-30	2	0	2		4	33	23	1		57	9	12	1		22	0	105	18		123	206
30-45	1	6	6		13	37	27	0		64	16	18	4		38	2	103	19		124	239
45-00	9	2	8		19	25	17	0		42	5	31	3		39	2	69	14		85	185
08:0-15	3	2	3		8	16	15	1		32	8	24	3		35	1	72	11		84	159
15-30	4	7	4		15	34	10	2		46	4	40	8		52	2	62	3		67	180
30-45	8	1	9		18	28	11	1		40	8	55	3		66	0	90	4		94	218
45-00	3	2	7		12	11	7	0		18	2	29	3		34	2	55	13		70	134
3 Hr Totals	37	25	50	0	112	251	149	7	0	407	68	259	33	0	360	10	849	123	0	982	1861
1 Hr Totals																					
06-07	5	3	6	0	14	40	29	2	0	71	12	37	5	0	54	1	220	34	0	255	394
615-715	7	5	11	0	23	56	34	2	0	92	13	42	6	0	61	1	253	34	0	288	464
630-730	6	5	12	0	23	86	51	3	0	140	21	44	6	0	71	1	302	46	0	349	583
645-745	7	11	15	0	33	113	70	3	0	186	34	50	9	0	93	3	348	55	0	406	718
07-08	14	10	21	0	45	122	77	1	0	200	34	74	11	0	119	4	350	58	0	412	776
715-815	15	10	19	0	44	111	82	2	0	195	38	85	11	0	134	5	349	62	0	416	789
730-830	17	17	21	0	55	112	69	3	0	184	33	113	18	0	164	7	306	47	0	360	763
745-845	24	12	24	0	60	103	53	4	0	160	25	150	17	0	192	5	293	32	0	330	742
08-09	18	12	23	0	53	89	43	4	0	136	22	148	17	0	187	5	279	31	0	315	691
PEAK HOUR																					
715-815	15	10	19	0	44	111	82	2	0	195	38	85	11	0	134	5	349	62	0	416	789
PM																					
04:0-15	14	13	7		34	11	6	2		19	0	77	17		94	2	54	7		63	210
15-30	5	7	1		13	8	4	1		13	6	70	17		93	0	34	3		37	156
30-45	15	12	5		32	10	6	0		16	3	76	18		97	0	35	6		41	186
45-00	7	16	1		24	11	9	1		21	5	68	19		92	1	56	4		61	198
05:0-15	9	9	6		24	15	8	0		23	11	79	24		114	1	52	9		62	223
15-30	10	14	9		33	10	4	1		15	2	86	21		109	3	37	4		44	201
30-45	4	6	9		19	9	4	0		13	6	77	26		109	0	42	6		48	189
45-00	22	9	9		40	10	4	2		16	9	70	22		101	0	41	1		42	199
06:0-15	10	8	5		23	7	4	2		13	3	62	14		79	0	35	2		37	152
15-30	6	12	4		22	10	2	0		12	5	72	20		97	0	38	5		43	174
30-45	6	4	5		15	13	2	0		15	1	55	18		74	0	41	1		42	146
45-00	7	9	3		19	8	2	0		10	10	46	12		68	0	24	1		25	122
3 Hr Totals	115	119	64	0	298	122	55	9	0	186	61	838	228	0	1127	7	489	49	0	545	2156
1 Hr Totals																					
04-05	41	48	14	0	103	40	25	4	0	69	14	291	71	0	376	3	179	20	0	202	750
415-515	36	44	13	0	93	44	27	2	0	73	25	293	78	0	396	2	177	22	0	201	763
430-530	41	51	21	0	113	46	27	2	0	75	21	309	82	0	412	5	180	23	0	208	808
445-545	30	45	25	0	100	45	25	2	0	72	24	310	90	0	424	5	187	23	0	215	811
05-06	45	38	33	0	116	44	20	3	0	67	28	312	93	0	433	4	172	20	0	196	812
515-615	46	37	32	0	115	36	16	5	0	57	20	295	83	0	398	3	155	13	0	171	741
530-630	42	35	27	0	104	36	14	4	0	54	23	281	82	0	386	0	156	14	0	170	714
545-645	44	33	23	0	100	40	12	4	0	56	18	259	74	0	351	0	155	9	0	164	671
06-07	29	33	17	0	79	38	10	2	0	50	19	235	64	0	318	0	138	9	0	147	594
PEAK HOUR																					
05-06	45	38	33	0	116	44	20	3	0	67	28	312	93	0	433	4	172	20	0	196	812



The Traffic Group

NANTICOKE DRIVE AT ROCKAWALKIN ROAD

FIELD WORK BY: G. Ashton
DRAWN BY: S. Langley
DATE: January, 2007
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: NaticokeDr@RockawalkinRd.DGN
LOCATION: Wicomico Co., MD
SHEET NO.: 5 OF 5

...\NaticokeDr@RockawalkinRd.dgn 7/17/2007 9:55:40 AM

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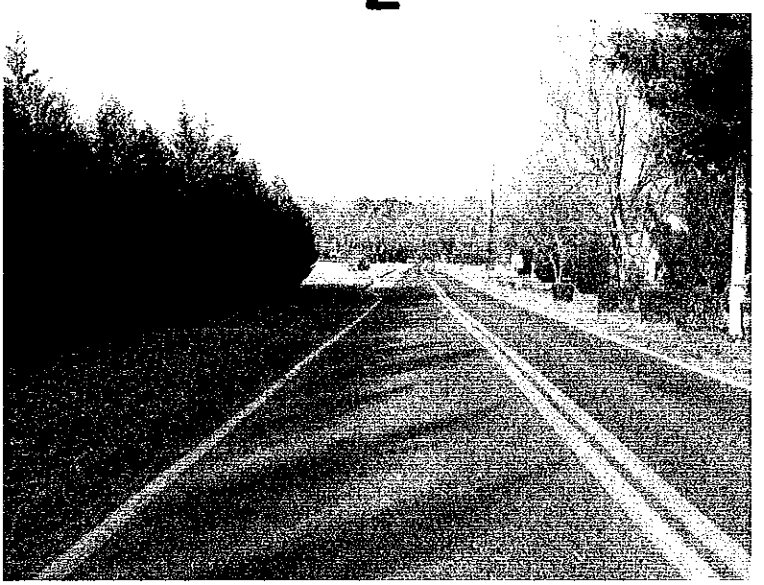

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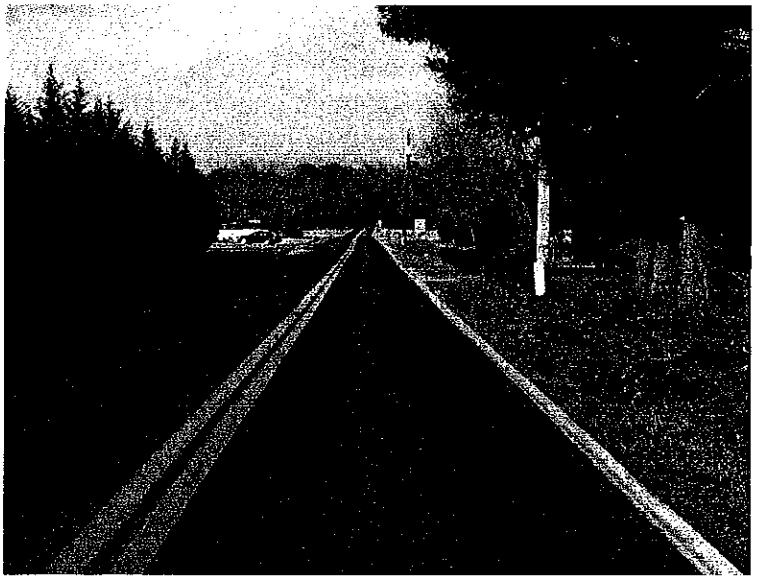

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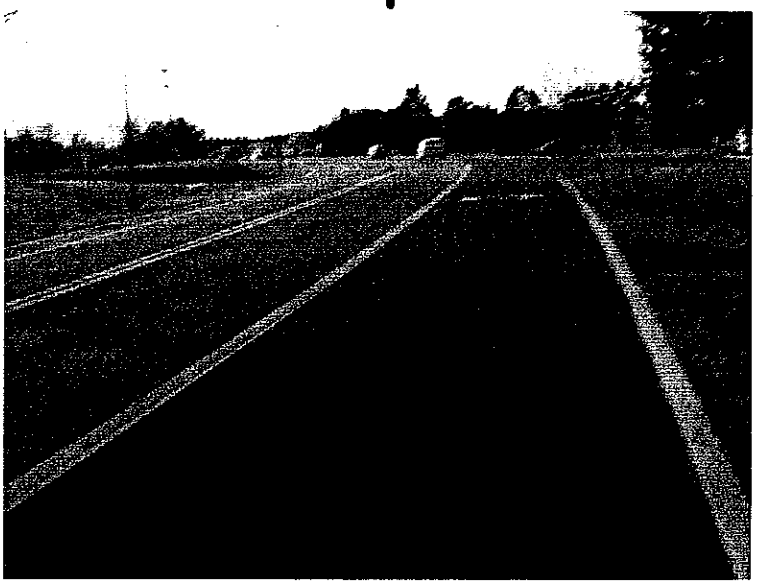

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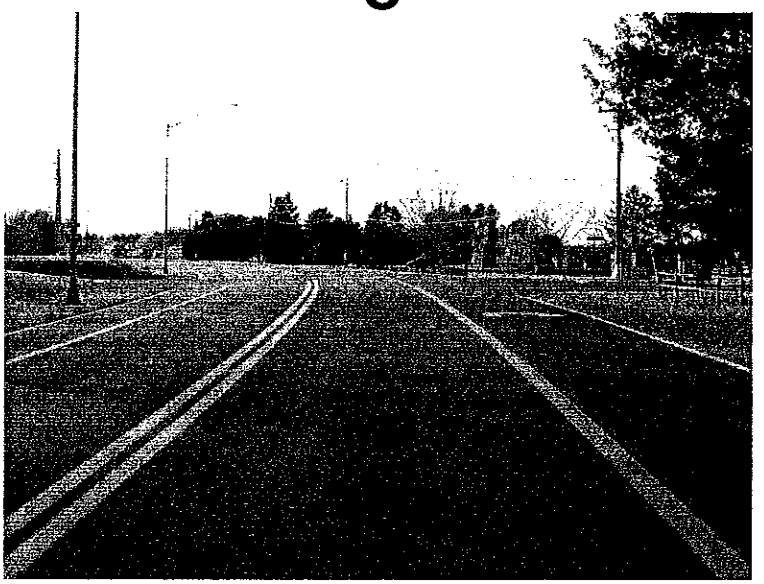

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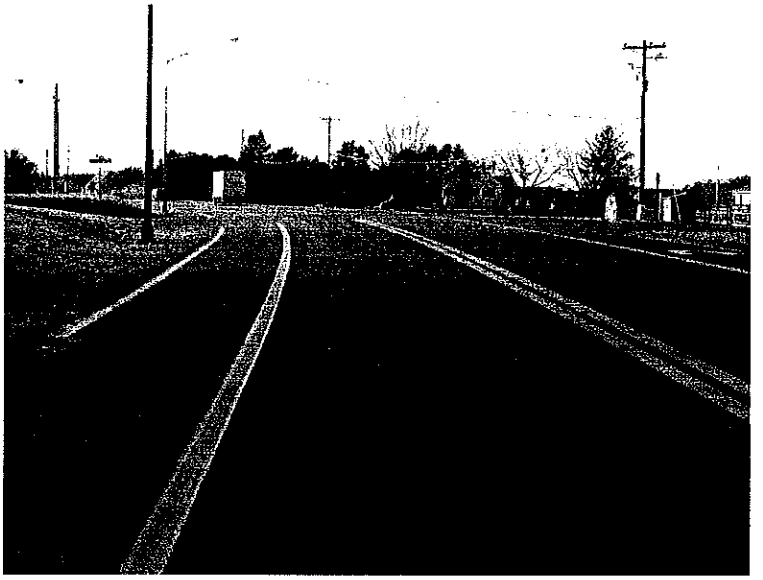

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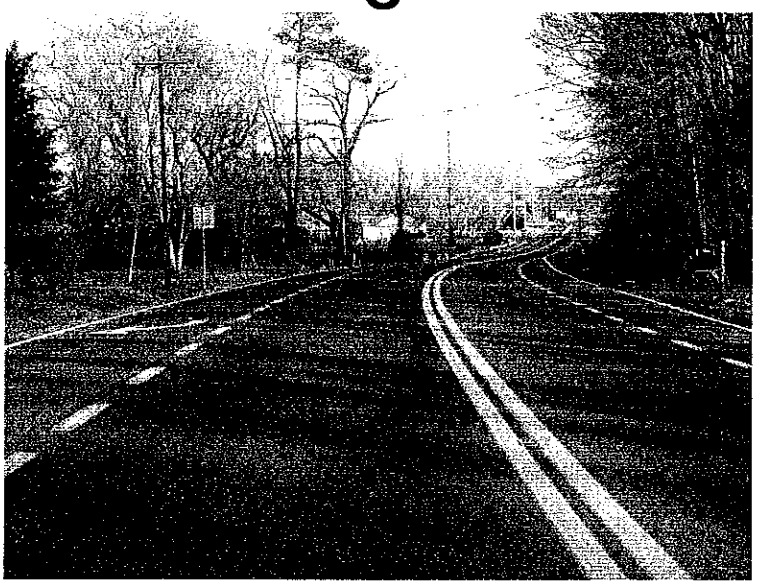

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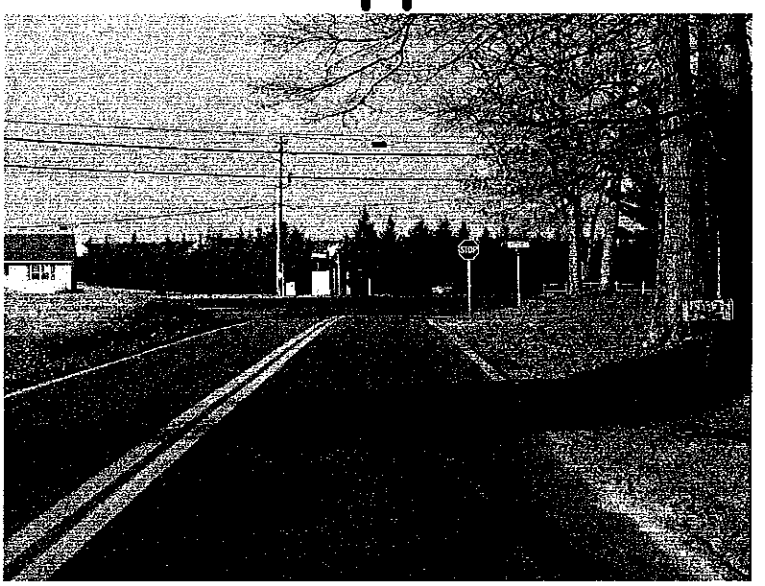

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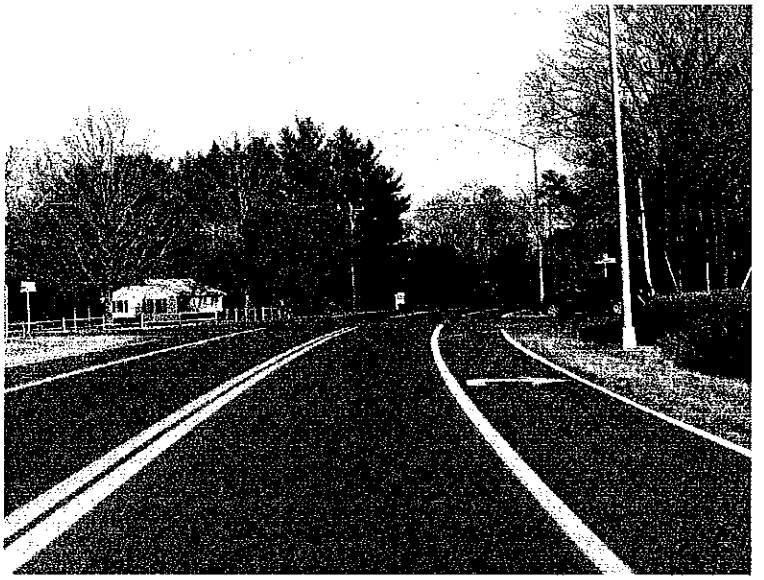

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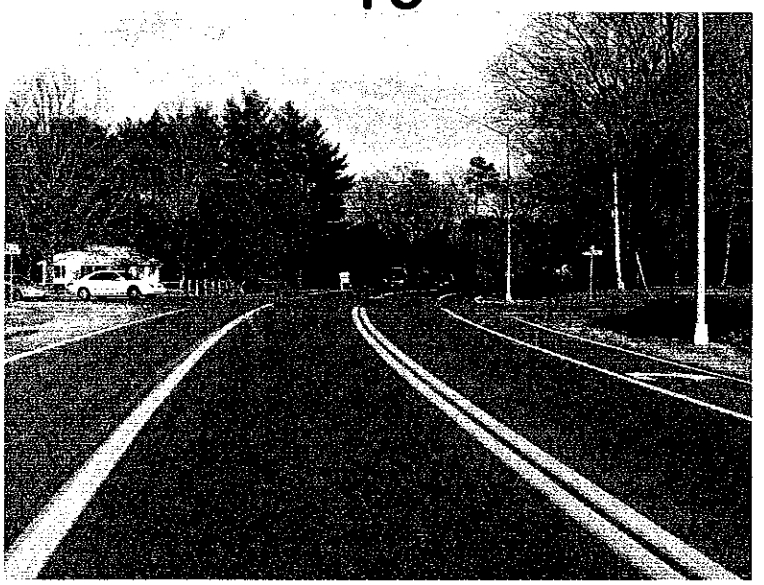

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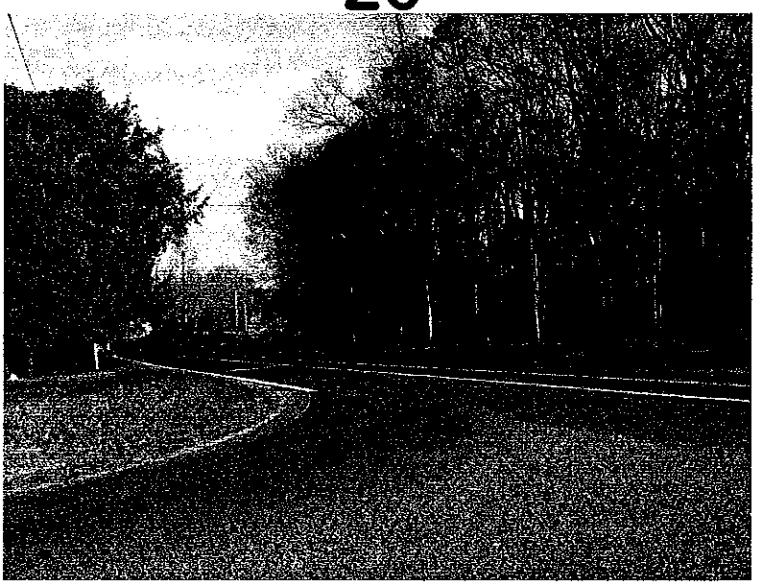

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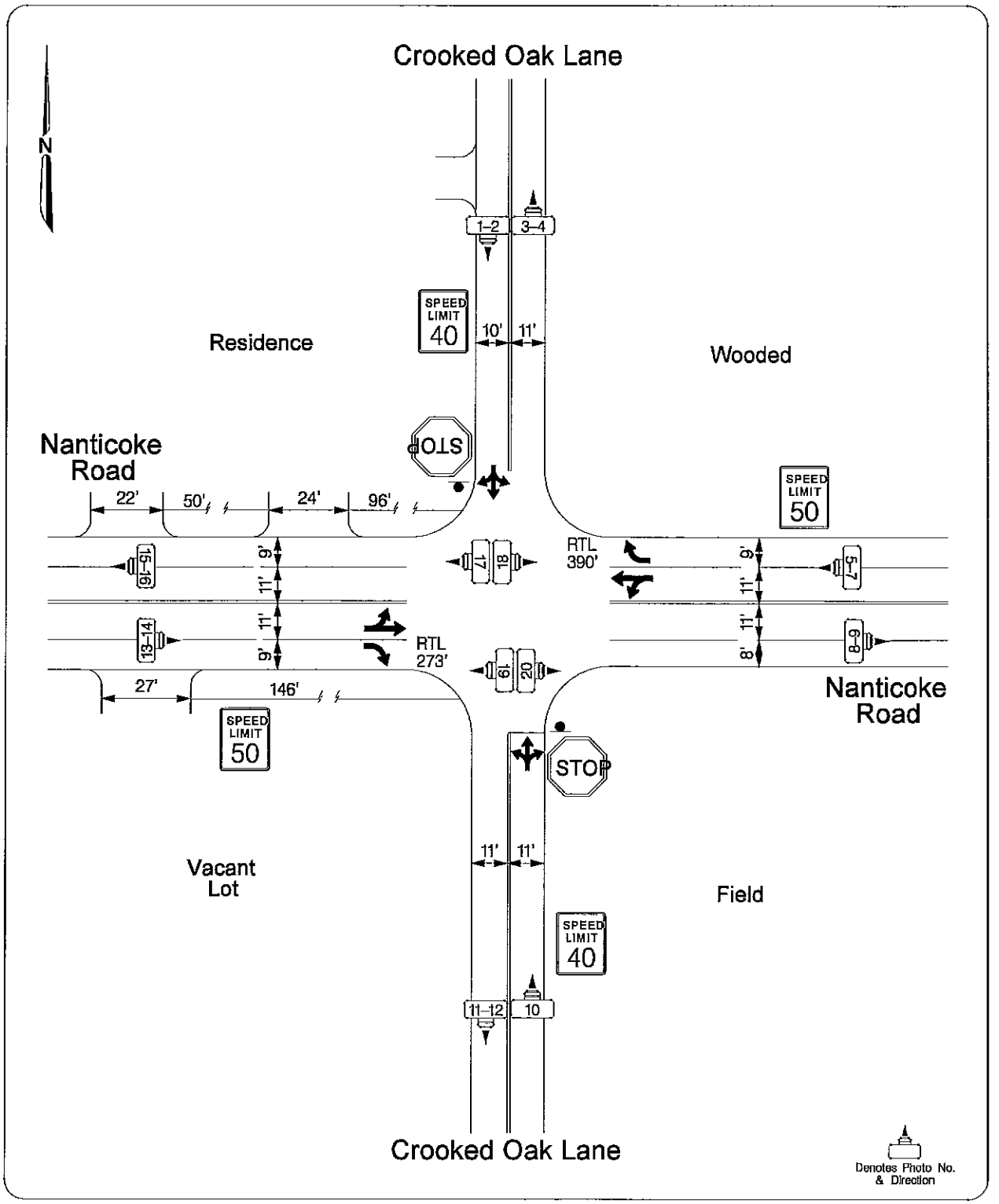
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Nanticoke Road
and: Crooked Oak Lane
Location: Wicomico County, MD

Counted by: SC/CM/KF
Date: November 29, Dec. 7, 2006
Weather: Partly cloudy, 50's-60's
Entered by: TB

Day: Wednesday

TIME	TRAFFIC FROM NORTH on: Crooked Oak Lane					TRAFFIC FROM SOUTH on: Crooked Oak Lane					TRAFFIC FROM EAST on: Nanticoke Road					TRAFFIC FROM WEST on: Nanticoke Road					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	
AM																					
06:0-15	0	0	4		4	2	0	4		6	2	14	2		18	0	36	1		37	65
15-30	0	0	2		2	5	0	0		5	5	15	2		22	0	65	0		65	94
30-45	0	1	4		5	11	6	1		18	1	11	1		13	5	81	0		86	122
45-00	3	4	0		7	13	2	0		15	0	9	1		10	2	105	1		108	140
07:0-15	1	3	8		12	18	3	1		22	4	19	4		27	3	142	0		145	206
15-30	1	1	17		19	22	4	1		27	1	25	3		29	5	187	0		192	267
30-45	1	10	0		11	24	4	3		31	3	15	4		22	3	193	1		197	261
45-00	1	0	12		13	15	2	0		17	4	38	10		52	9	159	2		170	252
08:0-15	1	2	14		17	20	2	4		26	5	45	4		54	3	100	1		104	201
15-30	1	0	6		7	10	3	2		15	0	33	3		36	7	125	1		133	191
30-45	1	2	6		9	9	2	4		15	3	36	10		49	6	141	1		148	221
45-00	2	0	7		9	6	1	2		9	4	30	6		40	3	101	1		105	163
3 Hr Totals	12	23	80	0	115	155	29	22	0	206	32	290	50	0	372	46	1435	9	0	1490	2183
1 Hr Totals																					
06-07	3	5	10	0	18	31	8	5	0	44	8	49	6	0	63	7	287	2	0	296	421
615-715	4	8	14	0	26	47	11	2	0	60	10	54	8	0	72	10	393	1	0	404	562
630-730	5	9	29	0	43	64	15	3	0	82	6	64	9	0	79	15	515	1	0	531	735
645-745	6	18	25	0	49	77	13	5	0	95	8	68	12	0	88	13	627	2	0	642	874
07-08	4	14	37	0	55	79	13	5	0	97	12	97	21	0	130	20	681	3	0	704	986
715-815	4	13	43	0	60	81	12	8	0	101	13	123	21	0	157	20	639	4	0	663	981
730-830	4	12	32	0	48	69	11	9	0	89	12	131	21	0	164	22	577	5	0	604	905
745-845	4	4	38	0	46	54	9	10	0	73	12	152	27	0	191	25	525	5	0	555	865
08-09	5	4	33	0	42	45	8	12	0	65	12	144	23	0	179	19	467	4	0	490	776
PEAK HOUR																					
07-08	4	14	37	0	55	79	13	5	0	97	12	97	21	0	130	20	681	3	0	704	986
PM																					
04:0-15	1	0	2		3	6	0	5		11	6	93	5		104	4	61	1		66	184
15-30	4	3	2		9	5	1	7		13	9	116	14		139	5	52	0		57	218
30-45	1	6	8		15	4	1	7		12	10	114	15		139	2	64	0		66	232
45-00	1	5	7		13	7	3	1		11	8	123	2		133	4	60	1		65	222
05:0-15	3	2	4		9	4	5	1		10	11	124	14		149	1	79	1		81	249
15-30	2	3	7		12	6	2	3		11	18	145	25		188	2	147	2		151	362
30-45	3	1	9		13	10	1	6		17	12	123	12		147	4	88	2		94	271
45-00	3	8	5		16	11	0	5		16	6	118	16		140	1	7	0		8	180
06:0-15	0	2	1		3	13	3	3		19	13	93	12		118	3	73	1		77	217
15-30	2	1	3		6	7	0	2		9	10	104	10		124	1	61	1		63	202
30-45	3	3	1		7	1	1	3		5	9	68	8		85	1	61	1		63	160
45-00	0	2	2		4	4	1	3		8	5	72	5		82	3	51	1		55	149
3 Hr Totals	23	36	51	0	110	78	18	46	0	142	117	1293	138	0	1548	31	804	11	0	846	2646
1 Hr Totals																					
04-05	7	14	19	0	40	22	5	20	0	47	33	446	36	0	515	15	237	2	0	254	856
415-515	9	16	21	0	46	20	10	16	0	46	38	477	45	0	560	12	255	2	0	269	921
430-530	7	16	26	0	49	21	11	12	0	44	47	506	56	0	609	9	350	4	0	363	1065
445-545	9	11	27	0	47	27	11	11	0	49	49	515	53	0	617	11	374	6	0	391	1104
05-06	11	14	25	0	50	31	8	15	0	54	47	510	67	0	624	8	321	5	0	334	1062
515-615	8	14	22	0	44	40	6	17	0	63	49	479	65	0	593	10	315	5	0	330	1030
530-630	8	12	18	0	38	41	4	16	0	61	41	438	50	0	529	9	229	4	0	242	870
545-645	8	14	10	0	32	32	4	13	0	49	38	383	46	0	467	6	202	3	0	211	759
06-07	5	8	7	0	20	25	5	11	0	41	37	337	35	0	409	8	246	4	0	258	728
PEAK HOUR																					
430-530	7	16	26	0	49	21	11	12	0	44	47	506	56	0	609	9	350	4	0	363	1065



The Traffic Group

Crooked Oak Lane @ Nanticoke Road

FIELD WORK BY: G. Ashton
DRAWN BY: K.Hurley
DATE: January, 2006
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: Crooked Oak Lane@ Nanticoke Road.dgn
LOCATION: Wicomico County, MD
SHEET NO.: 4 OF 5

...\Crooked Oak Lane@Nanticoke Roa 7/17/2007 9:21:55 AM

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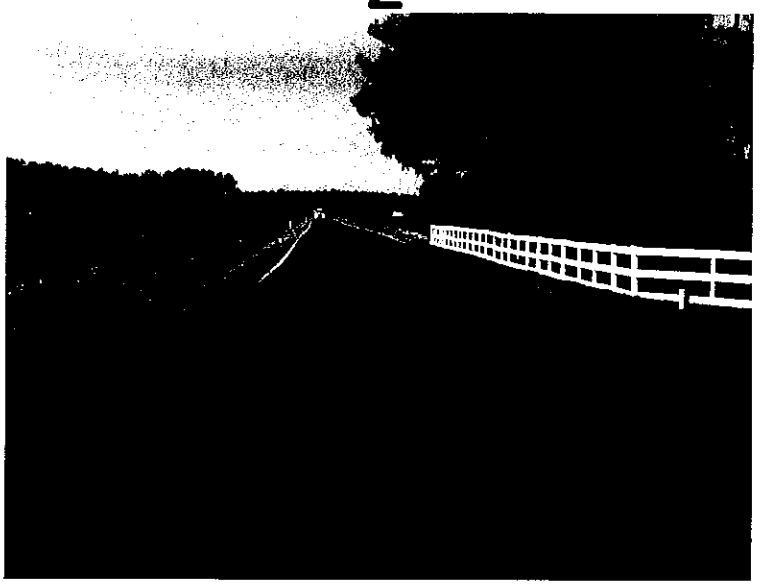

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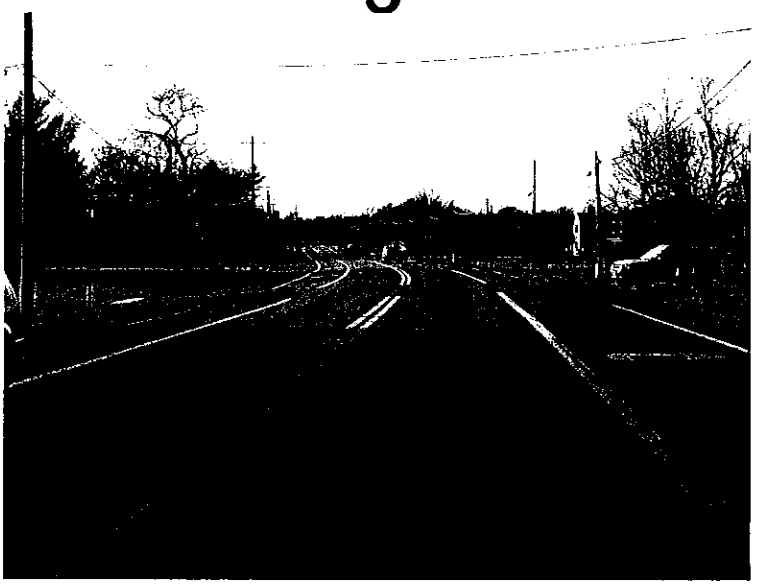

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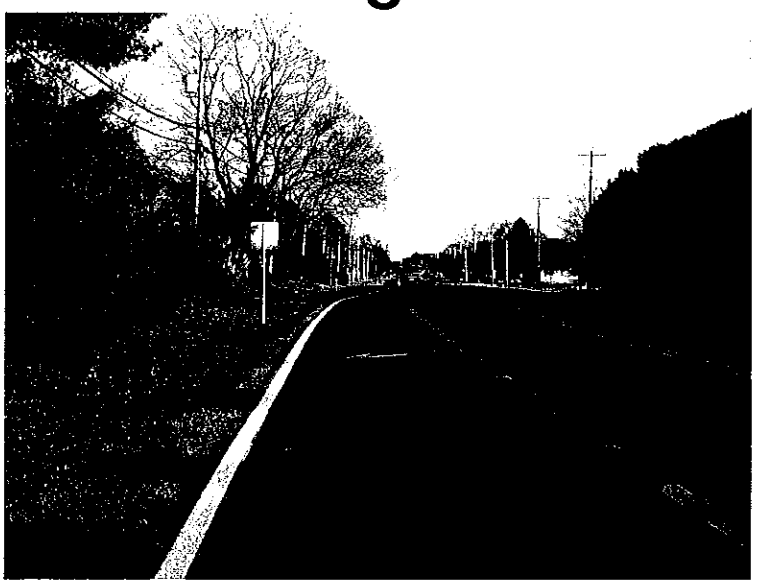

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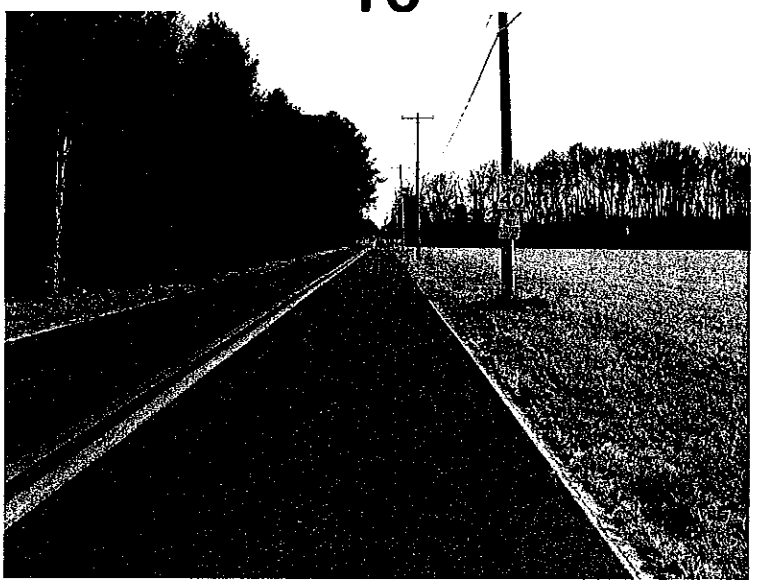

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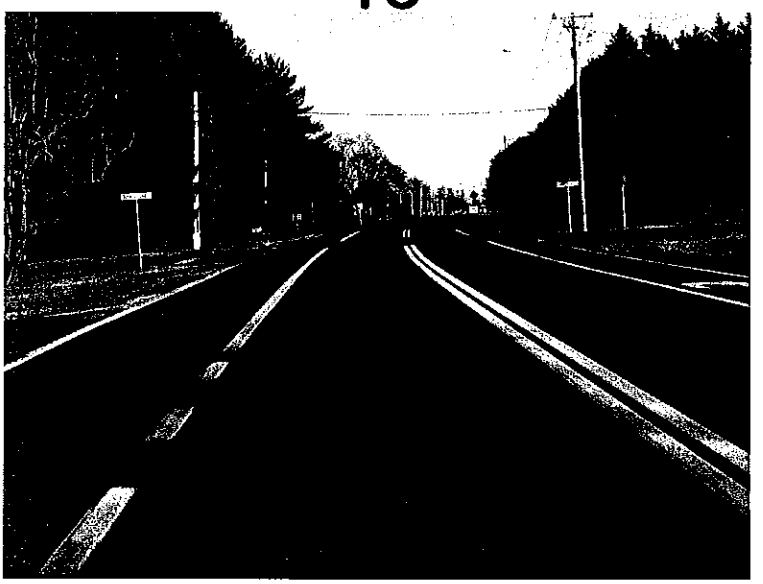

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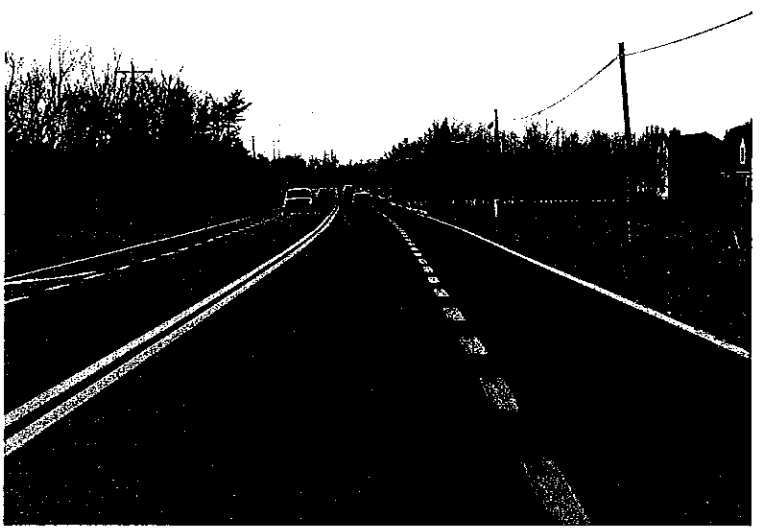

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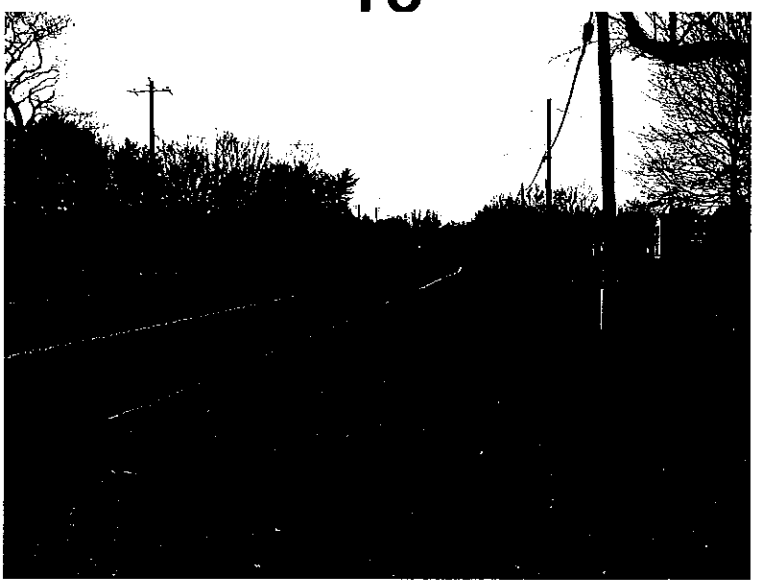

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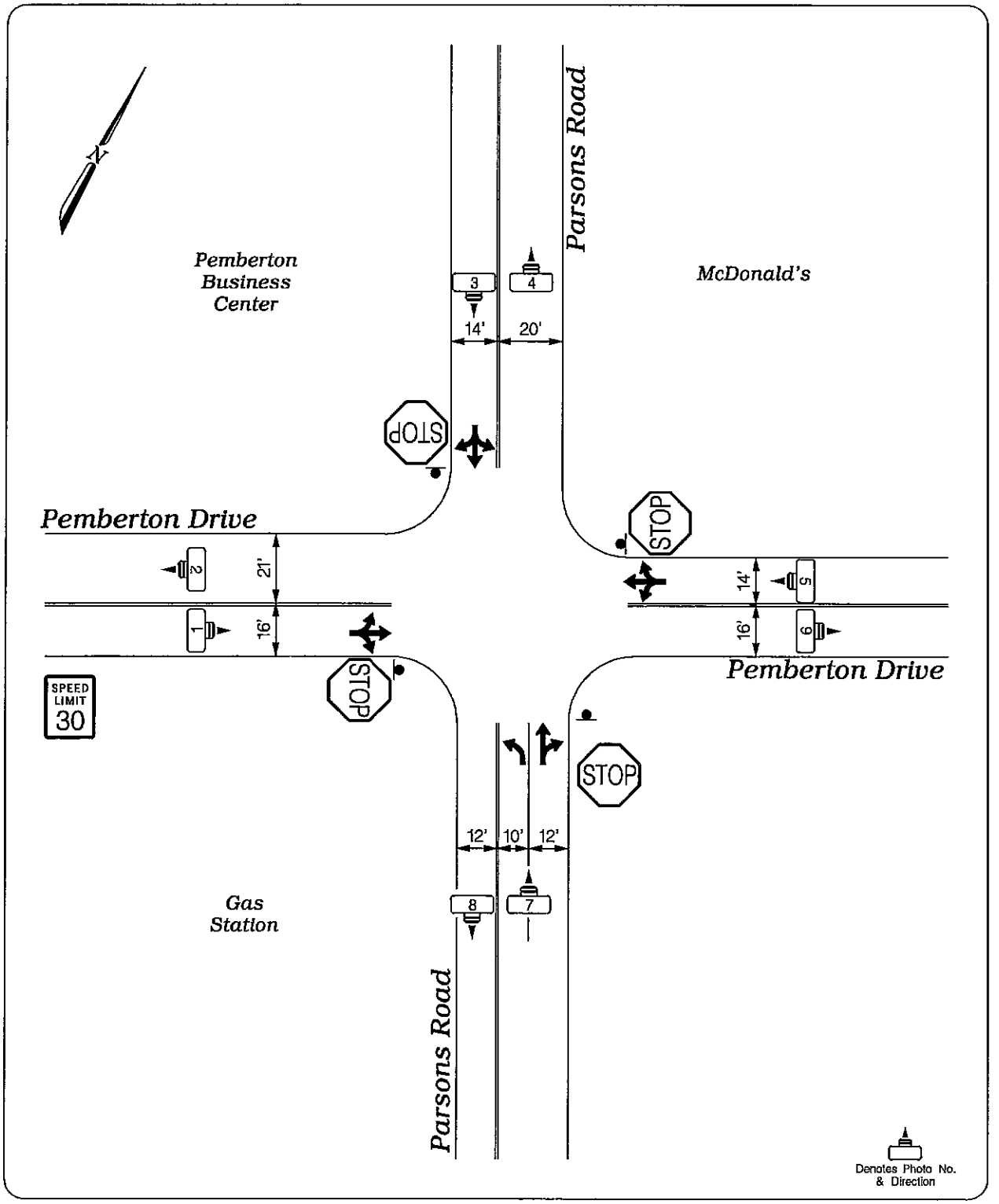
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: Parsons Road
and: Pemberton Drive
Location: Wicomico County, MD

Counted by: HP, SH
Date: April 12, 2005
Weather: Partly Cloudy, Cool
Entered by: BT

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Parsons Road					TRAFFIC FROM SOUTH on: Parsons Road					TRAFFIC FROM EAST on: Pemberton Drive					TRAFFIC FROM WEST on: Pemberton Drive					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	
AM																					
07:0-15	5	45	0	0	50	0	7	13	16	36	1	13	6	0	20	0	4	26	29	59	165
15-30	3	64	2	0	69	0	10	19	13	42	1	19	13	0	33	0	5	60	45	110	254
30-45	9	78	1	0	88	0	11	23	11	45	0	26	12	0	38	0	10	40	57	107	278
45-00	8	85	0	0	93	0	17	29	21	67	5	34	21	0	60	0	13	57	46	116	336
08:0-15	13	68	2	0	83	0	26	38	19	83	9	49	20	0	78	0	9	56	45	110	354
15-30	8	57	0	0	65	0	22	25	14	61	2	50	14	0	66	0	5	54	43	102	294
30-45	19	68	2	0	89	0	30	24	16	70	5	37	15	0	57	0	4	40	46	90	306
45-00	7	57	2	0	66	0	22	24	20	66	1	42	12	0	55	0	8	52	46	106	293
2 Hr Totals	72	522	9	0	603	0	145	195	130	470	24	270	113	0	407	0	58	385	357	800	2280
1 Hr Totals																					
07-08	25	272	3	0	300	0	45	84	61	190	7	92	52	0	151	0	32	183	177	392	1033
715-815	33	295	5	0	333	0	64	109	64	237	15	128	66	0	209	0	37	213	193	443	1222
730-830	38	288	3	0	329	0	76	115	65	256	16	159	67	0	242	0	37	207	191	435	1262
745-845	48	278	4	0	330	0	95	116	70	281	21	170	70	0	261	0	31	207	180	418	1290
08-09	47	250	6	0	303	0	100	111	69	280	17	178	61	0	256	0	26	202	180	408	1247
PEAK HOUR																					
745-845	48	278	4	0	330	0	95	116	70	281	21	170	70	0	261	0	31	207	180	418	1290
PM																					
04:0-15	9	42	2	0	53	0	49	58	26	133	0	41	15	0	56	0	10	51	36	97	339
15-30	6	39	2	0	47	0	52	61	21	134	6	45	21	0	72	0	9	43	33	85	338
30-45	9	32	2	0	43	0	32	59	12	103	3	44	23	0	70	0	6	28	27	61	277
45-00	10	48	2	0	60	0	53	51	20	124	3	38	23	0	64	0	10	42	32	84	332
05:0-15	9	52	0	0	61	0	50	76	22	148	1	42	18	0	61	0	11	52	37	100	370
15-30	7	58	0	0	65	0	66	87	15	168	2	37	18	0	57	0	10	33	36	79	369
30-45	7	47	1	0	55	0	42	68	15	125	0	49	14	0	63	0	9	42	26	77	320
45-00	5	49	1	0	55	0	67	72	14	153	1	30	15	0	46	0	4	29	41	74	328
2 Hr Totals	62	367	10	0	439	0	411	532	145	1088	16	326	147	0	489	0	69	320	268	657	2673
1 Hr Totals																					
04-05	34	161	8	0	203	0	186	229	79	494	12	168	82	0	262	0	35	164	128	327	1286
415-515	34	171	6	0	211	0	187	247	75	509	13	169	85	0	267	0	36	165	129	330	1317
430-530	35	190	4	0	229	0	201	273	69	543	9	161	82	0	252	0	37	155	132	324	1348
445-545	33	205	3	0	241	0	211	282	72	565	6	166	73	0	245	0	40	169	131	340	1391
05-06	28	206	2	0	236	0	225	303	66	594	4	158	65	0	227	0	34	156	140	330	1387
PEAK HOUR																					
445-545	33	205	3	0	241	0	211	282	72	565	6	166	73	0	245	0	40	169	131	340	1391
12 Hr Count																					
07-08	25	272	3	0	300	0	45	84	61	190	7	92	52	0	151	0	32	183	177	392	1033
08-09	47	250	6	0	303	0	100	111	69	280	17	178	61	0	256	0	26	202	180	408	1247
09-10	35	162	4	0	201	0	68	97	56	221	13	106	61	0	180	0	19	126	110	255	857
10-11	19	164	3	0	186	0	98	133	71	302	7	108	64	0	179	0	23	113	120	256	923
11-12	21	147	6	0	174	0	109	160	66	335	12	100	75	0	187	0	33	116	124	273	969
12-01	28	153	5	0	186	0	125	152	60	337	11	125	69	0	205	0	42	122	98	262	990
01-02	26	131	2	0	159	0	101	137	80	318	14	116	85	0	215	0	24	97	81	202	894
02-03	39	104	5	0	148	0	106	147	63	316	5	150	68	0	223	0	25	142	118	285	972
03-04	45	159	4	0	208	0	158	199	90	447	8	161	64	0	233	0	28	131	136	295	1183
04-05	34	161	8	0	203	0	186	229	79	494	12	168	82	0	262	0	35	164	128	327	1286
05-06	28	206	2	0	236	0	225	303	66	594	4	158	65	0	227	0	34	156	140	330	1387
06-07	33	138	3	0	174	0	151	249	51	451	4	125	63	0	192	0	28	105	92	225	1042
12 Hr Total	380	2047	51	0	2478	0	1472	2001	812	4285	114	1587	809	0	2510	0	349	1657	1504	3510	12783



The Traffic Group

Pemberton Drive at Parsons Road

FIELD WORK BY: B. Tustin
DRAWN BY: S. Langley
DATE: April, 2005
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: PembertonDr@ParsonsRd.DGN
LOCATION: Salisbury Co., MD
SHEET NO.: 6 OF 8

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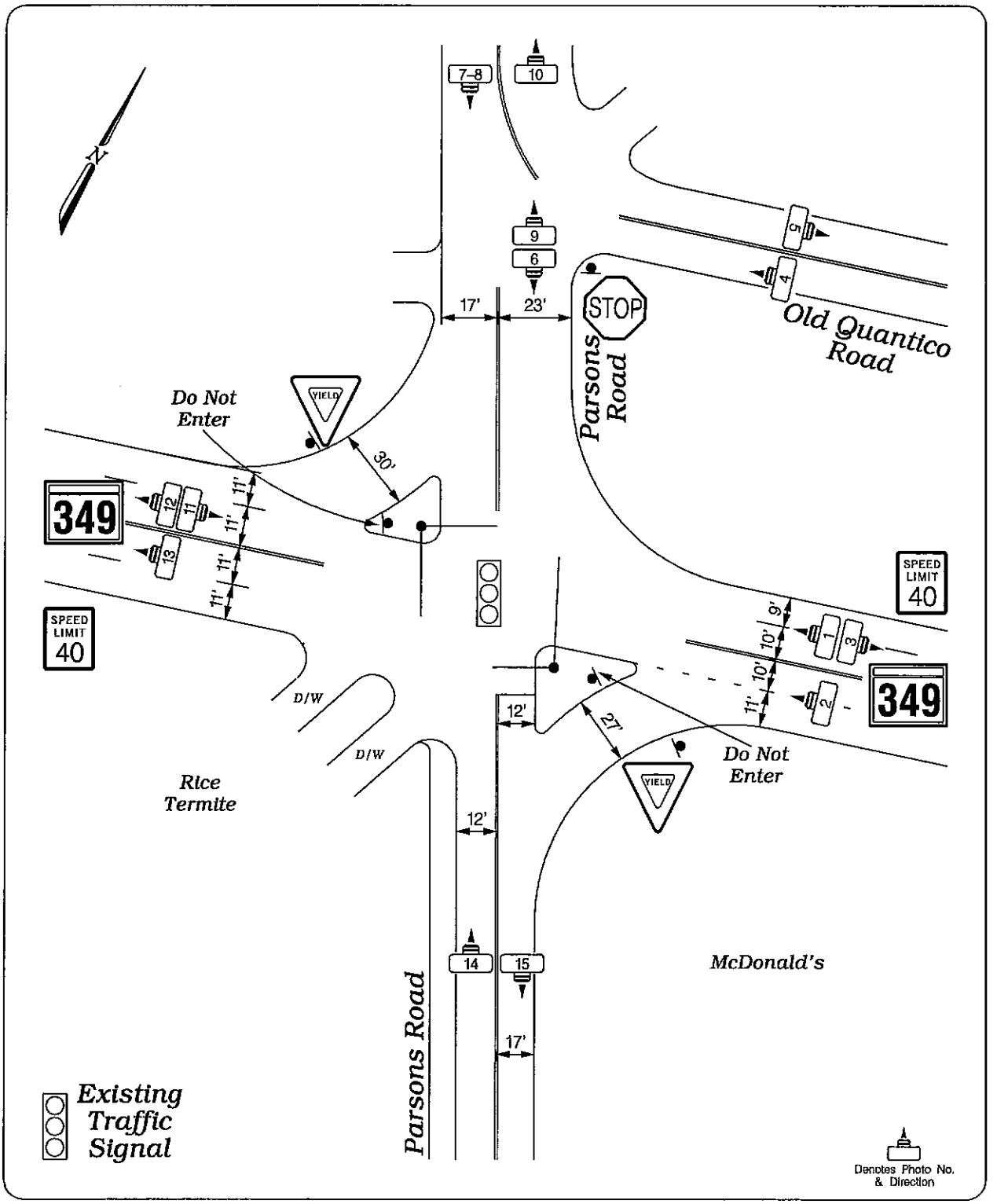
VEHICLE TURNING MOVEMENT COUNT - SUMMARY

Intersection of: MD 349
and: Parsons Road
Location: Wicomico County, MD

Counted by: HP, SH
Date: April 12, 2005
Weather: Cloudy, Cool
Entered by: BT

Day: Tuesday

TIME	TRAFFIC FROM NORTH on: Parsons Road					TRAFFIC FROM SOUTH on: Parsons Road					TRAFFIC FROM EAST on: MD 349					TRAFFIC FROM WEST on: MD 349					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	
AM																					
07:0-15	0	2	5	0	7	0	11	8	3	22	0	24	0	0	24	0	0	125	39	164	217
15-30	0	4	2	0	6	0	18	1	6	25	0	35	1	0	36	0	1	231	62	294	361
30-45	0	10	19	0	29	0	15	4	19	38	0	42	5	0	47	0	2	274	96	372	486
45-00	0	7	6	0	13	0	28	6	12	46	0	45	4	0	49	0	0	217	68	285	393
08:0-15	0	2	4	0	6	0	32	3	7	42	0	50	3	0	53	0	0	139	73	212	313
15-30	0	8	6	0	14	0	21	4	3	28	0	56	4	0	60	0	1	119	64	184	286
30-45	1	9	9	0	19	0	22	3	6	31	0	53	5	0	58	0	0	123	76	199	307
45-00	0	3	3	0	6	0	19	6	4	29	0	46	5	0	51	0	0	101	59	160	246
2 Hr Totals	1	45	54	0	100	0	166	35	60	261	0	351	27	0	378	0	4	1329	537	1870	2609
1 Hr Totals																					
07-08	0	23	32	0	55	0	72	19	40	131	0	146	10	0	156	0	3	847	265	1115	1457
715-815	0	23	31	0	54	0	93	14	44	151	0	172	13	0	185	0	3	861	299	1163	1553
730-830	0	27	35	0	62	0	96	17	41	154	0	193	16	0	209	0	3	749	301	1053	1478
745-845	1	26	25	0	52	0	103	16	28	147	0	204	16	0	220	0	1	598	281	880	1299
08-09	1	22	22	0	45	0	94	16	20	130	0	205	17	0	222	0	1	482	272	755	1152
PEAK HOUR																					
715-815	0	23	31	0	54	0	93	14	44	151	0	172	13	0	185	0	3	861	299	1163	1553
PM																					
04:0-15	0	9	9	0	18	0	63	11	7	81	0	130	1	0	131	0	0	83	42	125	355
15-30	1	10	9	0	20	0	54	7	6	67	0	153	3	0	156	0	0	91	38	129	372
30-45	1	8	6	0	15	0	64	2	5	71	0	143	4	0	147	0	0	89	42	131	364
45-00	0	6	7	0	13	0	57	3	8	68	0	165	1	0	166	0	2	86	51	139	386
05:0-15	2	4	2	0	8	0	92	7	13	112	0	164	1	0	165	0	1	87	56	144	429
15-30	0	4	4	0	8	0	81	5	3	89	0	204	3	0	207	0	0	84	45	129	433
30-45	1	4	2	0	7	0	79	8	7	94	0	178	5	0	183	0	0	91	48	139	423
45-00	1	7	3	0	11	0	83	2	5	90	0	170	4	0	174	0	0	76	42	118	393
2 Hr Totals	6	52	42	0	100	0	573	45	54	672	0	1307	22	0	1329	0	3	687	364	1054	3155
1 Hr Totals																					
04-05	2	33	31	0	66	0	238	23	26	287	0	591	9	0	600	0	2	349	173	524	1477
415-515	4	28	24	0	56	0	267	19	32	318	0	625	9	0	634	0	3	353	187	543	1551
430-530	3	22	19	0	44	0	294	17	29	340	0	676	9	0	685	0	3	346	194	543	1612
445-545	3	18	15	0	36	0	309	23	31	363	0	711	10	0	721	0	3	348	200	551	1671
05-06	4	19	11	0	34	0	335	22	28	385	0	716	13	0	729	0	1	338	191	530	1678
PEAK HOUR																					
05-06	4	19	11	0	34	0	335	22	28	385	0	716	13	0	729	0	1	338	191	530	1678



The Traffic Group

MD 349 at Parsons Road/ Old Quantico Road

FIELD WORK BY: B. Tustin
DRAWN BY: S. Langley
DATE: April, 2005
SCALE: N/A

JOB NO.: 2006-0628
DWG NAME: MD349@ParsonsRd-OldQuanticoRd.DGN
LOCATION: Salisbury Co., MD
SHEET NO.: 7 OF 8

01.jpg

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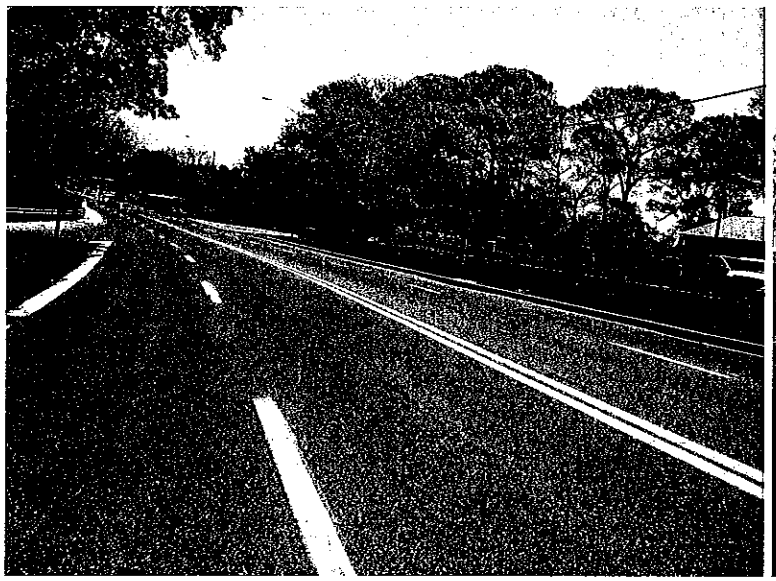

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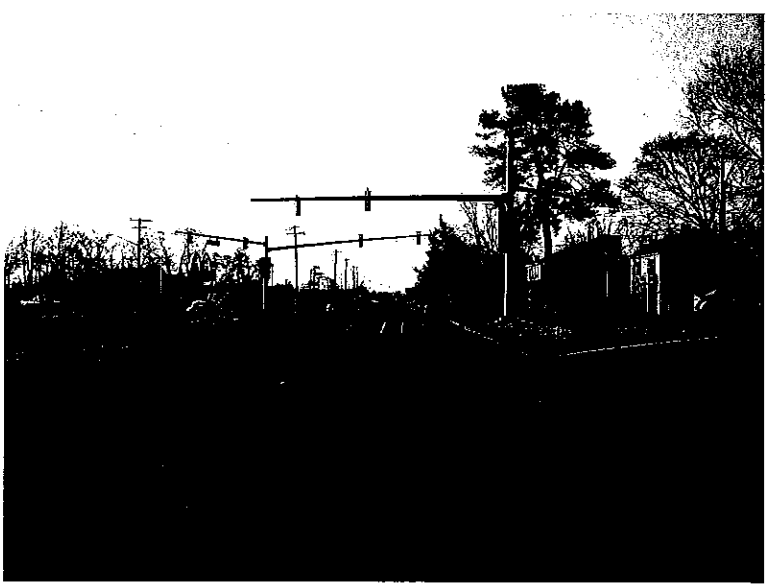

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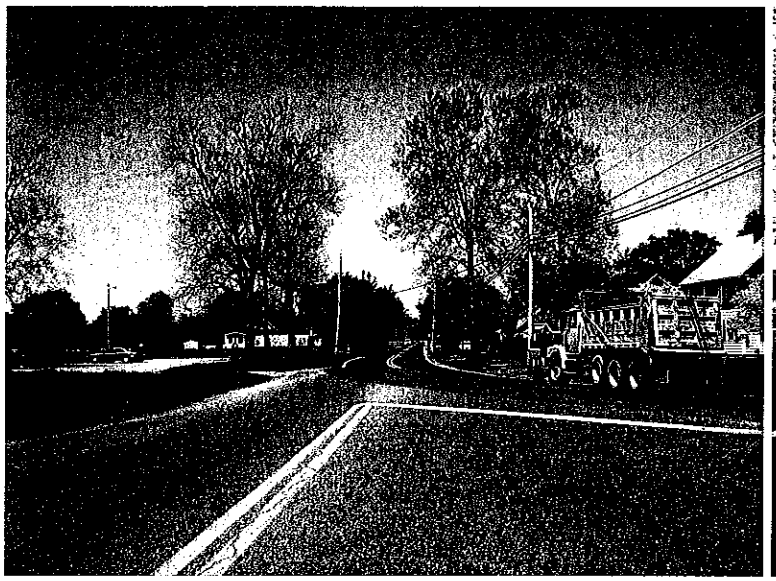

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VEHICLE TURNING MOVEMENT COUNT - SUMMARY

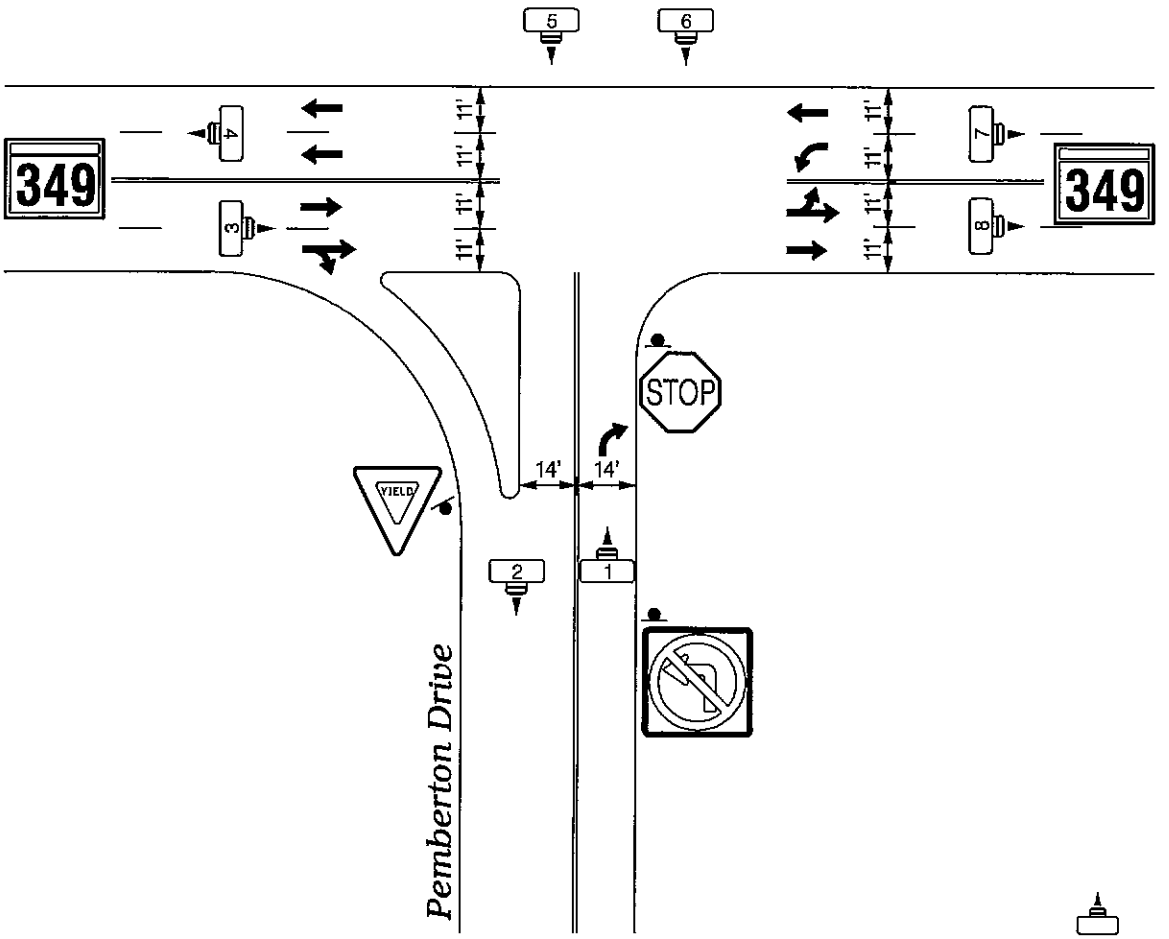
Intersection of: MD 349
and: Pemberton Drive
Location: Wicomico County, MD

Counted by: HP, SH
Date: April 14, 2005
Weather: Clear, Cool
Entered by: BT

Day: Thursday

The Traffic Group

TIME	TRAFFIC FROM NORTH on:					TRAFFIC FROM SOUTH on: Pemberton Drive					TRAFFIC FROM EAST on: MD 349					TRAFFIC FROM WEST on: MD 349					TOTAL N + S + E + W
	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	RIGHT	THRU	LEFT	U-TN	TOTAL	U-TN	LEFT	THRU	RIGHT	TOTAL	
AM																					
07:0-15	0	0	0	0	0	0	0	0	44	44	0	33	32	0	65	0	0	169	0	169	278
15-30	0	0	0	0	0	0	1	0	62	63	0	61	42	0	103	0	0	218	1	219	385
30-45	0	0	0	0	0	0	0	0	47	47	0	63	45	0	108	0	0	326	0	326	481
45-00	0	0	0	0	0	0	0	0	51	51	0	58	63	0	121	0	0	203	0	203	375
08:0-15	0	0	0	0	0	0	0	0	71	71	0	93	71	0	164	0	0	167	0	167	402
15-30	0	0	0	0	0	0	0	0	72	72	0	63	88	0	151	0	0	137	1	138	361
30-45	0	0	0	0	0	0	0	0	64	64	0	67	53	0	120	0	0	130	0	130	314
45-00	0	0	0	0	0	0	0	0	66	66	0	71	44	0	115	0	0	117	0	117	298
2 Hr Totals	0	0	0	0	0	0	1	0	477	478	0	509	438	0	947	0	0	1467	2	1469	2894
1 Hr Totals																					
07-08	0	0	0	0	0	0	1	0	204	205	0	215	182	0	397	0	0	916	1	917	1519
715-815	0	0	0	0	0	0	1	0	231	232	0	275	221	0	496	0	0	914	1	915	1643
730-830	0	0	0	0	0	0	0	0	241	241	0	277	267	0	544	0	0	833	1	834	1619
745-845	0	0	0	0	0	0	0	0	258	258	0	281	275	0	556	0	0	637	1	638	1452
08-09	0	0	0	0	0	0	0	0	273	273	0	294	256	0	550	0	0	551	1	552	1375
PEAK HOUR																					
715-815	0	0	0	0	0	0	1	0	231	232	0	275	221	0	496	0	0	914	1	915	1643
PM																					
04:0-15	0	0	0	0	0	0	0	0	62	62	0	134	79	0	213	0	0	113	0	113	388
15-30	0	0	0	0	0	0	0	0	65	65	0	143	77	0	220	0	0	90	0	90	375
30-45	0	0	0	0	0	0	0	0	65	65	0	156	79	0	235	0	0	119	0	119	419
45-00	0	0	0	0	0	0	0	0	54	54	0	152	95	0	247	0	0	89	0	89	390
05:0-15	0	0	0	0	0	0	0	0	56	56	0	174	70	0	244	0	0	101	0	101	401
15-30	0	0	0	0	0	0	1	0	55	56	0	203	73	0	276	0	0	100	0	100	432
30-45	0	0	0	0	0	0	0	0	60	60	0	250	94	0	344	0	0	125	1	126	530
45-00	0	0	0	0	0	0	0	0	56	56	0	135	80	0	215	0	0	115	0	115	386
2 Hr Totals	0	0	0	0	0	0	1	0	473	474	0	1347	647	0	1994	0	0	852	1	853	3321
1 Hr Totals																					
04-05	0	0	0	0	0	0	0	0	246	246	0	585	330	0	915	0	0	411	0	411	1572
415-515	0	0	0	0	0	0	0	0	240	240	0	625	321	0	946	0	0	399	0	399	1585
430-530	0	0	0	0	0	0	1	0	230	231	0	685	317	0	1002	0	0	409	0	409	1642
445-545	0	0	0	0	0	0	1	0	225	226	0	779	332	0	1111	0	0	415	1	416	1753
05-06	0	0	0	0	0	0	1	0	227	228	0	762	317	0	1079	0	0	441	1	442	1749
PEAK HOUR																					
430-530	0	0	0	0	0	0	1	0	230	231	0	685	317	0	1002	0	0	409	0	409	1642
12 Hr Count																					
07-08	0	0	0	0	0	0	1	0	204	205	0	215	182	0	397	0	0	916	1	917	1519
08-09	0	0	0	0	0	0	0	0	273	273	0	294	256	0	550	0	0	551	1	552	1375
09-10	0	0	0	0	0	0	0	0	166	166	0	269	210	0	479	0	0	368	2	370	1015
10-11	0	0	0	0	0	0	0	0	187	187	0	345	206	0	551	0	0	292	1	293	1031
11-12	0	0	0	0	0	0	1	0	188	189	0	337	233	0	570	0	0	333	0	333	1092
12-01	0	0	0	0	0	0	0	0	197	197	0	422	232	0	654	0	0	470	9	479	1330
01-02	0	0	0	0	0	0	0	0	189	189	0	329	227	0	556	0	0	348	2	350	1095
02-03	0	0	0	0	0	0	0	0	217	217	0	340	230	0	570	0	0	392	3	395	1182
03-04	0	0	0	0	0	0	0	0	244	244	0	559	307	0	866	0	0	404	2	406	1516
04-05	0	0	0	0	0	0	0	0	246	246	0	585	330	0	915	0	0	411	0	411	1572
05-06	0	0	0	0	0	0	1	0	227	228	0	762	317	0	1079	0	0	441	1	442	1749
06-07	0	0	0	0	0	0	0	0	173	173	0	488	186	0	674	0	0	373	1	374	1221
12 Hr Total	0	0	0	0	0	0	3	0	2511	2514	0	4945	2916	0	7861	0	0	5299	23	5322	15697



The Traffic Group

MD 349 at
Pemberton Drive

FIELD WORK BY: *B. Tustin*
DRAWN BY: *S. Langley*
DATE: *April, 2005*
SCALE: *N/A*

JOB NO.: *2006-0628*
DWG NAME: *Intersection Name.DGN*
LOCATION: *Salisbury Co., MD*
SHEET NO.: *8* OF *8*

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The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
EB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3
07:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	2	6
08:00	0	13	5	1	0	0	0	0	0	0	0	0	0	0	0	19
09:00	0	5	4	0	1	0	0	0	0	0	0	0	0	0	0	10
10:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
11:00	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	9
12 PM	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
13:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	2	11
14:00	0	7	5	0	0	0	0	0	0	0	0	0	0	0	1	13
15:00	0	10	4	2	1	0	0	0	0	0	0	0	0	0	0	17
16:00	0	15	3	0	0	0	0	0	0	0	0	0	0	0	0	18
17:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
19:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
20:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	85	40	3	3	0	0	0	0	0	0	0	0	0	5	136
Percent	0.0%	62.5%	29.4%	2.2%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
EB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	2	7
08:00	0	11	7	1	0	0	0	0	0	0	0	0	0	0	1	20
09:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
10:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
11:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	8
12 PM	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	11
13:00	0	11	5	0	1	0	0	0	0	0	0	0	0	0	0	17
14:00	0	11	6	0	4	0	0	0	0	0	0	0	0	0	0	21
15:00	0	8	4	2	1	0	0	0	0	0	0	0	0	0	0	15
16:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
17:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
18:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	1	5
19:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	73	48	6	7	0	0	0	0	0	0	0	0	0	4	138
Percent	0.0%	52.9%	34.8%	4.3%	5.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
EB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	7	4	0	1	0	0	0	0	0	0	0	0	0	1	13
08:00	0	21	4	1	0	0	0	0	0	0	0	0	0	0	1	27
09:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
10:00	1	2	3	0	1	0	0	0	0	0	0	0	0	0	2	9
11:00	1	4	4	0	1	0	0	0	0	0	0	0	0	0	1	11
12 PM	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	10
13:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
14:00	1	8	6	0	2	0	0	0	0	0	0	0	0	0	1	18
15:00	0	11	4	2	1	0	0	0	0	0	0	0	0	0	0	18
16:00	0	8	4	0	0	0	0	0	0	0	0	0	0	0	1	13
17:00	0	5	1	0	1	0	0	0	0	0	0	0	0	0	0	7
18:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	84	46	3	8	0	0	0	0	0	0	0	0	0	7	151
Percent	2.0%	55.6%	30.5%	2.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%	
Grand Total	3	242	134	12	18	0	0	0	0	0	0	0	0	0	16	425
Percent	0.7%	56.9%	31.5%	2.8%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
06:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	5
07:00	0	1	4	2	0	0	0	0	0	0	0	0	0	0	0	7
08:00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	0	14
09:00	0	7	1	0	1	0	0	0	0	0	0	0	0	0	1	10
10:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00	0	3	5	0	1	0	0	0	0	0	0	0	0	0	0	9
12 PM	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
13:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	1	10
14:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
15:00	0	7	6	0	1	0	0	0	0	0	0	0	0	0	1	15
16:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
17:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
18:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	58	35	2	4	0	0	0	0	0	0	0	0	0	4	103
Percent	0.0%	56.3%	34.0%	1.9%	3.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3
07:00	0	3	4	2	0	0	0	0	0	0	0	0	0	0	0	9
08:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	11
09:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	1	5
12 PM	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	11
13:00	0	3	4	0	1	0	0	0	0	0	0	0	0	0	0	8
14:00	0	11	7	0	0	0	0	0	0	0	0	0	0	0	1	19
15:00	0	6	5	0	1	0	0	0	0	0	0	0	0	0	0	12
16:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	8
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
18:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	1	5
19:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	2	0	3	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	57	38	2	8	1	0	0	0	0	0	0	0	0	3	109
Percent	0.0%	52.3%	34.9%	1.8%	7.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.8%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Class
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0																
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	4	3	2	1	0	0	0	0	0	0	0	0	0	0	10
08:00	0	11	4	1	0	0	0	0	0	0	0	0	0	0	0	16
09:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
10:00	0	2	2	1	0	1	0	0	0	0	0	0	0	0	0	6
11:00	1	4	2	0	0	1	0	0	0	0	0	0	0	0	0	8
12 PM	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
13:00	2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	8
14:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	10
15:00	0	11	4	0	1	0	0	0	0	0	0	0	0	0	0	16
16:00	0	5	1	1	0	0	0	0	0	0	0	0	0	0	1	8
17:00	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	8
18:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	3	67	35	5	3	2	0	0	0	0	0	0	0	0	1	116
Percent	2.6%	57.8%	30.2%	4.3%	2.6%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	
Grand Total	3	182	108	9	15	3	0	0	0	0	0	0	0	0	8	328
Percent	0.9%	55.5%	32.9%	2.7%	4.6%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Speed
Wicomico
EB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:00	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3
07:00	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6
08:00	0	0	0	0	0	0	0	1	5	8	3	1	1	0	0	19
09:00	0	0	0	0	0	1	2	1	2	4	0	0	0	0	0	10
10:00	0	0	0	0	0	0	1	0	1	3	1	0	0	0	0	6
11:00	0	0	0	0	0	1	0	3	4	0	1	0	0	0	0	9
12 PM	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	6
13:00	0	1	0	0	0	0	0	6	3	0	1	0	0	0	0	11
14:00	0	0	0	0	0	0	0	5	2	3	2	1	0	0	0	13
15:00	0	0	0	0	0	0	1	6	3	5	0	2	0	0	0	17
16:00	0	0	0	0	0	0	0	1	7	7	1	2	0	0	0	18
17:00	0	0	0	0	0	0	1	0	0	4	0	1	0	0	0	6
18:00	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	3
19:00	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
20:00	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	3	8	26	38	40	9	10	1	0	0	136

The Traffic Group
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Pemberton Drive
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Speed
Wicomico
EB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
07:00	0	0	0	0	0	0	0	0	2	4	1	0	0	0	0	7
08:00	0	0	0	0	0	0	1	0	3	12	2	2	0	0	0	20
09:00	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	4
10:00	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	5
11:00	0	0	0	0	0	0	0	1	1	3	2	1	0	0	0	8
12 PM	0	0	0	0	0	0	0	0	2	6	3	0	0	0	0	11
13:00	0	0	0	0	1	0	0	1	4	3	6	2	0	0	0	17
14:00	0	0	0	0	0	0	1	2	3	13	2	0	0	0	0	21
15:00	0	0	0	0	0	0	2	2	6	4	1	0	0	0	0	15
16:00	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
17:00	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	4
18:00	0	0	0	0	0	0	0	1	3	1	0	0	0	0	0	5
19:00	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	4
20:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	7	10	36	58	20	5	0	0	0	138

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Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
06:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
07:00	0	0	0	0	0	1	0	1	9	2	0	0	0	0	0	13
08:00	0	0	0	0	0	0	0	2	7	9	7	2	0	0	0	27
09:00	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	4
10:00	0	0	1	0	0	1	0	2	0	4	1	0	0	0	0	9
11:00	0	0	0	0	1	0	0	3	3	4	0	0	0	0	0	11
12 PM	0	0	0	0	0	0	0	0	3	6	1	0	0	0	0	10
13:00	0	0	0	0	0	0	0	2	5	2	0	0	0	0	0	9
14:00	0	0	0	0	0	0	2	1	9	2	3	1	0	0	0	18
15:00	0	0	0	0	0	1	2	2	8	2	3	0	0	0	0	18
16:00	0	0	0	0	0	0	0	2	4	6	1	0	0	0	0	13
17:00	0	0	0	0	1	0	0	1	3	1	1	0	0	0	0	7
18:00	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	4
19:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
20:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	0	2	3	4	17	58	40	22	4	0	0	0	151
Grand Total	0	1	1	0	4	6	19	53	132	138	51	19	1	0	0	425

Stats

15th Percentile :	39 MPH
50th Percentile :	45 MPH
85th Percentile :	51 MPH
95th Percentile :	55 MPH
Mean Speed(Average) :	45 MPH
10 MPH Pace Speed :	41-50 MPH
Number in Pace :	270
Percent in Pace :	63.5%
Number of Vehicles > 55 MPH :	20
Percent of Vehicles > 55 MPH :	4.7%

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Speed
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
06:00	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	5
07:00	0	0	0	0	0	1	1	0	3	1	1	0	0	0	0	7
08:00	0	0	0	0	0	0	0	1	7	5	0	1	0	0	0	14
09:00	0	0	0	0	0	0	3	1	5	1	0	0	0	0	0	10
10:00	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3
11:00	0	0	0	0	1	0	1	3	4	0	0	0	0	0	0	9
12 PM	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	4
13:00	0	0	0	0	0	0	0	1	3	4	2	0	0	0	0	10
14:00	0	0	0	0	0	0	1	1	2	0	1	0	0	0	0	5
15:00	0	0	0	0	1	0	1	1	5	4	2	1	0	0	0	15
16:00	0	0	0	0	0	0	0	3	2	2	0	0	0	0	0	7
17:00	0	0	0	0	0	1	1	0	2	1	0	0	0	0	0	5
18:00	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	3
19:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
20:00	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	2	2	9	16	40	22	7	2	0	0	1	103

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Speed
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
07:00	0	0	0	0	0	0	0	2	3	3	1	0	0	0	0	9
08:00	0	0	0	1	0	0	1	1	4	3	1	0	0	0	0	11
09:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
10:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
11:00	0	0	0	0	1	0	1	0	0	2	1	0	0	0	0	5
12 PM	0	0	0	1	0	0	0	2	6	2	0	0	0	0	0	11
13:00	0	0	0	0	0	0	1	0	4	0	3	0	0	0	0	8
14:00	0	0	0	1	0	0	1	1	8	4	2	2	0	0	0	19
15:00	0	0	0	0	0	0	0	2	5	3	2	0	0	0	0	12
16:00	0	0	0	0	0	0	0	2	4	2	0	0	0	0	0	8
17:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
18:00	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	5
19:00	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	3
20:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	1	1	0	3	0	0	0	0	0	0	5
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	4	1	1	8	14	49	19	11	2	0	0	0	109

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Wells Rd.
Speed
Wicomico
WB

Site Code: MONT00000000
Station ID: 5 EB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
06:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
07:00	0	0	0	0	0	0	0	4	1	4	0	1	0	0	0	10
08:00	0	0	0	0	0	0	0	6	4	3	2	1	0	0	0	16
09:00	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	4
10:00	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	6
11:00	0	0	0	1	0	0	2	0	3	2	0	0	0	0	0	8
12 PM	0	0	0	0	0	0	0	2	3	0	1	0	0	0	0	6
13:00	0	0	0	0	0	0	0	2	1	2	3	0	0	0	0	8
14:00	0	0	0	2	1	0	0	0	5	2	0	0	0	0	0	10
15:00	0	0	0	1	1	0	1	4	5	3	1	0	0	0	0	16
16:00	0	0	0	0	0	0	0	2	3	1	0	0	1	0	1	8
17:00	0	0	0	0	0	1	1	0	2	2	1	0	0	1	0	8
18:00	0	0	0	0	1	0	0	1	4	0	0	0	0	0	0	6
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3
21:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
Total	0	0	0	4	3	1	4	28	39	21	11	2	1	1	1	116
Grand Total	0	0	0	10	6	4	21	58	128	62	29	6	1	1	2	328

Stats

15th Percentile :	36 MPH
50th Percentile :	43 MPH
85th Percentile :	50 MPH
95th Percentile :	54 MPH
Mean Speed(Average) :	43 MPH
10 MPH Pace Speed :	38-47 MPH
Number in Pace :	190
Percent in Pace :	57.9%
Number of Vehicles > 55 MPH :	10
Percent of Vehicles > 55 MPH :	3.0%

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
North of Scotland Pkwy.
Class
Wicomico
NB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
07:00	0	31	5	2	2	2	0	0	0	0	0	0	0	0	1	43
08:00	0	34	10	1	1	0	0	1	0	0	0	0	0	0	0	47
09:00	0	17	15	0	0	0	0	0	0	0	0	0	0	0	0	32
10:00	0	21	7	0	2	0	0	0	0	0	0	0	0	0	0	30
11:00	0	25	13	1	1	0	0	0	0	0	0	0	0	0	0	40
12 PM	0	38	15	0	0	0	0	0	0	0	0	0	0	0	0	53
13:00	0	20	11	0	1	1	0	0	0	0	0	0	0	0	1	34
14:00	0	36	16	0	0	0	0	0	0	0	0	0	0	0	0	52
15:00	0	56	14	4	0	0	0	0	0	0	0	0	0	0	0	74
16:00	0	73	13	1	1	1	0	0	0	0	0	0	0	0	0	89
17:00	0	84	18	0	0	0	0	0	0	0	0	0	0	0	0	102
18:00	0	53	14	0	0	0	0	0	0	0	0	0	0	0	0	67
19:00	0	48	9	0	0	0	0	0	0	0	0	0	0	0	0	57
20:00	0	33	6	0	0	0	0	0	0	0	0	0	0	0	0	39
21:00	0	28	5	0	0	0	0	0	0	0	0	0	0	0	0	33
22:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	624	178	9	8	4	0	1	0	0	0	0	0	0	2	826
Percent	0.0%	75.5%	21.5%	1.1%	1.0%	0.5%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
North of Scotland Pkwy.
Class
Wicomico
NB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	8
07:00	0	22	6	1	0	0	0	1	0	0	0	0	0	0	1	31
08:00	0	38	17	1	0	1	0	0	0	0	0	0	0	0	1	58
09:00	0	18	10	0	1	0	0	0	0	0	0	0	0	0	0	29
10:00	0	27	15	0	0	0	0	0	0	0	0	0	0	0	2	44
11:00	0	37	12	1	2	1	0	0	0	0	0	0	0	0	1	54
12 PM	0	29	14	0	0	0	0	0	0	0	0	0	0	0	1	44
13:00	0	35	14	0	0	0	0	0	0	0	0	0	0	0	1	50
14:00	1	35	13	0	3	0	0	0	0	0	0	0	0	0	2	54
15:00	0	29	13	1	1	0	0	0	0	0	0	0	0	0	1	45
16:00	0	28	13	1	0	0	0	0	0	0	0	0	0	0	0	42
17:00	0	20	13	0	0	0	0	0	0	0	0	0	0	0	0	33
18:00	0	21	8	0	0	0	0	0	0	0	0	0	0	0	0	29
19:00	0	22	6	0	1	0	0	0	0	0	0	0	0	0	0	29
20:00	0	16	11	0	0	0	0	0	0	0	0	0	0	0	2	29
21:00	0	15	4	0	0	0	0	0	0	0	0	0	0	0	0	19
22:00	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4
23:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	4
Total	1	412	177	5	10	2	0	1	0	0	0	0	0	0	12	620
Percent	0.2%	66.5%	28.5%	0.8%	1.6%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
North of Scotland Pkwy.
Class
Wicomico
NB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0																
6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	8
06:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	8
07:00	0	25	6	1	1	0	0	0	0	0	0	0	0	0	1	34
08:00	0	42	10	1	0	1	0	0	0	0	0	0	0	0	2	56
09:00	0	15	10	0	1	1	0	0	0	0	0	0	0	0	0	27
10:00	0	11	12	0	2	0	0	0	0	0	0	0	0	0	0	25
11:00	0	17	6	0	0	0	0	0	0	0	0	0	0	0	0	23
12 PM	0	11	11	0	0	0	0	0	0	0	0	0	0	0	1	23
13:00	0	14	10	0	0	0	0	1	0	0	0	0	0	0	0	25
14:00	0	20	7	0	1	0	0	0	0	0	0	0	0	0	0	28
15:00	0	15	10	2	1	0	0	0	0	0	0	0	0	0	0	28
16:00	0	22	7	1	1	0	0	0	0	0	0	0	0	0	0	31
17:00	0	20	10	0	0	0	0	0	0	0	0	0	0	0	1	31
18:00	0	22	4	0	0	0	0	0	0	0	0	0	0	0	0	26
19:00	0	14	3	0	0	0	0	0	0	0	0	0	0	0	0	17
20:00	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	12
21:00	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	16
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	296	123	5	7	2	0	1	0	0	0	0	0	0	5	439
Percent	0.0%	67.4%	28.0%	1.1%	1.6%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	
Grand Total	1	1332	478	19	25	8	0	3	0	0	0	0	0	0	19	1885
Percent	0.1%	70.7%	25.4%	1.0%	1.3%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
North of Scotland Pkwy.
Class
Wicomico
SB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
06:00	0	24	12	0	0	0	0	0	0	0	0	0	0	0	0	36
07:00	0	88	14	3	0	0	0	0	1	0	0	0	0	0	0	106
08:00	0	73	20	1	0	0	0	0	0	0	0	0	0	0	0	94
09:00	0	35	14	0	2	0	0	0	0	0	0	0	0	0	0	51
10:00	0	22	13	0	1	0	0	0	0	0	0	0	0	0	0	36
11:00	0	27	8	1	0	1	0	0	0	0	0	0	0	0	0	37
12 PM	0	45	5	0	2	0	0	0	0	0	0	0	0	0	0	52
13:00	0	41	10	0	0	0	0	0	0	0	0	0	0	0	0	51
14:00	0	26	14	0	2	0	0	0	0	0	0	0	0	0	0	42
15:00	0	31	16	1	0	0	0	1	0	0	0	0	0	0	0	49
16:00	0	40	14	1	0	0	0	0	0	0	0	0	0	0	0	55
17:00	0	51	11	0	0	0	0	0	0	0	0	0	0	0	0	62
18:00	0	35	9	0	0	0	0	0	0	0	0	0	0	0	0	44
19:00	0	26	4	0	0	0	0	0	0	0	0	0	0	0	0	30
20:00	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
21:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	617	168	7	7	1	0	1	1	0	0	0	0	0	0	802
Percent	0.0%	76.9%	20.9%	0.9%	0.9%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
North of Scotland Pkwy.
Class
Wicomico
SB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	11
06:00	0	29	8	0	0	0	0	0	0	0	0	0	0	0	0	37
07:00	0	92	18	3	0	0	0	0	0	0	0	0	0	0	1	114
08:00	0	74	26	0	0	0	0	0	0	0	0	0	0	0	0	100
09:00	0	46	12	0	0	0	0	0	0	0	0	0	0	0	2	60
10:00	0	28	17	0	0	1	0	0	0	0	0	0	0	0	0	46
11:00	1	29	10	0	1	0	0	1	1	0	0	0	0	0	0	43
12 PM	0	26	11	0	0	0	0	0	0	0	0	0	0	0	0	37
13:00	0	27	13	0	0	0	0	0	0	0	0	0	0	0	1	41
14:00	0	40	10	0	2	0	0	0	0	0	0	0	0	0	1	53
15:00	0	48	9	2	0	0	0	0	0	0	0	0	0	0	0	59
16:00	0	51	20	1	0	0	0	0	0	0	0	0	0	0	0	72
17:00	0	57	11	0	0	0	0	0	0	0	0	0	0	0	0	68
18:00	0	30	11	0	0	0	0	0	0	0	0	0	0	0	1	42
19:00	0	29	6	0	0	0	0	0	0	0	0	0	0	0	0	35
20:00	0	20	4	0	0	0	0	0	0	0	0	0	0	0	0	24
21:00	0	12	7	0	0	0	0	0	0	0	0	0	0	0	1	20
22:00	0	7	5	0	1	0	0	0	0	0	0	0	0	0	0	13
23:00	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	5
Total	1	665	200	6	5	1	0	1	1	0	0	0	0	0	7	887
Percent	0.1%	75.0%	22.5%	0.7%	0.6%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	

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Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0																
6	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	12
06:00	0	29	8	0	0	0	0	0	0	0	0	0	0	0	0	37
07:00	0	88	14	3	0	0	0	0	0	0	0	0	0	0	0	105
08:00	0	71	20	0	0	1	0	0	0	0	0	0	0	0	0	92
09:00	0	44	9	0	1	0	0	0	0	0	0	0	0	0	1	55
10:00	0	21	13	0	2	1	0	0	0	0	0	0	0	0	1	38
11:00	0	29	8	0	1	0	0	0	0	0	0	0	0	0	1	39
12 PM	0	21	10	1	1	0	0	0	0	0	0	0	0	0	0	33
13:00	1	18	14	0	1	0	0	1	0	0	0	0	0	0	0	35
14:00	0	28	15	0	1	0	0	0	0	0	0	0	0	0	1	45
15:00	0	28	14	2	0	0	0	0	0	0	0	0	0	0	0	44
16:00	0	34	18	1	1	0	0	0	0	0	0	0	0	0	0	54
17:00	0	34	13	0	0	0	0	0	0	0	0	0	0	0	1	48
18:00	0	32	5	1	0	0	0	0	0	0	0	0	0	0	0	38
19:00	0	25	3	0	0	0	0	0	0	0	0	0	0	0	0	28
20:00	0	13	2	0	0	0	0	0	0	0	0	0	0	0	0	15
21:00	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	1	556	174	8	8	2	0	1	0	0	0	0	0	0	5	755
Percent	0.1%	73.6%	23.0%	1.1%	1.1%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	
Grand Total	2	1838	542	21	20	4	0	3	2	0	0	0	0	0	12	2444
Percent	0.1%	75.2%	22.2%	0.9%	0.8%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	

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Pemberton Drive
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Speed
Wicomico
NB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2
01:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
05:00	0	0	0	0	0	0	0	1	2	2	0	1	0	0	0	6
06:00	0	0	0	0	0	0	1	0	1	3	0	0	0	0	0	5
07:00	0	0	0	1	0	0	1	4	9	18	8	2	0	0	0	43
08:00	0	0	0	0	0	0	2	3	8	15	13	4	1	1	0	47
09:00	0	0	0	0	0	0	1	3	5	13	5	3	2	0	0	32
10:00	0	0	0	0	1	0	0	6	6	8	7	1	1	0	0	30
11:00	0	0	0	0	0	0	1	2	6	13	12	5	1	0	0	40
12 PM	0	0	0	0	0	0	1	8	11	16	9	7	1	0	0	53
13:00	0	0	0	0	0	0	0	2	6	15	6	4	1	0	0	34
14:00	0	0	0	0	0	0	0	3	10	15	16	6	2	0	0	52
15:00	0	0	0	0	0	1	0	5	16	22	22	7	1	0	0	74
16:00	0	0	0	0	0	0	3	7	23	24	23	8	0	1	0	89
17:00	0	0	0	0	0	0	0	9	30	29	25	8	1	0	0	102
18:00	0	0	0	0	0	0	0	5	16	21	18	6	0	0	1	67
19:00	0	0	0	0	0	0	0	2	11	23	10	10	1	0	0	57
20:00	0	0	0	0	0	0	0	2	10	12	9	3	2	1	0	39
21:00	0	0	0	0	0	0	0	3	4	10	13	2	1	0	0	33
22:00	0	0	0	0	0	0	0	2	2	2	2	0	1	0	0	9
23:00	0	0	0	0	0	0	0	0	4	0	1	0	0	0	0	5
Total	0	0	0	1	1	1	10	68	182	266	199	77	17	3	1	826

The Traffic Group
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Pemberton Drive
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Speed
Wicomico
NB

Site Code: MARRIOT0OUT2
Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	4
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
02:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
06:00	0	0	0	0	0	0	0	0	4	2	2	0	0	0	0	8
07:00	0	0	0	0	0	0	0	2	7	9	9	1	0	3	0	31
08:00	0	0	0	0	0	0	0	4	11	19	8	11	4	1	0	58
09:00	0	0	0	0	1	0	1	6	3	10	4	4	0	0	0	29
10:00	0	0	1	0	0	1	1	2	12	16	8	3	0	0	0	44
11:00	0	0	0	1	1	2	0	6	11	13	15	3	1	1	0	54
12 PM	0	0	0	0	1	0	0	0	12	11	9	9	1	1	0	44
13:00	0	0	0	0	0	0	1	0	8	17	16	5	2	1	0	50
14:00	0	0	0	2	1	0	3	0	6	19	13	9	1	0	0	54
15:00	0	0	0	0	0	0	4	3	5	13	12	6	1	0	1	45
16:00	0	0	0	0	0	0	0	6	6	14	9	4	1	2	0	42
17:00	0	0	0	0	0	1	0	1	4	7	12	5	3	0	0	33
18:00	0	0	0	0	0	0	0	2	5	9	4	7	1	0	1	29
19:00	0	0	0	0	0	0	0	1	6	15	4	3	0	0	0	29
20:00	0	0	0	0	0	1	0	2	5	6	8	4	2	0	1	29
21:00	0	0	0	0	0	0	0	0	7	3	6	3	0	0	0	19
22:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
23:00	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	4
Total	0	0	1	3	4	5	12	38	119	186	142	79	18	9	4	620

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Pemberton Drive
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Speed
Wicomico
NB

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Station ID: 3 NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	4
05:00	0	0	0	0	0	0	0	0	1	4	2	1	0	0	0	8
06:00	0	0	0	0	0	0	1	0	1	3	3	0	0	0	0	8
07:00	0	0	0	0	0	1	1	5	7	8	6	5	1	0	0	34
08:00	0	0	0	0	0	1	1	3	5	24	16	4	1	0	1	56
09:00	0	0	0	0	2	1	0	2	6	7	6	1	2	0	0	27
10:00	0	0	0	0	0	1	2	0	4	8	2	7	1	0	0	25
11:00	0	0	0	0	0	0	1	1	2	11	5	1	2	0	0	23
12 PM	0	0	0	0	0	0	1	4	2	7	6	3	0	0	0	23
13:00	0	0	0	0	3	1	1	1	5	7	4	2	1	0	0	25
14:00	0	0	0	0	0	0	0	3	5	8	9	2	0	1	0	28
15:00	0	0	0	0	0	0	0	3	6	9	6	3	1	0	0	28
16:00	0	0	0	0	0	0	0	2	8	10	6	3	1	1	0	31
17:00	1	0	0	0	0	0	0	0	11	9	3	6	1	0	0	31
18:00	0	0	0	0	0	0	0	1	5	7	8	4	1	0	0	26
19:00	0	0	0	0	0	0	1	1	4	4	6	1	0	0	0	17
20:00	0	0	0	0	0	0	0	2	2	4	2	1	1	0	0	12
21:00	0	0	0	0	0	0	0	1	4	6	4	0	1	0	0	16
22:00	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
23:00	0	0	0	0	0	0	0	0	0	1	2	1	1	0	0	5
Total	1	0	0	0	5	5	10	30	80	145	100	45	15	2	1	439
Grand Total	1	0	1	4	10	11	32	136	381	597	441	201	50	14	6	1885

Stats

15th Percentile :	42 MPH
50th Percentile :	49 MPH
85th Percentile :	55 MPH
95th Percentile :	60 MPH
Mean Speed(Average) :	49 MPH
10 MPH Pace Speed :	46-55 MPH
Number in Pace :	1038
Percent in Pace :	55.1%
Number of Vehicles > 55 MPH :	271
Percent of Vehicles > 55 MPH :	14.4%

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Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	4
05:00	0	0	0	0	0	0	0	0	3	1	3	1	1	0	0	9
06:00	0	0	0	0	0	0	0	0	6	14	10	6	0	0	0	36
07:00	0	1	0	0	0	0	0	3	14	31	33	20	4	0	0	106
08:00	0	0	0	0	0	0	0	1	11	24	35	12	10	1	0	94
09:00	0	0	0	0	0	0	0	1	9	17	11	11	2	0	0	51
10:00	0	0	0	0	0	0	2	1	4	8	13	6	1	1	0	36
11:00	0	0	0	0	0	0	0	1	8	15	10	2	1	0	0	37
12 PM	0	0	0	0	0	0	0	1	8	17	18	8	0	0	0	52
13:00	0	0	0	0	0	0	0	3	8	12	16	9	3	0	0	51
14:00	0	0	0	0	0	0	1	2	8	13	11	6	1	0	0	42
15:00	0	0	0	0	1	1	1	1	12	13	14	3	3	0	0	49
16:00	0	0	0	0	0	0	0	1	8	15	17	9	2	2	1	55
17:00	0	0	0	0	0	0	1	5	14	19	18	4	1	0	0	62
18:00	0	0	0	0	0	0	0	2	7	14	12	7	2	0	0	44
19:00	0	0	0	0	0	0	1	2	7	6	4	5	2	3	0	30
20:00	0	0	0	0	0	0	0	0	7	5	2	4	1	0	1	20
21:00	0	0	0	0	0	0	0	0	4	4	1	1	1	0	0	11
22:00	0	0	0	0	0	1	0	1	0	1	1	1	0	1	1	7
23:00	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	4
Total	0	1	0	0	1	2	6	26	138	231	233	117	36	8	3	802

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Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
04:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	1	1	5	1	2	1	0	0	11
06:00	0	0	0	0	0	0	0	3	2	11	14	5	2	0	0	37
07:00	0	0	0	0	0	0	0	1	13	25	48	17	6	3	1	114
08:00	0	0	0	0	0	0	1	2	10	34	23	20	6	1	3	100
09:00	0	0	0	0	0	0	0	1	14	15	22	5	3	0	0	60
10:00	0	0	0	0	0	0	1	2	12	19	7	3	2	0	0	46
11:00	0	0	1	0	0	1	2	3	9	11	10	5	0	0	1	43
12 PM	0	0	0	1	0	0	0	2	8	14	7	4	1	0	0	37
13:00	0	0	0	0	0	0	0	0	6	8	14	7	5	0	1	41
14:00	0	0	0	0	0	2	1	2	9	13	15	8	1	1	1	53
15:00	0	0	0	0	0	0	1	2	17	15	14	9	1	0	0	59
16:00	0	0	0	0	0	0	1	2	16	23	19	10	1	0	0	72
17:00	0	0	0	0	0	1	0	1	13	27	13	10	3	0	0	68
18:00	0	0	0	0	0	0	0	0	8	12	14	6	0	1	1	42
19:00	0	0	0	0	0	0	0	3	11	9	8	3	0	1	0	35
20:00	0	0	0	0	0	0	0	2	2	9	7	3	1	0	0	24
21:00	0	0	0	0	0	2	0	0	8	2	5	3	0	0	0	20
22:00	0	0	0	0	0	0	0	1	4	2	5	0	0	0	1	13
23:00	0	0	0	0	0	0	0	2	2	0	0	0	1	0	0	5
Total	0	0	1	1	0	7	9	30	166	257	246	120	34	7	9	887

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Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	2	2	0	1	0	0	0	0	5
05:00	0	0	0	0	0	0	0	2	2	5	2	1	0	0	0	12
06:00	0	0	0	0	0	0	0	1	3	14	15	2	2	0	0	37
07:00	0	0	0	0	0	0	0	2	18	26	35	16	6	2	0	105
08:00	0	0	0	0	0	0	0	1	9	25	29	18	7	3	0	92
09:00	0	0	0	0	0	0	0	3	12	14	16	6	2	2	0	55
10:00	0	0	0	0	0	0	0	3	6	15	6	8	0	0	0	38
11:00	0	0	1	0	0	0	4	0	3	11	13	4	2	0	1	39
12 PM	0	0	0	0	0	0	0	1	4	12	9	4	1	2	0	33
13:00	0	0	1	0	0	1	1	2	6	8	7	4	5	0	0	35
14:00	0	0	0	0	0	0	0	4	7	10	18	5	0	0	1	45
15:00	0	0	0	1	0	0	1	5	11	11	8	3	2	2	0	44
16:00	0	0	0	0	0	1	3	0	13	19	9	6	3	0	0	54
17:00	0	1	0	0	0	1	0	3	7	11	22	1	1	0	1	48
18:00	0	0	0	0	0	0	0	2	8	13	8	7	0	0	0	38
19:00	0	0	0	0	0	0	0	2	2	9	10	3	2	0	0	28
20:00	0	0	0	0	0	0	0	0	2	3	4	4	2	0	0	15
21:00	0	0	0	0	0	0	0	3	3	7	0	1	1	0	0	15
22:00	0	0	0	0	0	0	0	0	0	2	2	1	0	0	1	6
23:00	0	0	0	0	0	2	1	0	0	1	0	1	0	0	0	5
Total	0	1	2	1	0	5	10	36	121	219	214	95	36	11	4	755
Grand Total	0	2	3	2	1	14	25	92	425	707	693	332	106	26	16	2444

Stats

15th Percentile :	43 MPH
50th Percentile :	50 MPH
85th Percentile :	57 MPH
95th Percentile :	62 MPH
Mean Speed(Average) :	51 MPH
10 MPH Pace Speed :	46-55 MPH
Number in Pace :	1400
Percent in Pace :	57.3%
Number of Vehicles > 55 MPH :	480
Percent of Vehicles > 55 MPH :	19.6%

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Crooked Oak Lane
Class
Wicomico
EB

Site Code: 374800000LN2
Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	13
05:00	0	57	14	0	0	0	0	0	0	0	0	0	0	0	0	71
06:00	0	129	41	0	1	1	0	0	0	0	0	0	0	0	0	172
07:00	0	390	96	6	1	1	0	0	1	0	0	0	0	0	0	495
08:00	0	357	75	2	3	0	0	0	0	0	0	0	0	0	0	437
09:00	0	157	40	0	5	0	0	0	0	0	0	0	0	0	0	202
10:00	0	124	32	1	4	0	0	0	1	0	0	0	0	0	0	162
11:00	0	123	41	0	2	1	0	0	1	0	0	0	0	0	0	168
12 PM	0	161	35	2	3	0	0	0	1	0	0	0	0	0	0	202
13:00	0	153	43	0	3	2	0	0	0	0	0	0	0	0	0	201
14:00	0	155	38	0	4	1	0	0	0	0	0	0	0	0	0	198
15:00	0	172	59	2	0	0	0	1	0	0	0	0	0	0	0	234
16:00	0	168	57	1	2	0	0	0	0	0	0	0	0	0	1	229
17:00	0	172	35	0	0	0	0	0	0	0	0	0	0	0	0	207
18:00	0	142	40	0	0	0	0	0	0	0	0	0	0	0	0	182
19:00	0	88	23	0	0	0	0	0	0	0	0	0	0	0	0	111
20:00	0	52	11	0	0	0	0	0	0	0	0	0	0	0	0	63
21:00	0	47	7	0	0	0	0	0	0	0	0	0	0	0	0	54
22:00	0	22	3	0	0	0	0	0	0	0	0	0	0	0	0	25
23:00	0	16	2	0	0	0	0	0	0	0	0	0	0	0	0	18
Total	0	2708	695	14	28	6	0	1	4	0	0	0	0	0	1	3457
Percent	0.0%	78.3%	20.1%	0.4%	0.8%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

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Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	12	2	0	0	0	0	0	0	0	0	0	0	0	0	14
05:00	0	57	9	0	0	0	0	0	0	0	0	0	0	0	0	66
06:00	0	127	39	0	1	1	0	0	1	0	0	0	0	0	0	169
07:00	0	394	106	6	0	1	0	0	0	0	0	0	0	0	0	507
08:00	0	369	95	3	2	0	0	0	0	0	0	0	0	0	0	469
09:00	0	167	53	1	1	0	0	1	0	0	0	0	0	0	0	223
10:00	0	143	55	0	2	1	0	0	0	0	0	0	0	0	3	204
11:00	0	109	46	0	2	0	0	1	1	0	0	0	0	0	0	159
12 PM	0	132	49	0	3	1	0	1	1	0	0	0	0	0	2	189
13:00	0	161	35	2	2	3	0	0	0	0	0	0	0	0	0	203
14:00	0	131	50	1	1	2	0	0	0	0	0	0	0	0	1	186
15:00	0	134	27	3	2	0	0	0	0	0	0	0	0	0	7	173
16:00	0	154	38	4	3	0	0	0	0	0	0	0	0	0	1	200
17:00	0	109	32	0	1	0	0	0	0	0	0	0	0	0	0	142
18:00	0	115	16	0	4	1	0	0	0	0	0	0	0	0	0	136
19:00	0	77	20	0	1	0	0	0	0	0	0	0	0	0	0	98
20:00	0	43	11	0	0	0	0	0	0	0	0	0	0	0	0	54
21:00	0	43	7	0	1	0	0	0	0	0	0	0	0	0	0	51
22:00	0	27	4	0	0	0	0	0	0	0	0	0	0	0	0	31
23:00	0	23	3	0	2	0	0	1	0	0	0	0	0	0	0	29
Total	0	2547	698	20	28	10	0	4	3	0	0	0	0	0	14	3324
Percent	0.0%	76.6%	21.0%	0.6%	0.8%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	

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Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0																
6	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	12
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	11	3	0	0	0	0	0	0	0	0	0	0	0	0	14
05:00	0	53	12	0	0	0	0	0	0	0	0	0	0	0	0	65
06:00	0	132	42	0	2	0	0	0	0	0	0	0	0	0	0	176
07:00	0	379	92	6	3	3	0	0	0	0	0	0	0	0	0	483
08:00	0	355	96	3	2	1	0	0	0	0	0	0	0	0	0	457
09:00	0	97	29	0	3	1	0	0	0	0	0	0	0	0	0	130
10:00	0	83	36	0	2	3	0	0	1	0	0	0	0	0	2	127
11:00	1	82	30	0	0	1	0	0	0	0	0	0	0	0	0	114
12 PM	0	78	36	0	4	1	0	1	0	0	0	0	0	0	0	120
13:00	1	95	24	1	1	2	0	1	0	0	0	0	0	0	0	125
14:00	1	86	34	0	3	5	0	0	1	0	0	0	0	0	1	131
15:00	0	116	35	1	0	1	0	0	0	0	0	0	0	0	0	153
16:00	0	107	39	2	2	0	0	0	0	0	0	0	0	0	0	150
17:00	0	125	20	0	1	0	0	0	0	0	0	0	0	0	0	146
18:00	0	88	19	0	0	0	0	0	0	0	0	0	0	0	1	108
19:00	0	62	8	0	0	0	0	0	0	0	0	0	0	0	0	70
20:00	0	25	11	0	0	0	0	0	0	0	0	0	0	0	0	36
21:00	0	29	8	0	0	0	0	0	0	0	0	0	0	0	1	38
22:00	0	15	1	0	0	0	0	0	0	0	0	0	0	0	1	17
23:00	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	4	2055	575	13	23	18	0	2	2	0	0	0	0	0	6	2698
Percent	0.1%	76.2%	21.3%	0.5%	0.9%	0.7%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	
Grand Total	4	7310	1968	47	79	34	0	7	9	0	0	0	0	0	21	9479
Percent	0.0%	77.1%	20.8%	0.5%	0.8%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Pemberton Drive
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Class
Wicomico
WB

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Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/05/0																
6	0	11	3	0	0	0	0	0	0	0	0	0	0	0	0	14
01:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
02:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	5	1	0	0	1	0	0	0	0	0	0	0	0	0	7
05:00	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	12
06:00	1	55	20	0	0	0	0	0	0	0	0	0	0	0	0	76
07:00	0	51	26	2	3	1	0	1	1	0	0	0	0	0	0	85
08:00	0	105	44	3	4	0	0	0	0	0	0	0	0	0	0	156
09:00	0	95	36	1	4	0	0	0	2	0	0	0	0	0	2	140
10:00	0	83	40	0	2	0	0	1	0	0	0	0	0	0	0	126
11:00	0	106	40	2	1	1	0	0	1	0	0	0	0	0	1	152
12 PM	0	168	52	0	3	0	0	0	0	0	0	0	0	0	1	224
13:00	0	126	45	0	2	2	0	0	0	0	0	0	0	0	0	175
14:00	0	171	56	0	3	1	0	0	0	0	0	0	0	0	1	232
15:00	1	260	55	5	1	0	0	0	0	0	0	0	0	0	1	323
16:00	1	291	60	2	2	2	0	0	0	0	0	0	0	0	0	358
17:00	0	340	98	0	3	0	0	0	0	0	0	0	0	0	0	441
18:00	0	261	54	1	2	0	0	0	0	0	0	0	0	0	1	319
19:00	0	182	48	0	0	0	0	0	0	0	0	0	0	0	0	230
20:00	0	165	34	0	2	0	0	0	0	0	0	0	0	0	0	201
21:00	0	115	28	0	0	0	0	0	0	0	0	0	0	0	0	143
22:00	0	61	10	0	0	0	0	0	0	0	0	0	0	0	0	71
23:00	0	27	6	0	0	0	0	0	0	0	0	0	0	0	0	33
Total	3	2699	761	16	32	8	0	2	4	0	0	0	0	0	7	3532
Percent	0.1%	76.4%	21.5%	0.5%	0.9%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/06/0																
6	0	21	3	0	0	0	0	0	0	0	0	0	0	0	0	24
01:00	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	11
06:00	0	51	20	0	1	1	0	0	0	0	0	0	0	0	0	73
07:00	0	58	33	2	2	0	0	0	0	0	0	0	0	0	0	95
08:00	0	125	58	1	3	0	0	0	0	0	0	0	0	0	0	187
09:00	0	95	41	1	3	1	0	1	0	0	0	0	0	0	0	142
10:00	0	100	40	0	4	0	0	1	0	0	0	0	0	0	0	145
11:00	0	136	51	0	2	0	0	0	2	0	0	0	0	0	0	191
12 PM	0	159	58	1	1	1	0	1	0	0	0	0	0	0	1	222
13:00	0	134	44	2	1	3	0	0	1	0	0	0	0	0	0	185
14:00	1	208	55	1	6	4	0	0	0	0	0	0	0	0	5	280
15:00	7	206	66	4	7	1	0	0	0	0	0	0	0	0	27	318
16:00	0	284	65	5	7	1	0	1	0	0	0	0	0	0	0	363
17:00	0	248	56	0	0	0	0	0	0	0	0	0	0	0	0	304
18:00	0	191	50	0	0	0	0	0	0	0	0	0	0	0	0	241
19:00	0	139	38	1	2	0	0	0	0	0	0	0	0	0	0	180
20:00	0	134	40	0	1	0	0	0	0	0	0	0	0	0	0	175
21:00	0	106	23	0	1	0	0	0	0	0	0	0	0	0	0	130
22:00	0	64	11	0	0	0	0	0	0	0	0	0	0	0	0	75
23:00	0	27	9	0	0	0	0	0	0	0	0	0	0	0	0	36
Total	8	2519	767	18	41	12	0	4	3	0	0	0	0	0	33	3405
Percent	0.2%	74.0%	22.5%	0.5%	1.2%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	

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Latitude: 0' 0.000 Undefined

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12/07/0																
6	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	21
01:00	1	12	3	0	0	0	0	0	0	0	0	0	0	0	0	16
02:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	11	4	0	1	0	0	0	0	0	0	0	0	0	0	16
06:00	0	48	24	0	0	0	0	0	0	0	0	0	0	0	0	72
07:00	0	60	32	2	3	2	0	0	0	0	0	0	0	0	0	99
08:00	0	147	55	2	4	1	0	0	0	0	0	0	0	0	0	209
09:00	0	91	42	3	2	3	0	0	1	0	0	0	0	0	1	143
10:00	0	88	51	1	1	2	0	0	0	0	0	0	0	0	3	146
11:00	0	92	49	0	0	1	0	0	0	0	0	0	0	0	0	142
12 PM	0	113	42	0	4	1	0	2	1	0	0	0	0	0	0	163
13:00	0	111	43	1	2	2	0	0	2	0	0	0	0	0	0	161
14:00	0	126	36	0	5	3	0	0	0	0	0	0	0	0	0	170
15:00	1	209	57	5	2	0	0	0	0	0	0	0	0	0	0	274
16:00	0	233	55	3	1	0	0	0	0	0	0	0	0	0	0	292
17:00	0	268	62	0	0	0	0	0	0	0	0	0	0	0	0	330
18:00	0	172	44	0	0	0	0	0	0	0	0	0	0	0	0	216
19:00	0	116	29	0	0	0	0	0	0	0	0	0	0	0	0	145
20:00	0	112	21	0	0	0	0	0	0	0	0	0	0	0	0	133
21:00	0	85	15	0	0	0	0	0	0	0	0	0	0	0	0	100
22:00	0	36	9	0	1	0	0	0	0	0	0	0	0	0	0	46
23:00	0	31	1	0	0	0	0	0	0	0	0	0	0	0	0	32
Total	2	2193	680	17	26	15	0	2	4	0	0	0	0	0	4	2943
Percent	0.1%	74.5%	23.1%	0.6%	0.9%	0.5%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	
Grand Total	13	7411	2208	51	99	35	0	8	11	0	0	0	0	0	44	9880
Percent	0.1%	75.0%	22.3%	0.5%	1.0%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	

The Traffic Group
9900 Franklin Square Drive
Nottingham, MD 21236
(410) 931-6600

Pemberton Drive
East of Crooked Oak Lane
Speed
Wicomico
EB

Site Code: 374800000LN2
Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
03:00	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	2	3	3	2	1	2	0	0	13
05:00	0	0	0	0	0	0	0	6	23	28	8	6	0	0	0	71
06:00	0	0	0	0	1	0	3	11	46	68	34	9	0	0	0	172
07:00	0	0	0	0	1	0	10	47	174	181	69	12	1	0	0	495
08:00	0	0	0	0	0	1	3	39	165	143	62	20	4	0	0	437
09:00	0	0	0	0	0	0	1	10	61	82	34	13	1	0	0	202
10:00	0	0	0	0	0	0	0	16	47	60	29	6	4	0	0	162
11:00	0	0	0	0	0	0	3	16	39	62	34	13	0	1	0	168
12 PM	0	0	0	0	0	0	1	7	57	81	41	12	3	0	0	202
13:00	0	0	0	1	0	0	2	8	53	70	51	15	1	0	0	201
14:00	0	0	0	0	0	0	2	18	58	76	30	11	1	1	1	198
15:00	0	0	0	0	0	0	4	20	47	101	46	12	3	1	0	234
16:00	0	0	0	0	0	0	2	17	82	77	41	8	2	0	0	229
17:00	0	0	0	0	0	0	2	24	85	64	28	4	0	0	0	207
18:00	0	0	0	0	0	0	5	29	55	61	23	8	1	0	0	182
19:00	0	0	0	0	0	0	1	16	29	39	13	11	2	0	0	111
20:00	0	0	0	0	1	1	0	10	18	17	12	4	0	0	0	63
21:00	0	0	0	0	0	1	3	5	12	20	10	3	0	0	0	54
22:00	0	0	0	0	0	0	2	5	4	9	1	4	0	0	0	25
23:00	0	0	0	0	0	0	1	1	7	3	5	1	0	0	0	18
Total	0	0	0	1	3	4	45	308	1071	1248	575	173	25	3	1	3457

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Pemberton Drive
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Speed
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EB

Site Code: 374800000LN2
Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	1	0	3	1	2	0	0	0	0	7
01:00	0	0	0	0	0	0	0	2	1	0	1	1	0	0	0	5
02:00	0	0	0	0	1	0	0	2	0	0	0	1	0	0	0	4
03:00	0	0	0	0	0	0	1	0	3	0	1	0	0	0	0	5
04:00	0	0	0	0	0	0	1	5	1	3	3	1	0	0	0	14
05:00	0	0	0	0	0	0	0	4	21	21	15	3	1	1	0	66
06:00	0	0	0	0	0	1	4	7	58	65	24	9	0	1	0	169
07:00	0	0	0	0	0	4	26	40	120	213	82	20	2	0	0	507
08:00	0	0	0	0	0	1	13	34	159	159	80	19	2	2	0	469
09:00	0	0	0	0	0	0	3	18	66	75	42	15	4	0	0	223
10:00	0	0	0	1	1	3	2	18	41	59	54	21	2	2	0	204
11:00	0	0	0	0	0	0	1	10	39	56	38	13	2	0	0	159
12 PM	0	0	0	0	0	0	0	17	39	62	54	14	2	0	1	189
13:00	0	0	0	0	0	0	2	9	35	75	51	25	4	1	1	203
14:00	0	0	0	0	0	1	15	29	36	66	30	8	1	0	0	186
15:00	1	0	1	0	5	14	33	53	47	9	6	3	0	0	1	173
16:00	0	0	0	0	0	7	9	47	73	44	14	5	1	0	0	200
17:00	0	0	0	0	0	0	6	20	64	42	6	4	0	0	0	142
18:00	0	0	0	0	0	0	9	25	43	34	21	3	1	0	0	136
19:00	0	0	0	0	0	0	3	21	37	23	11	1	0	0	2	98
20:00	0	0	0	0	0	0	2	7	18	13	11	2	1	0	0	54
21:00	0	0	0	0	0	0	2	9	14	16	8	2	0	0	0	51
22:00	0	0	0	0	0	1	1	6	9	4	7	1	1	0	1	31
23:00	0	0	0	0	1	1	0	5	10	5	3	2	1	1	0	29
Total	1	0	1	1	8	33	134	388	937	1045	564	173	25	8	6	3324

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Pemberton Drive
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Speed
Wicomico
EB

Site Code: 374800000LN2
Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	1	3	1	3	4	0	0	0	0	12
01:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
02:00	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	6
03:00	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	2	4	5	2	0	1	0	0	14
05:00	0	0	0	0	0	0	2	4	18	22	12	4	1	2	0	65
06:00	0	0	0	0	0	0	6	13	40	67	38	7	5	0	0	176
07:00	0	0	0	0	0	0	13	60	141	171	74	19	5	0	0	483
08:00	0	0	0	0	1	0	10	45	148	163	71	15	4	0	0	457
09:00	0	0	0	0	0	0	4	14	38	38	18	12	6	0	0	130
10:00	0	0	1	0	0	0	3	16	44	40	21	2	0	0	0	127
11:00	0	0	0	0	0	1	4	16	34	30	20	6	2	0	1	114
12 PM	0	0	0	0	0	0	1	8	48	26	24	9	3	1	0	120
13:00	0	0	0	0	0	1	6	16	35	40	16	10	0	0	1	125
14:00	0	0	0	0	0	2	1	16	34	36	26	15	1	0	0	131
15:00	0	0	0	0	0	0	1	14	61	57	15	3	1	1	0	153
16:00	0	0	0	0	0	0	4	19	44	56	21	5	1	0	0	150
17:00	0	0	0	0	0	1	8	32	43	46	13	3	0	0	0	146
18:00	0	0	0	0	0	0	6	16	38	28	14	6	0	0	0	108
19:00	0	0	0	0	0	0	1	13	19	20	11	5	1	0	0	70
20:00	0	0	0	0	1	1	0	4	12	8	6	3	1	0	0	36
21:00	0	0	0	1	0	0	3	11	14	4	4	1	0	0	0	38
22:00	0	0	0	0	0	0	2	4	5	4	1	0	0	0	1	17
23:00	0	0	0	0	0	0	0	2	8	3	2	0	0	0	0	15
Total	0	0	1	1	2	6	77	332	833	868	413	126	32	4	3	2698
Grand Total	1	0	2	3	13	43	256	1028	2841	3161	1552	472	82	15	10	9479

Stats

15th Percentile :	41 MPH
50th Percentile :	46 MPH
85th Percentile :	53 MPH
95th Percentile :	57 MPH
Mean Speed(Average) :	46 MPH
10 MPH Pace Speed :	41-50 MPH
Number in Pace :	6002
Percent in Pace :	63.3%
Number of Vehicles > 55 MPH :	579
Percent of Vehicles > 55 MPH :	6.1%

The Traffic Group
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Pemberton Drive
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Speed
Wicomico
WB

Site Code: 374800000LN2
Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/05/06	0	0	0	0	0	0	0	3	1	3	3	2	2	0	0	14
01:00	0	0	0	0	0	0	1	0	2	3	1	0	0	0	0	7
02:00	0	0	0	0	0	0	0	1	2	1	2	0	0	0	0	6
03:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
04:00	0	0	0	0	0	0	1	1	1	1	2	1	0	0	0	7
05:00	0	0	0	0	0	0	0	1	7	4	0	0	0	0	0	12
06:00	0	0	0	0	0	1	0	8	24	21	19	3	0	0	0	76
07:00	0	0	0	0	0	3	1	6	25	30	18	2	0	0	0	85
08:00	0	0	0	0	0	0	0	6	43	58	39	6	4	0	0	156
09:00	0	0	0	0	0	0	2	4	39	51	32	8	4	0	0	140
10:00	0	0	0	0	0	0	0	4	40	48	26	7	1	0	0	126
11:00	0	0	0	0	0	0	0	19	26	44	42	17	2	0	2	152
12 PM	0	0	0	0	0	0	0	5	43	82	74	16	3	1	0	224
13:00	0	0	0	0	0	1	0	7	43	71	42	10	0	0	1	175
14:00	0	0	0	0	0	0	5	16	51	86	47	22	3	1	1	232
15:00	0	0	0	0	0	0	6	25	65	123	79	18	6	0	1	323
16:00	0	0	0	0	0	0	4	32	122	123	65	12	0	0	0	358
17:00	0	0	0	0	0	0	2	41	188	155	49	6	0	0	0	441
18:00	0	0	1	0	0	0	3	38	133	100	39	2	2	0	1	319
19:00	0	0	0	0	1	0	4	19	88	73	33	10	1	1	0	230
20:00	0	0	0	0	0	0	1	25	77	72	19	5	2	0	0	201
21:00	0	0	0	0	0	0	3	14	45	43	27	11	0	0	0	143
22:00	0	0	0	0	0	0	1	7	23	27	9	3	1	0	0	71
23:00	0	0	0	0	0	0	0	6	11	6	9	0	1	0	0	33
Total	0	0	1	0	1	5	34	288	1099	1225	677	161	32	3	6	3532

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Pemberton Drive
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Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/06/06	0	0	0	0	0	0	1	7	5	3	6	1	1	0	0	24
01:00	0	0	0	0	0	0	0	2	3	3	2	0	0	0	2	12
02:00	0	0	0	1	0	0	1	0	1	1	1	0	0	0	0	5
03:00	0	0	0	0	0	0	0	1	3	0	2	1	0	0	0	7
04:00	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	4
05:00	0	0	0	0	0	0	0	2	4	5	0	0	0	0	0	11
06:00	0	0	0	0	0	1	2	5	23	22	19	1	0	0	0	73
07:00	0	0	0	0	0	1	2	7	21	36	19	8	1	0	0	95
08:00	0	0	0	0	0	0	2	10	44	82	33	14	1	0	1	187
09:00	0	0	0	0	0	1	1	13	46	39	32	8	1	1	0	142
10:00	0	0	0	0	0	0	1	11	41	56	26	7	3	0	0	145
11:00	0	0	0	0	1	0	1	11	40	75	51	12	0	0	0	191
12 PM	0	0	0	0	0	0	2	16	49	94	45	13	1	1	1	222
13:00	0	0	0	0	0	0	6	8	44	76	42	8	0	1	0	185
14:00	0	0	0	3	21	41	35	26	50	62	32	4	5	0	1	280
15:00	3	3	2	20	88	78	63	34	15	8	4	0	0	0	0	318
16:00	0	0	0	0	7	9	48	114	105	60	16	4	0	0	0	363
17:00	0	0	0	0	0	6	45	103	110	32	7	1	0	0	0	304
18:00	0	1	0	0	1	10	51	75	74	24	3	2	0	0	0	241
19:00	0	0	0	1	0	11	26	70	42	22	5	1	0	2	0	180
20:00	0	0	0	0	0	1	26	63	48	30	5	2	0	0	0	175
21:00	0	0	0	0	0	5	15	52	30	21	7	0	0	0	0	130
22:00	0	0	0	0	1	2	8	22	25	11	4	2	0	0	0	75
23:00	0	0	0	1	1	0	0	8	7	12	4	0	2	0	1	36
Total	3	4	2	26	120	166	336	660	831	775	365	90	16	5	6	3405

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Station ID: PEMBERTON NB

Latitude: 0' 0.000 Undefined

Start Time	0 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 147	Total
12/07/06	0	0	0	0	0	0	0	5	6	7	2	0	1	0	0	21
01:00	0	0	0	0	0	0	1	3	6	3	3	0	0	0	0	16
02:00	0	0	0	0	0	2	1	1	1	1	2	0	0	0	0	8
03:00	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	4
04:00	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	5
05:00	0	0	0	0	0	0	0	3	4	6	3	0	0	0	0	16
06:00	0	0	0	0	0	1	3	12	20	28	8	0	0	0	0	72
07:00	0	0	0	0	0	3	2	7	31	40	12	4	0	0	0	99
08:00	0	0	0	0	0	0	0	20	49	92	34	13	1	0	0	209
09:00	0	0	0	0	0	1	4	22	47	38	21	8	2	0	0	143
10:00	0	0	0	0	0	1	5	27	58	33	14	8	0	0	0	146
11:00	0	0	0	0	0	1	7	19	46	45	20	3	1	0	0	142
12 PM	0	0	0	0	0	1	5	20	65	45	17	9	1	0	0	163
13:00	0	0	0	0	0	3	11	21	52	43	28	3	0	0	0	161
14:00	0	0	0	0	0	2	3	39	52	53	14	7	0	0	0	170
15:00	0	0	0	0	0	2	9	84	98	56	20	4	1	0	0	274
16:00	0	0	0	0	0	2	16	59	109	78	24	4	0	0	0	292
17:00	0	0	0	0	2	8	44	124	106	38	7	1	0	0	0	330
18:00	0	0	0	0	1	7	29	71	80	25	3	0	0	0	0	216
19:00	0	0	0	0	0	2	14	39	59	23	7	1	0	0	0	145
20:00	0	0	0	0	0	1	11	25	57	25	9	5	0	0	0	133
21:00	0	0	0	0	1	4	16	19	37	18	3	2	0	0	0	100
22:00	0	0	0	0	0	0	5	13	19	3	5	0	1	0	0	46
23:00	0	0	0	0	0	0	3	7	10	9	2	0	0	1	0	32
Total	0	0	0	0	4	41	189	641	1015	712	258	74	8	1	0	2943
Grand Total	3	4	3	26	125	212	559	1589	2945	2712	1300	325	56	9	12	9880

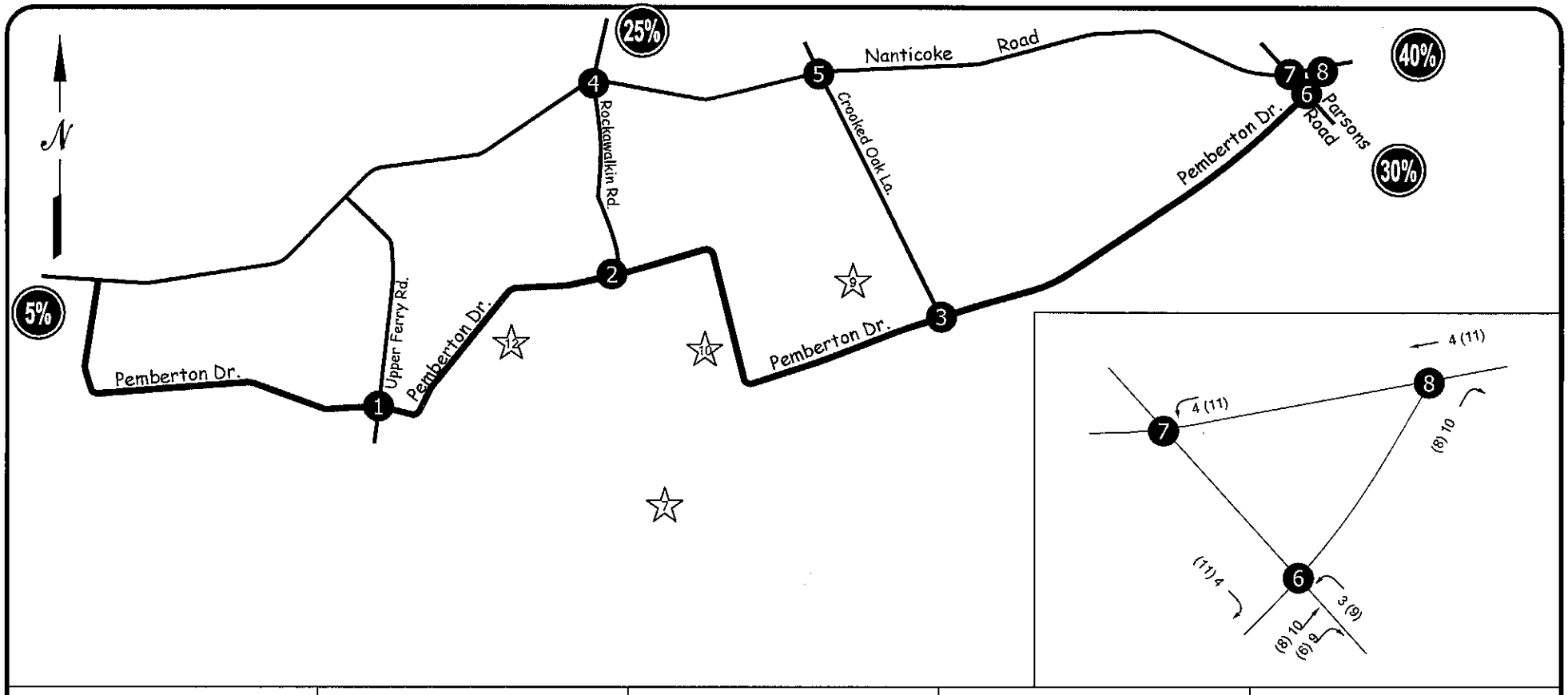
Stats

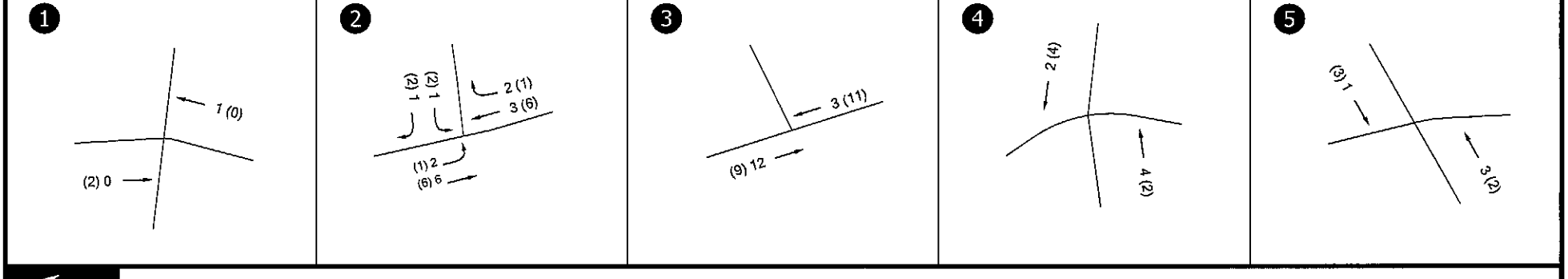
15th Percentile :	37 MPH
50th Percentile :	45 MPH
85th Percentile :	51 MPH
95th Percentile :	55 MPH
Mean Speed(Average) :	44 MPH
10 MPH Pace Speed :	41-50 MPH
Number in Pace :	5657
Percent in Pace :	57.3%
Number of Vehicles > 55 MPH :	402
Percent of Vehicles > 55 MPH :	4.1%

APPENDIX B

Trips Assignment for

Future Developments





NOT TO SCALE

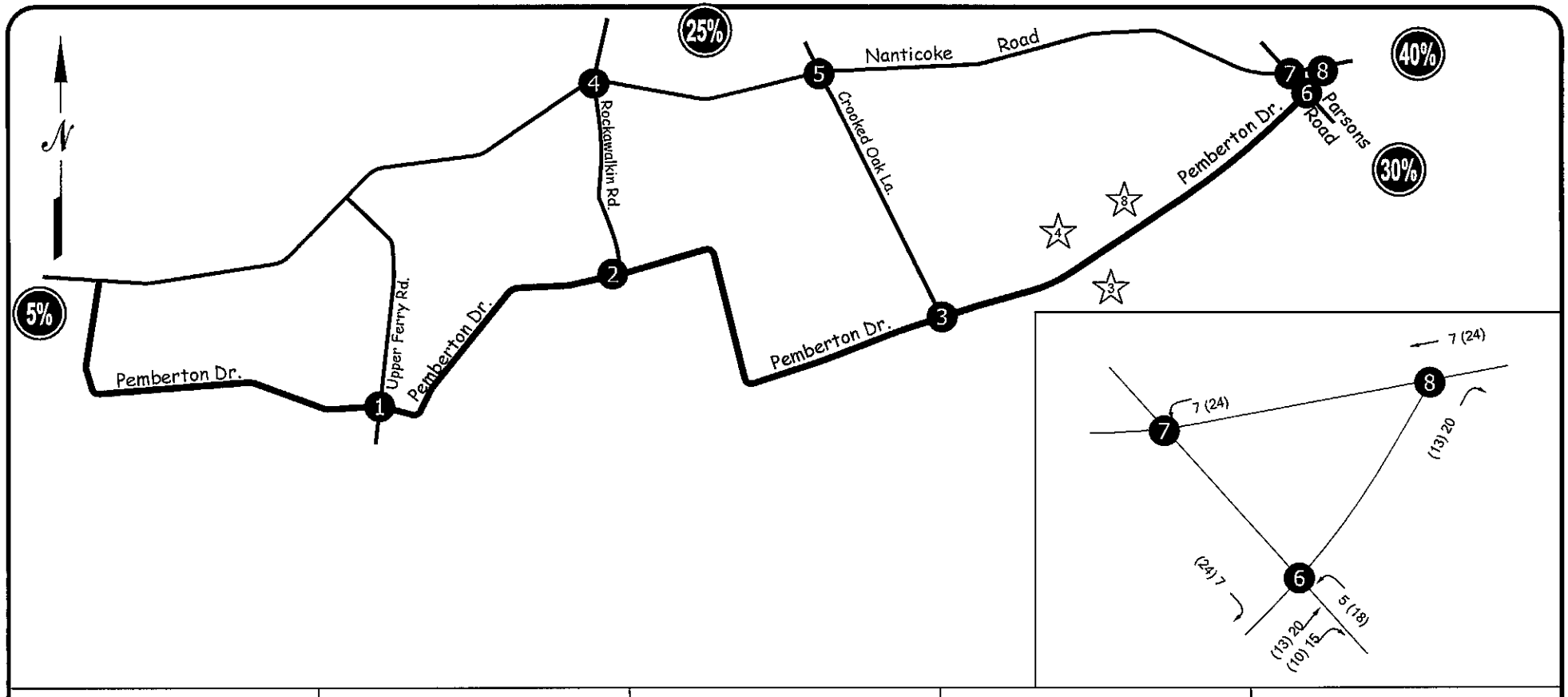
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

1-9; 1-10; 1-12; 3-7
47 SFUs
IN: 9 (29)
OUT: 24 (17)

EXHIBIT B-1
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

The Traffic Group®

dj, 060628\pemberton.dwg-2010-1, 07/19/07



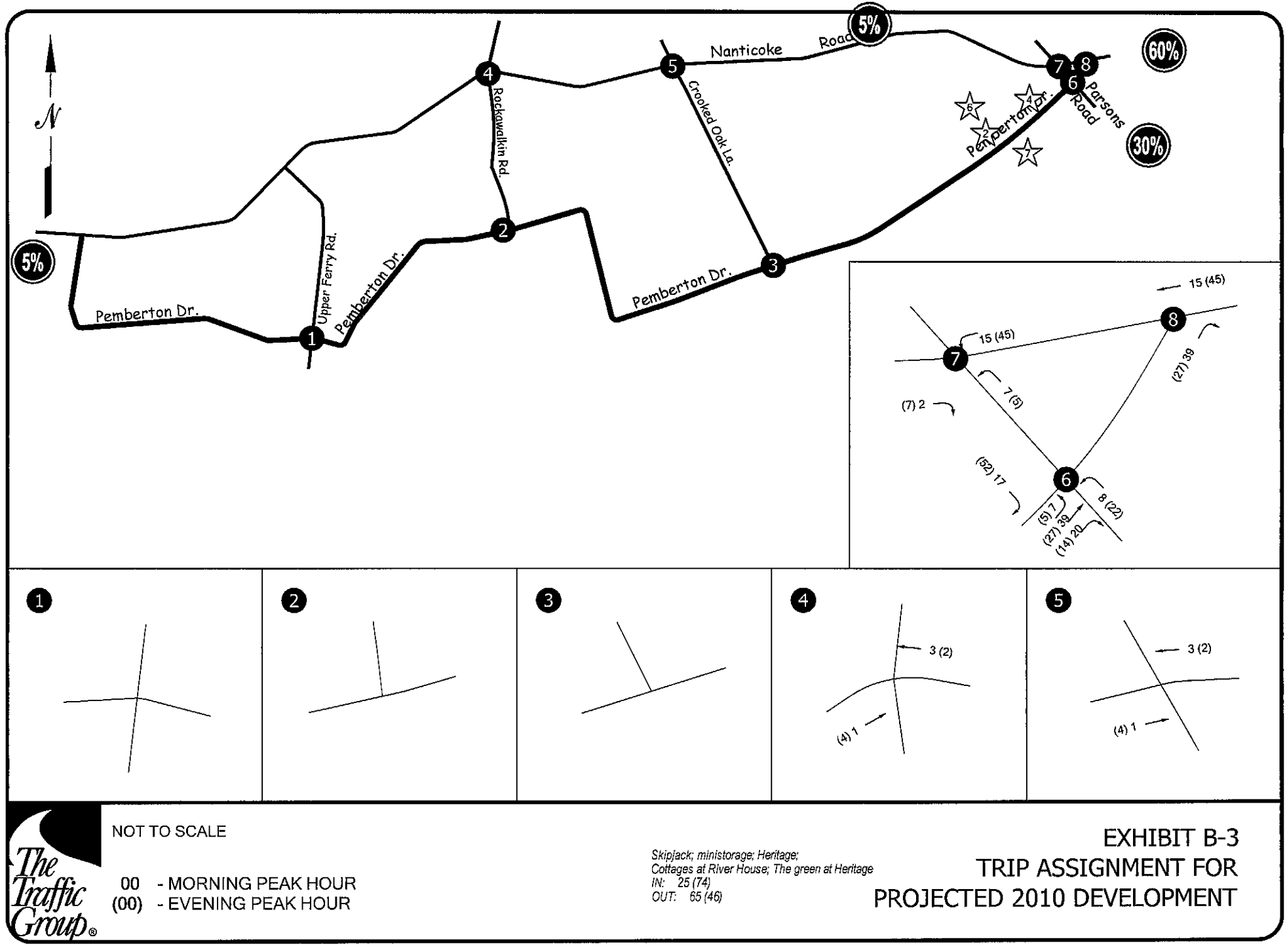
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Ponds at Pemberton;
Harbor Pointe; Village of Sleepy Hollow
IN: 17 (60)
OUT: 51 (33)

EXHIBIT B-2
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

dj, 060628\pemberton.dwg-2010-2, 07/19/07



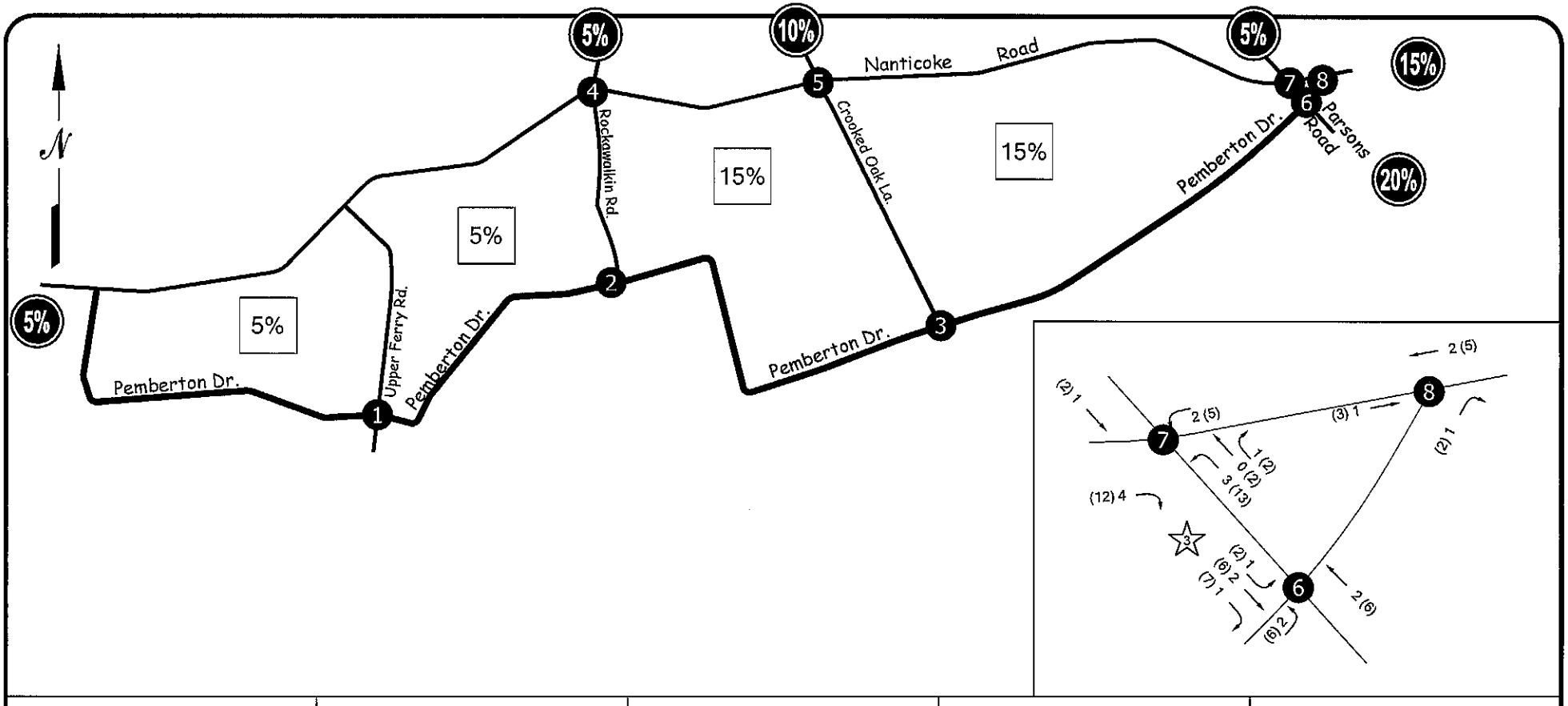
NOT TO SCALE

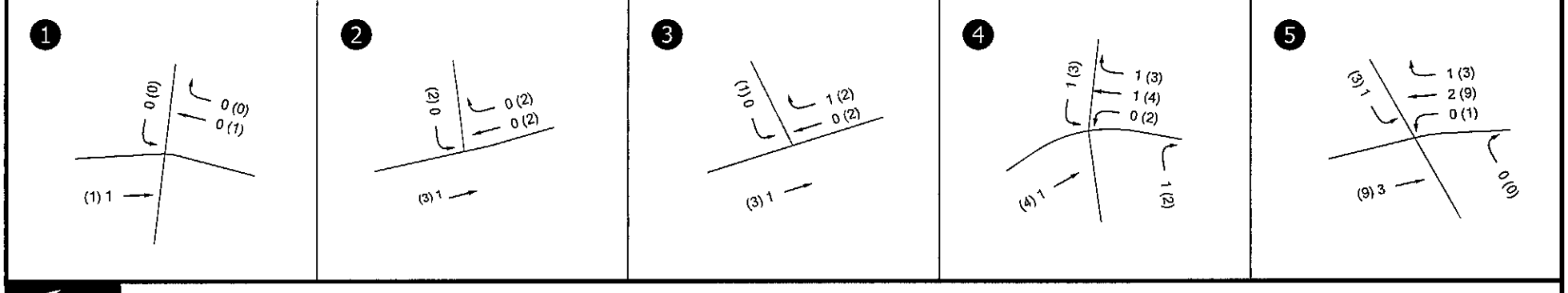
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Skipjack; ministorage; Heritage;
Cottages at River House; The green at Heritage
IN: 25 (74)
OUT: 65 (46)

EXHIBIT B-3
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

dj, 060628\pemberton.dwg-2010-3, 07/19/07



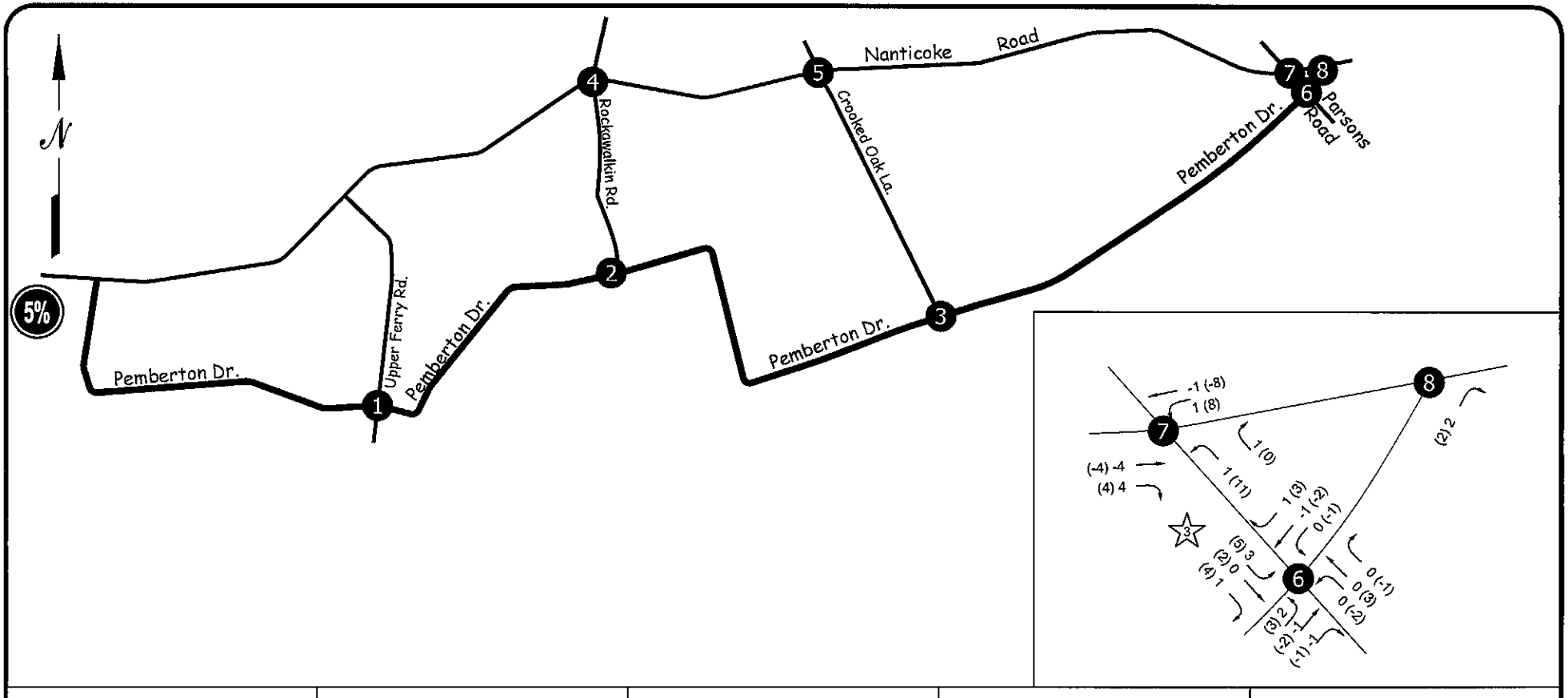


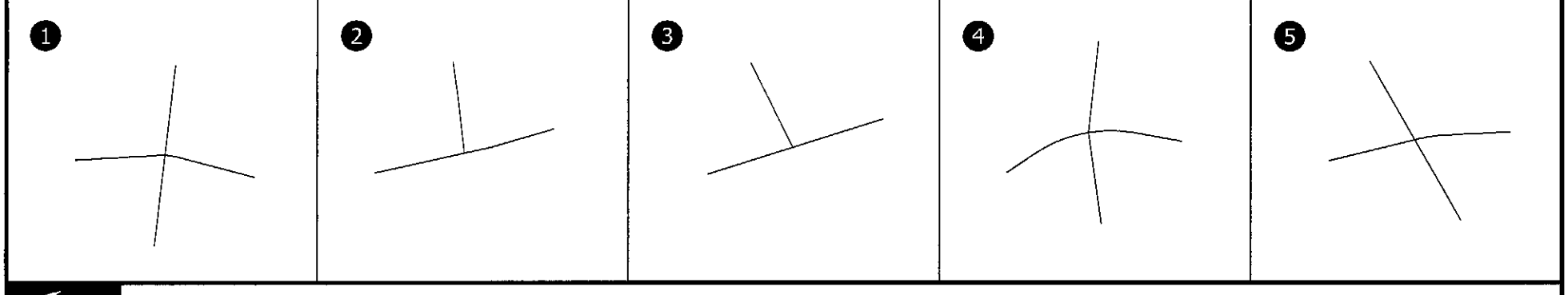
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Rice's/Rite Aid
new trips
IN: 11 (31)
OUT: 8 (32)

EXHIBIT B-4A
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT



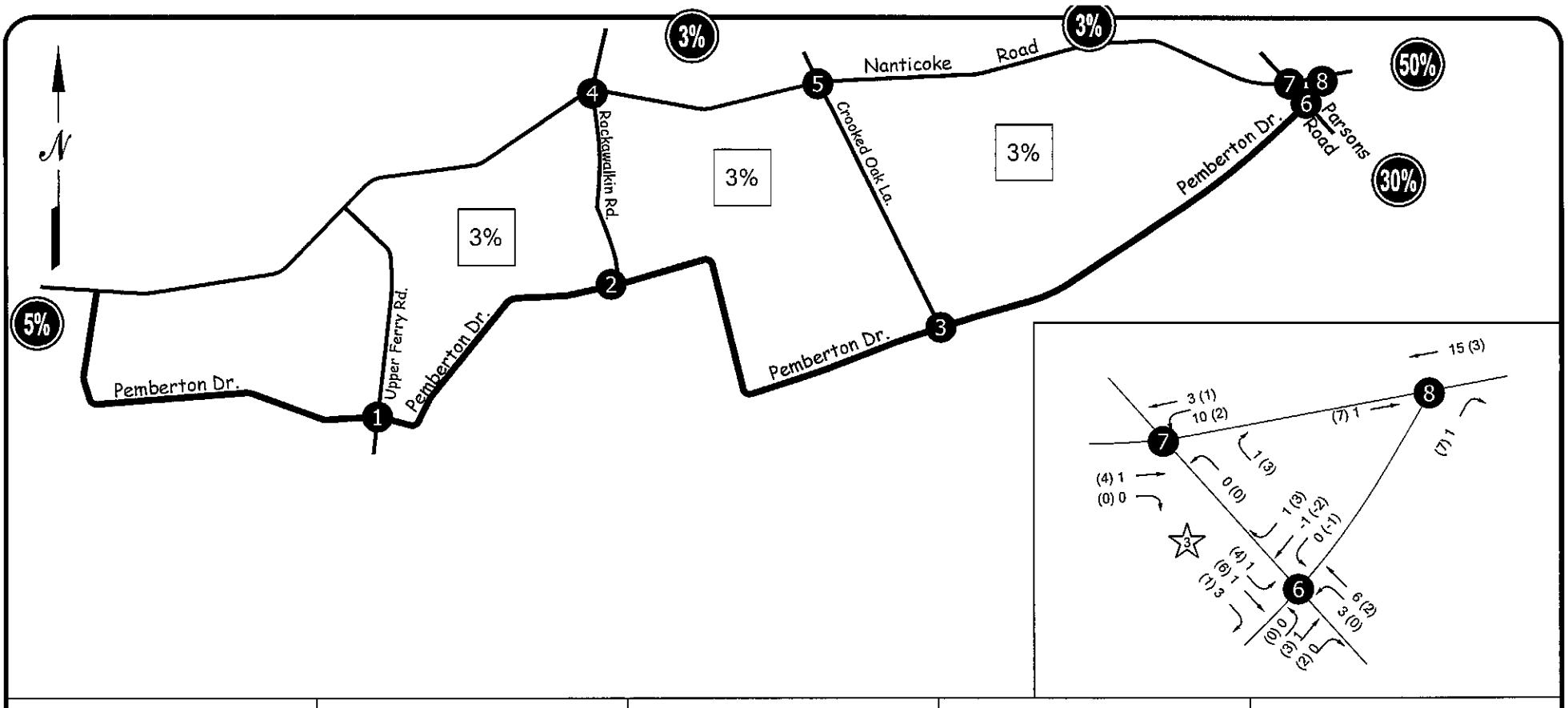


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Rice's/Rite Aid
passby trips
IN: 11 (31)
OUT: 9 (32)

EXHIBIT B-4B
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

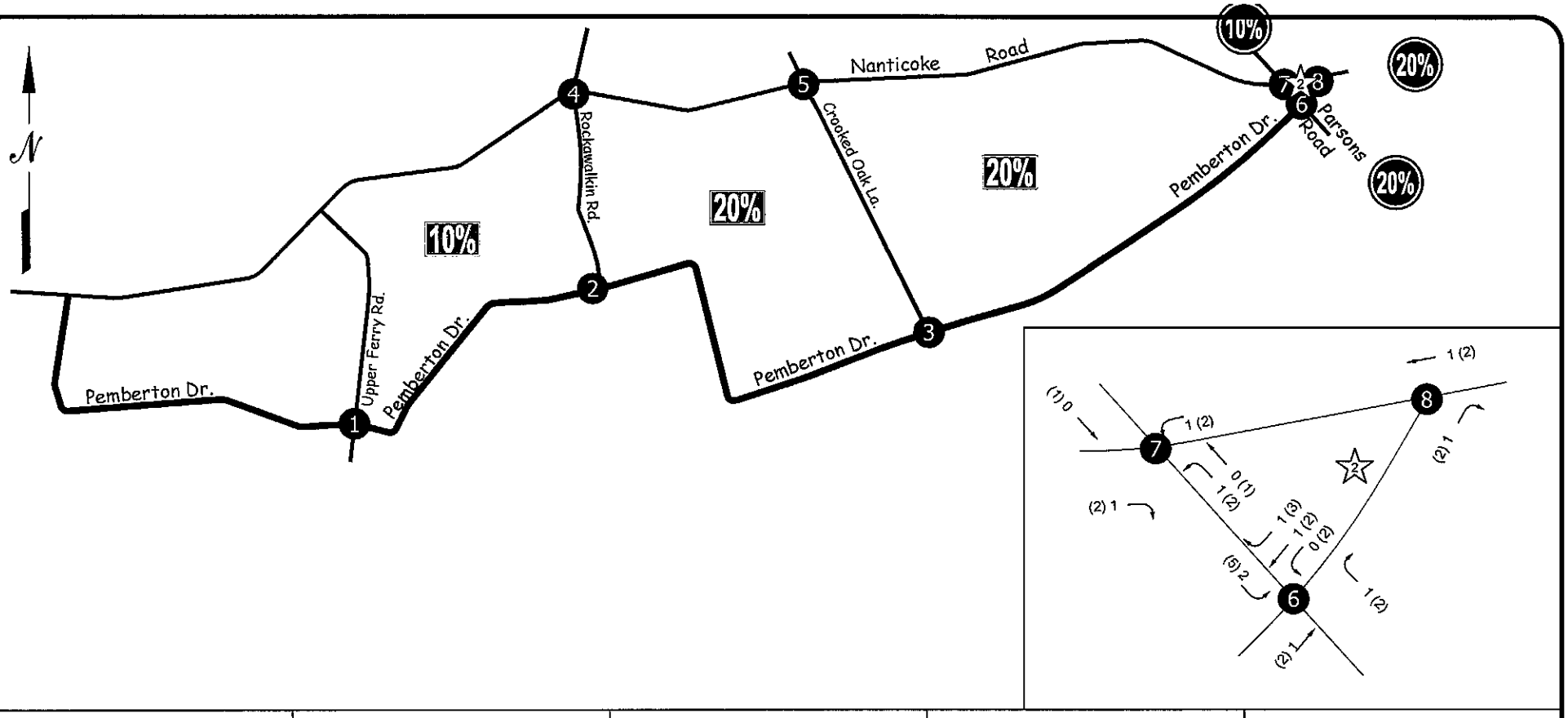


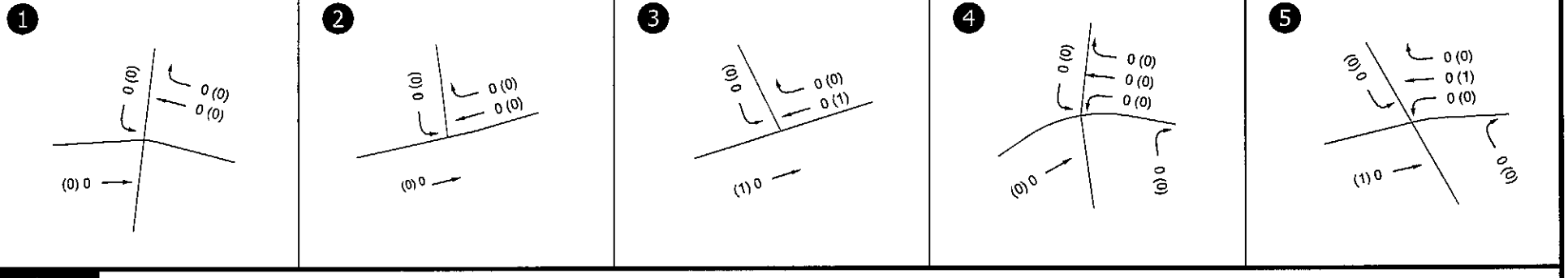
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Rice's/Rite Aid
21.3 office
IN: 29 (5)
OUT: 4 (27)

EXHIBIT B-4C
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT



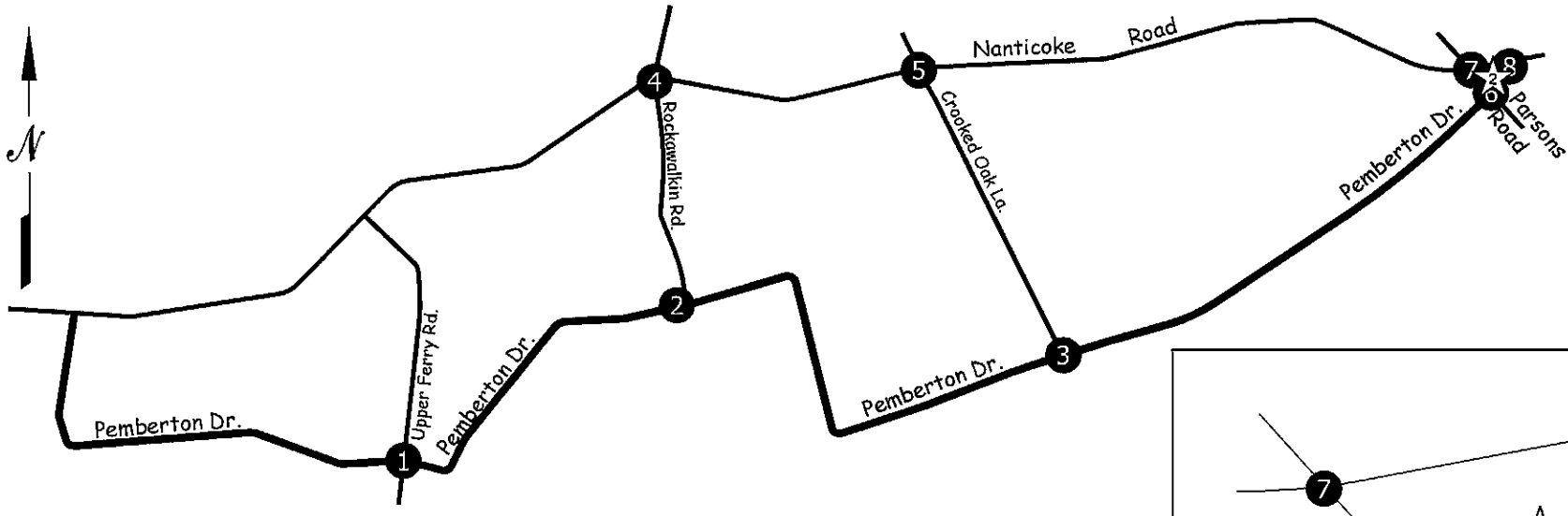


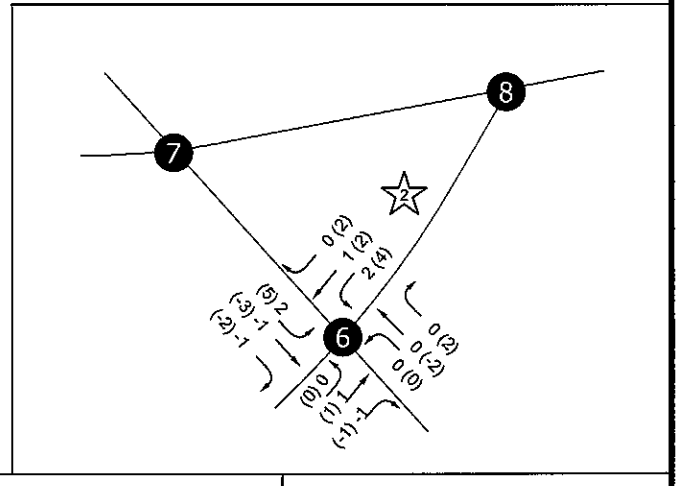
NOT TO SCALE

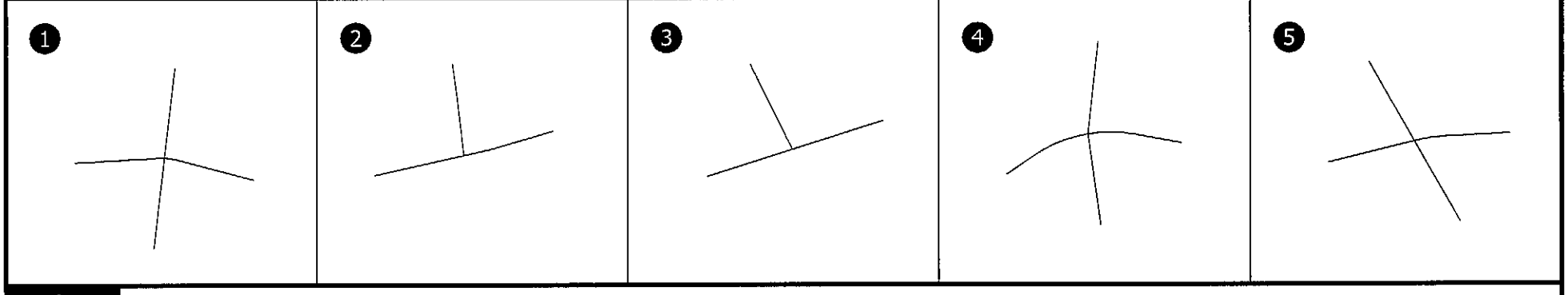
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

new trips
Pemberton Pharmacy
4.4 ksf pharmacy
IN: 4 (9)
OUT: 3 (9)

EXHIBIT B-5A
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT





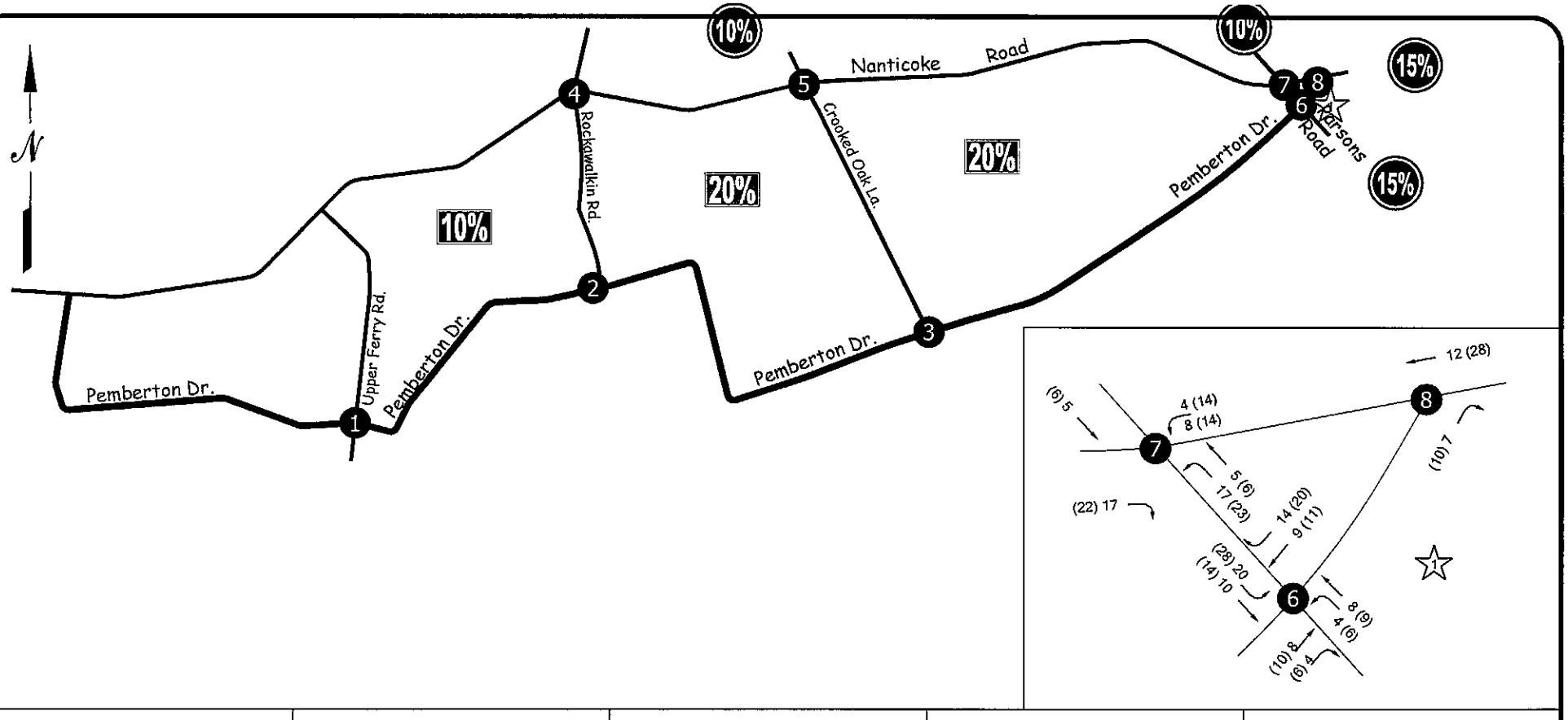


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

passby trips
Pemberton Pharmacy
4.4 ksf
IN: 4 (10)
OUT: 3 (10)

EXHIBIT B-5B
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT



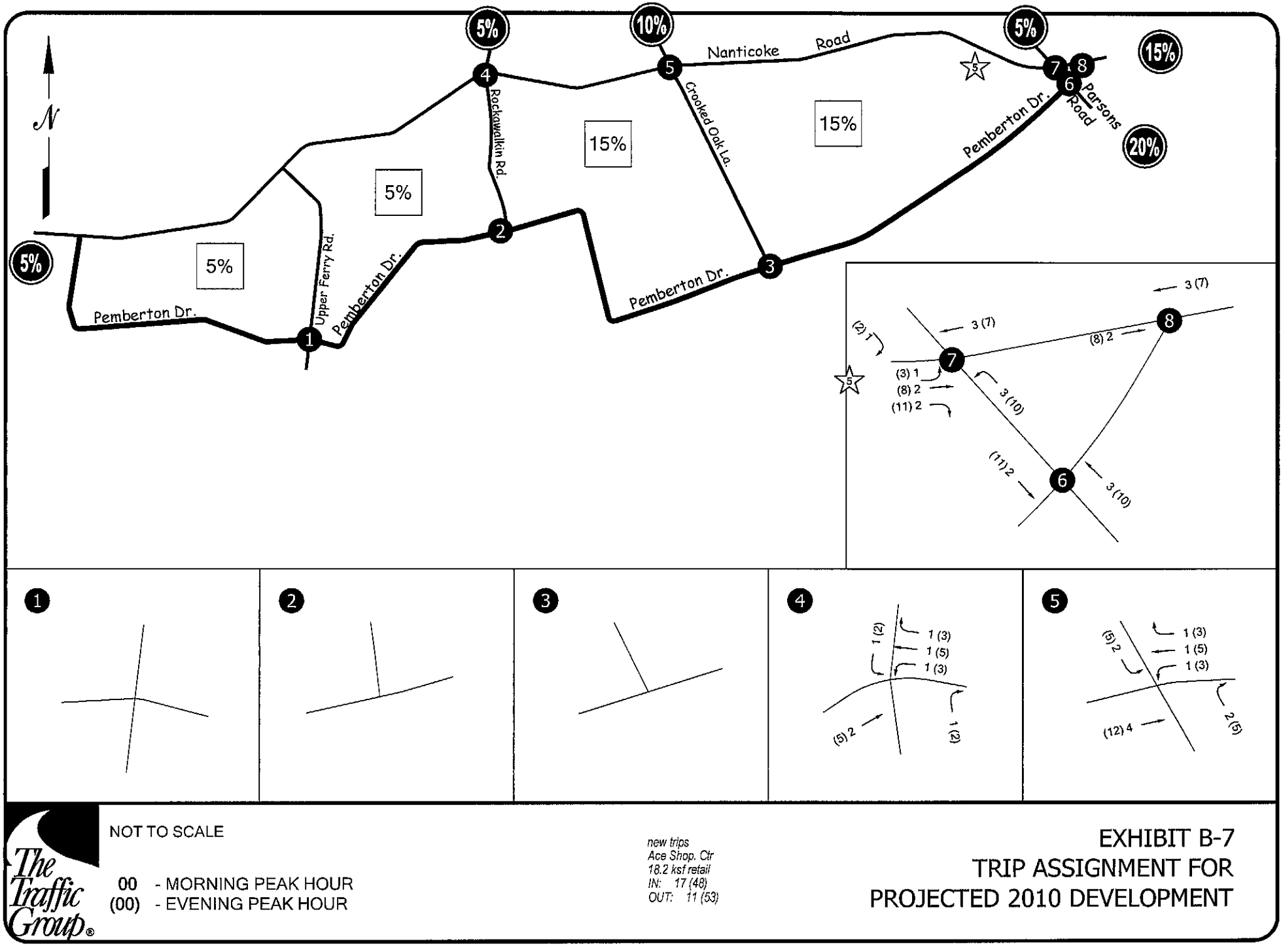
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

new trips
Royal Farm
6 ksf conv. mkt w/gas
IN: 48 (64)
OUT: 49 (65)

EXHIBIT B-6A
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

dj, 060628\pemberton.dwg-2010-9, 07/19/07



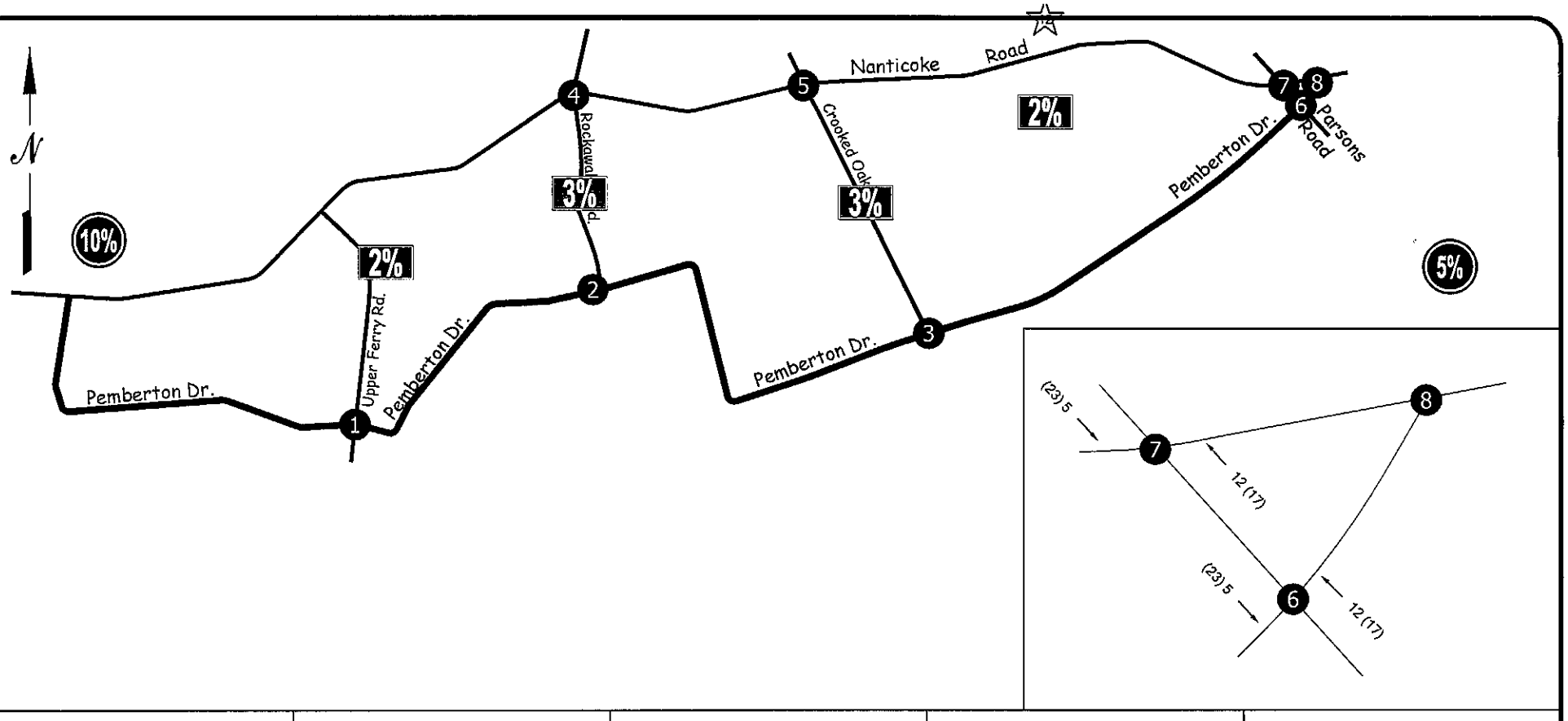
NOT TO SCALE

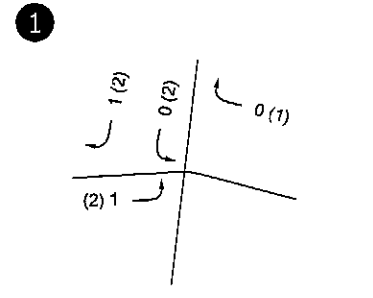
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

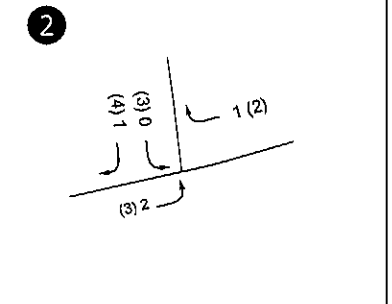
new trips
Ace Shop. Ctr
18.2 ksf retail
IN: 17 (48)
OUT: 11 (53)

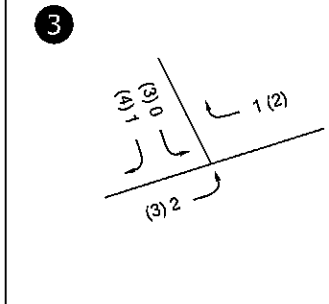
EXHIBIT B-7
TRIP ASSIGNMENT FOR PROJECTED 2010 DEVELOPMENT

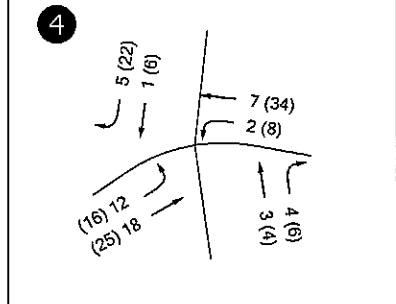
dj, 060628\pemberton.dwg-2010-10, 07/19/07

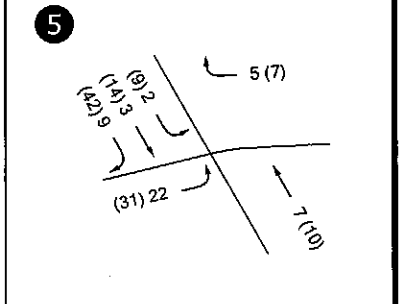












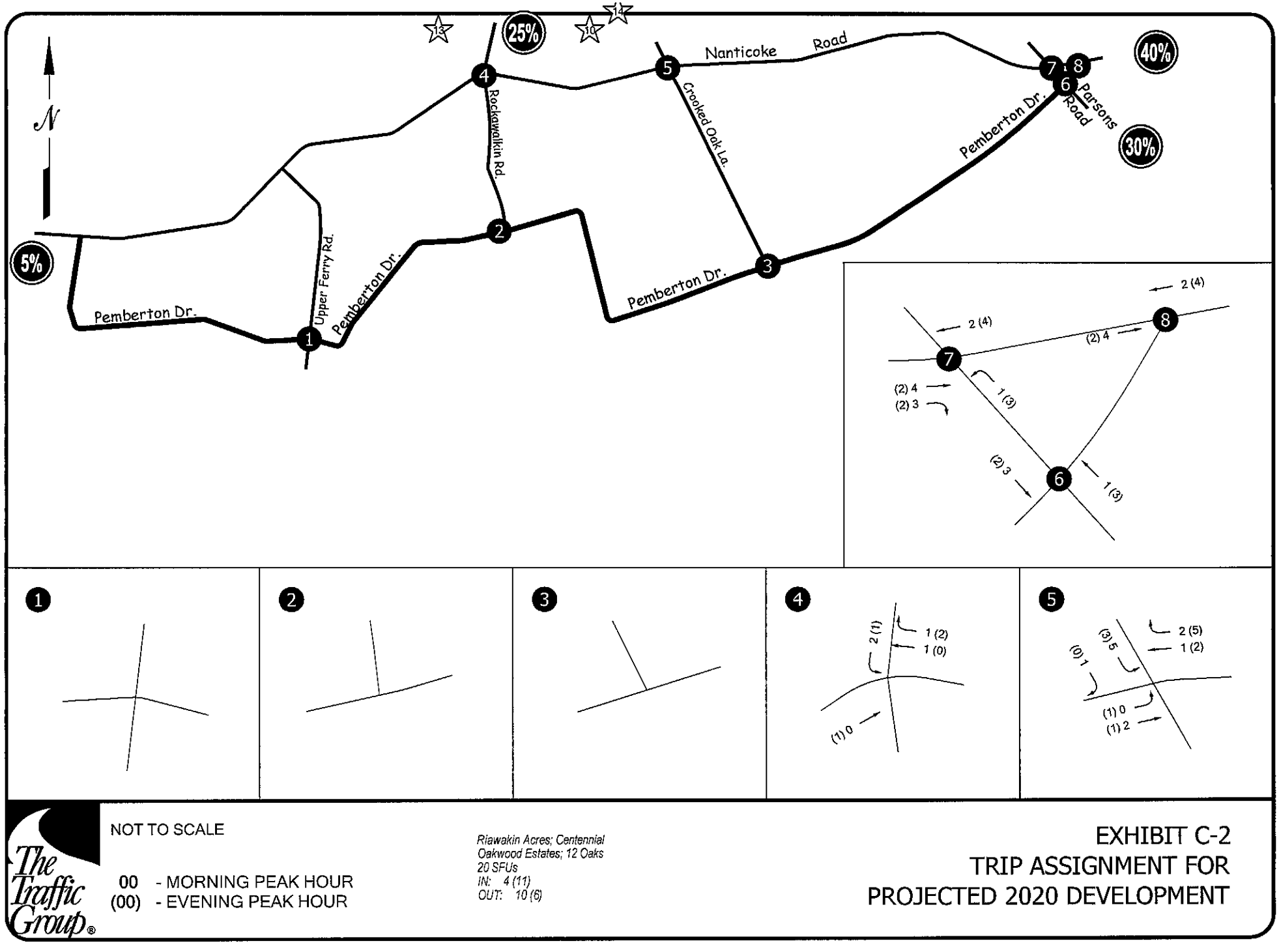
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Potts Property
150 ksf lt. ind.
IN: 248 (337)
OUT: 98 (469)

EXHIBIT C-1
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

dj, 060628\pemberton.dwg-2020-1, 07/19/07



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Riawakin Acres; Centennial Oakwood Estates; 12 Oaks
20 SFUs
IN: 4 (11)
OUT: 10 (6)

EXHIBIT C-2
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

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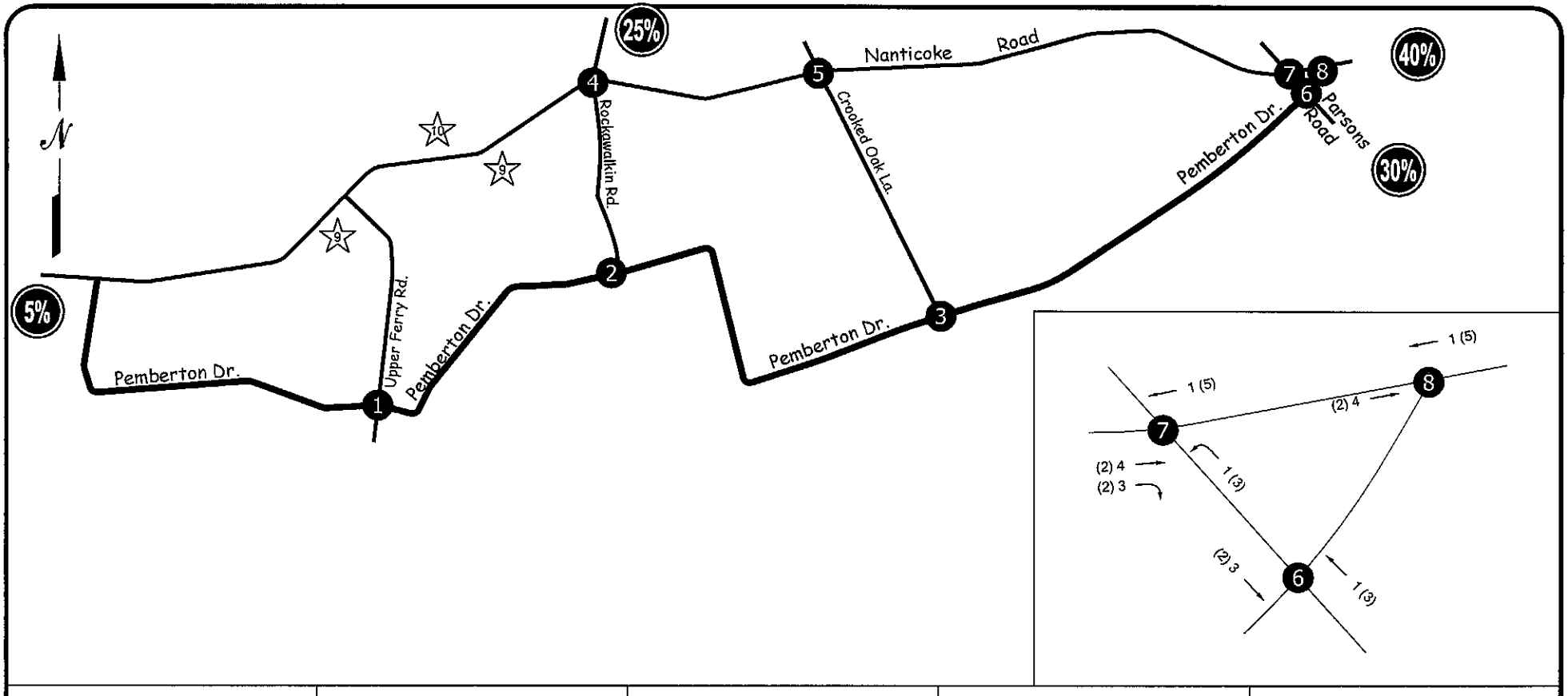
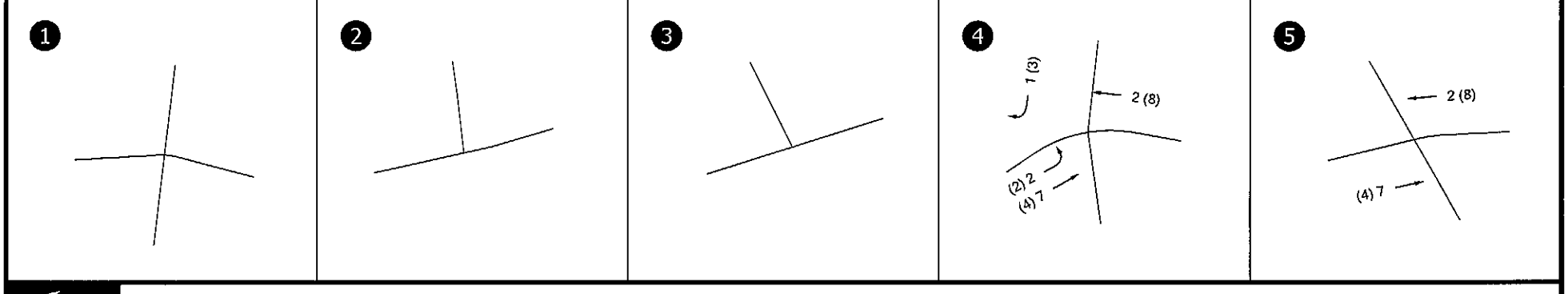
dj, 060628\pemberton.dwg-2020-2, 07/19/07





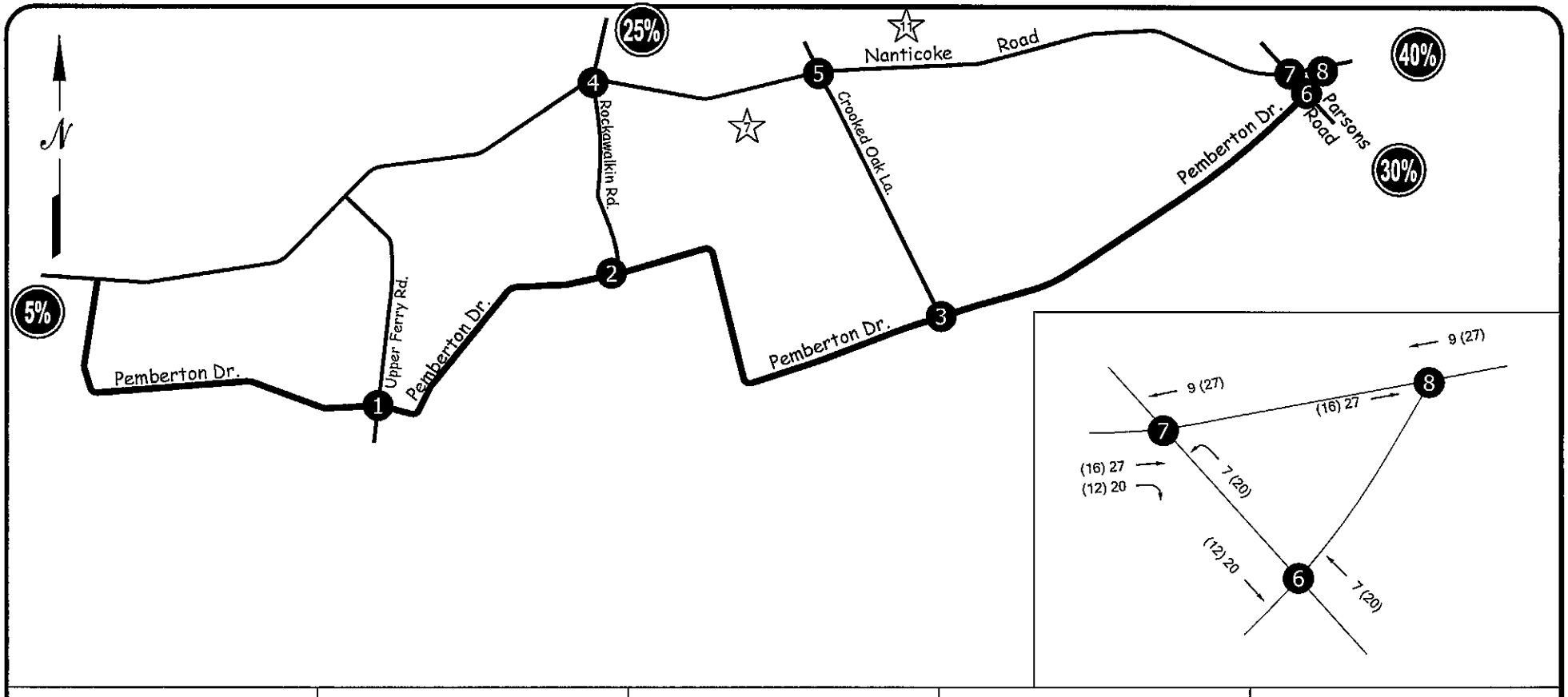
NOT TO SCALE

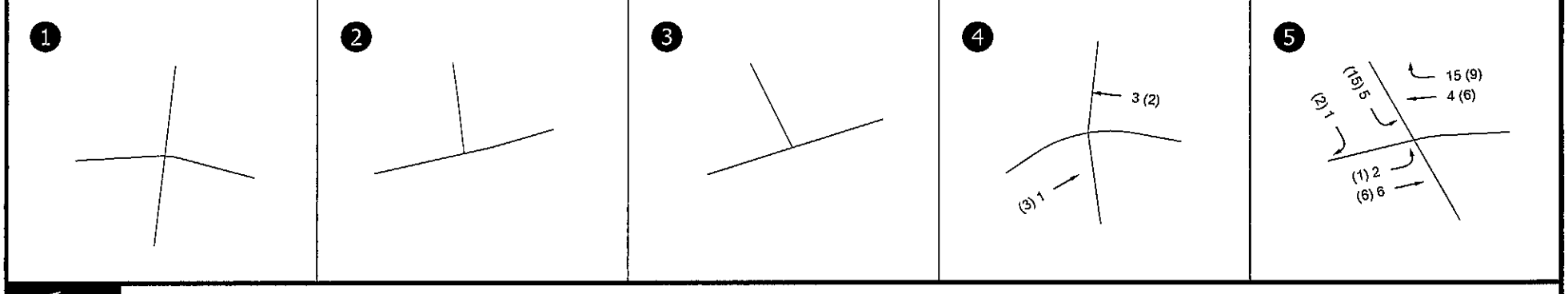
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Upper Ferry at Pratt; Nanticoke at Fire Tower Rd; Hunters Mill
19 SFUs
IN: 3 (11)
OUT: 10 (6)

EXHIBIT C-3
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

dj, 060628\pemberton.dwg-2020-3, 07/19/07



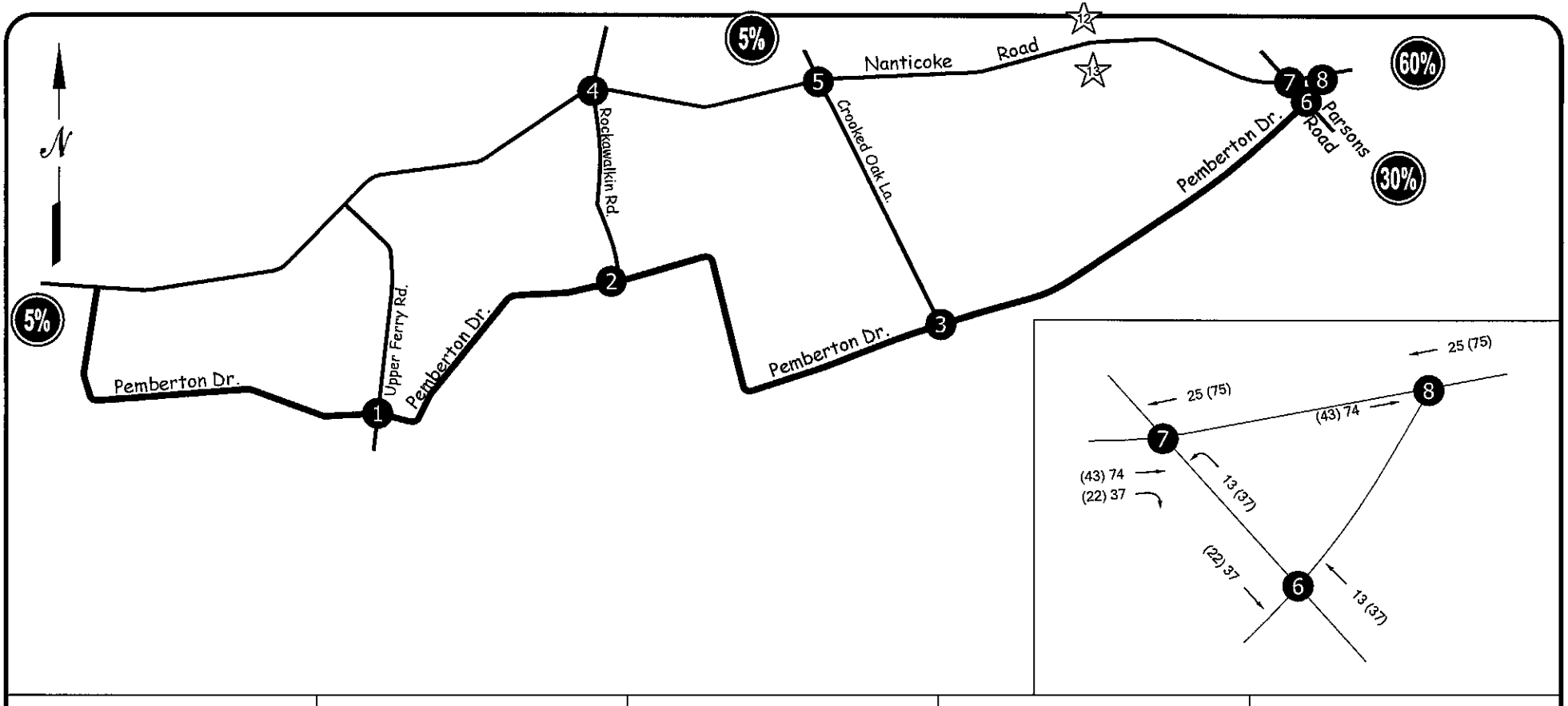


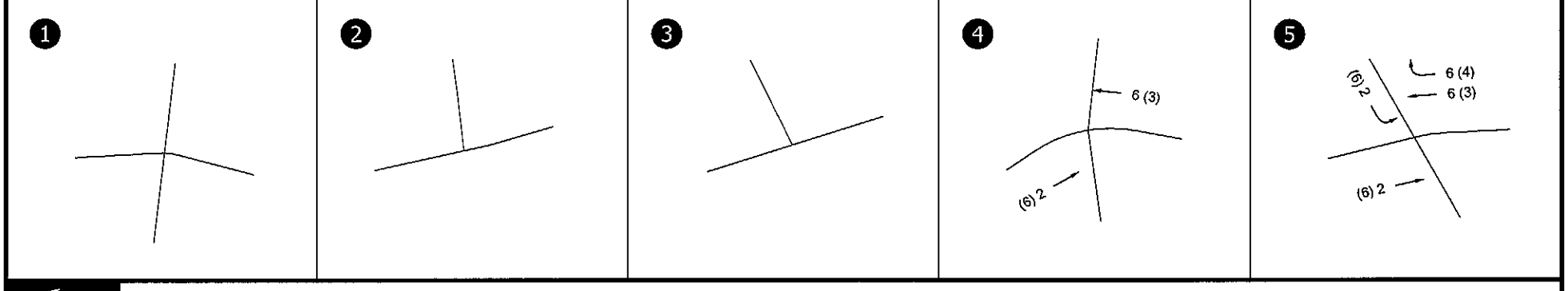
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Homestead Farm
Nanticoke near Centennial;
126 SFUs
IN: 23 (67)
OUT: 67 (40)

EXHIBIT C-4
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT



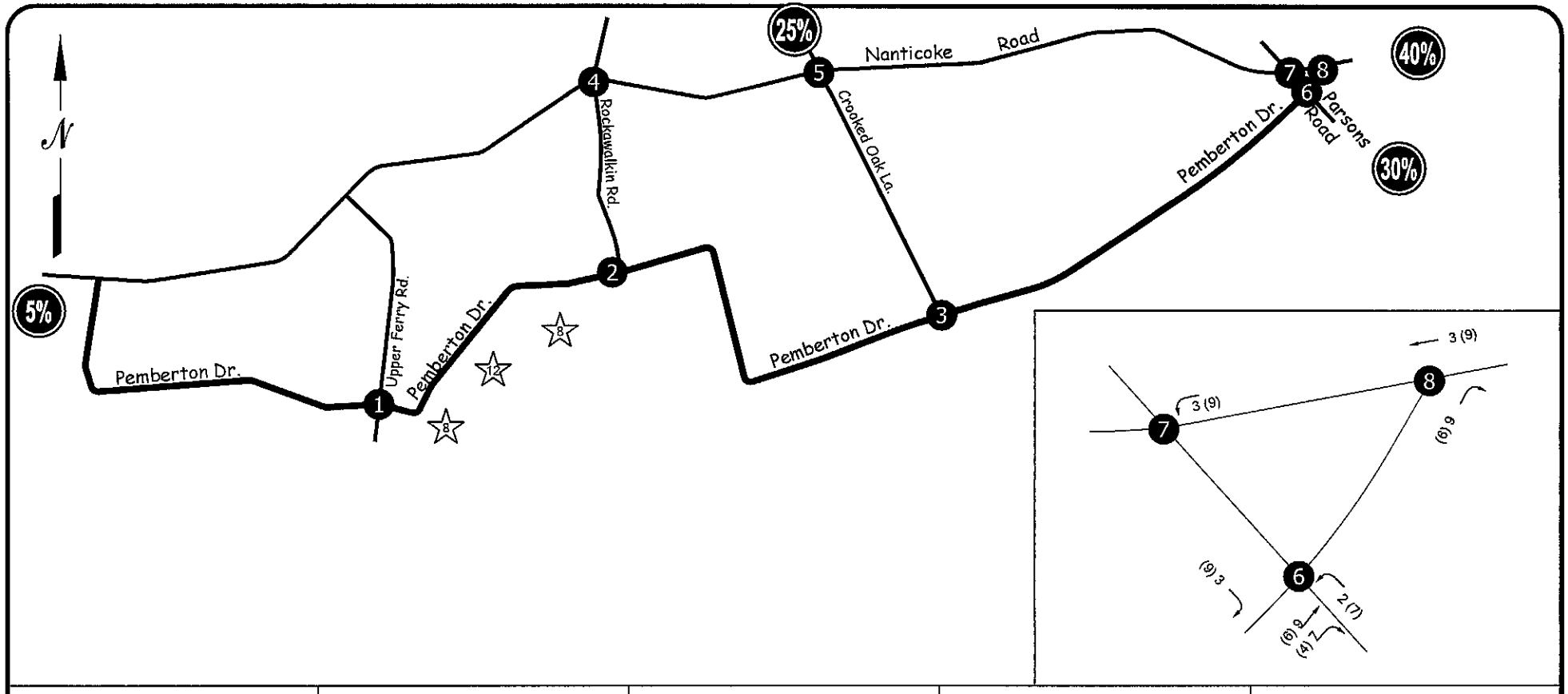


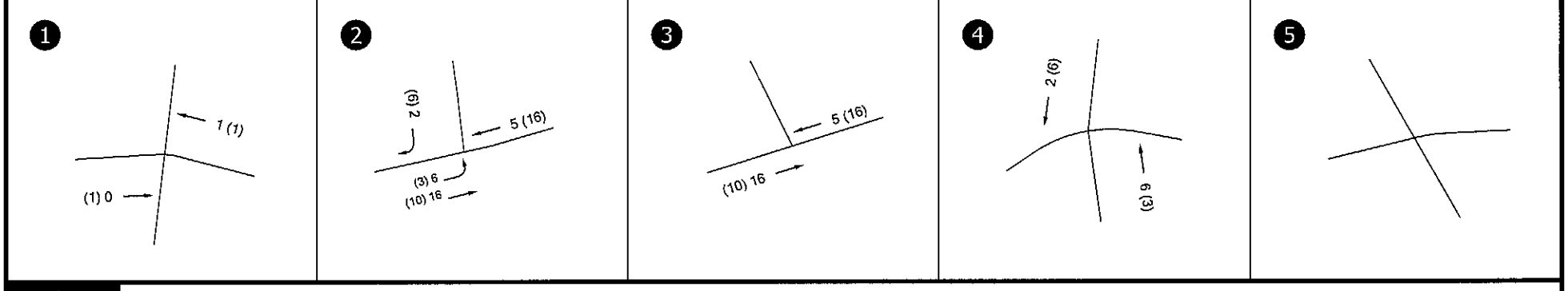
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Nanticoke at Crockett Lane
Nanticoke at Levin Dashiell;
231 SFUs
IN: 42 (124)
OUT: 123 (72)

EXHIBIT C-5
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT





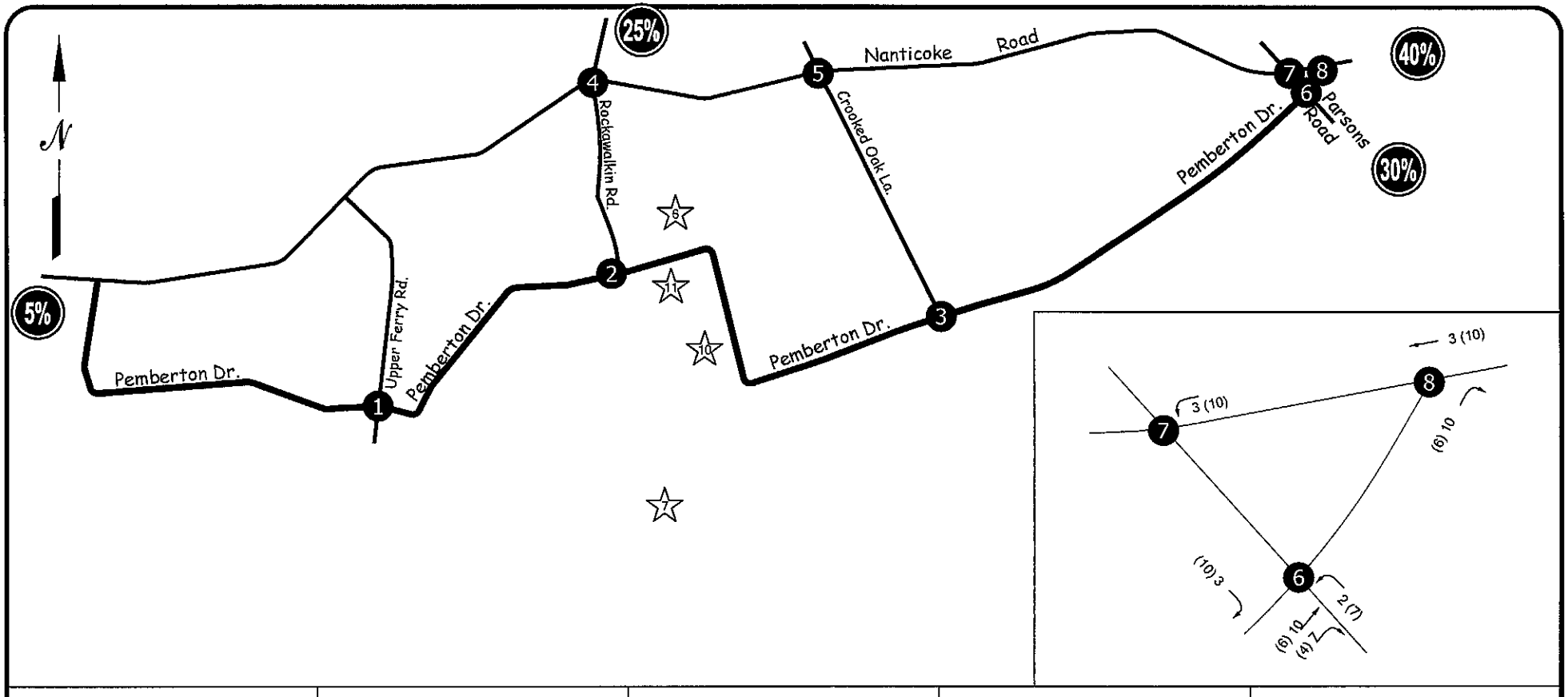
NOT TO SCALE

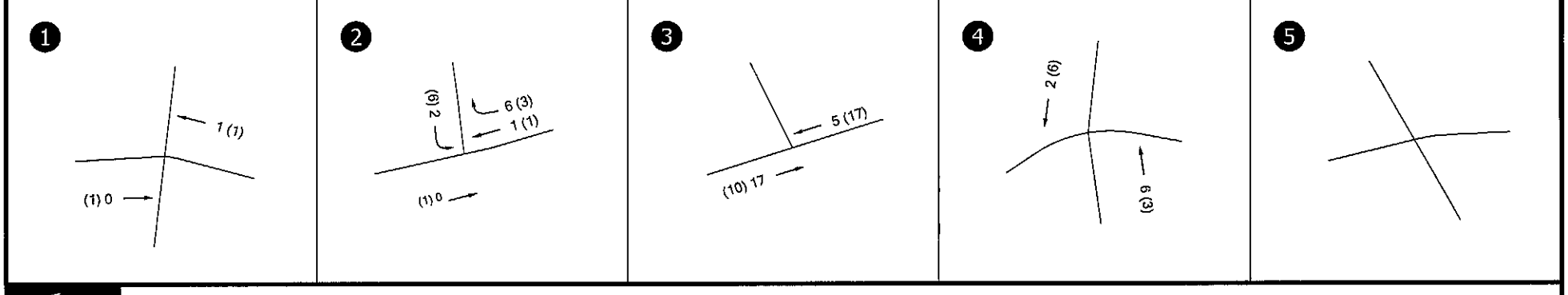
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

near W. Nithsdale; Idyllwood
West Nithsdale; Pemberton
43 SFUs
IN: 7 (23)
OUT: 23 (14)

EXHIBIT C-6
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

dj, 060628\pemberton.dwg-2020-6, 07/19/07



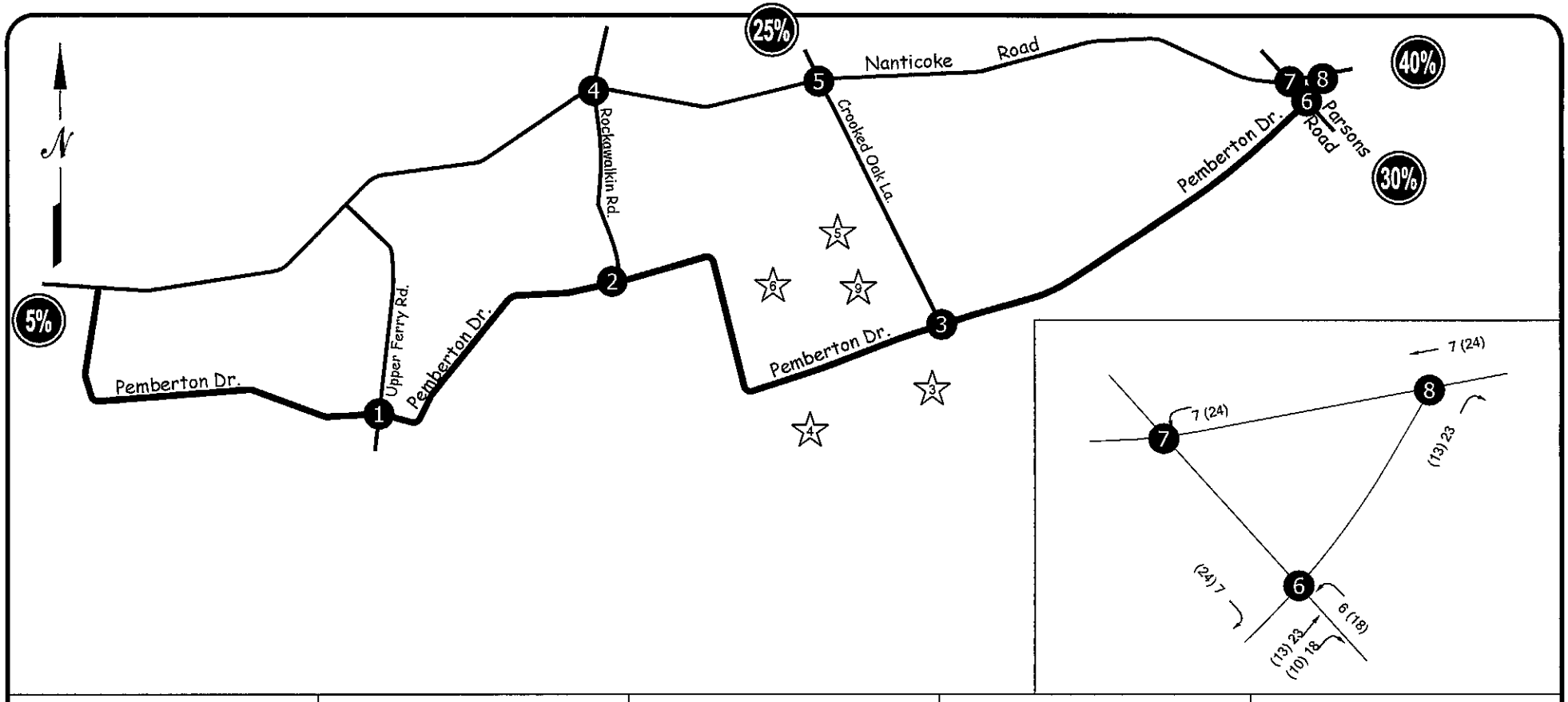


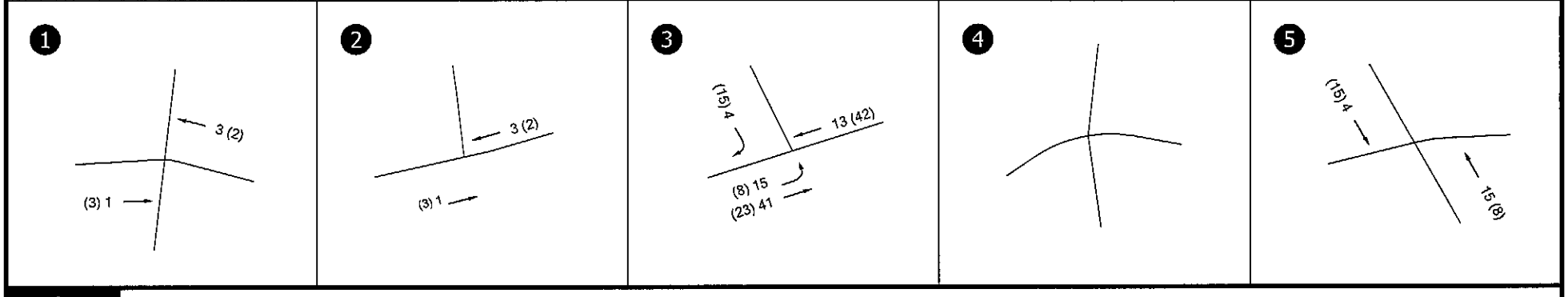
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Olde Towne; Nithsdale
Nithsdale Sec. 4; Old Town
44 SFUs
IN: 7 (24)
OUT: 24 (14)

EXHIBIT C-7
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT





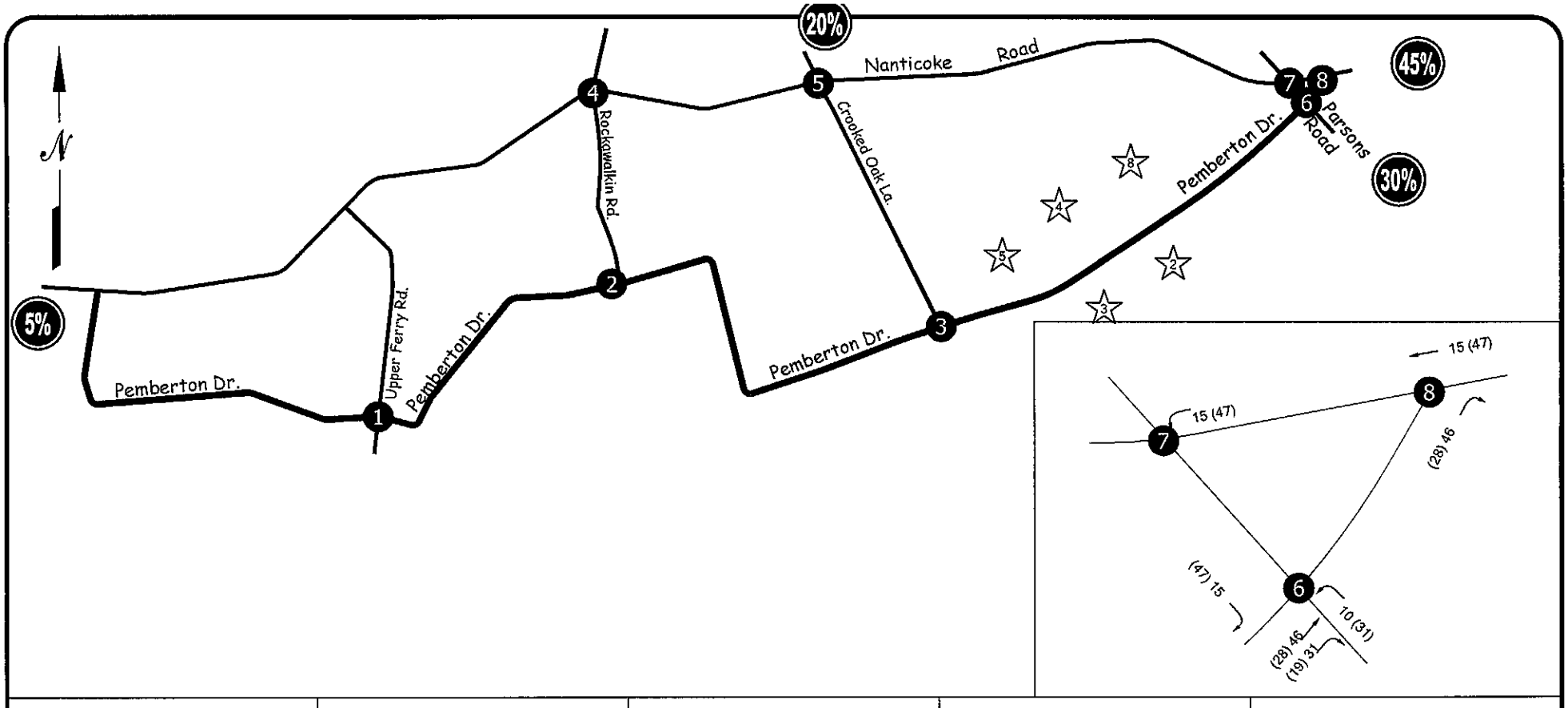
NOT TO SCALE

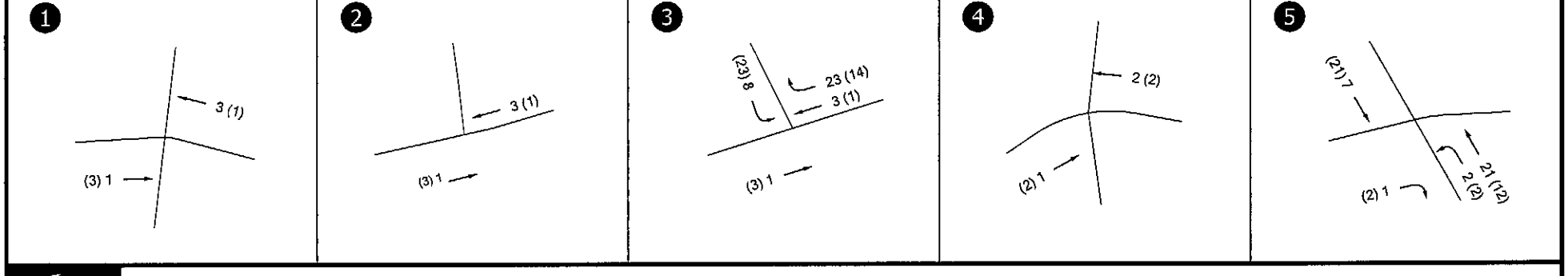
00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Steeplechase; Pemb. near River Isle; Pemb. near Niths dale; Pemb. near Steeplechase; Steeplechase
108 SFUs
IN: 18 (60)
OUT: 59 (33)

EXHIBIT C-8
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

dj, 060628\pemberton.dwg-2020-8, 07/19/07





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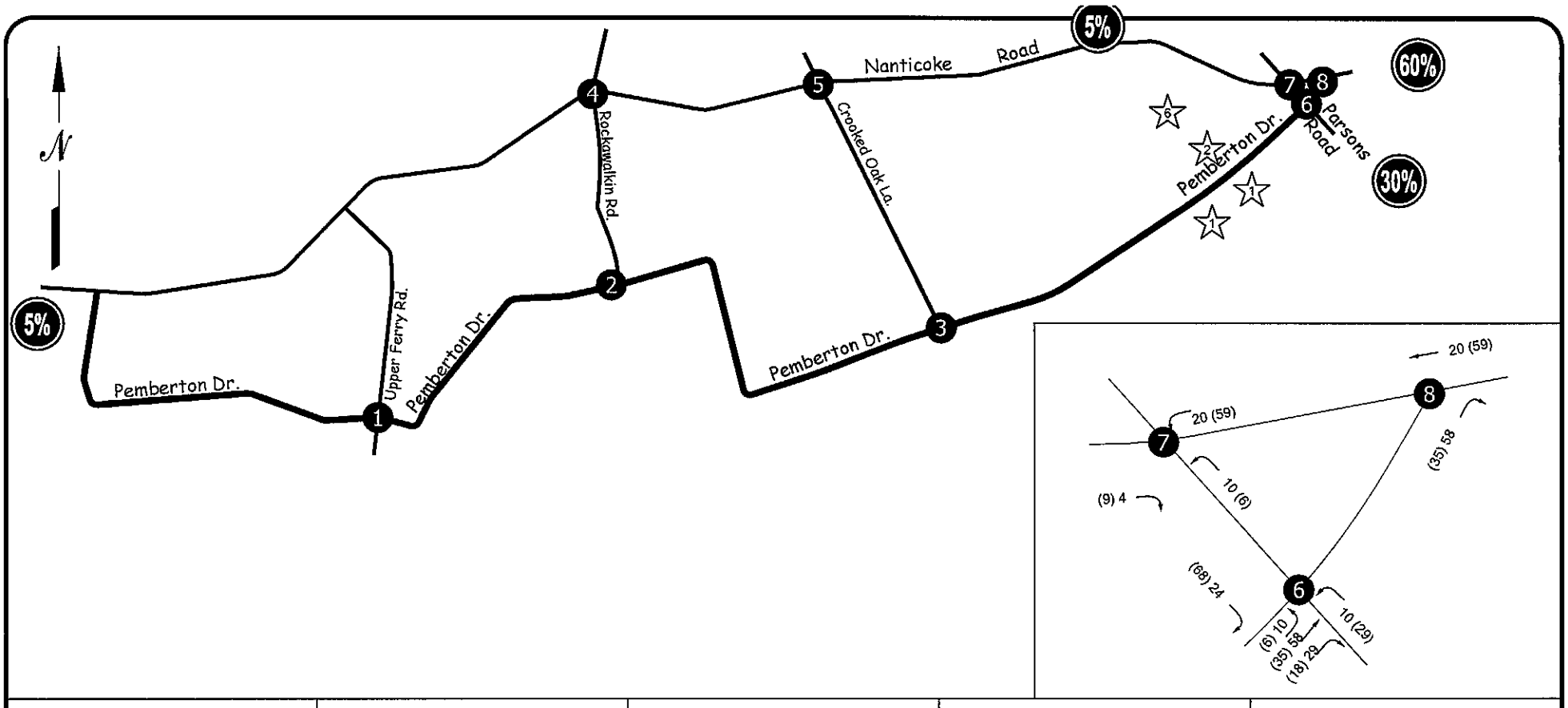
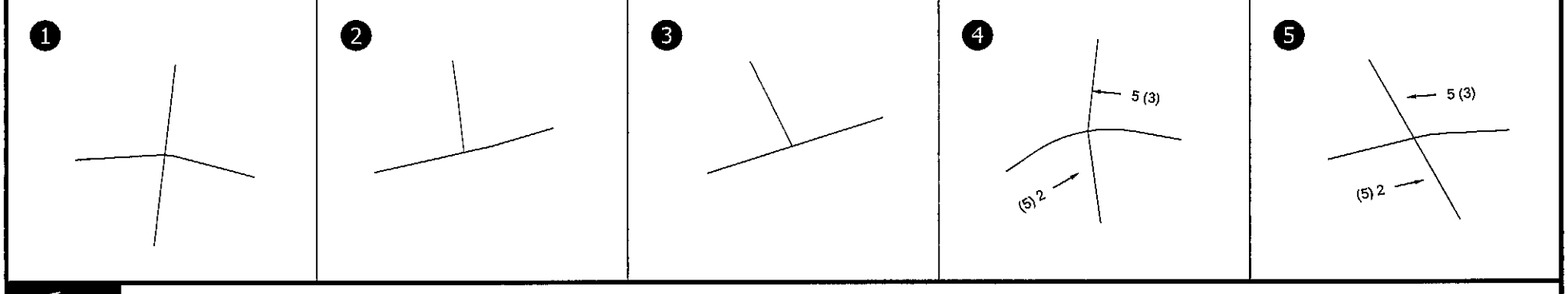
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Pemb. at Crooked Oak; Harbor Pt; Sleepy Hollow Ponds at Pemb.; Pemb near Harbor Pt;
194 SFUs
IN: 34 (104)
OUT: 103 (62)

EXHIBIT C-9
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT



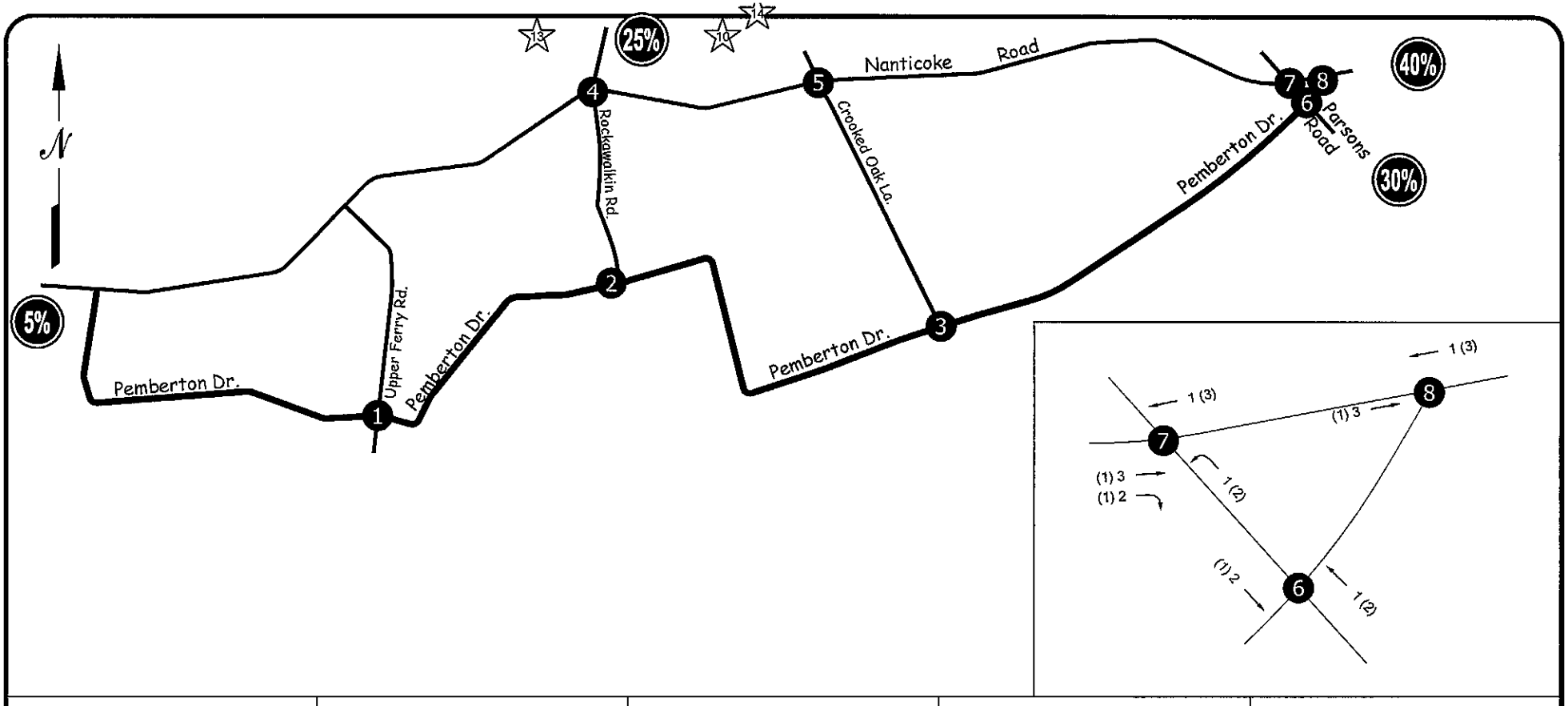


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Heritage; Pemb near WWTP;
Westover Heights; Thee Green at Heritage
IN: 34 (98)
OUT: 97 (59)

EXHIBIT C-10
TRIP ASSIGNMENT FOR PROJECTED 2020 DEVELOPMENT

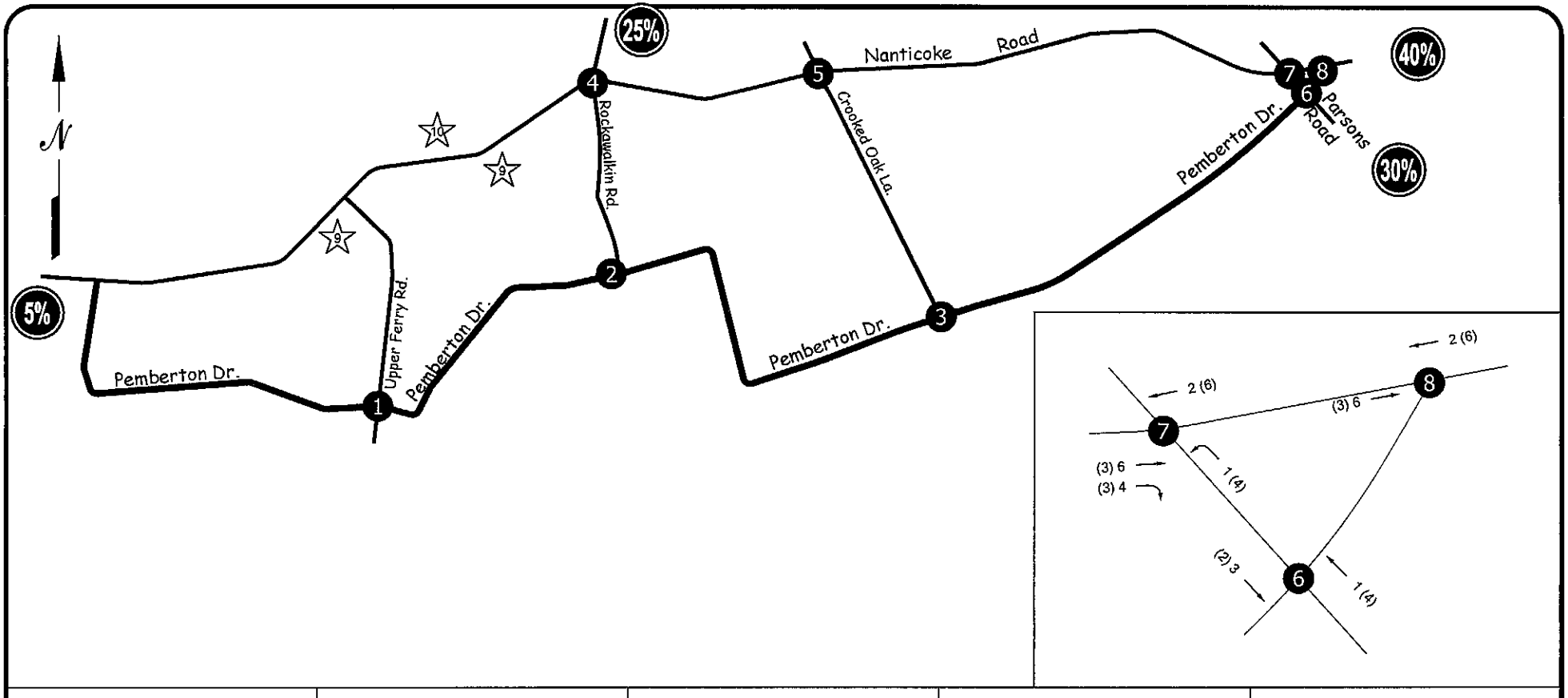


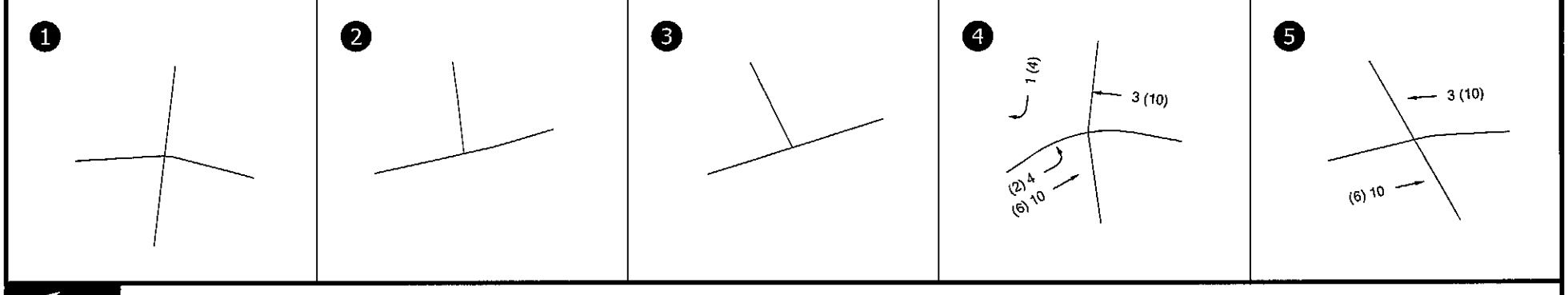
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Riawakin Acres; Centennial Oakwood Estates; 12 Oaks
12 SFUs
IN: 2 (7)
OUT: 7 (3)

EXHIBIT D-1
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT



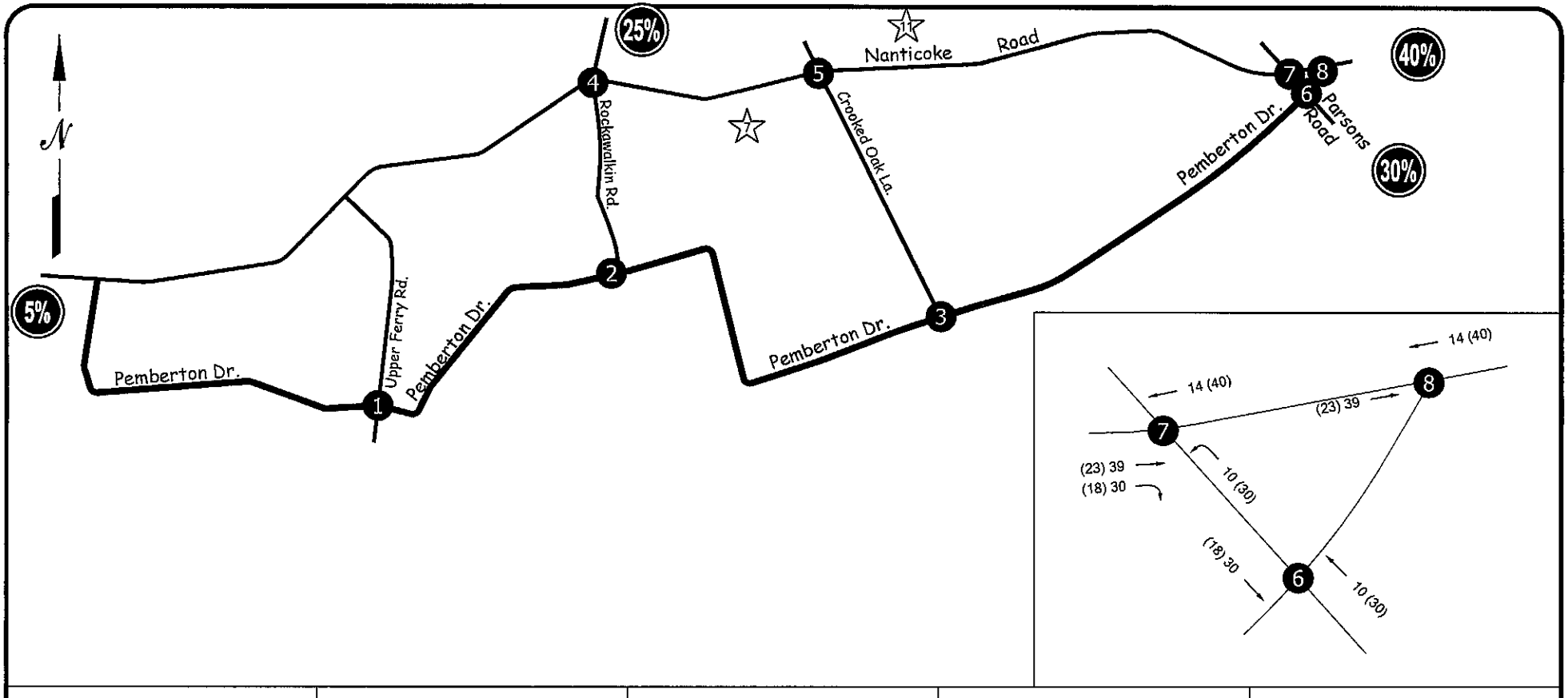


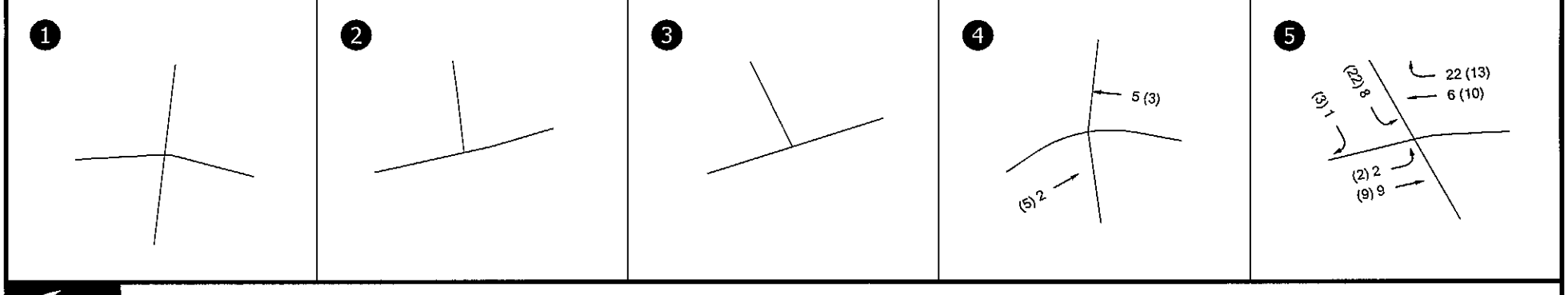
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Upper Ferry at Pratt; Nanticoke at Fire Tower Rd; Hunters Mill
28 SFUs
IN: 4 (15)
OUT: 15 (9)

EXHIBIT D-2
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT



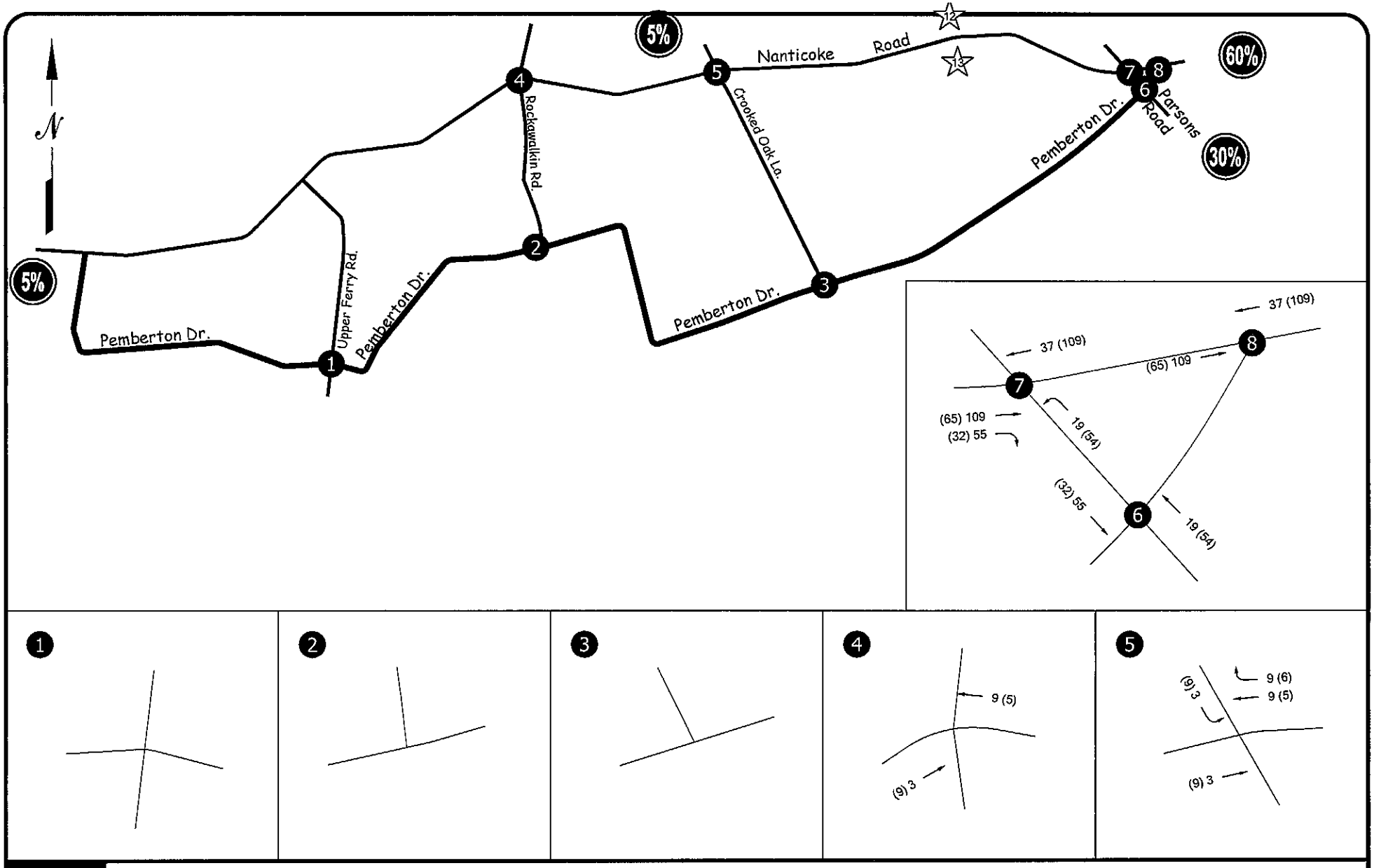


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Homestead Farm
Nanticoke near Centennial;
190 SFUs
IN: 34 (100)
OUT: 99 (59)

EXHIBIT D-3
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT

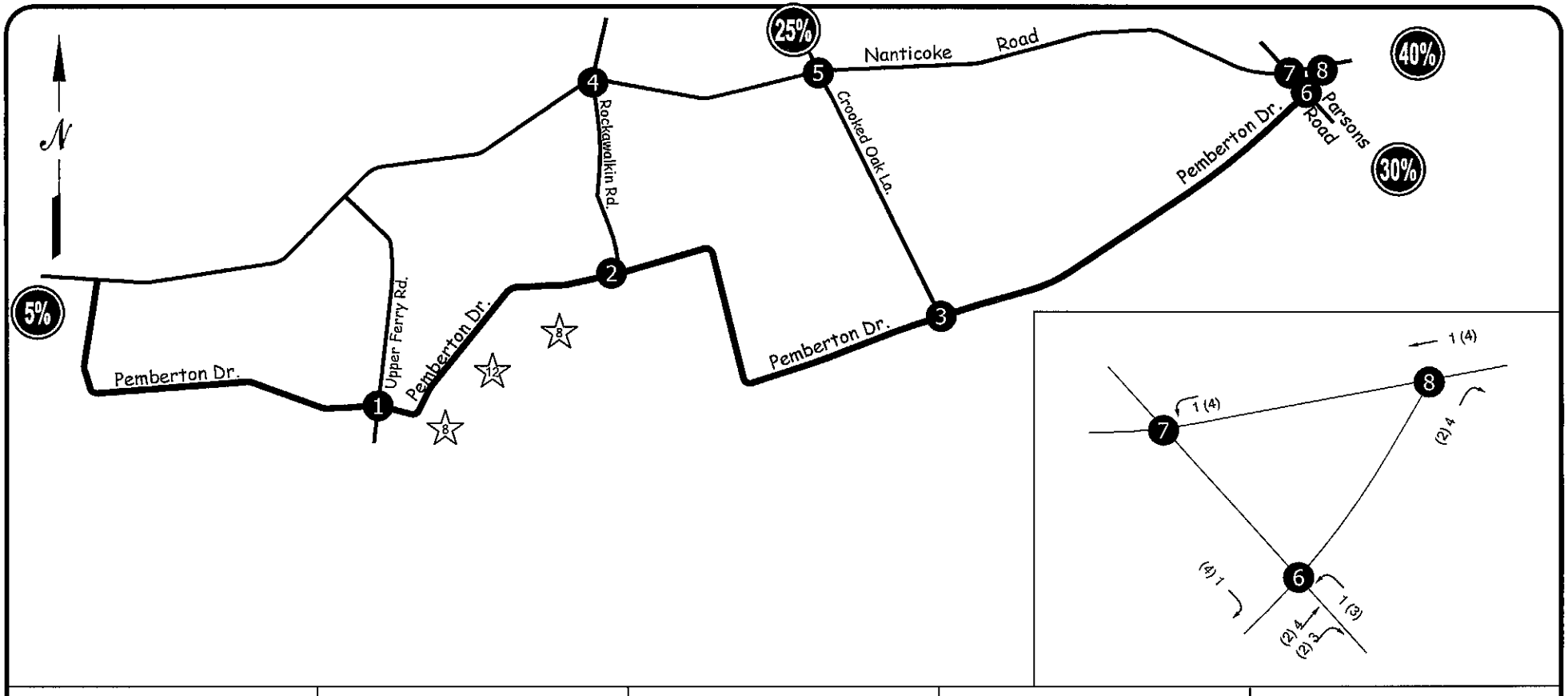


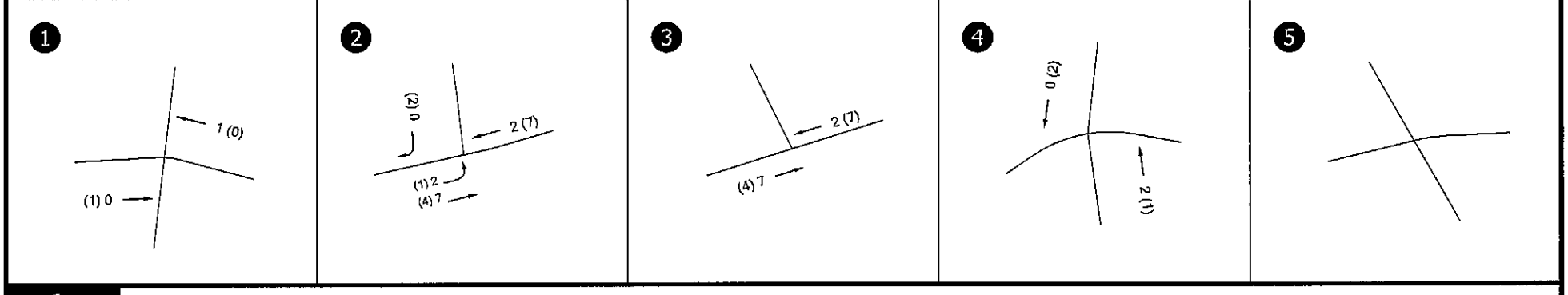
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Nanticoke at Crockett Lane
Nanticoke at Levin Dashiell;
346 SFUs
IN: 62 (181)
OUT: 182 (108)

EXHIBIT D-4
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT



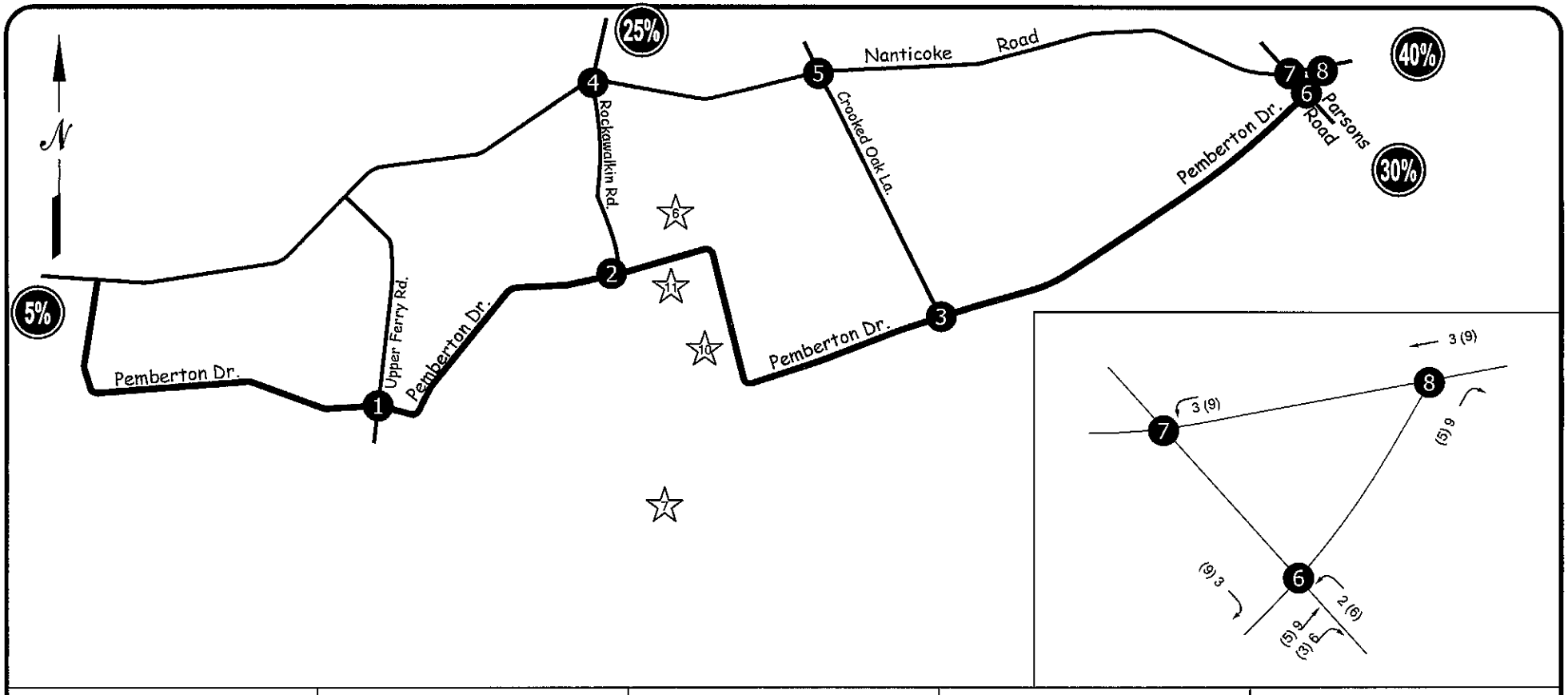


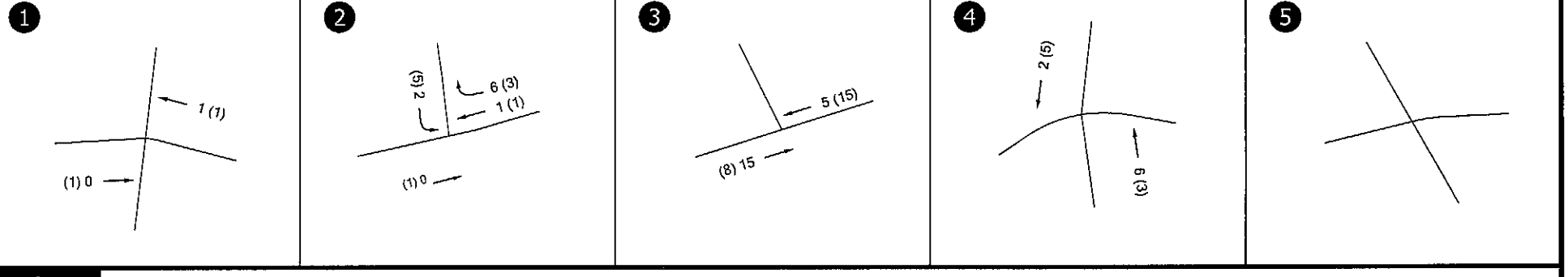
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

near W. Nithsdale; Idyllwood
West Nithsdale; Pemberton
17 SFUs
IN: 2 (10)
OUT: 10 (5)

EXHIBIT D-5
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT



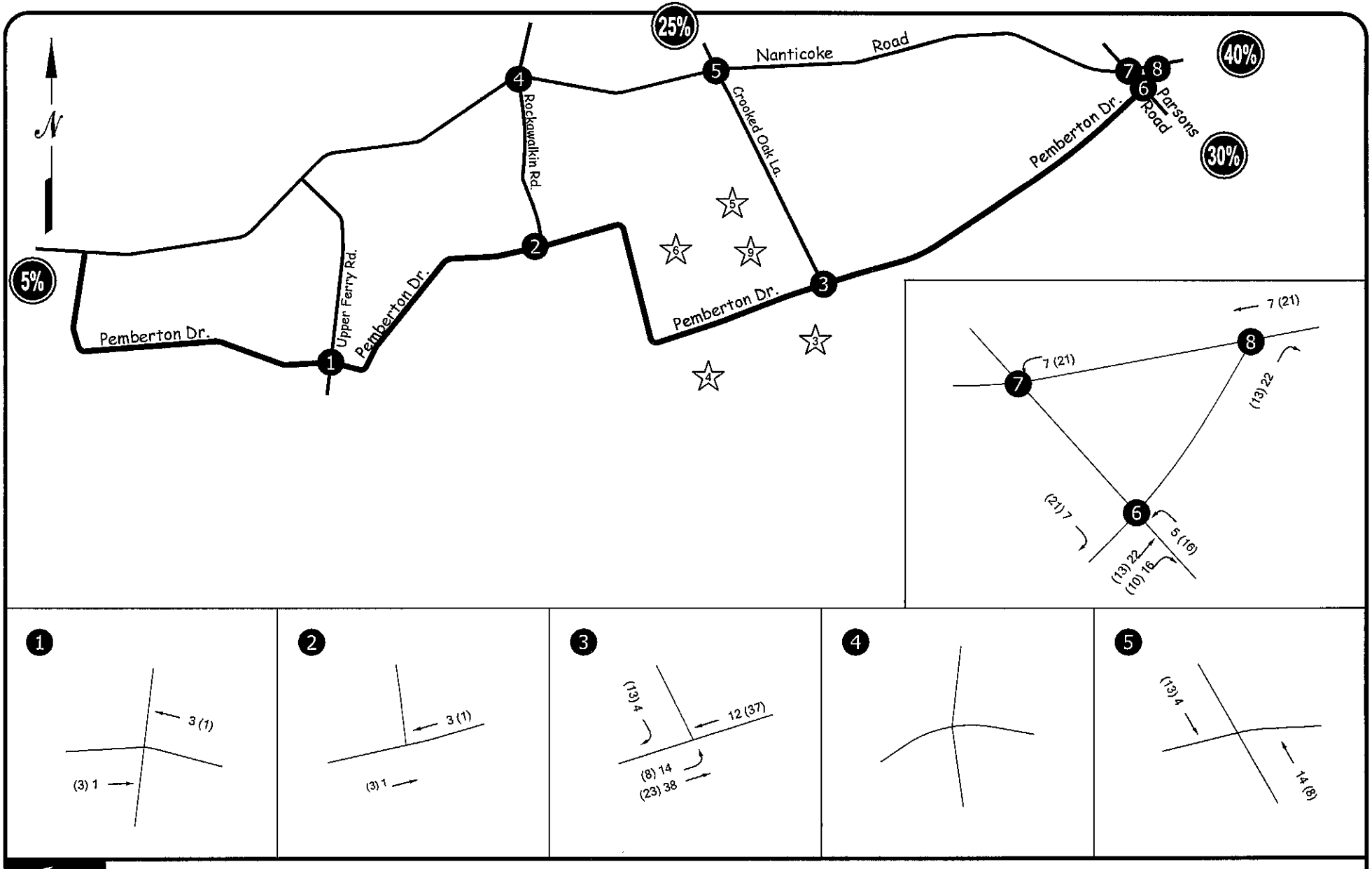


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Olde Towne; Nithsdale
Nithsdale Sec. 4; Old Town
40 SFUs
IN: 7 (21)
OUT: 22 (12)

EXHIBIT D-6
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT

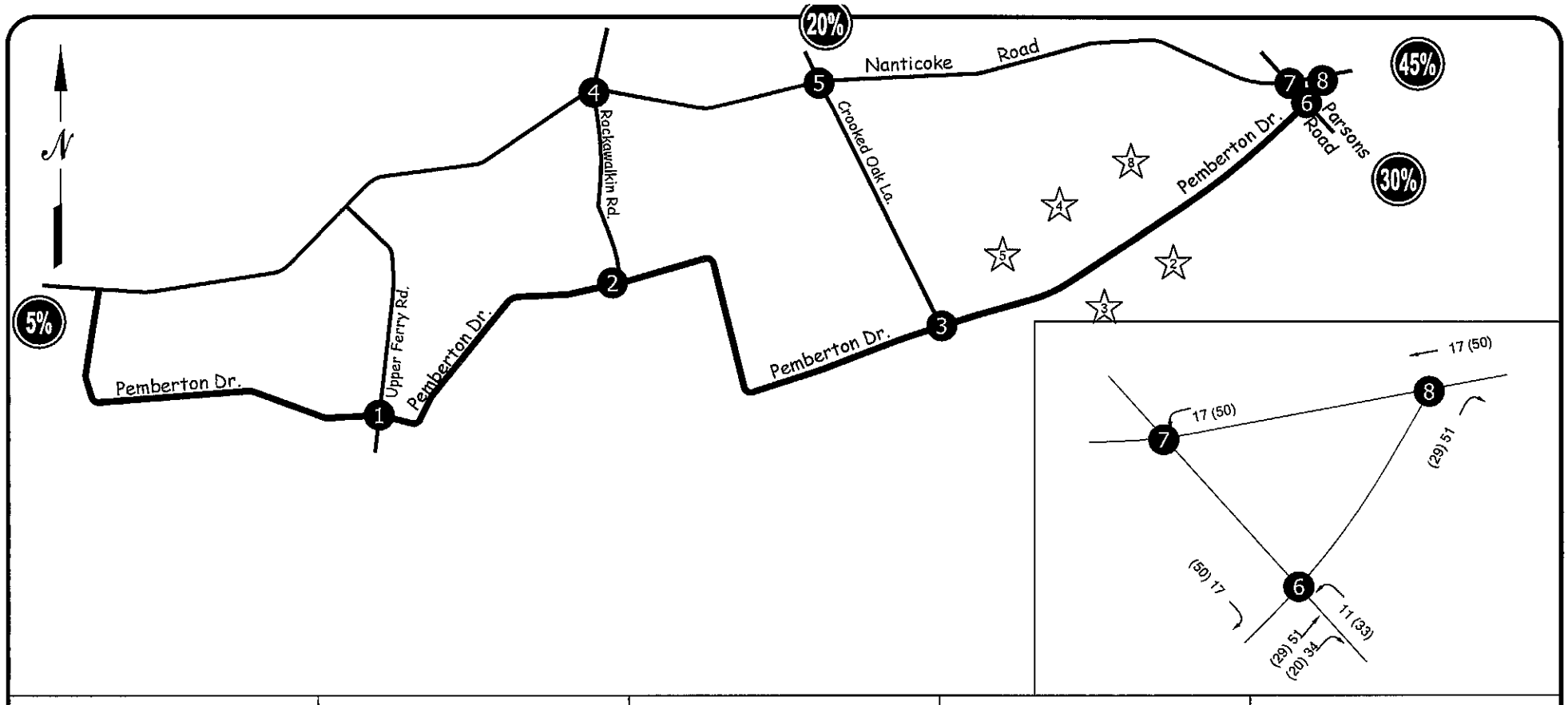


NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Steeplechase; Pemb. near River Isle; Pemb. near Nithsdale; Pemb. near Steeplechase; Steeplechase
102 SFUs
IN: 18 (53)
OUT: 55 (32)

EXHIBIT D-7
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT



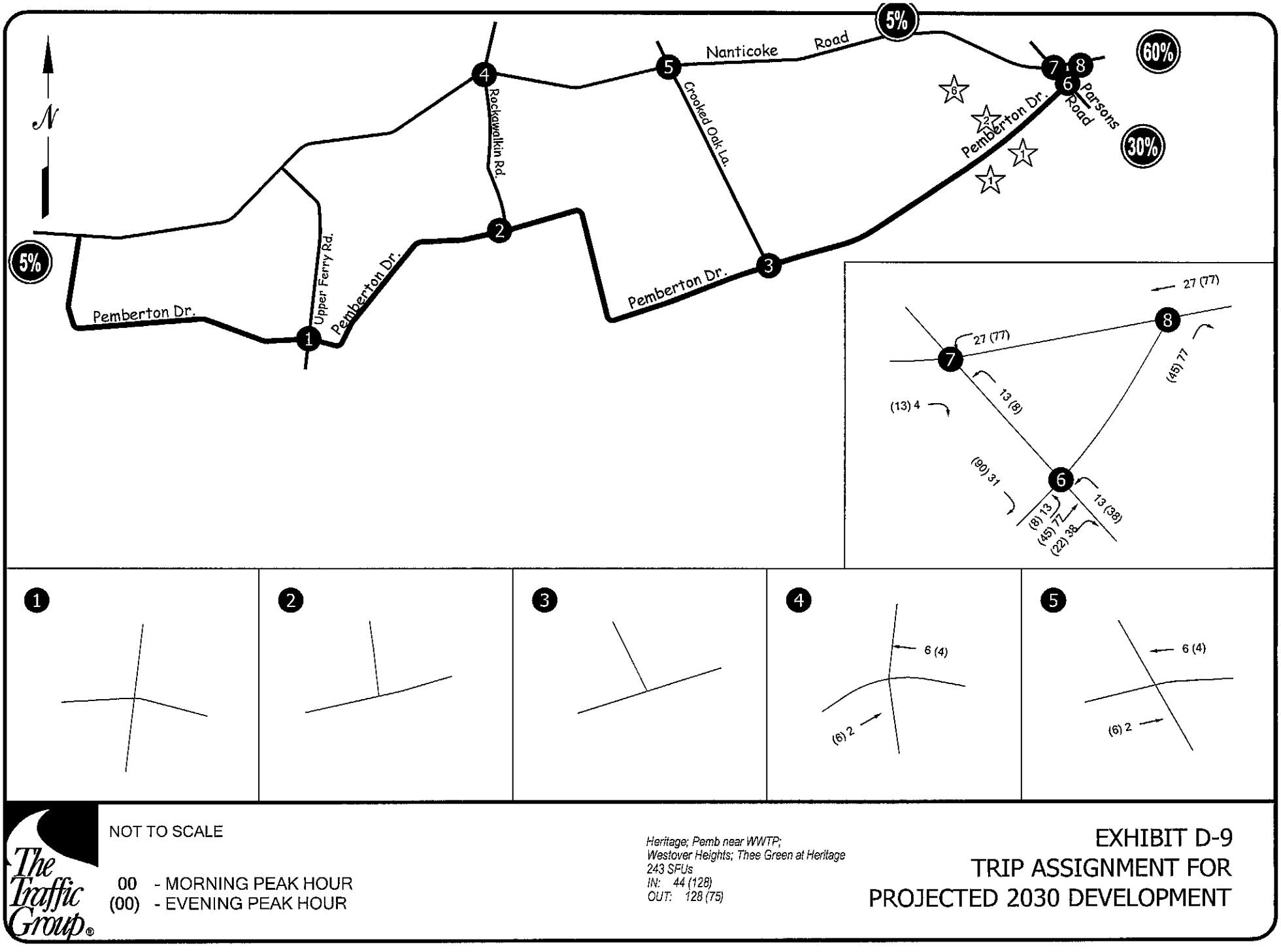
NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Pemb. at Crooked Oak; Harbor Pt; Sleepy Hollow Ponds at Pemb.; Pemb near Harbor Pt;
210 SFUs
IN: 37 (111)
OUT: 113 (65)

EXHIBIT D-8
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT

dj, 060628\pemberton.dwg-2030-8, 07/19/07



NOT TO SCALE

00 - MORNING PEAK HOUR
(00) - EVENING PEAK HOUR

Heritage; Pemb near WWTP;
Westover Heights; Thee Green at Heritage
243 SFUs
IN: 44 (128)
OUT: 128 (75)

EXHIBIT D-9
TRIP ASSIGNMENT FOR PROJECTED 2030 DEVELOPMENT

dj, 060628\pemberton.dwg-2030-9, 07/19/07

APPENDIX C

Intersection Capacity Analysis Worksheets (HCM Methodologies) and HCM Link Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	8	0	5	7	10	7	6	28	10	7	22	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	0	5	8	11	8	7	30	11	8	24	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	18			5			66	54	3	76	53	15
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18			5			66	54	3	76	53	15
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	96	99	99	97	100
cM capacity (veh/h)	1598			1616			896	829	1081	872	830	1065

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	14	26	48	36
Volume Left	9	8	7	8
Volume Right	5	8	11	4
cSH	1598	1616	885	862
Volume to Capacity	0.01	0.00	0.05	0.04
Queue Length 95th (ft)	0	0	4	3
Control Delay (s)	4.5	2.1	9.3	9.4
Lane LOS	A	A	A	A
Approach Delay (s)	4.5	2.1	9.3	9.4
Approach LOS			A	A

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	87	72	17	30	16	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	95	78	18	33	17	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	51				302	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	51				302	35
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				97	99
cM capacity (veh/h)	1555				648	1038

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	173	51	24
Volume Left	95	0	17
Volume Right	0	33	7
cSH	1555	1700	722
Volume to Capacity	0.06	0.03	0.03
Queue Length 95th (ft)	5	0	3
Control Delay (s)	4.3	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	274	68	28	97	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	298	74	30	105	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	104				411	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104				411	89
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				82	99
cM capacity (veh/h)	1487				592	969

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	310	104	114
Volume Left	12	0	105
Volume Right	0	30	9
cSH	1487	1700	610
Volume to Capacity	0.01	0.06	0.19
Queue Length 95th (ft)	1	0	17
Control Delay (s)	0.4	0.0	12.2
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	349	5	11	85	38	2	82	111	19	10	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	379	5	12	92	41	2	89	121	21	11	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134			385			652	672	379	796	636	92
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134			385			652	672	379	796	636	92
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			99			99	75	82	89	97	98
cM capacity (veh/h)	1451			1174			351	356	668	193	373	965

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	447	5	104	41	212	48
Volume Left	67	0	12	0	2	21
Volume Right	0	5	0	41	121	16
cSH	1451	1700	1174	1700	485	313
Volume to Capacity	0.05	0.00	0.01	0.02	0.44	0.15
Queue Length 95th (ft)	4	0	1	0	55	13
Control Delay (s)	1.5	0.0	1.0	0.0	18.1	18.6
Lane LOS	A		A		C	C
Approach Delay (s)	1.5		0.7		18.1	18.6
Approach LOS					C	C

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	681	20	21	97	12	5	13	79	37	14	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	740	22	23	105	13	5	14	86	40	15	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	118			762			910	911	740	991	920	105
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	118			762			910	911	740	991	920	105
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			97			98	95	79	76	94	100
cM capacity (veh/h)	1470			850			238	266	417	168	263	949

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	743	22	128	13	105	60
Volume Left	3	0	23	0	5	40
Volume Right	0	22	0	13	86	4
cSH	1470	1700	850	1700	374	198
Volume to Capacity	0.00	0.01	0.03	0.01	0.28	0.30
Queue Length 95th (ft)	0	0	2	0	28	30
Control Delay (s)	0.1	0.0	1.9	0.0	18.4	30.9
Lane LOS	A		A		C	D
Approach Delay (s)	0.1		1.7		18.4	30.9
Approach LOS					C	D

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	55.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	31	207	180	70	170	21	95	116	70	4	278	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	225	196	76	185	23	103	126	76	4	302	52

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	454	284	103	202	359
Volume Left (vph)	34	76	103	0	4
Volume Right (vph)	196	23	0	76	52
Hadj (s)	-0.21	0.08	0.53	-0.18	-0.01
Departure Headway (s)	7.2	8.0	9.0	8.3	7.9
Degree Utilization, x	0.91	0.63	0.26	0.47	0.78
Capacity (veh/h)	454	418	369	402	436
Control Delay (s)	47.9	23.9	14.0	17.2	33.7
Approach Delay (s)	47.9	23.9	16.1		33.7
Approach LOS	E	C	C		D

Intersection Summary			
Delay	32.5		
HCM Level of Service	D		
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	3	861	299	13	172	0	31	23	0	93	14	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.96			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.97			0.97	
Satd. Flow (prot)		3402			3527			1811			1736	
Flt Permitted		0.95			0.87			0.81			0.79	
Satd. Flow (perm)		3248			3089			1513			1413	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	936	325	14	187	0	34	25	0	101	15	48
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	17	0
Lane Group Flow (vph)	0	1226	0	0	201	0	0	59	0	0	147	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		57.0			57.0			25.0			25.0	
Effective Green, g (s)		57.0			57.0			25.0			25.0	
Actuated g/C Ratio		0.63			0.63			0.28			0.28	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2057			1956			420			393	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.07			0.04			c0.10	
v/c Ratio		0.60			0.10			0.14			0.38	
Uniform Delay, d1		9.7			6.5			24.4			26.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			0.1			0.7			2.7	
Delay (s)		11.0			6.6			25.1			28.9	
Level of Service		B			A			C			C	
Approach Delay (s)		11.0			6.6			25.1			28.9	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	1	4	5	6	13	7	7	33	13	2	28	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	4	5	7	14	8	8	36	14	2	30	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	22			10			64	44	7	72	43	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	22			10			64	44	7	72	43	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	100	96	99
cM capacity (veh/h)	1594			1610			894	844	1075	874	845	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	28	58	41
Volume Left	1	7	8	2
Volume Right	5	8	14	9
cSH	1594	1610	898	884
Volume to Capacity	0.00	0.00	0.06	0.05
Queue Length 95th (ft)	0	0	5	4
Control Delay (s)	0.7	1.7	9.3	9.3
Lane LOS	A	A	A	A
Approach Delay (s)	0.7	1.7	9.3	9.3
Approach LOS			A	A

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	25	39	63	21	27	56
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	42	68	23	29	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	91				177	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	91				177	80
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	94
cM capacity (veh/h)	1504				798	980

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	70	91	90
Volume Left	27	0	29
Volume Right	0	23	61
cSH	1504	1700	913
Volume to Capacity	0.02	0.05	0.10
Queue Length 95th (ft)	1	0	8
Control Delay (s)	3.0	0.0	9.4
Lane LOS	A		A
Approach Delay (s)	3.0	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	274	68	28	97	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	298	74	30	105	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	104				411	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104				411	89
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				82	99
cM capacity (veh/h)	1487				592	969

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	310	104	114
Volume Left	12	0	105
Volume Right	0	30	9
cSH	1487	1700	610
Volume to Capacity	0.01	0.06	0.19
Queue Length 95th (ft)	1	0	17
Control Delay (s)	0.4	0.0	12.2
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	172	4	93	312	28	3	20	44	33	38	45
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	187	4	101	339	30	3	22	48	36	41	49
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	370			191			841	802	187	830	776	339
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370			191			841	802	187	830	776	339
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			93			99	92	94	85	86	93
cM capacity (veh/h)	1189			1382			221	289	855	240	299	703

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	209	4	440	30	73	126
Volume Left	22	0	101	0	3	36
Volume Right	0	4	0	30	48	49
cSH	1189	1700	1382	1700	499	353
Volume to Capacity	0.02	0.00	0.07	0.02	0.15	0.36
Queue Length 95th (ft)	1	0	6	0	13	40
Control Delay (s)	1.0	0.0	2.3	0.0	13.4	20.8
Lane LOS	A		A		B	C
Approach Delay (s)	1.0		2.2		13.4	20.8
Approach LOS					B	C

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	350	9	56	506	47	12	11	21	26	16	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	380	10	61	550	51	13	12	23	28	17	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	601			390			1077	1112	380	1090	1071	550
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	601			390			1077	1112	380	1090	1071	550
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			92	94	97	83	92	99
cM capacity (veh/h)	976			1168			174	197	667	170	208	535

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	385	10	611	51	48	53
Volume Left	4	0	61	0	13	28
Volume Right	0	10	0	51	23	8
cSH	976	1700	1168	1700	281	202
Volume to Capacity	0.00	0.01	0.05	0.03	0.17	0.26
Queue Length 95th (ft)	0	0	4	0	15	25
Control Delay (s)	0.1	0.0	1.4	0.0	20.4	29.1
Lane LOS	A		A		C	D
Approach Delay (s)	0.1		1.3		20.4	29.1
Approach LOS					C	D

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	40	169	131	73	166	6	21	282	72	3	205	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	184	142	79	180	7	23	307	78	3	223	36

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	370	266	23	385	262
Volume Left (vph)	43	79	23	0	3
Volume Right (vph)	142	7	0	78	36
Hadj (s)	-0.17	0.12	0.53	-0.08	0.00
Departure Headway (s)	7.1	7.7	8.1	7.5	7.7
Degree Utilization, x	0.73	0.57	0.05	0.80	0.56
Capacity (veh/h)	474	418	421	459	417
Control Delay (s)	26.6	20.3	10.4	33.3	20.0
Approach Delay (s)	26.6	20.3	32.1		20.0
Approach LOS	D	C	D		C

Intersection Summary			
Delay	25.7		
HCM Level of Service	D		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	1	338	191	13	716	0	11	19	4	335	22	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.95			1.00			0.99			0.99	
Flt Protected		1.00			1.00			0.98			0.96	
Satd. Flow (prot)		3347			3531			1806			1768	
Flt Permitted		0.95			0.94			0.89			0.73	
Satd. Flow (perm)		3195			3330			1632			1341	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	367	208	14	778	0	12	21	4	364	24	30
RTOR Reduction (vph)	0	87	0	0	0	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	489	0	0	792	0	0	35	0	0	415	0
Heavy Vehicles (%)	2%	2%	2%	10%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		35.0			35.0			47.0			47.0	
Effective Green, g (s)		35.0			35.0			47.0			47.0	
Actuated g/C Ratio		0.39			0.39			0.52			0.52	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1243			1295			852			700	
v/s Ratio Prot												
v/s Ratio Perm		0.15			c0.24			0.02			c0.31	
v/c Ratio		0.39			0.61			0.04			0.59	
Uniform Delay, d1		19.8			22.0			10.5			14.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.2			0.1			3.7	
Delay (s)		20.8			24.2			10.6			18.6	
Level of Service		C			C			B			B	
Approach Delay (s)		20.8			24.2			10.6			18.6	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	8	3	5	7	13	8	6	28	10	8	22	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	3	5	7	14	8	6	29	11	8	23	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	22			8			71	59	6	81	58	18
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	22			8			71	59	6	81	58	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	96	99	99	97	100
cM capacity (veh/h)	1593			1612			890	823	1077	867	825	1061

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	29	46	36
Volume Left	8	7	6	8
Volume Right	5	8	11	4
cSH	1593	1612	879	857
Volume to Capacity	0.01	0.00	0.05	0.04
Queue Length 95th (ft)	0	0	4	3
Control Delay (s)	3.7	1.8	9.3	9.4
Lane LOS	A	A	A	A
Approach Delay (s)	3.7	1.8	9.3	9.4
Approach LOS			A	A

Intersection Summary				
Average Delay	6.9			
Intersection Capacity Utilization	13.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	100	71	21	36	21	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	105	75	22	38	22	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	60				326	41
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60				326	41
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				96	99
cM capacity (veh/h)	1544				622	1030

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	180	60	33
Volume Left	105	0	22
Volume Right	0	38	11
cSH	1544	1700	713
Volume to Capacity	0.07	0.04	0.05
Queue Length 95th (ft)	5	0	4
Control Delay (s)	4.6	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	4.6	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	41	255	60	44	103	26
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	43	268	63	46	108	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	109				441	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	109				441	86
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				81	97
cM capacity (veh/h)	1481				557	972

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	312	109	136
Volume Left	43	0	108
Volume Right	0	46	27
cSH	1481	1700	609
Volume to Capacity	0.03	0.06	0.22
Queue Length 95th (ft)	2	0	21
Control Delay (s)	1.3	0.0	12.6
Lane LOS	A		B
Approach Delay (s)	1.3	0.0	12.6
Approach LOS			B

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	287	5	16	81	40	2	97	118	21	15	25
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	137	302	5	17	85	42	2	102	124	22	16	26
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	127			307			729	737	302	870	700	85
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	127			307			729	737	302	870	700	85
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			99			99	67	83	86	95	97
cM capacity (veh/h)	1459			1253			291	309	738	155	325	974

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	439	5	102	42	228	64
Volume Left	137	0	17	0	2	22
Volume Right	0	5	0	42	124	26
cSH	1459	1700	1253	1700	452	295
Volume to Capacity	0.09	0.00	0.01	0.02	0.51	0.22
Queue Length 95th (ft)	8	0	1	0	70	20
Control Delay (s)	3.0	0.0	1.4	0.0	20.8	20.6
Lane LOS	A		A		C	C
Approach Delay (s)	3.0		1.0		20.8	20.6
Approach LOS					C	C

Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	54.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	526	20	31	85	19	5	79	64	46	30	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.94			0.97	
Flt Protected		0.99	1.00		0.99	1.00		1.00			0.98	
Satd. Flow (prot)		1847	1583		1838	1583		1751			1772	
Flt Permitted		0.93	1.00		0.83	1.00		0.99			0.83	
Satd. Flow (perm)		1733	1583		1537	1583		1736			1507	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	111	554	21	33	89	20	5	83	67	48	32	19
RTOR Reduction (vph)	0	0	10	0	0	9	0	49	0	0	15	0
Lane Group Flow (vph)	0	665	11	0	122	11	0	106	0	0	84	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		19.0	19.0		19.0	19.0		8.1			8.1	
Effective Green, g (s)		19.0	19.0		19.0	19.0		8.1			8.1	
Actuated g/C Ratio		0.54	0.54		0.54	0.54		0.23			0.23	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		938	857		832	857		401			348	
v/s Ratio Prot												
v/s Ratio Perm		c0.38	0.01		0.08	0.01		c0.06			0.06	
v/c Ratio		0.71	0.01		0.15	0.01		0.26			0.24	
Uniform Delay, d1		6.0	3.7		4.0	3.7		11.1			11.0	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		2.5	0.0		0.1	0.0		0.4			0.4	
Delay (s)		8.5	3.7		4.1	3.7		11.4			11.4	
Level of Service		A	A		A	A		B			B	
Approach Delay (s)		8.3			4.0			11.4			11.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	35.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	218	226	2	9	17	118	135	71	33	362	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.92		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1848	1583		1701		1770	1863	1495	1770	1759	1583
Flt Permitted		0.95	1.00		0.98		0.43	1.00	1.00	0.67	1.00	1.00
Satd. Flow (perm)		1768	1583		1677		805	1863	1495	1241	1759	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	44	229	238	2	9	18	124	142	75	35	381	241
RTOR Reduction (vph)	0	0	186	0	14	0	0	0	30	0	0	106
Lane Group Flow (vph)	0	273	52	0	15	0	124	142	45	35	381	135
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	8%	2%
Turn Type	Perm		Perm	Perm			pm+pt		Perm	pm+pt		Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		19.7	19.7		19.7		62.2	54.4	54.4	54.4	50.5	50.5
Effective Green, g (s)		19.7	19.7		19.7		62.2	54.4	54.4	54.4	50.5	50.5
Actuated g/C Ratio		0.22	0.22		0.22		0.69	0.60	0.60	0.60	0.56	0.56
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		387	347		367		640	1126	904	773	987	888
v/s Ratio Prot							c0.02	0.08		0.00	c0.22	
v/s Ratio Perm		c0.15	0.03		0.01		0.12		0.03	0.03		0.09
v/c Ratio		0.71	0.15		0.04		0.19	0.13	0.05	0.05	0.39	0.15
Uniform Delay, d1		32.5	28.4		27.7		5.3	7.6	7.3	7.2	11.1	9.5
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	0.44	0.46	0.34
Incremental Delay, d2		5.8	0.2		0.0		0.1	0.2	0.1	0.0	0.9	0.3
Delay (s)		38.2	28.6		27.7		5.5	7.9	7.4	3.1	6.0	3.5
Level of Service		D	C		C		A	A	A	A	A	A
Approach Delay (s)		33.7			27.7			6.9			4.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	650	329	261	254	0	31	29	1	125	19	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3361		1671	3539		1770	1854		1770	1664	
Flt Permitted	0.59	1.00		0.11	1.00		0.71	1.00		0.62	1.00	
Satd. Flow (perm)	1094	3361		201	3539		1326	1854		1153	1664	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	684	346	275	267	0	33	31	1	132	20	49
RTOR Reduction (vph)	0	73	0	0	0	0	0	1	0	0	32	0
Lane Group Flow (vph)	4	957	0	275	267	0	33	31	0	132	37	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	31.0	31.0		50.2	50.2		21.1	21.1		31.8	31.8	
Effective Green, g (s)	31.0	31.0		50.2	50.2		21.1	21.1		31.8	31.8	
Actuated g/C Ratio	0.34	0.34		0.56	0.56		0.23	0.23		0.35	0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	377	1158		360	1974		311	435		453	588	
v/s Ratio Prot		c0.28		c0.13	0.08			0.02		c0.02	0.02	
v/s Ratio Perm	0.00			0.30			0.02			c0.08		
v/c Ratio	0.01	0.83		0.76	0.14		0.11	0.07		0.29	0.06	
Uniform Delay, d1	19.4	27.0		21.1	9.5		27.0	26.8		20.4	19.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.01	1.08	
Incremental Delay, d2	0.0	5.0		9.3	0.0		0.2	0.1		0.4	0.2	
Delay (s)	19.4	32.0		30.3	9.5		27.2	26.9		21.0	21.1	
Level of Service	B	C		C	A		C	C		C	C	
Approach Delay (s)		31.9			20.1			27.0			21.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	1	10	5	6	16	9	7	33	13	4	28	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	11	5	6	17	9	7	35	14	4	29	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	26			16			73	54	13	81	52	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			16			73	54	13	81	52	22
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	100	96	99
cM capacity (veh/h)	1588			1602			883	833	1067	864	835	1056

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	17	33	56	42
Volume Left	1	6	7	4
Volume Right	5	9	14	8
cSH	1588	1602	888	875
Volume to Capacity	0.00	0.00	0.06	0.05
Queue Length 95th (ft)	0	0	5	4
Control Delay (s)	0.5	1.4	9.3	9.3
Lane LOS	A	A	A	A
Approach Delay (s)	0.5	1.4	9.3	9.3
Approach LOS			A	A

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	32	47	67	29	36	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	34	49	71	31	38	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	101				203	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	101				203	86
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	93
cM capacity (veh/h)	1491				768	973

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	83	101	108
Volume Left	34	0	38
Volume Right	0	31	71
cSH	1491	1700	890
Volume to Capacity	0.02	0.06	0.12
Queue Length 95th (ft)	2	0	10
Control Delay (s)	3.1	0.0	9.6
Lane LOS	A		A
Approach Delay (s)	3.1	0.0	9.6
Approach LOS			A

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	33	125	200	44	48	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	35	132	211	46	51	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	257				435	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	257				435	234
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	93
cM capacity (veh/h)	1308				563	805

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	166	257	103
Volume Left	35	0	51
Volume Right	0	46	53
cSH	1308	1700	665
Volume to Capacity	0.03	0.15	0.16
Queue Length 95th (ft)	2	0	14
Control Delay (s)	1.8	0.0	11.4
Lane LOS	A		B
Approach Delay (s)	1.8	0.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	152	4	104	275	34	3	28	53	38	51	96
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	58	160	4	109	289	36	3	29	56	40	54	101
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	325			164			912	820	160	855	788	289
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	325			164			912	820	160	855	788	289
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			92			98	89	94	82	81	87
cM capacity (veh/h)	1234			1414			171	272	885	217	284	750

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	218	4	399	36	88	195
Volume Left	58	0	109	0	3	40
Volume Right	0	4	0	36	56	101
cSH	1234	1700	1414	1700	466	384
Volume to Capacity	0.05	0.00	0.08	0.02	0.19	0.51
Queue Length 95th (ft)	4	0	6	0	17	69
Control Delay (s)	2.4	0.0	2.7	0.0	14.5	23.7
Lane LOS	A		A		B	C
Approach Delay (s)	2.4		2.4		14.5	23.7
Approach LOS					B	C

Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	58.6%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	295	9	63	405	60	12	38	24	40	71	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.96			0.94	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1848	1583		1850	1583		1767			1738	
Flt Permitted		0.88	1.00		0.91	1.00		0.93			0.92	
Satd. Flow (perm)		1637	1583		1700	1583		1659			1621	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	311	9	66	426	63	13	40	25	42	75	87
RTOR Reduction (vph)	0	0	5	0	0	33	0	18	0	0	47	0
Lane Group Flow (vph)	0	371	4	0	492	30	0	60	0	0	157	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		14.8	14.8		14.8	14.8		8.7			8.7	
Effective Green, g (s)		14.8	14.8		14.8	14.8		8.7			8.7	
Actuated g/C Ratio		0.47	0.47		0.47	0.47		0.28			0.28	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		769	744		799	744		458			448	
v/s Ratio Prot												
v/s Ratio Perm		0.23	0.00		c0.29	0.02		0.04			c0.10	
v/c Ratio		0.48	0.01		0.62	0.04		0.13			0.35	
Uniform Delay, d1		5.7	4.4		6.2	4.5		8.6			9.1	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.5	0.0		1.4	0.0		0.1			0.5	
Delay (s)		6.2	4.4		7.6	4.5		8.7			9.6	
Level of Service		A	A		A	A		A			A	
Approach Delay (s)		6.2			7.3			8.7			9.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	31.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	52	314	251	74	310	75	54	196	167	4	11	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1843	1583		1687	
Flt Permitted	0.47	1.00	1.00	0.56	1.00	1.00		0.92	1.00		0.98	
Satd. Flow (perm)	871	1759	1583	1045	1863	1495		1720	1583		1653	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	331	264	78	326	79	57	206	176	4	12	33
RTOR Reduction (vph)	0	0	105	0	0	33	0	0	138	0	26	0
Lane Group Flow (vph)	55	331	159	78	326	46	0	263	38	0	23	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	54.1	54.1	54.1	52.8	52.8	52.8		19.5	19.5		19.5	
Effective Green, g (s)	54.1	54.1	54.1	52.8	52.8	52.8		19.5	19.5		19.5	
Actuated g/C Ratio	0.60	0.60	0.60	0.59	0.59	0.59		0.22	0.22		0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	581	1057	952	649	1093	877		373	343		358	
v/s Ratio Prot	0.01	c0.19		0.01	c0.18							
v/s Ratio Perm	0.05		0.10	0.06		0.03		c0.15	0.02		0.01	
v/c Ratio	0.09	0.31	0.17	0.12	0.30	0.05		0.71	0.11		0.06	
Uniform Delay, d1	7.8	8.8	8.0	8.3	9.3	7.9		32.6	28.3		28.0	
Progression Factor	0.30	0.30	0.16	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.6	0.3	0.1	0.7	0.1		6.0	0.1		0.1	
Delay (s)	2.4	3.2	1.5	8.4	10.0	8.0		38.6	28.4		28.1	
Level of Service	A	A	A	A	B	A		D	C		C	
Approach Delay (s)		2.5			9.4			34.5			28.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	290	249	396	602	0	11	28	6	399	31	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3294		1671	3539		1770	1815		1770	1719	
Flt Permitted	0.41	1.00		0.22	1.00		0.71	1.00		0.62	1.00	
Satd. Flow (perm)	766	3294		382	3539		1328	1815		1164	1719	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	305	262	417	634	0	12	29	6	420	33	35
RTOR Reduction (vph)	0	176	0	0	0	0	0	4	0	0	19	0
Lane Group Flow (vph)	4	391	0	417	634	0	12	31	0	420	49	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	14.4	14.4		40.3	40.3		22.8	22.8		41.7	41.7	
Effective Green, g (s)	14.4	14.4		40.3	40.3		22.8	22.8		41.7	41.7	
Actuated g/C Ratio	0.16	0.16		0.45	0.45		0.25	0.25		0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	527		485	1585		336	460		640	796	
v/s Ratio Prot		0.12		c0.21	0.18			0.02		c0.11	0.03	
v/s Ratio Perm	0.01			c0.18			0.01			c0.20		
v/c Ratio	0.03	0.74		0.86	0.40		0.04	0.07		0.66	0.06	
Uniform Delay, d1	31.9	36.0		21.0	16.7		25.3	25.5		17.1	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.70	
Incremental Delay, d2	0.1	5.6		14.1	0.2		0.0	0.1		2.4	0.1	
Delay (s)	32.0	41.6		35.1	16.9		25.4	25.6		17.9	9.5	
Level of Service	C	D		D	B		C	C		B	A	
Approach Delay (s)		41.6			24.1			25.5			16.7	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	9	5	5	7	21	8	6	28	10	8	22	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	5	5	7	22	8	6	29	11	8	23	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	31			11			85	72	8	93	71	26
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	31			11			85	72	8	93	71	26
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	96	99	99	97	99
cM capacity (veh/h)	1582			1609			871	810	1074	850	811	1049

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	38	46	37
Volume Left	9	7	6	8
Volume Right	5	8	11	5
cSH	1582	1609	866	848
Volume to Capacity	0.01	0.00	0.05	0.04
Queue Length 95th (ft)	0	0	4	3
Control Delay (s)	3.5	1.4	9.4	9.4
Lane LOS	A	A	A	A
Approach Delay (s)	3.5	1.4	9.4	9.4
Approach LOS			A	A

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	108	89	33	43	23	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	114	94	35	45	24	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	80				378	57
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	80				378	57
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				96	99
cM capacity (veh/h)	1518				577	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	207	80	38
Volume Left	114	0	24
Volume Right	0	45	14
cSH	1518	1700	682
Volume to Capacity	0.07	0.05	0.06
Queue Length 95th (ft)	6	0	4
Control Delay (s)	4.4	0.0	10.6
Lane LOS	A		B
Approach Delay (s)	4.4	0.0	10.6
Approach LOS			B

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	58	330	69	68	111	48
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	347	73	72	117	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	144				578	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	144				578	108
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				74	95
cM capacity (veh/h)	1438				458	945

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	408	144	167
Volume Left	61	0	117
Volume Right	0	72	51
cSH	1438	1700	542
Volume to Capacity	0.04	0.08	0.31
Queue Length 95th (ft)	3	0	33
Control Delay (s)	1.5	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	1.5	0.0	14.6
Approach LOS			B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	144	318	5	18	107	41	2	112	122	23	20	31
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	152	335	5	19	113	43	2	118	128	24	21	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	156			340			832	832	335	976	794	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	156			340			832	832	335	976	794	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			98			99	56	82	79	93	97
cM capacity (veh/h)	1424			1219			239	268	707	113	282	940

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	486	5	132	43	248	78
Volume Left	152	0	19	0	2	24
Volume Right	0	5	0	43	128	33
cSH	1424	1700	1219	1700	394	241
Volume to Capacity	0.11	0.00	0.02	0.03	0.63	0.32
Queue Length 95th (ft)	9	0	1	0	104	34
Control Delay (s)	3.2	0.0	1.3	0.0	28.4	26.9
Lane LOS	A		A		D	D
Approach Delay (s)	3.1		1.0		28.4	26.9
Approach LOS					D	D

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	129	545	21	48	103	47	7	122	64	60	44	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.96			0.97	
Flt Protected		0.99	1.00		0.98	1.00		1.00			0.98	
Satd. Flow (prot)		1845	1583		1833	1583		1776			1767	
Flt Permitted		0.91	1.00		0.77	1.00		0.99			0.83	
Satd. Flow (perm)		1692	1583		1428	1583		1759			1508	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	136	574	22	51	108	49	7	128	67	63	46	31
RTOR Reduction (vph)	0	0	10	0	0	22	0	31	0	0	17	0
Lane Group Flow (vph)	0	710	12	0	159	27	0	171	0	0	123	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		21.9	21.9		21.9	21.9		9.7			9.7	
Effective Green, g (s)		21.9	21.9		21.9	21.9		9.7			9.7	
Actuated g/C Ratio		0.55	0.55		0.55	0.55		0.24			0.24	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		936	875		790	875		431			369	
v/s Ratio Prot												
v/s Ratio Perm		c0.42	0.01		0.11	0.02		c0.10			0.08	
v/c Ratio		0.76	0.01		0.20	0.03		0.40			0.33	
Uniform Delay, d1		6.8	4.0		4.5	4.0		12.5			12.3	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		3.6	0.0		0.1	0.0		0.6			0.5	
Delay (s)		10.4	4.0		4.6	4.0		13.1			12.8	
Level of Service		B	A		A	A		B			B	
Approach Delay (s)		10.2			4.5			13.1			12.8	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	33	430	264	148	169	71	52	364	318	2	9	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1851	1583		1701	
Flt Permitted	0.64	1.00	1.00	0.32	1.00	1.00		0.96	1.00		0.98	
Satd. Flow (perm)	1201	1759	1583	602	1863	1495		1789	1583		1673	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	453	278	156	178	75	55	383	335	2	9	18
RTOR Reduction (vph)	0	0	149	0	0	36	0	0	232	0	12	0
Lane Group Flow (vph)	35	453	129	156	178	39	0	438	103	0	17	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	45.1	41.7	41.7	54.2	46.8	46.8		27.8	27.8		27.8	
Effective Green, g (s)	45.1	41.7	41.7	54.2	46.8	46.8		27.8	27.8		27.8	
Actuated g/C Ratio	0.50	0.46	0.46	0.60	0.52	0.52		0.31	0.31		0.31	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	623	815	733	473	969	777		553	489		517	
v/s Ratio Prot	0.00	c0.26		c0.03	0.10							
v/s Ratio Perm	0.03		0.08	0.17		0.03		c0.24	0.07		0.01	
v/c Ratio	0.06	0.56	0.18	0.33	0.18	0.05		0.79	0.21		0.03	
Uniform Delay, d1	11.4	17.5	14.1	9.6	11.5	10.6		28.5	23.0		21.7	
Progression Factor	0.45	0.59	0.82	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.9	0.4	0.4	0.4	0.1		7.6	0.2		0.0	
Delay (s)	5.1	12.2	12.0	10.0	11.9	10.8		36.1	23.2		21.7	
Level of Service	A	B	B	A	B	B		D	C		C	
Approach Delay (s)		11.8			11.0			30.5			21.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	779	396	292	308	0	31	34	1	157	31	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3360		1671	3539		1770	1855		1770	1696	
Flt Permitted	0.56	1.00		0.10	1.00		0.70	1.00		0.61	1.00	
Satd. Flow (perm)	1035	3360		183	3539		1311	1855		1129	1696	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	820	417	307	324	0	33	36	1	165	33	49
RTOR Reduction (vph)	0	72	0	0	0	0	0	1	0	0	34	0
Lane Group Flow (vph)	4	1165	0	307	324	0	33	36	0	165	48	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	34.5	34.5		53.9	53.9		19.1	19.1		28.1	28.1	
Effective Green, g (s)	34.5	34.5		53.9	53.9		19.1	19.1		28.1	28.1	
Actuated g/C Ratio	0.38	0.38		0.60	0.60		0.21	0.21		0.31	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	397	1288		364	2119		278	394		388	530	
v/s Ratio Prot		c0.35		c0.14	0.09			0.02		c0.02	0.03	
v/s Ratio Perm	0.00			0.36			0.03			c0.11		
v/c Ratio	0.01	0.90		0.84	0.15		0.12	0.09		0.43	0.09	
Uniform Delay, d1	17.2	26.2		24.2	8.0		28.6	28.5		24.3	21.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	0.86	
Incremental Delay, d2	0.0	9.2		16.1	0.0		0.2	0.1		0.7	0.3	
Delay (s)	17.2	35.3		40.3	8.0		28.8	28.6		23.8	19.1	
Level of Service	B	D		D	A		C	C		C	B	
Approach Delay (s)		35.3			23.7			28.7			22.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	3	18	5	6	21	10	7	33	13	6	28	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	3	19	5	6	22	11	7	35	14	6	29	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	33			24			93	73	22	99	71	27
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	33			24			93	73	22	99	71	27
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	99	96	99
cM capacity (veh/h)	1579			1591			853	812	1056	839	815	1048

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	39	56	46
Volume Left	3	6	7	6
Volume Right	5	11	14	11
cSH	1579	1591	867	862
Volume to Capacity	0.00	0.00	0.06	0.05
Queue Length 95th (ft)	0	0	5	4
Control Delay (s)	0.9	1.2	9.4	9.4
Lane LOS	A	A	A	A
Approach Delay (s)	0.9	1.2	9.4	9.4
Approach LOS			A	A

Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	13.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	38	64	87	34	45	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	40	67	92	36	47	81
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	127				257	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	127				257	109
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				93	91
cM capacity (veh/h)	1459				712	944

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	107	127	128
Volume Left	40	0	47
Volume Right	0	36	81
cSH	1459	1700	843
Volume to Capacity	0.03	0.07	0.15
Queue Length 95th (ft)	2	0	13
Control Delay (s)	2.9	0.0	10.0
Lane LOS	A		B
Approach Delay (s)	2.9	0.0	10.0
Approach LOS			B

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	44	171	247	105	74	98
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	46	180	260	111	78	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				588	315
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				588	315
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				83	86
cM capacity (veh/h)	1188				453	725

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	226	371	181
Volume Left	46	0	78
Volume Right	0	111	103
cSH	1188	1700	576
Volume to Capacity	0.04	0.22	0.31
Queue Length 95th (ft)	3	0	33
Control Delay (s)	2.0	0.0	14.1
Lane LOS	A		B
Approach Delay (s)	2.0	0.0	14.1
Approach LOS			B

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	73	198	4	112	327	36	3	38	59	39	69	121
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	77	208	4	118	344	38	3	40	62	41	73	127
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	382			213			1106	980	208	1024	946	344
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	382			213			1106	980	208	1024	946	344
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			91			97	81	93	73	67	82
cM capacity (veh/h)	1176			1358			103	213	832	151	223	699

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	285	4	462	38	105	241
Volume Left	77	0	118	0	3	41
Volume Right	0	4	0	38	62	127
cSH	1176	1700	1358	1700	359	309
Volume to Capacity	0.07	0.00	0.09	0.02	0.29	0.78
Queue Length 95th (ft)	5	0	7	0	30	154
Control Delay (s)	2.7	0.0	2.7	0.0	19.1	48.0
Lane LOS	A		A		C	E
Approach Delay (s)	2.6		2.5		19.1	48.0
Approach LOS					C	E

Intersection Summary			
Average Delay	13.7		
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	317	11	92	427	85	14	68	24	73	121	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.97			0.95	
Flt Protected		0.99	1.00		0.99	1.00		0.99			0.99	
Satd. Flow (prot)		1842	1583		1846	1583		1795			1743	
Flt Permitted		0.76	1.00		0.86	1.00		0.94			0.91	
Satd. Flow (perm)		1425	1583		1611	1583		1693			1596	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	334	12	97	449	89	15	72	25	77	127	134
RTOR Reduction (vph)	0	0	6	0	0	46	0	17	0	0	40	0
Lane Group Flow (vph)	0	429	6	0	546	43	0	95	0	0	298	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		19.4	19.4		19.4	19.4		12.9			12.9	
Effective Green, g (s)		19.4	19.4		19.4	19.4		12.9			12.9	
Actuated g/C Ratio		0.48	0.48		0.48	0.48		0.32			0.32	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		686	762		776	762		542			511	
v/s Ratio Prot												
v/s Ratio Perm		0.30	0.00		c0.34	0.03		0.06			c0.19	
v/c Ratio		0.63	0.01		0.70	0.06		0.18			0.58	
Uniform Delay, d1		7.8	5.4		8.2	5.6		9.9			11.5	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		1.8	0.0		2.9	0.0		0.2			1.7	
Delay (s)		9.5	5.4		11.1	5.6		10.0			13.1	
Level of Service		A	A		B	A		B			B	
Approach Delay (s)		9.4			10.3			10.0			13.1	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	40.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	52	375	380	166	390	75	60	284	222	4	11	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1847	1583		1687	
Flt Permitted	0.36	1.00	1.00	0.53	1.00	1.00		0.94	1.00		0.97	
Satd. Flow (perm)	677	1759	1583	985	1863	1495		1749	1583		1649	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	395	400	175	411	79	63	299	234	4	12	33
RTOR Reduction (vph)	0	0	192	0	0	34	0	0	170	0	24	0
Lane Group Flow (vph)	55	395	208	175	411	45	0	362	64	0	25	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	46.9	46.9	46.9	47.7	47.7	47.7		24.8	24.8		24.8	
Effective Green, g (s)	46.9	46.9	46.9	47.7	47.7	47.7		24.8	24.8		24.8	
Actuated g/C Ratio	0.52	0.52	0.52	0.53	0.53	0.53		0.28	0.28		0.28	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	420	917	825	577	987	792		482	436		454	
v/s Ratio Prot	0.01	c0.22		0.02	c0.22							
v/s Ratio Perm	0.06		0.13	0.14		0.03		c0.21	0.04		0.02	
v/c Ratio	0.13	0.43	0.25	0.30	0.42	0.06		0.75	0.15		0.06	
Uniform Delay, d1	11.6	13.3	11.9	12.1	12.8	10.3		29.8	24.6		24.0	
Progression Factor	0.43	0.49	0.67	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.8	0.4	0.3	1.3	0.1		6.5	0.2		0.1	
Delay (s)	5.0	7.4	8.4	12.4	14.1	10.4		36.3	24.8		24.0	
Level of Service	A	A	A	B	B	B		D	C		C	
Approach Delay (s)		7.7			13.2			31.8			24.0	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	316	296	516	742	0	11	51	6	468	48	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3282		1671	3539		1770	1835		1770	1749	
Flt Permitted	0.36	1.00		0.21	1.00		0.70	1.00		0.58	1.00	
Satd. Flow (perm)	663	3282		367	3539		1306	1835		1072	1749	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	333	312	543	781	0	12	54	6	493	51	35
RTOR Reduction (vph)	0	191	0	0	0	0	0	4	0	0	21	0
Lane Group Flow (vph)	4	454	0	543	781	0	12	56	0	493	65	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	15.2	15.2		45.2	45.2		16.2	16.2		36.8	36.8	
Effective Green, g (s)	15.2	15.2		45.2	45.2		16.2	16.2		36.8	36.8	
Actuated g/C Ratio	0.17	0.17		0.50	0.50		0.18	0.18		0.41	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	112	554		561	1777		235	330		567	715	
v/s Ratio Prot		0.14		c0.28	0.22			0.03		c0.16	0.04	
v/s Ratio Perm	0.01			c0.21			0.01			c0.20		
v/c Ratio	0.04	0.82		0.97	0.44		0.05	0.17		0.87	0.09	
Uniform Delay, d1	31.3	36.1		23.1	14.3		30.5	31.2		22.8	16.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.82	0.58	
Incremental Delay, d2	0.1	9.2		29.7	0.2		0.1	0.2		12.9	0.2	
Delay (s)	31.4	45.3		52.8	14.5		30.6	31.5		31.6	9.6	
Level of Service	C	D		D	B		C	C		C	A	
Approach Delay (s)		45.2			30.2			31.3			28.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	9	7	5	7	29	8	6	28	10	8	22	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	7	5	7	31	8	6	29	11	8	23	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	39			13			95	83	10	104	81	35
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	39			13			95	83	10	104	81	35
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	96	99	99	97	99
cM capacity (veh/h)	1571			1606			857	799	1071	837	801	1038

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	22	46	46	37
Volume Left	9	7	6	8
Volume Right	5	8	11	5
cSH	1571	1606	856	836
Volume to Capacity	0.01	0.00	0.05	0.04
Queue Length 95th (ft)	0	0	4	3
Control Delay (s)	3.2	1.2	9.4	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	3.2	1.2	9.4	9.5
Approach LOS			A	A

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	98	42	49	25	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	116	103	44	52	26	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	96				405	70
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96				405	70
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				95	99
cM capacity (veh/h)	1498				555	993

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	219	96	40
Volume Left	116	0	26
Volume Right	0	52	14
cSH	1498	1700	654
Volume to Capacity	0.08	0.06	0.06
Queue Length 95th (ft)	6	0	5
Control Delay (s)	4.3	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	4.3	0.0	10.9
Approach LOS			B

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	72	391	64	93	119	79
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	76	412	67	98	125	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	165				679	116
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165				679	116
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				68	91
cM capacity (veh/h)	1413				395	936

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	487	165	208
Volume Left	76	0	125
Volume Right	0	98	83
cSH	1413	1700	513
Volume to Capacity	0.05	0.10	0.41
Queue Length 95th (ft)	4	0	49
Control Delay (s)	1.7	0.0	16.7
Lane LOS	A		C
Approach Delay (s)	1.7	0.0	16.7
Approach LOS			C

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	148	336	5	18	132	42	2	120	122	24	22	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	156	354	5	19	139	44	2	126	128	25	23	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	183			359			887	886	354	1034	847	139
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	183			359			887	886	354	1034	847	139
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			98			99	49	81	73	91	96
cM capacity (veh/h)	1392			1200			215	248	690	94	261	909

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	509	5	158	44	257	82
Volume Left	156	0	19	0	2	25
Volume Right	0	5	0	44	128	34
cSH	1392	1700	1200	1700	364	207
Volume to Capacity	0.11	0.00	0.02	0.03	0.71	0.40
Queue Length 95th (ft)	9	0	1	0	130	44
Control Delay (s)	3.2	0.0	1.1	0.0	35.4	33.3
Lane LOS	A		A		E	D
Approach Delay (s)	3.2		0.8		35.4	33.3
Approach LOS					E	D

Intersection Summary			
Average Delay	12.9		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	570	22	75	128	79	9	159	64	75	55	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		0.96			0.97	
Flt Protected		0.99	1.00		0.98	1.00		1.00			0.98	
Satd. Flow (prot)		1845	1583		1829	1583		1790			1774	
Flt Permitted		0.90	1.00		0.63	1.00		0.99			0.76	
Satd. Flow (perm)		1672	1583		1179	1583		1770			1384	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	138	600	23	79	135	83	9	167	67	79	58	32
RTOR Reduction (vph)	0	0	10	0	0	37	0	23	0	0	14	0
Lane Group Flow (vph)	0	738	13	0	214	46	0	220	0	0	155	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)		23.9	23.9		23.9	23.9		10.9			10.9	
Effective Green, g (s)		23.9	23.9		23.9	23.9		10.9			10.9	
Actuated g/C Ratio		0.56	0.56		0.56	0.56		0.25			0.25	
Clearance Time (s)		4.0	4.0		4.0	4.0		4.0			4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		934	884		658	884		451			352	
v/s Ratio Prot												
v/s Ratio Perm		c0.44	0.01		0.18	0.03		c0.12			0.11	
v/c Ratio		0.79	0.01		0.33	0.05		0.49			0.44	
Uniform Delay, d1		7.5	4.2		5.1	4.3		13.6			13.4	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		4.6	0.0		0.3	0.0		0.8			0.9	
Delay (s)		12.1	4.2		5.4	4.3		14.4			14.3	
Level of Service		B	A		A	A		B			B	
Approach Delay (s)		11.8			5.1			14.4			14.3	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	42.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	33	520	296	180	200	71	65	527	415	2	9	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1853	1583		1701	
Flt Permitted	0.63	1.00	1.00	0.18	1.00	1.00		0.96	1.00		0.98	
Satd. Flow (perm)	1166	1759	1583	331	1863	1495		1797	1583		1667	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	547	312	189	211	75	68	555	437	2	9	18
RTOR Reduction (vph)	0	0	190	0	0	41	0	0	159	0	11	0
Lane Group Flow (vph)	35	547	122	189	211	34	0	623	278	0	18	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	37.5	35.1	35.1	46.8	40.4	40.4		35.2	35.2		35.2	
Effective Green, g (s)	37.5	35.1	35.1	46.8	40.4	40.4		35.2	35.2		35.2	
Actuated g/C Ratio	0.42	0.39	0.39	0.52	0.45	0.45		0.39	0.39		0.39	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	502	686	617	295	836	671		703	619		652	
v/s Ratio Prot	0.00	c0.31		c0.05	0.11							
v/s Ratio Perm	0.03		0.08	0.28		0.02		c0.35	0.18		0.01	
v/c Ratio	0.07	0.80	0.20	0.64	0.25	0.05		0.89	0.45		0.03	
Uniform Delay, d1	15.6	24.3	18.1	15.7	15.4	14.0		25.5	20.2		16.9	
Progression Factor	0.39	0.57	0.93	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.0	5.0	0.4	4.7	0.7	0.1		12.9	0.5		0.0	
Delay (s)	6.2	18.8	17.2	20.4	16.1	14.1		38.4	20.8		16.9	
Level of Service	A	B	B	C	B	B		D	C		B	
Approach Delay (s)		17.8			17.5			31.1			16.9	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	936	491	320	299	0	31	34	1	201	31	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3356		1671	3539		1770	1855		1770	1696	
Flt Permitted	0.56	1.00		0.10	1.00		0.70	1.00		0.59	1.00	
Satd. Flow (perm)	1044	3356		168	3539		1311	1855		1105	1696	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	985	517	337	315	0	33	36	1	212	33	49
RTOR Reduction (vph)	0	76	0	0	0	0	0	1	0	0	35	0
Lane Group Flow (vph)	4	1426	0	337	315	0	33	36	0	212	47	0
Confl. Peds. (#/hr)				360								
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	38.0	38.0		57.0	57.0		17.0	17.0		25.0	25.0	
Effective Green, g (s)	38.0	38.0		57.0	57.0		17.0	17.0		25.0	25.0	
Actuated g/C Ratio	0.42	0.42		0.63	0.63		0.19	0.19		0.28	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	1417		357	2241		248	350		337	471	
v/s Ratio Prot		c0.42		c0.16	0.09			0.02		c0.03	0.03	
v/s Ratio Perm	0.00			0.44			0.03			c0.15		
v/c Ratio	0.01	1.01		0.94	0.14		0.13	0.10		0.63	0.10	
Uniform Delay, d1	15.1	26.0		27.6	6.6		30.4	30.2		29.0	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.74	
Incremental Delay, d2	0.0	25.5		33.2	0.0		0.2	0.1		3.5	0.4	
Delay (s)	15.1	51.5		60.7	6.7		30.6	30.3		29.7	18.4	
Level of Service	B	D		E	A		C	C		C	B	
Approach Delay (s)		51.4			34.6			30.5			26.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	3	26	5	6	24	10	7	33	13	6	28	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	3	27	5	6	25	11	7	35	14	6	29	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	36			33			105	85	30	111	82	31
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	36			33			105	85	30	111	82	31
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	96	99	99	96	99
cM capacity (veh/h)	1575			1579			838	801	1044	824	803	1044

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	36	42	56	46
Volume Left	3	6	7	6
Volume Right	5	11	14	11
cSH	1575	1579	855	851
Volume to Capacity	0.00	0.00	0.07	0.05
Queue Length 95th (ft)	0	0	5	4
Control Delay (s)	0.7	1.1	9.5	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.7	1.1	9.5	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	14.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	39	75	97	37	50	79
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	79	102	39	53	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	141				283	122
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	141				283	122
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				92	91
cM capacity (veh/h)	1442				687	930

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	120	141	136
Volume Left	41	0	53
Volume Right	0	39	83
cSH	1442	1700	818
Volume to Capacity	0.03	0.08	0.17
Queue Length 95th (ft)	2	0	15
Control Delay (s)	2.7	0.0	10.3
Lane LOS	A		B
Approach Delay (s)	2.7	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	209	241	120	99	177
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	227	262	130	108	192
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	392				667	327
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392				667	327
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				73	73
cM capacity (veh/h)	1166				403	714

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	284	392	300
Volume Left	57	0	108
Volume Right	0	130	192
cSH	1166	1700	559
Volume to Capacity	0.05	0.23	0.54
Queue Length 95th (ft)	4	0	79
Control Delay (s)	2.0	0.0	18.6
Lane LOS	A		C
Approach Delay (s)	2.0	0.0	18.6
Approach LOS			C

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	75	226	4	112	327	36	3	42	59	40	76	125
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	79	238	4	118	344	38	3	44	62	42	80	132
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	382			242			1149	1016	240	1079	999	363
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	382			242			1149	1016	240	1079	999	363
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			91			96	78	92	68	61	81
cM capacity (veh/h)	1176			1324			88	202	799	134	207	682

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	79	242	118	382	109	254
Volume Left	79	0	118	0	3	42
Volume Right	0	4	0	38	62	132
cSH	1176	1700	1324	1700	330	284
Volume to Capacity	0.07	0.14	0.09	0.22	0.33	0.89
Queue Length 95th (ft)	5	0	7	0	35	202
Control Delay (s)	8.3	0.0	8.0	0.0	21.3	69.3
Lane LOS	A		A		C	F
Approach Delay (s)	2.0		1.9		21.3	69.3
Approach LOS					C	F

Intersection Summary			
Average Delay	18.2		
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	348	13	158	457	108	16	89	24	105	157	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.97			0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1852		1770	1809			1805			1756	
Flt Permitted	0.26	1.00		0.46	1.00			0.94			0.88	
Satd. Flow (perm)	483	1852		858	1809			1705			1564	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	97	366	14	166	481	114	17	94	25	111	165	137
RTOR Reduction (vph)	0	2	0	0	11	0	0	11	0	0	23	0
Lane Group Flow (vph)	97	378	0	166	584	0	0	125	0	0	390	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.6	22.6		22.6	22.6			18.9			18.9	
Effective Green, g (s)	22.6	22.6		22.6	22.6			18.9			18.9	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.38			0.38	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	221	846		392	826			651			597	
v/s Ratio Prot		0.20			c0.32							
v/s Ratio Perm	0.20			0.19				0.07			c0.25	
v/c Ratio	0.44	0.45		0.42	0.71			0.19			0.65	
Uniform Delay, d1	9.1	9.2		9.1	10.8			10.2			12.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.4	0.4		0.7	2.8			0.1			2.6	
Delay (s)	10.5	9.6		9.8	13.6			10.4			15.2	
Level of Service	B	A		A	B			B			B	
Approach Delay (s)		9.8			12.7			10.4			15.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	52	428	488	262	480	75	68	378	279	4	11	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1849	1583		1687	
Flt Permitted	0.26	1.00	1.00	0.41	1.00	1.00		0.94	1.00		0.97	
Satd. Flow (perm)	481	1759	1583	771	1863	1495		1757	1583		1644	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	451	514	276	505	79	72	398	294	4	12	33
RTOR Reduction (vph)	0	0	284	0	0	21	0	0	145	0	22	0
Lane Group Flow (vph)	55	451	230	276	505	58	0	470	149	0	27	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	53.6	53.6	53.6	63.7	63.7	63.7		38.5	38.5		38.5	
Effective Green, g (s)	53.6	53.6	53.6	63.7	63.7	63.7		38.5	38.5		38.5	
Actuated g/C Ratio	0.45	0.45	0.45	0.53	0.53	0.53		0.32	0.32		0.32	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	277	786	707	542	989	794		564	508		527	
v/s Ratio Prot	0.01	c0.26		0.07	c0.27							
v/s Ratio Perm	0.08		0.15	0.20		0.04		c0.27	0.09		0.02	
v/c Ratio	0.20	0.57	0.32	0.51	0.51	0.07		0.83	0.29		0.05	
Uniform Delay, d1	21.1	24.7	21.5	24.7	18.1	13.7		37.8	30.6		28.1	
Progression Factor	1.19	1.14	2.91	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.9	0.4	0.8	1.9	0.2		10.2	0.3		0.0	
Delay (s)	25.2	29.1	62.9	25.5	20.0	13.9		48.0	30.9		28.2	
Level of Service	C	C	E	C	C	B		D	C		C	
Approach Delay (s)		45.9			21.2			41.4			28.2	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	408	363	611	966	0	11	51	6	566	48	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3289		1671	3539		1770	1835		1770	1749	
Flt Permitted	0.17	1.00		0.15	1.00		0.70	1.00		0.57	1.00	
Satd. Flow (perm)	324	3289		261	3539		1306	1835		1070	1749	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	429	382	643	1017	0	12	54	6	596	51	35
RTOR Reduction (vph)	0	135	0	0	0	0	0	3	0	0	20	0
Lane Group Flow (vph)	4	676	0	643	1017	0	12	57	0	596	66	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			pm+pt			Perm			pm+pt		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	23.0	23.0		66.0	66.0		16.0	16.0		46.0	46.0	
Effective Green, g (s)	23.0	23.0		66.0	66.0		16.0	16.0		46.0	46.0	
Actuated g/C Ratio	0.19	0.19		0.55	0.55		0.13	0.13		0.38	0.38	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	62	630		602	1946		174	245		562	670	
v/s Ratio Prot		0.21		c0.35	0.29			0.03		c0.23	0.04	
v/s Ratio Perm	0.01			c0.24			0.01			c0.18		
v/c Ratio	0.06	1.07		1.07	0.52		0.07	0.23		1.06	0.10	
Uniform Delay, d1	39.7	48.5		37.3	17.1		45.5	46.5		34.9	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.19	1.20	
Incremental Delay, d2	0.4	57.0		56.2	0.3		0.2	0.5		54.0	0.3	
Delay (s)	40.1	105.5		93.5	17.3		45.7	47.0		95.7	28.7	
Level of Service	D	F		F	B		D	D		F	C	
Approach Delay (s)		105.2			46.8			46.8			87.3	
Approach LOS		F			D			D			F	

Intersection Summary			
HCM Average Control Delay	70.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	33	520	296	180	200	71	65	527	415	2	9	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1853	1583		1701	
Flt Permitted	0.63	1.00	1.00	0.18	1.00	1.00		0.96	1.00		0.98	
Satd. Flow (perm)	1166	1759	1583	331	1863	1495		1797	1583		1667	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	547	312	189	211	75	68	555	437	2	9	18
RTOR Reduction (vph)	0	0	190	0	0	41	0	0	159	0	11	0
Lane Group Flow (vph)	35	547	122	189	211	34	0	623	278	0	18	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	37.5	35.1	35.1	46.8	40.4	40.4		35.2	35.2		35.2	
Effective Green, g (s)	37.5	35.1	35.1	46.8	40.4	40.4		35.2	35.2		35.2	
Actuated g/C Ratio	0.42	0.39	0.39	0.52	0.45	0.45		0.39	0.39		0.39	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	502	686	617	295	836	671		703	619		652	
v/s Ratio Prot	0.00	c0.31		c0.05	0.11							
v/s Ratio Perm	0.03		0.08	0.28		0.02		c0.35	0.18		0.01	
v/c Ratio	0.07	0.80	0.20	0.64	0.25	0.05		0.89	0.45		0.03	
Uniform Delay, d1	15.6	24.3	18.1	15.7	15.4	14.0		25.5	20.2		16.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.1	9.4	0.7	4.7	0.7	0.1		12.9	0.5		0.0	
Delay (s)	15.7	33.7	18.9	20.4	16.1	14.1		38.4	20.8		16.9	
Level of Service	B	C	B	C	B	B		D	C		B	
Approach Delay (s)		27.8			17.5			31.1			16.9	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	936	491	320	299	0	31	34	1	201	31	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00		0.97	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3356		3242	3539		1770	1855		3433	1696	
Flt Permitted	0.56	1.00		0.95	1.00		0.70	1.00		0.95	1.00	
Satd. Flow (perm)	1041	3356		3242	3539		1311	1855		3433	1696	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	985	517	337	315	0	33	36	1	212	33	49
RTOR Reduction (vph)	0	58	0	0	0	0	0	1	0	0	35	0
Lane Group Flow (vph)	4	1444	0	337	315	0	33	36	0	212	47	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Prot			Perm			Prot		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4						6					
Actuated Green, G (s)	54.5	54.5		15.6	74.1		13.9	13.9		15.2	33.1	
Effective Green, g (s)	54.5	54.5		15.6	74.1		13.9	13.9		15.2	33.1	
Actuated g/C Ratio	0.47	0.47		0.14	0.64		0.12	0.12		0.13	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	492	1588		439	2276		158	224		453	487	
v/s Ratio Prot		c0.43		c0.10	0.09			0.02		c0.06	0.03	
v/s Ratio Perm	0.00						c0.03					
v/c Ratio	0.01	0.91		0.77	0.14		0.21	0.16		0.47	0.10	
Uniform Delay, d1	16.1	28.1		48.1	8.0		45.7	45.4		46.3	30.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	8.0		7.9	0.0		0.7	0.3		0.8	0.4	
Delay (s)	16.1	36.0		55.9	8.1		46.4	45.8		47.0	30.5	
Level of Service	B	D		E	A		D	D		D	C	
Approach Delay (s)		36.0			32.8			46.0			42.4	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	115.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	52	428	488	262	480	75	68	378	279	4	11	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1770	1759	1583	1770	1863	1495		1849	1583		1685	
Flt Permitted	0.37	1.00	1.00	0.27	1.00	1.00		0.95	1.00		0.97	
Satd. Flow (perm)	698	1759	1583	511	1863	1495		1760	1583		1642	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	465	530	285	522	82	74	411	303	4	12	34
RTOR Reduction (vph)	0	0	311	0	0	29	0	0	204	0	23	0
Lane Group Flow (vph)	57	465	219	285	522	53	0	485	99	0	27	0
Heavy Vehicles (%)	2%	8%	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		
Actuated Green, G (s)	41.4	37.2	37.2	52.5	44.3	44.3		29.5	29.5		29.5	
Effective Green, g (s)	41.4	37.2	37.2	52.5	44.3	44.3		29.5	29.5		29.5	
Actuated g/C Ratio	0.46	0.41	0.41	0.58	0.49	0.49		0.33	0.33		0.33	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	371	727	654	456	917	736		577	519		538	
v/s Ratio Prot	0.01	0.26		c0.08	0.28							
v/s Ratio Perm	0.06		0.14	c0.29		0.04		c0.28	0.06		0.02	
v/c Ratio	0.15	0.64	0.33	0.62	0.57	0.07		0.84	0.19		0.05	
Uniform Delay, d1	13.9	21.1	18.0	12.0	16.1	12.0		28.1	21.7		20.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	4.3	1.4	2.7	2.6	0.2		10.7	0.2		0.0	
Delay (s)	14.1	25.3	19.4	14.7	18.7	12.2		38.7	21.9		20.7	
Level of Service	B	C	B	B	B	B		D	C		C	
Approach Delay (s)		21.7			16.8			32.2			20.7	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	4	408	363	611	966	0	11	51	6	566	48	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95		1.00	1.00		0.97	1.00	
Frt	1.00	0.93		1.00	1.00		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3289		3242	3539		1770	1831		3433	1748	
Flt Permitted	0.27	1.00		0.95	1.00		0.70	1.00		0.95	1.00	
Satd. Flow (perm)	508	3289		3242	3539		1304	1831		3433	1748	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	443	395	664	1050	0	12	55	7	615	52	36
RTOR Reduction (vph)	0	136	0	0	0	0	0	4	0	0	19	0
Lane Group Flow (vph)	4	702	0	664	1050	0	12	58	0	615	69	0
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Prot			Perm			Prot		
Protected Phases		4		3	8			6		5	2	
Permitted Phases	4						6					
Actuated Green, G (s)	29.1	29.1		24.4	57.5		9.0	9.0		41.5	54.5	
Effective Green, g (s)	29.1	29.1		24.4	57.5		9.0	9.0		41.5	54.5	
Actuated g/C Ratio	0.24	0.24		0.20	0.48		0.08	0.08		0.35	0.45	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	798		659	1696		98	137		1187	794	
v/s Ratio Prot		c0.21		c0.20	0.30			c0.03		c0.18	0.04	
v/s Ratio Perm	0.01						0.01					
v/c Ratio	0.03	0.88		1.01	0.62		0.12	0.43		0.52	0.09	
Uniform Delay, d1	34.7	43.8		47.8	23.1		51.8	53.0		31.3	18.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	10.8		36.9	0.7		0.6	2.1		0.4	0.2	
Delay (s)	34.8	54.6		84.7	23.8		52.4	55.2		31.7	18.8	
Level of Service	C	D		F	C		D	E		C	B	
Approach Delay (s)		54.5			47.4			54.7			30.1	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

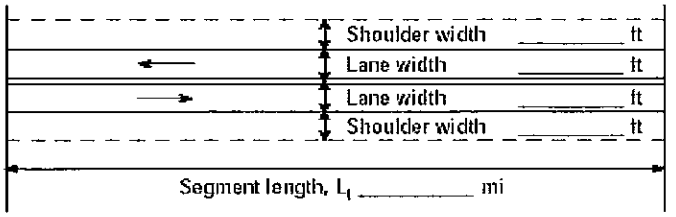
c Critical Lane Group

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*33* veh/h
Directional split	*61 / 39*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*37*
v_p * highest directional split proportion[2] (pc/h)	*23*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*53.0*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*37*
v_p * highest directional split proportion[2] (pc/h)	*23*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*3.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*2.7*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*5.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.01*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*17*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*59*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.3*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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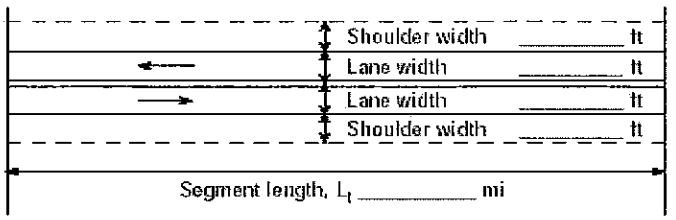
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*39* veh/h
Directional split	*59 / 41*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*44*
v_p * highest directional split proportion[2] (pc/h)	*26*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*
Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)		*0.0*	
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$		*53.0*	

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*43*
v_p * highest directional split proportion[2] (pc/h)	*25*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*3.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*2.2*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*5.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.01*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*20*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*70*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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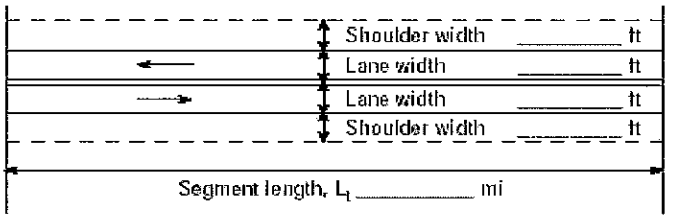
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*51* veh/h
Directional split	*63 / 37*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*57*
v_p * highest directional split proportion[2] (pc/h)	*36*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*52.9*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*57*
v_p * highest directional split proportion[2] (pc/h)	*36*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*4.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*3.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*7.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.02*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*26*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*92*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.5*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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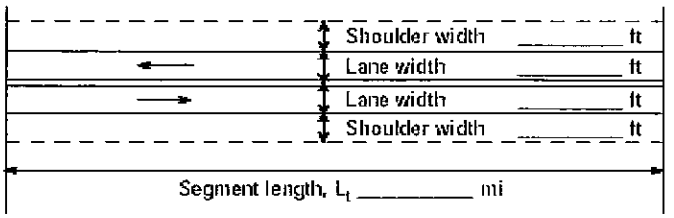
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*61* veh/h
Directional split	*66 / 34*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*69*
v_p * highest directional split proportion[2] (pc/h)	*46*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*52.8*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*68*
v_p * highest directional split proportion[2] (pc/h)	*45*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*5.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*3.5*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*9.3*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.02*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*31*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*110*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.6*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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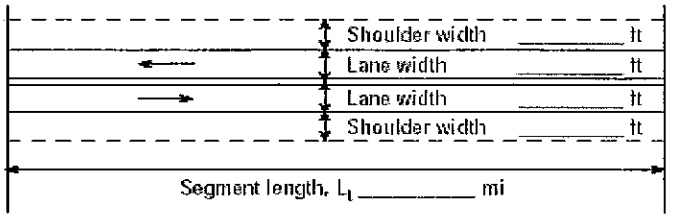
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*38* veh/h
Directional split	*74 / 26*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*43*
v_p * highest directional split proportion[2] (pc/h)	*32*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*53.0*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*42*
v_p * highest directional split proportion[2] (pc/h)	*31*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*3.6*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*5.6*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*9.3*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.01*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*19*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*68*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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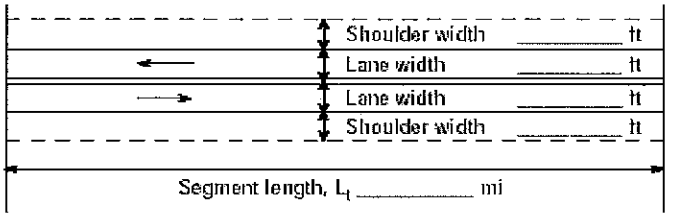
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*47* veh/h
Directional split	*66 / 34*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*53*
v_p * highest directional split proportion[2] (pc/h)	*35*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*52.9*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*52*
v_p * highest directional split proportion[2] (pc/h)	*34*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*4.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*3.7*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*8.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.02*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*24*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*85*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.5*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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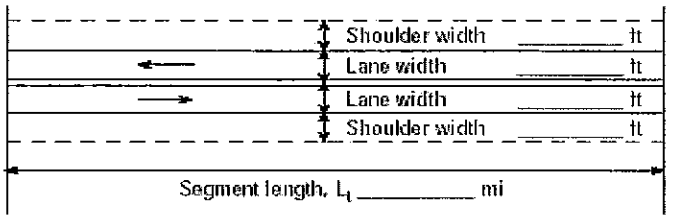
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*64* veh/h
Directional split	*59 / 41*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*72*
v_p * highest directional split proportion[2] (pc/h)	*42*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*52.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*71*
v_p * highest directional split proportion[2] (pc/h)	*42*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*6.1*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*2.1*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*8.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.02*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*32*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*115*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.6*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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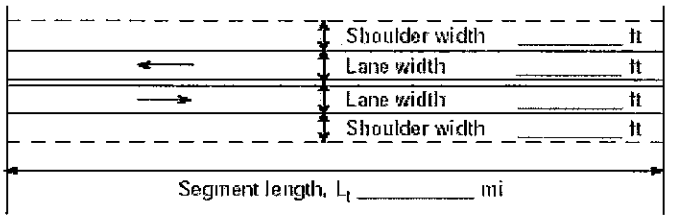
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*0-1*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*72* veh/h
Directional split	*53 / 47*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*81*
v_p * highest directional split proportion[2] (pc/h)	*43*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*52.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*80*
v_p * highest directional split proportion[2] (pc/h)	*42*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*6.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.7*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*7.5*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.03*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*36*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*130*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.7*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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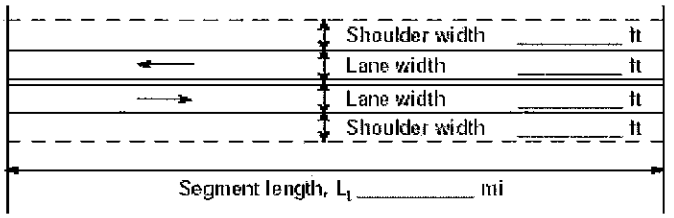
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*182* veh/h
Directional split	*87 / 13*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*205*
v_p * highest directional split proportion[2] (pc/h)	*178*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*51.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*203*
v_p * highest directional split proportion[2] (pc/h)	*177*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*16.3*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*5.4*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*21.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.06*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*71*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*255*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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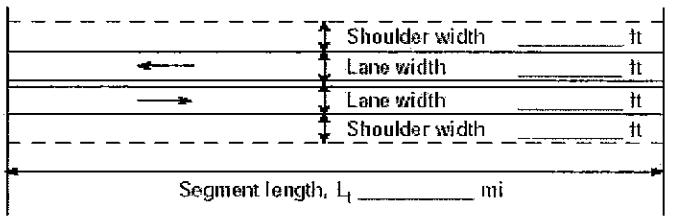
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*202* veh/h
Directional split	*85 / 15*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*228*
v_p * highest directional split proportion[2] (pc/h)	*194*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*51.5*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*225*
v_p * highest directional split proportion[2] (pc/h)	*191*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*17.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*5.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*22.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.07*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*79*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*283*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.5*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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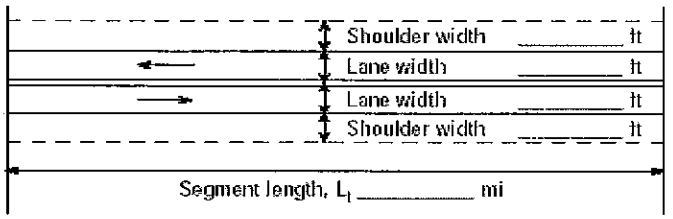
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*243* veh/h
Directional split	*81 / 19*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*274*
v_p * highest directional split proportion[2] (pc/h)	*222*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*51.2*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*271*
v_p * highest directional split proportion[2] (pc/h)	*220*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*21.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*4.2*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*25.4*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.09*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*95*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*340*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.9*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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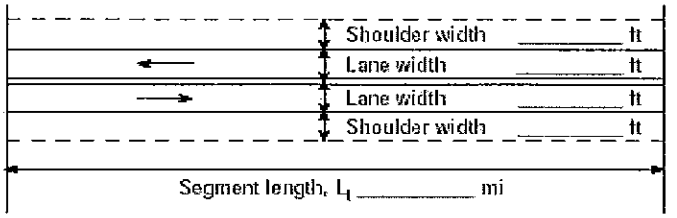
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*263* veh/h
Directional split	*79 / 21*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*296*
v_p * highest directional split proportion[2] (pc/h)	*234*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*
Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)		*0.0*	
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}		*51.0*	

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*293*
v_p * highest directional split proportion[2] (pc/h)	*231*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*22.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*3.7*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*26.4*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.09*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*102*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*368*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*2.0*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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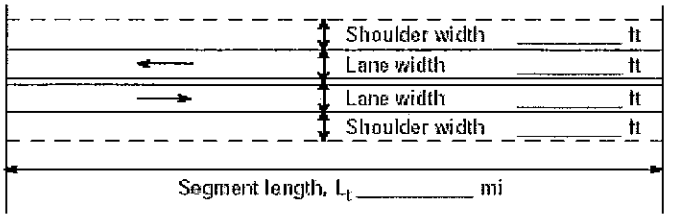
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*183* veh/h
Directional split	*65 / 35*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*206*
v_p * highest directional split proportion[2] (pc/h)	*134*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*51.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*204*
v_p * highest directional split proportion[2] (pc/h)	*133*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*16.4*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*2.2*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*18.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.06*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*71*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*256*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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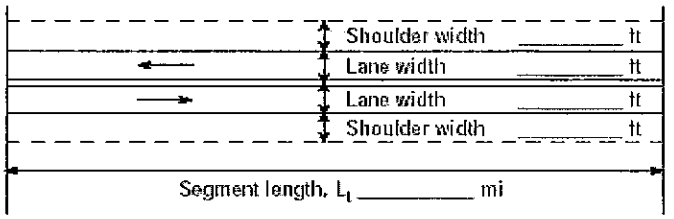
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*213* veh/h
Directional split	*63 / 37*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*240*
v_p * highest directional split proportion[2] (pc/h)	*151*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*
Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)		*0.0*	
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}		*51.4*	

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*237*
v_p * highest directional split proportion[2] (pc/h)	*149*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*18.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*1.7*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*20.5*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.08*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*83*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*298*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*1.6*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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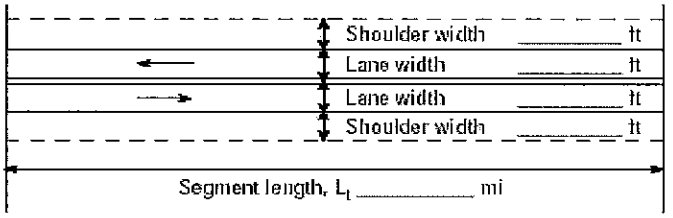
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*266* veh/h
Directional split	*62 / 38*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*300*
v_p * highest directional split proportion[2] (pc/h)	*186*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*51.0*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*296*
v_p * highest directional split proportion[2] (pc/h)	*184*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*22.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*1.2*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*24.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.09*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*103*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*372*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*2.0*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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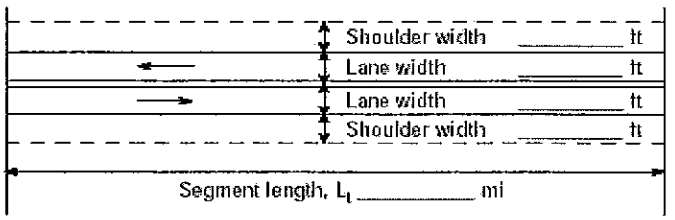
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*1-2*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*290* veh/h
Directional split	*61 / 39*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*327*
v_p * highest directional split proportion[2] (pc/h)	*199*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*50.8*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*323*
v_p * highest directional split proportion[2] (pc/h)	*197*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*24.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*1.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*25.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.10*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*113*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*406*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*2.2*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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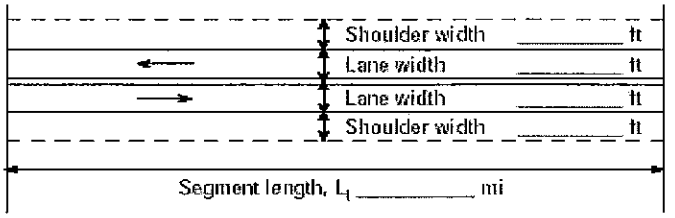
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*361* veh/h
Directional split	*79 / 21*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*407*
v_p * highest directional split proportion[2] (pc/h)	*322*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*50.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*402*
v_p * highest directional split proportion[2] (pc/h)	*318*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*29.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*2.3*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*32.0*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.13*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*201*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*722*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*4.0*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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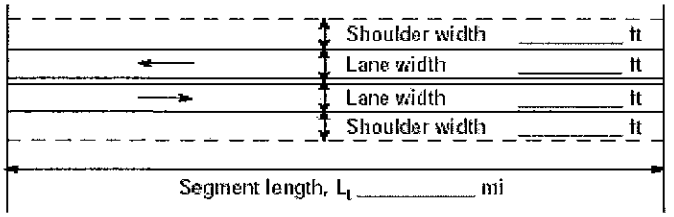
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*382* veh/h
Directional split	*77 / 23*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*430*
v_p * highest directional split proportion[2] (pc/h)	*331*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*50.0*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*425*
v_p * highest directional split proportion[2] (pc/h)	*327*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*31.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*1.7*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*32.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.13*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*212*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*764*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*4.2*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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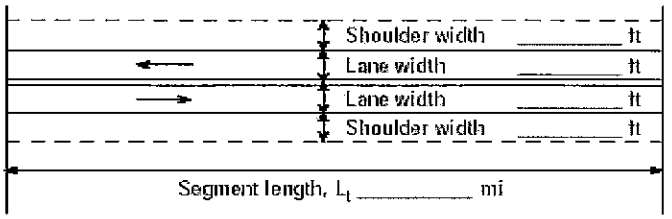
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*505* veh/h
Directional split	*77 / 23*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*569*
v_p * highest directional split proportion[2] (pc/h)	*438*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*
Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)		*0.0*	
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}		*48.9*	

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*562*
v_p * highest directional split proportion[2] (pc/h)	*433*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*39.0*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.4*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*39.3*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.18*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*281*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*1010*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*5.7*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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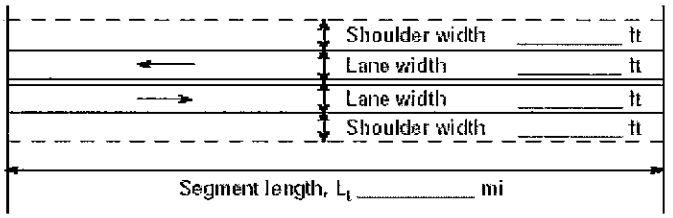
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*606* veh/h
Directional split	*76 / 24*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*676*
v_p * highest directional split proportion[2] (pc/h)	*514*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*675*
v_p * highest directional split proportion[2] (pc/h)	*513*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*44.8*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*44.8*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.21*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*337*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*1212*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*7.0*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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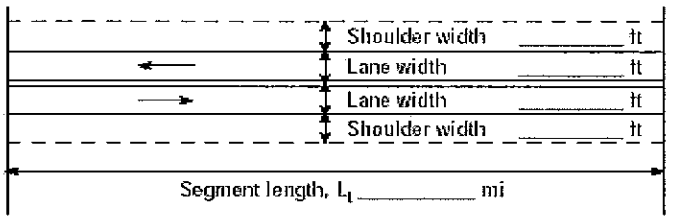
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*370* veh/h
Directional split	*63 / 37*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*417*
v_p * highest directional split proportion[2] (pc/h)	*263*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*50.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*412*
v_p * highest directional split proportion[2] (pc/h)	*260*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*30.4*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.5*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*30.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.13*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*206*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*740*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*4.1*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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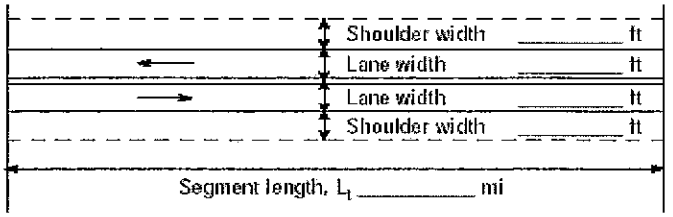
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*408* veh/h
Directional split	*61 / 39*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*460*
v_p * highest directional split proportion[2] (pc/h)	*281*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*49.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*454*
v_p * highest directional split proportion[2] (pc/h)	*277*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*32.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.4*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*33.3*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*A*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.14*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*227*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*816*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*4.6*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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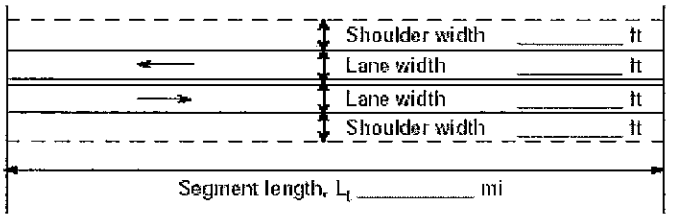
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*560* veh/h
Directional split	*62 / 38*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*625*
v_p * highest directional split proportion[2] (pc/h)	*388*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.5*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*623*
v_p * highest directional split proportion[2] (pc/h)	*386*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*42.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*42.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.20*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*311*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*1120*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*6.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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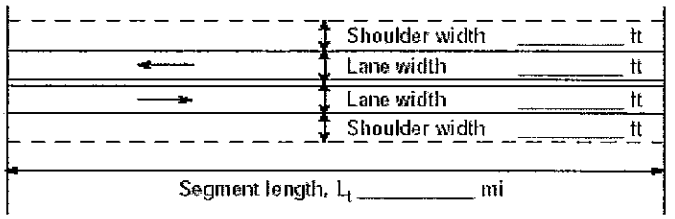
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*2-3*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*679 veh/h*
Directional split	*62 / 38*
Peak-hour factor, PHF	*0.90*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*757*
v_p * highest directional split proportion[2] (pc/h)	*469*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*
Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)		*0.0*	
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$		*47.4*	

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*756*
v_p * highest directional split proportion[2] (pc/h)	*469*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*48.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*48.5*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.24*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*377*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1358*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*7.9*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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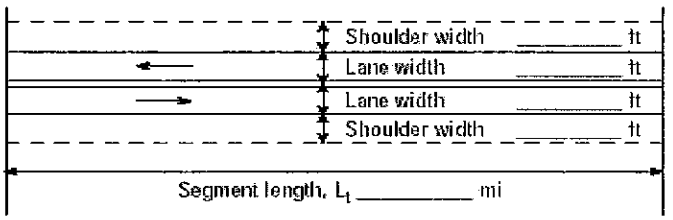
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*731* veh/h
Directional split	*57 / 43*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*773*
v_p * highest directional split proportion[2] (pc/h)	*441*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*47.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*771*
v_p * highest directional split proportion[2] (pc/h)	*439*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*49.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*49.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.24*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*385*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1462*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*8.1*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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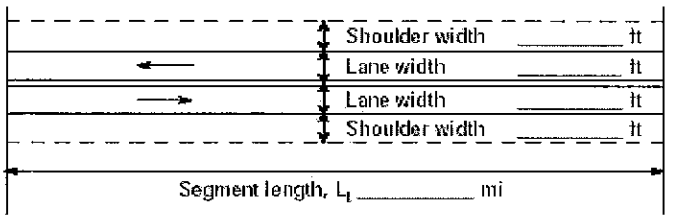
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*842* veh/h
Directional split	*58 / 42*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*890*
v_p * highest directional split proportion[2] (pc/h)	*516*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*46.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*888*
v_p * highest directional split proportion[2] (pc/h)	*515*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*54.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*54.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.28*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*443*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*1684*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*9.5*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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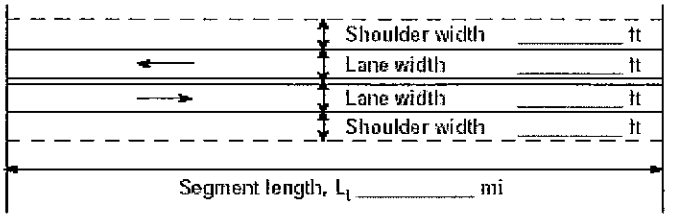
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*1155* veh/h
Directional split	*64 / 36*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1218*
v_p * highest directional split proportion[2] (pc/h)	*780*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*43.8*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1216*
v_p * highest directional split proportion[2] (pc/h)	*778*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*65.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*65.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.38*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*608*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*2310*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*13.9*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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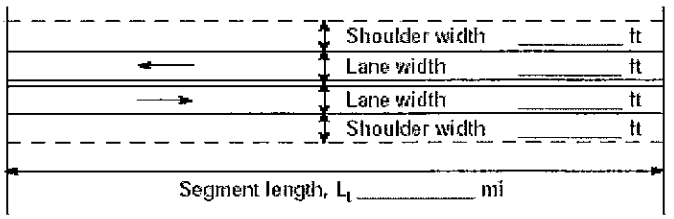
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*AM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*1492* veh/h
Directional split	*67 / 33*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1574*
v_p * highest directional split proportion[2] (pc/h)	*1055*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*41.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1571*
v_p * highest directional split proportion[2] (pc/h)	*1053*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*74.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*74.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*D*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.49*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*785*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*2984*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*19.1*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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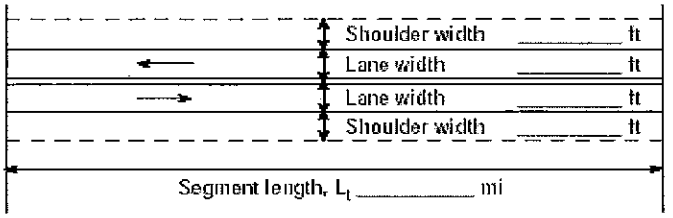
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2007*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*560* veh/h
Directional split	*61 / 39*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.986*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*598*
v_p * highest directional split proportion[2] (pc/h)	*365*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*48.7*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*591*
v_p * highest directional split proportion[2] (pc/h)	*361*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*40.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*40.5*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.19*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*295*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1120*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*6.1*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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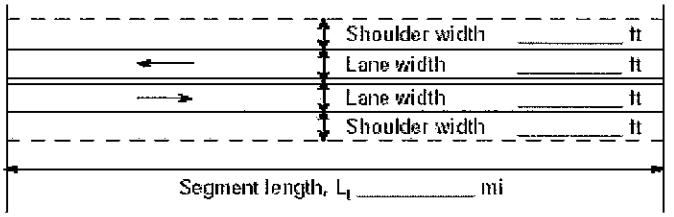
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2010*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*753* veh/h
Directional split	*55 / 45*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*796*
v_p * highest directional split proportion[2] (pc/h)	*438*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*47.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*794*
v_p * highest directional split proportion[2] (pc/h)	*437*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*50.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*50.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*B*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.25*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*396*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*1506*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*8.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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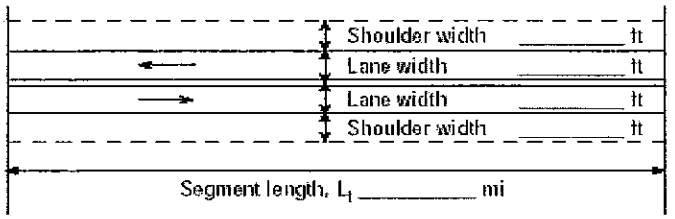
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2020*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*1123* veh/h
Directional split	*50 / 50*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2* %
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.996*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1187*
v_p * highest directional split proportion[2] (pc/h)	*594*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS $(FSS=BFFS-f_{LS}-f_A)$	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*44.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1184*
v_p * highest directional split proportion[2] (pc/h)	*592*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*64.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*64.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.37*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t(V/PHF)$	*591*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=$V*L_t$	*2246*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*13.4*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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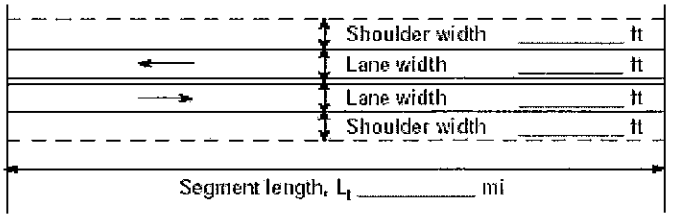
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*dbj*	Highway	*Pemberton*
Agency or Company	*The Traffic Group, Inc*	From/To	*3-6*
Date Performed	*5/8/2007*	Jurisdiction	
Analysis Time Period	*PM Peak*	Analysis Year	*2030*

Project Description: *Pemberton Drive Corridor*

Input Data



☐ Class I highway ☑ Class II highway

Terrain ☑ Level ☐ Rolling

Two-way hourly volume	*1486* veh/h
Directional split	*51 / 49*
Peak-hour factor, PHF	*0.95*
No-passing zone	*0*
% Trucks and Buses , P_T	*2 %*
% Recreational vehicles, P_R	*0%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.998*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1567*
v_p * highest directional split proportion[2] (pc/h)	*799*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*60.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*4.7 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.3 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*41.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.0*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*1.000*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*1564*
v_p * highest directional split proportion[2] (pc/h)	*798*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*74.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*74.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*D*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.49*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*782*
Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*2972*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*19.0*

Notes

1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.

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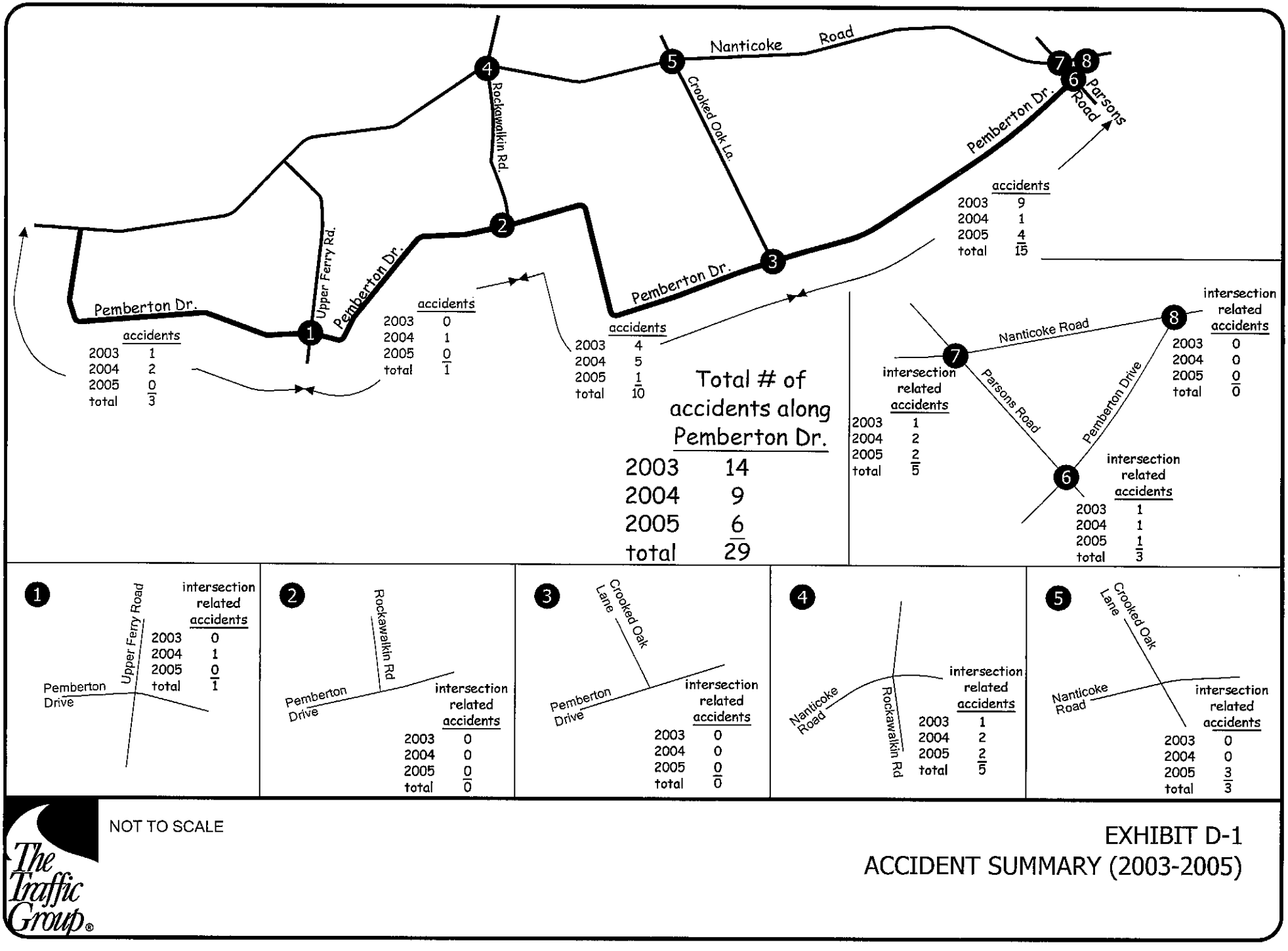
APPENDIX D

Accident Analysis

for Pemberton Drive Corridor



NOT TO SCALE

EXHIBIT D-1
ACCIDENT SUMMARY (2003-2005)

dj, pemberton.dwg-accidents, 08/02/07

	2003	2004	2005	3 Year Total	1 Year Average
Pemberton Drive					
Accident Frequency	14	9	6	29	9.7
Accident Location:					
Intersection Related	2	5	3	10	3.3
Non-intersection	12	4	3	19	6.3
Accident Severity:					
Not Injured	9	4	3	16	5.3
Possible Injury	1	2	2	5	1.7
Injured	2	3	0	5	1.7
Disabled	1	0	1	2	0.7
Fatal	1	0	0	1	0.3
Injuries Involved:					
Occupants Killed	1	0	0	1	0.3
Pedestrians Killed	0	0	0	0	0.0
Occupants Injuried	7	6	5	18	6.0
Pedestrians Injuried	0	0	0	0	0.0
Vehicles Involved:					
Single Vehicle	10	2	2	14	4.7
Two Vehicles	4	7	3	14	4.7
Three or More	0	0	1	1	0.3
Collision Type:					
Unknown	2	1	0	3	1.0
Other	0	0	0	0	0.0
Hit and Run	0	0	0	0	0.0
Rear-end	2	4	3	9	3.0
Sideswipe	0	0	0	0	0.0
Angle	0	1	0	1	0.3
Opposite Direction	0	1	1	2	0.7
Single Vehicle:	10	2	2	14	4.7
Pedestrian	0	0	0	0	
Bicycle	0	0	0	0	
Animal	2	0	1	3	
Fixed Object	7	1	1	9	
Other	1	1	0	2	

The Traffic Group

EXHIBIT D-2
3 YEAR CRASH REVIEW SUMMARY (2003 - 2005)
ALONG MD PEMBERTON DRIVE
page 1 of 2

sa, 060628\link3yracc-pemberton.xls-summary, 05/09/07

		2003	2004	2005	3 Year Total	1 Year Average
Weather:						
	Clear/Cloudy	12	6	4	22	7.3
	Foggy	0	0	0	0	0.0
	Raining	1	3	0	4	1.3
	Snow/Sleet	1	0	1	2	0.7
	Other	0	0	1	1	0.3
Light:						
	Daylight	8	8	4	20	6.7
	Dawn/Dusk	0	0	0	0	0.0
	Dark (lights on/off)	6	1	2	9	3.0
	Other	0	0	0	0	0.0
Surface Condition:						
	Dry	10	4	5	19	6.3
	Wet	1	5	0	6	2.0
	Snow/Sleet	0	0	1	1	0.3
	Ice	3	0	0	3	1.0
	Other	0	0	0	0	0.0
Time of Day:						
	12 MN - 5 AM	3	1	0	4	1.3
AM	6 AM - 9 AM	2	2	0	4	1.3
MD	10 AM - 3 PM	3	4	4	11	3.7
PM	4 PM - 7 PM	3	2	1	6	2.0
	8 PM - 11 PM	3	0	1	4	1.3
	Unknown	0	0	0	0	0.0
Day of Week:						
	Monday	4	3	1	8	2.7
	Tuesday	2	0	0	2	0.7
	Wednesday	0	1	2	3	1.0
	Thursday	1	1	0	2	0.7
	Friday	1	2	1	4	1.3
	Saturday	4	1	1	6	2.0
	Sunday	2	1	1	4	1.3
Time of Year (by quarter):						
1st	January - March	5	1	1	7	2.3
2nd	April - June	4	3	2	9	3.0
3rd	July - September	2	4	1	7	2.3
4th	October - December	3	1	2	6	2.0
Number of Accidents		14	9	6	29	9.7

The Traffic Group

EXHIBIT D-2
3 YEAR CRASH REVIEW SUMMARY (2003 - 2005)
ALONG MD PEMBERTON DRIVE
page 2 of 2

sa, 060628\link3yracc-pemberton.xls-summary, 05/09/07