

Stamski And McNary, Inc.
Engineering - Planning - Surveying
80 Harris Street, Acton, MA 01720; (978) 263-8585

Limited Traffic Study

For

COVENTRY WOODS
DEFINITIVE COMPREHENSIVE PERMIT
Concord Street
Carlisle, MA
Map 8; Parcel 10

Limited Traffic Study - Narrative
AASHTO Stopping Sight Distance Exhibit 3-76
AASHTO Intersection Sight Distance Exhibit 9-55
AASHTO Intersection Sight Distance Exhibit 9-58
85th Percentile Speed Reference

September 22, 2006

Prepared For: Coventry Woods Carlisle, LLC
c/o MCO & Associates, Inc.
P.O. Box 372
Harvard, MA 01451

SM-2400

File: 2400 traffic cover.doc



TOWN CLERK-CARLISLE
CHARLENE M. HINTON

TOWN CLERK-CARLISLE
CHARLENE M. HINTON

Coventry Woods - Limited Traffic Study – Updated September 22, 2006

We have attached a copy of the measurement of the eighty fifth percentile speed along Concord Street which was conducted 4,000 linear feet south of Coventry Woods by the Applicant for the Buttrick Woods Conservation Cluster. The 85th percentile speed was measured at 46 mph along a straighter horizontal layout of Concord Street. Due to the curvilinear horizontal layout of Concord Street along our frontage, one would expect the 85th percentile speed to be less than 46 mph near the site.

Regardless, of whether the posted speed limit (35 mph) or the referenced 85th percentile speed (46 mph) is utilized as a design parameter, the necessary stopping sight distance, is available in both direction following the removal of select vegetation along Concord Street. The stopping sight distance for a vehicle traveling along Concord Street from Russell Street, to the east, towards the proposed intersection has been measured at SSD=450'+ which is sufficient for a design speed of 51 mph. The stopping sight distance for a vehicle traveling along Concord Street from the town center, to the west, towards the proposed intersection can be improved to 390' with the removal of additional vegetation. This distance of 390' is sufficient for a design speed of 47 mph.

Stopping Sight Distance (SSD) - The sight distances were measured in the field in order to determine the length of roadway along Concord Street which will be available for a vehicle to stop before reaching a vehicle exiting Coventry Woods onto Concord Street. The SSD for a vehicle traveling along Concord Street from Russell Street, to the east, towards the proposed intersection has been measured at SSD=450'+. The SSD for a vehicle traveling along Concord Street from the town center, to the west, towards the proposed intersection has been measured at SSD=301' (with the removal of additional brush and trees this distance will be improved to 390' which allows for a 47 mph design speed in order to accommodate the 85th percentile). Based on AASHTO Exhibit 3-1. Stopping Sight Distance¹, the allowable design speed based on the observed sight distance for these vehicles along Concord Street near the proposed intersection location is 50+ mph and 40 mph (or 47 mph with additional clearing for the 85th) respectively, which both can exceed the posted speed limit on Concord Street of 35 mph in both directions along with the referenced 85th percentile speed. The distances are currently shown on Definitive Sheet 6 & Sheet 7. We also note that the curvilinear layout of Concord Street along the site frontage, assists in maintaining the posted design speed.

Intersection Sight Distance (ISD) – The analysis for Intersection Sight Distance at the proposed entrance was not previously provided because it is not an accepted design standard for a proposed subdivision road in the Town of Carlisle. The intersection sight distance for passenger cars turning left for the posted speed limit of 35 mph is 390 feet. The intersection sight distance for passenger cars turning right for the posted speed limit of 35 mph is 335 feet. Proper stopping sight distance has been provided at this intersection to allow the drivers of vehicles stopped on Pasquale Way sufficient view of the intersecting Concord Street to decide when to turn onto Concord Street in either

¹ American Association of State Highway and Transportation Officials (AASHTO); A Policy on Geometric Design of Highways and Streets; 2001; Fourth Edition.

direction from a stop. However, based on the available distances, the existing vehicles traveling along Concord Street may be required to slow down or stop to accommodate the turning vehicle from Pasquale Way.

The additional vegetation to the east will be cleared to allow for the referenced 85th percentile stopping sight distance. These values (390' and 450+') also meet the intersection sight distance values for the posted speed limit of 35 mph (390' and 335' respectively). Intersection Sight Distance is not considered a minimum design criteria that is essential to safety, we believe that compliance with the Intersection Sight Distances for the posted speed limit is sufficient along this scenic road. Providing a design to meet the intersection sight distances for the 85th percentile is not necessary, since it is not a safety issue. It is not unreasonable to expect a driver on Concord Street to apply the brake when traveling at a higher speed than posted, in order to accommodate a vehicle exiting the site onto Concord Street.

A 15' wide Clear Sight Area has been provided along the frontage as indicated on the Master Plan & Land Use Plan (Sheet 2) in order to allow for the annual cutting of the vegetation in order to maintain the necessary sight distances.

Intersection Location along Concord Street - The proposed centerline of Pasquale Way is located approximately 1,680 linear feet from the centerline of Russell Street to the east. The proposed centerline of Pasquale Way is also located approximately seventy-seven feet (77') in an easterly direction from the centerline of the abutting loop driveway of #515 Concord Street.

Vehicle Trip Generation - Coventry Woods has been revised to consist of 41 residential dwelling units which will no longer be age restricted. Based on the ITE Trip Generation², the anticipated traffic volumes are as follows:

Residential Townhouses (No-Age Restriction)	Per Dwelling Unit	Total (41 Units) (previous 56 age restricted)
Weekday AM Peak Hour* of Adjacent Street Traffic	0.44	(11.20) 18.04
Weekday PM Peak Hour* of Adjacent Street Traffic	0.52	(14.56) 21.32
Weekday Average Daily Trips	5.86	(207.76) 240.26
Weekend Peak Hour	0.47 (Saturday)	(15.12) 19.27
Weekend Average Daily Trips	5.67 (Saturday)	(155.12) 232.47

*It should be noted that the peak hour of this revised generator does typically coincide with the peak hour of the adjacent street traffic. Total values anticipated for 41 standard units are greater than previous 51 age restricted units.

Emergency Vehicle Access - The revised layout of the driveways providing access to the residential units is sufficient for the SU-30 Design Vehicle. The larger B-40 Design Vehicle can also maneuver into the site and around the main village green of Anna Drive, however, this vehicle will likely need to utilize the grass shoulder in order to adequately complete the circular turnaround at the end of Anna Drive in one continuous movement.

2400 traffic 09222006.doc

² Institute of transportation Engineers; Trip Generation; 7th Edition; Volume 2 of 3; Land Use: 230; Residential Condominium/Townhouse – (Average Rates have been applied) Low Rise (231) values are slightly lower.

Metric				US Customary			
Design speed (km/h)	Stopping sight distance (m)	Rate of vertical curvature, K ^a		Design speed (mph)	Stopping sight distance (ft)	Rate of vertical curvature, K ^a	
		Calculated	Design			Calculated	Design
20	20	0.6	1	15	80	3.0	3
30	35	1.9	2	20	115	6.1	7
40	50	3.8	4	25	155	11.1	12
50	65	6.4	7	30	200	18.5	19
60	85	11.0	11	35	250	29.0	29
70	105	16.8	17	40	305	43.1	44
80	130	25.7	26	45	360	60.1	61
90	160	38.9	39	50	425	83.7	84
100	185	52.0	52	55	495	113.5	114
110	220	73.6	74	60	570	150.6	151
120	250	95.0	95	65	645	192.8	193
130	285	123.4	124	70	730	246.9	247
				75	820	311.6	312
				80	910	383.7	384

^a Rate of vertical curvature, K, is the length of curve per percent algebraic difference in intersecting grades (A). $K = L/A$

Exhibit 3-76. Design Controls for Stopping Sight Distance and for Crest Vertical Curves

Metric				US Customary			
Design speed (km/h)	Stopping sight distance (m)	Intersection sight distance for passenger cars		Design speed (mph)	Stopping sight distance (ft)	Intersection sight distance for passenger cars	
		Calculated (m)	Design (m)			Calculated (ft)	Design (ft)
20	20	41.7	45	15	80	165.4	170
30	35	82.6	65	20	115	220.5	225
40	50	83.4	85	25	155	275.6	280
50	65	104.3	105	30	200	330.8	335
60	85	125.1	130	35	250	385.9	390
70	105	146.0	150	40	305	441.0	445
80	130	166.8	170	45	360	496.1	500
90	160	187.7	190	50	425	551.3	555
100	185	208.5	210	55	495	606.4	610
110	220	229.4	230	60	570	661.5	665
120	250	250.2	255	65	645	716.6	720
130	285	271.1	275	70	730	771.8	775
				75	820	826.9	830
				80	910	882.0	885

POSTED LIMIT

Note: Intersection sight distance shown is for a stopped passenger car to turn left onto a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap must be adjusted and required sight distance recalculated.

Exhibit 9-55. Design Intersection Sight Distance—Case B1—Left Turn From Stop

665

Metric				US Customary			
Design speed (km/h)	Stopping sight distance (m)	Intersection sight distance for passenger cars		Design speed (mph)	Stopping sight distance (ft)	Intersection sight distance for passenger cars	
		Calculated (m)	Design (m)			Calculated (ft)	Design (ft)
20	20	36.1	40	15	80	143.3	145
30	35	54.2	55	20	115	191.1	195
40	50	72.3	75	25	155	238.9	240
50	65	90.4	95	30	200	286.7	290
60	85	108.4	110	35	250	334.4	335
70	105	126.5	130	40	305	382.2	385
80	130	144.6	145	45	360	430.0	430
90	160	162.6	165	50	425	477.8	480
100	185	180.7	185	55	495	525.5	530
110	220	198.8	200	60	570	573.3	575
120	250	216.8	220	65	645	621.1	625
130	285	234.9	235	70	730	668.9	670
				75	820	716.6	720
				80	910	764.4	765

POSTED LIMIT

Note: Intersection sight distance shown is for a stopped passenger car to turn right onto or cross a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap must be adjusted and required sight distance recalculated.

Exhibit 9-58. Design Intersection Sight Distance—Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

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COVENTRY WOODS – EIGHTY FIFTH PERCENTILE SPEED

The Applicant has previously conducted an eighty fifth percentile speed study along Concord Street for a conservation cluster near the Concord town line. This project is located approximately 4,000 linear feet south of Coventry Woods. As stated below the eighty fifth percentile speed was determined to be 46 mph by Traffic Counting Unlimited.

REFERENCE:

R 1 of 6

Buttrick Woods
Conservation Cluster
Carlisle, Massachusetts

Limited Traffic Study

At the request of the Carlisle Planning Board a limited traffic study was performed for the Buttrick Woods Conservation Cluster. The study was limited to a determination of the eighty fifth percentile traffic speed in Concord Road and a determination of sight distances at the proposed common driveway intersections with Concord Road.

The determination of the eighty fifth percentile traffic speed in Concord Road was performed by Traffic Counting Unlimited. The eighty fifth percentile speed going northbound in the vicinity of the proposed common driveway intersections with Concord Road was determined to be 45 mph. The eighty fifth percentile speed going southbound in the vicinity of the proposed common driveway intersections with Concord Road was determined to be 46 mph.

The common driveway intersections with Concord Road were situated at locations which would provide adequate sight distances for vehicles entering onto Concord Road from the common driveways and for vehicles traveling on Concord Road. At the intersection of Buttrick Lane North, two trees will be removed within the Concord Road right of way to maximize the sight distance. Brush will also be removed between the edge of pavement and the stone walls for a distance of 150 feet in both directions. At the intersection of Buttrick Lane South, the intersection is situated at a location which requires the removal of three trees within the Concord Road right of way, two for construction of the driveway and one to maximize the sight distance. At this intersection, brush will be removed for a distance of two hundred feet in both directions.

The intersections are properly located and the design includes these mitigating measures to assure safe and efficient traffic flow.

Carlise, Massachusetts
 Counted by Traffic Counting Unlimited
 Box 400

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 JAMAR Technologies, Inc.

R2 of 6
 Site Code : 00000000000000000000
 Start Date: 11/15/98
 File I.D. : CONCORSB
 Page : 1

Northbound

Begin Time	Total	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
12:00 11/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

12:00 pm	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	147	2	0	1	1	8	43	61	28	1	1	0	0	0	1
03:00	133	1	0	0	1	6	33	69	21	1	0	0	0	0	1
04:00	123	1	0	0	0	5	33	57	22	2	1	1	0	0	1
05:00	114	0	0	0	2	7	37	45	19	2	0	2	0	0	0
06:00	109	0	0	0	0	8	37	48	13	2	1	0	0	0	0
07:00	87	0	0	0	2	5	32	34	13	1	0	0	0	0	0
08:00	65	0	0	0	0	4	23	21	15	2	0	0	0	0	0
09:00	50	0	0	0	1	4	15	23	7	0	0	0	0	0	0
10:00	50	0	0	0	1	2	21	20	5	1	0	0	0	0	0
11:00	21	0	0	0	0	1	4	9	6	1	0	0	0	0	0
Day Totals	899	4	*	1	8	50	278	387	149	13	3	3	*	*	3

12:00 11/16	17	0	0	0	0	0	5	5	5	2	0	0	0	0	0
01:00	7	0	0	0	0	0	2	3	1	1	0	0	0	0	0
02:00	3	0	0	0	0	0	2	0	1	0	0	0	0	0	0
03:00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
05:00	6	0	0	0	1	1	0	1	2	1	0	0	0	0	0
06:00	6	0	0	0	0	0	0	3	2	1	0	0	0	0	0
07:00	31	0	0	0	0	1	8	14	7	1	0	0	0	0	0
08:00	115	1	0	0	0	1	30	55	22	4	1	0	0	0	1
09:00	132	1	0	0	0	3	29	59	36	4	0	0	0	0	0
10:00	79	0	0	0	0	2	16	40	16	4	0	0	0	0	1
11:00	94	0	0	0	2	13	23	34	19	3	0	0	0	0	0

12:00 pm	123	2	0	0	0	7	31	48	29	4	1	0	0	0	1
01:00	123	0	0	0	0	0	22	57	35	9	0	0	0	0	0
02:00	122	1	0	0	0	1	20	64	29	5	1	0	0	0	1
03:00	143	1	0	2	0	4	30	61	41	2	1	0	0	0	1
04:00	232	0	0	0	0	10	53	118	47	3	0	0	0	0	1
05:00	301	0	0	1	2	21	98	139	33	5	0	0	0	0	2
06:00	312	3	1	0	4	23	140	127	11	0	1	0	0	0	2
07:00	259	2	0	0	0	10	127	98	19	1	0	1	0	0	1
08:00	149	0	0	0	0	3	59	65	19	2	1	0	0	0	0
09:00	85	0	0	0	0	7	35	36	7	0	0	0	0	0	0
10:00	85	0	0	0	0	5	35	29	10	5	0	1	0	0	0
11:00	52	0	0	0	0	3	12	29	7	1	0	0	0	0	0
Day Totals	2478	11	1	3	9	115	777	1085	400	58	6	2	*	*	11

Northbound

Begin Time	Total	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
12:00 11/17	20	0	0	0	1	1	5	10	3	0	0	0	0	0	0
01:00	7	0	0	0	0	0	0	4	2	1	0	0	0	0	0
02:00	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0
05:00	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0
06:00	6	0	0	0	0	0	0	2	4	0	0	0	0	0	0
07:00	40	0	0	0	0	2	18	17	1	2	0	0	0	0	0
08:00	108	0	0	0	1	2	37	46	17	1	0	0	0	0	4
09:00	145	1	0	0	1	9	43	67	22	1	0	0	0	0	1
10:00	95	0	0	0	0	2	25	46	21	1	0	0	0	0	0
11:00	83	1	1	0	3	6	20	40	10	1	0	0	0	0	1
12:00 pm	122	0	0	0	1	12	49	50	8	1	0	1	0	0	0
01:00	140	0	0	0	0	17	33	73	16	1	0	0	0	0	0
02:00	130	0	0	0	2	8	38	70	11	1	0	0	0	0	0
03:00	132	0	0	0	0	13	50	49	18	1	1	0	0	0	0
04:00	255	0	0	0	0	10	96	121	24	0	0	0	0	0	4
05:00	338	4	0	0	6	29	151	123	18	0	0	0	1	0	6
06:00	331	2	2	0	5	41	184	87	4	0	0	0	1	0	5
07:00	281	4	0	0	0	14	129	121	8	0	1	0	0	1	3
08:00	158	1	0	0	0	14	53	69	18	1	0	0	0	0	2
09:00	98	0	0	0	0	11	39	37	9	2	0	0	0	0	0
10:00	95	0	0	0	0	6	34	47	6	2	0	0	0	0	0
11:00	60	0	0	0	0	0	23	22	13	2	0	0	0	0	0
Day Totals	2650	13	3	*	21	198	1028	1102	234	19	2	1	2	1	26
12:00 11/18	27	0	0	0	0	2	8	12	4	0	1	0	0	0	0
01:00	13	0	0	0	0	0	4	5	3	1	0	0	0	0	0
02:00	4	0	0	0	0	0	1	1	2	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0
05:00	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0
06:00	6	0	0	0	0	1	0	2	3	0	0	0	0	0	0
07:00	41	2	0	0	0	3	16	17	3	0	0	0	0	0	0
08:00	117	1	0	1	0	5	33	57	16	3	0	0	0	0	1
09:00	142	2	1	0	0	4	29	80	19	1	0	0	0	1	5
10:00	91	0	0	0	1	2	20	46	20	2	0	0	0	0	0
11:00	101	2	0	0	0	1	26	50	21	1	0	0	0	0	0
12:00 pm	117	1	0	0	0	6	32	50	24	3	0	0	0	0	1
01:00	147	1	0	0	0	5	30	76	32	3	0	0	0	0	0
02:00	144	0	0	0	0	0	31	71	38	3	0	0	0	0	1
03:00	173	1	0	0	0	3	46	76	37	7	0	0	0	1	2
04:00	247	1	0	0	0	6	61	136	38	2	1	1	0	0	1
05:00	247	1	0	0	0	13	86	112	31	2	0	0	0	0	2
Grand Total	7648	40	5	5	39	415	2507	3366	1074	119	13	7	2	3	53

Northbound

Begin	0-	16-	21-	26-	31-	36-	41-	46-	51-	56-	61-	66-	71-	76-	
Time	Total	15	20	25	30	35	40	45	50	55	60	65	70	75	999

Speed Statistics

15th Percentile Speed : 36 MPH
Median Speed (50th percentile): 41 MPH
Average Speed - All Vehicles : 42 MPH
85th Percentile Speed : 45 MPH ←
95th Percentile Speed : 48 MPH
10 MPH Pace Speed : 36-45 MPH
Number of Vehicles in Pace : 5873
Percent of Vehicles in Pace : 76.85%
Number of Vehicles > 55 MPH : 78
Percent of Vehicles > 55 MPH: 1.02%

S. Southbound

Begin Time	Total	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
12:00 11/15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 pm	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	133	0	1	0	0	3	31	74	18	5	1	0	0	0	0
03:00	139	1	1	0	1	2	48	59	21	4	0	0	0	0	2
04:00	121	0	0	0	2	6	31	61	19	2	0	0	0	0	0
05:00	128	0	0	0	1	12	45	52	14	3	0	0	0	0	1
06:00	80	0	0	0	0	4	27	35	13	1	0	0	0	0	0
07:00	83	0	0	0	1	5	18	37	20	2	0	0	0	0	0
08:00	50	0	0	0	0	1	19	21	8	1	0	0	0	0	0
09:00	23	0	0	0	1	0	1	14	7	0	0	0	0	0	0
10:00	19	0	0	0	0	1	8	7	3	0	0	0	0	0	0
11:00	13	0	0	0	0	1	3	5	4	0	0	0	0	0	0
Day Totals	789	1	2	*	6	35	231	365	127	18	1	*	*	*	3
12:00 11/16	8	0	0	0	0	0	0	4	2	2	0	0	0	0	0
01:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
02:00	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0
03:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0
05:00	8	0	0	0	0	0	4	2	2	0	0	0	0	0	0
06:00	46	0	0	0	0	0	11	27	8	0	0	0	0	0	0
07:00	272	0	0	0	1	3	64	154	47	3	0	0	0	0	0
08:00	349	1	0	0	4	15	92	181	46	6	1	0	0	0	3
09:00	300	1	0	0	0	8	53	167	66	4	0	0	0	0	1
10:00	193	0	0	0	0	1	64	93	31	3	1	0	0	0	0
11:00	115	0	0	0	4	4	30	51	21	5	0	0	0	0	0
12:00 pm	118	3	0	0	0	4	24	49	31	4	0	1	0	0	2
01:00	103	0	1	0	0	1	16	52	33	0	0	0	0	0	0
02:00	114	0	0	0	0	2	35	55	18	4	0	0	0	0	0
03:00	129	0	1	0	0	9	26	62	30	1	0	0	0	0	0
04:00	175	3	0	0	3	11	37	69	43	4	0	0	0	1	4
05:00	132	1	0	0	2	9	36	54	24	2	1	0	1	0	2
06:00	139	2	0	0	0	2	55	60	16	0	0	0	0	0	4
07:00	123	1	0	0	0	3	36	66	15	0	0	0	0	0	2
08:00	75	2	0	0	0	1	21	35	12	1	0	1	0	0	2
09:00	28	0	0	0	0	1	10	11	5	1	0	0	0	0	0
10:00	27	0	0	0	1	1	8	12	3	2	0	0	0	0	0
11:00	16	1	0	0	0	0	2	7	4	2	0	0	0	0	0
Day Totals	2476	15	2	*	15	75	626	1214	458	44	3	2	1	1	20

Southbound

Begin Time	Total	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76-999
12:00 11/17	7	0	0	0	0	1	3	1	1	0	1	0	0	0	0
01:00	3	0	0	0	0	0	0	1	1	1	0	0	0	0	0
02:00	3	0	0	0	0	0	2	0	0	1	0	0	0	0	0
03:00	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0
04:00	3	0	0	0	0	0	2	1	0	0	0	0	0	0	0
05:00	4	0	0	0	0	0	1	2	0	1	0	0	0	0	0
06:00	50	0	0	0	0	1	12	30	6	1	0	0	0	0	0
07:00	257	0	0	0	0	7	98	131	18	2	0	1	0	0	0
08:00	368	1	1	0	4	24	126	167	40	3	0	1	0	0	1
09:00	305	0	0	0	0	13	101	149	37	4	0	0	0	0	1
10:00	200	1	0	0	0	4	54	104	31	3	1	0	0	0	2
11:00	109	1	0	0	0	1	37	45	22	2	0	0	0	0	1
12:00 pm	127	0	0	0	0	9	53	47	16	2	0	0	0	0	0
01:00	133	0	0	1	2	10	35	65	18	2	0	0	0	0	0
02:00	109	1	0	0	0	5	24	49	26	3	0	0	0	0	1
03:00	109	1	0	0	1	2	35	45	21	3	0	0	0	0	1
04:00	156	0	0	0	1	8	41	74	23	5	0	1	0	0	3
05:00	117	3	1	0	2	12	42	44	9	1	0	0	0	0	3
06:00	159	2	0	0	2	15	90	43	3	1	0	0	0	0	3
07:00	140	0	0	0	2	13	57	56	8	0	0	1	1	0	2
08:00	80	2	0	0	0	2	30	26	15	3	0	0	0	0	2
09:00	47	0	0	0	0	5	14	14	12	2	0	0	0	0	0
10:00	36	0	0	0	0	4	7	12	11	1	0	1	0	0	0
11:00	11	0	0	0	1	0	3	5	1	0	1	0	0	0	0
Day Totals	2535	12	2	1	15	137	867	1112	319	41	3	5	1	*	20
12:00 11/18	10	1	0	0	0	1	2	3	1	1	0	0	0	0	1
01:00	4	0	0	0	0	0	1	2	1	0	0	0	0	0	0
02:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
03:00	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
04:00	4	0	0	0	0	0	1	3	0	0	0	0	0	0	0
05:00	3	0	0	0	0	0	2	0	1	0	0	0	0	0	0
06:00	47	0	0	0	0	0	11	24	11	1	0	0	0	0	0
07:00	286	1	0	0	0	19	98	134	26	4	0	0	1	0	3
08:00	353	1	1	3	10	18	94	163	58	4	0	0	0	0	1
09:00	327	0	0	0	0	0	72	183	66	5	1	0	0	0	0
10:00	221	0	0	0	0	1	35	123	55	6	0	0	0	0	1
11:00	122	1	0	0	0	4	29	47	33	6	1	0	0	0	1
12:00 pm	127	2	0	0	1	3	26	56	30	6	2	0	0	0	1
01:00	115	1	0	1	0	5	19	48	38	2	0	0	0	0	1
02:00	106	1	0	0	0	1	19	56	21	6	1	0	1	0	0
03:00	139	1	0	0	0	2	20	70	38	4	1	1	0	0	2
04:00	169	1	0	0	1	9	45	68	38	5	1	0	0	0	1
Grand Total	7835	38	7	5	48	310	2199	3672	1321	153	14	8	4	1	55

Speed Statistics

15th Percentile Speed : 36 MPH
 Median Speed (50th percentile): 41 MPH
 Average Speed - All Vehicles : 43 MPH
 85th Percentile Speed : 46 MPH
 95th Percentile Speed : 49 MPH
 10 MPH Pace Speed : 36-45 MPH
 Number of Vehicles in Pace : 5871
 Percent of Vehicles in Pace : 74.99%
 Number of Vehicles > 55 MPH : 82