Attachments

- □ Traffic Volume Data
- □ Seasonal/Yearly Growth Data
- □ Traffic Volume Networks
- □ Observerved Signal Timings
- □ Capacity Analyses

□ Traffic Volume Data

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 164982 A
Site Code : 814
Start Date : 3/9/2016
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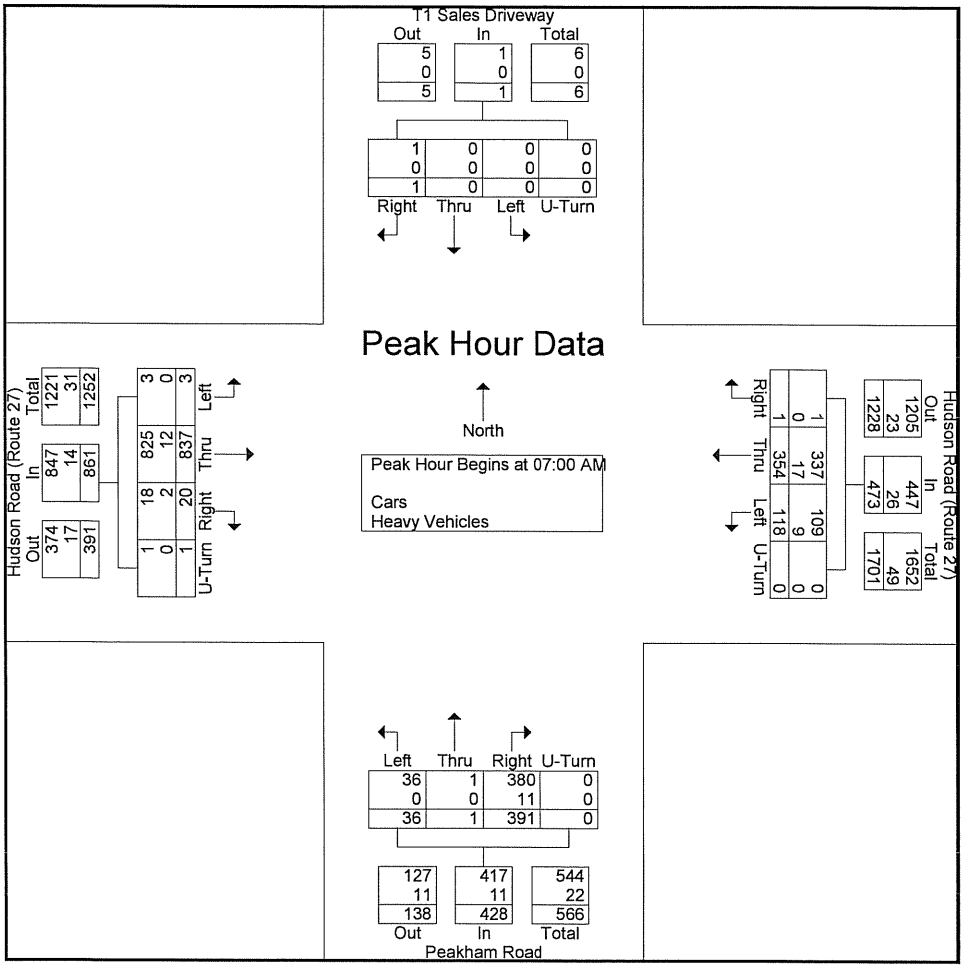
	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	81	17	0	98	74	0	7	0	81	4	227	0	0	231	410
07:15 AM	0	0	0	0	0	1	82	54	0	137	125	0	3	0	128	3	214	0	0	217	482
07:30 AM	0	0	0	0	0	0	101	27	0	128	103	0	12	0	115	7	219	1	0	227	470
07:45 AM	1	0	0	0	1	0	90	20	0	110	89	1	14	0	104	6	177	2	1	186	401
Total Volume	1	0	0	0	1	1	354	118	0	473	391	1	36	0	428	20	837	3	1	861	1763
% App. Total	100	0	0	0		0.2	74.8	24.9	0		91.4	0.2	8.4	0		2.3	97.2	0.3	0.1		
PHF	.250	.000	.000	.000	.250	.250	.876	.546	.000	.863	.782	.250	.643	.000	.836	.714	.922	.375	.250	.932	.914
Cars	1	0	0	0	1	1	337	109	0	447	380	1	36	0	417	18	825	3	1	847	1712
% Cars	100	0	0	0	100	100	95.2	92.4	0	94.5	97.2	100	100	0	97.4	90.0	98.6	100	100	98.4	97.1
Heavy Vehicles	0	0	0	0	0	0	17	9	0	26	11	0	0	0	11	2	12	0	0	14	51
% Heavy Vehicles	0	0	0	0	0	0	4.8	7.6	0	5.5	2.8	0	0	0	2.6	10.0	1.4	0	0	1.6	2.9



N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
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Groups Printed- Cars - Heavy Vehicles

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	81	17	0	74	0	7	0	4	227	0	0	410
07:15 AM	0	0	0	0	1	82	54	0	125	0	3	0	3	214	0	0	482
07:30 AM	0	0	0	0	0	101	27	0	103	0	12	0	7	219	1	0	470
07:45 AM	1	0	0	0	0	90	20	0	89	1	14	0	6	177	2	1	401
Total	1	0	0	0	1	354	118	0	391	1	36	0	20	837	3	1	1763
08:00 AM	0	0	0	0	1	104	15	0	57	0	4	0	7	196	0	0	384
08:15 AM	0	0	0	0	3	87	12	0	60	0	7	0	3	203	0	0	375
08:30 AM	0	1	3	0	1	78	10	0	72	0	9	0	5	183	0	0	362
08:45 AM	1	0	0	0	0	132	25	0	74	0	9	0	5	145	0	0	391
Total	1	1	3	0	5	401	62	0	263	0	29	0	20	727	0	0	1512
Grand Total	2	1	3	0	6	755	180	0	654	1	65	0	40	1564	3	1	3275
Apprch %	33.3	16.7	50	0	0.6	80.2	19.1	0	90.8	0.1	9	0	2.5	97.3	0.2	0.1	
Total %	0.1	0	0.1	0	0.2	23.1	5.5	0	20	0	2	0	1.2	47.8	0.1	0	
Cars	2	1	2	0	5	713	169	0	636	1	60	0	38	1523	3	1	3154
% Cars	100	100	66.7	0	83.3	94.4	93.9	0	97.2	100	92.3	0	95	97.4	100	100	96.3
Heavy Vehicles	0	0	1	0	1	42	11	0	18	0	5	0	2	41	0	0	121
% Heavy Vehicles	0	0	33.3	0	16.7	5.6	6.1	0	2.8	0	7.7	0	5	2.6	0	0	3.7

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	81	17	0	98	74	0	7	0	81	4	227	0	0	231	410
07:15 AM	0	0	0	0	0	1	82	54	0	137	125	0	3	0	128	3	214	0	0	217	482
07:30 AM	0	0	0	0	0	0	101	27	0	128	103	0	12	0	115	7	219	1	0	227	470
07:45 AM	1	0	0	0	1	0	90	20	0	110	89	1	14	0	104	6	177	2	1	186	401
Total Volume	1	0	0	0	1	1	354	118	0	473	391	1	36	0	428	20	837	3	1	861	1763
% App. Total	100	0	0	0		0.2	74.8	24.9	0		91.4	0.2	8.4	0		2.3	97.2	0.3	0.1		
PHF	.250	.000	.000	.000	.250	.250	.876	.546	.000	.863	.782	.250	.643	.000	.836	.714	.922	.375	.250	.932	.914
Cars	1	0	0	0	1	1	337	109	0	447	380	1	36	0	417	18	825	3	1	847	1712
% Cars	100	0	0	0	100	100	95.2	92.4	0	94.5	97.2	100	100	0	97.4	90.0	98.6	100	100	98.4	97.1
Heavy Vehicles	0	0	0	0	0	0	17	9	0	26	11	0	0	0	11	2	12	0	0	14	51
% Heavy Vehicles	0	0	0	0	0	0	4.8	7.6	0	5.5	2.8	0	0	0	2.6	10.0	1.4	0	0	1.6	2.9

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
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Client: MDM/ M. Houle

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Groups Printed- Cars

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	77	14	0	73	0	7	0	4	221	0	0	396
07:15 AM	0	0	0	0	1	79	48	0	124	0	3	0	3	211	0	0	469
07:30 AM	0	0	0	0	0	95	27	0	98	0	12	0	5	217	1	0	455
07:45 AM	1	0	0	0	0	86	20	0	85	1	14	0	6	176	2	1	392
Total	1	0	0	0	1	337	109	0	380	1	36	0	18	825	3	1	1712
08:00 AM	0	0	0	0	1	97	15	0	57	0	3	0	7	189	0	0	369
08:15 AM	0	0	0	0	3	77	12	0	58	0	6	0	3	198	0	0	357
08:30 AM	0	1	2	0	0	74	10	0	68	0	7	0	5	173	0	0	340
08:45 AM	1	0	0	0	0	128	23	0	73	0	8	0	5	138	0	0	376
Total	1	1	2	0	4	376	60	0	256	0	24	0	20	698	0	0	1442
Grand Total	2	1	2	0	5	713	169	0	636	1	60	0	38	1523	3	1	3154
Apprch %	40	20	40	0	0.6	80.4	19.1	0	91.2	0.1	8.6	0	2.4	97.3	0.2	0.1	
Total %	0.1	0	0.1	0	0.2	22.6	5.4	0	20.2	0	1.9	0	1.2	48.3	0.1	0	

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	77	14	0	91	73	0	7	0	80	4	221	0	0	225	396
07:15 AM	0	0	0	0	0	1	79	48	0	128	124	0	3	0	127	3	211	0	0	214	469
07:30 AM	0	0	0	0	0	0	95	27	0	122	98	0	12	0	110	5	217	1	0	223	455
07:45 AM	1	0	0	0	1	0	86	20	0	106	85	1	14	0	100	6	176	2	1	185	392
Total Volume	1	0	0	0	1	1	337	109	0	447	380	1	36	0	417	18	825	3	1	847	1712
% App. Total	100	0	0	0		0.2	75.4	24.4	0		91.1	0.2	8.6	0		2.1	97.4	0.4	0.1		
PHF	.250	.000	.000	.000	.250	.250	.887	.568	.000	.873	.766	.250	.643	.000	.821	.750	.933	.375	.250	.941	.913

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
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Groups Printed- Heavy Vehicles

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	4	3	0	1	0	0	0	0	6	0	0	14
07:15 AM	0	0	0	0	0	3	6	0	1	0	0	0	0	3	0	0	13
07:30 AM	0	0	0	0	0	6	0	0	5	0	0	0	2	2	0	0	15
07:45 AM	0	0	0	0	0	4	0	0	4	0	0	0	0	1	0	0	9
Total	0	0	0	0	0	17	9	0	11	0	0	0	2	12	0	0	51
08:00 AM	0	0	0	0	0	7	0	0	0	0	1	0	0	7	0	0	15
08:15 AM	0	0	0	0	0	10	0	0	2	0	1	0	0	5	0	0	18
08:30 AM	0	0	1	0	1	4	0	0	4	0	2	0	0	10	0	0	22
08:45 AM	0	0	0	0	0	4	2	0	1	0	1	0	0	7	0	0	15
Total	0	0	1	0	1	25	2	0	7	0	5	0	0	29	0	0	70
Grand Total	0	0	1	0	1	42	11	0	18	0	5	0	2	41	0	0	121
Apprch %	0	0	100	0	1.9	77.8	20.4	0	78.3	0	21.7	0	4.7	95.3	0	0	
Total %	0	0	0.8	0	0.8	34.7	9.1	0	14.9	0	4.1	0	1.7	33.9	0	0	

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	0	7	0	0	7	15
08:15 AM	0	0	0	0	0	0	10	0	0	10	2	0	1	0	3	0	5	0	0	5	18
08:30 AM	0	0	1	0	1	1	4	0	0	5	4	0	2	0	6	0	10	0	0	10	22
08:45 AM	0	0	0	0	0	0	4	2	0	6	1	0	1	0	2	0	7	0	0	7	15
Total Volume	0	0	1	0	1	1	25	2	0	28	7	0	5	0	12	0	29	0	0	29	70
% App. Total	0	0	100	0		3.6	89.3	7.1	0		58.3	0	41.7	0		0	100	0	0		
PHF	.000	.000	.250	.000	.250	.250	.625	.250	.000	.700	.438	.000	.625	.000	.500	.000	.725	.000	.000	.725	.795

N/S: T1 Sales Driveway/ Peakham Road
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Groups Printed- Peds and Bikes

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	0	0	0	0	0	4
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	0	0	5
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	1	0	0	1	0	0	2	5	0	1	0	0	0	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	1	0	0	0	11
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13	0	1	0	0	0	19
Grand Total	0	0	0	0	0	0	2	1	0	0	1	0	0	7	18	0	2	0	0	0	31
Apprch %	0	0	0	0	0	0	66.7	33.3	0	0	3.8	0	0	26.9	69.2	0	100	0	0	0	
Total %	0	0	0	0	0	0	6.5	3.2	0	0	3.2	0	0	22.6	58.1	0	6.5	0	0	0	

	T1 Sales Driveway From North						Hudson Road (Route 27) From East						Peakham Road From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 08:00 AM																									
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	0	1	0	0	0	1	11
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	5
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	13	18	0	1	0	0	0	1	19
% App. Total	0	0	0	0	0		0	0	0	0	0		0	0	0	27.8	72.2		0	100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.313	.325	.450	.000	.250	.000	.000	.000	.250	.432

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
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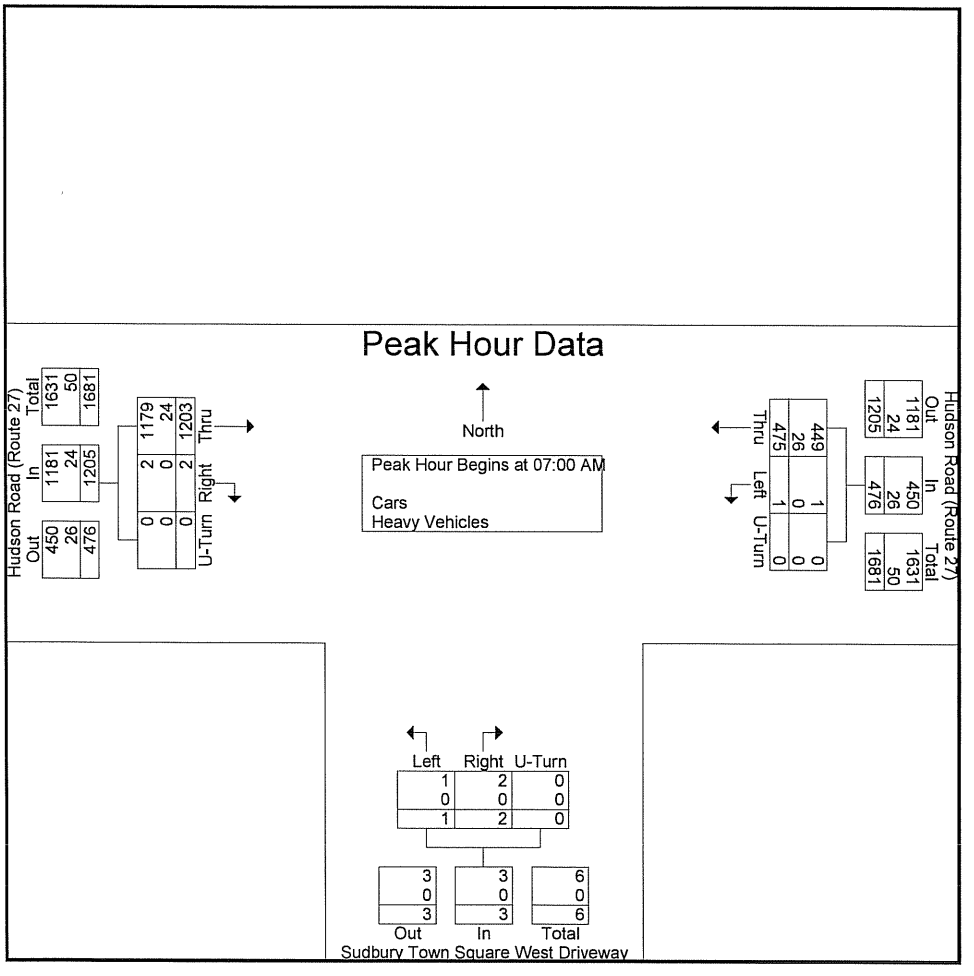
	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	100	1	0	101	0	0	0	0	0	299	0	299	400
07:15 AM	136	0	0	136	1	0	0	1	1	327	0	328	465
07:30 AM	128	0	0	128	0	1	0	1	1	321	0	322	451
07:45 AM	111	0	0	111	1	0	0	1	0	256	0	256	368
Total Volume	475	1	0	476	2	1	0	3	2	1203	0	1205	1684
% App. Total	99.8	0.2	0		66.7	33.3	0		0.2	99.8	0		
PHF	.873	.250	.000	.875	.500	.250	.000	.750	.500	.920	.000	.918	.905
Cars	449	1	0	450	2	1	0	3	2	1179	0	1181	1634
% Cars	94.5	100	0	94.5	100	100	0	100	100	98.0	0	98.0	97.0
Heavy Vehicles	26	0	0	26	0	0	0	0	0	24	0	24	50
% Heavy Vehicles	5.5	0	0	5.5	0	0	0	0	0	2.0	0	2.0	3.0



S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars - Heavy Vehicles

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	100	1	0	0	0	0	0	299	0	400
07:15 AM	136	0	0	1	0	0	1	327	0	465
07:30 AM	128	0	0	0	1	0	1	321	0	451
07:45 AM	111	0	0	1	0	0	0	256	0	368
Total	475	1	0	2	1	0	2	1203	0	1684
08:00 AM	120	0	0	0	0	0	0	254	0	374
08:15 AM	101	0	0	0	0	0	1	261	0	363
08:30 AM	98	0	0	0	0	0	0	257	0	355
08:45 AM	155	0	0	1	0	0	2	216	0	374
Total	474	0	0	1	0	0	3	988	0	1466
Grand Total	949	1	0	3	1	0	5	2191	0	3150
Apprch %	99.9	0.1	0	75	25	0	0.2	99.8	0	
Total %	30.1	0	0	0.1	0	0	0.2	69.6	0	
Cars	895	1	0	3	1	0	5	2132	0	3037
% Cars	94.3	100	0	100	100	0	100	97.3	0	96.4
Heavy Vehicles	54	0	0	0	0	0	0	59	0	113
% Heavy Vehicles	5.7	0	0	0	0	0	0	2.7	0	3.6

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	100	1	0	101	0	0	0	0	0	299	0	299	400
07:15 AM	136	0	0	136	1	0	0	1	1	327	0	328	465
07:30 AM	128	0	0	128	0	1	0	1	1	321	0	322	451
07:45 AM	111	0	0	111	1	0	0	1	0	256	0	256	368
Total Volume	475	1	0	476	2	1	0	3	2	1203	0	1205	1684
% App. Total	99.8	0.2	0		66.7	33.3	0		0.2	99.8	0		
PHF	.873	.250	.000	.875	.500	.250	.000	.750	.500	.920	.000	.918	.905
Cars	449	1	0	450	2	1	0	3	2	1179	0	1181	1634
% Cars	94.5	100	0	94.5	100	100	0	100	100	98.0	0	98.0	97.0
Heavy Vehicles	26	0	0	26	0	0	0	0	0	24	0	24	50
% Heavy Vehicles	5.5	0	0	5.5	0	0	0	0	0	2.0	0	2.0	3.0

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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Groups Printed- Cars

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	93	1	0	0	0	0	0	291	0	385
07:15 AM	127	0	0	1	0	0	1	323	0	452
07:30 AM	122	0	0	0	1	0	1	314	0	438
07:45 AM	107	0	0	1	0	0	0	251	0	359
Total	449	1	0	2	1	0	2	1179	0	1634
08:00 AM	112	0	0	0	0	0	0	248	0	360
08:15 AM	92	0	0	0	0	0	1	254	0	347
08:30 AM	94	0	0	0	0	0	0	243	0	337
08:45 AM	148	0	0	1	0	0	2	208	0	359
Total	446	0	0	1	0	0	3	953	0	1403
Grand Total	895	1	0	3	1	0	5	2132	0	3037
Apprch %	99.9	0.1	0	75	25	0	0.2	99.8	0	
Total %	29.5	0	0	0.1	0	0	0.2	70.2	0	

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	93	1	0	94	0	0	0	0	0	291	0	291	385
07:15 AM	127	0	0	127	1	0	0	1	1	323	0	324	452
07:30 AM	122	0	0	122	0	1	0	1	1	314	0	315	438
07:45 AM	107	0	0	107	1	0	0	1	0	251	0	251	359
Total Volume	449	1	0	450	2	1	0	3	2	1179	0	1181	1634
% App. Total	99.8	0.2	0		66.7	33.3	0		0.2	99.8	0		
PHF	.884	.250	.000	.886	.500	.250	.000	.750	.500	.913	.000	.911	.904

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
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Groups Printed- Heavy Vehicles

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	7	0	0	0	0	0	0	8	0	15
07:15 AM	9	0	0	0	0	0	0	4	0	13
07:30 AM	6	0	0	0	0	0	0	7	0	13
07:45 AM	4	0	0	0	0	0	0	5	0	9
Total	26	0	0	0	0	0	0	24	0	50
08:00 AM	8	0	0	0	0	0	0	6	0	14
08:15 AM	9	0	0	0	0	0	0	7	0	16
08:30 AM	4	0	0	0	0	0	0	14	0	18
08:45 AM	7	0	0	0	0	0	0	8	0	15
Total	28	0	0	0	0	0	0	35	0	63
Grand Total	54	0	0	0	0	0	0	59	0	113
Apprch %	100	0	0	0	0	0	0	100	0	
Total %	47.8	0	0	0	0	0	0	52.2	0	

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	8	0	0	8	0	0	0	0	0	6	0	6	14
08:15 AM	9	0	0	9	0	0	0	0	0	7	0	7	16
08:30 AM	4	0	0	4	0	0	0	0	0	14	0	14	18
08:45 AM	7	0	0	7	0	0	0	0	0	8	0	8	15
Total Volume	28	0	0	28	0	0	0	0	0	35	0	35	63
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.778	.000	.000	.778	.000	.000	.000	.000	.000	.625	.000	.625	.875

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
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Groups Printed- Peds and Bikes

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	Peds SB	Peds NB	Right	Left	Peds WB	Peds EB	Right	Thru	Peds NB	Peds SB	Int. Total
07:00 AM	1	0	0	0	0	0	0	0	0	1	0	0	2
07:15 AM	1	0	0	0	0	0	1	2	0	0	0	0	4
07:30 AM	0	0	0	0	0	0	0	3	0	1	0	0	4
07:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
Total	2	0	0	0	0	0	2	5	0	2	0	0	11
08:00 AM	1	0	0	0	0	0	0	1	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	10	0	0	0	0	10
08:45 AM	0	0	0	0	0	0	4	1	0	0	0	0	5
Total	1	0	0	0	0	0	5	13	0	0	0	0	19
Grand Total	3	0	0	0	0	0	7	18	0	2	0	0	30
Apprch %	100	0	0	0	0	0	28	72	0	100	0	0	
Total %	10	0	0	0	0	0	23.3	60	0	6.7	0	0	

	Hudson Road (Route 27) From East					Sudbury Town Square West Driveway From South					Hudson Road (Route 27) From West					
Start Time	Thru	Left	Peds SB	Peds NB	App. Total	Right	Left	Peds WB	Peds EB	App. Total	Right	Thru	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 08:00 AM																
08:00 AM	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	10	10	0	0	0	0	0	10
08:45 AM	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	5
Total Volume	1	0	0	0	1	0	0	5	13	18	0	0	0	0	0	19
% App. Total	100	0	0	0		0	0	27.8	72.2		0	0	0	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.313	.325	.450	.000	.000	.000	.000	.000	.475

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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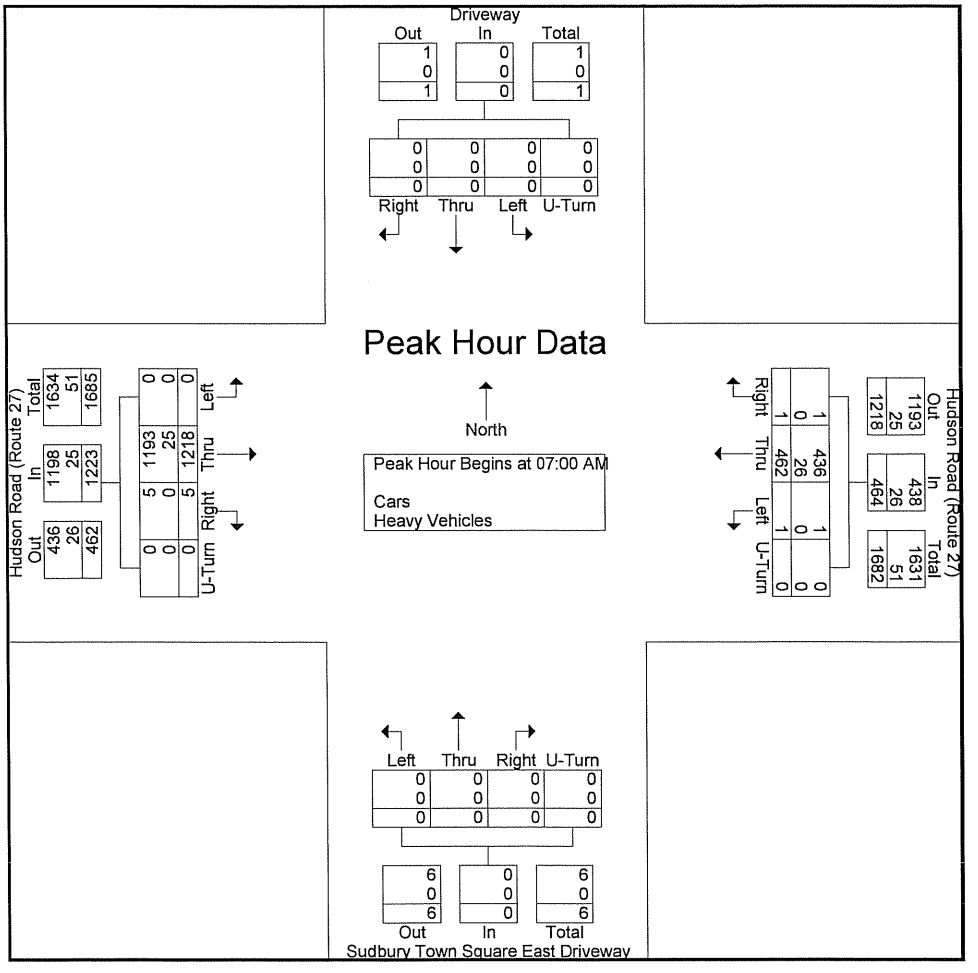
	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	99	1	0	100	0	0	0	0	0	2	298	0	0	300	400
07:15 AM	0	0	0	0	0	0	126	0	0	126	0	0	0	0	0	0	335	0	0	335	461
07:30 AM	0	0	0	0	0	1	128	0	0	129	0	0	0	0	0	2	328	0	0	330	459
07:45 AM	0	0	0	0	0	0	109	0	0	109	0	0	0	0	0	1	257	0	0	258	367
Total Volume	0	0	0	0	0	1	462	1	0	464	0	0	0	0	0	5	1218	0	0	1223	1687
% App. Total																					
PHF	.000	.000	.000	.000	.000	.250	.902	.250	.000	.899	.000	.000	.000	.000	.000	.625	.909	.000	.000	.913	.915
Cars	0	0	0	0	0	1	436	1	0	438	0	0	0	0	0	5	1193	0	0	1198	1636
% Cars	0	0	0	0	0	100	94.4	100	0	94.4	0	0	0	0	0	100	97.9	0	0	98.0	97.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	5.6	0	0	5.6	0	0	0	0	0	0	2.1	0	0	2.0	3.0



N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars - Heavy Vehicles

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	99	1	0	0	0	0	0	2	298	0	0	400
07:15 AM	0	0	0	0	0	126	0	0	0	0	0	0	0	335	0	0	461
07:30 AM	0	0	0	0	1	128	0	0	0	0	0	0	2	328	0	0	459
07:45 AM	0	0	0	0	0	109	0	0	0	0	0	0	1	257	0	0	367
Total	0	0	0	0	1	462	1	0	0	0	0	0	5	1218	0	0	1687
08:00 AM	0	0	0	0	0	120	0	0	0	0	0	0	0	263	0	0	383
08:15 AM	0	0	0	0	0	100	0	0	0	0	0	0	0	259	0	0	359
08:30 AM	0	0	0	0	0	99	0	0	0	0	0	0	0	254	0	0	353
08:45 AM	0	0	0	0	0	155	4	0	2	0	1	0	3	209	0	0	374
Total	0	0	0	0	0	474	4	0	2	0	1	0	3	985	0	0	1469
Grand Total	0	0	0	0	1	936	5	0	2	0	1	0	8	2203	0	0	3156
Apprch %	0	0	0	0	0.1	99.4	0.5	0	66.7	0	33.3	0	0.4	99.6	0	0	
Total %	0	0	0	0	0	29.7	0.2	0	0.1	0	0	0	0.3	69.8	0	0	
Cars	0	0	0	0	1	881	5	0	2	0	0	0	8	2138	0	0	3035
% Cars	0	0	0	0	100	94.1	100	0	100	0	0	0	100	97	0	0	96.2
Heavy Vehicles	0	0	0	0	0	55	0	0	0	0	1	0	0	65	0	0	121
% Heavy Vehicles	0	0	0	0	0	5.9	0	0	0	0	100	0	0	3	0	0	3.8

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	99	1	0	100	0	0	0	0	0	2	298	0	0	300	400
07:15 AM	0	0	0	0	0	0	126	0	0	126	0	0	0	0	0	0	335	0	0	335	461
07:30 AM	0	0	0	0	0	1	128	0	0	129	0	0	0	0	0	2	328	0	0	330	459
07:45 AM	0	0	0	0	0	0	109	0	0	109	0	0	0	0	0	1	257	0	0	258	367
Total Volume	0	0	0	0	0	1	462	1	0	464	0	0	0	0	0	5	1218	0	0	1223	1687
% App. Total																					
PHF	.000	.000	.000	.000	.000	.250	.902	.250	.000	.899	.000	.000	.000	.000	.000	.625	.909	.000	.000	.913	.915
Cars	0	0	0	0	0	1	436	1	0	438	0	0	0	0	0	5	1193	0	0	1198	1636
% Cars	0	0	0	0	0	100	94.4	100	0	94.4	0	0	0	0	0	100	97.9	0	0	98.0	97.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	5.6	0	0	5.6	0	0	0	0	0	0	2.1	0	0	2.0	3.0

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
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Groups Printed- Cars

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	92	1	0	0	0	0	0	2	290	0	0	385
07:15 AM	0	0	0	0	0	118	0	0	0	0	0	0	0	330	0	0	448
07:30 AM	0	0	0	0	1	121	0	0	0	0	0	0	2	323	0	0	447
07:45 AM	0	0	0	0	0	105	0	0	0	0	0	0	1	250	0	0	356
Total	0	0	0	0	1	436	1	0	0	0	0	0	5	1193	0	0	1636
08:00 AM	0	0	0	0	0	112	0	0	0	0	0	0	0	254	0	0	366
08:15 AM	0	0	0	0	0	90	0	0	0	0	0	0	0	250	0	0	340
08:30 AM	0	0	0	0	0	96	0	0	0	0	0	0	0	242	0	0	338
08:45 AM	0	0	0	0	0	147	4	0	2	0	0	0	3	199	0	0	355
Total	0	0	0	0	0	445	4	0	2	0	0	0	3	945	0	0	1399
Grand Total	0	0	0	0	1	881	5	0	2	0	0	0	8	2138	0	0	3035
Apprch %	0	0	0	0	0.1	99.3	0.6	0	100	0	0	0	0.4	99.6	0	0	
Total %	0	0	0	0	0	29	0.2	0	0.1	0	0	0	0.3	70.4	0	0	

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	92	1	0	93	0	0	0	0	0	2	290	0	0	292	385
07:15 AM	0	0	0	0	0	0	118	0	0	118	0	0	0	0	0	0	330	0	0	330	448
07:30 AM	0	0	0	0	0	1	121	0	0	122	0	0	0	0	0	2	323	0	0	325	447
07:45 AM	0	0	0	0	0	0	105	0	0	105	0	0	0	0	0	1	250	0	0	251	356
Total Volume	0	0	0	0	0	1	436	1	0	438	0	0	0	0	0	5	1193	0	0	1198	1636
% App. Total																					
PHF	.000	.000	.000	.000	.000	.250	.901	.250	.000	.898	.000	.000	.000	.000	.000	.625	.904	.000	.000	.908	.913

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Groups Printed- Heavy Vehicles

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	8	0	0	15
07:15 AM	0	0	0	0	0	8	0	0	0	0	0	0	0	5	0	0	13
07:30 AM	0	0	0	0	0	7	0	0	0	0	0	0	0	5	0	0	12
07:45 AM	0	0	0	0	0	4	0	0	0	0	0	0	0	7	0	0	11
Total	0	0	0	0	0	26	0	0	0	0	0	0	0	25	0	0	51
08:00 AM	0	0	0	0	0	8	0	0	0	0	0	0	0	9	0	0	17
08:15 AM	0	0	0	0	0	10	0	0	0	0	0	0	0	9	0	0	19
08:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	12	0	0	15
08:45 AM	0	0	0	0	0	8	0	0	0	0	1	0	0	10	0	0	19
Total	0	0	0	0	0	29	0	0	0	0	1	0	0	40	0	0	70
Grand Total	0	0	0	0	0	55	0	0	0	0	1	0	0	65	0	0	121
Apprch %	0	0	0	0	0	100	0	0	0	0	100	0	0	100	0	0	
Total %	0	0	0	0	0	45.5	0	0	0	0	0.8	0	0	53.7	0	0	

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	9	0	0	9	17
08:15 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	9	0	0	9	19
08:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	12	0	0	12	15
08:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	1	0	1	0	10	0	0	10	19
Total Volume	0	0	0	0	0	0	29	0	0	29	0	0	1	0	1	0	40	0	0	40	70
% App. Total	0	0	0	0		0	100	0	0		0	0	100	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.725	.000	.000	.725	.000	.000	.250	.000	.250	.000	.833	.000	.000	.833	.921

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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Site Code : 814
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Page No : 1

Groups Printed- Peds and Bikes

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
07:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	5
08:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0	6
Apprch %	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	0	0	0	0	0	66.7	0	0	0	0	0	0	0	0	0	33.3	0	0	0	

	Driveway From North						Hudson Road (Route 27) From East						Sudbury Town Square East Driveway From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
07:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	5
% App. Total	0	0	0	0	0		0	100	0	0	0		0	0	0	0	0		0	100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.625

N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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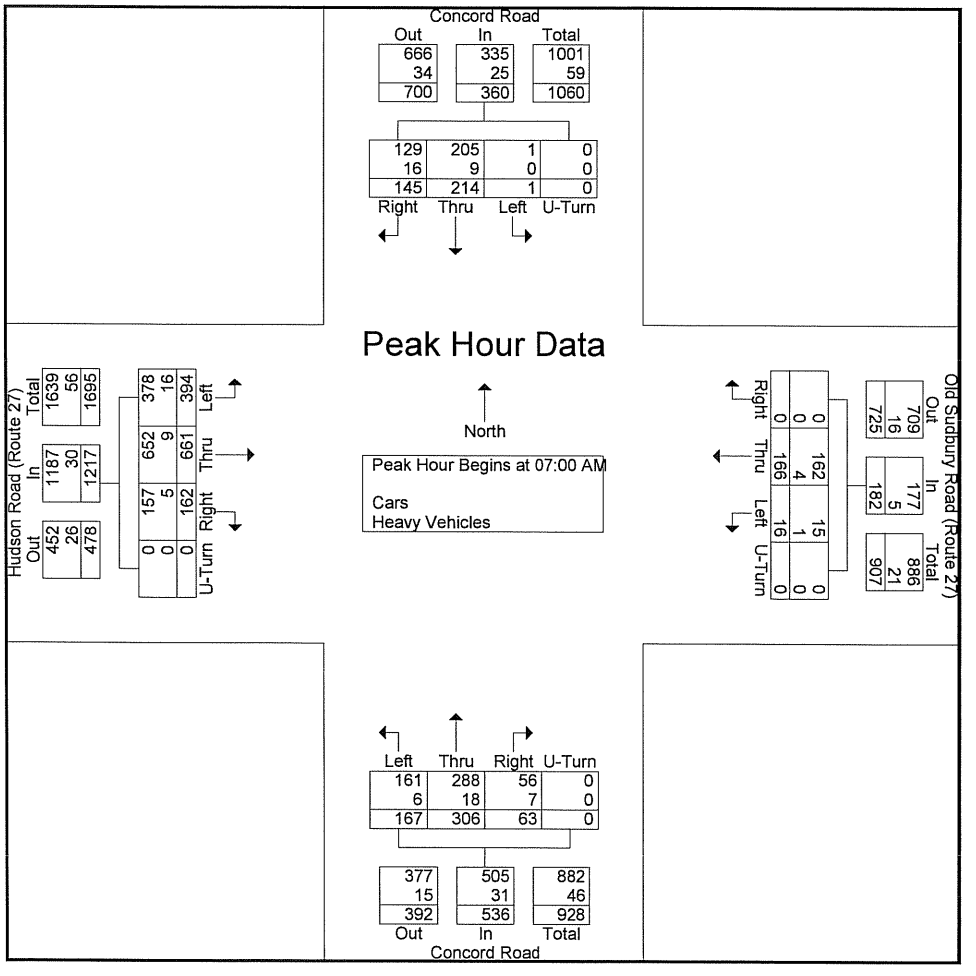
	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	25	43	0	0	68	0	31	0	0	31	13	77	46	0	136	40	155	101	0	296	531
07:15 AM	52	45	0	0	97	0	46	5	0	51	15	99	40	0	154	40	180	125	0	345	647
07:30 AM	35	66	0	0	101	0	45	3	0	48	16	79	49	0	144	46	171	105	0	322	615
07:45 AM	33	60	1	0	94	0	44	8	0	52	19	51	32	0	102	36	155	63	0	254	502
Total Volume	145	214	1	0	360	0	166	16	0	182	63	306	167	0	536	162	661	394	0	1217	2295
% App. Total	40.3	59.4	0.3	0		0	91.2	8.8	0		11.8	57.1	31.2	0		13.3	54.3	32.4	0		
PHF	.697	.811	.250	.000	.891	.000	.902	.500	.000	.875	.829	.773	.852	.000	.870	.880	.918	.788	.000	.882	.887
Cars	129	205	1	0	335	0	162	15	0	177	56	288	161	0	505	157	652	378	0	1187	2204
% Cars	89.0	95.8	100	0	93.1	0	97.6	93.8	0	97.3	88.9	94.1	96.4	0	94.2	96.9	98.6	95.9	0	97.5	96.0
Heavy Vehicles	16	9	0	0	25	0	4	1	0	5	7	18	6	0	31	5	9	16	0	30	91
% Heavy Vehicles	11.0	4.2	0	0	6.9	0	2.4	6.3	0	2.7	11.1	5.9	3.6	0	5.8	3.1	1.4	4.1	0	2.5	4.0



N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
City, State: Sudbury, MA
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File Name : 164982 D
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Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	25	43	0	0	0	31	0	0	13	77	46	0	40	155	101	0	531
07:15 AM	52	45	0	0	0	46	5	0	15	99	40	0	40	180	125	0	647
07:30 AM	35	66	0	0	0	45	3	0	16	79	49	0	46	171	105	0	615
07:45 AM	33	60	1	0	0	44	8	0	19	51	32	0	36	155	63	0	502
Total	145	214	1	0	0	166	16	0	63	306	167	0	162	661	394	0	2295
08:00 AM	15	50	0	0	0	61	4	0	14	52	43	0	44	159	51	0	493
08:15 AM	20	55	1	0	1	48	1	0	19	66	33	0	59	147	61	0	511
08:30 AM	17	48	0	0	0	49	4	0	25	64	32	0	36	147	60	0	482
08:45 AM	17	59	1	0	1	92	23	0	29	71	51	0	35	146	48	0	573
Total	69	212	2	0	2	250	32	0	87	253	159	0	174	599	220	0	2059
Grand Total	214	426	3	0	2	416	48	0	150	559	326	0	336	1260	614	0	4354
Apprch %	33.3	66.3	0.5	0	0.4	89.3	10.3	0	14.5	54	31.5	0	15.2	57	27.8	0	
Total %	4.9	9.8	0.1	0	0	9.6	1.1	0	3.4	12.8	7.5	0	7.7	28.9	14.1	0	
Cars	194	412	3	0	2	400	45	0	141	533	310	0	321	1235	586	0	4182
% Cars	90.7	96.7	100	0	100	96.2	93.8	0	94	95.3	95.1	0	95.5	98	95.4	0	96
Heavy Vehicles	20	14	0	0	0	16	3	0	9	26	16	0	15	25	28	0	172
% Heavy Vehicles	9.3	3.3	0	0	0	3.8	6.2	0	6	4.7	4.9	0	4.5	2	4.6	0	4

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	25	43	0	0	68	0	31	0	0	31	13	77	46	0	136	40	155	101	0	296	531
07:15 AM	52	45	0	0	97	0	46	5	0	51	15	99	40	0	154	40	180	125	0	345	647
07:30 AM	35	66	0	0	101	0	45	3	0	48	16	79	49	0	144	46	171	105	0	322	615
07:45 AM	33	60	1	0	94	0	44	8	0	52	19	51	32	0	102	36	155	63	0	254	502
Total Volume	145	214	1	0	360	0	166	16	0	182	63	306	167	0	536	162	661	394	0	1217	2295
% App. Total	40.3	59.4	0.3	0		0	91.2	8.8	0		11.8	57.1	31.2	0		13.3	54.3	32.4	0		
PHF	.697	.811	.250	.000	.891	.000	.902	.500	.000	.875	.829	.773	.852	.000	.870	.880	.918	.788	.000	.882	.887
Cars	129	205	1	0	335	0	162	15	0	177	56	288	161	0	505	157	652	378	0	1187	2204
% Cars	89.0	95.8	100	0	93.1	0	97.6	93.8	0	97.3	88.9	94.1	96.4	0	94.2	96.9	98.6	95.9	0	97.5	96.0
Heavy Vehicles	16	9	0	0	25	0	4	1	0	5	7	18	6	0	31	5	9	16	0	30	91
% Heavy Vehicles	11.0	4.2	0	0	6.9	0	2.4	6.3	0	2.7	11.1	5.9	3.6	0	5.8	3.1	1.4	4.1	0	2.5	4.0

N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
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File Name : 164982 D
Site Code : 814
Start Date : 3/9/2016
Page No : 1

Groups Printed- Cars

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	21	38	0	0	0	30	0	0	8	67	44	0	37	153	96	0	494
07:15 AM	45	45	0	0	0	45	5	0	13	94	39	0	38	178	124	0	626
07:30 AM	31	66	0	0	0	44	3	0	16	78	47	0	46	167	101	0	599
07:45 AM	32	56	1	0	0	43	7	0	19	49	31	0	36	154	57	0	485
Total	129	205	1	0	0	162	15	0	56	288	161	0	157	652	378	0	2204
08:00 AM	15	50	0	0	0	55	2	0	14	52	41	0	43	154	50	0	476
08:15 AM	17	53	1	0	1	45	1	0	18	65	30	0	56	144	60	0	491
08:30 AM	17	48	0	0	0	47	4	0	25	60	31	0	34	145	55	0	466
08:45 AM	16	56	1	0	1	91	23	0	28	68	47	0	31	140	43	0	545
Total	65	207	2	0	2	238	30	0	85	245	149	0	164	583	208	0	1978
Grand Total	194	412	3	0	2	400	45	0	141	533	310	0	321	1235	586	0	4182
Apprch %	31.9	67.7	0.5	0	0.4	89.5	10.1	0	14.3	54.2	31.5	0	15	57.7	27.4	0	
Total %	4.6	9.9	0.1	0	0	9.6	1.1	0	3.4	12.7	7.4	0	7.7	29.5	14	0	

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	21	38	0	0	59	0	30	0	0	30	8	67	44	0	119	37	153	96	0	286	494
07:15 AM	45	45	0	0	90	0	45	5	0	50	13	94	39	0	146	38	178	124	0	340	626
07:30 AM	31	66	0	0	97	0	44	3	0	47	16	78	47	0	141	46	167	101	0	314	599
07:45 AM	32	56	1	0	89	0	43	7	0	50	19	49	31	0	99	36	154	57	0	247	485
Total Volume	129	205	1	0	335	0	162	15	0	177	56	288	161	0	505	157	652	378	0	1187	2204
% App. Total	38.5	61.2	0.3	0		0	91.5	8.5	0		11.1	57	31.9	0		13.2	54.9	31.8	0		
PHF	.717	.777	.250	.000	.863	.000	.900	.536	.000	.885	.737	.766	.856	.000	.865	.853	.916	.762	.000	.873	.880

N/S: Concord Road
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Groups Printed- Heavy Vehicles

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	4	5	0	0	0	1	0	0	5	10	2	0	3	2	5	0	37
07:15 AM	7	0	0	0	0	1	0	0	2	5	1	0	2	2	1	0	21
07:30 AM	4	0	0	0	0	1	0	0	0	1	2	0	0	4	4	0	16
07:45 AM	1	4	0	0	0	1	1	0	0	2	1	0	0	1	6	0	17
Total	16	9	0	0	0	4	1	0	7	18	6	0	5	9	16	0	91
08:00 AM	0	0	0	0	0	6	2	0	0	0	2	0	1	5	1	0	17
08:15 AM	3	2	0	0	0	3	0	0	1	1	3	0	3	3	1	0	20
08:30 AM	0	0	0	0	0	2	0	0	0	4	1	0	2	2	5	0	16
08:45 AM	1	3	0	0	0	1	0	0	1	3	4	0	4	6	5	0	28
Total	4	5	0	0	0	12	2	0	2	8	10	0	10	16	12	0	81
Grand Total	20	14	0	0	0	16	3	0	9	26	16	0	15	25	28	0	172
Apprch %	58.8	41.2	0	0	0	84.2	15.8	0	17.6	51	31.4	0	22.1	36.8	41.2	0	
Total %	11.6	8.1	0	0	0	9.3	1.7	0	5.2	15.1	9.3	0	8.7	14.5	16.3	0	

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	5	0	0	9	0	1	0	0	1	5	10	2	0	17	3	2	5	0	10	37
07:15 AM	7	0	0	0	7	0	1	0	0	1	2	5	1	0	8	2	2	1	0	5	21
07:30 AM	4	0	0	0	4	0	1	0	0	1	0	1	2	0	3	0	4	4	0	8	16
07:45 AM	1	4	0	0	5	0	1	1	0	2	0	2	1	0	3	0	1	6	0	7	17
Total Volume	16	9	0	0	25	0	4	1	0	5	7	18	6	0	31	5	9	16	0	30	91
% App. Total	64	36	0	0		0	80	20	0		22.6	58.1	19.4	0		16.7	30	53.3	0		
PHF	.571	.450	.000	.000	.694	.000	1.00	.250	.000	.625	.350	.450	.750	.000	.456	.417	.563	.667	.000	.750	.615

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Groups Printed- Peds and Bikes

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	4
07:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	0	0	2	0	0	0	0	0	0	0	2	0	1	1	0	0	7
08:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	3	11	0	0	0	0	0	16
Grand Total	0	1	0	0	0	0	3	0	0	1	0	0	0	3	13	0	1	1	0	0	23
Apprch %	0	100	0	0	0	0	75	0	0	25	0	0	0	18.8	81.2	0	50	50	0	0	
Total %	0	4.3	0	0	0	0	13	0	0	4.3	0	0	0	13	56.5	0	4.3	4.3	0	0	

	Concord Road From North						Old Sudbury Road (Route 27) From East						Concord Road From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 08:00 AM																									
08:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	9
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
Total Volume	0	0	0	0	0	0	0	1	0	0	1	2	0	0	0	3	11	14	0	0	0	0	0	0	16
% App. Total	0	0	0	0	0		0	50	0	0	50		0	0	0	21.4	78.6		0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.500	.000	.000	.000	.250	.306	.389	.000	.000	.000	.000	.000	.000	.444

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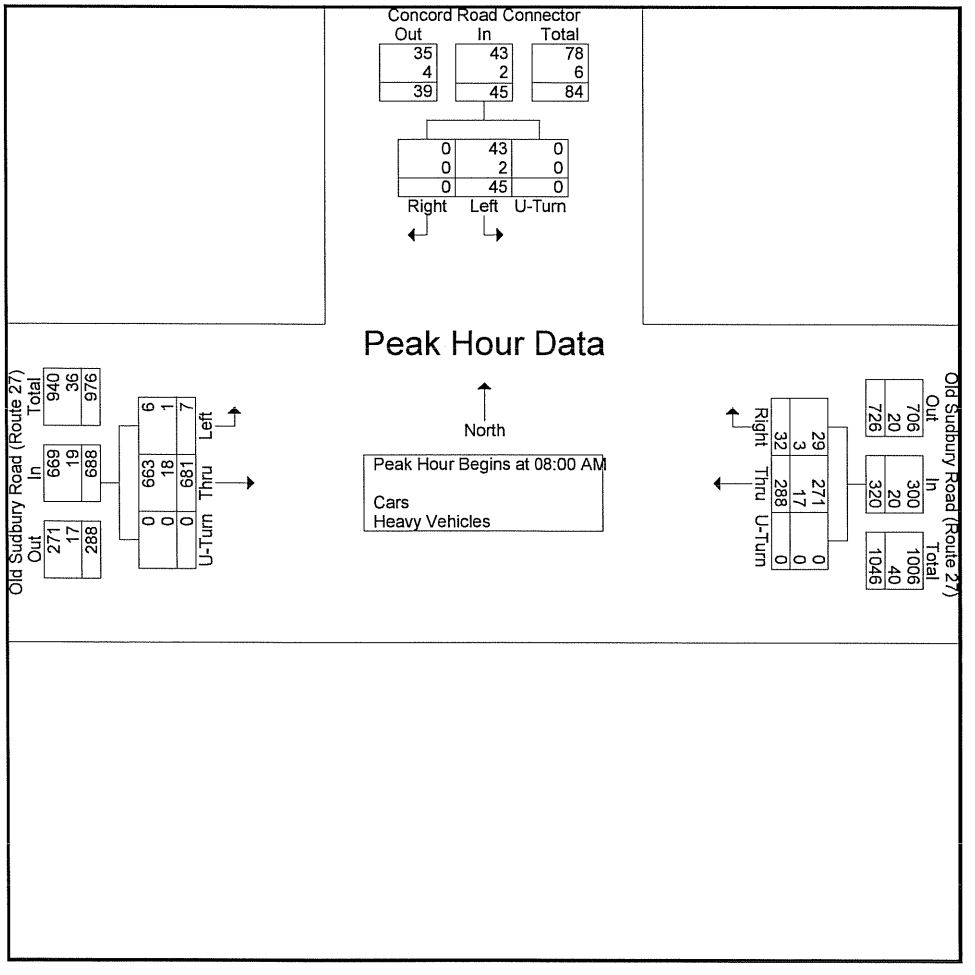
N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

File Name : 164982 E
Site Code : 814
Start Date : 3/9/2016
Page No : 1

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	14	0	14	9	67	0	76	173	1	0	174	264
08:15 AM	0	9	0	9	6	49	0	55	164	4	0	168	232
08:30 AM	0	9	0	9	5	62	0	67	169	1	0	170	246
08:45 AM	0	13	0	13	12	110	0	122	175	1	0	176	311
Total Volume	0	45	0	45	32	288	0	320	681	7	0	688	1053
% App. Total	0	100	0		10	90	0		99	1	0		
PHF	.000	.804	.000	.804	.667	.655	.000	.656	.973	.438	.000	.977	.846
Cars	0	43	0	43	29	271	0	300	663	6	0	669	1012
% Cars	0	95.6	0	95.6	90.6	94.1	0	93.8	97.4	85.7	0	97.2	96.1
Heavy Vehicles	0	2	0	2	3	17	0	20	18	1	0	19	41
% Heavy Vehicles	0	4.4	0	4.4	9.4	5.9	0	6.3	2.6	14.3	0	2.8	3.9



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Groups Printed- Cars - Heavy Vehicles

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
07:00 AM	0	9	0	4	34	0	169	0	0	216
07:15 AM	4	12	0	7	44	0	194	0	0	261
07:30 AM	0	3	0	6	48	0	187	0	0	244
07:45 AM	0	12	0	12	51	0	174	0	0	249
Total	4	36	0	29	177	0	724	0	0	970
08:00 AM	0	14	0	9	67	0	173	1	0	264
08:15 AM	0	9	0	6	49	0	164	4	0	232
08:30 AM	0	9	0	5	62	0	169	1	0	246
08:45 AM	0	13	0	12	110	0	175	1	0	311
Total	0	45	0	32	288	0	681	7	0	1053
Grand Total	4	81	0	61	465	0	1405	7	0	2023
Apprch %	4.7	95.3	0	11.6	88.4	0	99.5	0.5	0	
Total %	0.2	4	0	3	23	0	69.5	0.3	0	
Cars	4	75	0	56	443	0	1373	6	0	1957
% Cars	100	92.6	0	91.8	95.3	0	97.7	85.7	0	96.7
Heavy Vehicles	0	6	0	5	22	0	32	1	0	66
% Heavy Vehicles	0	7.4	0	8.2	4.7	0	2.3	14.3	0	3.3

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	14	0	14	9	67	0	76	173	1	0	174	264
08:15 AM	0	9	0	9	6	49	0	55	164	4	0	168	232
08:30 AM	0	9	0	9	5	62	0	67	169	1	0	170	246
08:45 AM	0	13	0	13	12	110	0	122	175	1	0	176	311
Total Volume	0	45	0	45	32	288	0	320	681	7	0	688	1053
% App. Total	0	100	0		10	90	0		99	1	0		
PHF	.000	.804	.000	.804	.667	.655	.000	.656	.973	.438	.000	.977	.846
Cars	0	43	0	43	29	271	0	300	663	6	0	669	1012
% Cars	0	95.6	0	95.6	90.6	94.1	0	93.8	97.4	85.7	0	97.2	96.1
Heavy Vehicles	0	2	0	2	3	17	0	20	18	1	0	19	41
% Heavy Vehicles	0	4.4	0	4.4	9.4	5.9	0	6.3	2.6	14.3	0	2.8	3.9

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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File Name : 164982 E
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Groups Printed- Cars

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
07:00 AM	0	7	0	3	33	0	163	0	0	206
07:15 AM	4	11	0	7	43	0	189	0	0	254
07:30 AM	0	2	0	6	47	0	185	0	0	240
07:45 AM	0	12	0	11	49	0	173	0	0	245
Total	4	32	0	27	172	0	710	0	0	945
08:00 AM	0	14	0	9	58	0	168	1	0	250
08:15 AM	0	8	0	4	46	0	159	3	0	220
08:30 AM	0	8	0	5	59	0	167	1	0	240
08:45 AM	0	13	0	11	108	0	169	1	0	302
Total	0	43	0	29	271	0	663	6	0	1012
Grand Total	4	75	0	56	443	0	1373	6	0	1957
Apprch %	5.1	94.9	0	11.2	88.8	0	99.6	0.4	0	
Total %	0.2	3.8	0	2.9	22.6	0	70.2	0.3	0	

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	14	0	14	9	58	0	67	168	1	0	169	250
08:15 AM	0	8	0	8	4	46	0	50	159	3	0	162	220
08:30 AM	0	8	0	8	5	59	0	64	167	1	0	168	240
08:45 AM	0	13	0	13	11	108	0	119	169	1	0	170	302
Total Volume	0	43	0	43	29	271	0	300	663	6	0	669	1012
% App. Total	0	100	0		9.7	90.3	0		99.1	0.9	0		
PHF	.000	.768	.000	.768	.659	.627	.000	.630	.981	.500	.000	.984	.838

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
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File Name : 164982 E
Site Code : 814
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Groups Printed- Heavy Vehicles

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
07:00 AM	0	2	0	1	1	0	6	0	0	10
07:15 AM	0	1	0	0	1	0	5	0	0	7
07:30 AM	0	1	0	0	1	0	2	0	0	4
07:45 AM	0	0	0	1	2	0	1	0	0	4
Total	0	4	0	2	5	0	14	0	0	25
08:00 AM	0	0	0	0	9	0	5	0	0	14
08:15 AM	0	1	0	2	3	0	5	1	0	12
08:30 AM	0	1	0	0	3	0	2	0	0	6
08:45 AM	0	0	0	1	2	0	6	0	0	9
Total	0	2	0	3	17	0	18	1	0	41
Grand Total	0	6	0	5	22	0	32	1	0	66
Apprch %	0	100	0	18.5	81.5	0	97	3	0	
Total %	0	9.1	0	7.6	33.3	0	48.5	1.5	0	

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	0	0	0	0	0	9	0	9	5	0	0	5	14
08:15 AM	0	1	0	1	2	3	0	5	5	1	0	6	12
08:30 AM	0	1	0	1	0	3	0	3	2	0	0	2	6
08:45 AM	0	0	0	0	1	2	0	3	6	0	0	6	9
Total Volume	0	2	0	2	3	17	0	20	18	1	0	19	41
% App. Total	0	100	0		15	85	0		94.7	5.3	0		
PHF	.000	.500	.000	.500	.375	.472	.000	.556	.750	.250	.000	.792	.732

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Site Code : 814
Start Date : 3/9/2016
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Groups Printed- Peds and Bikes

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	Peds EB	Peds WB	Right	Thru	Peds SB	Peds NB	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	1	0	0	0	3
08:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	3	0	0	1	0	0	0	4
Apprch %	0	0	0	0	0	100	0	0	100	0	0	0	
Total %	0	0	0	0	0	75	0	0	25	0	0	0	

	Concord Road Connector From North					Old Sudbury Road (Route 27) From East					Old Sudbury Road (Route 27) From West					
Start Time	Right	Left	Peds EB	Peds WB	App. Total	Right	Thru	Peds SB	Peds NB	App. Total	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:00 AM																
07:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	3
% App. Total	0	0	0	0		0	100	0	0		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.250	.000	.000	.000	.250	.375

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Site Code : 814
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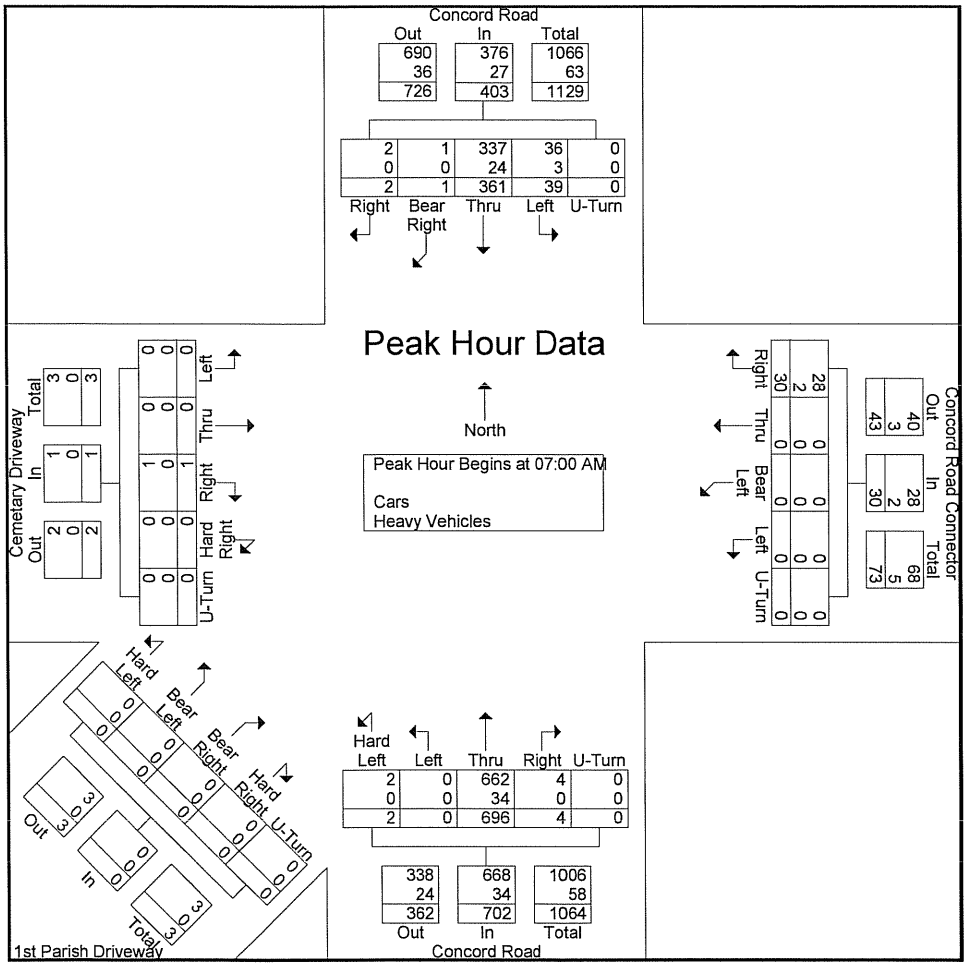
	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:00 AM																															
07:00 AM	0	0	70	8	0	78	5	0	0	0	0	5	0	174	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	257
07:15 AM	0	0	103	16	0	119	7	0	0	0	0	7	1	227	0	0	0	228	0	0	0	0	0	0	0	0	0	0	0	0	354
07:30 AM	1	0	101	3	0	105	6	0	0	0	0	6	1	184	0	0	0	185	0	0	0	0	0	0	0	0	0	0	0	0	296
07:45 AM	1	1	87	12	0	101	12	0	0	0	0	12	2	111	0	2	0	115	0	0	0	0	0	0	0	1	0	0	0	1	229
Total Volume	2	1	361	39	0	403	30	0	0	0	0	30	4	696	0	2	0	702	0	0	0	0	0	0	0	1	0	0	0	1	1136
% App. Total	0.5	0.2	89.6	9.7	0		100	0	0	0	0		0.6	99.1	0	0.3	0		0	0	0	0	0		0	100	0	0	0		
PHF	.500	.250	.876	.609	.000	.847	.625	.000	.000	.000	.000	.625	.500	.767	.000	.250	.000	.770	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.802
Cars	2	1	337	36	0	376	28	0	0	0	0	28	4	662	0	2	0	668	0	0	0	0	0	0	0	1	0	0	0	1	1073
% Cars	100	100	93.4	92.3	0	93.3	93.3	0	0	0	0	93.3	100	95.1	0	100	0	95.2	0	0	0	0	0	0	0	100	0	0	0	100	94.5
Heavy Vehicles	0	0	24	3	0	27	2	0	0	0	0	2	0	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	63
% Heavy Vehicles	0	0	6.6	7.7	0	6.7	6.7	0	0	0	0	6.7	0	4.9	0	0	0	4.8	0	0	0	0	0	0	0	0	0	0	0	0	5.5



N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
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Groups Printed- Cars - Heavy Vehicles

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	70	8	0	5	0	0	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	257
07:15 AM	0	0	103	16	0	7	0	0	0	0	1	227	0	0	0	0	0	0	0	0	0	0	0	0	0	354
07:30 AM	1	0	101	3	0	6	0	0	0	0	1	184	0	0	0	0	0	0	0	0	0	0	0	0	0	296
07:45 AM	1	1	87	12	0	12	0	0	0	0	2	111	0	2	0	0	0	0	0	0	0	1	0	0	0	229
Total	2	1	361	39	0	30	0	0	0	0	4	696	0	2	0	0	0	0	0	0	0	1	0	0	0	1136
08:00 AM	0	0	63	16	0	9	0	0	0	0	2	99	0	0	0	0	0	0	0	0	0	0	0	0	0	189
08:15 AM	0	0	77	14	0	7	0	0	0	0	5	124	0	0	0	0	0	0	0	0	0	0	0	0	0	227
08:30 AM	0	0	67	15	0	4	0	0	0	0	8	114	0	1	0	0	0	0	0	0	0	0	0	0	0	209
08:45 AM	0	1	83	13	0	12	0	0	0	0	4	114	0	2	0	0	0	0	0	0	0	0	0	0	0	229
Total	0	1	290	58	0	32	0	0	0	0	19	451	0	3	0	0	0	0	0	0	0	0	0	0	0	854
Grand Total	2	2	651	97	0	62	0	0	0	0	23	1147	0	5	0	0	0	0	0	0	0	1	0	0	0	1990
Apprch %	0.3	0.3	86.6	12.9	0	100	0	0	0	0	2	97.6	0	0.4	0	0	0	0	0	0	0	100	0	0	0	
Total %	0.1	0.1	32.7	4.9	0	3.1	0	0	0	0	1.2	57.6	0	0.3	0	0	0	0	0	0	0	0.1	0	0	0	
Cars	2	2	616	92	0	57	0	0	0	0	23	1093	0	5	0	0	0	0	0	0	0	1	0	0	0	1891
% Cars	100	100	94.6	94.8	0	91.9	0	0	0	0	100	95.3	0	100	0	0	0	0	0	0	0	100	0	0	0	95
Heavy Vehicles	0	0	35	5	0	5	0	0	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	99
% Heavy Vehicles	0	0	5.4	5.2	0	8.1	0	0	0	0	0	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	5

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:00 AM																															
07:00 AM	0	0	70	8	0	78	5	0	0	0	0	5	0	174	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	257
07:15 AM	0	0	103	16	0	119	7	0	0	0	0	7	1	227	0	0	0	228	0	0	0	0	0	0	0	0	0	0	0	0	354
07:30 AM	1	0	101	3	0	105	6	0	0	0	0	6	1	184	0	0	0	185	0	0	0	0	0	0	0	0	0	0	0	0	296
07:45 AM	1	1	87	12	0	101	12	0	0	0	0	12	2	111	0	2	0	115	0	0	0	0	0	0	0	1	0	0	0	1	229
Total Volume	2	1	361	39	0	403	30	0	0	0	0	30	4	696	0	2	0	702	0	0	0	0	0	0	0	1	0	0	0	1	1136
% App. Total	0.5	0.2	89.6	9.7	0		100	0	0	0	0		0.6	99.1	0	0.3	0		0	0	0	0	0		0	100	0	0	0		
PHF	.500	.250	.876	.609	.000	.847	.625	.000	.000	.000	.000	.625	.500	.767	.000	.250	.000	.770	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.802
Cars	2	1	337	36	0	376	28	0	0	0	0	28	4	662	0	2	0	668	0	0	0	0	0	0	0	1	0	0	0	1	1073
% Cars	100	100	93.4	92.3	0	93.3	93.3	0	0	0	0	93.3	100	95.1	0	100	0	95.2	0	0	0	0	0	0	0	100	0	0	0	100	94.5
Heavy Vehicles	0	0	24	3	0	27	2	0	0	0	0	2	0	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	63
% Heavy Vehicles	0	0	6.6	7.7	0	6.7	6.7	0	0	0	0	6.7	0	4.9	0	0	0	4.8	0	0	0	0	0	0	0	0	0	0	0	0	5.5

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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File Name : 164982 F
Site Code : 814
Start Date : 3/9/2016
Page No : 1

Groups Printed- Cars

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	61	7	0	4	0	0	0	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0	0	231
07:15 AM	0	0	96	15	0	7	0	0	0	0	1	221	0	0	0	0	0	0	0	0	0	0	0	0	0	340
07:30 AM	1	0	96	2	0	6	0	0	0	0	1	179	0	0	0	0	0	0	0	0	0	0	0	0	0	285
07:45 AM	1	1	84	12	0	11	0	0	0	0	2	103	0	2	0	0	0	0	0	0	0	1	0	0	0	217
Total	2	1	337	36	0	28	0	0	0	0	4	662	0	2	0	0	0	0	0	0	0	1	0	0	0	1073
08:00 AM	0	0	62	16	0	9	0	0	0	0	2	98	0	0	0	0	0	0	0	0	0	0	0	0	0	187
08:15 AM	0	0	72	13	0	5	0	0	0	0	5	122	0	0	0	0	0	0	0	0	0	0	0	0	0	217
08:30 AM	0	0	66	14	0	4	0	0	0	0	8	105	0	1	0	0	0	0	0	0	0	0	0	0	0	198
08:45 AM	0	1	79	13	0	11	0	0	0	0	4	106	0	2	0	0	0	0	0	0	0	0	0	0	0	216
Total	0	1	279	56	0	29	0	0	0	0	19	431	0	3	0	0	0	0	0	0	0	0	0	0	0	818
Grand Total	2	2	616	92	0	57	0	0	0	0	23	1093	0	5	0	0	0	0	0	0	0	1	0	0	0	1891
Apprch %	0.3	0.3	86.5	12.9	0	100	0	0	0	0	2.1	97.5	0	0.4	0	0	0	0	0	0	0	100	0	0	0	
Total %	0.1	0.1	32.6	4.9	0	3	0	0	0	0	1.2	57.8	0	0.3	0	0	0	0	0	0	0	0.1	0	0	0	

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:00 AM																															
07:00 AM	0	0	61	7	0	68	4	0	0	0	0	4	0	159	0	0	0	159	0	0	0	0	0	0	0	0	0	0	0	0	231
07:15 AM	0	0	96	15	0	111	7	0	0	0	0	7	1	221	0	0	0	222	0	0	0	0	0	0	0	0	0	0	0	0	340
07:30 AM	1	0	96	2	0	99	6	0	0	0	0	6	1	179	0	0	0	180	0	0	0	0	0	0	0	0	0	0	0	0	285
07:45 AM	1	1	84	12	0	98	11	0	0	0	0	11	2	103	0	2	0	107	0	0	0	0	0	0	0	1	0	0	0	1	217
Total Volume	2	1	337	36	0	376	28	0	0	0	0	28	4	662	0	2	0	668	0	0	0	0	0	0	0	1	0	0	0	1	1073
% App. Total	0.5	0.3	89.6	9.6	0		100	0	0	0	0		0.6	99.1	0	0.3	0		0	0	0	0	0		0	100	0	0	0		
PHF	.500	.250	.878	.600	.000	.847	.636	.000	.000	.000	.000	.636	.500	.749	.000	.250	.000	.752	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.789

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Heavy Vehicles

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
07:00 AM	0	0	9	1	0	1	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	26
07:15 AM	0	0	7	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	14
07:30 AM	0	0	5	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	11
07:45 AM	0	0	3	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	0	0	24	3	0	2	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	63
08:00 AM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	5	1	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	11
08:45 AM	0	0	4	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Total	0	0	11	2	0	3	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	36
Grand Total	0	0	35	5	0	5	0	0	0	0	0	54	0	0	0	0	0	0	0	0	0	0	0	0	0	99
Apprch %	0	0	87.5	12.5	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	35.4	5.1	0	5.1	0	0	0	0	0	54.5	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:00 AM																															
07:00 AM	0	0	9	1	0	10	1	0	0	0	0	1	0	15	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	26
07:15 AM	0	0	7	1	0	8	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	14
07:30 AM	0	0	5	1	0	6	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	11
07:45 AM	0	0	3	0	0	3	1	0	0	0	0	1	0	8	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	12
Total Volume	0	0	24	3	0	27	2	0	0	0	0	2	0	34	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	63
% App. Total	0	0	88.9	11.1	0		100	0	0	0	0		0	100	0	0	0		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.000	.667	.750	.000	.675	.500	.000	.000	.000	.000	.500	.000	.567	.000	.000	.000	.567	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.606

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

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File Name : 164982 F
Site Code : 814
Start Date : 3/9/2016
Page No : 1

Groups Printed- Peds and Bikes

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Bear Left	Left	Peds SB	Peds NB	Right	Thru	Left	Hard Left	Peds WB	Peds EB	Hard Right	Bear Right	Bear Left	Hard Left	Peds SEB	Peds NWB	Hard Right	Right	Thru	Left	Peds NB	Peds SB	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	0	2	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	2	0	0	0	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Apprch %	0	0	100	0	0	0	75	0	0	0	0	25	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	28.6	0	0	0	42.9	0	0	0	0	14.3	0	14.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

	Concord Road From North							Concord Road Connector From East							Concord Road From South							1st Parish Driveway From Southwest							Cemetary Driveway From West							
Start Time	Right	Bear Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Bear Left	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Hard Left	Peds WB	Peds EB	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds SEB	Peds NWB	App. Total	Hard Right	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																																				
Peak Hour for Entire Intersection Begins at 07:00 AM																																				
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	1	0	0	0	1	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	0	2	0	0	0	2	3	0	0	0	0	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% App. Total	0	0	100	0	0	0		100	0	0	0	0	0		0	100	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
PHF	.000	.000	.500	.000	.000	.000	.500	.250	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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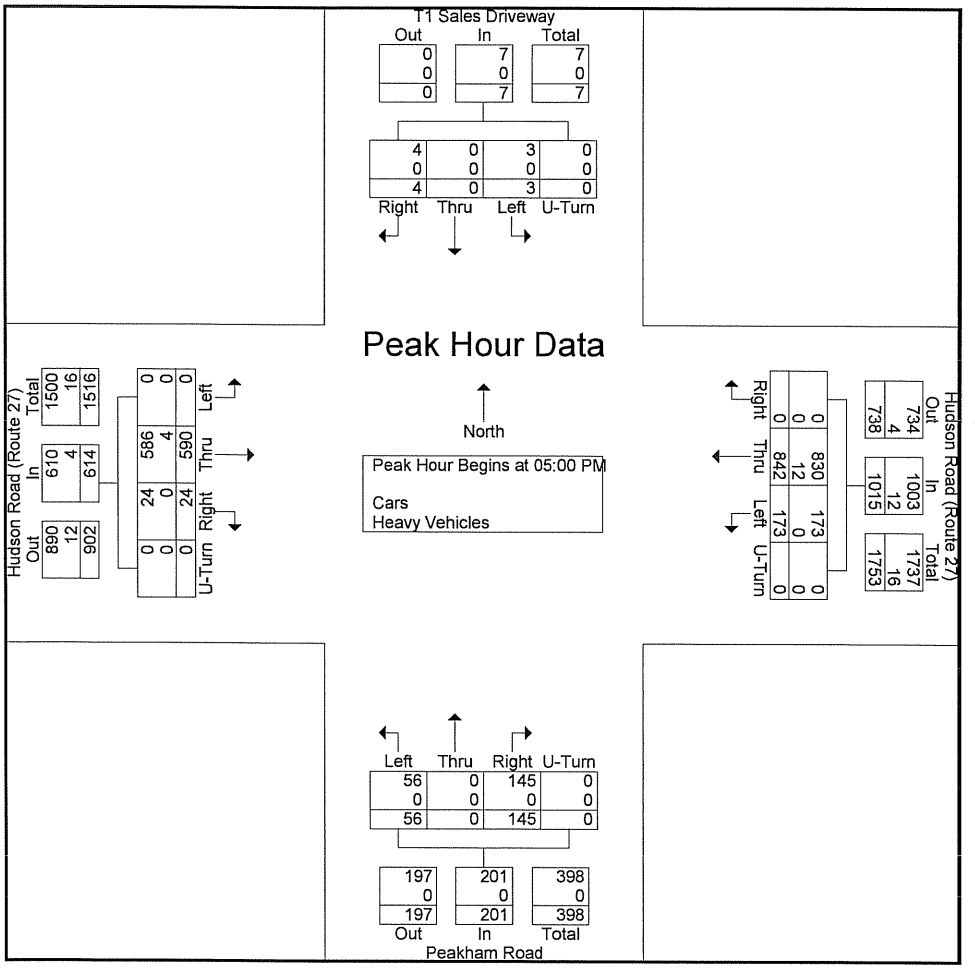
	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	185	42	0	227	21	0	13	0	34	5	131	0	0	136	397
05:15 PM	2	0	2	0	4	0	208	38	0	246	30	0	13	0	43	7	137	0	0	144	437
05:30 PM	1	0	0	0	1	0	224	57	0	281	35	0	13	0	48	5	161	0	0	166	496
05:45 PM	1	0	1	0	2	0	225	36	0	261	59	0	17	0	76	7	161	0	0	168	507
Total Volume	4	0	3	0	7	0	842	173	0	1015	145	0	56	0	201	24	590	0	0	614	1837
% App. Total	57.1	0	42.9	0		0	83	17	0		72.1	0	27.9	0		3.9	96.1	0	0		
PHF	.500	.000	.375	.000	.438	.000	.936	.759	.000	.903	.614	.000	.824	.000	.661	.857	.916	.000	.000	.914	.906
Cars	4	0	3	0	7	0	830	173	0	1003	145	0	56	0	201	24	586	0	0	610	1821
% Cars	100	0	100	0	100	0	98.6	100	0	98.8	100	0	100	0	100	100	99.3	0	0	99.3	99.1
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	16
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.2	0	0	0	0	0	0	0.7	0	0	0.7	0.9



N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars - Heavy Vehicles

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	219	37	0	22	0	10	0	7	121	0	0	416
04:15 PM	0	0	0	0	1	237	45	0	18	0	14	0	4	124	0	0	443
04:30 PM	0	0	0	0	0	201	39	0	14	0	9	0	6	137	2	1	409
04:45 PM	2	0	0	0	0	133	32	0	28	0	11	0	9	141	0	0	356
Total	2	0	0	0	1	790	153	0	82	0	44	0	26	523	2	1	1624
05:00 PM	0	0	0	0	0	185	42	0	21	0	13	0	5	131	0	0	397
05:15 PM	2	0	2	0	0	208	38	0	30	0	13	0	7	137	0	0	437
05:30 PM	1	0	0	0	0	224	57	0	35	0	13	0	5	161	0	0	496
05:45 PM	1	0	1	0	0	225	36	0	59	0	17	0	7	161	0	0	507
Total	4	0	3	0	0	842	173	0	145	0	56	0	24	590	0	0	1837
Grand Total	6	0	3	0	1	1632	326	0	227	0	100	0	50	1113	2	1	3461
Apprch %	66.7	0	33.3	0	0.1	83.3	16.6	0	69.4	0	30.6	0	4.3	95.5	0.2	0.1	
Total %	0.2	0	0.1	0	0	47.2	9.4	0	6.6	0	2.9	0	1.4	32.2	0.1	0	
Cars	4	0	3	0	1	1607	326	0	225	0	98	0	48	1093	0	1	3406
% Cars	66.7	0	100	0	100	98.5	100	0	99.1	0	98	0	96	98.2	0	100	98.4
Heavy Vehicles	2	0	0	0	0	25	0	0	2	0	2	0	2	20	2	0	55
% Heavy Vehicles	33.3	0	0	0	0	1.5	0	0	0.9	0	2	0	4	1.8	100	0	1.6

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	185	42	0	227	21	0	13	0	34	5	131	0	0	136	397
05:15 PM	2	0	2	0	4	0	208	38	0	246	30	0	13	0	43	7	137	0	0	144	437
05:30 PM	1	0	0	0	1	0	224	57	0	281	35	0	13	0	48	5	161	0	0	166	496
05:45 PM	1	0	1	0	2	0	225	36	0	261	59	0	17	0	76	7	161	0	0	168	507
Total Volume	4	0	3	0	7	0	842	173	0	1015	145	0	56	0	201	24	590	0	0	614	1837
% App. Total	57.1	0	42.9	0		0	83	17	0		72.1	0	27.9	0		3.9	96.1	0	0		
PHF	.500	.000	.375	.000	.438	.000	.936	.759	.000	.903	.614	.000	.824	.000	.661	.857	.916	.000	.000	.914	.906
Cars	4	0	3	0	7	0	830	173	0	1003	145	0	56	0	201	24	586	0	0	610	1821
% Cars	100	0	100	0	100	0	98.6	100	0	98.8	100	0	100	0	100	100	99.3	0	0	99.3	99.1
Heavy Vehicles	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	16
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.2	0	0	0	0	0	0	0.7	0	0	0.7	0.9

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Site Code : 814
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Page No : 1

Groups Printed- Cars

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	215	37	0	22	0	10	0	5	117	0	0	406
04:15 PM	0	0	0	0	1	233	45	0	18	0	14	0	4	119	0	0	434
04:30 PM	0	0	0	0	0	197	39	0	14	0	8	0	6	132	0	1	397
04:45 PM	0	0	0	0	0	132	32	0	26	0	10	0	9	139	0	0	348
Total	0	0	0	0	1	777	153	0	80	0	42	0	24	507	0	1	1585
05:00 PM	0	0	0	0	0	182	42	0	21	0	13	0	5	129	0	0	392
05:15 PM	2	0	2	0	0	206	38	0	30	0	13	0	7	137	0	0	435
05:30 PM	1	0	0	0	0	219	57	0	35	0	13	0	5	160	0	0	490
05:45 PM	1	0	1	0	0	223	36	0	59	0	17	0	7	160	0	0	504
Total	4	0	3	0	0	830	173	0	145	0	56	0	24	586	0	0	1821
Grand Total	4	0	3	0	1	1607	326	0	225	0	98	0	48	1093	0	1	3406
Apprch %	57.1	0	42.9	0	0.1	83.1	16.9	0	69.7	0	30.3	0	4.2	95.7	0	0.1	
Total %	0.1	0	0.1	0	0	47.2	9.6	0	6.6	0	2.9	0	1.4	32.1	0	0	

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	182	42	0	224	21	0	13	0	34	5	129	0	0	134	392
05:15 PM	2	0	2	0	4	0	206	38	0	244	30	0	13	0	43	7	137	0	0	144	435
05:30 PM	1	0	0	0	1	0	219	57	0	276	35	0	13	0	48	5	160	0	0	165	490
05:45 PM	1	0	1	0	2	0	223	36	0	259	59	0	17	0	76	7	160	0	0	167	504
Total Volume	4	0	3	0	7	0	830	173	0	1003	145	0	56	0	201	24	586	0	0	610	1821
% App. Total	57.1	0	42.9	0		0	82.8	17.2	0		72.1	0	27.9	0		3.9	96.1	0	0		
PHF	.500	.000	.375	.000	.438	.000	.930	.759	.000	.909	.614	.000	.824	.000	.661	.857	.916	.000	.000	.913	.903

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Heavy Vehicles

	T1 Sales Driveway From North				Hudson Road (Route 27) From East				Peakham Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	4	0	0	0	0	0	0	2	4	0	0	10
04:15 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	5	0	0	9
04:30 PM	0	0	0	0	0	4	0	0	0	0	1	0	0	5	2	0	12
04:45 PM	2	0	0	0	0	1	0	0	2	0	1	0	0	2	0	0	8
Total	2	0	0	0	0	13	0	0	2	0	2	0	2	16	2	0	39
05:00 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
05:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	0	6
05:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Total	0	0	0	0	0	12	0	0	0	0	0	0	0	4	0	0	16
Grand Total	2	0	0	0	0	25	0	0	2	0	2	0	2	20	2	0	55
Apprch %	100	0	0	0	0	100	0	0	50	0	50	0	8.3	83.3	8.3	0	
Total %	3.6	0	0	0	0	45.5	0	0	3.6	0	3.6	0	3.6	36.4	3.6	0	

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	2	4	0	0	6	10
04:15 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
04:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	5	2	0	7	12
04:45 PM	2	0	0	0	2	0	1	0	0	1	2	0	1	0	3	0	2	0	0	2	8
Total Volume	2	0	0	0	2	0	13	0	0	13	2	0	2	0	4	2	16	2	0	20	39
% App. Total	100	0	0	0		0	100	0	0		50	0	50	0		10	80	10	0		
PHF	.250	.000	.000	.000	.250	.000	.813	.000	.000	.813	.250	.000	.500	.000	.333	.250	.800	.250	.000	.714	.813

N/S: T1 Sales Driveway/ Peakham Road
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Peds and Bikes

	T1 Sales Driveway From North					Hudson Road (Route 27) From East					Peakham Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	0	4
04:15 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	2
Total	0	0	0	0	0	0	0	2	0	0	1	0	0	4	1	0	2	0	0	0	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	1	0	0	0	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	0	2	0	0	0	12
Grand Total	0	0	0	0	0	0	0	2	0	0	1	0	0	6	9	0	4	0	0	0	22
Apprch %	0	0	0	0	0	0	0	100	0	0	6.2	0	0	37.5	56.2	0	100	0	0	0	
Total %	0	0	0	0	0	0	0	9.1	0	0	4.5	0	0	27.3	40.9	0	18.2	0	0	0	

	T1 Sales Driveway From North						Hudson Road (Route 27) From East						Peakham Road From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:45 PM																									
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0	1	0	0	0	1	6
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	7	9	0	2	0	0	0	2	12
% App. Total	0	0	0	0	0		0	0	100	0	0		0	0	0	22.2	77.8		0	100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.500	.438	.450	.000	.500	.000	.000	.000	.500	.500

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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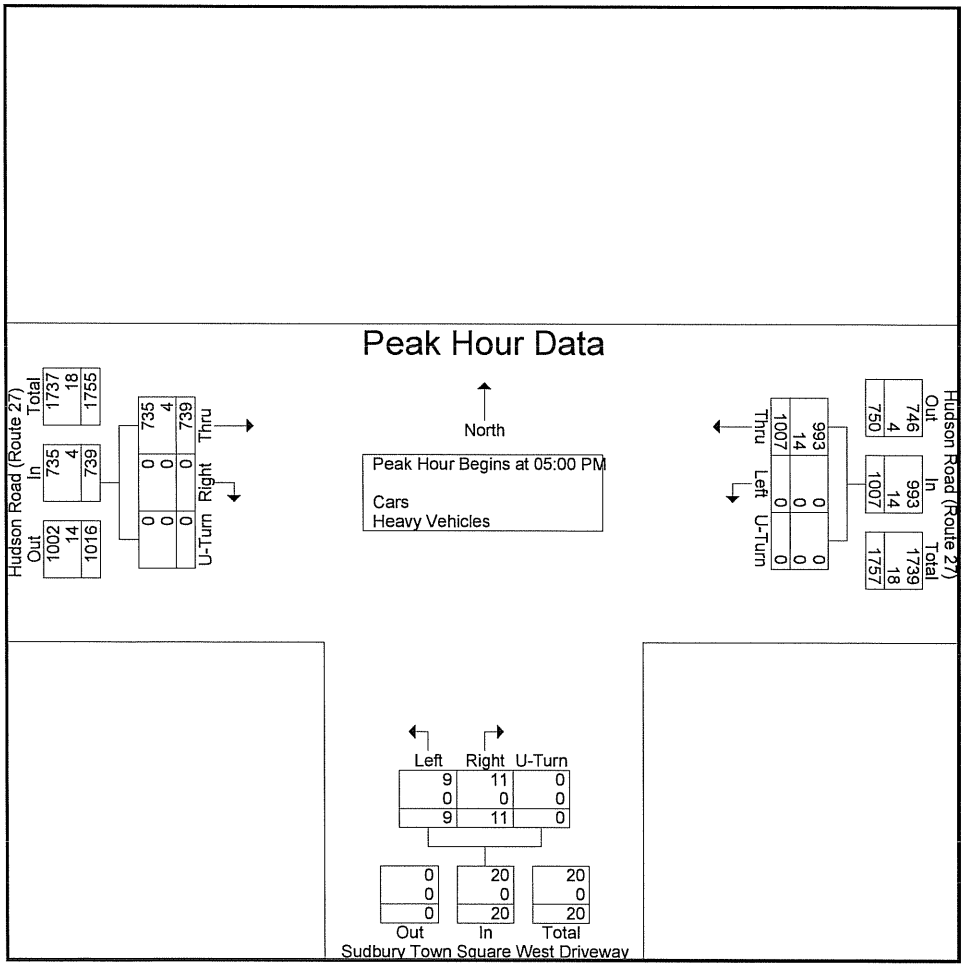
	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	226	0	0	226	3	1	0	4	0	153	0	153	383
05:15 PM	241	0	0	241	4	3	0	7	0	169	0	169	417
05:30 PM	281	0	0	281	3	1	0	4	0	197	0	197	482
05:45 PM	259	0	0	259	1	4	0	5	0	220	0	220	484
Total Volume	1007	0	0	1007	11	9	0	20	0	739	0	739	1766
% App. Total	100	0	0		55	45	0		0	100	0		
PHF	.896	.000	.000	.896	.688	.563	.000	.714	.000	.840	.000	.840	.912
Cars	993	0	0	993	11	9	0	20	0	735	0	735	1748
% Cars	98.6	0	0	98.6	100	100	0	100	0	99.5	0	99.5	99.0
Heavy Vehicles	14	0	0	14	0	0	0	0	0	4	0	4	18
% Heavy Vehicles	1.4	0	0	1.4	0	0	0	0	0	0.5	0	0.5	1.0



S: Sudbury Town Square West Driveway
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Groups Printed- Cars - Heavy Vehicles

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	257	0	0	2	0	0	0	142	0	401
04:15 PM	281	0	0	1	3	0	0	142	0	427
04:30 PM	236	0	0	0	2	0	0	151	0	389
04:45 PM	163	0	0	2	2	0	0	169	0	336
Total	937	0	0	5	7	0	0	604	0	1553
05:00 PM	226	0	0	3	1	0	0	153	0	383
05:15 PM	241	0	0	4	3	0	0	169	0	417
05:30 PM	281	0	0	3	1	0	0	197	0	482
05:45 PM	259	0	0	1	4	0	0	220	0	484
Total	1007	0	0	11	9	0	0	739	0	1766
Grand Total	1944	0	0	16	16	0	0	1343	0	3319
Apprch %	100	0	0	50	50	0	0	100	0	
Total %	58.6	0	0	0.5	0.5	0	0	40.5	0	
Cars	1915	0	0	16	16	0	0	1322	0	3269
% Cars	98.5	0	0	100	100	0	0	98.4	0	98.5
Heavy Vehicles	29	0	0	0	0	0	0	21	0	50
% Heavy Vehicles	1.5	0	0	0	0	0	0	1.6	0	1.5

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	226	0	0	226	3	1	0	4	0	153	0	153	383
05:15 PM	241	0	0	241	4	3	0	7	0	169	0	169	417
05:30 PM	281	0	0	281	3	1	0	4	0	197	0	197	482
05:45 PM	259	0	0	259	1	4	0	5	0	220	0	220	484
Total Volume	1007	0	0	1007	11	9	0	20	0	739	0	739	1766
% App. Total	100	0	0		55	45	0		0	100	0		
PHF	.896	.000	.000	.896	.688	.563	.000	.714	.000	.840	.000	.840	.912
Cars	993	0	0	993	11	9	0	20	0	735	0	735	1748
% Cars	98.6	0	0	98.6	100	100	0	100	0	99.5	0	99.5	99.0
Heavy Vehicles	14	0	0	14	0	0	0	0	0	4	0	4	18
% Heavy Vehicles	1.4	0	0	1.4	0	0	0	0	0	0.5	0	0.5	1.0

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	251	0	0	2	0	0	0	139	0	392
04:15 PM	276	0	0	1	3	0	0	137	0	417
04:30 PM	232	0	0	0	2	0	0	146	0	380
04:45 PM	163	0	0	2	2	0	0	165	0	332
Total	922	0	0	5	7	0	0	587	0	1521
05:00 PM	223	0	0	3	1	0	0	151	0	378
05:15 PM	239	0	0	4	3	0	0	169	0	415
05:30 PM	275	0	0	3	1	0	0	196	0	475
05:45 PM	256	0	0	1	4	0	0	219	0	480
Total	993	0	0	11	9	0	0	735	0	1748
Grand Total	1915	0	0	16	16	0	0	1322	0	3269
Apprch %	100	0	0	50	50	0	0	100	0	
Total %	58.6	0	0	0.5	0.5	0	0	40.4	0	

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	223	0	0	223	3	1	0	4	0	151	0	151	378
05:15 PM	239	0	0	239	4	3	0	7	0	169	0	169	415
05:30 PM	275	0	0	275	3	1	0	4	0	196	0	196	475
05:45 PM	256	0	0	256	1	4	0	5	0	219	0	219	480
Total Volume	993	0	0	993	11	9	0	20	0	735	0	735	1748
% App. Total	100	0	0		55	45	0		0	100	0		
PHF	.903	.000	.000	.903	.688	.563	.000	.714	.000	.839	.000	.839	.910

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 164982 BB
Site Code : 814
Start Date : 3/9/2016
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Groups Printed- Heavy Vehicles

	Hudson Road (Route 27) From East			Sudbury Town Square West Driveway From South			Hudson Road (Route 27) From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
04:00 PM	6	0	0	0	0	0	0	3	0	9
04:15 PM	5	0	0	0	0	0	0	5	0	10
04:30 PM	4	0	0	0	0	0	0	5	0	9
04:45 PM	0	0	0	0	0	0	0	4	0	4
Total	15	0	0	0	0	0	0	17	0	32
05:00 PM	3	0	0	0	0	0	0	2	0	5
05:15 PM	2	0	0	0	0	0	0	0	0	2
05:30 PM	6	0	0	0	0	0	0	1	0	7
05:45 PM	3	0	0	0	0	0	0	1	0	4
Total	14	0	0	0	0	0	0	4	0	18
Grand Total	29	0	0	0	0	0	0	21	0	50
Apprch %	100	0	0	0	0	0	0	100	0	
Total %	58	0	0	0	0	0	0	42	0	

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	6	0	0	6	0	0	0	0	0	3	0	3	9
04:15 PM	5	0	0	5	0	0	0	0	0	5	0	5	10
04:30 PM	4	0	0	4	0	0	0	0	0	5	0	5	9
04:45 PM	0	0	0	0	0	0	0	0	0	4	0	4	4
Total Volume	15	0	0	15	0	0	0	0	0	17	0	17	32
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.625	.000	.000	.625	.000	.000	.000	.000	.000	.850	.000	.850	.800

S: Sudbury Town Square West Driveway
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Peds and Bikes

	Hudson Road (Route 27) From East				Sudbury Town Square West Driveway From South				Hudson Road (Route 27) From West				
Start Time	Thru	Left	Peds SB	Peds NB	Right	Left	Peds WB	Peds EB	Right	Thru	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
04:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	1	0	0	0	0	0	0	0	0	1	0	0	2
Total	2	0	0	0	0	0	0	0	0	3	0	0	5
05:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	2	4	0	1	1	0	8
05:45 PM	0	0	0	0	0	0	0	1	0	1	0	0	2
Total	0	0	0	0	0	0	3	8	0	2	1	0	14
Grand Total	2	0	0	0	0	0	3	8	0	5	1	0	19
Apprch %	100	0	0	0	0	0	27.3	72.7	0	83.3	16.7	0	
Total %	10.5	0	0	0	0	0	15.8	42.1	0	26.3	5.3	0	

	Hudson Road (Route 27) From East					Sudbury Town Square West Driveway From South					Hudson Road (Route 27) From West					
Start Time	Thru	Left	Peds SB	Peds NB	App. Total	Right	Left	Peds WB	Peds EB	App. Total	Right	Thru	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:45 PM																
04:45 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	2	4	6	0	1	1	0	2	8
Total Volume	1	0	0	0	1	0	0	3	7	10	0	2	1	0	3	14
% App. Total	100	0	0	0		0	0	30	70		0	66.7	33.3	0		
PHF	.250	.000	.000	.000	.250	.000	.000	.375	.438	.417	.000	.500	.250	.000	.375	.438

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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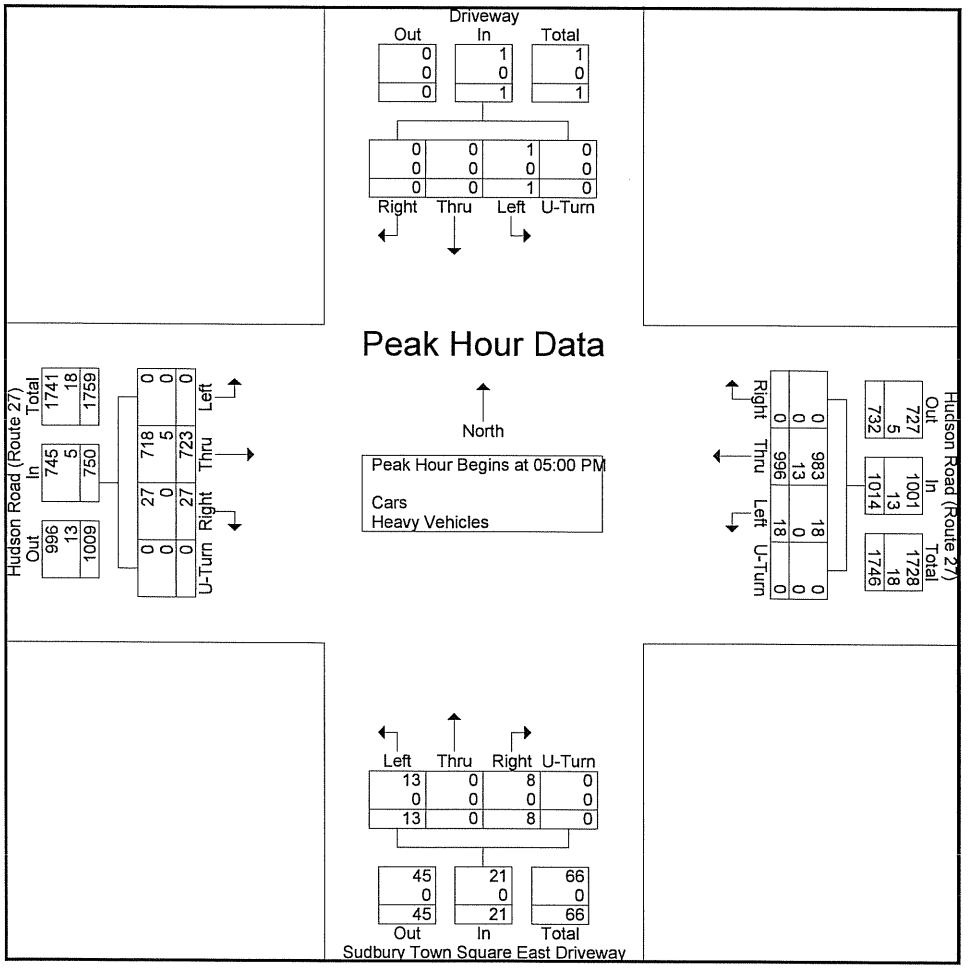
	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	223	3	0	226	2	0	5	0	7	8	149	0	0	157	390
05:15 PM	0	0	0	0	0	0	241	5	0	246	1	0	1	0	2	7	166	0	0	173	421
05:30 PM	0	0	0	0	0	0	277	7	0	284	2	0	3	0	5	4	196	0	0	200	489
05:45 PM	0	0	1	0	1	0	255	3	0	258	3	0	4	0	7	8	212	0	0	220	486
Total Volume	0	0	1	0	1	0	996	18	0	1014	8	0	13	0	21	27	723	0	0	750	1786
% App. Total	0	0	100	0		0	98.2	1.8	0		38.1	0	61.9	0		3.6	96.4	0	0		
PHF	.000	.000	.250	.000	.250	.000	.899	.643	.000	.893	.667	.000	.650	.000	.750	.844	.853	.000	.000	.852	.913
Cars	0	0	1	0	1	0	983	18	0	1001	8	0	13	0	21	27	718	0	0	745	1768
% Cars	0	0	100	0	100	0	98.7	100	0	98.7	100	0	100	0	100	100	99.3	0	0	99.3	99.0
Heavy Vehicles	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	5	0	0	5	18
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	0.7	0	0	0.7	1.0



N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars - Heavy Vehicles

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	252	3	0	2	0	1	0	2	143	0	0	403
04:15 PM	1	0	0	0	1	280	2	0	3	0	0	0	3	140	0	0	430
04:30 PM	0	0	0	0	0	234	6	0	2	0	1	0	5	146	0	0	394
04:45 PM	0	0	0	0	0	162	6	0	1	0	0	0	11	159	0	0	339
Total	1	0	0	0	1	928	17	0	8	0	2	0	21	588	0	0	1566
05:00 PM	0	0	0	0	0	223	3	0	2	0	5	0	8	149	0	0	390
05:15 PM	0	0	0	0	0	241	5	0	1	0	1	0	7	166	0	0	421
05:30 PM	0	0	0	0	0	277	7	0	2	0	3	0	4	196	0	0	489
05:45 PM	0	0	1	0	0	255	3	0	3	0	4	0	8	212	0	0	486
Total	0	0	1	0	0	996	18	0	8	0	13	0	27	723	0	0	1786
Grand Total	1	0	1	0	1	1924	35	0	16	0	15	0	48	1311	0	0	3352
Apprch %	50	0	50	0	0.1	98.2	1.8	0	51.6	0	48.4	0	3.5	96.5	0	0	
Total %	0	0	0	0	0	57.4	1	0	0.5	0	0.4	0	1.4	39.1	0	0	
Cars	1	0	1	0	1	1894	35	0	16	0	15	0	48	1288	0	0	3299
% Cars	100	0	100	0	100	98.4	100	0	100	0	100	0	100	98.2	0	0	98.4
Heavy Vehicles	0	0	0	0	0	30	0	0	0	0	0	0	0	23	0	0	53
% Heavy Vehicles	0	0	0	0	0	1.6	0	0	0	0	0	0	0	1.8	0	0	1.6

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	223	3	0	226	2	0	5	0	7	8	149	0	0	157	390
05:15 PM	0	0	0	0	0	0	241	5	0	246	1	0	1	0	2	7	166	0	0	173	421
05:30 PM	0	0	0	0	0	0	277	7	0	284	2	0	3	0	5	4	196	0	0	200	489
05:45 PM	0	0	1	0	1	0	255	3	0	258	3	0	4	0	7	8	212	0	0	220	486
Total Volume	0	0	1	0	1	0	996	18	0	1014	8	0	13	0	21	27	723	0	0	750	1786
% App. Total	0	0	100	0		0	98.2	1.8	0		38.1	0	61.9	0		3.6	96.4	0	0		
PHF	.000	.000	.250	.000	.250	.000	.899	.643	.000	.893	.667	.000	.650	.000	.750	.844	.853	.000	.000	.852	.913
Cars	0	0	1	0	1	0	983	18	0	1001	8	0	13	0	21	27	718	0	0	745	1768
% Cars	0	0	100	0	100	0	98.7	100	0	98.7	100	0	100	0	100	100	99.3	0	0	99.3	99.0
Heavy Vehicles	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	5	0	0	5	18
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	0.7	0	0	0.7	1.0

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
City, State: Sudbury, MA
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Site Code : 814
Start Date : 3/9/2016
Page No : 1

Groups Printed- Cars

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	246	3	0	2	0	1	0	2	139	0	0	393
04:15 PM	1	0	0	0	1	275	2	0	3	0	0	0	3	135	0	0	420
04:30 PM	0	0	0	0	0	229	6	0	2	0	1	0	5	141	0	0	384
04:45 PM	0	0	0	0	0	161	6	0	1	0	0	0	11	155	0	0	334
Total	1	0	0	0	1	911	17	0	8	0	2	0	21	570	0	0	1531
05:00 PM	0	0	0	0	0	220	3	0	2	0	5	0	8	147	0	0	385
05:15 PM	0	0	0	0	0	239	5	0	1	0	1	0	7	165	0	0	418
05:30 PM	0	0	0	0	0	271	7	0	2	0	3	0	4	195	0	0	482
05:45 PM	0	0	1	0	0	253	3	0	3	0	4	0	8	211	0	0	483
Total	0	0	1	0	0	983	18	0	8	0	13	0	27	718	0	0	1768
Grand Total	1	0	1	0	1	1894	35	0	16	0	15	0	48	1288	0	0	3299
Apprch %	50	0	50	0	0.1	98.1	1.8	0	51.6	0	48.4	0	3.6	96.4	0	0	
Total %	0	0	0	0	0	57.4	1.1	0	0.5	0	0.5	0	1.5	39	0	0	

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	220	3	0	223	2	0	5	0	7	8	147	0	0	155	385
05:15 PM	0	0	0	0	0	0	239	5	0	244	1	0	1	0	2	7	165	0	0	172	418
05:30 PM	0	0	0	0	0	0	271	7	0	278	2	0	3	0	5	4	195	0	0	199	482
05:45 PM	0	0	1	0	1	0	253	3	0	256	3	0	4	0	7	8	211	0	0	219	483
Total Volume	0	0	1	0	1	0	983	18	0	1001	8	0	13	0	21	27	718	0	0	745	1768
% App. Total	0	0	100	0		0	98.2	1.8	0		38.1	0	61.9	0		3.6	96.4	0	0		
PHF	.000	.000	.250	.000	.250	.000	.907	.643	.000	.900	.667	.000	.650	.000	.750	.844	.851	.000	.000	.850	.915

N/S: Driveway/Sudbury Town Square East
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Page No : 1

Groups Printed- Heavy Vehicles

	Driveway From North				Hudson Road (Route 27) From East				Sudbury Town Square East Driveway From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	4	0	0	10
04:15 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0	0	10
04:30 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0	0	10
04:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	5
Total	0	0	0	0	0	17	0	0	0	0	0	0	0	18	0	0	35
05:00 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	5
05:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
05:30 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0	7
05:45 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Total	0	0	0	0	0	13	0	0	0	0	0	0	0	5	0	0	18
Grand Total	0	0	0	0	0	30	0	0	0	0	0	0	0	23	0	0	53
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	56.6	0	0	0	0	0	0	0	43.4	0	0	

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
04:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
04:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Total Volume	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.708	.000	.000	.708	.000	.000	.000	.000	.000	.000	.900	.000	.000	.900	.875

N/S: Driveway/Sudbury Town Square East
E/W: Hudson Road (Route 27)
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Groups Printed- Peds and Bikes

	Driveway From North					Hudson Road (Route 27) From East					Sudbury Town Square East Driveway From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Total	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Grand Total	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	5	0	0	0	7
Apprch %	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	
Total %	0	0	0	0	0	0	28.6	0	0	0	0	0	0	0	0	0	71.4	0	0	0	

	Driveway From North						Hudson Road (Route 27) From East						Sudbury Town Square East Driveway From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:00 PM																									
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	5
% App. Total	0	0	0	0	0		0	100	0	0	0		0	0	0	0	0		0	100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.750	.000	.000	.000	.750	.625

N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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File Name : 164982 DD
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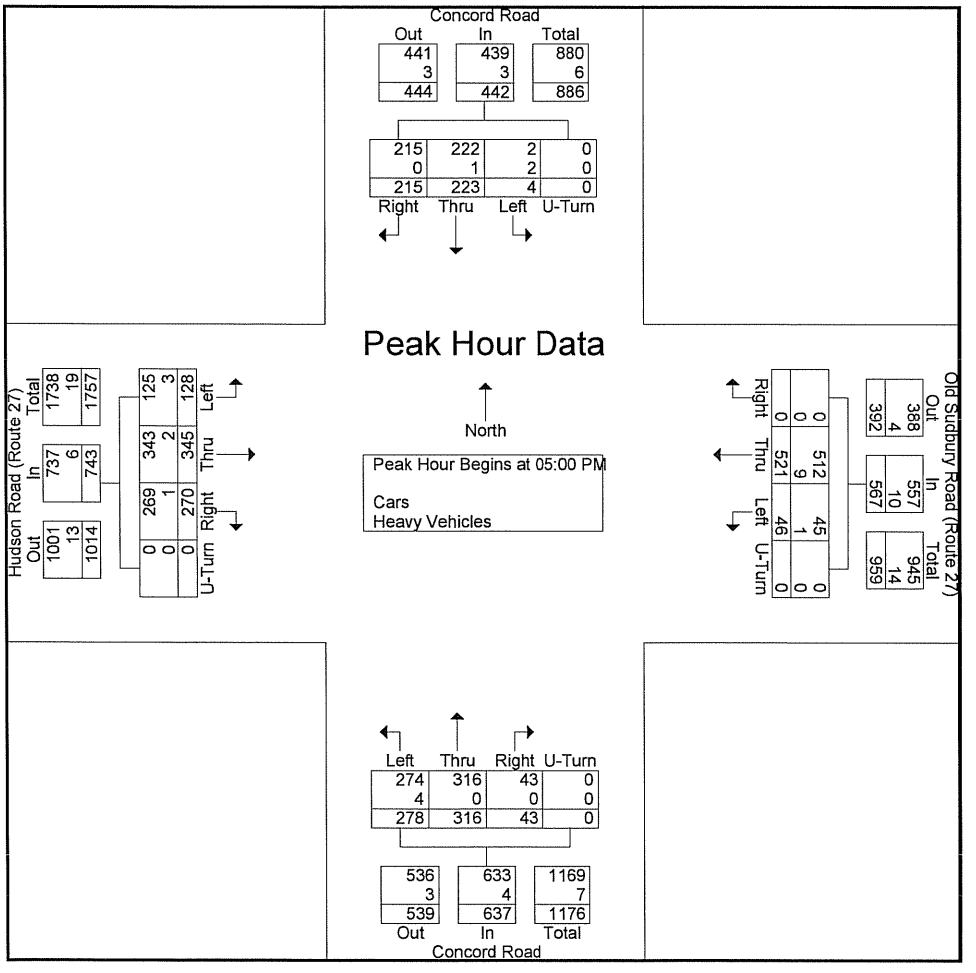
	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	68	63	2	0	133	0	75	11	0	86	6	76	82	0	164	69	70	22	0	161	544
05:15 PM	52	57	1	0	110	0	123	13	0	136	8	67	70	0	145	55	75	31	0	161	552
05:30 PM	58	42	0	0	100	0	157	16	0	173	7	79	67	0	153	77	83	38	0	198	624
05:45 PM	37	61	1	0	99	0	166	6	0	172	22	94	59	0	175	69	117	37	0	223	669
Total Volume	215	223	4	0	442	0	521	46	0	567	43	316	278	0	637	270	345	128	0	743	2389
% App. Total	48.6	50.5	0.9	0		0	91.9	8.1	0		6.8	49.6	43.6	0		36.3	46.4	17.2	0		
PHF	.790	.885	.500	.000	.831	.000	.785	.719	.000	.819	.489	.840	.848	.000	.910	.877	.737	.842	.000	.833	.893
Cars	215	222	2	0	439	0	512	45	0	557	43	316	274	0	633	269	343	125	0	737	2366
% Cars	100	99.6	50.0	0	99.3	0	98.3	97.8	0	98.2	100	100	98.6	0	99.4	99.6	99.4	97.7	0	99.2	99.0
Heavy Vehicles	0	1	2	0	3	0	9	1	0	10	0	0	4	0	4	1	2	3	0	6	23
% Heavy Vehicles	0	0.4	50.0	0	0.7	0	1.7	2.2	0	1.8	0	0	1.4	0	0.6	0.4	0.6	2.3	0	0.8	1.0



N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Cars - Heavy Vehicles

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	43	62	4	0	0	143	10	0	3	72	64	0	49	58	29	0	537
04:15 PM	51	60	1	0	0	171	6	0	6	53	63	0	44	75	25	0	555
04:30 PM	46	60	0	0	1	146	8	0	0	53	55	0	67	58	20	0	514
04:45 PM	59	79	0	0	0	50	9	0	6	60	60	0	75	53	30	0	481
Total	199	261	5	0	1	510	33	0	15	238	242	0	235	244	104	0	2087
05:00 PM	68	63	2	0	0	75	11	0	6	76	82	0	69	70	22	0	544
05:15 PM	52	57	1	0	0	123	13	0	8	67	70	0	55	75	31	0	552
05:30 PM	58	42	0	0	0	157	16	0	7	79	67	0	77	83	38	0	624
05:45 PM	37	61	1	0	0	166	6	0	22	94	59	0	69	117	37	0	669
Total	215	223	4	0	0	521	46	0	43	316	278	0	270	345	128	0	2389
Grand Total	414	484	9	0	1	1031	79	0	58	554	520	0	505	589	232	0	4476
Apprch %	45.6	53.4	1	0	0.1	92.8	7.1	0	5.1	48.9	45.9	0	38.1	44.4	17.5	0	
Total %	9.2	10.8	0.2	0	0	23	1.8	0	1.3	12.4	11.6	0	11.3	13.2	5.2	0	
Cars	414	482	6	0	1	1013	78	0	57	554	511	0	499	580	225	0	4420
% Cars	100	99.6	66.7	0	100	98.3	98.7	0	98.3	100	98.3	0	98.8	98.5	97	0	98.7
Heavy Vehicles	0	2	3	0	0	18	1	0	1	0	9	0	6	9	7	0	56
% Heavy Vehicles	0	0.4	33.3	0	0	1.7	1.3	0	1.7	0	1.7	0	1.2	1.5	3	0	1.3

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	68	63	2	0	133	0	75	11	0	86	6	76	82	0	164	69	70	22	0	161	544
05:15 PM	52	57	1	0	110	0	123	13	0	136	8	67	70	0	145	55	75	31	0	161	552
05:30 PM	58	42	0	0	100	0	157	16	0	173	7	79	67	0	153	77	83	38	0	198	624
05:45 PM	37	61	1	0	99	0	166	6	0	172	22	94	59	0	175	69	117	37	0	223	669
Total Volume	215	223	4	0	442	0	521	46	0	567	43	316	278	0	637	270	345	128	0	743	2389
% App. Total	48.6	50.5	0.9	0		0	91.9	8.1	0		6.8	49.6	43.6	0		36.3	46.4	17.2	0		
PHF	.790	.885	.500	.000	.831	.000	.785	.719	.000	.819	.489	.840	.848	.000	.910	.877	.737	.842	.000	.833	.893
Cars	215	222	2	0	439	0	512	45	0	557	43	316	274	0	633	269	343	125	0	737	2366
% Cars	100	99.6	50.0	0	99.3	0	98.3	97.8	0	98.2	100	100	98.6	0	99.4	99.6	99.4	97.7	0	99.2	99.0
Heavy Vehicles	0	1	2	0	3	0	9	1	0	10	0	0	4	0	4	1	2	3	0	6	23
% Heavy Vehicles	0	0.4	50.0	0	0.7	0	1.7	2.2	0	1.8	0	0	1.4	0	0.6	0.4	0.6	2.3	0	0.8	1.0

N/S: Concord Road
E/W: Old Sudbury Rd/Hudson Rd (Route 27)
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File Name : 164982 DD
Site Code : 814
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Groups Printed- Cars

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	43	62	3	0	0	141	10	0	3	72	61	0	49	55	29	0	528
04:15 PM	51	59	1	0	0	167	6	0	5	53	63	0	43	73	23	0	544
04:30 PM	46	60	0	0	1	144	8	0	0	53	53	0	65	57	19	0	506
04:45 PM	59	79	0	0	0	49	9	0	6	60	60	0	73	52	29	0	476
Total	199	260	4	0	1	501	33	0	14	238	237	0	230	237	100	0	2054
05:00 PM	68	63	0	0	0	72	11	0	6	76	82	0	69	69	20	0	536
05:15 PM	52	56	1	0	0	122	12	0	8	67	69	0	55	74	31	0	547
05:30 PM	58	42	0	0	0	153	16	0	7	79	65	0	77	83	37	0	617
05:45 PM	37	61	1	0	0	165	6	0	22	94	58	0	68	117	37	0	666
Total	215	222	2	0	0	512	45	0	43	316	274	0	269	343	125	0	2366
Grand Total	414	482	6	0	1	1013	78	0	57	554	511	0	499	580	225	0	4420
Apprch %	45.9	53.4	0.7	0	0.1	92.8	7.1	0	5.1	49.4	45.5	0	38.3	44.5	17.3	0	
Total %	9.4	10.9	0.1	0	0	22.9	1.8	0	1.3	12.5	11.6	0	11.3	13.1	5.1	0	

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	68	63	0	0	131	0	72	11	0	83	6	76	82	0	164	69	69	20	0	158	536
05:15 PM	52	56	1	0	109	0	122	12	0	134	8	67	69	0	144	55	74	31	0	160	547
05:30 PM	58	42	0	0	100	0	153	16	0	169	7	79	65	0	151	77	83	37	0	197	617
05:45 PM	37	61	1	0	99	0	165	6	0	171	22	94	58	0	174	68	117	37	0	222	666
Total Volume	215	222	2	0	439	0	512	45	0	557	43	316	274	0	633	269	343	125	0	737	2366
% App. Total	49	50.6	0.5	0		0	91.9	8.1	0		6.8	49.9	43.3	0		36.5	46.5	17	0		
PHF	.790	.881	.500	.000	.838	.000	.776	.703	.000	.814	.489	.840	.835	.000	.909	.873	.733	.845	.000	.830	.888

N/S: Concord Road
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File Name : 164982 DD
Site Code : 814
Start Date : 3/9/2016
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Groups Printed- Heavy Vehicles

	Concord Road From North				Old Sudbury Road (Route 27) From East				Concord Road From South				Hudson Road (Route 27) From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	1	0	0	2	0	0	0	0	3	0	0	3	0	0	9
04:15 PM	0	1	0	0	0	4	0	0	1	0	0	0	1	2	2	0	11
04:30 PM	0	0	0	0	0	2	0	0	0	0	2	0	2	1	1	0	8
04:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	2	1	1	0	5
Total	0	1	1	0	0	9	0	0	1	0	5	0	5	7	4	0	33
05:00 PM	0	0	2	0	0	3	0	0	0	0	0	0	0	1	2	0	8
05:15 PM	0	1	0	0	0	1	1	0	0	0	1	0	0	1	0	0	5
05:30 PM	0	0	0	0	0	4	0	0	0	0	2	0	0	0	1	0	7
05:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	3
Total	0	1	2	0	0	9	1	0	0	0	4	0	1	2	3	0	23
Grand Total	0	2	3	0	0	18	1	0	1	0	9	0	6	9	7	0	56
Apprch %	0	40	60	0	0	94.7	5.3	0	10	0	90	0	27.3	40.9	31.8	0	
Total %	0	3.6	5.4	0	0	32.1	1.8	0	1.8	0	16.1	0	10.7	16.1	12.5	0	

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	1	0	1	0	2	0	0	2	0	0	3	0	3	0	3	0	0	3	9
04:15 PM	0	1	0	0	1	0	4	0	0	4	1	0	0	0	1	1	2	2	0	5	11
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	2	1	1	0	4	8
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	1	0	4	5
Total Volume	0	1	1	0	2	0	9	0	0	9	1	0	5	0	6	5	7	4	0	16	33
% App. Total	0	50	50	0		0	100	0	0		16.7	0	83.3	0		31.2	43.8	25	0		
PHF	.000	.250	.250	.000	.500	.000	.563	.000	.000	.563	.250	.000	.417	.000	.500	.625	.583	.500	.000	.800	.750

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Groups Printed- Peds and Bikes

	Concord Road From North					Old Sudbury Road (Route 27) From East					Concord Road From South					Hudson Road (Route 27) From West					
Start Time	Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Left	Peds SB	Peds NB	Right	Thru	Left	Peds WB	Peds EB	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
04:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	2	0	0	0	8
Grand Total	1	0	0	0	0	0	1	0	0	0	0	0	0	5	5	0	2	0	0	0	14
Apprch %	100	0	0	0	0	0	100	0	0	0	0	0	0	50	50	0	100	0	0	0	
Total %	7.1	0	0	0	0	0	7.1	0	0	0	0	0	0	35.7	35.7	0	14.3	0	0	0	

	Concord Road From North						Old Sudbury Road (Route 27) From East						Concord Road From South						Hudson Road (Route 27) From West						
Start Time	Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Peds WB	Peds EB	App. Total	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:00 PM																									
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	1	3
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	6	0	2	0	0	0	2	8
% App. Total	0	0	0	0	0		0	0	0	0	0		0	0	0	16.7	83.3		0	100	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.625	.750	.000	.500	.000	.000	.000	.500	.667

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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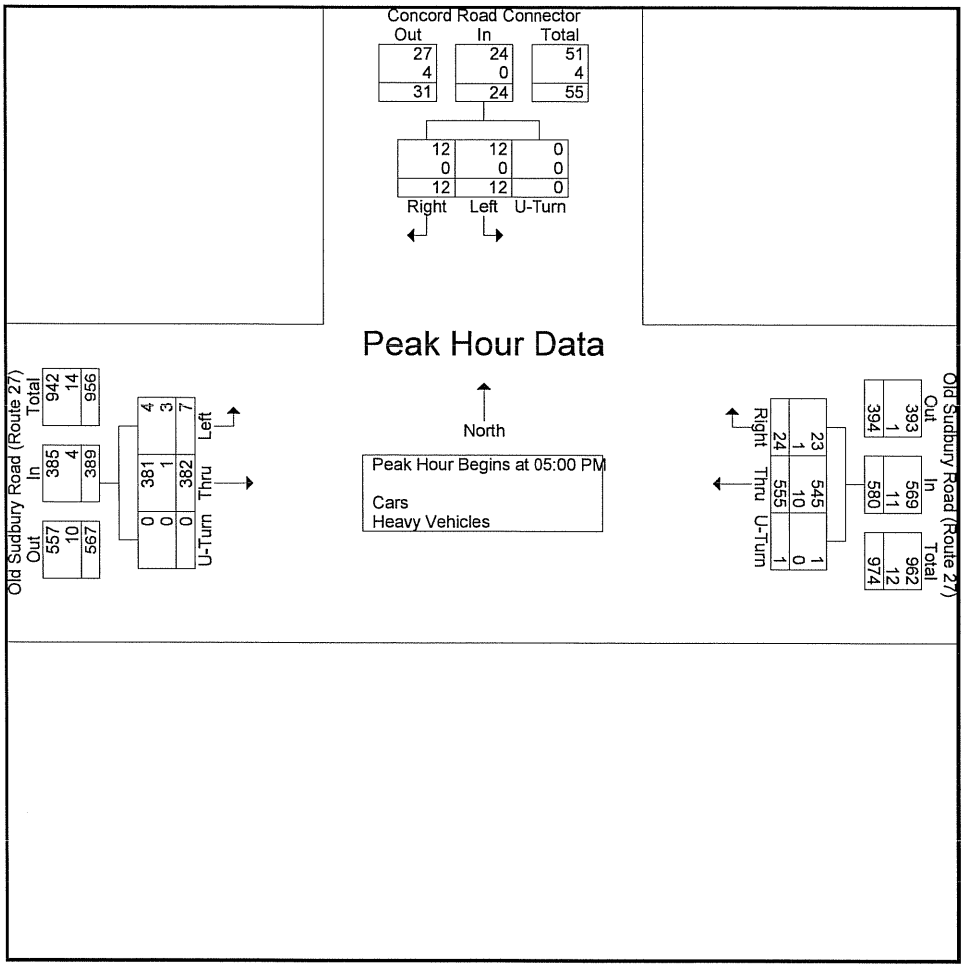
	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	4	2	0	6	6	83	0	89	72	4	0	76	171
05:15 PM	3	4	0	7	4	136	0	140	84	1	0	85	232
05:30 PM	5	5	0	10	4	163	0	167	90	1	0	91	268
05:45 PM	0	1	0	1	10	173	1	184	136	1	0	137	322
Total Volume	12	12	0	24	24	555	1	580	382	7	0	389	993
% App. Total	50	50	0		4.1	95.7	0.2		98.2	1.8	0		
PHF	.600	.600	.000	.600	.600	.802	.250	.788	.702	.438	.000	.710	.771
Cars	12	12	0	24	23	545	1	569	381	4	0	385	978
% Cars	100	100	0	100	95.8	98.2	100	98.1	99.7	57.1	0	99.0	98.5
Heavy Vehicles	0	0	0	0	1	10	0	11	1	3	0	4	15
% Heavy Vehicles	0	0	0	0	4.2	1.8	0	1.9	0.3	42.9	0	1.0	1.5



N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 164982 EE
Site Code : 814
Start Date : 3/9/2016
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Groups Printed- Cars - Heavy Vehicles

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
04:00 PM	1	10	0	11	154	0	63	0	0	239
04:15 PM	0	4	0	9	175	0	80	0	0	268
04:30 PM	0	6	0	7	154	0	57	1	0	225
04:45 PM	1	5	0	6	58	0	61	0	0	131
Total	2	25	0	33	541	0	261	1	0	863
05:00 PM	4	2	0	6	83	0	72	4	0	171
05:15 PM	3	4	0	4	136	0	84	1	0	232
05:30 PM	5	5	0	4	163	0	90	1	0	268
05:45 PM	0	1	0	10	173	1	136	1	0	322
Total	12	12	0	24	555	1	382	7	0	993
Grand Total	14	37	0	57	1096	1	643	8	0	1856
Apprch %	27.5	72.5	0	4.9	95	0.1	98.8	1.2	0	
Total %	0.8	2	0	3.1	59.1	0.1	34.6	0.4	0	
Cars	14	35	0	54	1076	1	635	5	0	1820
% Cars	100	94.6	0	94.7	98.2	100	98.8	62.5	0	98.1
Heavy Vehicles	0	2	0	3	20	0	8	3	0	36
% Heavy Vehicles	0	5.4	0	5.3	1.8	0	1.2	37.5	0	1.9

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	4	2	0	6	6	83	0	89	72	4	0	76	171
05:15 PM	3	4	0	7	4	136	0	140	84	1	0	85	232
05:30 PM	5	5	0	10	4	163	0	167	90	1	0	91	268
05:45 PM	0	1	0	1	10	173	1	184	136	1	0	137	322
Total Volume	12	12	0	24	24	555	1	580	382	7	0	389	993
% App. Total	50	50	0		4.1	95.7	0.2		98.2	1.8	0		
PHF	.600	.600	.000	.600	.600	.802	.250	.788	.702	.438	.000	.710	.771
Cars	12	12	0	24	23	545	1	569	381	4	0	385	978
% Cars	100	100	0	100	95.8	98.2	100	98.1	99.7	57.1	0	99.0	98.5
Heavy Vehicles	0	0	0	0	1	10	0	11	1	3	0	4	15
% Heavy Vehicles	0	0	0	0	4.2	1.8	0	1.9	0.3	42.9	0	1.0	1.5

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Site Code : 814
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Groups Printed- Cars

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
04:00 PM	1	10	0	11	152	0	61	0	0	235
04:15 PM	0	4	0	8	170	0	77	0	0	259
04:30 PM	0	6	0	6	152	0	56	1	0	221
04:45 PM	1	3	0	6	57	0	60	0	0	127
Total	2	23	0	31	531	0	254	1	0	842
05:00 PM	4	2	0	5	81	0	72	1	0	165
05:15 PM	3	4	0	4	134	0	83	1	0	229
05:30 PM	5	5	0	4	159	0	90	1	0	264
05:45 PM	0	1	0	10	171	1	136	1	0	320
Total	12	12	0	23	545	1	381	4	0	978
Grand Total	14	35	0	54	1076	1	635	5	0	1820
Apprch %	28.6	71.4	0	4.8	95.1	0.1	99.2	0.8	0	
Total %	0.8	1.9	0	3	59.1	0.1	34.9	0.3	0	

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	4	2	0	6	5	81	0	86	72	1	0	73	165
05:15 PM	3	4	0	7	4	134	0	138	83	1	0	84	229
05:30 PM	5	5	0	10	4	159	0	163	90	1	0	91	264
05:45 PM	0	1	0	1	10	171	1	182	136	1	0	137	320
Total Volume	12	12	0	24	23	545	1	569	381	4	0	385	978
% App. Total	50	50	0		4	95.8	0.2		99	1	0		
PHF	.600	.600	.000	.600	.575	.797	.250	.782	.700	1.00	.000	.703	.764

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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File Name : 164982 EE
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Start Date : 3/9/2016
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Groups Printed- Heavy Vehicles

	Concord Road Connector From North			Old Sudbury Road (Route 27) From East			Old Sudbury Road (Route 27) From West			
Start Time	Right	Left	U-Turn	Right	Thru	U-Turn	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	0	0	2	0	2	0	0	4
04:15 PM	0	0	0	1	5	0	3	0	0	9
04:30 PM	0	0	0	1	2	0	1	0	0	4
04:45 PM	0	2	0	0	1	0	1	0	0	4
Total	0	2	0	2	10	0	7	0	0	21
05:00 PM	0	0	0	1	2	0	0	3	0	6
05:15 PM	0	0	0	0	2	0	1	0	0	3
05:30 PM	0	0	0	0	4	0	0	0	0	4
05:45 PM	0	0	0	0	2	0	0	0	0	2
Total	0	0	0	1	10	0	1	3	0	15
Grand Total	0	2	0	3	20	0	8	3	0	36
Apprch %	0	100	0	13	87	0	72.7	27.3	0	
Total %	0	5.6	0	8.3	55.6	0	22.2	8.3	0	

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	0	0	0	1	5	0	6	3	0	0	3	9
04:30 PM	0	0	0	0	1	2	0	3	1	0	0	1	4
04:45 PM	0	2	0	2	0	1	0	1	1	0	0	1	4
05:00 PM	0	0	0	0	1	2	0	3	0	3	0	3	6
Total Volume	0	2	0	2	3	10	0	13	5	3	0	8	23
% App. Total	0	100	0		23.1	76.9	0		62.5	37.5	0		
PHF	.000	.250	.000	.250	.750	.500	.000	.542	.417	.250	.000	.667	.639

N: Concord Road Connector
E/W: Old Sudbury Road (Route 27)
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Peds and Bikes

	Concord Road Connector From North				Old Sudbury Road (Route 27) From East				Old Sudbury Road (Route 27) From West				
Start Time	Right	Left	Peds EB	Peds WB	Right	Thru	Peds SB	Peds NB	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	3	2	2	0	0	0	7
04:15 PM	0	0	0	0	0	0	1	0	1	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	2	1	0	0	0	1	0	0	4
Total	0	0	0	0	2	1	4	2	3	1	0	0	13
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	0	0	0	1	0	2	0	0	0	3
Grand Total	0	0	0	0	2	1	5	2	5	1	0	0	16
Apprch %	0	0	0	0	20	10	50	20	83.3	16.7	0	0	
Total %	0	0	0	0	12.5	6.2	31.2	12.5	31.2	6.2	0	0	

	Concord Road Connector From North					Old Sudbury Road (Route 27) From East					Old Sudbury Road (Route 27) From West					
Start Time	Right	Left	Peds EB	Peds WB	App. Total	Right	Thru	Peds SB	Peds NB	App. Total	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:00 PM																
04:00 PM	0	0	0	0	0	0	0	3	2	5	2	0	0	0	2	7
04:15 PM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	2	1	0	0	3	0	1	0	0	1	4
Total Volume	0	0	0	0	0	2	1	4	2	9	3	1	0	0	4	13
% App. Total	0	0	0	0		22.2	11.1	44.4	22.2		75	25	0	0		
PHF	.000	.000	.000	.000	.000	.250	.250	.333	.250	.450	.375	.250	.000	.000	.500	.464

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

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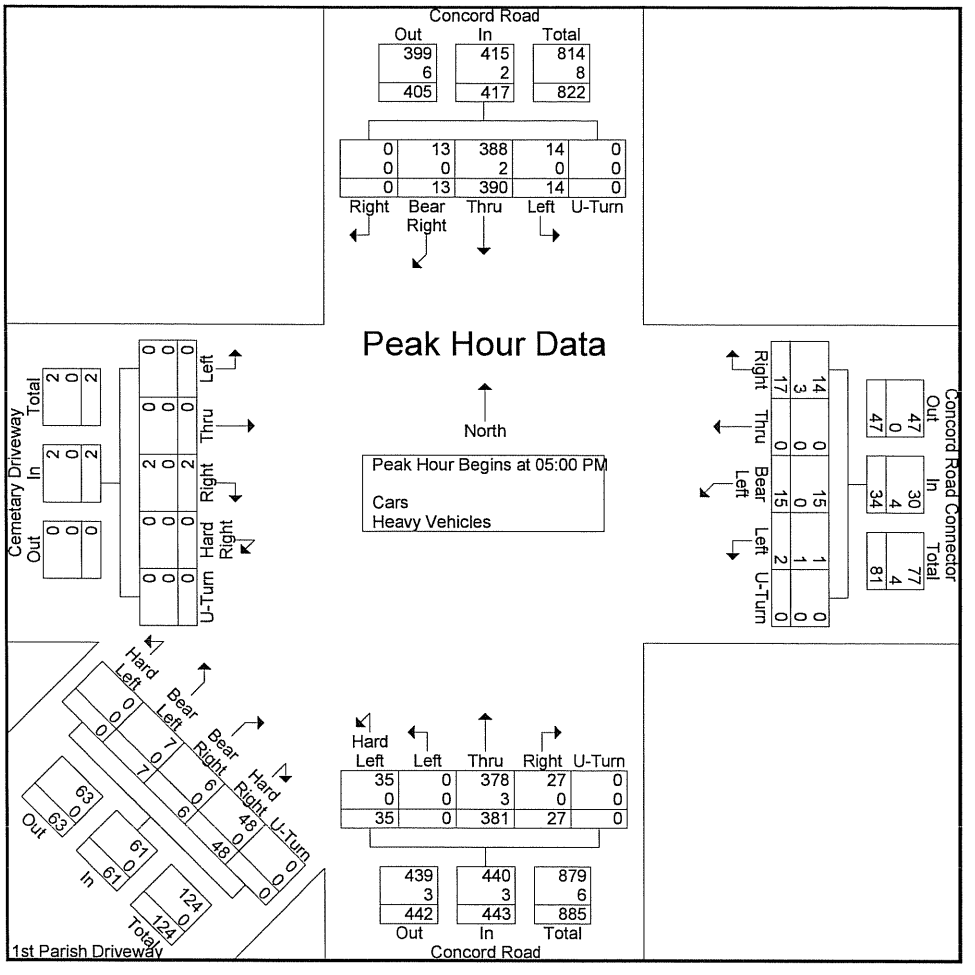
	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 05:00 PM																															
05:00 PM	0	1	123	2	0	126	8	0	1	1	0	10	4	90	0	1	0	95	4	0	1	0	0	5	0	0	0	0	0	0	236
05:15 PM	0	2	99	5	0	106	3	0	3	0	0	6	3	86	0	10	0	99	7	1	2	0	0	10	0	2	0	0	0	2	223
05:30 PM	0	7	88	5	0	100	2	0	3	1	0	6	9	91	0	14	0	114	20	1	2	0	0	23	0	0	0	0	0	0	243
05:45 PM	0	3	80	2	0	85	4	0	8	0	0	12	11	114	0	10	0	135	17	4	2	0	0	23	0	0	0	0	0	0	255
Total Volume	0	13	390	14	0	417	17	0	15	2	0	34	27	381	0	35	0	443	48	6	7	0	0	61	0	2	0	0	0	2	957
% App. Total	0	3.1	93.5	3.4	0		50	0	44.1	5.9	0		6.1	86	0	7.9	0		78.7	9.8	11.5	0	0		0	100	0	0	0		
PHF	.000	.464	.793	.700	.000	.827	.531	.000	.469	.500	.000	.708	.614	.836	.000	.625	.000	.820	.600	.375	.875	.000	.000	.663	.000	.250	.000	.000	.000	.250	.938
Cars	0	13	388	14	0	415	14	0	15	1	0	30	27	378	0	35	0	440	48	6	7	0	0	61	0	2	0	0	0	2	948
% Cars	0	100	99.5	100	0	99.5	82.4	0	100	50.0	0	88.2	100	99.2	0	100	0	99.3	100	100	100	0	0	100	0	100	0	0	0	100	99.1
Heavy Vehicles	0	0	2	0	0	2	3	0	0	1	0	4	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	9
% Heavy Vehicles	0	0	0.5	0	0	0.5	17.6	0	0	50.0	0	11.8	0	0.8	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0.9



N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
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Groups Printed- Cars - Heavy Vehicles

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	105	9	0	9	0	2	0	0	2	96	0	1	0	2	1	1	0	0	0	0	0	0	0	228
04:15 PM	0	0	108	4	0	9	0	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	0	0	0	200
04:30 PM	0	3	106	6	0	7	0	0	0	0	0	72	0	2	0	1	0	0	0	0	0	0	0	0	0	197
04:45 PM	0	2	132	6	0	5	0	1	0	0	1	84	0	2	0	3	0	1	0	0	0	0	0	0	0	237
Total	0	5	451	25	0	30	0	3	0	0	3	331	0	5	0	6	1	2	0	0	0	0	0	0	0	862
05:00 PM	0	1	123	2	0	8	0	1	1	0	4	90	0	1	0	4	0	1	0	0	0	0	0	0	0	236
05:15 PM	0	2	99	5	0	3	0	3	0	0	3	86	0	10	0	7	1	2	0	0	0	2	0	0	0	223
05:30 PM	0	7	88	5	0	2	0	3	1	0	9	91	0	14	0	20	1	2	0	0	0	0	0	0	0	243
05:45 PM	0	3	80	2	0	4	0	8	0	0	11	114	0	10	0	17	4	2	0	0	0	0	0	0	0	255
Total	0	13	390	14	0	17	0	15	2	0	27	381	0	35	0	48	6	7	0	0	0	2	0	0	0	957
Grand Total	0	18	841	39	0	47	0	18	2	0	30	712	0	40	0	54	7	9	0	0	0	2	0	0	0	1819
Apprch %	0	2	93.7	4.3	0	70.1	0	26.9	3	0	3.8	91	0	5.1	0	77.1	10	12.9	0	0	0	100	0	0	0	
Total %	0	1	46.2	2.1	0	2.6	0	1	0.1	0	1.6	39.1	0	2.2	0	3	0.4	0.5	0	0	0	0.1	0	0	0	
Cars	0	17	837	37	0	42	0	18	1	0	30	704	0	40	0	54	7	8	0	0	0	2	0	0	0	1797
% Cars	0	94.4	99.5	94.9	0	89.4	0	100	50	0	100	98.9	0	100	0	100	100	88.9	0	0	0	100	0	0	0	98.8
Heavy Vehicles	0	1	4	2	0	5	0	0	1	0	0	8	0	0	0	0	0	1	0	0	0	0	0	0	0	22
% Heavy Vehicles	0	5.6	0.5	5.1	0	10.6	0	0	50	0	0	1.1	0	0	0	0	0	11.1	0	0	0	0	0	0	0	1.2

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 05:00 PM																															
05:00 PM	0	1	123	2	0	126	8	0	1	1	0	10	4	90	0	1	0	95	4	0	1	0	0	5	0	0	0	0	0	0	236
05:15 PM	0	2	99	5	0	106	3	0	3	0	0	6	3	86	0	10	0	99	7	1	2	0	0	10	0	2	0	0	0	2	223
05:30 PM	0	7	88	5	0	100	2	0	3	1	0	6	9	91	0	14	0	114	20	1	2	0	0	23	0	0	0	0	0	0	243
05:45 PM	0	3	80	2	0	85	4	0	8	0	0	12	11	114	0	10	0	135	17	4	2	0	0	23	0	0	0	0	0	0	255
Total Volume	0	13	390	14	0	417	17	0	15	2	0	34	27	381	0	35	0	443	48	6	7	0	0	61	0	2	0	0	0	2	957
% App. Total	0	3.1	93.5	3.4	0		50	0	44.1	5.9	0		6.1	86	0	7.9	0		78.7	9.8	11.5	0	0		0	100	0	0	0		
PHF	.000	.464	.793	.700	.000	.827	.531	.000	.469	.500	.000	.708	.614	.836	.000	.625	.000	.820	.600	.375	.875	.000	.000	.663	.000	.250	.000	.000	.000	.250	.938
Cars	0	13	388	14	0	415	14	0	15	1	0	30	27	378	0	35	0	440	48	6	7	0	0	61	0	2	0	0	0	2	948
% Cars	0	100	99.5	100	0	99.5	82.4	0	100	50.0	0	88.2	100	99.2	0	100	0	99.3	100	100	100	0	0	100	0	100	0	0	0	100	99.1
Heavy Vehicles	0	0	2	0	0	2	3	0	0	1	0	4	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	9
% Heavy Vehicles	0	0	0.5	0	0	0.5	17.6	0	0	50.0	0	11.8	0	0.8	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0.9

N/S/SW: Concord Road/1st Parish Driveway
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Groups Printed- Cars

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	104	9	0	9	0	2	0	0	2	95	0	1	0	2	1	1	0	0	0	0	0	0	0	226
04:15 PM	0	0	107	4	0	8	0	0	0	0	0	77	0	0	0	0	0	0	0	0	0	0	0	0	0	196
04:30 PM	0	2	106	6	0	6	0	0	0	0	0	71	0	2	0	1	0	0	0	0	0	0	0	0	0	194
04:45 PM	0	2	132	4	0	5	0	1	0	0	1	83	0	2	0	3	0	0	0	0	0	0	0	0	0	233
Total	0	4	449	23	0	28	0	3	0	0	3	326	0	5	0	6	1	1	0	0	0	0	0	0	0	849
05:00 PM	0	1	122	2	0	5	0	1	0	0	4	88	0	1	0	4	0	1	0	0	0	0	0	0	0	229
05:15 PM	0	2	98	5	0	3	0	3	0	0	3	86	0	10	0	7	1	2	0	0	0	2	0	0	0	222
05:30 PM	0	7	88	5	0	2	0	3	1	0	9	91	0	14	0	20	1	2	0	0	0	0	0	0	0	243
05:45 PM	0	3	80	2	0	4	0	8	0	0	11	113	0	10	0	17	4	2	0	0	0	0	0	0	0	254
Total	0	13	388	14	0	14	0	15	1	0	27	378	0	35	0	48	6	7	0	0	0	2	0	0	0	948
Grand Total	0	17	837	37	0	42	0	18	1	0	30	704	0	40	0	54	7	8	0	0	0	2	0	0	0	1797
Apprch %	0	1.9	93.9	4.2	0	68.9	0	29.5	1.6	0	3.9	91	0	5.2	0	78.3	10.1	11.6	0	0	0	100	0	0	0	
Total %	0	0.9	46.6	2.1	0	2.3	0	1	0.1	0	1.7	39.2	0	2.2	0	3	0.4	0.4	0	0	0	0.1	0	0	0	

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 05:00 PM																															
05:00 PM	0	1	122	2	0	125	5	0	1	0	0	6	4	88	0	1	0	93	4	0	1	0	0	5	0	0	0	0	0	0	229
05:15 PM	0	2	98	5	0	105	3	0	3	0	0	6	3	86	0	10	0	99	7	1	2	0	0	10	0	2	0	0	0	2	222
05:30 PM	0	7	88	5	0	100	2	0	3	1	0	6	9	91	0	14	0	114	20	1	2	0	0	23	0	0	0	0	0	0	243
05:45 PM	0	3	80	2	0	85	4	0	8	0	0	12	11	113	0	10	0	134	17	4	2	0	0	23	0	0	0	0	0	0	254
Total Volume	0	13	388	14	0	415	14	0	15	1	0	30	27	378	0	35	0	440	48	6	7	0	0	61	0	2	0	0	0	2	948
% App. Total	0	3.1	93.5	3.4	0		46.7	0	50	3.3	0		6.1	85.9	0	8	0		78.7	9.8	11.5	0	0		0	100	0	0	0		
PHF	.000	.464	.795	.700	.000	.830	.700	.000	.469	.250	.000	.625	.614	.836	.000	.625	.000	.821	.600	.375	.875	.000	.000	.663	.000	.250	.000	.000	.000	.250	.933

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

PRECISION DATA INDUSTRIES, LLC
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File Name : 164982 FF
Site Code : 814
Start Date : 3/9/2016
Page No : 1

Groups Printed- Heavy Vehicles

	Concord Road From North					Concord Road Connector From East					Concord Road From South					1st Parish Driveway From Southwest					Cemetary Driveway From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
04:00 PM	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	4
Total	0	1	2	2	0	2	0	0	0	0	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	13
05:00 PM	0	0	1	0	0	3	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	7
05:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	2	0	0	3	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Grand Total	0	1	4	2	0	5	0	0	1	0	0	8	0	0	0	0	0	1	0	0	0	0	0	0	0	22
Apprch %	0	14.3	57.1	28.6	0	83.3	0	0	16.7	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	
Total %	0	4.5	18.2	9.1	0	22.7	0	0	4.5	0	0	36.4	0	0	0	0	0	4.5	0	0	0	0	0	0	0	

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:15 PM																															
04:15 PM	0	0	1	0	0	1	1	0	0	0	0	1	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	1	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	4
05:00 PM	0	0	1	0	0	1	3	0	0	1	0	4	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	7
Total Volume	0	1	2	2	0	5	5	0	0	1	0	6	0	6	0	0	0	6	0	0	1	0	0	1	0	0	0	0	0	0	18
% App. Total	0	20	40	40	0		83.3	0	0	16.7	0		0	100	0	0	0		0	0	100	0	0		0	0	0	0	0		
PHF	.000	.250	.500	.250	.000	.625	.417	.000	.000	.250	.000	.375	.000	.750	.000	.000	.000	.750	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.643

N/S/SW: Concord Road/1st Parish Driveway
E/W: Concord Rd Connector/ Cemetary
City, State: Sudbury, MA
Client: MDM/ M. Houle

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Groups Printed- Peds and Bikes

	Concord Road From North						Concord Road Connector From East						Concord Road From South						1st Parish Driveway From Southwest						Cemetary Driveway From West						
Start Time	Right	Bear Right	Thru	Left	Peds EB	Peds WB	Right	Thru	Bear Left	Left	Peds SB	Peds NB	Right	Thru	Left	Hard Left	Peds WB	Peds EB	Hard Right	Bear Right	Bear Left	Hard Left	Peds SEB	Peds NWB	Hard Right	Right	Thru	Left	Peds NB	Peds SB	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4	10	0	0	0	0	0	0	0	0	0	0	0	0	18
Grand Total	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4	10	0	0	0	0	0	0	0	0	0	0	0	0	18
Apprch %	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	28.6	71.4	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	11.1	11.1	0	0	0	0	22.2	55.6	0	0	0	0	0	0	0	0	0	0	0	0	

	Concord Road From North							Concord Road Connector From East							Concord Road From South							1st Parish Driveway From Southwest							Cemetary Driveway From West							
Start Time	Right	Bear Right	Thru	Left	Peds EB	Peds WB	App. Total	Right	Thru	Bear Left	Left	Peds SB	Peds NB	App. Total	Right	Thru	Left	Hard Left	Peds WB	Peds EB	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	Peds SEB	Peds NWB	App. Total	Hard Right	Right	Thru	Left	Peds NB	Peds SB	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																																				
Peak Hour for Entire Intersection Begins at 05:00 PM																																				
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	4	10	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
% App. Total	0	0	0	0	0	0		0	0	0	0	50	50		0	0	0	0	28.6	71.4		0	0	0	0	0	0		0	0	0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000	.333	.625	.583	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.563

□ Seasonal/Yearly Growth Data

STATION 403 - CONCORD - RTE.2 - 0.2 km EAST OF CONCORD ROTARY

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
06	44,150	43,659	46,395	45,607	46,453	49,481	43,449	45,449	45,925	49,000	44,963	*43,417*	45,662
	-5%	-4%	-5%	-2%	1%	-1%	2%	0%	-1%	0%	-4%	-4%	-2%
07	41,988	41,749	43,930	44,696	46,932	49,031	44,131	45,508	45,546	49,000	43,366	41,478	44,780
	2%	2%	-1%	2%	-3%	-3%	-1%	-4%	-1%	-5%	-3%	-4%	-1%
08	43,000	42,665	43,583	45,399	45,662	47,666	43,805	43,567	45,196	46,795	42,144	39,843	44,110
	-3%	-2%	7%	11%	1%	-2%	-1%	-9%	-10%	-1%	3%	11%	0%
10	41,546	41,883	46,472	50,492	45,910	46,524	43,534	39,595	40,709	46,285	43,576	44,350	44,240
	-6%	-4%	-6%	-12%	0%	-1%	0%	9%	10%	-2%	-1%	-5%	-2%
11	39,037	40,138	43,732	44,191	45,777	46,145	43,496	43,117	44,740	45,508	43,282	42,043	43,434
	6%	5%	-2%	0%	0%	-1%	-7%	4%	0%	-1%	-1%	-1%	0%
12	41,311	42,111	43,069	44,294	45,759	45,640	40,408	44,775	44,720	44,904	42,980	41,701	43,473
	1%	-7%	-2%	-3%	-3%	-1%	4%	-3%	-1%	0%	-1%	3%	-1%
13	41,792	39,095	42,007	42,993	44,222	44,984	41,995	43,310	44,422	45,062	42,684	42,773	42,945
Seasonal Adjustment Factor (to average month)	*1.05*	*1.06*	*1.00*	*0.97*	*0.96*	*0.94*	*1.03*	*1.01*	*0.99*	*0.95*	*1.02*	*1.05*	
												Growth	**-0.88%**

STATION 307 - WESTBOROUGH - RTE.9 - EAST OF NORTHBOROUGH T.L.

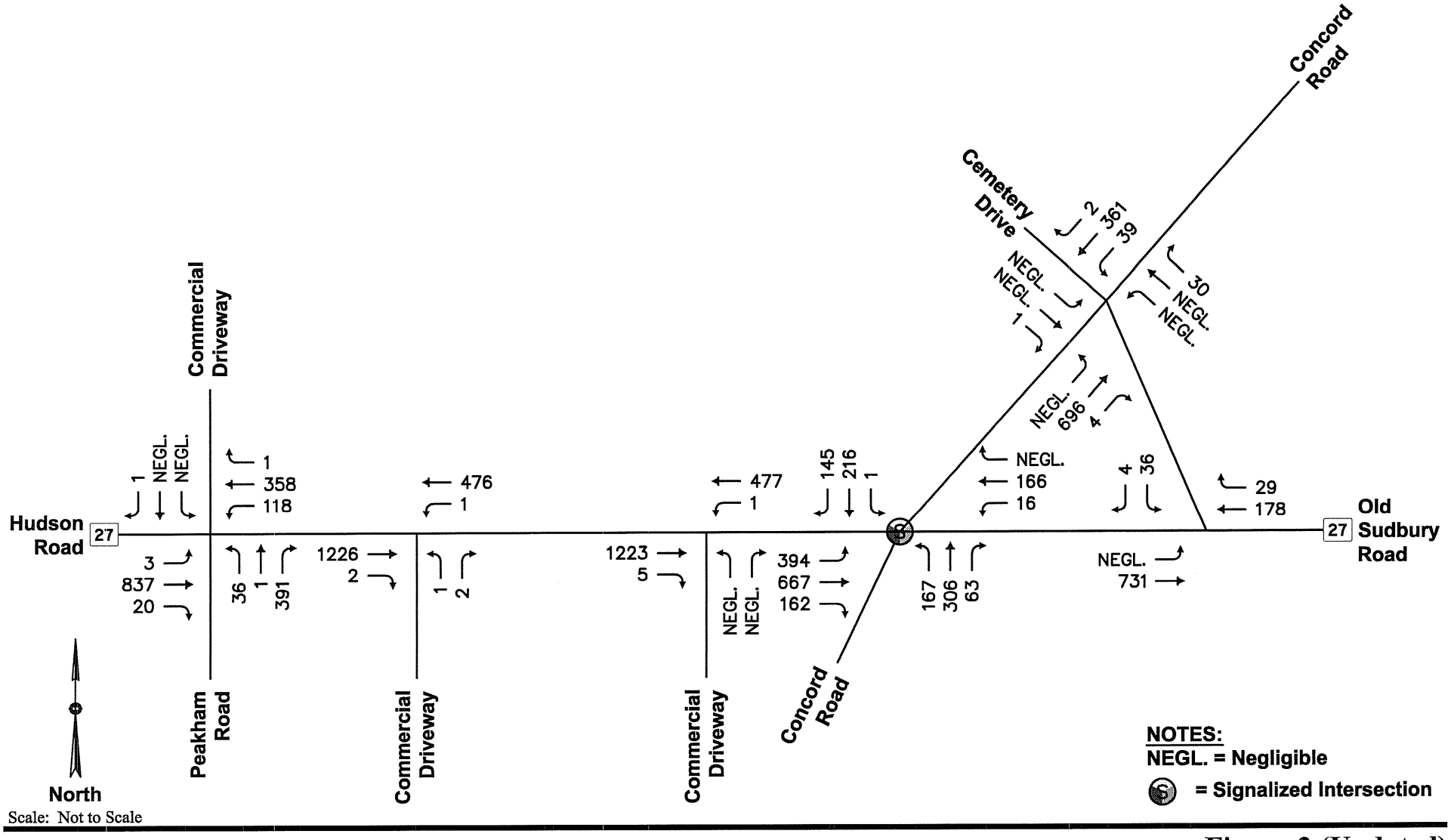
YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
06	44,301	44,854	50,326	51,170	51,729	52,438	48,052	50,270	50,998	50,194	50,043	*50,032*	49,534
	7%	5%	-2%	-4%	-3%	-1%	10%	4%	-4%	1%	-1%	-6%	0%
07	47,505	47,283	49,268	49,136	*50,000*	*52,000*	*53,000*	52,322	49,031	50,571	49,662	47,007	49,732
	-4%	-2%	-3%	1%	1%	-4%	-8%	-7%	-1%	-3%	-4%	-1%	-3%
08	45,614	46,112	47,829	49,816	*50,518*	*49,936*	*48,629*	48,759	48,531	49,009	47,490	46,696	48,245
	-3%	1%	-3%	-2%	-2%	0%	-2%	-3%	-2%	-1%	0%	2%	-1%
09	44,103	46,434	46,455	49,049	*49,474*	*49,934*	*47,638*	47,056	47,762	48,663	47,379	47,564	47,626
	-1%	0%	2%	0%	0%	1%	-1%	1%	1%	1%	2%	2%	1%
11	43,244	46,150	48,016	48,943	*49,781*	*50,525*	*46,812*	48,234	48,825	49,198	49,151	49,888	48,231
	7%	2%	1%	-1%	1%	-1%	3%	4%	0%	2%	2%	-5%	1%
12	46,381	46,883	48,608	48,662	*50,126*	*49,961*	*48,380*	49,941	48,882	50,056	50,015	47,600	48,791
Seasonal Adjustment Factor (to average month)	*1.08*	*1.05*	*1.01*	*0.98*	*0.97*	*0.96*	*1.00*	*0.99*	*0.99*	*0.98*	*0.99*	*1.01*	
												Growth	**-0.48%**

Average	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Seasonal Adjustment Factor (to average month)	*1.07*	*1.06*	*1.00*	*0.98*	*0.97*	*0.95*	*1.01*	*1.00*	*0.99*	*0.96*	*1.01*	*1.03*

Average Yearly Growth Calculated -0.7%

Yearly Growth Factor Used 0.5%

□ Traffic Volume Networks



MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Figure 3 (Updated)

Baseline Condition
Based on March 2016 Counts
Weekday Morning Peak Hour Traffic Volumes
(7:00 - 8:00 am)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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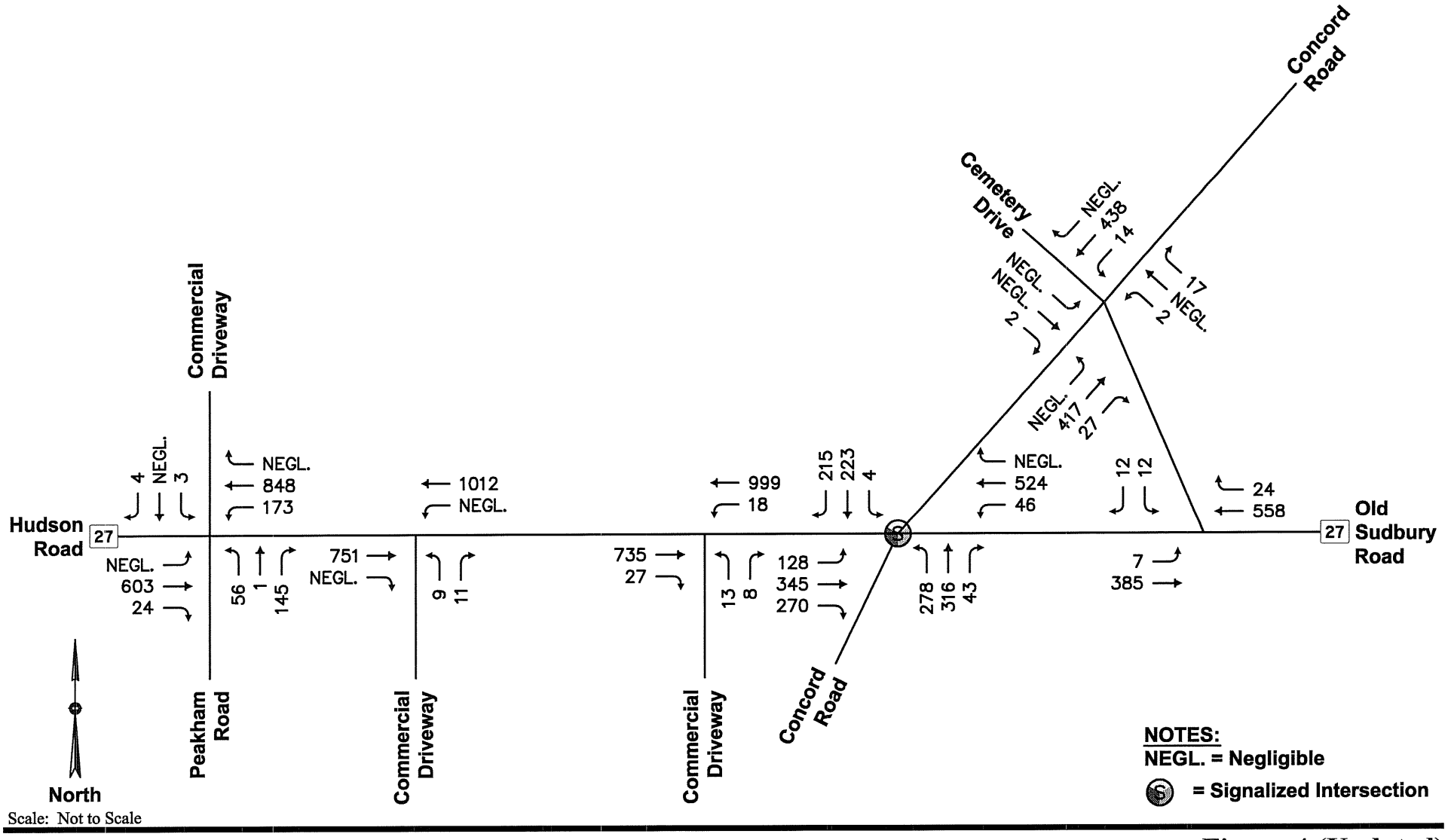

Figure 4 (Updated)

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Baseline Condition
Based on March 2016 Counts
Weekday Evening Peak Hour Traffic Volumes
(5:00 - 6:00 pm)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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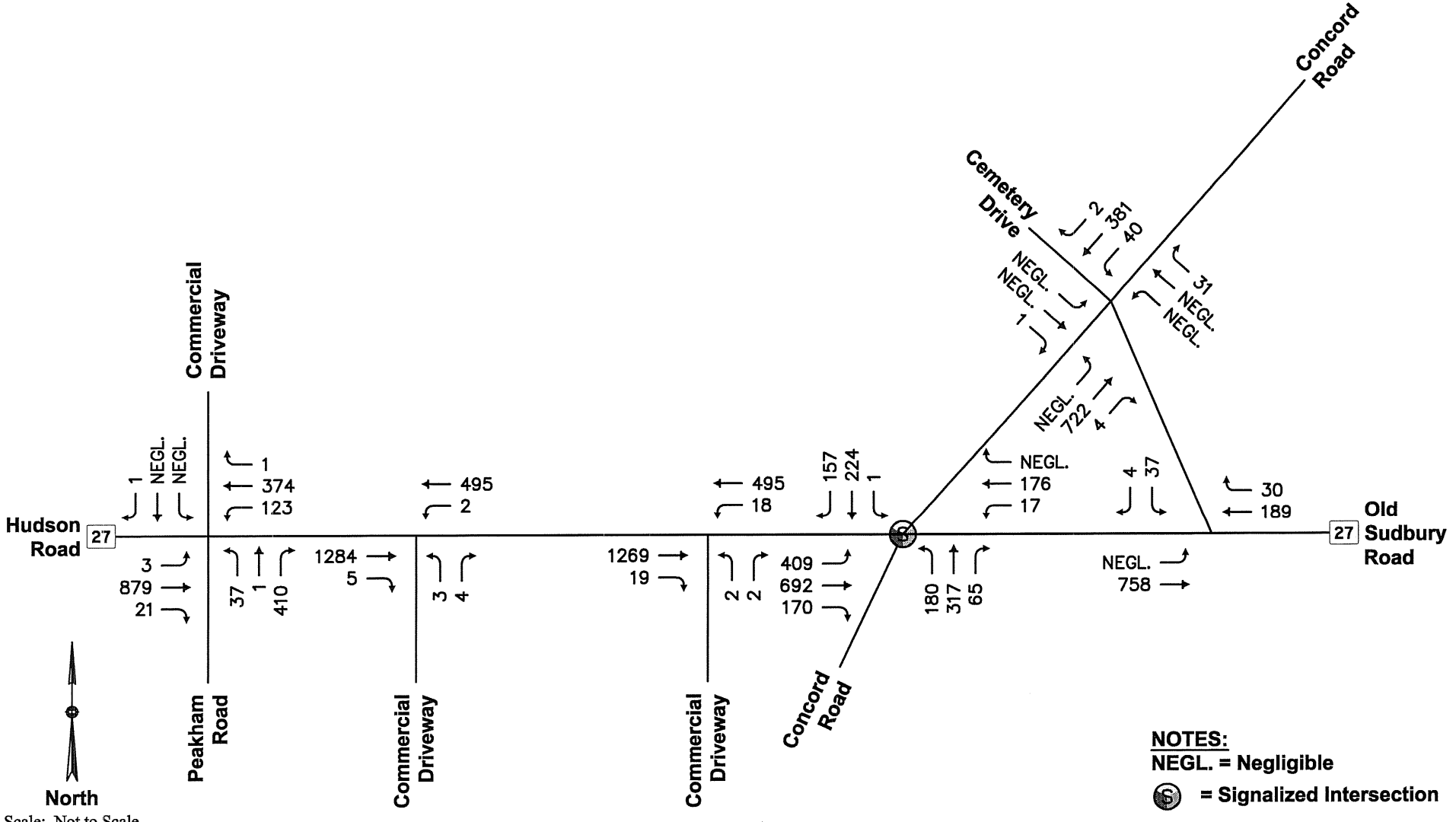

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Figure 5 (Updated)

2023 No-Build Condition
Based on March 2016 Counts
Weekday Morning Peak Hour Traffic Volumes
(7:00 - 8:00 am)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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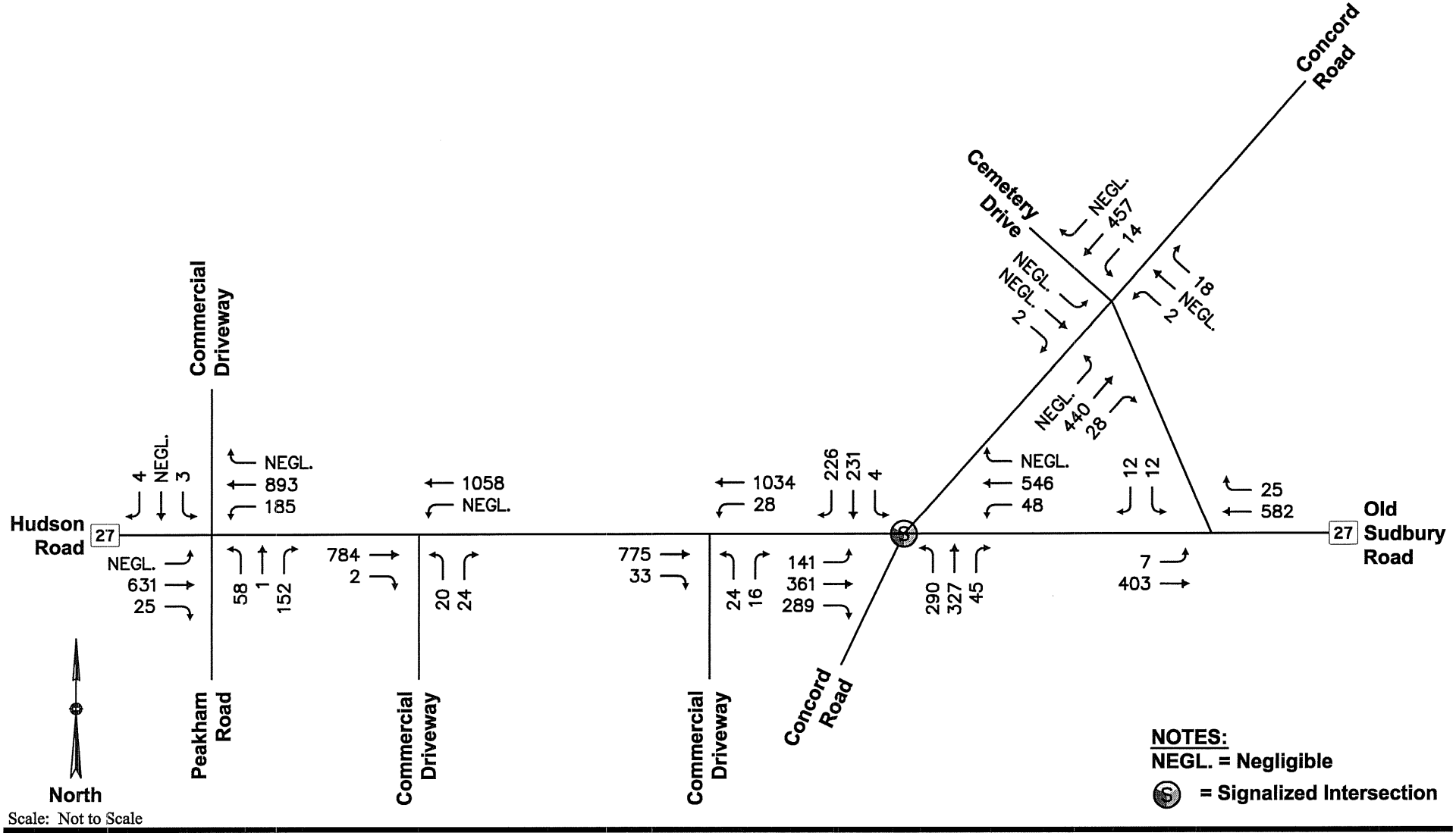

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Figure 6 (Updated)

2023 No-Build Condition
Based on March 2016 Counts
Weekday Evening Peak Hour Traffic Volumes
(5:00 - 6:00 pm)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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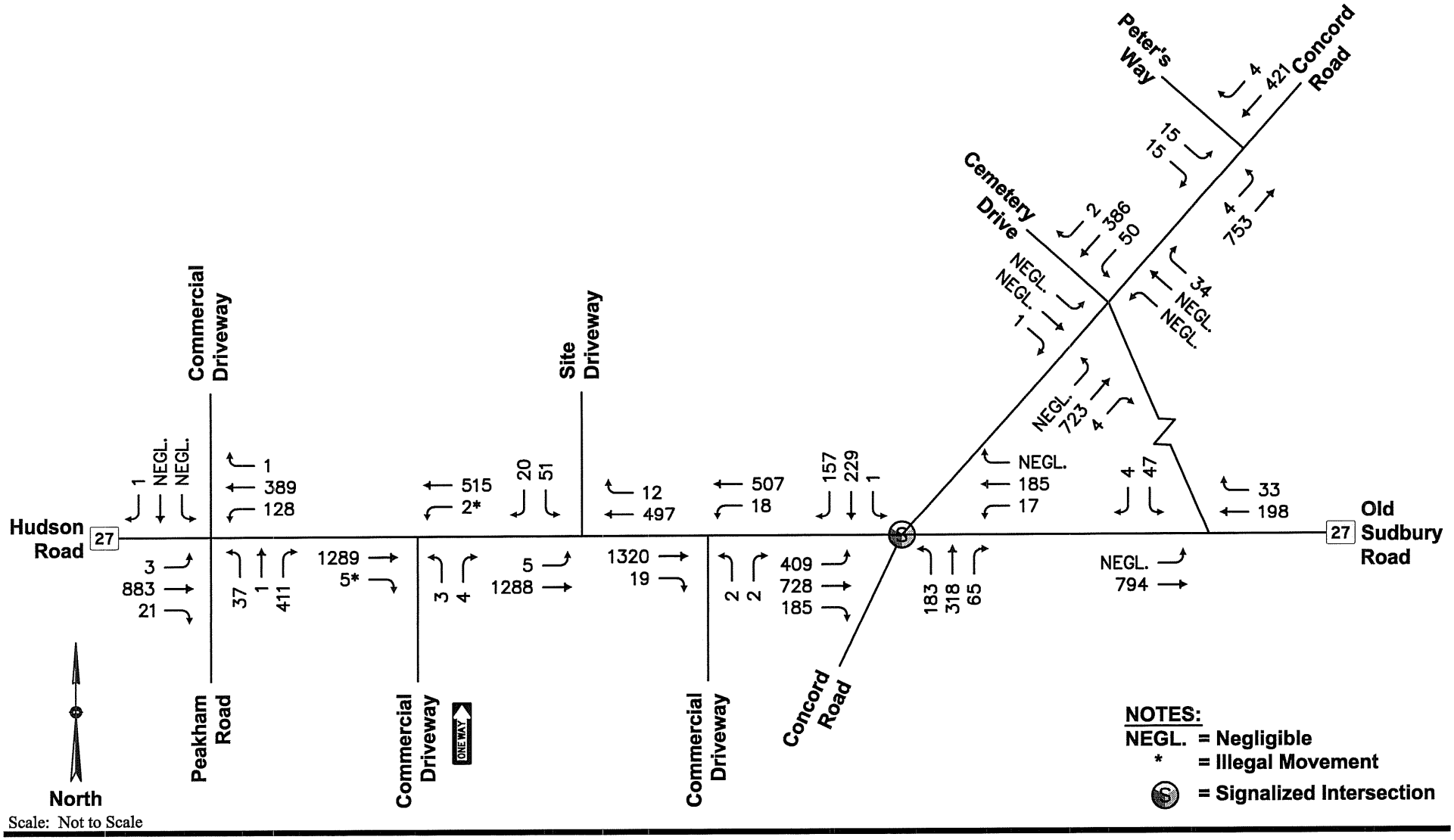

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Figure 10 (Updated)

2023 Build Condition
Based on March 2016 Counts
Weekday Morning Peak Hour Traffic Volumes
(7:00 - 8:00am)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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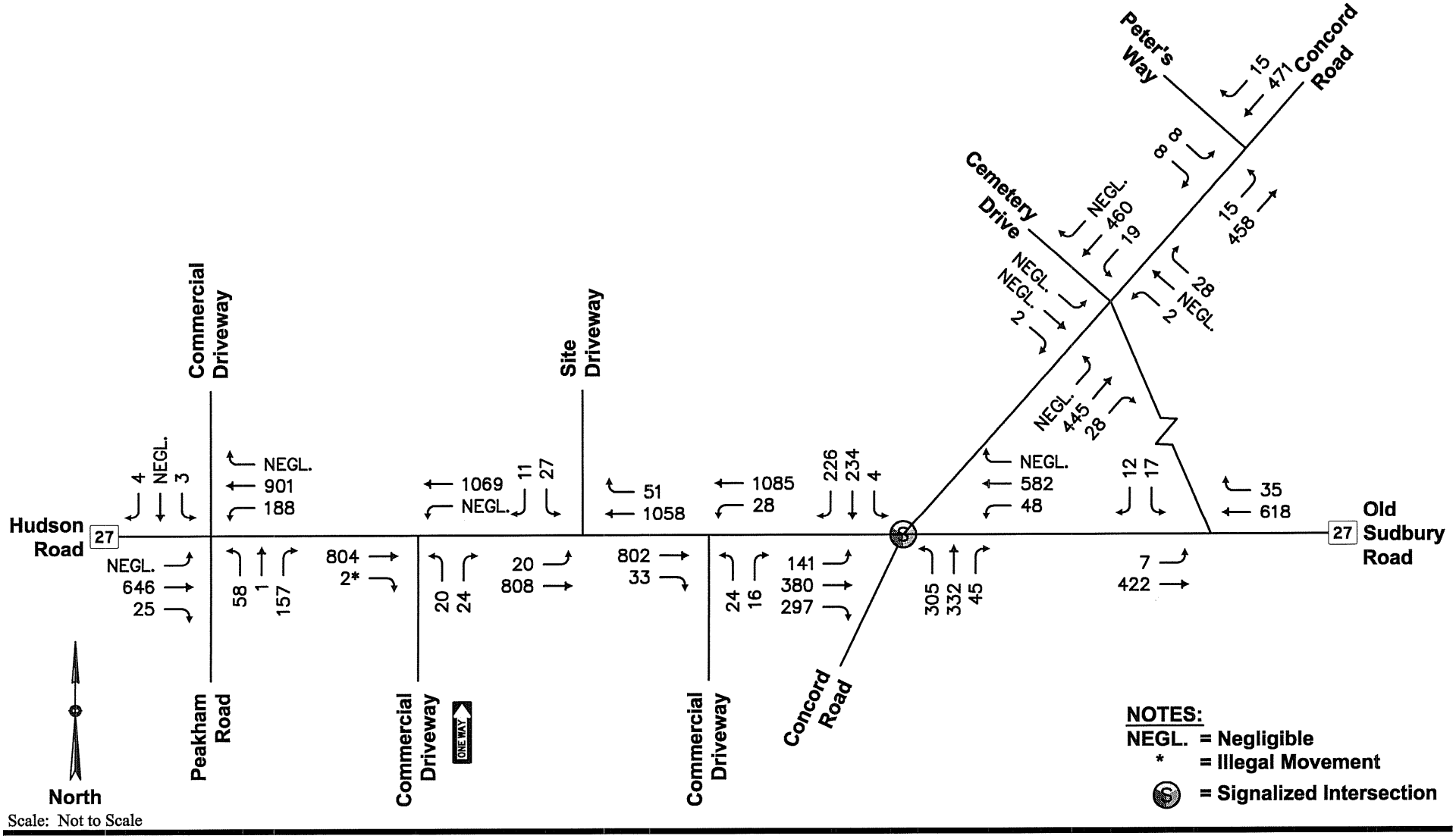

MDM TRANSPORTATION CONSULTANTS, INC.
Planners & Engineers

Figure 11 (Updated)

2023 Build Condition
Based on March 2016 Counts
Weekday Evening Peak Hour Traffic Volumes
(5:00 - 6:00 pm)

Date: March 2016
Dwg No. 814 TIAS02.dwg
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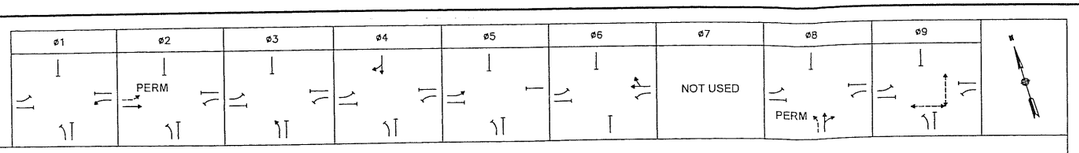
□ Observed Signal Timings

SUDBURY
RTE 27 AT CONCORD RD
TRAFFIC PLANS
SHEET 27 OF XX



SEQUENCE & TIMING NOTES

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

SEQUENCE AND TIMING FOR FULL ACTUATED CONTROL (ISOLATED)

APPROACH	DIRECTION	HOUSING	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	FLASH
OLD SUDBURY ROAD	WB	A	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~				~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~FR~~
OLD SUDBURY ROAD	WB	B,C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R				R	R	R	R	R	R	FY
HUDSON ROAD	EB	D	R	R	R	G	Y	R	R	R	R	R	R	R	~~G~~ R	~~Y~~ R	R	R	R	R				R	R	R	R	R	R	FY
HUDSON ROAD	EB	E	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R				R	R	R	R	R	R	FY
CONCORD ROAD	NB	F	R	R	R	R	R	R	~~G~~ R	~~Y~~ R	R	R	R	R	R	R	R	R	R	R				G	Y	R	R	R	R	FR
CONCORD ROAD	NB	G	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				G	Y	R	R	R	R	FR
CONCORD ROAD	SB	H,J	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R				R	R	R	R	R	R	FR
PEDESTRIAN X-ING	NB-SB	P1-P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW				DW	DW	DW	W/FDW	DW	DW	OUT
PEDESTRIAN X-ING	EB-WB	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW				DW	DW	DW	W/FDW	DW	DW	OUT

TIMING IN SECONDS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
MINIMUM GREEN (INITIAL)	~~6~~			10			6			8			6			10						8			–		
PASSAGE TIME (VEHICLE)	2			2.5			2.5			2			2.5			~~2.5~~						2.5			–		
MAXIMUM 1	~~10~~			~~55~~			~~8~~			~~25~~			~~10~~			~~40~~						~~25~~			–		
MAXIMUM 2	~~60~~			~~50~~			~~8~~			~~20~~			~~20~~			~~50~~						~~20~~			–		
YELLOW CLEARANCE		~~4~~			~~4~~			~~4~~			~~4~~			~~4~~			~~4~~						~~4~~			~~4~~		~~3~~
RED CLEARANCE		~~3~~	~~1~~		~~4~~	~~4~~		~~3~~	~~2~~		~~4~~	~~1~~		~~3~~	~~4~~		~~4~~	~~2~~					~~4~~	~~1~~				
PEDESTRIAN WALK			~~4~~			~~2~~			~~2~~			~~1~~													~~7~~		
PEDESTRIAN CLEARANCE																									~~12~~ 7		
DETECTOR MEMORY	NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK			NON-LOCK						NON-LOCK			LOCK		
RECALL	OFF			SOFT			OFF			OFF			OFF			SOFT						OFF			OFF		

CONFLICT FLASH OPERATION ONLY

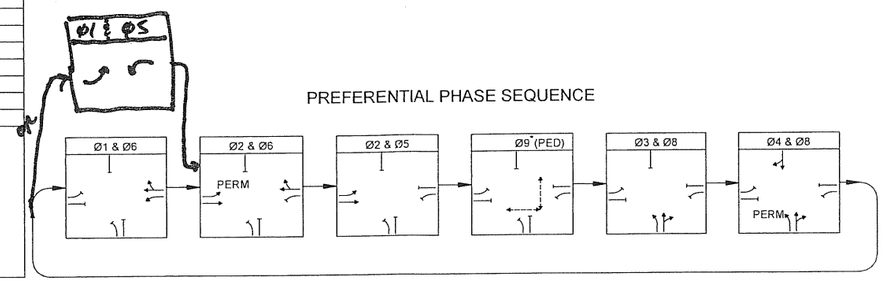
COORDINATION DATA

TIMING PLAN	CYCLE	OFFSET	ø1	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9
MODE											

COORDINATION PHASE SPLIT TIMES

NOTES:
1. AUTOMATIC FLASHING OPERATION PER 2009 M.U.T.C.D., AS AMENDED.
2. * UPON PEDESTRIAN PUSH BUTTON ACTUATION
3. PERM = PERMISSIVE
4. Ø4 & Ø8 DUAL ENTRY
5. MAXIMUM 1 = NORMAL OPERATION
6. MAXIMUM 2 = NOT USED
7. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
8. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL NOT BE IN EFFECT.

PREFERENTIAL PHASE SEQUENCE

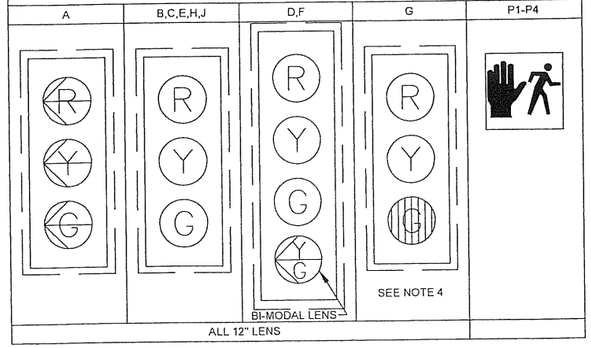


* UPON PEDESTRIAN PUSH BUTTON ACTUATION

3/11/16
10:30 AM
DJM
(INTERSECTION UNDER CONSTRUCTION)

PROGRESS PRINT FOR REVIEW ONLY 3-28-14

SIGNAL HEAD DATA



NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
2. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 2" WIDE YELLOW REFLECTIVE BORDER.
3. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
4. SIGNAL HEAD G SHALL BE EQUIPPED WITH GEOMETRICALLY PROGRAMMABLE LOUVERS IN THE GREEN INDICATION, SET TO A 42° VIEW ANGLE.
5. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

LOOP DETECTOR DATA

DETECTOR NO.	NO. SECTION/ SIZE	NO. OF TURNS	OPERATIONS	DELAY /EXT	CALL PHASE	LOOP CONNECTION
1	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	2 SEC DELAY	Ø1	SERIES
2	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø6	SERIES
3	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	2 SEC DELAY	Ø5 (SEE NOTE 2)	SERIES
4	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø2	SERIES
5	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	2 SEC DELAY	Ø3 (SEE NOTE 3)	SERIES
6	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø8	SERIES
7	2-6'X20' QUADRUPOLE	2-4-2	PRESENCE	0	Ø4	SERIES

NOTES:
1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY
2. LOOP GROUP 3 SHALL CALL/EXTEND Ø2, THEN SWITCH TO CALL/EXTEND Ø5.
3. LOOP GROUP 5 SHALL CALL/EXTEND Ø3, THEN SWITCH TO CALL/EXTEND Ø8.

PRE-EMPTION PHASING & PRIORITY

DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGNMENT	MOVEMENT	VEHICLE PHASE ASSIGNMENT
D1	1		Ø2&Ø5
D2	2		Ø1&Ø6
D3	3		Ø3&Ø8
D4	4		Ø4

EMERGENCY VEHICLE PRE-EMPTION OPERATION
1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THIS INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, D3 OR D4 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS (D1 HIGHEST AND D4 LOWEST)
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3, D4) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3, #4) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.

LIST OF MAJOR ITEMS REQUIRED

HUDSON ROAD/OLD SUDBURY ROAD (ROUTE 27) AT CONCORD ROAD

PAY ITEM	QUANTITY	DESCRIPTION
816.01	1	8Ø TS 2 TYPE 2 CONTROLLER IN A TYPE 5 BASE MOUNTED CABINET INCLUDING FOUNDATION AND CONCRETE PAD
	X	TS 25' MAST ARM TYPE 2, HEAVY LOADING, STEEL, INCL. FOUNDATION
	X	TS POST 10' STANDARD INCL. FOUNDATION
	X	SIGNAL HEAD, 3-SECTION, 12" LENSES
	X	SIGNAL HEAD, 4-SECTION, 12" LENSES
	X	PEDESTRIAN SIGNAL HEAD (L.E.D.)
	X	PEDESTRIAN PUSH BUTTON W/R10-3e(L) AND SIGN SADDLE
	X	PEDESTRIAN PUSH BUTTON W/R10-3e(R) AND SIGN SADDLE
	X	TYPE C, 2-CHANNEL CARD RACK LOOP DETECTOR AMPLIFIER
	X	WIRE LOOP DETECTOR
	X	EMERGENCY PRE-EMPTION OPTICAL DETECTORS & DETECTOR CABLE
	X	EMERGENCY PRE-EMPTION 4 CHANNEL PHASE SELECTOR
	X	EMERGENCY PRE-EMPTION SYSTEM CHASSIS
	X	EMERGENCY PRE-EMPTION STROBE (WHITE LENS)
	X	SERVICE CONNECTION (UNDERGROUND)
811.31	X	PULL BOX-12"x12"
804.3	X	3" NM CONDUIT, SCHEDULE 40

PLUS NECESSARY DUCT, CABLE, LABOR, MISCELLANEOUS MATERIAL AND EQUIPMENT TO COMPLETE THE INSTALLATION AND PROVIDE AN OPERATING TRAFFIC CONTROL SIGNAL.

11004.04 (TSIG).DWG Plotted on 28-Mar-2014 3:00 PM

□ Capacity Analyses

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	394	667	162	16	166	0	167	306	63	1	216	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.974			0.946	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1604	1987	1794	1636	1894	0	1620	1913	0	0	1933	0
Flt Permitted	0.645			0.950			0.193				0.999	
Satd. Flow (perm)	1089	1987	1794	1636	1894	0	329	1913	0	0	1931	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243					9			25	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	2%	2%	3%	7%	0%	4%	3%	4%	0%	3%	9%
Adj. Flow (vph)	424	717	174	17	178	0	180	329	68	1	232	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	424	717	174	17	178	0	180	397	0	0	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

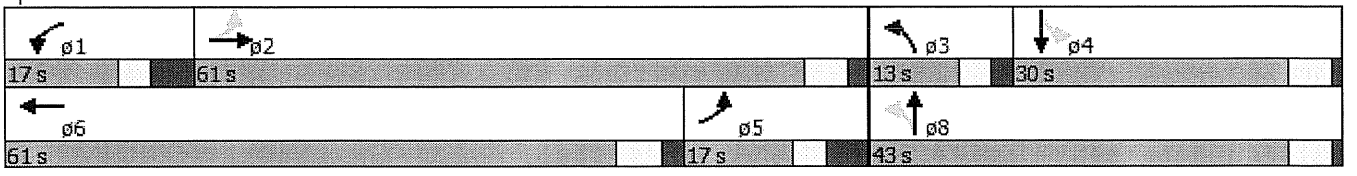
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	17.0	61.0		17.0	61.0		13.0	43.0		30.0	30.0	
Total Split (%)	14.0%	50.4%		14.0%	50.4%		10.7%	35.5%		24.8%	24.8%	
Maximum Green (s)	10.0	55.0		10.0	55.0		8.0	38.0		25.0	25.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	37.3	38.4	91.1	6.7	15.0		36.7	36.7			22.9	
Actuated g/C Ratio	0.41	0.42	1.00	0.07	0.16		0.40	0.40			0.25	
v/c Ratio	0.76	0.86	0.10	0.14	0.57		0.71	0.51			0.77	
Control Delay	34.5	35.9	0.1	51.7	46.4		43.3	27.0			44.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	34.5	35.9	0.1	51.7	46.4		43.3	27.0			44.5	
LOS	C	D	A	D	D		D	C			D	
Approach Delay		30.7			46.8			32.1			44.5	
Approach LOS		C			D			C			D	
90th %ile Green (s)	40.3	55.0		7.7	22.4		8.0	38.0		25.0	25.0	
90th %ile Term Code	Hold	Max		Gap	Gap		Max	Hold		Max	Max	
70th %ile Green (s)	38.4	50.2		6.5	18.3		8.0	38.0		25.0	25.0	
70th %ile Term Code	Hold	Gap		Gap	Gap		Max	Hold		Max	Max	
50th %ile Green (s)	15.2	36.0		0.0	13.8		8.0	38.0		25.0	25.0	
50th %ile Term Code	Hold	Gap		Skip	Gap		Max	Hold		Max	Max	
30th %ile Green (s)	12.1	30.4		0.0	11.3		8.0	34.0		21.0	21.0	
30th %ile Term Code	Hold	Gap		Skip	Gap		Max	Hold		Gap	Gap	
10th %ile Green (s)	6.5	23.5		0.0	10.0		8.0	29.0		16.0	16.0	
10th %ile Term Code	Gap	Gap		Skip	Min		Max	Hold		Gap	Gap	
Queue Length 50th (ft)	176	335	0	9	89		58	139			170	
Queue Length 95th (ft)	341	613	0	37	197		#212	364			#461	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	579	1269	1794	189	1209		252	849			578	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.73	0.57	0.10	0.09	0.15		0.71	0.47			0.67	

Intersection Summary

Area Type: Other
Cycle Length: 121
Actuated Cycle Length: 91.1

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 34.5 Intersection LOS: C
Intersection Capacity Utilization 99.5% ICU Level of Service F
Analysis Period (min) 15
90th %ile Actuated Cycle: 118.7
70th %ile Actuated Cycle: 112.7
50th %ile Actuated Cycle: 85
30th %ile Actuated Cycle: 75.4
10th %ile Actuated Cycle: 63.5
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1223	5	1	477	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	33	7	0	0
Mvmt Flow	1315	5	1	513	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1320	0	1833	1318
Stage 1	-	-	-	-	1318	-
Stage 2	-	-	-	-	515	-
Critical Hdwy	-	-	4.43	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.497	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	434	-	85	194
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	434	-	85	194
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	434	-
HCM Lane V/C Ratio	-	-	-	0.002	-
HCM Control Delay (s)	0	-	-	13.3	0
HCM Lane LOS	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1226	2	1	476	1	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	0	8	0	0
Mvmt Flow	1318	2	1	512	1	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1320	0	1833	1319
Stage 1	-	-	-	-	1319	-
Stage 2	-	-	-	-	514	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	530	-	85	194
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	530	-	85	194
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	32.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	136	-	-	530	-
HCM Lane V/C Ratio	0.024	-	-	0.002	-
HCM Control Delay (s)	32.1	-	-	11.8	0
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 40.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	837	20	118	358	1	36	1	391	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	6	7	8	0	9	0	3	0	0	0
Mvmt Flow	3	900	22	127	385	1	39	1	420	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	386	0	0	922	0	0	1557	1557	911	1557	1567	385
Stage 1	-	-	-	-	-	-	917	917	-	639	639	-
Stage 2	-	-	-	-	-	-	640	640	-	918	928	-
Critical Hdwy	4.1	-	-	4.17	-	-	7.19	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.263	-	-	3.581	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1184	-	-	720	-	-	88	114	~ 331	93	112	667
Stage 1	-	-	-	-	-	-	317	354	-	468	474	-
Stage 2	-	-	-	-	-	-	452	473	-	328	349	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1184	-	-	720	-	-	76	93	~ 331	-	92	667
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	211	-	~ -160	166	-
Stage 1	-	-	-	-	-	-	315	352	-	466	390	-
Stage 2	-	-	-	-	-	-	372	390	-	-	347	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.7	163.4	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	191	331	1184	-	-	720	-	-	-
HCM Lane V/C Ratio	0.208	1.27	0.003	-	-	0.176	-	-	-
HCM Control Delay (s)	28.7	176.2	8	0	-	11.1	-	-	-
HCM Lane LOS	D	F	A	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0.8	19.3	0	-	-	0.6	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	731	178	29	36	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	160	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	7	0	0	0
Mvmt Flow	0	786	191	31	39	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	223	0	-	0	993	111
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	786	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1358	-	-	-	260	927
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	453	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1358	-	-	-	260	927
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	453	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1358	-	-	-	280
HCM Lane V/C Ratio	-	-	-	-	0.154
HCM Control Delay (s)	0	-	-	-	20.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	30	0	696	4	39	361	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	1	0	0	32	0	748	4	42	388	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1240	1226	389	1225	1225	751	390	0	0	753	0	0
Stage 1	473	473	-	751	751	-	-	-	-	-	-	-
Stage 2	767	753	-	474	474	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	153	180	664	157	180	414	1180	-	-	866	-	-
Stage 1	576	562	-	406	421	-	-	-	-	-	-	-
Stage 2	398	420	-	575	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	169	664	149	169	414	1180	-	-	866	-	-
Mov Cap-2 Maneuver	134	169	-	149	169	-	-	-	-	-	-	-
Stage 1	576	527	-	406	421	-	-	-	-	-	-	-
Stage 2	367	420	-	538	526	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	14.4	0	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1180	-	-	664	414	866	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.078	0.048	-	-
HCM Control Delay (s)	0	-	-	10.4	14.4	9.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	345	270	46	524	0	278	316	43	4	223	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.982			0.934	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1652	1968	1812	1652	2007	0	1668	1990	0	0	2001	0
Flt Permitted	0.309			0.950			0.159				0.996	
Satd. Flow (perm)	537	1968	1812	1652	2007	0	279	1990	0	0	1993	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243					6			34	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	3%	1%	2%	1%	0%	1%	0%	0%	0%	1%	0%
Adj. Flow (vph)	131	352	276	47	535	0	284	322	44	4	228	219
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	352	276	47	535	0	284	366	0	0	451	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

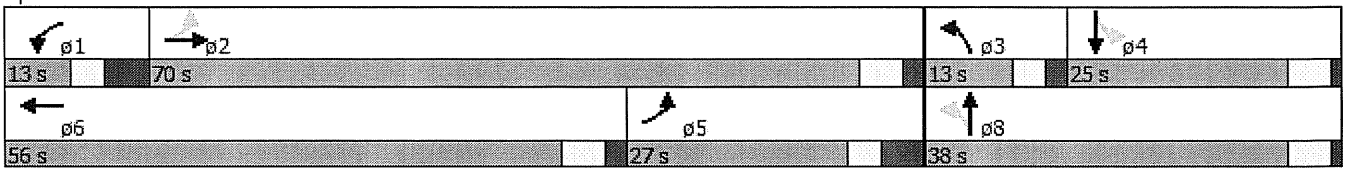
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	27.0	70.0		13.0	56.0		13.0	38.0		25.0	25.0	
Total Split (%)	22.3%	57.9%		10.7%	46.3%		10.7%	31.4%		20.7%	20.7%	
Maximum Green (s)	20.0	64.0		6.0	50.0		8.0	33.0		20.0	20.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	30.1	31.1	85.6	6.1	27.3		33.3	33.3			20.2	
Actuated g/C Ratio	0.35	0.36	1.00	0.07	0.32		0.39	0.39			0.24	
v/c Ratio	0.47	0.49	0.15	0.41	0.84		1.19	0.47			0.91	
Control Delay	32.3	24.4	0.2	51.9	39.5		143.9	23.4			56.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	32.3	24.4	0.2	51.9	39.5		143.9	23.4			56.0	
LOS	C	C	A	D	D		F	C			E	
Approach Delay		17.0			40.5			76.1			56.0	
Approach LOS		B			D			E			E	
90th %ile Green (s)	9.6	41.2		6.0	37.6		8.0	33.0		20.0	20.0	
90th %ile Term Code	Gap	Hold		Max	Gap		Max	Hold		Max	Max	
70th %ile Green (s)	7.1	32.5		6.0	31.4		8.0	33.0		20.0	20.0	
70th %ile Term Code	Gap	Hold		Max	Gap		Max	Hold		Max	Max	
50th %ile Green (s)	6.0	27.6		6.0	27.6		8.0	33.0		20.0	20.0	
50th %ile Term Code	Min	Hold		Max	Gap		Max	Hold		Max	Max	
30th %ile Green (s)	6.0	23.1		6.0	23.1		8.0	33.0		20.0	20.0	
30th %ile Term Code	Min	Hold		Max	Gap		Max	Hold		Max	Max	
10th %ile Green (s)	6.0	31.5		0.0	18.5		8.0	33.0		20.0	20.0	
10th %ile Term Code	Min	Hold		Skip	Gap		Max	Hold		Max	Max	
Queue Length 50th (ft)	51	152	0	24	258		~136	140			218	
Queue Length 95th (ft)	92	228	0	#70	398		#354	272			#484	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	534	1483	1812	116	1182		239	777			495	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.25	0.24	0.15	0.41	0.45		1.19	0.47			0.91	

Intersection Summary

Area Type: Other
Cycle Length: 121
Actuated Cycle Length: 85.6

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 45.5 Intersection LOS: D
Intersection Capacity Utilization 98.2% ICU Level of Service F
Analysis Period (min) 15
90th %ile Actuated Cycle: 98.2
70th %ile Actuated Cycle: 89.5
50th %ile Actuated Cycle: 84.6
30th %ile Actuated Cycle: 80.1
10th %ile Actuated Cycle: 75.5
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	735	27	18	999	13	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	750	28	18	1019	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	778	0	1820	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	1056	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	848	-	86	407
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	848	-	82	407
Mov Cap-2 Maneuver	-	-	-	-	82	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	321	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	42.2
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	-	-	848	-
HCM Lane V/C Ratio	0.182	-	-	0.022	-
HCM Control Delay (s)	42.2	-	-	9.3	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	751	0	0	1012	9	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	766	0	0	1033	9	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	766	0	1799	766
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	1033	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	856	-	89	406
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	346	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	856	-	89	406
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	346	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	31.5
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	156	-	-	856	-
HCM Lane V/C Ratio	0.131	-	-	-	-
HCM Control Delay (s)	31.5	-	-	0	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	603	24	173	848	0	56	1	145	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	1	0	0	0	0	2	100	0	0	100	0
Mvmt Flow	0	622	25	178	874	0	58	1	149	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	874	0	0	646	0	0	1867	1865	634	1866	1877	874
Stage 1	-	-	-	-	-	-	634	634	-	1231	1231	-
Stage 2	-	-	-	-	-	-	1233	1231	-	635	646	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.12	7.5	6.2	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.518	4.9	3.3	3.5	4.9	3.3
Pot Cap-1 Maneuver	781	-	-	949	-	-	~ 55	42	483	56	41	352
Stage 1	-	-	-	-	-	-	467	349	-	219	164	-
Stage 2	-	-	-	-	-	-	216	164	-	470	344	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	781	-	-	949	-	-	~ 47	34	483	33	33	352
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	100	-	94	82	-
Stage 1	-	-	-	-	-	-	467	349	-	219	133	-
Stage 2	-	-	-	-	-	-	173	133	-	324	344	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	26.5	28.3
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	130	483	781	-	-	949	-	-	162
HCM Lane V/C Ratio	0.452	0.309	-	-	-	0.188	-	-	0.045
HCM Control Delay (s)	53.7	15.8	0	-	-	9.7	-	-	28.3
HCM Lane LOS	F	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2	1.3	0	-	-	0.7	-	-	0.1

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	385	558	24	12	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	160	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	7	393	569	24	12	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	594	0	-	0	989	297
Stage 1	-	-	-	-	582	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	992	-	-	-	261	705
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	992	-	-	-	259	705
Mov Cap-2 Maneuver	-	-	-	-	259	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	670	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	992	-	-	-	379
HCM Lane V/C Ratio	0.007	-	-	-	0.065
HCM Control Delay (s)	8.7	0	-	-	15.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	2	0	17	0	417	27	14	438	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	3	0	0	0	0	1	0
Mvmt Flow	0	0	2	2	0	17	0	426	28	14	447	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	924	929	447	916	915	439	447	0	0	453	0	0
Stage 1	476	476	-	439	439	-	-	-	-	-	-	-
Stage 2	448	453	-	477	476	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	252	270	616	255	275	616	1124	-	-	1118	-	-
Stage 1	574	560	-	601	582	-	-	-	-	-	-	-
Stage 2	594	573	-	573	560	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	242	265	616	251	270	616	1124	-	-	1118	-	-
Mov Cap-2 Maneuver	242	265	-	251	270	-	-	-	-	-	-	-
Stage 1	574	550	-	601	582	-	-	-	-	-	-	-
Stage 2	577	573	-	561	550	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	12	0	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1124	-	-	616	534	1118	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.036	0.013	-	-
HCM Control Delay (s)	0	-	-	10.9	12	8.3	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	409	692	170	17	176	0	180	317	65	1	224	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.974			0.944	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1604	1987	1794	1636	1894	0	1620	1913	0	0	1928	0
Flt Permitted	0.639			0.950			0.169				0.999	
Satd. Flow (perm)	1079	1987	1794	1636	1894	0	288	1913	0	0	1926	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			327					13			35	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	2%	2%	3%	7%	0%	4%	3%	4%	0%	3%	9%
Adj. Flow (vph)	440	744	183	18	189	0	194	341	70	1	241	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	440	744	183	18	189	0	194	411	0	0	411	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

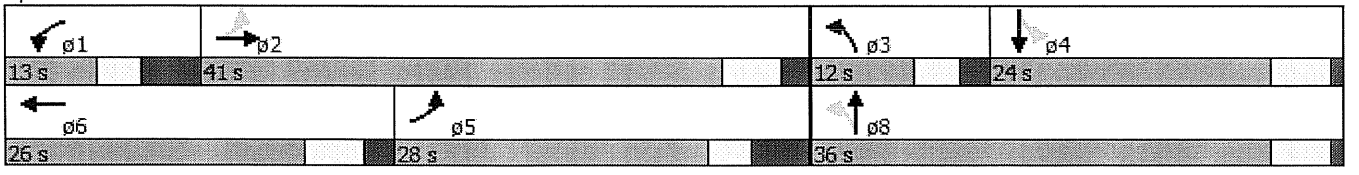
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	28.0	41.0		13.0	26.0		12.0	36.0		24.0	24.0	
Total Split (%)	31.1%	45.6%		14.4%	28.9%		13.3%	40.0%		26.7%	26.7%	
Maximum Green (s)	21.0	35.0		6.0	20.0		7.0	31.0		19.0	19.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	32.8	33.9	80.3	6.1	13.6		30.7	30.7			18.5	
Actuated g/C Ratio	0.41	0.42	1.00	0.08	0.17		0.38	0.38			0.23	
v/c Ratio	0.79	0.89	0.10	0.15	0.59		0.85	0.56			0.87	
Control Delay	35.5	37.9	0.1	41.3	39.8		56.7	23.9			49.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	35.5	37.9	0.1	41.3	39.8		56.7	23.9			49.9	
LOS	D	D	A	D	D		E	C			D	
Approach Delay		32.1			40.0			34.4			49.9	
Approach LOS		C			D			C			D	
90th %ile Green (s)	22.1	35.0		6.0	18.9		7.0	31.0		19.0	19.0	
90th %ile Term Code	Hold	Max		Max	Gap		Max	Max		Max	Max	
70th %ile Green (s)	25.1	35.0		6.0	15.9		7.0	31.0		19.0	19.0	
70th %ile Term Code	Hold	Max		Max	Gap		Max	Hold		Max	Max	
50th %ile Green (s)	15.0	35.0		0.0	13.0		7.0	31.0		19.0	19.0	
50th %ile Term Code	Hold	Max		Skip	Gap		Max	Hold		Max	Max	
30th %ile Green (s)	17.1	35.0		0.0	10.9		7.0	31.0		19.0	19.0	
30th %ile Term Code	Hold	Max		Skip	Gap		Max	Hold		Max	Max	
10th %ile Green (s)	11.5	28.5		0.0	10.0		7.0	28.2		16.2	16.2	
10th %ile Term Code	Hold	Gap		Skip	Min		Max	Hold		Gap	Gap	
Queue Length 50th (ft)	156	298	0	8	85		61	140			171	
Queue Length 95th (ft)	#387	#644	0	31	161		#198	284			#396	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	644	875	1794	123	476		227	754			487	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.68	0.85	0.10	0.15	0.40		0.85	0.55			0.84	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.3

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 36.1 Intersection LOS: D
Intersection Capacity Utilization 102.6% ICU Level of Service G
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 90
50th %ile Actuated Cycle: 77
30th %ile Actuated Cycle: 77
10th %ile Actuated Cycle: 67.7
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection

Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1269	19	18	495	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	33	7	0	0
Mvmt Flow	1365	20	19	532	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1385	0	1946	1375
Stage 1	-	-	-	-	1375	-
Stage 2	-	-	-	-	571	-
Critical Hdwy	-	-	4.43	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.497	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	408	-	72	180
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	408	-	67	180
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	531	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	43.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	98	-	-	408	-
HCM Lane V/C Ratio	0.044	-	-	0.047	-
HCM Control Delay (s)	43.4	-	-	14.3	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1284	5	2	495	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	0	8	0	0
Mvmt Flow	1381	5	2	532	3	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1386	0	1920	1383
Stage 1	-	-	-	-	1383	-
Stage 2	-	-	-	-	537	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	500	-	75	178
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	590	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	500	-	75	178
Mov Cap-2 Maneuver	-	-	-	-	75	-
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	586	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	39.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	112	-	-	500	-
HCM Lane V/C Ratio	0.067	-	-	0.004	-
HCM Control Delay (s)	39.4	-	-	12.2	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 53.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	879	21	123	374	1	37	1	410	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	6	7	8	0	9	0	3	0	0	0
Mvmt Flow	3	945	23	132	402	1	40	1	441	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	403	0	0	968	0	0	1631	1631	956	1630	1641	403
Stage 1	-	-	-	-	-	-	963	963	-	667	667	-
Stage 2	-	-	-	-	-	-	668	668	-	963	974	-
Critical Hdwy	4.1	-	-	4.17	-	-	7.19	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.263	-	-	3.581	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1167	-	-	692	-	-	78	103	~ 312	82	101	652
Stage 1	-	-	-	-	-	-	298	337	-	451	460	-
Stage 2	-	-	-	-	-	-	436	459	-	310	333	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1167	-	-	692	-	-	66	83	~ 312	-	81	652
Mov Cap-2 Maneuver	-	-	-	-	-	-	176	198	-	~ -172	151	-
Stage 1	-	-	-	-	-	-	296	335	-	448	372	-
Stage 2	-	-	-	-	-	-	352	371	-	-	331	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8	218.5	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	177	312	1167	-	-	692	-	-	-
HCM Lane V/C Ratio	0.231	1.413	0.003	-	-	0.191	-	-	-
HCM Control Delay (s)	31.3	235.8	8.1	0	-	11.4	-	-	-
HCM Lane LOS	D	F	A	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0.9	23.2	0	-	-	0.7	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	758	189	30	37	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	160	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	7	0	0	0
Mvmt Flow	0	815	203	32	40	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	1034	118
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	815	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1344	-	-	-	245	918
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	245	918
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	439	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	264
HCM Lane V/C Ratio	-	-	-	-	0.167
HCM Control Delay (s)	0	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	31	0	722	4	40	381	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	1	0	0	33	0	776	4	43	410	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1292	1278	411	1275	1276	778	412	0	0	781	0	0
Stage 1	497	497	-	778	778	-	-	-	-	-	-	-
Stage 2	795	781	-	497	498	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	141	168	645	145	168	400	1158	-	-	845	-	-
Stage 1	559	548	-	392	410	-	-	-	-	-	-	-
Stage 2	384	408	-	559	548	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	123	157	645	137	157	400	1158	-	-	845	-	-
Mov Cap-2 Maneuver	123	157	-	137	157	-	-	-	-	-	-	-
Stage 1	559	512	-	392	410	-	-	-	-	-	-	-
Stage 2	352	408	-	521	512	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	14.8	0	0.9
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1158	-	-	645	400	845	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.083	0.051	-	-
HCM Control Delay (s)	0	-	-	10.6	14.8	9.5	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	361	289	48	546	0	290	327	45	4	231	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.982			0.934	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1652	1968	1812	1652	2007	0	1668	1990	0	0	2001	0
Flt Permitted	0.219			0.950			0.173				0.996	
Satd. Flow (perm)	381	1968	1812	1652	2007	0	304	1990	0	0	1993	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295					8			42	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	3%	1%	2%	1%	0%	1%	0%	0%	0%	1%	0%
Adj. Flow (vph)	144	368	295	49	557	0	296	334	46	4	236	231
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	368	295	49	557	0	296	380	0	0	471	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

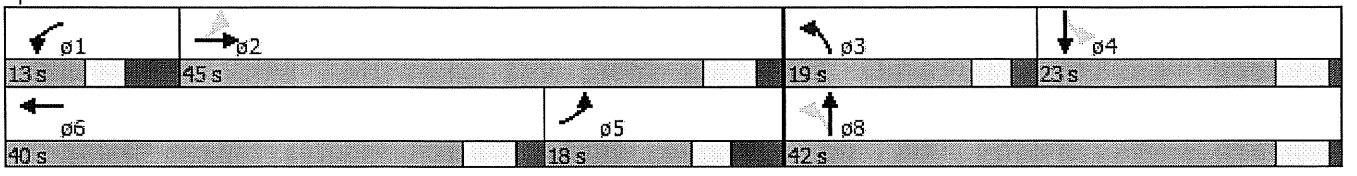
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	18.0	45.0		13.0	40.0		19.0	42.0		23.0	23.0	
Total Split (%)	18.0%	45.0%		13.0%	40.0%		19.0%	42.0%		23.0%	23.0%	
Maximum Green (s)	11.0	39.0		6.0	34.0		14.0	37.0		18.0	18.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	35.4	36.4	92.1	6.0	28.9		37.2	37.2			18.1	
Actuated g/C Ratio	0.38	0.40	1.00	0.07	0.31		0.40	0.40			0.20	
v/c Ratio	0.57	0.47	0.16	0.45	0.88		0.89	0.47			1.11	
Control Delay	39.4	24.2	0.2	58.0	47.2		53.9	23.5			110.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	39.4	24.2	0.2	58.0	47.2		53.9	23.5			110.1	
LOS	D	C	A	E	D		D	C			F	
Approach Delay		18.2			48.1			36.8			110.1	
Approach LOS		B			D			D			F	
90th %ile Green (s)	11.0	39.0		6.0	34.0		14.0	37.0		18.0	18.0	
90th %ile Term Code	Max	Hold		Max	Max		Max	Hold		Max	Max	
70th %ile Green (s)	9.0	37.0		6.0	34.0		14.0	37.0		18.0	18.0	
70th %ile Term Code	Gap	Hold		Max	Max		Max	Hold		Max	Max	
50th %ile Green (s)	7.5	32.8		6.0	31.3		14.0	37.0		18.0	18.0	
50th %ile Term Code	Gap	Hold		Max	Gap		Max	Hold		Max	Max	
30th %ile Green (s)	6.1	39.1		0.0	26.0		14.0	37.0		18.0	18.0	
30th %ile Term Code	Gap	Hold		Skip	Gap		Max	Hold		Max	Max	
10th %ile Green (s)	6.0	33.4		0.0	20.4		14.0	37.0		18.0	18.0	
10th %ile Term Code	Min	Hold		Skip	Gap		Max	Hold		Max	Max	
Queue Length 50th (ft)	61	173	0	29	303		127	162			~307	
Queue Length 95th (ft)	107	257	0	#75	#493		#311	270			#543	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	312	839	1812	108	745		331	809			425	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.46	0.44	0.16	0.45	0.75		0.89	0.47			1.11	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 92.1

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 47.1 Intersection LOS: D
Intersection Capacity Utilization 101.9% ICU Level of Service G
Analysis Period (min) 15
90th %ile Actuated Cycle: 100
70th %ile Actuated Cycle: 98
50th %ile Actuated Cycle: 93.8
30th %ile Actuated Cycle: 87.1
10th %ile Actuated Cycle: 81.4
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection

Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	775	33	28	1034	24	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	791	34	29	1055	24	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	824	0	1920	808
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	1112	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	815	-	75	384
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	317	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	815	-	69	384
Mov Cap-2 Maneuver	-	-	-	-	69	-
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	290	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	61.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	103	-	-	815	-
HCM Lane V/C Ratio	0.396	-	-	0.035	-
HCM Control Delay (s)	61.2	-	-	9.6	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	784	2	0	1058	20	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	800	2	0	1080	20	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	802	0	1881	801
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	1080	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	830	-	79	388
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	329	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	830	-	79	388
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	445	-
Stage 2	-	-	-	-	329	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	42.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	140	-	-	830	-
HCM Lane V/C Ratio	0.321	-	-	-	-
HCM Control Delay (s)	42.4	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	631	25	185	893	0	58	1	152	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	1	0	0	0	0	2	100	0	0	100	0
Mvmt Flow	0	651	26	191	921	0	60	1	157	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	921	0	0	676	0	0	1967	1965	663	1966	1978	921
Stage 1	-	-	-	-	-	-	663	663	-	1302	1302	-
Stage 2	-	-	-	-	-	-	1304	1302	-	664	676	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.12	7.5	6.2	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.518	4.9	3.3	3.5	4.9	3.3
Pot Cap-1 Maneuver	750	-	-	925	-	-	~ 47	35	465	48	34	331
Stage 1	-	-	-	-	-	-	450	337	-	200	149	-
Stage 2	-	-	-	-	-	-	197	149	-	453	332	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	750	-	-	925	-	-	~ 39	28	465	27	27	331
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	89	-	75	71	-
Stage 1	-	-	-	-	-	-	450	337	-	200	118	-
Stage 2	-	-	-	-	-	-	154	118	-	299	332	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.7	30.2	33.4
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	117	465	750	-	-	925	-	-	134
HCM Lane V/C Ratio	0.52	0.337	-	-	-	0.206	-	-	0.054
HCM Control Delay (s)	65.1	16.6	0	-	-	9.9	-	-	33.4
HCM Lane LOS	F	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	2.4	1.5	0	-	-	0.8	-	-	0.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	403	582	25	12	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	160	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	7	411	594	26	12	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	619	0	-	0	1033	310
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	971	-	-	-	245	692
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	663	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	971	-	-	-	243	692
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	971	-	-	-	360
HCM Lane V/C Ratio	0.007	-	-	-	0.068
HCM Control Delay (s)	8.7	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	2	0	18	0	440	28	14	457	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	3	0	0	0	0	1	0
Mvmt Flow	0	0	2	2	0	18	0	449	29	14	466	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	967	973	466	959	958	463	466	0	0	478	0	0
Stage 1	495	495	-	463	463	-	-	-	-	-	-	-
Stage 2	472	478	-	496	495	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	236	254	601	239	259	597	1106	-	-	1095	-	-
Stage 1	560	549	-	583	568	-	-	-	-	-	-	-
Stage 2	576	559	-	559	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	250	601	235	255	597	1106	-	-	1095	-	-
Mov Cap-2 Maneuver	226	250	-	235	255	-	-	-	-	-	-	-
Stage 1	560	540	-	583	568	-	-	-	-	-	-	-
Stage 2	558	559	-	548	540	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	12.2	0	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	601	517	1095	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.039	0.013	-	-
HCM Control Delay (s)	0	-	-	11	12.2	8.3	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	409	728	185	17	185	0	183	318	65	1	229	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.975			0.945	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1604	1987	1794	1636	1894	0	1620	1915	0	0	1930	0
Flt Permitted	0.633			0.950			0.168				0.999	
Satd. Flow (perm)	1069	1987	1794	1636	1894	0	286	1915	0	0	1928	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			327					12			35	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	2%	2%	3%	7%	0%	4%	3%	4%	0%	3%	9%
Adj. Flow (vph)	440	783	199	18	199	0	197	342	70	1	246	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	440	783	199	18	199	0	197	412	0	0	416	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

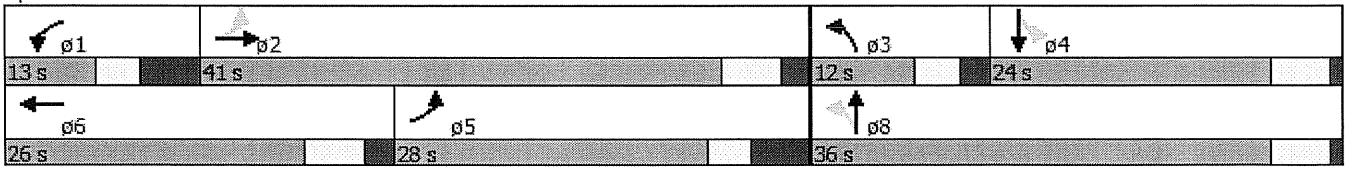
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	28.0	41.0		13.0	26.0		12.0	36.0		24.0	24.0	
Total Split (%)	31.1%	45.6%		14.4%	28.9%		13.3%	40.0%		26.7%	26.7%	
Maximum Green (s)	21.0	35.0		6.0	20.0		7.0	31.0		19.0	19.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	34.2	35.2	81.8	6.0	14.0		30.8	30.8			18.7	
Actuated g/C Ratio	0.42	0.43	1.00	0.07	0.17		0.38	0.38			0.23	
v/c Ratio	0.77	0.92	0.11	0.15	0.62		0.89	0.57			0.89	
Control Delay	34.4	41.2	0.1	41.4	40.6		62.4	24.4			52.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	34.4	41.2	0.1	41.4	40.6		62.4	24.4			52.4	
LOS	C	D	A	D	D		E	C			D	
Approach Delay		33.3			40.6			36.7			52.4	
Approach LOS		C			D			D			D	
90th %ile Green (s)	21.6	35.0		6.0	19.4		7.0	31.0		19.0	19.0	
90th %ile Term Code	Hold	Max		Max	Gap		Max	Max		Max	Max	
70th %ile Green (s)	24.6	35.0		6.0	16.4		7.0	31.0		19.0	19.0	
70th %ile Term Code	Hold	Max		Max	Gap		Max	Hold		Max	Max	
50th %ile Green (s)	14.5	35.0		0.0	13.5		7.0	31.0		19.0	19.0	
50th %ile Term Code	Hold	Max		Skip	Gap		Max	Hold		Max	Max	
30th %ile Green (s)	16.7	35.0		0.0	11.3		7.0	31.0		19.0	19.0	
30th %ile Term Code	Hold	Max		Skip	Gap		Max	Hold		Max	Max	
10th %ile Green (s)	18.0	35.0		0.0	10.0		7.0	29.2		17.2	17.2	
10th %ile Term Code	Hold	Max		Skip	Min		Max	Hold		Gap	Gap	
Queue Length 50th (ft)	156	324	0	8	89		62	141			174	
Queue Length 95th (ft)	#389	#694	0	31	167		#204	285			#402	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	628	855	1794	120	465		222	737			477	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.70	0.92	0.11	0.15	0.43		0.89	0.56			0.87	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.8

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 37.7 Intersection LOS: D
Intersection Capacity Utilization 104.9% ICU Level of Service G
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 90
50th %ile Actuated Cycle: 77
30th %ile Actuated Cycle: 77
10th %ile Actuated Cycle: 75.2
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1320	19	18	507	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	33	7	0	0
Mvmt Flow	1419	20	19	545	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1440	0	2014	1430
Stage 1	-	-	-	-	1430	-
Stage 2	-	-	-	-	584	-
Critical Hdwy	-	-	4.43	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.497	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	388	-	65	167
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	561	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	388	-	60	167
Mov Cap-2 Maneuver	-	-	-	-	60	-
Stage 1	-	-	-	-	223	-
Stage 2	-	-	-	-	522	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	48
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	88	-	-	388	-
HCM Lane V/C Ratio	0.049	-	-	0.05	-
HCM Control Delay (s)	48	-	-	14.8	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	5	1288	497	12	51	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	2	8	0	0	0
Mvmt Flow	5	1356	523	13	54	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	536	0	-	0	1895	529
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	1366	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1042	-	-	-	78	554
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	239	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	77	554
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	595	-
Stage 2	-	-	-	-	234	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	91.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1042	-	-	-	77	554
HCM Lane V/C Ratio	0.005	-	-	-	0.697	0.038
HCM Control Delay (s)	8.5	0	-	-	122.6	11.8
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	3.3	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1289	5	2	515	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	0	0	8	0	0
Mvmt Flow	1386	5	2	554	3	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1391	0	1947	1389
Stage 1	-	-	-	-	1389	-
Stage 2	-	-	-	-	558	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	498	-	72	176
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	498	-	72	176
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	40.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	109	-	-	498	-
HCM Lane V/C Ratio	0.069	-	-	0.004	-
HCM Control Delay (s)	40.5	-	-	12.3	0
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection

Int Delay, s/veh 54.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	883	21	128	389	1	37	1	411	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	2	6	7	8	0	9	0	3	0	0	0
Mvmt Flow	3	949	23	138	418	1	40	1	442	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	972	0	0	1662	1662	961	1662	1672	419
Stage 1	-	-	-	-	-	-	967	967	-	694	694	-
Stage 2	-	-	-	-	-	-	695	695	-	968	978	-
Critical Hdwy	4.1	-	-	4.17	-	-	7.19	6.5	6.23	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.263	-	-	3.581	4	3.327	3.5	4	3.3
Pot Cap-1 Maneuver	1151	-	-	690	-	-	74	98	~ 310	78	97	638
Stage 1	-	-	-	-	-	-	297	335	-	436	447	-
Stage 2	-	-	-	-	-	-	422	447	-	308	331	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1151	-	-	690	-	-	62	78	~ 310	-	77	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	192	-	~ -186	144	-
Stage 1	-	-	-	-	-	-	295	333	-	433	358	-
Stage 2	-	-	-	-	-	-	337	358	-	-	329	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.8	223.6	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	171	310	1151	-	-	690	-	-	-
HCM Lane V/C Ratio	0.239	1.426	0.003	-	-	0.199	-	-	-
HCM Control Delay (s)	32.5	241.3	8.1	0	-	11.5	-	-	-
HCM Lane LOS	D	F	A	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0.9	23.5	0	-	-	0.7	-	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	794	198	33	47	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	2	7	0	0	0
Mvmt Flow	0	854	213	35	51	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	1085	124
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	854	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1330	-	-	-	228	910
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	421	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1330	-	-	-	228	910
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	421	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1330	-	-	-	242
HCM Lane V/C Ratio	-	-	-	-	0.227
HCM Control Delay (s)	0	-	-	-	24.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	34	0	723	4	50	386	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	3	0
Mvmt Flow	0	0	1	0	0	37	0	777	4	54	415	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1321	1305	415	1303	1303	780	415	0	0	782	0	0
Stage 1	523	523	-	780	780	-	-	-	-	-	-	-
Stage 2	798	782	-	523	523	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	135	162	642	139	162	399	1155	-	-	845	-	-
Stage 1	541	534	-	391	409	-	-	-	-	-	-	-
Stage 2	382	408	-	541	534	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	149	642	130	149	399	1155	-	-	845	-	-
Mov Cap-2 Maneuver	115	149	-	130	149	-	-	-	-	-	-	-
Stage 1	541	490	-	391	409	-	-	-	-	-	-	-
Stage 2	347	408	-	495	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	14.9	0	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1155	-	-	642	399	845	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.092	0.064	-	-
HCM Control Delay (s)	0	-	-	10.6	14.9	9.6	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	15	15	4	753	421	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	4	793	443	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1246	445	447	0	-	0
Stage 1	445	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	192	613	1113	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	191	613	1113	-	-	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	439	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1113	-	291	-	-
HCM Lane V/C Ratio	0.004	-	0.109	-	-
HCM Control Delay (s)	8.2	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	380	297	48	582	0	305	332	45	4	234	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	16	10	14	14	10	14	14	16	16	16
Storage Length (ft)	350		50	0		0	400		0	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	100			25			100			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850					0.982			0.934	
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1652	1968	1812	1652	2007	0	1668	1990	0	0	2001	0
Flt Permitted	0.175			0.950			0.173				0.996	
Satd. Flow (perm)	304	1968	1812	1652	2007	0	304	1990	0	0	1993	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295					8			42	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		550			240			1000			325	
Travel Time (s)		12.5			5.5			22.7			7.4	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	2%	3%	1%	2%	1%	0%	1%	0%	0%	0%	1%	0%
Adj. Flow (vph)	144	388	303	49	594	0	311	339	46	4	239	231
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	388	303	49	594	0	311	385	0	0	474	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.85	1.09	0.92	0.92	1.09	0.92	0.92	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	

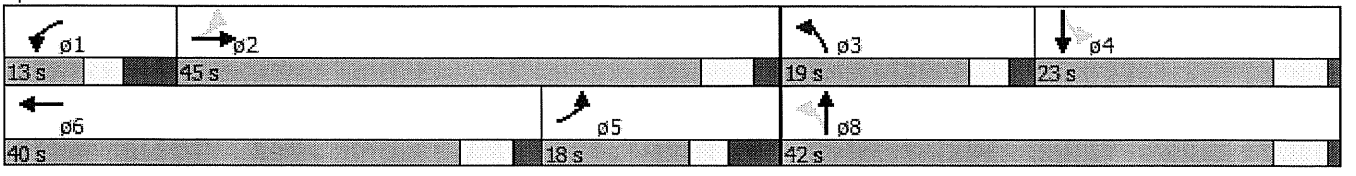
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		Free				8			4		
Detector Phase	5	2		1	6		3	8		4	4	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	8.0		8.0	8.0	
Minimum Split (s)	13.0	16.0		13.0	16.0		11.0	13.0		13.0	13.0	
Total Split (s)	18.0	45.0		13.0	40.0		19.0	42.0		23.0	23.0	
Total Split (%)	18.0%	45.0%		13.0%	40.0%		19.0%	42.0%		23.0%	23.0%	
Maximum Green (s)	11.0	39.0		6.0	34.0		14.0	37.0		18.0	18.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	4.0	2.0		4.0	2.0		2.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	7.0	6.0		7.0	6.0		5.0	5.0			5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	2.5	2.5		2.0	2.5		2.5	2.5		2.0	2.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Act Effct Green (s)	37.6	38.6	94.3	6.0	30.6		37.2	37.2			18.1	
Actuated g/C Ratio	0.40	0.41	1.00	0.06	0.32		0.39	0.39			0.19	
v/c Ratio	0.60	0.48	0.17	0.47	0.91		0.96	0.49			1.14	
Control Delay	42.6	24.1	0.2	59.6	50.7		68.5	24.7			122.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	42.6	24.1	0.2	59.6	50.7		68.5	24.7			122.2	
LOS	D	C	A	E	D		E	C			F	
Approach Delay		18.6			51.3			44.3			122.2	
Approach LOS		B			D			D			F	
90th %ile Green (s)	11.0	39.0		6.0	34.0		14.0	37.0		18.0	18.0	
90th %ile Term Code	Max	Hold		Max	Max		Max	Hold		Max	Max	
70th %ile Green (s)	10.1	38.1		6.0	34.0		14.0	37.0		18.0	18.0	
70th %ile Term Code	Gap	Hold		Max	Max		Max	Hold		Max	Max	
50th %ile Green (s)	8.6	36.6		6.0	34.0		14.0	37.0		18.0	18.0	
50th %ile Term Code	Gap	Hold		Max	Max		Max	Hold		Max	Max	
30th %ile Green (s)	6.7	42.7		0.0	29.0		14.0	37.0		18.0	18.0	
30th %ile Term Code	Gap	Hold		Skip	Gap		Max	Hold		Max	Max	
10th %ile Green (s)	6.0	35.9		0.0	22.9		14.0	37.0		18.0	18.0	
10th %ile Term Code	Min	Hold		Skip	Gap		Max	Hold		Max	Max	
Queue Length 50th (ft)	61	185	0	30	338		~147	177			~334	
Queue Length 95th (ft)	107	273	0	#75	#548		#336	275			#547	
Internal Link Dist (ft)		470			160			920			245	
Turn Bay Length (ft)	350		50				400					
Base Capacity (vph)	287	833	1812	105	727		323	789			416	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.50	0.47	0.17	0.47	0.82		0.96	0.49			1.14	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 94.3

Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 51.8 Intersection LOS: D
Intersection Capacity Utilization 104.2% ICU Level of Service G
Analysis Period (min) 15
90th %ile Actuated Cycle: 100
70th %ile Actuated Cycle: 99.1
50th %ile Actuated Cycle: 97.6
30th %ile Actuated Cycle: 90.7
10th %ile Actuated Cycle: 83.9
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Concord Road & Route 27



Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	802	33	28	1085	24	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	818	34	29	1107	24	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	852	0	1999	835
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	1164	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	795	-	67	371
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	300	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	795	-	61	371
Mov Cap-2 Maneuver	-	-	-	-	61	-
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	272	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	72.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	92	-	-	795	-
HCM Lane V/C Ratio	0.444	-	-	0.036	-
HCM Control Delay (s)	72.2	-	-	9.7	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	20	808	1058	51	27	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	21	851	1114	54	28	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1167	0	-	0	2034	1141
Stage 1	-	-	-	-	1141	-
Stage 2	-	-	-	-	893	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	606	-	-	-	63	247
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	403	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	606	-	-	-	59	247
Mov Cap-2 Maneuver	-	-	-	-	59	-
Stage 1	-	-	-	-	307	-
Stage 2	-	-	-	-	376	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	86.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	606	-	-	-	59	247
HCM Lane V/C Ratio	0.035	-	-	-	0.482	0.047
HCM Control Delay (s)	11.2	0	-	-	113.2	20.3
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	804	2	0	1069	20	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	3	0	0	1	0	0
Mvmt Flow	820	2	0	1091	20	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	822	0	1912	821
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	1091	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	816	-	76	378
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	325	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	816	-	76	378
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	325	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	44.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	135	-	-	816	-
HCM Lane V/C Ratio	0.333	-	-	-	-
HCM Control Delay (s)	44.4	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	646	25	188	901	0	58	1	157	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	40	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	1	0	0	0	0	2	100	0	0	100	0
Mvmt Flow	0	666	26	194	929	0	60	1	162	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	929	0	0	692	0	0	1998	1995	679	1995	2008	929
Stage 1	-	-	-	-	-	-	679	679	-	1316	1316	-
Stage 2	-	-	-	-	-	-	1319	1316	-	679	692	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.12	7.5	6.2	7.1	7.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	6.5	-	6.1	6.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.518	4.9	3.3	3.5	4.9	3.3
Pot Cap-1 Maneuver	744	-	-	912	-	-	~ 45	33	455	46	33	327
Stage 1	-	-	-	-	-	-	441	330	-	196	147	-
Stage 2	-	-	-	-	-	-	193	147	-	445	325	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	744	-	-	912	-	-	~ 37	26	455	25	26	327
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	87	-	67	68	-
Stage 1	-	-	-	-	-	-	441	330	-	196	116	-
Stage 2	-	-	-	-	-	-	150	116	-	286	325	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.7	31.3	36.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	113	455	744	-	-	912	-	-	123
HCM Lane V/C Ratio	0.538	0.356	-	-	-	0.213	-	-	0.059
HCM Control Delay (s)	69	17.2	0	-	-	10	-	-	36.1
HCM Lane LOS	F	C	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	2.5	1.6	0	-	-	0.8	-	-	0.2

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	7	422	618	35	17	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	50	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	0	3	1	0	0	0
Mvmt Flow	7	431	631	36	17	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	666	0	-	0	1093	333
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	4.1	-	-	-	6.6	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	933	-	-	-	225	669
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	933	-	-	-	223	669
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	644	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	933	-	-	-	308
HCM Lane V/C Ratio	0.008	-	-	-	0.096
HCM Control Delay (s)	8.9	0	-	-	17.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	2	0	28	0	445	28	19	460	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	3	0	0	0	0	1	0
Mvmt Flow	0	0	2	2	0	29	0	454	29	19	469	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	991	991	469	977	976	468	469	0	0	483	0	0
Stage 1	508	508	-	468	468	-	-	-	-	-	-	-
Stage 2	483	483	-	509	508	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.23	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	227	248	598	232	253	593	1103	-	-	1090	-	-
Stage 1	551	542	-	579	565	-	-	-	-	-	-	-
Stage 2	569	556	-	550	542	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	212	242	598	227	247	593	1103	-	-	1090	-	-
Mov Cap-2 Maneuver	212	242	-	227	247	-	-	-	-	-	-	-
Stage 1	551	529	-	579	565	-	-	-	-	-	-	-
Stage 2	542	556	-	535	529	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	12.1	0	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1103	-	-	598	535	1090	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.057	0.018	-	-
HCM Control Delay (s)	0	-	-	11	12.1	8.4	0	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	8	8	15	458	471	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	8	16	482	496	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1018	504	512	0	-	0
Stage 1	504	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	263	568	1053	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	568	1053	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1053	-	354	-	-
HCM Lane V/C Ratio	0.015	-	0.048	-	-
HCM Control Delay (s)	8.5	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-