



PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Farmers Road (Route 111)
E: Peabody Street
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 EEE
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Peabody Street From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
09:00 PM	14	0	0	0	4	0	2	8	0	28
09:15 PM	4	0	0	1	1	0	1	12	0	19
09:30 PM	17	0	0	0	3	0	2	10	0	32
09:45 PM	11	1	0	1	7	0	3	6	0	29
Total	46	1	0	2	15	0	8	36	0	108
10:00 PM	12	0	0	0	6	0	0	14	0	32
10:15 PM	11	0	0	0	0	0	0	5	0	16
10:30 PM	8	0	0	0	0	0	3	6	0	17
10:45 PM	7	0	0	0	0	0	0	9	0	16
Total	38	0	0	0	6	0	3	34	0	81
Grand Total	84	1	0	2	21	0	11	70	0	189
Apprch %	98.8	1.2	0	8.7	91.3	0	13.6	86.4	0	
Total %	44.4	0.5	0	1.1	11.1	0	5.8	37	0	

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	4	0	0	4	1	1	0	2	1	12	0	13	19
09:30 PM	17	0	0	17	0	3	0	3	2	10	0	12	32
09:45 PM	11	1	0	12	1	7	0	8	3	6	0	9	29
10:00 PM	12	0	0	12	0	6	0	6	0	14	0	14	32
Total Volume	44	1	0	45	2	17	0	19	6	42	0	48	112
% App. Total	97.8	2.2	0		10.5	89.5	0		12.5	87.5	0		
PHF	.647	.250	.000	.662	.500	.607	.000	.594	.500	.750	.000	.857	.875



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File Name : 164969 EEE
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Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Peabody Street From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	1	0
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0
Grand Total	1	0	0	0	0	0	0	0	1	0
Apprch %	100	0	0	0	0	0	0	0	100	0
Total %	50	0	0	0	0	0	0	0	50	0

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	0	0	0	0	0	1	0	1	2
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500



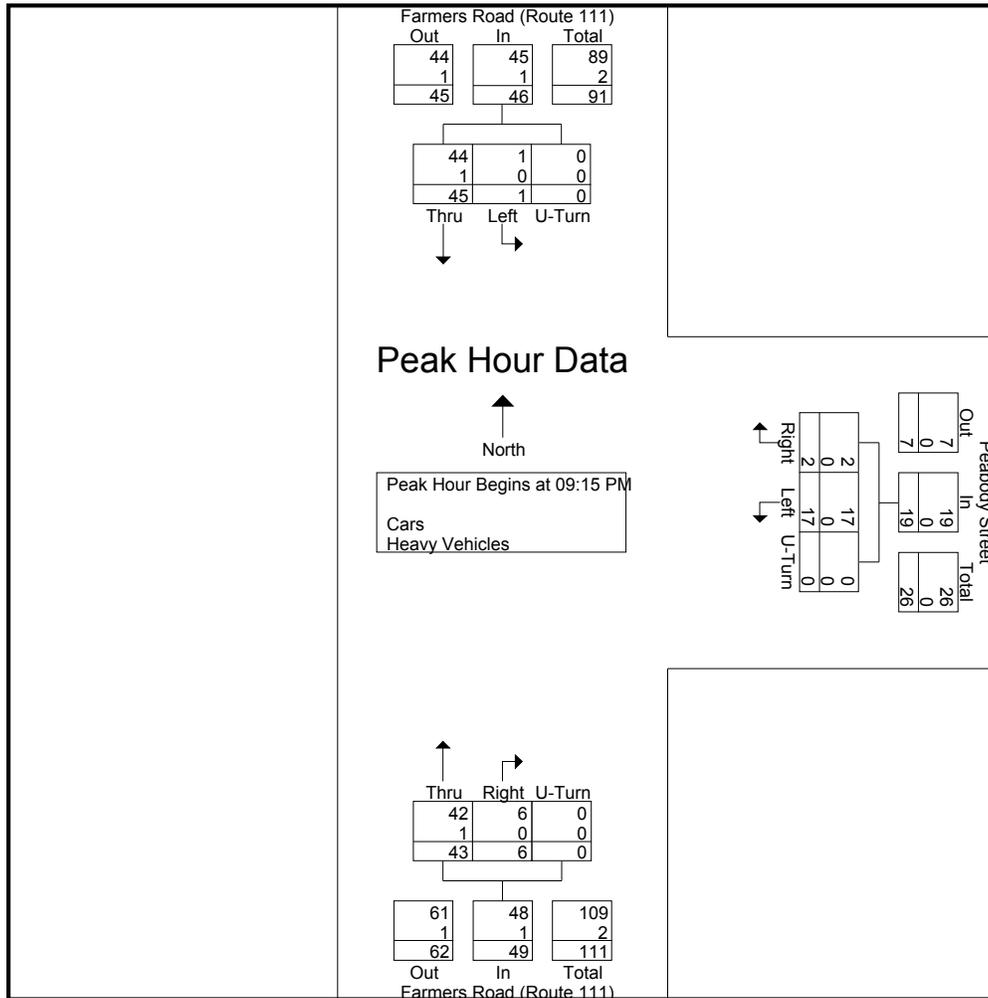
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File Name : 164969 EEE
Site Code : 17941032
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Page No : 1

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	4	0	0	4	1	1	0	2	1	12	0	13	19
09:30 PM	17	0	0	17	0	3	0	3	2	10	0	12	32
09:45 PM	12	1	0	13	1	7	0	8	3	6	0	9	30
10:00 PM	12	0	0	12	0	6	0	6	0	15	0	15	33
Total Volume	45	1	0	46	2	17	0	19	6	43	0	49	114
% App. Total	97.8	2.2	0		10.5	89.5	0		12.2	87.8	0		
PHF	.662	.250	.000	.676	.500	.607	.000	.594	.500	.717	.000	.817	.864
Cars	44	1	0	45	2	17	0	19	6	42	0	48	112
% Cars	97.8	100	0	97.8	100	100	0	100	100	97.7	0	98.0	98.2
Heavy Vehicles	1	0	0	1	0	0	0	0	0	1	0	1	2
% Heavy Vehicles	2.2	0	0	2.2	0	0	0	0	0	2.3	0	2.0	1.8





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Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Peabody Street From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	35	2	0	2	8	0	8	58	0	113
Total	35	2	0	2	8	0	8	58	0	113
05:00 PM	42	0	0	0	5	0	11	70	0	128
05:15 PM	38	2	0	1	12	0	7	91	0	151
05:30 PM	46	0	0	1	5	0	7	93	0	152
05:45 PM	37	0	0	0	12	0	9	51	0	109
Total	163	2	0	2	34	0	34	305	0	540
06:00 PM	28	1	0	2	0	0	5	40	0	76
06:15 PM	30	0	0	0	3	0	3	50	0	86
06:30 PM	24	0	0	0	4	0	5	30	0	63
06:45 PM	18	1	0	1	1	0	4	40	0	65
Total	100	2	0	3	8	0	17	160	0	290
07:00 PM	14	0	0	0	5	0	2	39	0	60
07:15 PM	14	0	0	0	2	0	3	31	0	50
07:30 PM	15	0	0	1	2	0	4	21	0	43
07:45 PM	6	0	0	1	1	0	3	13	0	24
Total	49	0	0	2	10	0	12	104	0	177
08:00 PM	8	0	0	1	4	0	1	8	0	22
08:15 PM	16	0	0	0	1	0	2	25	0	44
08:30 PM	14	0	0	0	4	0	1	11	0	30
08:45 PM	12	0	0	0	2	0	3	14	0	31
Total	50	0	0	1	11	0	7	58	0	127
09:00 PM	11	0	0	0	3	0	1	22	0	37
09:15 PM	5	0	0	0	3	0	0	11	0	19
09:30 PM	7	0	0	0	1	0	1	12	0	21
09:45 PM	5	0	0	0	3	0	0	8	0	16
Total	28	0	0	0	10	0	2	53	0	93
10:00 PM	5	0	0	0	1	0	0	10	0	16
10:15 PM	7	0	0	0	1	0	1	5	0	14
10:30 PM	3	0	0	0	3	0	0	4	0	10
Grand Total	440	6	0	10	86	0	81	757	0	1380
Apprch %	98.7	1.3	0	10.4	89.6	0	9.7	90.3	0	
Total %	31.9	0.4	0	0.7	6.2	0	5.9	54.9	0	
Cars	438	5	0	10	86	0	81	752	0	1372
% Cars	99.5	83.3	0	100	100	0	100	99.3	0	99.4
Heavy Vehicles	2	1	0	0	0	0	0	5	0	8
% Heavy Vehicles	0.5	16.7	0	0	0	0	0	0.7	0	0.6

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	35	2	0	37	2	8	0	10	8	58	0	66	113
05:00 PM	42	0	0	42	0	5	0	5	11	70	0	81	128
05:15 PM	38	2	0	40	1	12	0	13	7	91	0	98	151
05:30 PM	46	0	0	46	1	5	0	6	7	93	0	100	152
Total Volume	161	4	0	165	4	30	0	34	33	312	0	345	544
% App. Total	97.6	2.4	0		11.8	88.2	0		9.6	90.4	0		
PHF	.875	.500	.000	.897	.500	.625	.000	.654	.750	.839	.000	.863	.895
Cars	160	4	0	164	4	30	0	34	33	309	0	342	540
% Cars	99.4	100	0	99.4	100	100	0	100	100	99.0	0	99.1	99.3
Heavy Vehicles	1	0	0	1	0	0	0	0	0	3	0	3	4
% Heavy Vehicles	0.6	0	0	0.6	0	0	0	0	0	1.0	0	0.9	0.7



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File Name : 164969 EEEE
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Peabody Street From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	35	2	0	2	8	0	8	57	0	112
Total	35	2	0	2	8	0	8	57	0	112
05:00 PM	42	0	0	0	5	0	11	69	0	127
05:15 PM	38	2	0	1	12	0	7	90	0	150
05:30 PM	45	0	0	1	5	0	7	93	0	151
05:45 PM	37	0	0	0	12	0	9	51	0	109
Total	162	2	0	2	34	0	34	303	0	537
06:00 PM	28	0	0	2	0	0	5	40	0	75
06:15 PM	30	0	0	0	3	0	3	50	0	86
06:30 PM	24	0	0	0	4	0	5	30	0	63
06:45 PM	17	1	0	1	1	0	4	39	0	63
Total	99	1	0	3	8	0	17	159	0	287
07:00 PM	14	0	0	0	5	0	2	39	0	60
07:15 PM	14	0	0	0	2	0	3	30	0	49
07:30 PM	15	0	0	1	2	0	4	21	0	43
07:45 PM	6	0	0	1	1	0	3	13	0	24
Total	49	0	0	2	10	0	12	103	0	176
08:00 PM	8	0	0	1	4	0	1	8	0	22
08:15 PM	16	0	0	0	1	0	2	25	0	44
08:30 PM	14	0	0	0	4	0	1	11	0	30
08:45 PM	12	0	0	0	2	0	3	14	0	31
Total	50	0	0	1	11	0	7	58	0	127
09:00 PM	11	0	0	0	3	0	1	22	0	37
09:15 PM	5	0	0	0	3	0	0	11	0	19
09:30 PM	7	0	0	0	1	0	1	12	0	21
09:45 PM	5	0	0	0	3	0	0	8	0	16
Total	28	0	0	0	10	0	2	53	0	93
10:00 PM	5	0	0	0	1	0	0	10	0	16
10:15 PM	7	0	0	0	1	0	1	5	0	14
10:30 PM	3	0	0	0	3	0	0	4	0	10
Grand Total	438	5	0	10	86	0	81	752	0	1372
Apprch %	98.9	1.1	0	10.4	89.6	0	9.7	90.3	0	
Total %	31.9	0.4	0	0.7	6.3	0	5.9	54.8	0	

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	35	2	0	37	2	8	0	10	8	57	0	65	112
05:00 PM	42	0	0	42	0	5	0	5	11	69	0	80	127
05:15 PM	38	2	0	40	1	12	0	13	7	90	0	97	150
05:30 PM	45	0	0	45	1	5	0	6	7	93	0	100	151
Total Volume	160	4	0	164	4	30	0	34	33	309	0	342	540
% App. Total	97.6	2.4	0		11.8	88.2	0		9.6	90.4	0		
PHF	.889	.500	.000	.911	.500	.625	.000	.654	.750	.831	.000	.855	.894



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File Name : 164969 EEEE
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Peabody Street From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	1	0	1
05:00 PM	0	0	0	0	0	0	0	1	0	1
05:15 PM	0	0	0	0	0	0	0	1	0	1
05:30 PM	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	2	0	3
06:00 PM	0	1	0	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	1	0	0	0	0	0	0	1	0	2
Total	1	1	0	0	0	0	0	1	0	3
07:00 PM	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	1	0	1
07:30 PM	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1
08:00 PM	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0
Grand Total	2	1	0	0	0	0	0	5	0	8
Apprch %	66.7	33.3	0	0	0	0	0	100	0	
Total %	25	12.5	0	0	0	0	0	62.5	0	

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 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	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	1	0	0	0	0	0	3	0	3	4
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.750	.000	.750	1.00



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Groups Printed- Peds and Bicycles

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	Peds EB	Peds WB	Right	Left	Peds SB	Peds NB	Right	Thru	Peds WB	Peds EB	
04:45 PM	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
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	0	0	0	0	0	0	0
05:30 PM	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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	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
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	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
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	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
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %													

Start Time	Farmers Road (Route 111) From North					Peabody Street From East					Farmers Road (Route 111) From South					Int. Total
	Thru	Left	Peds EB	Peds WB	App. Total	Right	Left	Peds SB	Peds NB	App. Total	Right	Thru	Peds WB	Peds EB	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 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	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
05:15 PM	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
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

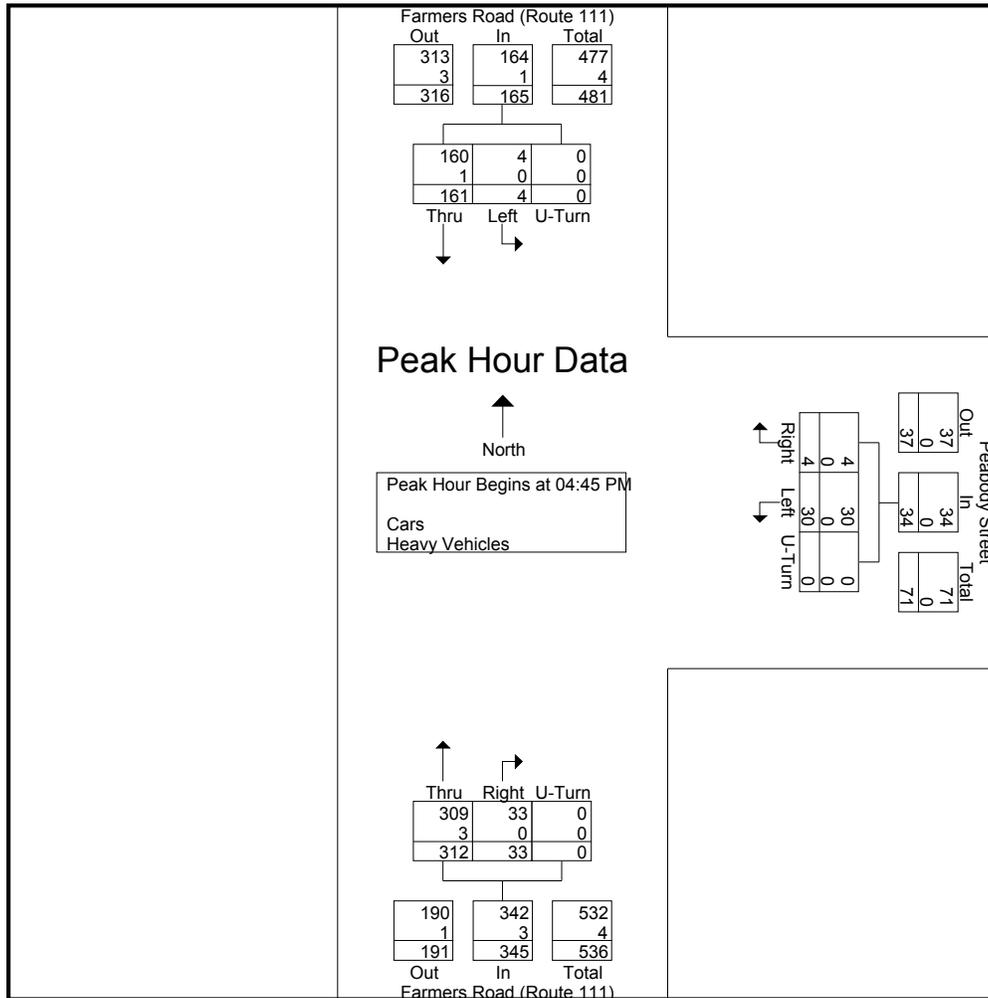


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N/S: Farmers Road (Route 111)
E: Peabody Street
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 EEEE
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Start Time	Farmers Road (Route 111) From North				Peabody Street From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	35	2	0	37	2	8	0	10	8	58	0	66	113
05:00 PM	42	0	0	42	0	5	0	5	11	70	0	81	128
05:15 PM	38	2	0	40	1	12	0	13	7	91	0	98	151
05:30 PM	46	0	0	46	1	5	0	6	7	93	0	100	152
Total Volume	161	4	0	165	4	30	0	34	33	312	0	345	544
% App. Total	97.6	2.4	0		11.8	88.2	0		9.6	90.4	0		
PHF	.875	.500	.000	.897	.500	.625	.000	.654	.750	.839	.000	.863	.895
Cars	160	4	0	164	4	30	0	34	33	309	0	342	540
% Cars	99.4	100	0	99.4	100	100	0	100	100	99.0	0	99.1	99.3
Heavy Vehicles	1	0	0	1	0	0	0	0	0	3	0	3	4
% Heavy Vehicles	0.6	0	0	0.6	0	0	0	0	0	1.0	0	0.9	0.7





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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 F
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	0	128	0	110	17	0	17	2	0	274
10:45 AM	0	140	0	126	17	0	13	1	0	297
Total	0	268	0	236	34	0	30	3	0	571
11:00 AM	0	128	0	119	9	0	24	1	0	281
11:15 AM	0	141	0	110	24	0	9	0	0	284
11:30 AM	0	137	0	138	20	0	27	1	0	323
11:45 AM	0	125	0	122	18	0	20	3	0	288
Total	0	531	0	489	71	0	80	5	0	1176
12:00 PM	0	118	0	102	18	0	22	0	0	260
12:15 PM	0	106	0	124	14	0	18	0	0	262
Grand Total	0	1023	0	951	137	0	150	8	0	2269
Apprch %	0	100	0	87.4	12.6	0	94.9	5.1	0	
Total %	0	45.1	0	41.9	6	0	6.6	0.4	0	
Cars	0	1008	0	940	137	0	148	7	0	2240
% Cars	0	98.5	0	98.8	100	0	98.7	87.5	0	98.7
Heavy Vehicles	0	15	0	11	0	0	2	1	0	29
% Heavy Vehicles	0	1.5	0	1.2	0	0	1.3	12.5	0	1.3

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:45 AM													
10:45 AM	0	140	0	140	126	17	0	143	13	1	0	14	297
11:00 AM	0	128	0	128	119	9	0	128	24	1	0	25	281
11:15 AM	0	141	0	141	110	24	0	134	9	0	0	9	284
11:30 AM	0	137	0	137	138	20	0	158	27	1	0	28	323
Total Volume	0	546	0	546	493	70	0	563	73	3	0	76	1185
% App. Total	0	100	0		87.6	12.4	0		96.1	3.9	0		
PHF	.000	.968	.000	.968	.893	.729	.000	.891	.676	.750	.000	.679	.917
Cars	0	543	0	543	490	70	0	560	73	3	0	76	1179
% Cars	0	99.5	0	99.5	99.4	100	0	99.5	100	100	0	100	99.5
Heavy Vehicles	0	3	0	3	3	0	0	3	0	0	0	0	6
% Heavy Vehicles	0	0.5	0	0.5	0.6	0	0	0.5	0	0	0	0	0.5



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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 F
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	0	124	0	109	17	0	17	1	0	268
10:45 AM	0	139	0	124	17	0	13	1	0	294
Total	0	263	0	233	34	0	30	2	0	562
11:00 AM	0	126	0	119	9	0	24	1	0	279
11:15 AM	0	141	0	109	24	0	9	0	0	283
11:30 AM	0	137	0	138	20	0	27	1	0	323
11:45 AM	0	122	0	120	18	0	19	3	0	282
Total	0	526	0	486	71	0	79	5	0	1167
12:00 PM	0	116	0	100	18	0	21	0	0	255
12:15 PM	0	103	0	121	14	0	18	0	0	256
Grand Total	0	1008	0	940	137	0	148	7	0	2240
Apprch %	0	100	0	87.3	12.7	0	95.5	4.5	0	
Total %	0	45	0	42	6.1	0	6.6	0.3	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:45 AM													
10:45 AM	0	139	0	139	124	17	0	141	13	1	0	14	294
11:00 AM	0	126	0	126	119	9	0	128	24	1	0	25	279
11:15 AM	0	141	0	141	109	24	0	133	9	0	0	9	283
11:30 AM	0	137	0	137	138	20	0	158	27	1	0	28	323
Total Volume	0	543	0	543	490	70	0	560	73	3	0	76	1179
% App. Total	0	100	0		87.5	12.5	0		96.1	3.9	0		
PHF	.000	.963	.000	.963	.888	.729	.000	.886	.676	.750	.000	.679	.913



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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 F
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	0	4	0	1	0	0	0	1	0	6
10:45 AM	0	1	0	2	0	0	0	0	0	3
Total	0	5	0	3	0	0	0	1	0	9
11:00 AM	0	2	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	1	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	3	0	2	0	0	1	0	0	6
Total	0	5	0	3	0	0	1	0	0	9
12:00 PM	0	2	0	2	0	0	1	0	0	5
12:15 PM	0	3	0	3	0	0	0	0	0	6
Grand Total	0	15	0	11	0	0	2	1	0	29
Apprch %	0	100	0	100	0	0	66.7	33.3	0	
Total %	0	51.7	0	37.9	0	0	6.9	3.4	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:30 AM													
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	3	0	3	2	0	0	2	1	0	0	1	6
12:00 PM	0	2	0	2	2	0	0	2	1	0	0	1	5
12:15 PM	0	3	0	3	3	0	0	3	0	0	0	0	6
Total Volume	0	8	0	8	7	0	0	7	2	0	0	2	17
% App. Total	0	100	0		100	0	0		100	0	0		
PHF	.000	.667	.000	.667	.583	.000	.000	.583	.500	.000	.000	.500	.708

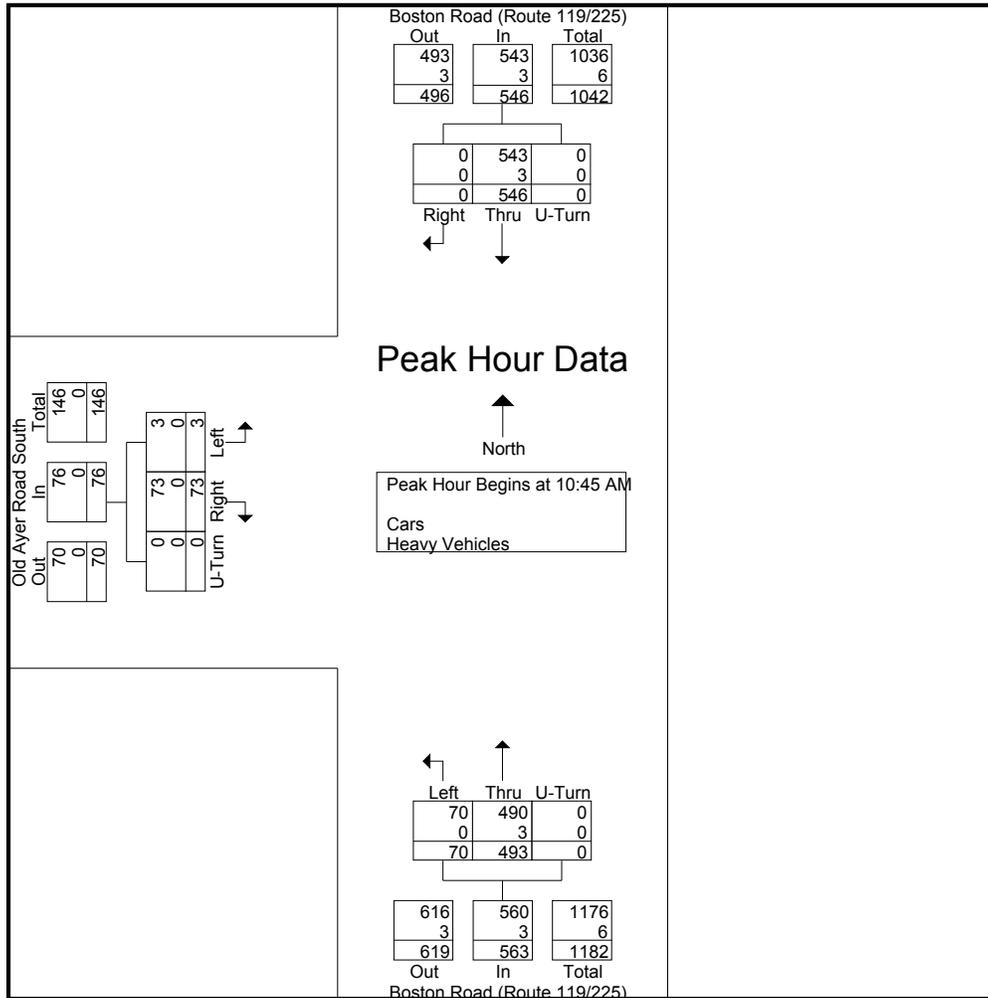


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W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 F
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:45 AM													
10:45 AM	0	140	0	140	126	17	0	143	13	1	0	14	297
11:00 AM	0	128	0	128	119	9	0	128	24	1	0	25	281
11:15 AM	0	141	0	141	110	24	0	134	9	0	0	9	284
11:30 AM	0	137	0	137	138	20	0	158	27	1	0	28	323
Total Volume	0	546	0	546	493	70	0	563	73	3	0	76	1185
% App. Total	0	100	0		87.6	12.4	0		96.1	3.9	0		
PHF	.000	.968	.000	.968	.893	.729	.000	.891	.676	.750	.000	.679	.917
Cars	0	543	0	543	490	70	0	560	73	3	0	76	1179
% Cars	0	99.5	0	99.5	99.4	100	0	99.5	100	100	0	100	99.5
Heavy Vehicles	0	3	0	3	3	0	0	3	0	0	0	0	6
% Heavy Vehicles	0	0.5	0	0.5	0.6	0	0	0.5	0	0	0	0	0.5





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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	0	79	0	115	12	0	11	0	0	217
06:15 PM	0	85	0	104	8	0	14	0	0	211
06:30 PM	0	73	0	90	11	0	6	0	0	180
06:45 PM	0	61	0	83	12	0	9	0	0	165
Total	0	298	0	392	43	0	40	0	0	773
07:00 PM	0	49	0	69	7	0	5	0	0	130
07:15 PM	0	48	0	59	4	0	11	0	0	122
07:30 PM	0	47	0	72	4	0	7	0	0	130
07:45 PM	0	45	0	57	6	0	7	0	0	115
Total	0	189	0	257	21	0	30	0	0	497
Grand Total	0	487	0	649	64	0	70	0	0	1270
Apprch %	0	100	0	91	9	0	100	0	0	
Total %	0	38.3	0	51.1	5	0	5.5	0	0	
Cars	0	484	0	646	64	0	70	0	0	1264
% Cars	0	99.4	0	99.5	100	0	100	0	0	99.5
Heavy Vehicles	0	3	0	3	0	0	0	0	0	6
% Heavy Vehicles	0	0.6	0	0.5	0	0	0	0	0	0.5

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	0	79	0	79	115	12	0	127	11	0	0	11	217
06:15 PM	0	85	0	85	104	8	0	112	14	0	0	14	211
06:30 PM	0	73	0	73	90	11	0	101	6	0	0	6	180
06:45 PM	0	61	0	61	83	12	0	95	9	0	0	9	165
Total Volume	0	298	0	298	392	43	0	435	40	0	0	40	773
% App. Total	0	100	0		90.1	9.9	0		100	0	0		
PHF	.000	.876	.000	.876	.852	.896	.000	.856	.714	.000	.000	.714	.891
Cars	0	295	0	295	390	43	0	433	40	0	0	40	768
% Cars	0	99.0	0	99.0	99.5	100	0	99.5	100	0	0	100	99.4
Heavy Vehicles	0	3	0	3	2	0	0	2	0	0	0	0	5
% Heavy Vehicles	0	1.0	0	1.0	0.5	0	0	0.5	0	0	0	0	0.6



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W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	0	78	0	114	12	0	11	0	0	215
06:15 PM	0	84	0	104	8	0	14	0	0	210
06:30 PM	0	73	0	89	11	0	6	0	0	179
06:45 PM	0	60	0	83	12	0	9	0	0	164
Total	0	295	0	390	43	0	40	0	0	768
07:00 PM	0	49	0	69	7	0	5	0	0	130
07:15 PM	0	48	0	59	4	0	11	0	0	122
07:30 PM	0	47	0	72	4	0	7	0	0	130
07:45 PM	0	45	0	56	6	0	7	0	0	114
Total	0	189	0	256	21	0	30	0	0	496
Grand Total	0	484	0	646	64	0	70	0	0	1264
Apprch %	0	100	0	91	9	0	100	0	0	
Total %	0	38.3	0	51.1	5.1	0	5.5	0	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
06:00 PM	0	78	0	78	114	12	0	126	11	0	0	11	215
06:15 PM	0	84	0	84	104	8	0	112	14	0	0	14	210
06:30 PM	0	73	0	73	89	11	0	100	6	0	0	6	179
06:45 PM	0	60	0	60	83	12	0	95	9	0	0	9	164
Total Volume	0	295	0	295	390	43	0	433	40	0	0	40	768
% App. Total	0	100	0		90.1	9.9	0		100	0	0		
PHF	.000	.878	.000	.878	.855	.896	.000	.859	.714	.000	.000	.714	.893

Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



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N/S: Boston Road (Route 119/225)
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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	0	1	0	1	0	0	0	0	0	2
06:15 PM	0	1	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	1	0	0	0	0	0	1
06:45 PM	0	1	0	0	0	0	0	0	0	1
Total	0	3	0	2	0	0	0	0	0	5
07:00 PM	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	0	1
Grand Total	0	3	0	3	0	0	0	0	0	6
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	50	0	50	0	0	0	0	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
06:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
06:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
06:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	3	0	3	2	0	0	2	0	0	0	0	5
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.750	.000	.750	.500	.000	.000	.500	.000	.000	.000	.000	.625

Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



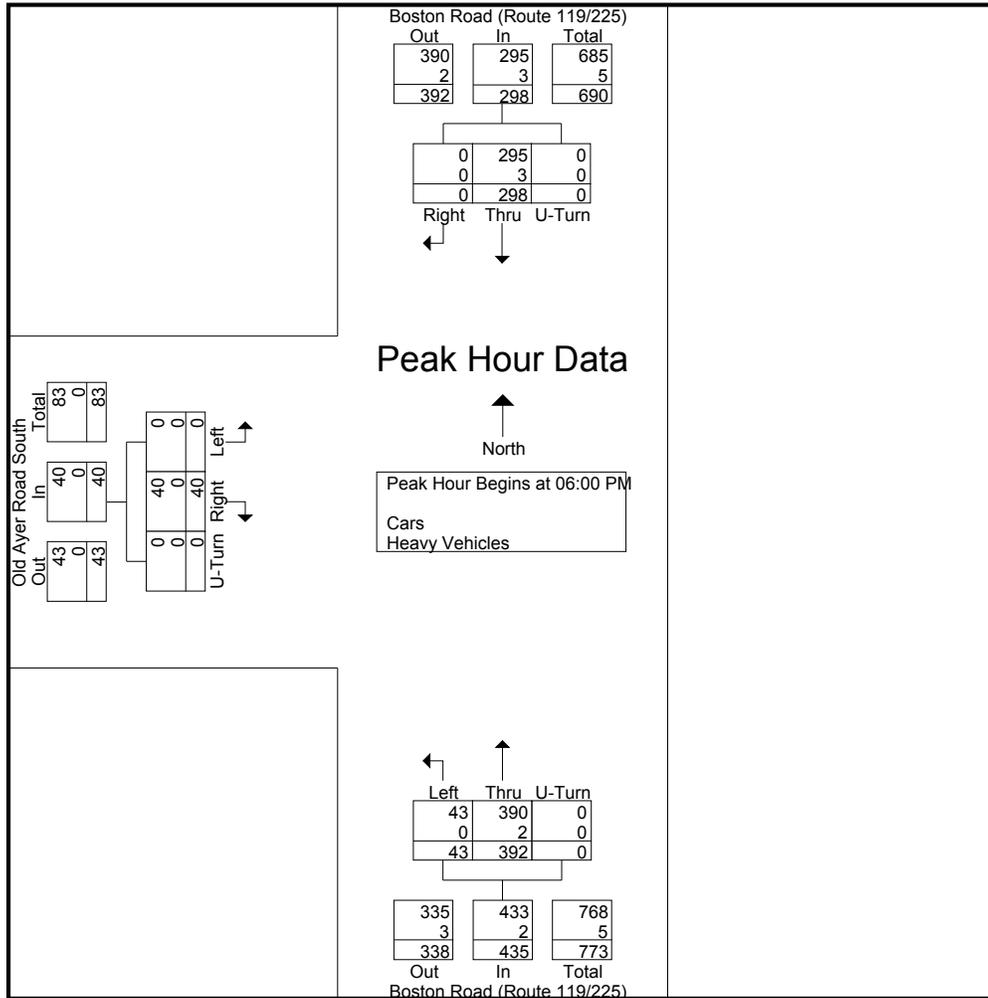
PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	0	79	0	79	115	12	0	127	11	0	0	11	217
06:15 PM	0	85	0	85	104	8	0	112	14	0	0	14	211
06:30 PM	0	73	0	73	90	11	0	101	6	0	0	6	180
06:45 PM	0	61	0	61	83	12	0	95	9	0	0	9	165
Total Volume	0	298	0	298	392	43	0	435	40	0	0	40	773
% App. Total	0	100	0		90.1	9.9	0		100	0	0		
PHF	.000	.876	.000	.876	.852	.896	.000	.856	.714	.000	.000	.714	.891
Cars	0	295	0	295	390	43	0	433	40	0	0	40	768
% Cars	0	99.0	0	99.0	99.5	100	0	99.5	100	0	0	100	99.4
Heavy Vehicles	0	3	0	3	2	0	0	2	0	0	0	0	5
% Heavy Vehicles	0	1.0	0	1.0	0.5	0	0	0.5	0	0	0	0	0.6





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File Name : 164969 FFF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
09:00 PM	0	32	0	44	5	0	5	0	0	86
09:15 PM	0	35	0	43	5	0	5	0	0	88
09:30 PM	0	21	0	38	4	0	2	0	0	65
09:45 PM	0	31	0	49	10	0	6	0	0	96
Total	0	119	0	174	24	0	18	0	0	335
10:00 PM	0	24	0	49	7	0	0	0	0	80
10:15 PM	0	31	0	48	4	0	2	0	0	85
10:30 PM	0	30	0	26	2	0	0	1	0	59
10:45 PM	0	25	0	40	5	0	1	0	0	71
Total	0	110	0	163	18	0	3	1	0	295
Grand Total	0	229	0	337	42	0	21	1	0	630
Apprch %	0	100	0	88.9	11.1	0	95.5	4.5	0	
Total %	0	36.3	0	53.5	6.7	0	3.3	0.2	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:00 PM													
09:00 PM	0	32	0	32	44	5	0	49	5	0	0	5	86
09:15 PM	0	35	0	35	43	5	0	48	5	0	0	5	88
09:30 PM	0	21	0	21	38	4	0	42	2	0	0	2	65
09:45 PM	0	31	0	31	49	10	0	59	6	0	0	6	96
Total Volume	0	119	0	119	174	24	0	198	18	0	0	18	335
% App. Total	0	100	0		87.9	12.1	0		100	0	0		
PHF	.000	.850	.000	.850	.888	.600	.000	.839	.750	.000	.000	.750	.872



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FFF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	1	0	0	0	0	0	0	0	1
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	1	0	0	0	0	0	1
10:30 PM	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	1	0	1	0	0	0	0	0	2
Total	0	1	0	2	0	0	0	0	0	3
Grand Total	0	2	0	2	0	0	0	0	0	4
Apprch %	0	100	0	100	0	0	0	0	0	
Total %	0	50	0	50	0	0	0	0	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:00 PM													
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	0	1	0	1	2	0	0	2	0	0	0	0	3
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.000	.500	.000	.000	.000	.000	.375

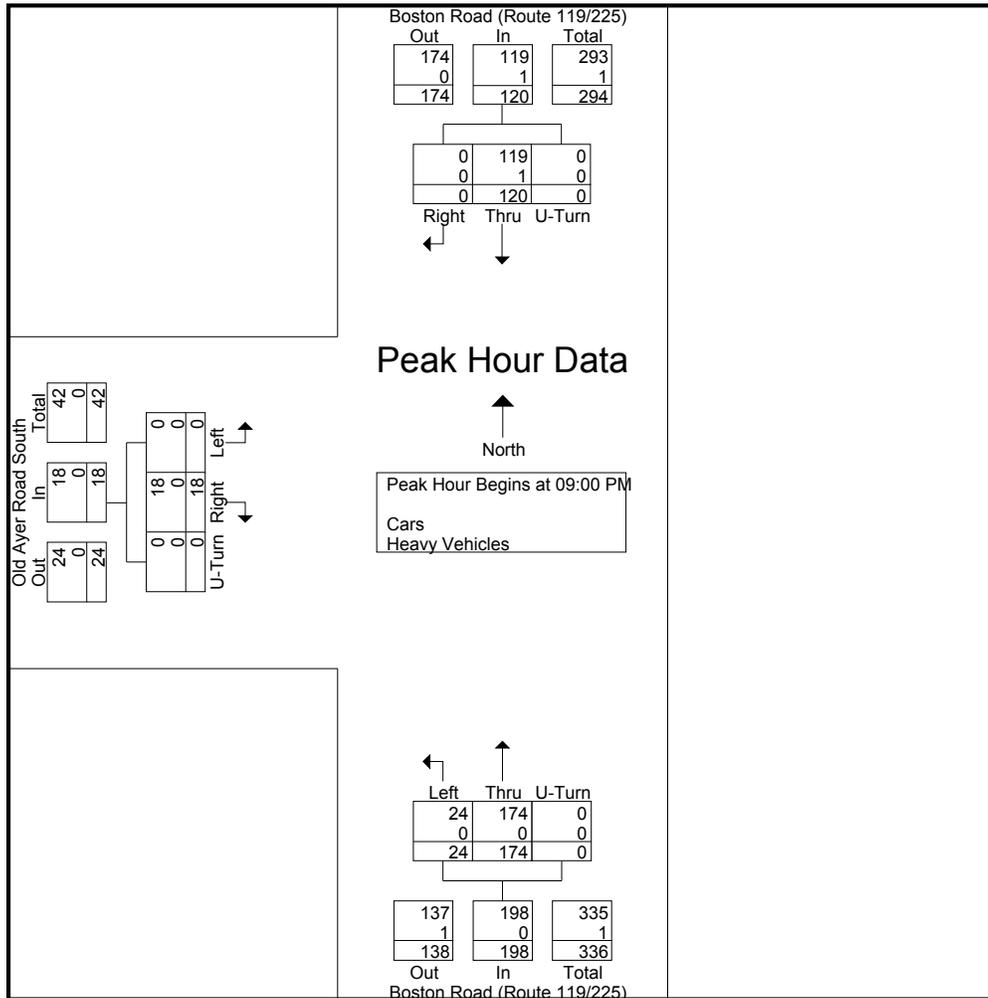


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File Name : 164969 FFF
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:00 PM													
09:00 PM	0	32	0	32	44	5	0	49	5	0	0	5	86
09:15 PM	0	36	0	36	43	5	0	48	5	0	0	5	89
09:30 PM	0	21	0	21	38	4	0	42	2	0	0	2	65
09:45 PM	0	31	0	31	49	10	0	59	6	0	0	6	96
Total Volume	0	120	0	120	174	24	0	198	18	0	0	18	336
% App. Total	0	100	0		87.9	12.1	0		100	0	0		
PHF	.000	.833	.000	.833	.888	.600	.000	.839	.750	.000	.000	.750	.875
Cars	0	119	0	119	174	24	0	198	18	0	0	18	335
% Cars	0	99.2	0	99.2	100	100	0	100	100	0	0	100	99.7
Heavy Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0	0.8	0	0.8	0	0	0	0	0	0	0	0	0.3





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Client: Stantec/ S. Wood

File Name : 164969 FFFF
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	0	78	0	239	26	0	20	2	0	365
Total	0	78	0	239	26	0	20	2	0	365
05:00 PM	0	70	0	235	22	0	22	0	0	349
05:15 PM	0	82	0	260	23	0	15	0	0	380
05:30 PM	0	99	0	251	17	0	21	0	0	388
05:45 PM	0	79	0	222	27	0	19	0	0	347
Total	0	330	0	968	89	0	77	0	0	1464
06:00 PM	0	84	0	236	18	0	12	1	0	351
06:15 PM	0	67	0	180	16	0	8	0	0	271
06:30 PM	0	60	0	181	14	0	5	0	0	260
06:45 PM	0	64	0	181	14	0	10	2	0	271
Total	0	275	0	778	62	0	35	3	0	1153
07:00 PM	0	43	0	143	15	0	11	0	0	212
07:15 PM	0	45	0	124	14	0	12	0	0	195
07:30 PM	0	31	0	113	13	0	10	0	0	167
07:45 PM	0	14	0	85	18	0	9	0	0	126
Total	0	133	0	465	60	0	42	0	0	700
08:00 PM	0	34	0	68	8	0	4	0	0	114
08:15 PM	0	31	0	81	10	0	4	0	0	126
08:30 PM	0	54	0	83	4	0	4	1	0	146
08:45 PM	0	25	0	66	7	0	7	0	0	105
Total	0	144	0	298	29	0	19	1	0	491
09:00 PM	0	24	0	56	7	0	4	0	0	91
09:15 PM	0	24	0	56	6	0	2	0	0	88
09:30 PM	0	14	0	51	5	0	2	0	0	72
09:45 PM	0	19	0	45	4	0	1	0	0	69
Total	0	81	0	208	22	0	9	0	0	320
10:00 PM	0	11	0	37	3	0	2	0	0	53
10:15 PM	0	19	0	23	2	0	2	0	0	46
10:30 PM	0	13	0	21	2	0	1	0	0	37
Grand Total	0	1084	0	3037	295	0	207	6	0	4629
Apprch %	0	100	0	91.1	8.9	0	97.2	2.8	0	
Total %	0	23.4	0	65.6	6.4	0	4.5	0.1	0	
Cars	0	1067	0	3012	295	0	206	5	0	4585
% Cars	0	98.4	0	99.2	100	0	99.5	83.3	0	99
Heavy Vehicles	0	17	0	25	0	0	1	1	0	44
% Heavy Vehicles	0	1.6	0	0.8	0	0	0.5	16.7	0	1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
04:45 PM	0	78	0	78	239	26	0	265	20	2	0	22	365
05:00 PM	0	70	0	70	235	22	0	257	22	0	0	22	349
05:15 PM	0	82	0	82	260	23	0	283	15	0	0	15	380
05:30 PM	0	99	0	99	251	17	0	268	21	0	0	21	388
Total Volume	0	329	0	329	985	88	0	1073	78	2	0	80	1482
% App. Total	0	100	0		91.8	8.2	0		97.5	2.5	0		
PHF	.000	.831	.000	.831	.947	.846	.000	.948	.886	.250	.000	.909	.955
Cars	0	324	0	324	978	88	0	1066	77	2	0	79	1469
% Cars	0	98.5	0	98.5	99.3	100	0	99.3	98.7	100	0	98.8	99.1
Heavy Vehicles	0	5	0	5	7	0	0	7	1	0	0	1	13
% Heavy Vehicles	0	1.5	0	1.5	0.7	0	0	0.7	1.3	0	0	1.3	0.9

Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



PRECISION
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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FFFF
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	0	78	0	238	26	0	20	2	0	364
Total	0	78	0	238	26	0	20	2	0	364
05:00 PM	0	67	0	234	22	0	21	0	0	344
05:15 PM	0	82	0	258	23	0	15	0	0	378
05:30 PM	0	97	0	248	17	0	21	0	0	383
05:45 PM	0	77	0	220	27	0	19	0	0	343
Total	0	323	0	960	89	0	76	0	0	1448
06:00 PM	0	81	0	232	18	0	12	1	0	344
06:15 PM	0	66	0	180	16	0	8	0	0	270
06:30 PM	0	59	0	179	14	0	5	0	0	257
06:45 PM	0	64	0	180	14	0	10	1	0	269
Total	0	270	0	771	62	0	35	2	0	1140
07:00 PM	0	43	0	142	15	0	11	0	0	211
07:15 PM	0	45	0	124	14	0	12	0	0	195
07:30 PM	0	30	0	113	13	0	10	0	0	166
07:45 PM	0	14	0	84	18	0	9	0	0	125
Total	0	132	0	463	60	0	42	0	0	697
08:00 PM	0	34	0	68	8	0	4	0	0	114
08:15 PM	0	29	0	79	10	0	4	0	0	122
08:30 PM	0	54	0	80	4	0	4	1	0	143
08:45 PM	0	25	0	66	7	0	7	0	0	105
Total	0	142	0	293	29	0	19	1	0	484
09:00 PM	0	24	0	56	7	0	4	0	0	91
09:15 PM	0	24	0	56	6	0	2	0	0	88
09:30 PM	0	14	0	50	5	0	2	0	0	71
09:45 PM	0	18	0	44	4	0	1	0	0	67
Total	0	80	0	206	22	0	9	0	0	317
10:00 PM	0	11	0	37	3	0	2	0	0	53
10:15 PM	0	19	0	23	2	0	2	0	0	46
10:30 PM	0	12	0	21	2	0	1	0	0	36
Grand Total	0	1067	0	3012	295	0	206	5	0	4585
Apprch %	0	100	0	91.1	8.9	0	97.6	2.4	0	
Total %	0	23.3	0	65.7	6.4	0	4.5	0.1	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	78	0	78	238	26	0	264	20	2	0	22	364
05:00 PM	0	67	0	67	234	22	0	256	21	0	0	21	344
05:15 PM	0	82	0	82	258	23	0	281	15	0	0	15	378
05:30 PM	0	97	0	97	248	17	0	265	21	0	0	21	383
Total Volume	0	324	0	324	978	88	0	1066	77	2	0	79	1469
% App. Total	0	100	0		91.7	8.3	0		97.5	2.5	0		
PHF	.000	.835	.000	.835	.948	.846	.000	.948	.917	.250	.000	.898	.959



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Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road South From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	0	1
05:00 PM	0	3	0	1	0	0	1	0	0	5
05:15 PM	0	0	0	2	0	0	0	0	0	2
05:30 PM	0	2	0	3	0	0	0	0	0	5
05:45 PM	0	2	0	2	0	0	0	0	0	4
Total	0	7	0	8	0	0	1	0	0	16
06:00 PM	0	3	0	4	0	0	0	0	0	7
06:15 PM	0	1	0	0	0	0	0	0	0	1
06:30 PM	0	1	0	2	0	0	0	0	0	3
06:45 PM	0	0	0	1	0	0	0	1	0	2
Total	0	5	0	7	0	0	0	1	0	13
07:00 PM	0	0	0	1	0	0	0	0	0	1
07:15 PM	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	1	0	0	0	0	0	0	0	1
07:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	1	0	2	0	0	0	0	0	3
08:00 PM	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	2	0	2	0	0	0	0	0	4
08:30 PM	0	0	0	3	0	0	0	0	0	3
08:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	5	0	0	0	0	0	7
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	1	0	0	0	0	0	1
09:45 PM	0	1	0	1	0	0	0	0	0	2
Total	0	1	0	2	0	0	0	0	0	3
10:00 PM	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	1	0	0	0	0	0	0	0	1
Grand Total	0	17	0	25	0	0	1	1	0	44
Apprch %	0	100	0	100	0	0	50	50	0	
Total %	0	38.6	0	56.8	0	0	2.3	2.3	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
05:30 PM	0	2	0	2	3	0	0	3	0	0	0	0	5
05:45 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
06:00 PM	0	3	0	3	4	0	0	4	0	0	0	0	7
Total Volume	0	7	0	7	11	0	0	11	0	0	0	0	18
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.583	.000	.583	.688	.000	.000	.688	.000	.000	.000	.000	.643



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File Name : 164969 FFFF
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Start Date : 3/15/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	Peds EB	Peds WB	Thru	Left	Peds WB	Peds EB	Right	Left	Peds NB	Peds SB	
04:45 PM	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
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	0	0	0	0	0	0	0
05:30 PM	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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	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
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	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
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	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
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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
10:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	2	0	0	0	0	0	0	0	2
Apprch %	0	0	0	0	100	0	0	0	0	0	0	0	
Total %	0	0	0	0	100	0	0	0	0	0	0	0	

Start Time	Boston Road (Route 119/225) From North					Boston Road (Route 119/225) From South					Old Ayer Road South From West					Int. Total
	Right	Thru	Peds EB	Peds WB	App. Total	Thru	Left	Peds WB	Peds EB	App. Total	Right	Left	Peds NB	Peds SB	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 09:15 PM																
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total Volume	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
% App. Total	0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.250



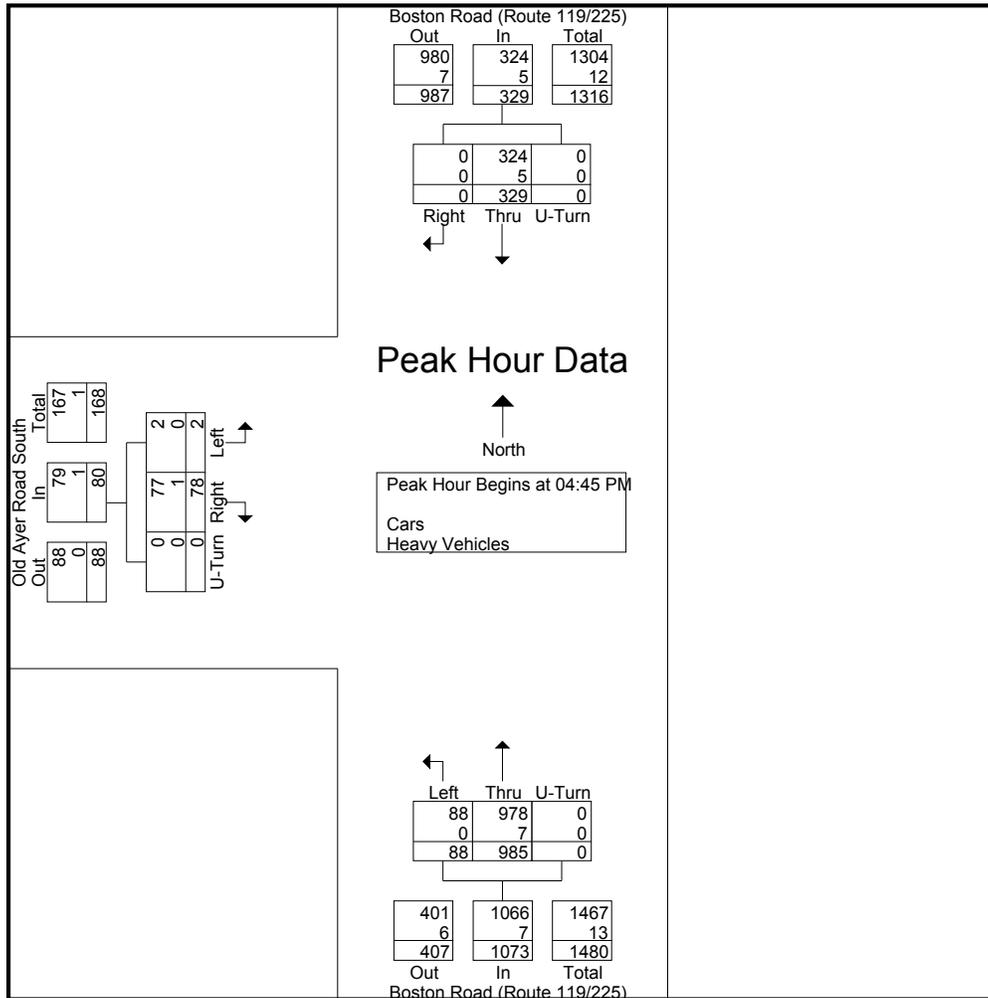
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N/S: Boston Road (Route 119/225)
W: Old Ayer Road South
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 FFFF
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road South From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	78	0	78	239	26	0	265	20	2	0	22	365
05:00 PM	0	70	0	70	235	22	0	257	22	0	0	22	349
05:15 PM	0	82	0	82	260	23	0	283	15	0	0	15	380
05:30 PM	0	99	0	99	251	17	0	268	21	0	0	21	388
Total Volume	0	329	0	329	985	88	0	1073	78	2	0	80	1482
% App. Total	0	100	0		91.8	8.2	0		97.5	2.5	0		
PHF	.000	.831	.000	.831	.947	.846	.000	.948	.886	.250	.000	.909	.955
Cars	0	324	0	324	978	88	0	1066	77	2	0	79	1469
% Cars	0	98.5	0	98.5	99.3	100	0	99.3	98.7	100	0	98.8	99.1
Heavy Vehicles	0	5	0	5	7	0	0	7	1	0	0	1	13
% Heavy Vehicles	0	1.5	0	1.5	0.7	0	0	0.7	1.3	0	0	1.3	0.9





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N/S: Boston Road (Route 119/225)
W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 G
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	17	129	0	107	0	0	0	15	0	268
10:45 AM	15	141	0	127	0	0	0	15	0	298
Total	32	270	0	234	0	0	0	30	0	566
11:00 AM	16	129	0	125	0	0	0	9	0	279
11:15 AM	19	139	0	108	0	0	0	17	0	283
11:30 AM	20	138	0	132	1	0	0	19	0	310
11:45 AM	25	125	0	132	0	0	0	21	0	303
Total	80	531	0	497	1	0	0	66	0	1175
12:00 PM	20	120	0	101	0	0	0	19	0	260
12:15 PM	23	106	0	122	0	0	0	14	0	265
Grand Total	155	1027	0	954	1	0	0	129	0	2266
Apprch %	13.1	86.9	0	99.9	0.1	0	0	100	0	
Total %	6.8	45.3	0	42.1	0	0	0	5.7	0	
Cars	153	1013	0	942	1	0	0	126	0	2235
% Cars	98.7	98.6	0	98.7	100	0	0	97.7	0	98.6
Heavy Vehicles	2	14	0	12	0	0	0	3	0	31
% Heavy Vehicles	1.3	1.4	0	1.3	0	0	0	2.3	0	1.4

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	16	129	0	145	125	0	0	125	0	9	0	9	279
11:15 AM	19	139	0	158	108	0	0	108	0	17	0	17	283
11:30 AM	20	138	0	158	132	1	0	133	0	19	0	19	310
11:45 AM	25	125	0	150	132	0	0	132	0	21	0	21	303
Total Volume	80	531	0	611	497	1	0	498	0	66	0	66	1175
% App. Total	13.1	86.9	0		99.8	0.2	0		0	100	0		
PHF	.800	.955	.000	.967	.941	.250	.000	.936	.000	.786	.000	.786	.948
Cars	79	526	0	605	494	1	0	495	0	65	0	65	1165
% Cars	98.8	99.1	0	99.0	99.4	100	0	99.4	0	98.5	0	98.5	99.1
Heavy Vehicles	1	5	0	6	3	0	0	3	0	1	0	1	10
% Heavy Vehicles	1.3	0.9	0	1.0	0.6	0	0	0.6	0	1.5	0	1.5	0.9



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W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 G
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	16	125	0	105	0	0	0	14	0	260
10:45 AM	15	140	0	125	0	0	0	15	0	295
Total	31	265	0	230	0	0	0	29	0	555
11:00 AM	16	126	0	125	0	0	0	9	0	276
11:15 AM	19	139	0	107	0	0	0	16	0	281
11:30 AM	20	138	0	132	1	0	0	19	0	310
11:45 AM	24	123	0	130	0	0	0	21	0	298
Total	79	526	0	494	1	0	0	65	0	1165
12:00 PM	20	118	0	99	0	0	0	19	0	256
12:15 PM	23	104	0	119	0	0	0	13	0	259
Grand Total	153	1013	0	942	1	0	0	126	0	2235
Apprch %	13.1	86.9	0	99.9	0.1	0	0	100	0	
Total %	6.8	45.3	0	42.1	0	0	0	5.6	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	16	126	0	142	125	0	0	125	0	9	0	9	276
11:15 AM	19	139	0	158	107	0	0	107	0	16	0	16	281
11:30 AM	20	138	0	158	132	1	0	133	0	19	0	19	310
11:45 AM	24	123	0	147	130	0	0	130	0	21	0	21	298
Total Volume	79	526	0	605	494	1	0	495	0	65	0	65	1165
% App. Total	13.1	86.9	0		99.8	0.2	0		0	100	0		
PHF	.823	.946	.000	.957	.936	.250	.000	.930	.000	.774	.000	.774	.940



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W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 G
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
10:30 AM	1	4	0	2	0	0	0	1	0	8
10:45 AM	0	1	0	2	0	0	0	0	0	3
Total	1	5	0	4	0	0	0	1	0	11
11:00 AM	0	3	0	0	0	0	0	0	0	3
11:15 AM	0	0	0	1	0	0	0	1	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	1	2	0	2	0	0	0	0	0	5
Total	1	5	0	3	0	0	0	1	0	10
12:00 PM	0	2	0	2	0	0	0	0	0	4
12:15 PM	0	2	0	3	0	0	0	1	0	6
Grand Total	2	14	0	12	0	0	0	3	0	31
Apprch %	12.5	87.5	0	100	0	0	0	100	0	
Total %	6.5	45.2	0	38.7	0	0	0	9.7	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
10:30 AM	1	4	0	5	2	0	0	2	0	1	0	1	8
10:45 AM	0	1	0	1	2	0	0	2	0	0	0	0	3
11:00 AM	0	3	0	3	0	0	0	0	0	0	0	0	3
11:15 AM	0	0	0	0	1	0	0	1	0	1	0	1	2
Total Volume	1	8	0	9	5	0	0	5	0	2	0	2	16
% App. Total	11.1	88.9	0		100	0	0		0	100	0		
PHF	.250	.500	.000	.450	.625	.000	.000	.625	.000	.500	.000	.500	.500

Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 10:30 AM



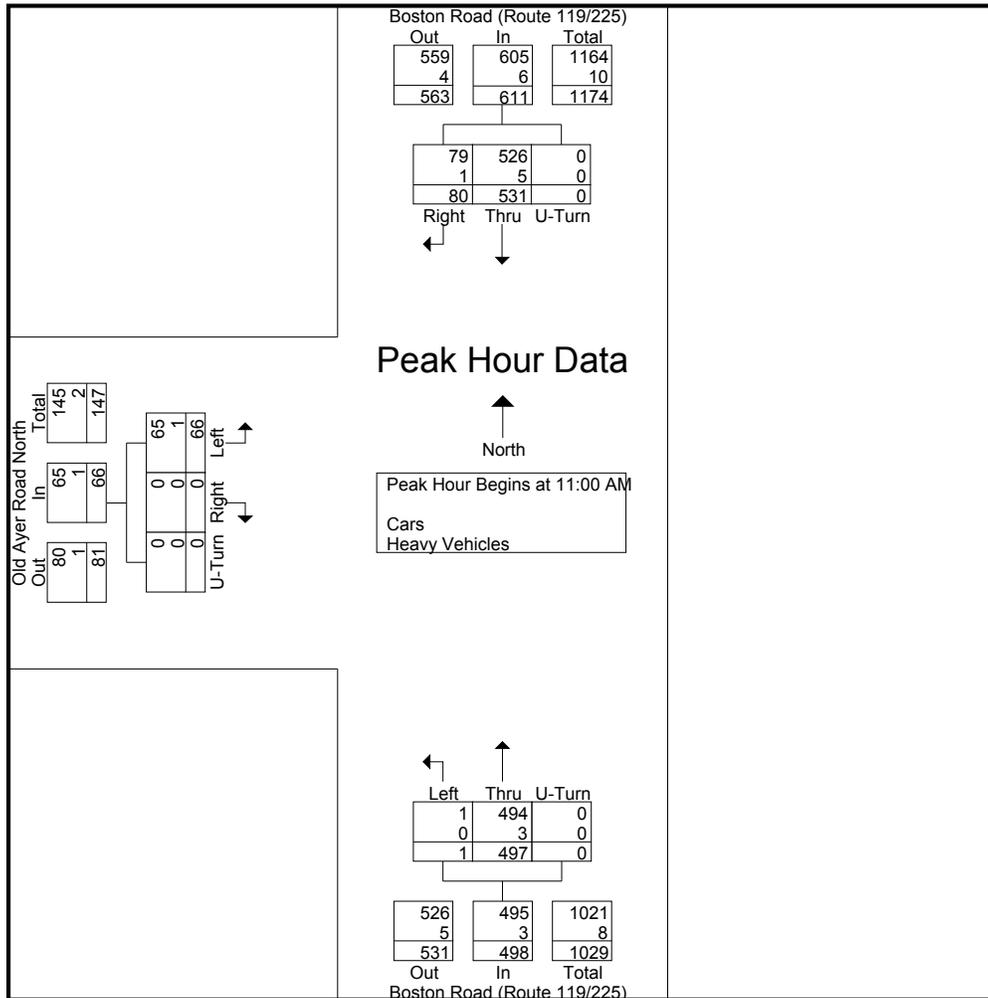
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W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 G
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:00 AM													
11:00 AM	16	129	0	145	125	0	0	125	0	9	0	9	279
11:15 AM	19	139	0	158	108	0	0	108	0	17	0	17	283
11:30 AM	20	138	0	158	132	1	0	133	0	19	0	19	310
11:45 AM	25	125	0	150	132	0	0	132	0	21	0	21	303
Total Volume	80	531	0	611	497	1	0	498	0	66	0	66	1175
% App. Total	13.1	86.9	0		99.8	0.2	0		0	100	0		
PHF	.800	.955	.000	.967	.941	.250	.000	.936	.000	.786	.000	.786	.948
Cars	79	526	0	605	494	1	0	495	0	65	0	65	1165
% Cars	98.8	99.1	0	99.0	99.4	100	0	99.4	0	98.5	0	98.5	99.1
Heavy Vehicles	1	5	0	6	3	0	0	3	0	1	0	1	10
% Heavy Vehicles	1.3	0.9	0	1.0	0.6	0	0	0.6	0	1.5	0	1.5	0.9





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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	16	78	0	107	0	0	0	10	0	211
06:15 PM	13	87	0	111	0	0	0	17	0	228
06:30 PM	11	72	0	91	0	0	0	5	0	179
06:45 PM	13	62	0	75	0	0	0	12	0	162
Total	53	299	0	384	0	0	0	44	0	780
07:00 PM	16	48	0	77	0	0	0	7	0	148
07:15 PM	7	48	0	57	0	0	0	8	0	120
07:30 PM	9	47	0	73	0	0	1	16	0	146
07:45 PM	4	45	0	56	0	0	0	5	0	110
Total	36	188	0	263	0	0	1	36	0	524
Grand Total	89	487	0	647	0	0	1	80	0	1304
Apprch %	15.5	84.5	0	100	0	0	1.2	98.8	0	
Total %	6.8	37.3	0	49.6	0	0	0.1	6.1	0	
Cars	88	485	0	644	0	0	1	80	0	1298
% Cars	98.9	99.6	0	99.5	0	0	100	100	0	99.5
Heavy Vehicles	1	2	0	3	0	0	0	0	0	6
% Heavy Vehicles	1.1	0.4	0	0.5	0	0	0	0	0	0.5

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	16	78	0	94	107	0	0	107	0	10	0	10	211
06:15 PM	13	87	0	100	111	0	0	111	0	17	0	17	228
06:30 PM	11	72	0	83	91	0	0	91	0	5	0	5	179
06:45 PM	13	62	0	75	75	0	0	75	0	12	0	12	162
Total Volume	53	299	0	352	384	0	0	384	0	44	0	44	780
% App. Total	15.1	84.9	0		100	0	0		0	100	0		
PHF	.828	.859	.000	.880	.865	.000	.000	.865	.000	.647	.000	.647	.855
Cars	52	297	0	349	382	0	0	382	0	44	0	44	775
% Cars	98.1	99.3	0	99.1	99.5	0	0	99.5	0	100	0	100	99.4
Heavy Vehicles	1	2	0	3	2	0	0	2	0	0	0	0	5
% Heavy Vehicles	1.9	0.7	0	0.9	0.5	0	0	0.5	0	0	0	0	0.6



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Client: Stantec/ S. Wood

File Name : 164969 GG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	16	78	0	106	0	0	0	10	0	210
06:15 PM	13	86	0	111	0	0	0	17	0	227
06:30 PM	10	72	0	90	0	0	0	5	0	177
06:45 PM	13	61	0	75	0	0	0	12	0	161
Total	52	297	0	382	0	0	0	44	0	775
07:00 PM	16	48	0	77	0	0	0	7	0	148
07:15 PM	7	48	0	57	0	0	0	8	0	120
07:30 PM	9	47	0	73	0	0	1	16	0	146
07:45 PM	4	45	0	55	0	0	0	5	0	109
Total	36	188	0	262	0	0	1	36	0	523
Grand Total	88	485	0	644	0	0	1	80	0	1298
Apprch %	15.4	84.6	0	100	0	0	1.2	98.8	0	
Total %	6.8	37.4	0	49.6	0	0	0.1	6.2	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
06:00 PM	16	78	0	94	106	0	0	106	0	10	0	10	210
06:15 PM	13	86	0	99	111	0	0	111	0	17	0	17	227
06:30 PM	10	72	0	82	90	0	0	90	0	5	0	5	177
06:45 PM	13	61	0	74	75	0	0	75	0	12	0	12	161
Total Volume	52	297	0	349	382	0	0	382	0	44	0	44	775
% App. Total	14.9	85.1	0		100	0	0		0	100	0		
PHF	.813	.863	.000	.881	.860	.000	.000	.860	.000	.647	.000	.647	.854

Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



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P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Boston Road (Route 119/225)
W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
06:00 PM	0	0	0	1	0	0	0	0	0	1
06:15 PM	0	1	0	0	0	0	0	0	0	1
06:30 PM	1	0	0	1	0	0	0	0	0	2
06:45 PM	0	1	0	0	0	0	0	0	0	1
Total	1	2	0	2	0	0	0	0	0	5
07:00 PM	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	0	1
Grand Total	1	2	0	3	0	0	0	0	0	6
Apprch %	33.3	66.7	0	100	0	0	0	0	0	
Total %	16.7	33.3	0	50	0	0	0	0	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
06:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
06:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	1	2	0	3	2	0	0	2	0	0	0	0	5
% App. Total	33.3	66.7	0		100	0	0		0	0	0		
PHF	.250	.500	.000	.750	.500	.000	.000	.500	.000	.000	.000	.000	.625



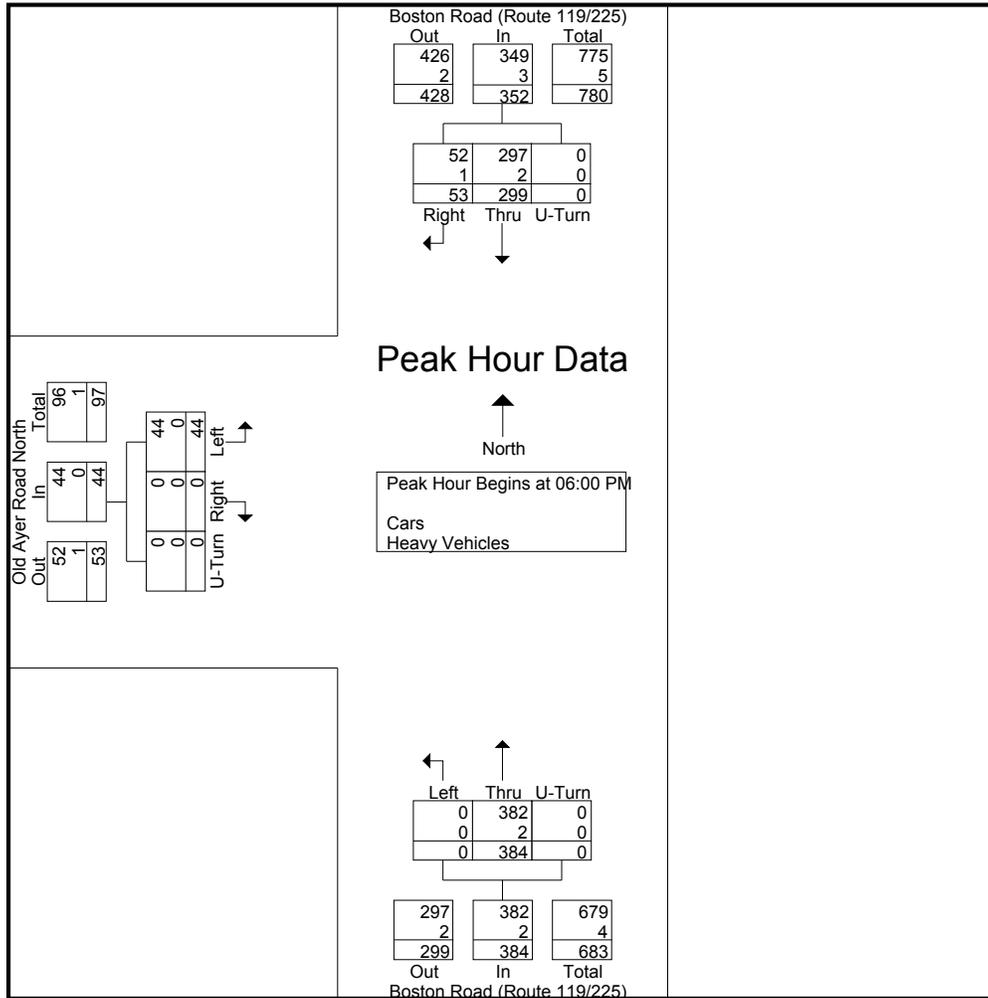
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Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	16	78	0	94	107	0	0	107	0	10	0	10	211
06:15 PM	13	87	0	100	111	0	0	111	0	17	0	17	228
06:30 PM	11	72	0	83	91	0	0	91	0	5	0	5	179
06:45 PM	13	62	0	75	75	0	0	75	0	12	0	12	162
Total Volume	53	299	0	352	384	0	0	384	0	44	0	44	780
% App. Total	15.1	84.9	0		100	0	0		0	100	0		
PHF	.828	.859	.000	.880	.865	.000	.000	.865	.000	.647	.000	.647	.855
Cars	52	297	0	349	382	0	0	382	0	44	0	44	775
% Cars	98.1	99.3	0	99.1	99.5	0	0	99.5	0	100	0	100	99.4
Heavy Vehicles	1	2	0	3	2	0	0	2	0	0	0	0	5
% Heavy Vehicles	1.9	0.7	0	0.9	0.5	0	0	0.5	0	0	0	0	0.6





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File Name : 164969 GGG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
09:00 PM	8	33	0	44	0	0	0	4	0	89
09:15 PM	4	36	0	40	0	0	0	4	0	84
09:30 PM	11	22	0	41	0	0	0	5	0	79
09:45 PM	8	30	0	48	0	0	0	4	0	90
Total	31	121	0	173	0	0	0	17	0	342
10:00 PM	9	25	1	49	0	0	0	8	0	92
10:15 PM	4	31	0	49	0	0	0	8	0	92
10:30 PM	12	29	0	28	0	0	0	9	0	78
10:45 PM	4	25	0	40	0	0	0	2	0	71
Total	29	110	1	166	0	0	0	27	0	333
Grand Total	60	231	1	339	0	0	0	44	0	675
Apprch %	20.5	79.1	0.3	100	0	0	0	100	0	
Total %	8.9	34.2	0.1	50.2	0	0	0	6.5	0	
Cars	60	228	1	337	0	0	0	43	0	669
% Cars	100	98.7	100	99.4	0	0	0	97.7	0	99.1
Heavy Vehicles	0	3	0	2	0	0	0	1	0	6
% Heavy Vehicles	0	1.3	0	0.6	0	0	0	2.3	0	0.9

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:30 PM													
09:30 PM	11	22	0	33	41	0	0	41	0	5	0	5	79
09:45 PM	8	30	0	38	48	0	0	48	0	4	0	4	90
10:00 PM	9	25	1	35	49	0	0	49	0	8	0	8	92
10:15 PM	4	31	0	35	49	0	0	49	0	8	0	8	92
Total Volume	32	108	1	141	187	0	0	187	0	25	0	25	353
% App. Total	22.7	76.6	0.7		100	0	0		0	100	0		
PHF	.727	.871	.250	.928	.954	.000	.000	.954	.000	.781	.000	.781	.959
Cars	32	108	1	141	186	0	0	186	0	24	0	24	351
% Cars	100	100	100	100	99.5	0	0	99.5	0	96.0	0	96.0	99.4
Heavy Vehicles	0	0	0	0	1	0	0	1	0	1	0	1	2
% Heavy Vehicles	0	0	0	0	0.5	0	0	0.5	0	4.0	0	4.0	0.6



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GGG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
09:00 PM	8	32	0	44	0	0	0	4	0	88
09:15 PM	4	35	0	40	0	0	0	4	0	83
09:30 PM	11	22	0	41	0	0	0	5	0	79
09:45 PM	8	30	0	48	0	0	0	4	0	90
Total	31	119	0	173	0	0	0	17	0	340
10:00 PM	9	25	1	49	0	0	0	8	0	92
10:15 PM	4	31	0	48	0	0	0	7	0	90
10:30 PM	12	29	0	28	0	0	0	9	0	78
10:45 PM	4	24	0	39	0	0	0	2	0	69
Total	29	109	1	164	0	0	0	26	0	329
Grand Total	60	228	1	337	0	0	0	43	0	669
Apprch %	20.8	78.9	0.3	100	0	0	0	100	0	
Total %	9	34.1	0.1	50.4	0	0	0	6.4	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:30 PM													
09:30 PM	11	22	0	33	41	0	0	41	0	5	0	5	79
09:45 PM	8	30	0	38	48	0	0	48	0	4	0	4	90
10:00 PM	9	25	1	35	49	0	0	49	0	8	0	8	92
10:15 PM	4	31	0	35	48	0	0	48	0	7	0	7	90
Total Volume	32	108	1	141	186	0	0	186	0	24	0	24	351
% App. Total	22.7	76.6	0.7		100	0	0		0	100	0		
PHF	.727	.871	.250	.928	.949	.000	.000	.949	.000	.750	.000	.750	.954



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File Name : 164969 GGG
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
09:00 PM	0	1	0	0	0	0	0	0	0	1
09:15 PM	0	1	0	0	0	0	0	0	0	1
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	0	0	2
10:00 PM	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	1	0	0	0	1	0	2
10:30 PM	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	1	0	1	0	0	0	0	0	2
Total	0	1	0	2	0	0	0	1	0	4
Grand Total	0	3	0	2	0	0	0	1	0	6
Apprch %	0	100	0	100	0	0	0	100	0	
Total %	0	50	0	33.3	0	0	0	16.7	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:00 PM													
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	1	0	0	1	0	1	0	1	2
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	0	1	0	1	2	0	0	2	0	1	0	1	4
% App. Total	0	100	0		100	0	0		0	100	0		
PHF	.000	.250	.000	.250	.500	.000	.000	.500	.000	.250	.000	.250	.500

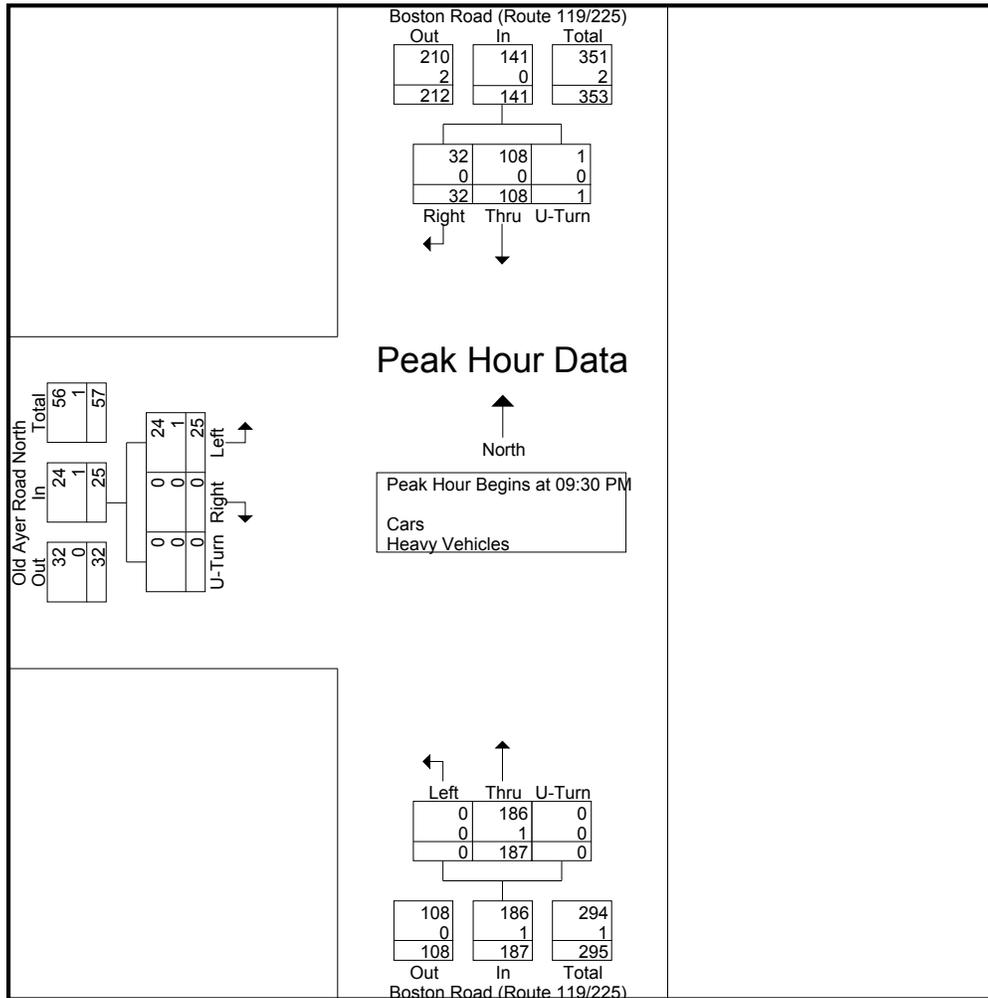


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Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:30 PM													
09:30 PM	11	22	0	33	41	0	0	41	0	5	0	5	79
09:45 PM	8	30	0	38	48	0	0	48	0	4	0	4	90
10:00 PM	9	25	1	35	49	0	0	49	0	8	0	8	92
10:15 PM	4	31	0	35	49	0	0	49	0	8	0	8	92
Total Volume	32	108	1	141	187	0	0	187	0	25	0	25	353
% App. Total	22.7	76.6	0.7		100	0	0		0	100	0		
PHF	.727	.871	.250	.928	.954	.000	.000	.954	.000	.781	.000	.781	.959
Cars	32	108	1	141	186	0	0	186	0	24	0	24	351
% Cars	100	100	100	100	99.5	0	0	99.5	0	96.0	0	96.0	99.4
Heavy Vehicles	0	0	0	0	1	0	0	1	0	1	0	1	2
% Heavy Vehicles	0	0	0	0	0.5	0	0	0.5	0	4.0	0	4.0	0.6





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Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	17	78	0	240	0	0	0	27	0	362
Total	17	78	0	240	0	0	0	27	0	362
05:00 PM	21	72	0	237	2	0	0	22	0	354
05:15 PM	12	81	0	256	0	0	0	28	0	377
05:30 PM	23	98	0	257	0	0	0	20	0	398
05:45 PM	17	80	0	223	0	0	0	22	0	342
Total	73	331	0	973	2	0	0	92	0	1471
06:00 PM	14	83	0	236	0	0	0	15	0	348
06:15 PM	18	67	0	180	0	0	0	14	0	279
06:30 PM	16	59	0	181	1	0	0	14	0	271
06:45 PM	11	65	0	182	0	0	0	19	0	277
Total	59	274	0	779	1	0	0	62	0	1175
07:00 PM	14	46	0	143	0	0	0	14	0	217
07:15 PM	7	43	0	124	0	0	0	10	0	184
07:30 PM	6	30	0	115	0	0	0	14	0	165
07:45 PM	11	15	0	85	0	0	0	7	0	118
Total	38	134	0	467	0	0	0	45	0	684
08:00 PM	8	33	0	67	0	0	0	5	0	113
08:15 PM	8	31	0	81	0	0	0	2	0	122
08:30 PM	5	52	0	82	1	0	0	5	0	145
08:45 PM	9	25	0	70	0	0	0	1	0	105
Total	30	141	0	300	1	0	0	13	0	485
09:00 PM	12	25	0	55	0	0	0	10	0	102
09:15 PM	11	23	0	56	0	0	0	4	0	94
09:30 PM	5	15	0	52	0	0	0	8	0	80
09:45 PM	4	18	0	48	0	0	0	4	0	74
Total	32	81	0	211	0	0	0	26	0	350
10:00 PM	1	11	0	40	0	0	0	3	0	55
10:15 PM	1	19	0	23	0	0	0	1	0	44
10:30 PM	6	13	0	20	1	0	0	4	0	44
Grand Total	257	1082	0	3053	5	0	0	273	0	4670
Apprch %	19.2	80.8	0	99.8	0.2	0	0	100	0	
Total %	5.5	23.2	0	65.4	0.1	0	0	5.8	0	
Cars	255	1064	0	3025	5	0	0	273	0	4622
% Cars	99.2	98.3	0	99.1	100	0	0	100	0	99
Heavy Vehicles	2	18	0	28	0	0	0	0	0	48
% Heavy Vehicles	0.8	1.7	0	0.9	0	0	0	0	0	1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
04:45 PM	17	78	0	95	240	0	0	240	0	27	0	27	362
05:00 PM	21	72	0	93	237	2	0	239	0	22	0	22	354
05:15 PM	12	81	0	93	256	0	0	256	0	28	0	28	377
05:30 PM	23	98	0	121	257	0	0	257	0	20	0	20	398
Total Volume	73	329	0	402	990	2	0	992	0	97	0	97	1491
% App. Total	18.2	81.8	0		99.8	0.2	0		0	100	0		
PHF	.793	.839	.000	.831	.963	.250	.000	.965	.000	.866	.000	.866	.937
Cars	73	323	0	396	983	2	0	985	0	97	0	97	1478
% Cars	100	98.2	0	98.5	99.3	100	0	99.3	0	100	0	100	99.1
Heavy Vehicles	0	6	0	6	7	0	0	7	0	0	0	0	13
% Heavy Vehicles	0	1.8	0	1.5	0.7	0	0	0.7	0	0	0	0	0.9

Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



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Groups Printed- Cars

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	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	17	78	0	239	0	0	0	27	0	361
Total	17	78	0	239	0	0	0	27	0	361
05:00 PM	21	68	0	236	2	0	0	22	0	349
05:15 PM	12	81	0	254	0	0	0	28	0	375
05:30 PM	23	96	0	254	0	0	0	20	0	393
05:45 PM	17	78	0	221	0	0	0	22	0	338
Total	73	323	0	965	2	0	0	92	0	1455
06:00 PM	14	80	0	232	0	0	0	15	0	341
06:15 PM	17	66	0	180	0	0	0	14	0	277
06:30 PM	16	58	0	179	1	0	0	14	0	268
06:45 PM	11	65	0	180	0	0	0	19	0	275
Total	58	269	0	771	1	0	0	62	0	1161
07:00 PM	14	46	0	142	0	0	0	14	0	216
07:15 PM	7	43	0	124	0	0	0	10	0	184
07:30 PM	6	29	0	115	0	0	0	14	0	164
07:45 PM	11	15	0	84	0	0	0	7	0	117
Total	38	133	0	465	0	0	0	45	0	681
08:00 PM	8	33	0	67	0	0	0	5	0	113
08:15 PM	8	29	0	79	0	0	0	2	0	118
08:30 PM	5	52	0	79	1	0	0	5	0	142
08:45 PM	9	25	0	70	0	0	0	1	0	105
Total	30	139	0	295	1	0	0	13	0	478
09:00 PM	11	25	0	55	0	0	0	10	0	101
09:15 PM	11	23	0	56	0	0	0	4	0	94
09:30 PM	5	15	0	51	0	0	0	8	0	79
09:45 PM	4	17	0	47	0	0	0	4	0	72
Total	31	80	0	209	0	0	0	26	0	346
10:00 PM	1	11	0	38	0	0	0	3	0	53
10:15 PM	1	19	0	23	0	0	0	1	0	44
10:30 PM	6	12	0	20	1	0	0	4	0	43
Grand Total	255	1064	0	3025	5	0	0	273	0	4622
Apprch %	19.3	80.7	0	99.8	0.2	0	0	100	0	
Total %	5.5	23	0	65.4	0.1	0	0	5.9	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	17	78	0	95	239	0	0	239	0	27	0	27	361
05:00 PM	21	68	0	89	236	2	0	238	0	22	0	22	349
05:15 PM	12	81	0	93	254	0	0	254	0	28	0	28	375
05:30 PM	23	96	0	119	254	0	0	254	0	20	0	20	393
Total Volume	73	323	0	396	983	2	0	985	0	97	0	97	1478
% App. Total	18.4	81.6	0		99.8	0.2	0		0	100	0		
PHF	.793	.841	.000	.832	.968	.250	.000	.969	.000	.866	.000	.866	.940



PRECISION
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N/S: Boston Road (Route 119/225)
W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GGGG
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Boston Road (Route 119/225) From North			Boston Road (Route 119/225) From South			Old Ayer Road North From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
04:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	0	1
05:00 PM	0	4	0	1	0	0	0	0	0	5
05:15 PM	0	0	0	2	0	0	0	0	0	2
05:30 PM	0	2	0	3	0	0	0	0	0	5
05:45 PM	0	2	0	2	0	0	0	0	0	4
Total	0	8	0	8	0	0	0	0	0	16
06:00 PM	0	3	0	4	0	0	0	0	0	7
06:15 PM	1	1	0	0	0	0	0	0	0	2
06:30 PM	0	1	0	2	0	0	0	0	0	3
06:45 PM	0	0	0	2	0	0	0	0	0	2
Total	1	5	0	8	0	0	0	0	0	14
07:00 PM	0	0	0	1	0	0	0	0	0	1
07:15 PM	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	1	0	0	0	0	0	0	0	1
07:45 PM	0	0	0	1	0	0	0	0	0	1
Total	0	1	0	2	0	0	0	0	0	3
08:00 PM	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	2	0	2	0	0	0	0	0	4
08:30 PM	0	0	0	3	0	0	0	0	0	3
08:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	5	0	0	0	0	0	7
09:00 PM	1	0	0	0	0	0	0	0	0	1
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	1	0	0	0	0	0	1
09:45 PM	0	1	0	1	0	0	0	0	0	2
Total	1	1	0	2	0	0	0	0	0	4
10:00 PM	0	0	0	2	0	0	0	0	0	2
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	1	0	0	0	0	0	0	0	1
Grand Total	2	18	0	28	0	0	0	0	0	48
Apprch %	10	90	0	100	0	0	0	0	0	
Total %	4.2	37.5	0	58.3	0	0	0	0	0	

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
05:30 PM	0	2	0	2	3	0	0	3	0	0	0	0	5
05:45 PM	0	2	0	2	2	0	0	2	0	0	0	0	4
06:00 PM	0	3	0	3	4	0	0	4	0	0	0	0	7
Total Volume	0	7	0	7	11	0	0	11	0	0	0	0	18
% App. Total	0	100	0		100	0	0		0	0	0		
PHF	.000	.583	.000	.583	.688	.000	.000	.688	.000	.000	.000	.000	.643



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N/S: Boston Road (Route 119/225)
W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GGGG
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	Peds EB	Peds WB	Thru	Left	Peds WB	Peds EB	Right	Left	Peds NB	Peds SB	
04:45 PM	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
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	0	0	0	0	0	0	0
05:30 PM	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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	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
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	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
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	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
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	
Total %													

Start Time	Boston Road (Route 119/225) From North					Boston Road (Route 119/225) From South					Old Ayer Road North From West					Int. Total
	Right	Thru	Peds EB	Peds WB	App. Total	Thru	Left	Peds WB	Peds EB	App. Total	Right	Left	Peds NB	Peds SB	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 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	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
05:15 PM	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
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

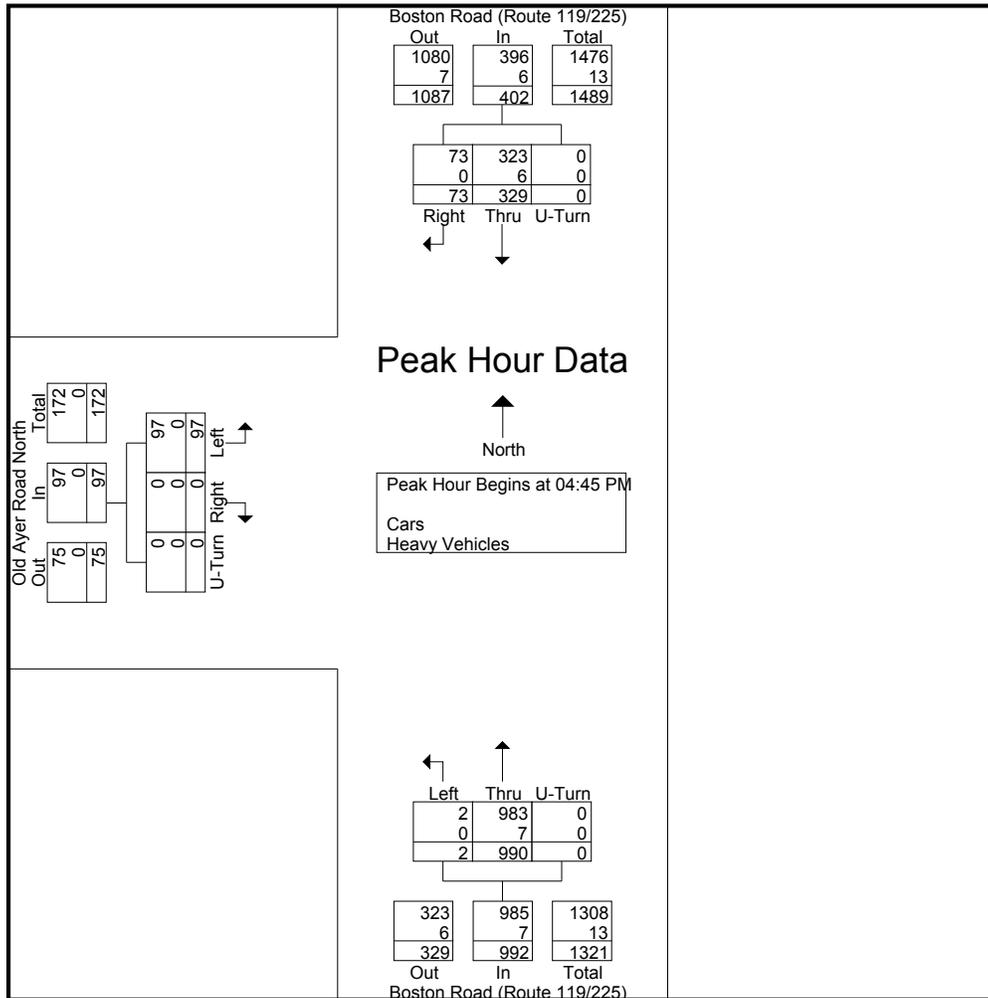


PRECISION
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N/S: Boston Road (Route 119/225)
W: Old Ayer Road North
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 GGGG
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Start Time	Boston Road (Route 119/225) From North				Boston Road (Route 119/225) From South				Old Ayer Road North From West				Int. Total
	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	17	78	0	95	240	0	0	240	0	27	0	27	362
05:00 PM	21	72	0	93	237	2	0	239	0	22	0	22	354
05:15 PM	12	81	0	93	256	0	0	256	0	28	0	28	377
05:30 PM	23	98	0	121	257	0	0	257	0	20	0	20	398
Total Volume	73	329	0	402	990	2	0	992	0	97	0	97	1491
% App. Total	18.2	81.8	0		99.8	0.2	0		0	100	0		
PHF	.793	.839	.000	.831	.963	.250	.000	.965	.000	.866	.000	.866	.937
Cars	73	323	0	396	983	2	0	985	0	97	0	97	1478
% Cars	100	98.2	0	98.5	99.3	100	0	99.3	0	100	0	100	99.1
Heavy Vehicles	0	6	0	6	7	0	0	7	0	0	0	0	13
% Heavy Vehicles	0	1.8	0	1.5	0.7	0	0	0.7	0	0	0	0	0.9





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N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 H
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
10:30 AM	13	122	43	0	57	3	11	0	15	103	9	0	0	0	0	0	376
10:45 AM	7	147	38	0	24	6	5	0	9	124	7	0	0	0	0	0	367
Total	20	269	81	0	81	9	16	0	24	227	16	0	0	0	0	0	743
11:00 AM	17	129	48	0	34	4	9	0	13	113	9	0	0	0	0	0	376
11:15 AM	11	141	38	0	43	10	9	0	11	120	3	0	0	0	0	0	386
11:30 AM	6	137	47	0	44	6	12	0	13	133	4	0	0	0	0	0	402
11:45 AM	6	136	48	0	47	2	11	0	20	121	4	0	0	0	0	0	395
Total	40	543	181	0	168	22	41	0	57	487	20	0	0	0	0	0	1559
12:00 PM	6	119	49	0	38	13	11	0	23	103	8	0	0	0	0	0	370
12:15 PM	5	125	58	0	36	10	5	0	11	119	11	0	0	0	0	0	380
Grand Total	71	1056	369	0	323	54	73	0	115	936	55	0	0	0	0	0	3052
Apprch %	4.7	70.6	24.7	0	71.8	12	16.2	0	10.4	84.6	5	0	0	0	0	0	
Total %	2.3	34.6	12.1	0	10.6	1.8	2.4	0	3.8	30.7	1.8	0	0	0	0	0	
Cars	71	1042	362	0	317	54	72	0	113	924	55	0	0	0	0	0	3010
% Cars	100	98.7	98.1	0	98.1	100	98.6	0	98.3	98.7	100	0	0	0	0	0	98.6
Heavy Vehicles	0	14	7	0	6	0	1	0	2	12	0	0	0	0	0	0	42
% Heavy Vehicles	0	1.3	1.9	0	1.9	0	1.4	0	1.7	1.3	0	0	0	0	0	0	1.4

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	17	129	48	0	194	34	4	9	0	47	13	113	9	0	135	0	0	0	0	0	376
11:15 AM	11	141	38	0	190	43	10	9	0	62	11	120	3	0	134	0	0	0	0	0	386
11:30 AM	6	137	47	0	190	44	6	12	0	62	13	133	4	0	150	0	0	0	0	0	402
11:45 AM	6	136	48	0	190	47	2	11	0	60	20	121	4	0	145	0	0	0	0	0	395
Total Volume	40	543	181	0	764	168	22	41	0	231	57	487	20	0	564	0	0	0	0	0	1559
% App. Total	5.2	71.1	23.7	0		72.7	9.5	17.7	0		10.1	86.3	3.5	0		0	0	0	0		
PHF	.588	.963	.943	.000	.985	.894	.550	.854	.000	.931	.713	.915	.556	.000	.940	.000	.000	.000	.000	.000	.970
Cars	40	539	178	0	757	165	22	40	0	227	57	483	20	0	560	0	0	0	0	0	1544
% Cars	100	99.3	98.3	0	99.1	98.2	100	97.6	0	98.3	100	99.2	100	0	99.3	0	0	0	0	0	99.0
Heavy Vehicles	0	4	3	0	7	3	0	1	0	4	0	4	0	0	4	0	0	0	0	0	15
% Heavy Vehicles	0	0.7	1.7	0	0.9	1.8	0	2.4	0	1.7	0	0.8	0	0	0.7	0	0	0	0	0	1.0



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N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 H
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
10:45 AM	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	27
Total	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	29
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
11:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
11:45 AM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	5
Total	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	6	13
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	1	5
12:15 PM	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	2	9
Grand Total	0	24	0	0	0	0	0	1	0	2	0	2	0	0	0	0	0	0	13	14	56
Apprch %	0	100	0	0	0	0	0	33.3	0	66.7	0	100	0	0	0	0	0	0	48.1	51.9	
Total %	0	42.9	0	0	0	0	0	1.8	0	3.6	0	3.6	0	0	0	0	0	0	23.2	25	

Start Time	Main Street (Route 119/225) From North						Lowell Road (Route 40) From East						Main Street (Route 119/225) From South						Broad Meadow Road From West						Int. Total
	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	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 10:45 AM																									
10:45 AM	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7	27
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
11:15 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
Total Volume	0	21	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	14	35
% App. Total	0	100	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	35.7	64.3		
PHF	.000	.263	.000	.000	.000	.263	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625	.450	.500	.324

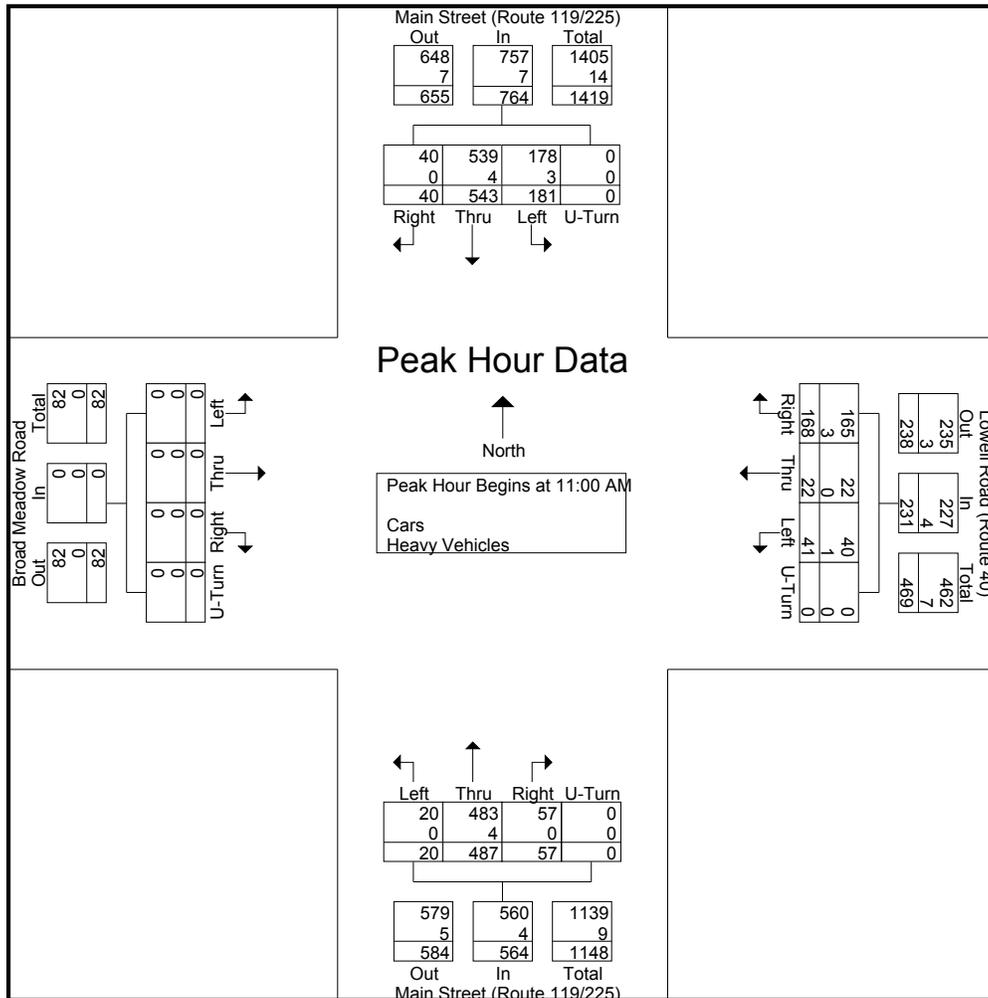


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File Name : 164969 H
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	17	129	48	0	194	34	4	9	0	47	13	113	9	0	135	0	0	0	0	0	376
11:15 AM	11	141	38	0	190	43	10	9	0	62	11	120	3	0	134	0	0	0	0	0	386
11:30 AM	6	137	47	0	190	44	6	12	0	62	13	133	4	0	150	0	0	0	0	0	402
11:45 AM	6	136	48	0	190	47	2	11	0	60	20	121	4	0	145	0	0	0	0	0	395
Total Volume	40	543	181	0	764	168	22	41	0	231	57	487	20	0	564	0	0	0	0	0	1559
% App. Total	5.2	71.1	23.7	0		72.7	9.5	17.7	0		10.1	86.3	3.5	0		0	0	0	0		
PHF	.588	.963	.943	.000	.985	.894	.550	.854	.000	.931	.713	.915	.556	.000	.940	.000	.000	.000	.000	.000	.970
Cars	40	539	178	0	757	165	22	40	0	227	57	483	20	0	560	0	0	0	0	0	1544
% Cars	100	99.3	98.3	0	99.1	98.2	100	97.6	0	98.3	100	99.2	100	0	99.3	0	0	0	0	0	99.0
Heavy Vehicles	0	4	3	0	7	3	0	1	0	4	0	4	0	0	4	0	0	0	0	0	15
% Heavy Vehicles	0	0.7	1.7	0	0.9	1.8	0	2.4	0	1.7	0	0.8	0	0	0.7	0	0	0	0	0	1.0





PRECISION
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INDUSTRIES, LLC

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Email: datarequests@pdillc.com

N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HH
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total	
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn		
06:00 PM	2	90	28	0	26	3	7	0	10	97	4	0	0	0	0	0	0	267
06:15 PM	5	87	22	0	26	7	4	0	9	122	11	0	0	0	0	0	0	293
06:30 PM	1	75	27	0	28	3	5	0	10	76	2	0	0	0	0	0	0	227
06:45 PM	1	67	29	0	26	5	7	0	9	80	2	0	0	0	0	0	0	226
Total	9	319	106	0	106	18	23	0	38	375	19	0	0	0	0	0	0	1013
07:00 PM	2	48	23	0	22	2	15	0	6	71	4	0	0	0	0	0	0	193
07:15 PM	1	41	18	0	15	6	14	0	5	59	2	0	0	0	0	0	0	161
07:30 PM	2	45	17	0	22	0	5	0	11	71	4	0	0	0	0	0	0	177
07:45 PM	1	42	26	0	14	4	7	0	5	52	4	0	0	0	0	0	0	155
Total	6	176	84	0	73	12	41	0	27	253	14	0	0	0	0	0	0	686
Grand Total	15	495	190	0	179	30	64	0	65	628	33	0	0	0	0	0	0	1699
Apprch %	2.1	70.7	27.1	0	65.6	11	23.4	0	9	86.5	4.5	0	0	0	0	0	0	
Total %	0.9	29.1	11.2	0	10.5	1.8	3.8	0	3.8	37	1.9	0	0	0	0	0	0	
Cars	15	494	189	0	179	30	64	0	65	625	33	0	0	0	0	0	0	1694
% Cars	100	99.8	99.5	0	100	100	100	0	100	99.5	100	0	0	0	0	0	0	99.7
Heavy Vehicles	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5
% Heavy Vehicles	0	0.2	0.5	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0.3

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 PM																					
06:00 PM	2	90	28	0	120	26	3	7	0	36	10	97	4	0	111	0	0	0	0	0	267
06:15 PM	5	87	22	0	114	26	7	4	0	37	9	122	11	0	142	0	0	0	0	0	293
06:30 PM	1	75	27	0	103	28	3	5	0	36	10	76	2	0	88	0	0	0	0	0	227
06:45 PM	1	67	29	0	97	26	5	7	0	38	9	80	2	0	91	0	0	0	0	0	226
Total Volume	9	319	106	0	434	106	18	23	0	147	38	375	19	0	432	0	0	0	0	0	1013
% App. Total	2.1	73.5	24.4	0		72.1	12.2	15.6	0		8.8	86.8	4.4	0		0	0	0	0		
PHF	.450	.886	.914	.000	.904	.946	.643	.821	.000	.967	.950	.768	.432	.000	.761	.000	.000	.000	.000	.000	.864
Cars	9	318	105	0	432	106	18	23	0	147	38	373	19	0	430	0	0	0	0	0	1009
% Cars	100	99.7	99.1	0	99.5	100	100	100	0	100	100	99.5	100	0	99.5	0	0	0	0	0	99.6
Heavy Vehicles	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% Heavy Vehicles	0	0.3	0.9	0	0.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.4



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N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HH
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
06:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
06:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	4
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Grand Total	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0	5
Apprch %	0	50	50	0	0	0	0	0	0	100	0	0	0	0	0	0	
Total %	0	20	20	0	0	0	0	0	0	60	0	0	0	0	0	0	

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
06:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% App. Total	0	50	50	0		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.250	.250	.000	.500	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 06:00 PM



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HH
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total	
	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		
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	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	3	3
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7	7
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	71.4		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	71.4		

Start Time	Main Street (Route 119/225) From North						Lowell Road (Route 40) From East						Main Street (Route 119/225) From South						Broad Meadow Road From West						Int. Total					
	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						
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1																														
Peak Hour for Entire Intersection Begins at 07:00 PM																														
07:00 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
07:15 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
07:30 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	2	2	2
07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	2	2		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4	4	4	4		
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	500	500	500	500	500		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.500	.500	.500	.500			



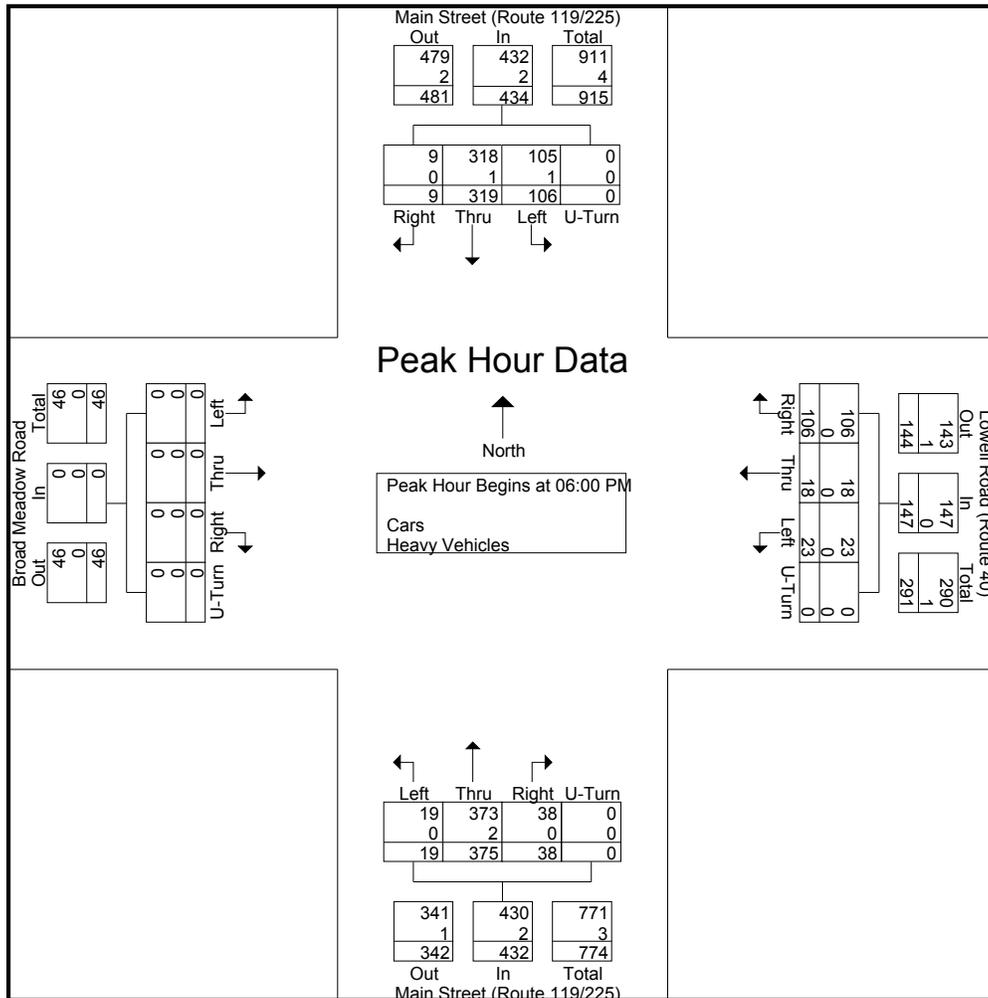
PRECISION
D A T A
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Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 PM																					
06:00 PM	2	90	28	0	120	26	3	7	0	36	10	97	4	0	111	0	0	0	0	0	267
06:15 PM	5	87	22	0	114	26	7	4	0	37	9	122	11	0	142	0	0	0	0	0	293
06:30 PM	1	75	27	0	103	28	3	5	0	36	10	76	2	0	88	0	0	0	0	0	227
06:45 PM	1	67	29	0	97	26	5	7	0	38	9	80	2	0	91	0	0	0	0	0	226
Total Volume	9	319	106	0	434	106	18	23	0	147	38	375	19	0	432	0	0	0	0	0	1013
% App. Total	2.1	73.5	24.4	0		72.1	12.2	15.6	0		8.8	86.8	4.4	0		0	0	0	0		
PHF	.450	.886	.914	.000	.904	.946	.643	.821	.000	.967	.950	.768	.432	.000	.761	.000	.000	.000	.000	.000	.864
Cars	9	318	105	0	432	106	18	23	0	147	38	373	19	0	430	0	0	0	0	0	1009
% Cars	100	99.7	99.1	0	99.5	100	100	100	0	100	100	99.5	100	0	99.5	0	0	0	0	0	99.6
Heavy Vehicles	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
% Heavy Vehicles	0	0.3	0.9	0	0.5	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.4





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File Name : 164969 HHH
Site Code : 17941032
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Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total	
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn		
09:00 PM	1	28	12	0	10	1	8	0	1	43	3	0	0	0	0	0	0	107
09:15 PM	1	29	12	0	12	2	10	0	2	42	4	0	0	0	0	0	0	114
09:30 PM	2	25	11	0	18	6	10	0	2	43	3	0	0	0	0	0	0	120
09:45 PM	2	31	8	0	17	9	7	0	3	40	7	0	0	0	0	0	0	124
Total	6	113	43	0	57	18	35	0	8	168	17	0	0	0	0	0	0	465
10:00 PM	1	21	9	0	18	4	12	0	9	48	7	0	0	0	0	0	0	129
10:15 PM	1	26	4	0	15	3	10	0	4	46	6	0	0	0	0	0	0	115
10:30 PM	0	31	14	0	10	1	10	0	3	37	1	0	0	0	0	0	0	107
10:45 PM	0	17	7	0	22	4	12	0	4	35	2	0	0	0	0	0	0	103
Total	2	95	34	0	65	12	44	0	20	166	16	0	0	0	0	0	0	454
Grand Total	8	208	77	0	122	30	79	0	28	334	33	0	0	0	0	0	0	919
Apprch %	2.7	71	26.3	0	52.8	13	34.2	0	7.1	84.6	8.4	0	0	0	0	0	0	
Total %	0.9	22.6	8.4	0	13.3	3.3	8.6	0	3	36.3	3.6	0	0	0	0	0	0	
Cars	8	205	77	0	122	30	78	0	25	333	33	0	0	0	0	0	0	911
% Cars	100	98.6	100	0	100	100	98.7	0	89.3	99.7	100	0	0	0	0	0	0	99.1
Heavy Vehicles	0	3	0	0	0	0	1	0	3	1	0	0	0	0	0	0	0	8
% Heavy Vehicles	0	1.4	0	0	0	0	1.3	0	10.7	0.3	0	0	0	0	0	0	0	0.9

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:30 PM																					
09:30 PM	2	25	11	0	38	18	6	10	0	34	2	43	3	0	48	0	0	0	0	0	120
09:45 PM	2	31	8	0	41	17	9	7	0	33	3	40	7	0	50	0	0	0	0	0	124
10:00 PM	1	21	9	0	31	18	4	12	0	34	9	48	7	0	64	0	0	0	0	0	129
10:15 PM	1	26	4	0	31	15	3	10	0	28	4	46	6	0	56	0	0	0	0	0	115
Total Volume	6	103	32	0	141	68	22	39	0	129	18	177	23	0	218	0	0	0	0	0	488
% App. Total	4.3	73	22.7	0		52.7	17.1	30.2	0		8.3	81.2	10.6	0		0	0	0	0		
PHF	.750	.831	.727	.000	.860	.944	.611	.813	.000	.949	.500	.922	.821	.000	.852	.000	.000	.000	.000	.000	.946
Cars	6	103	32	0	141	68	22	39	0	129	16	177	23	0	216	0	0	0	0	0	486
% Cars	100	100	100	0	100	100	100	100	0	100	88.9	100	100	0	99.1	0	0	0	0	0	99.6
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	11.1	0	0	0	0.9	0	0	0	0	0	0.4



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Groups Printed- Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
10:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Total	0	1	0	0	0	0	1	0	2	1	0	0	0	0	0	0	5
Grand Total	0	3	0	0	0	0	1	0	3	1	0	0	0	0	0	0	8
Apprch %	0	100	0	0	0	0	100	0	75	25	0	0	0	0	0	0	
Total %	0	37.5	0	0	0	0	12.5	0	37.5	12.5	0	0	0	0	0	0	

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:00 PM																					
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
10:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:45 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
Total Volume	0	1	0	0	1	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	5
% App. Total	0	100	0	0		0	0	100	0		66.7	33.3	0	0		0	0	0	0		
PHF	.000	.250	.000	.000	.250	.000	.000	.250	.000	.250	.250	.250	.000	.000	.375	.000	.000	.000	.000	.000	.625



PRECISION
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N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HHH
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total	
	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		
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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	3	3
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	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	3	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	

Start Time	Main Street (Route 119/225) From North						Lowell Road (Route 40) From East						Main Street (Route 119/225) From South						Broad Meadow Road From West						Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 09:00 PM																									
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	
09:15 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	
09:30 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	
09:45 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	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250		



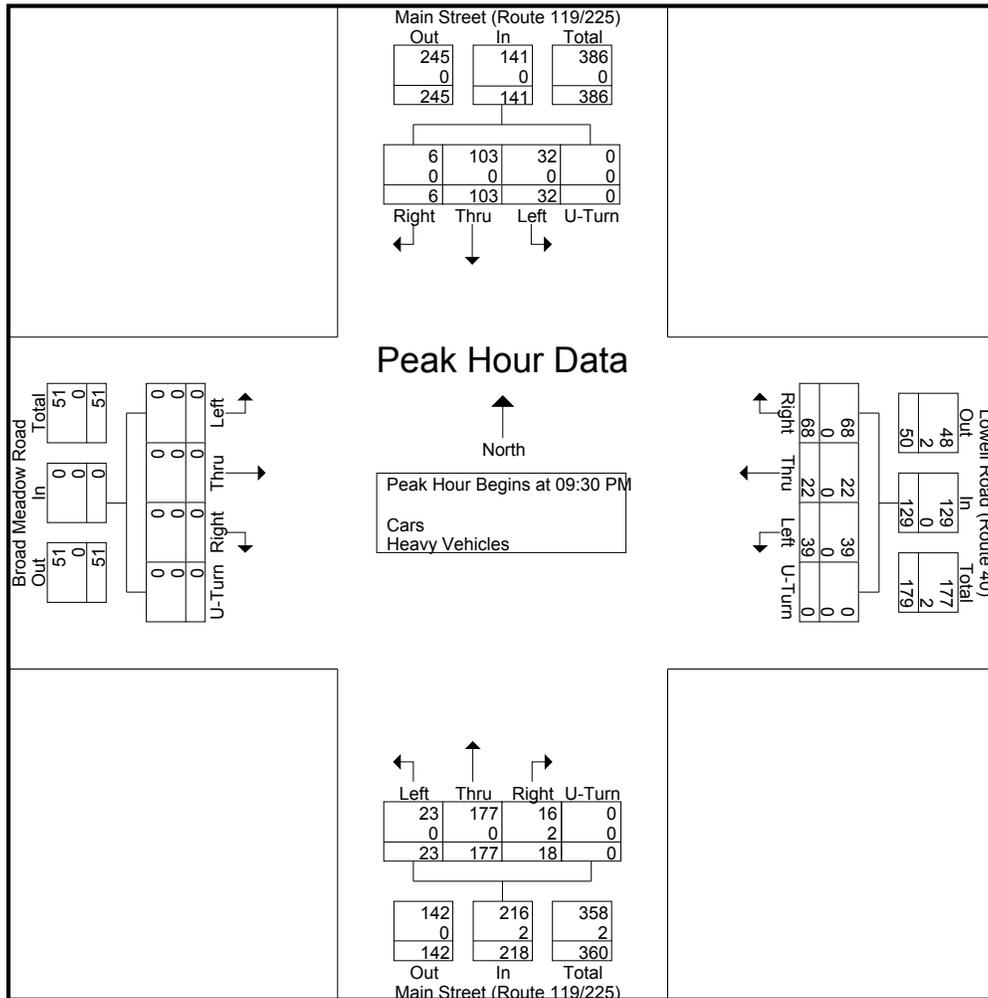
PRECISION
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N/S: Main Street (Route 119/225)
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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HHH
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:30 PM																					
09:30 PM	2	25	11	0	38	18	6	10	0	34	2	43	3	0	48	0	0	0	0	0	120
09:45 PM	2	31	8	0	41	17	9	7	0	33	3	40	7	0	50	0	0	0	0	0	124
10:00 PM	1	21	9	0	31	18	4	12	0	34	9	48	7	0	64	0	0	0	0	0	129
10:15 PM	1	26	4	0	31	15	3	10	0	28	4	46	6	0	56	0	0	0	0	0	115
Total Volume	6	103	32	0	141	68	22	39	0	129	18	177	23	0	218	0	0	0	0	0	488
% App. Total	4.3	73	22.7	0		52.7	17.1	30.2	0		8.3	81.2	10.6	0		0	0	0	0		
PHF	.750	.831	.727	.000	.860	.944	.611	.813	.000	.949	.500	.922	.821	.000	.852	.000	.000	.000	.000	.000	.946
Cars	6	103	32	0	141	68	22	39	0	129	16	177	23	0	216	0	0	0	0	0	486
% Cars	100	100	100	0	100	100	100	100	0	100	88.9	100	100	0	99.1	0	0	0	0	0	99.6
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	11.1	0	0	0	0.9	0	0	0	0	0	0.4





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File Name : 164969 HHHH
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Table with columns for Street/Direction, Start Time, and traffic counts (Right, Thru, Left, U-Turn, Int. Total). Rows include time intervals from 04:45 PM to 09:45 PM and summary rows for Grand Total, Cars, and Heavy Vehicles.

Table with columns for Street/Direction, Start Time, and traffic counts (Right, Thru, Left, U-Turn, App. Total, Int. Total). Rows include Peak Hour Analysis (04:45 PM to 06:30 PM) and Peak Hour for Entire Intersection (04:45 PM).



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HHHH
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:45 PM	9	84	26	0	38	10	3	0	12	252	10	0	0	0	0	0	444
Total	9	84	26	0	38	10	3	0	12	252	10	0	0	0	0	0	444
05:00 PM	7	76	39	0	41	5	6	0	8	248	6	0	0	0	0	0	436
05:15 PM	7	88	34	0	61	5	6	0	7	284	8	0	0	0	0	0	500
05:30 PM	7	104	38	0	42	5	2	0	17	246	17	0	0	0	0	0	478
05:45 PM	3	84	27	0	39	3	6	0	14	217	11	0	0	0	0	0	404
Total	24	352	138	0	183	18	20	0	46	995	42	0	0	0	0	0	1818
06:00 PM	6	87	30	0	40	5	6	0	9	238	9	0	0	0	0	0	430
06:15 PM	10	77	28	0	28	5	4	0	9	178	11	0	0	0	0	0	350
06:30 PM	6	72	23	0	24	3	4	0	10	173	20	0	0	0	0	0	335
06:45 PM	10	73	23	0	40	7	4	0	3	166	21	0	0	0	0	0	347
Total	32	309	104	0	132	20	18	0	31	755	61	0	0	0	0	0	1462
07:00 PM	2	63	12	0	28	2	3	0	5	140	8	0	0	0	0	0	263
07:15 PM	2	58	30	0	25	4	5	0	4	115	9	0	0	0	0	0	252
07:30 PM	2	34	11	0	30	6	4	2	5	111	12	0	0	0	0	0	217
07:45 PM	0	20	11	0	25	4	4	0	5	85	6	0	0	0	0	0	160
Total	6	175	64	0	108	16	16	2	19	451	35	0	0	0	0	0	892
08:00 PM	3	33	19	0	13	2	6	0	4	71	2	0	0	0	0	0	153
08:15 PM	1	31	13	0	17	7	5	0	5	75	7	0	0	0	0	0	161
08:30 PM	2	38	20	0	16	1	4	0	8	97	8	0	0	0	0	0	194
08:45 PM	0	22	17	0	16	1	4	0	4	66	9	0	0	0	0	0	139
Total	6	124	69	0	62	11	19	0	21	309	26	0	0	0	0	0	647
09:00 PM	1	23	10	0	6	0	8	0	3	69	3	0	0	0	0	0	123
09:15 PM	0	20	6	0	12	1	5	0	1	58	2	1	0	0	0	0	106
09:30 PM	2	18	5	0	11	4	2	0	4	43	6	0	0	0	0	0	95
09:45 PM	0	18	3	1	9	2	2	0	3	50	3	0	0	0	0	0	91
Total	3	79	24	1	38	7	17	0	11	220	14	1	0	0	0	0	415
10:00 PM	1	12	3	0	6	2	1	0	0	36	4	0	0	0	0	0	65
10:15 PM	1	15	9	0	7	3	5	0	1	25	0	0	0	0	0	0	66
10:30 PM	0	15	2	0	7	0	2	0	1	24	0	0	0	0	0	0	51
Grand Total	82	1165	439	1	581	87	101	2	142	3067	192	1	0	0	0	0	5860
Apprch %	4.9	69.1	26	0.1	75.4	11.3	13.1	0.3	4.2	90.2	5.6	0	0	0	0	0	
Total %	1.4	19.9	7.5	0	9.9	1.5	1.7	0	2.4	52.3	3.3	0	0	0	0	0	

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 04:45 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	9	84	26	0	119	38	10	3	0	51	12	252	10	0	274	0	0	0	0	0	444
05:00 PM	7	76	39	0	122	41	5	6	0	52	8	248	6	0	262	0	0	0	0	0	436
05:15 PM	7	88	34	0	129	61	5	6	0	72	7	284	8	0	299	0	0	0	0	0	500
05:30 PM	7	104	38	0	149	42	5	2	0	49	17	246	17	0	280	0	0	0	0	0	478
Total Volume	30	352	137	0	519	182	25	17	0	224	44	1030	41	0	1115	0	0	0	0	0	1858
% App. Total	5.8	67.8	26.4	0		81.2	11.2	7.6	0		3.9	92.4	3.7	0		0	0	0	0	0	
PHF	.833	.846	.878	.000	.871	.746	.625	.708	.000	.778	.647	.907	.603	.000	.932	.000	.000	.000	.000	.000	.929



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HHHH
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Main Street (Route 119/225) From North				Lowell Road (Route 40) From East				Main Street (Route 119/225) From South				Broad Meadow Road From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:00 PM	0	3	0	0	2	0	0	0	0	1	0	0	0	0	0	0	6
05:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
05:30 PM	0	2	0	0	1	0	0	0	0	3	0	0	0	0	0	0	6
05:45 PM	0	2	0	0	1	0	1	0	0	2	0	0	0	0	0	0	6
Total	0	7	1	0	4	0	1	0	0	7	0	0	0	0	0	0	20
06:00 PM	0	1	1	0	1	0	2	0	0	3	1	0	0	0	0	0	9
06:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30 PM	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
06:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
Total	0	4	1	0	1	0	2	0	1	6	1	0	0	0	0	0	16
07:00 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	2	0	0	0	0	0	0	2	0	0	0	0	0	0	5
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4
08:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	6
09:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
09:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
10:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	17	4	0	6	0	3	0	1	21	1	0	0	0	0	0	53
Apprch %	0	81	19	0	66.7	0	33.3	0	4.3	91.3	4.3	0	0	0	0	0	
Total %	0	32.1	7.5	0	11.3	0	5.7	0	1.9	39.6	1.9	0	0	0	0	0	

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 04:45 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
05:30 PM	0	2	0	0	2	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	6
05:45 PM	0	2	0	0	2	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	6
06:00 PM	0	1	1	0	2	1	0	2	0	3	0	3	1	0	4	0	0	0	0	0	9
Total Volume	0	5	2	0	7	3	0	3	0	6	0	9	1	0	10	0	0	0	0	0	23
% App. Total	0	71.4	28.6	0		50	0	50	0		0	90	10	0		0	0	0	0		
PHF	.000	.625	.500	.000	.875	.750	.000	.375	.000	.500	.000	.750	.250	.000	.625	.000	.000	.000	.000	.000	.639



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Groups Printed- Peds and Bicycles

Table with columns for Start Time, Main Street (Route 119/225) From North, Lowell Road (Route 40) From East, Main Street (Route 119/225) From South, Broad Meadow Road From West, and Int. Total. Rows include time intervals from 04:45 PM to 10:30 PM, Grand Total, and Apprch %.

Table with columns for Start Time, Main Street (Route 119/225) From North, Lowell Road (Route 40) From East, Main Street (Route 119/225) From South, Broad Meadow Road From West, and Int. Total. Rows include Peak Hour Analysis (04:45 PM to 06:30 PM), Peak Hour for Entire Intersection Begins at 04:45 PM, Total Volume, % App. Total, and PHF.

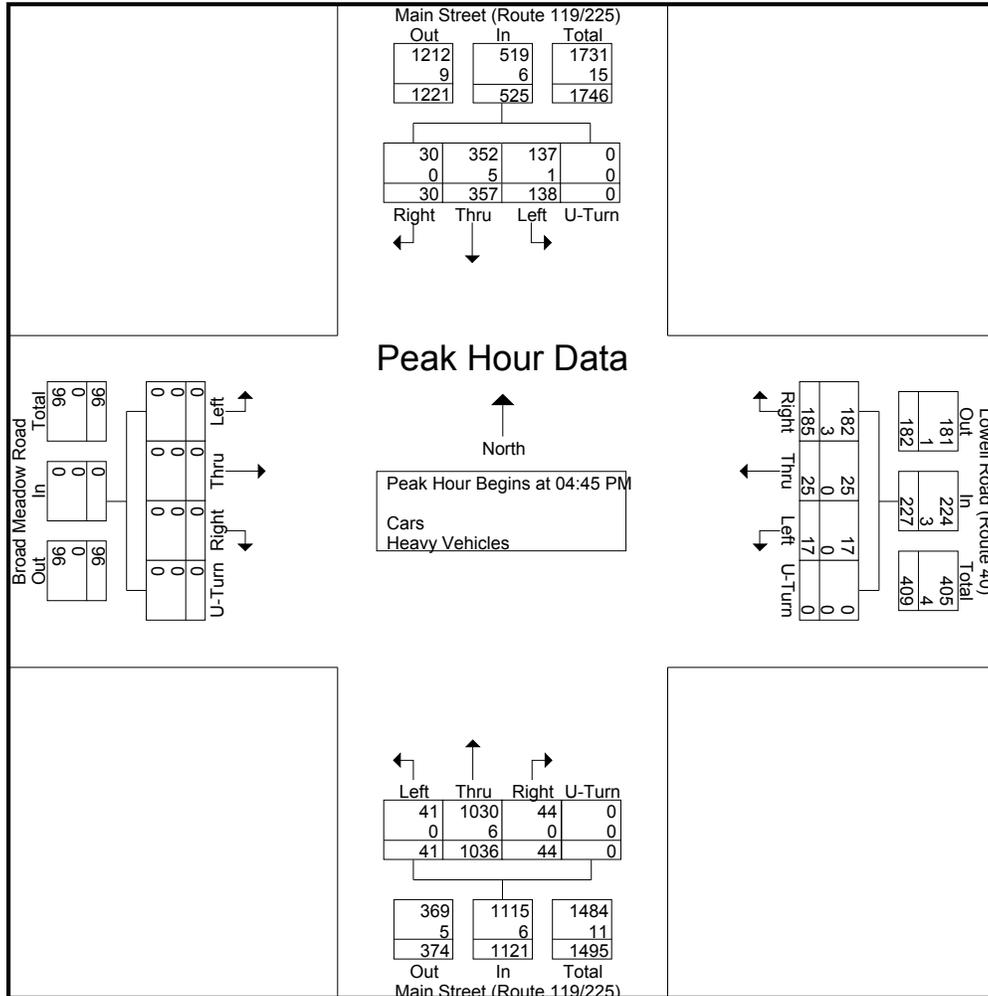


PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

N/S: Main Street (Route 119/225)
E/W: Lowell Rd (Rte 40)/ Broad Meadow Rd
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 HHHH
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Start Time	Main Street (Route 119/225) From North					Lowell Road (Route 40) From East					Main Street (Route 119/225) From South					Broad Meadow Road From West					Int. Total
	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	
Peak Hour Analysis From 04:45 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	9	84	26	0	119	38	10	3	0	51	12	253	10	0	275	0	0	0	0	0	445
05:00 PM	7	79	39	0	125	43	5	6	0	54	8	249	6	0	263	0	0	0	0	0	442
05:15 PM	7	88	35	0	130	61	5	6	0	72	7	285	8	0	300	0	0	0	0	0	502
05:30 PM	7	106	38	0	151	43	5	2	0	50	17	249	17	0	283	0	0	0	0	0	484
Total Volume	30	357	138	0	525	185	25	17	0	227	44	1036	41	0	1121	0	0	0	0	0	1873
% App. Total	5.7	68	26.3	0		81.5	11	7.5	0		3.9	92.4	3.7	0		0	0	0	0		
PHF	.833	.842	.885	.000	.869	.758	.625	.708	.000	.788	.647	.909	.603	.000	.934	.000	.000	.000	.000	.000	.933
Cars	30	352	137	0	519	182	25	17	0	224	44	1030	41	0	1115	0	0	0	0	0	1858
% Cars	100	98.6	99.3	0	98.9	98.4	100	100	0	98.7	100	99.4	100	0	99.5	0	0	0	0	0	99.2
Heavy Vehicles	0	5	1	0	6	3	0	0	0	3	0	6	0	0	6	0	0	0	0	0	15
% Heavy Vehicles	0	1.4	0.7	0	1.1	1.6	0	0	0	1.3	0	0.6	0	0	0.5	0	0	0	0	0	0.8





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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 I
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
10:30 AM	33	1	0	1	0	0	0	25	0	60
10:45 AM	27	1	0	0	0	0	0	38	0	66
Total	60	2	0	1	0	0	0	63	0	126
11:00 AM	32	3	0	5	0	0	0	36	0	76
11:15 AM	29	4	0	2	0	1	1	37	0	74
11:30 AM	27	1	0	3	0	0	1	36	0	68
11:45 AM	23	2	0	4	0	0	0	38	0	67
Total	111	10	0	14	0	1	2	147	0	285
12:00 PM	44	1	0	5	0	0	0	34	0	84
12:15 PM	28	3	1	3	0	0	0	19	0	54
Grand Total	243	16	1	23	0	1	2	263	0	549
Apprch %	93.5	6.2	0.4	95.8	0	4.2	0.8	99.2	0	
Total %	44.3	2.9	0.2	4.2	0	0.2	0.4	47.9	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:15 AM													
11:15 AM	29	4	0	33	2	0	1	3	1	37	0	38	74
11:30 AM	27	1	0	28	3	0	0	3	1	36	0	37	68
11:45 AM	23	2	0	25	4	0	0	4	0	38	0	38	67
12:00 PM	44	1	0	45	5	0	0	5	0	34	0	34	84
Total Volume	123	8	0	131	14	0	1	15	2	145	0	147	293
% App. Total	93.9	6.1	0		93.3	0	6.7		1.4	98.6	0		
PHF	.699	.500	.000	.728	.700	.000	.250	.750	.500	.954	.000	.967	.872



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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 I
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
10:30 AM	2	0	0	0	0	0	0	1	0	3
10:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	1	0	3
11:00 AM	2	0	0	0	0	0	0	1	0	3
11:15 AM	1	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	0	0	1	0	4
12:00 PM	1	0	0	0	0	0	0	0	0	1
12:15 PM	0	0	0	0	0	0	0	0	0	0
Grand Total	6	0	0	0	0	0	0	2	0	8
Apprch %	100	0	0	0	0	0	0	100	0	
Total %	75	0	0	0	0	0	0	25	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 10:30 AM													
10:30 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	2	0	0	2	0	0	0	0	0	1	0	1	3
11:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	5	0	0	5	0	0	0	0	0	2	0	2	7
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.625	.000	.000	.625	.000	.000	.000	.000	.000	.500	.000	.500	.583



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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 I
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	Peds EB	Peds WB	Right	Left	Peds SB	Peds NB	Right	Thru	Peds WB	Peds EB	
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	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
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	0	1
Apprch %	0	0	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	0	0	0	0	100	0	0	

Start Time	Farmers Road (Route 111) From North					Culver Road From East					Farmers Road (Route 111) From South					Int. Total
	Thru	Left	Peds EB	Peds WB	App. Total	Right	Left	Peds SB	Peds NB	App. Total	Right	Thru	Peds WB	Peds EB	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:00 AM																
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250



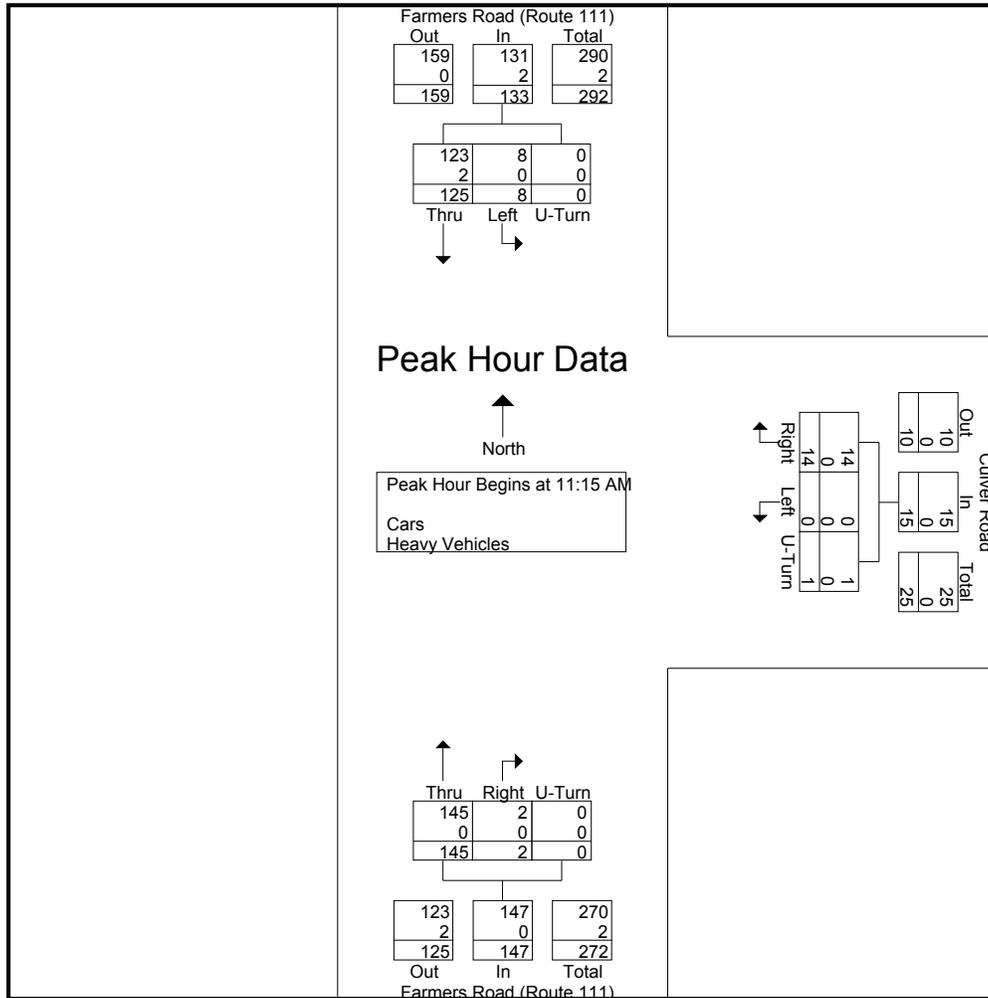
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File Name : 164969 I
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 10:30 AM to 12:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 11:15 AM													
11:15 AM	30	4	0	34	2	0	1	3	1	37	0	38	75
11:30 AM	27	1	0	28	3	0	0	3	1	36	0	37	68
11:45 AM	23	2	0	25	4	0	0	4	0	38	0	38	67
12:00 PM	45	1	0	46	5	0	0	5	0	34	0	34	85
Total Volume	125	8	0	133	14	0	1	15	2	145	0	147	295
% App. Total	94	6	0		93.3	0	6.7		1.4	98.6	0		
PHF	.694	.500	.000	.723	.700	.000	.250	.750	.500	.954	.000	.967	.868
Cars	123	8	0	131	14	0	1	15	2	145	0	147	293
% Cars	98.4	100	0	98.5	100	0	100	100	100	100	0	100	99.3
Heavy Vehicles	2	0	0	2	0	0	0	0	0	0	0	0	2
% Heavy Vehicles	1.6	0	0	1.5	0	0	0	0	0	0	0	0	0.7





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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 II
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
06:00 PM	25	2	0	3	0	0	0	25	0	55
06:15 PM	18	0	0	1	0	0	0	22	0	41
06:30 PM	17	2	0	0	0	0	0	18	0	37
06:45 PM	21	0	0	3	0	0	0	13	0	37
Total	81	4	0	7	0	0	0	78	0	170
07:00 PM	22	3	0	0	0	0	0	15	0	40
07:15 PM	17	2	0	2	0	0	0	12	0	33
07:30 PM	13	0	0	1	0	0	0	22	0	36
07:45 PM	13	3	0	2	0	0	0	13	0	31
Total	65	8	0	5	0	0	0	62	0	140
Grand Total	146	12	0	12	0	0	0	140	0	310
Apprch %	92.4	7.6	0	100	0	0	0	100	0	
Total %	47.1	3.9	0	3.9	0	0	0	45.2	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	25	2	0	27	3	0	0	3	0	25	0	25	55
06:15 PM	18	0	0	18	1	0	0	1	0	22	0	22	41
06:30 PM	17	2	0	19	0	0	0	0	0	18	0	18	37
06:45 PM	21	0	0	21	3	0	0	3	0	13	0	13	37
Total Volume	81	4	0	85	7	0	0	7	0	78	0	78	170
% App. Total	95.3	4.7	0		100	0	0		0	100	0		
PHF	.810	.500	.000	.787	.583	.000	.000	.583	.000	.780	.000	.780	.773



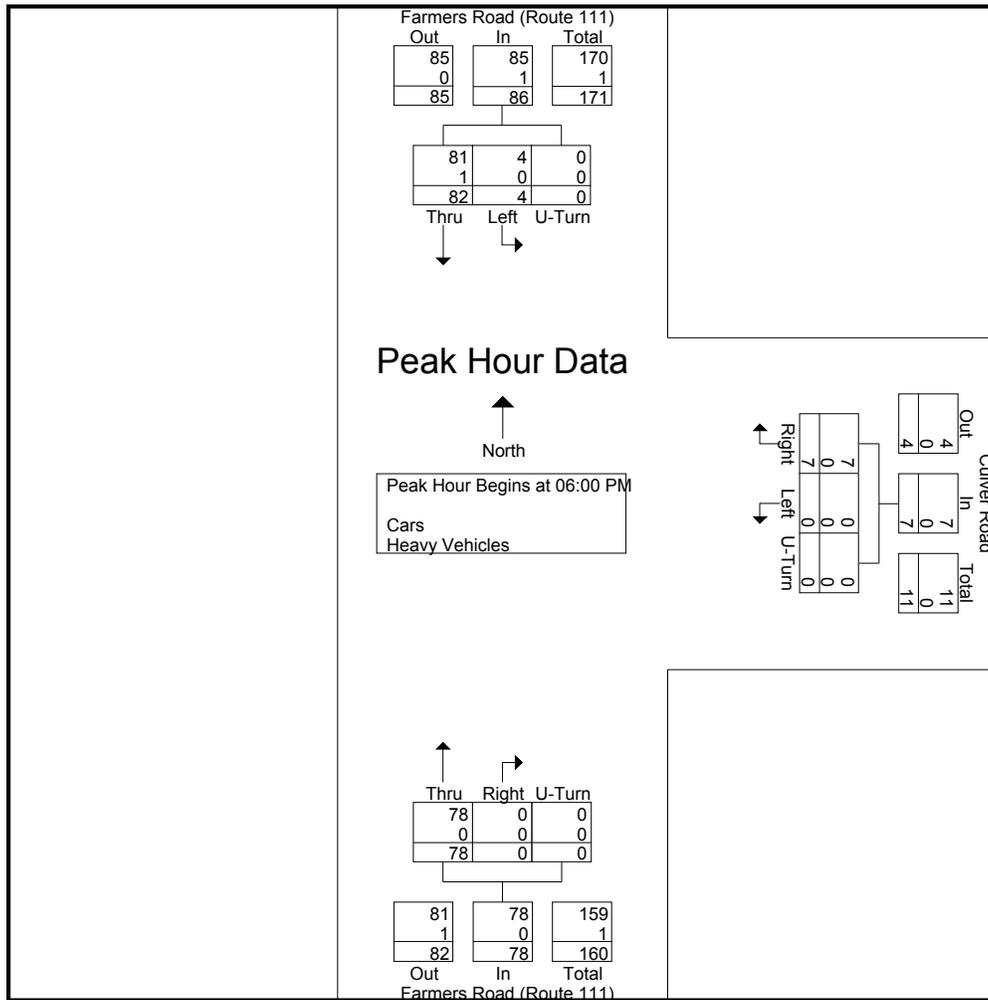
PRECISION
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File Name : 164969 II
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 06:00 PM to 07:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 06:00 PM													
06:00 PM	25	2	0	27	3	0	0	3	0	25	0	25	55
06:15 PM	18	0	0	18	1	0	0	1	0	22	0	22	41
06:30 PM	18	2	0	20	0	0	0	0	0	18	0	18	38
06:45 PM	21	0	0	21	3	0	0	3	0	13	0	13	37
Total Volume	82	4	0	86	7	0	0	7	0	78	0	78	171
% App. Total	95.3	4.7	0		100	0	0		0	100	0		
PHF	.820	.500	.000	.796	.583	.000	.000	.583	.000	.780	.000	.780	.777
Cars	81	4	0	85	7	0	0	7	0	78	0	78	170
% Cars	98.8	100	0	98.8	100	0	0	100	0	100	0	100	99.4
Heavy Vehicles	1	0	0	1	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	1.2	0	0	1.2	0	0	0	0	0	0	0	0	0.6





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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 III
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
09:00 PM	16	0	0	0	0	0	0	11	0	27
09:15 PM	5	0	0	1	0	0	0	11	0	17
09:30 PM	15	1	0	2	0	0	0	12	0	30
09:45 PM	17	0	0	1	0	0	0	5	0	23
Total	53	1	0	4	0	0	0	39	0	97
10:00 PM	16	0	0	1	0	0	0	12	0	29
10:15 PM	8	1	0	1	0	0	0	7	0	17
10:30 PM	8	0	0	0	0	0	0	9	0	17
10:45 PM	5	0	0	1	0	0	0	7	0	13
Total	37	1	0	3	0	0	0	35	0	76
Grand Total	90	2	0	7	0	0	0	74	0	173
Apprch %	97.8	2.2	0	100	0	0	0	100	0	
Total %	52	1.2	0	4	0	0	0	42.8	0	
Cars	89	2	0	7	0	0	0	73	0	171
% Cars	98.9	100	0	100	0	0	0	98.6	0	98.8
Heavy Vehicles	1	0	0	0	0	0	0	1	0	2
% Heavy Vehicles	1.1	0	0	0	0	0	0	1.4	0	1.2

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	5	0	0	5	1	0	0	1	0	11	0	11	17
09:30 PM	15	1	0	16	2	0	0	2	0	12	0	12	30
09:45 PM	17	0	0	17	1	0	0	1	0	5	0	5	23
10:00 PM	16	0	0	16	1	0	0	1	0	12	0	12	29
Total Volume	53	1	0	54	5	0	0	5	0	40	0	40	99
% App. Total	98.1	1.9	0		100	0	0		0	100	0		
PHF	.779	.250	.000	.794	.625	.000	.000	.625	.000	.833	.000	.833	.825
Cars	52	1	0	53	5	0	0	5	0	39	0	39	97
% Cars	98.1	100	0	98.1	100	0	0	100	0	97.5	0	97.5	98.0
Heavy Vehicles	1	0	0	1	0	0	0	0	0	1	0	1	2
% Heavy Vehicles	1.9	0	0	1.9	0	0	0	0	0	2.5	0	2.5	2.0



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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 III
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
09:00 PM	16	0	0	0	0	0	0	11	0	27
09:15 PM	5	0	0	1	0	0	0	11	0	17
09:30 PM	15	1	0	2	0	0	0	12	0	30
09:45 PM	16	0	0	1	0	0	0	5	0	22
Total	52	1	0	4	0	0	0	39	0	96
10:00 PM	16	0	0	1	0	0	0	11	0	28
10:15 PM	8	1	0	1	0	0	0	7	0	17
10:30 PM	8	0	0	0	0	0	0	9	0	17
10:45 PM	5	0	0	1	0	0	0	7	0	13
Total	37	1	0	3	0	0	0	34	0	75
Grand Total	89	2	0	7	0	0	0	73	0	171
Apprch %	97.8	2.2	0	100	0	0	0	100	0	
Total %	52	1.2	0	4.1	0	0	0	42.7	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	5	0	0	5	1	0	0	1	0	11	0	11	17
09:30 PM	15	1	0	16	2	0	0	2	0	12	0	12	30
09:45 PM	16	0	0	16	1	0	0	1	0	5	0	5	22
10:00 PM	16	0	0	16	1	0	0	1	0	11	0	11	28
Total Volume	52	1	0	53	5	0	0	5	0	39	0	39	97
% App. Total	98.1	1.9	0		100	0	0		0	100	0		
PHF	.813	.250	.000	.828	.625	.000	.000	.625	.000	.813	.000	.813	.808



PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 III
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	1	0
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0
Grand Total	1	0	0	0	0	0	0	0	1	0
Apprch %	100	0	0	0	0	0	0	0	100	0
Total %	50	0	0	0	0	0	0	0	50	0

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	0	0	0	0	0	1	0	1	2
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

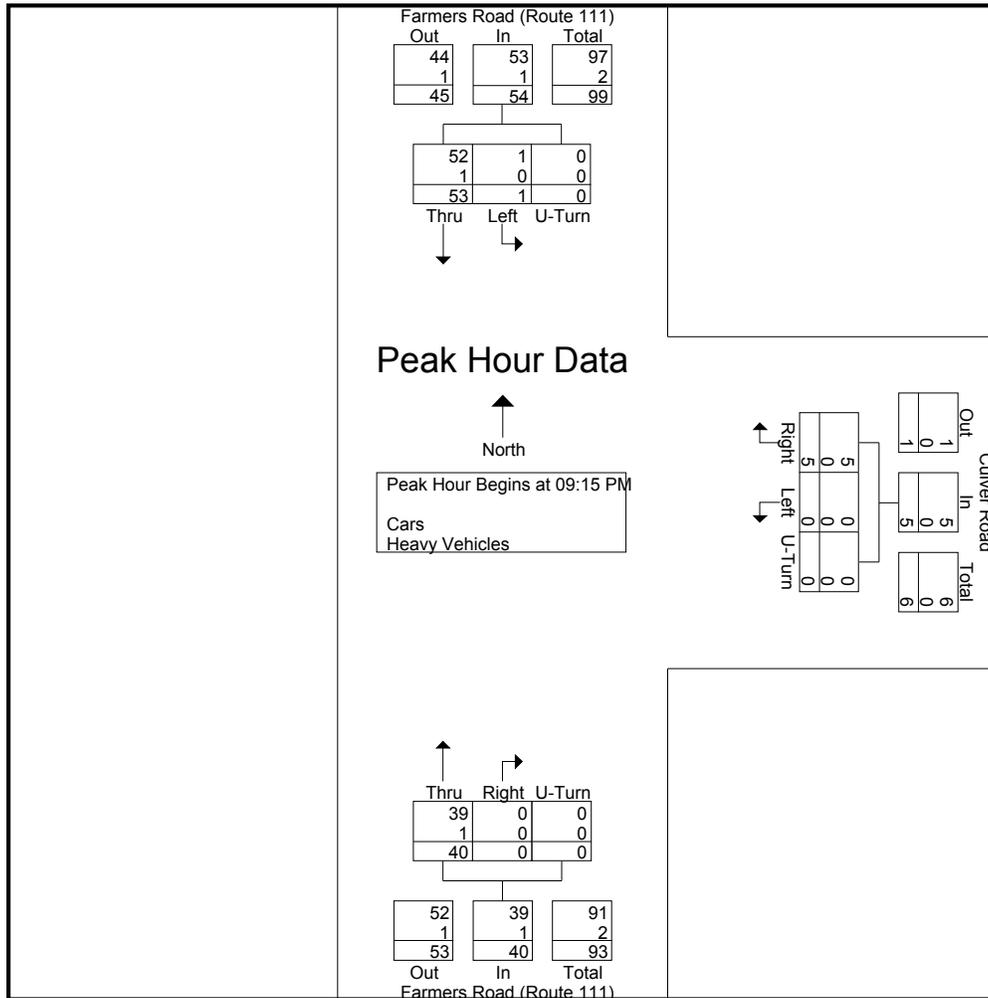


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File Name : 164969 III
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 09:15 PM													
09:15 PM	5	0	0	5	1	0	0	1	0	11	0	11	17
09:30 PM	15	1	0	16	2	0	0	2	0	12	0	12	30
09:45 PM	17	0	0	17	1	0	0	1	0	5	0	5	23
10:00 PM	16	0	0	16	1	0	0	1	0	12	0	12	29
Total Volume	53	1	0	54	5	0	0	5	0	40	0	40	99
% App. Total	98.1	1.9	0		100	0	0		0	100	0		
PHF	.779	.250	.000	.794	.625	.000	.000	.625	.000	.833	.000	.833	.825
Cars	52	1	0	53	5	0	0	5	0	39	0	39	97
% Cars	98.1	100	0	98.1	100	0	0	100	0	97.5	0	97.5	98.0
Heavy Vehicles	1	0	0	1	0	0	0	0	0	1	0	1	2
% Heavy Vehicles	1.9	0	0	1.9	0	0	0	0	0	2.5	0	2.5	2.0





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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 IIII
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	32	3	0	5	0	0	0	68	0	108
Total	32	3	0	5	0	0	0	68	0	108
05:00 PM	45	0	0	4	0	0	0	74	0	123
05:15 PM	43	4	0	7	0	0	0	75	0	129
05:30 PM	49	3	0	3	1	0	0	84	0	140
05:45 PM	46	0	0	4	0	0	0	43	0	93
Total	183	7	0	18	1	0	0	276	0	485
06:00 PM	28	0	0	2	0	0	0	38	0	68
06:15 PM	28	4	0	5	0	0	0	48	0	85
06:30 PM	23	1	0	2	0	0	0	28	0	54
06:45 PM	17	1	0	4	0	0	0	39	0	61
Total	96	6	0	13	0	0	0	153	0	268
07:00 PM	19	2	0	2	0	0	0	42	0	65
07:15 PM	12	3	0	2	0	0	0	30	0	47
07:30 PM	13	0	0	2	0	0	0	23	0	38
07:45 PM	6	0	0	3	0	0	0	10	0	19
Total	50	5	0	9	0	0	0	105	0	169
08:00 PM	9	0	0	0	0	0	0	9	0	18
08:15 PM	13	2	0	1	0	0	0	25	0	41
08:30 PM	14	2	0	2	0	0	0	12	0	30
08:45 PM	12	1	0	1	0	0	0	13	0	27
Total	48	5	0	4	0	0	0	59	0	116
09:00 PM	12	1	0	0	0	0	0	18	0	31
09:15 PM	8	0	0	1	0	0	0	8	0	17
09:30 PM	12	0	0	0	0	0	0	12	0	24
09:45 PM	5	2	0	1	0	0	0	11	0	19
Total	37	3	0	2	0	0	0	49	0	91
10:00 PM	6	0	0	1	0	0	0	4	0	11
10:15 PM	7	0	0	1	0	0	0	6	0	14
10:30 PM	7	0	0	0	0	0	0	4	0	11
Grand Total	466	29	0	53	1	0	0	724	0	1273
Apprch %	94.1	5.9	0	98.1	1.9	0	0	100	0	
Total %	36.6	2.3	0	4.2	0.1	0	0	56.9	0	
Cars	463	28	0	53	1	0	0	714	0	1259
% Cars	99.4	96.6	0	100	100	0	0	98.6	0	98.9
Heavy Vehicles	3	1	0	0	0	0	0	10	0	14
% Heavy Vehicles	0.6	3.4	0	0	0	0	0	1.4	0	1.1

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	32	3	0	35	5	0	0	5	0	68	0	68	108
05:00 PM	45	0	0	45	4	0	0	4	0	74	0	74	123
05:15 PM	43	4	0	47	7	0	0	7	0	75	0	75	129
05:30 PM	49	3	0	52	3	1	0	4	0	84	0	84	140
Total Volume	169	10	0	179	19	1	0	20	0	301	0	301	500
% App. Total	94.4	5.6	0		95	5	0		0	100	0		
PHF	.862	.625	.000	.861	.679	.250	.000	.714	.000	.896	.000	.896	.893
Cars	168	9	0	177	19	1	0	20	0	297	0	297	494
% Cars	99.4	90.0	0	98.9	100	100	0	100	0	98.7	0	98.7	98.8
Heavy Vehicles	1	1	0	2	0	0	0	0	0	4	0	4	6
% Heavy Vehicles	0.6	10.0	0	1.1	0	0	0	0	0	1.3	0	1.3	1.2



PRECISION
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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 IIII
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Cars

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	32	2	0	5	0	0	0	66	0	105
Total	32	2	0	5	0	0	0	66	0	105
05:00 PM	45	0	0	4	0	0	0	74	0	123
05:15 PM	43	4	0	7	0	0	0	74	0	128
05:30 PM	48	3	0	3	1	0	0	83	0	138
05:45 PM	46	0	0	4	0	0	0	43	0	93
Total	182	7	0	18	1	0	0	274	0	482
06:00 PM	28	0	0	2	0	0	0	38	0	68
06:15 PM	28	4	0	5	0	0	0	46	0	83
06:30 PM	23	1	0	2	0	0	0	28	0	54
06:45 PM	17	1	0	4	0	0	0	38	0	60
Total	96	6	0	13	0	0	0	150	0	265
07:00 PM	18	2	0	2	0	0	0	42	0	64
07:15 PM	12	3	0	2	0	0	0	28	0	45
07:30 PM	13	0	0	2	0	0	0	22	0	37
07:45 PM	6	0	0	3	0	0	0	10	0	19
Total	49	5	0	9	0	0	0	102	0	165
08:00 PM	9	0	0	0	0	0	0	9	0	18
08:15 PM	13	2	0	1	0	0	0	25	0	41
08:30 PM	14	2	0	2	0	0	0	12	0	30
08:45 PM	12	1	0	1	0	0	0	13	0	27
Total	48	5	0	4	0	0	0	59	0	116
09:00 PM	12	1	0	0	0	0	0	18	0	31
09:15 PM	8	0	0	1	0	0	0	8	0	17
09:30 PM	12	0	0	0	0	0	0	12	0	24
09:45 PM	4	2	0	1	0	0	0	11	0	18
Total	36	3	0	2	0	0	0	49	0	90
10:00 PM	6	0	0	1	0	0	0	4	0	11
10:15 PM	7	0	0	1	0	0	0	6	0	14
10:30 PM	7	0	0	0	0	0	0	4	0	11
Grand Total	463	28	0	53	1	0	0	714	0	1259
Apprch %	94.3	5.7	0	98.1	1.9	0	0	100	0	
Total %	36.8	2.2	0	4.2	0.1	0	0	56.7	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	32	2	0	34	5	0	0	5	0	66	0	66	105
05:00 PM	45	0	0	45	4	0	0	4	0	74	0	74	123
05:15 PM	43	4	0	47	7	0	0	7	0	74	0	74	128
05:30 PM	48	3	0	51	3	1	0	4	0	83	0	83	138
Total Volume	168	9	0	177	19	1	0	20	0	297	0	297	494
% App. Total	94.9	5.1	0		95	5	0		0	100	0		
PHF	.875	.563	.000	.868	.679	.250	.000	.714	.000	.895	.000	.895	.895



PRECISION
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N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 IIII
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Farmers Road (Route 111) From North			Culver Road From East			Farmers Road (Route 111) From South			Int. Total
	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	
04:45 PM	0	1	0	0	0	0	0	2	0	3
Total	0	1	0	0	0	0	0	2	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	1
05:30 PM	1	0	0	0	0	0	0	1	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	2	0	3
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	2	0	2
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	3	0	3
07:00 PM	1	0	0	0	0	0	0	0	0	1
07:15 PM	0	0	0	0	0	0	0	2	0	2
07:30 PM	0	0	0	0	0	0	0	1	0	1
07:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	3	0	4
08:00 PM	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0
08:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
09:00 PM	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0
09:45 PM	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0
Grand Total	3	1	0	0	0	0	0	10	0	14
Apprch %	75	25	0	0	0	0	0	100	0	
Total %	21.4	7.1	0	0	0	0	0	71.4	0	

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	1	0	1	0	0	0	0	0	2	0	2	3
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	0	0	0	1	0	1	1
05:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total Volume	1	1	0	2	0	0	0	0	0	4	0	4	6
% App. Total	50	50	0		0	0	0		0	100	0		
PHF	.250	.250	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.500



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City, State: Groton, MA
Client: Stantec/ S. Wood

File Name : 164969 IIII
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	Peds EB	Peds WB	Right	Left	Peds SB	Peds NB	Right	Thru	Peds WB	Peds EB	
04:45 PM	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
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	0	0	0	0	0	0	0
05:30 PM	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	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	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
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM	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
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM	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
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %													

Start Time	Farmers Road (Route 111) From North					Culver Road From East					Farmers Road (Route 111) From South					Int. Total
	Thru	Left	Peds EB	Peds WB	App. Total	Right	Left	Peds SB	Peds NB	App. Total	Right	Thru	Peds WB	Peds EB	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 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	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
05:15 PM	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
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



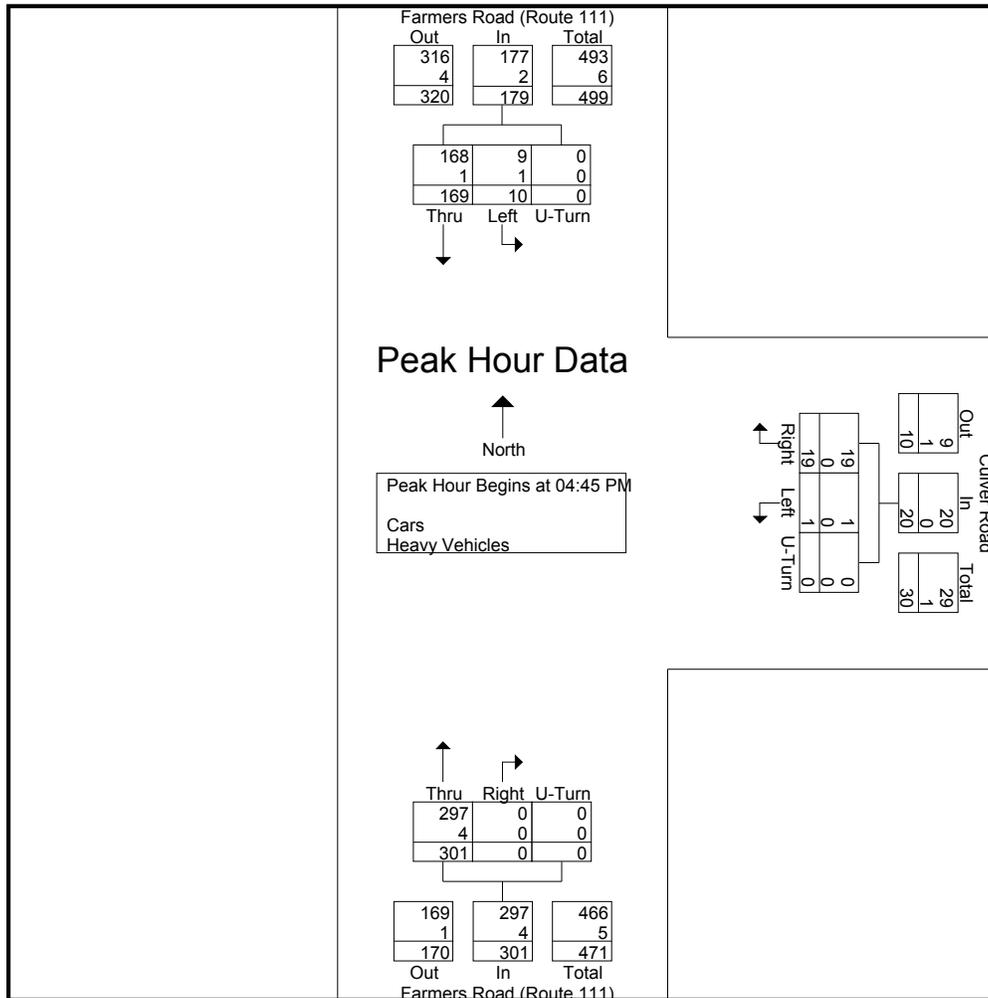
PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
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File Name : 164969 IIII
Site Code : 17941032
Start Date : 3/15/2016
Page No : 1

N/S: Farmers Road (Route 111)
E: Culver Road
City, State: Groton, MA
Client: Stantec/ S. Wood

Start Time	Farmers Road (Route 111) From North				Culver Road From East				Farmers Road (Route 111) From South				Int. Total
	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	
Peak Hour Analysis From 04:45 PM to 10:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	32	3	0	35	5	0	0	5	0	68	0	68	108
05:00 PM	45	0	0	45	4	0	0	4	0	74	0	74	123
05:15 PM	43	4	0	47	7	0	0	7	0	75	0	75	129
05:30 PM	49	3	0	52	3	1	0	4	0	84	0	84	140
Total Volume	169	10	0	179	19	1	0	20	0	301	0	301	500
% App. Total	94.4	5.6	0		95	5	0		0	100	0		
PHF	.862	.625	.000	.861	.679	.250	.000	.714	.000	.896	.000	.896	.893
Cars	168	9	0	177	19	1	0	20	0	297	0	297	494
% Cars	99.4	90.0	0	98.9	100	100	0	100	0	98.7	0	98.7	98.8
Heavy Vehicles	1	1	0	2	0	0	0	0	0	4	0	4	6
% Heavy Vehicles	0.6	10.0	0	1.1	0	0	0	0	0	1.3	0	1.3	1.2



Existing Indian Hill Music School & Concert Count Data, Littleton, MA



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Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

164969 D Volume
Site Code: 179410329

Start Time	NB		SB		Combin ed		14-Mar-16 Mon			
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.				
12:00	0	0	0	1	0	1				
12:15	0	3	0	2	0	5				
12:30	0	1	0	2	0	3				
12:45	0	2	6	0	0	2	11			
01:00	0	6	0	1	0	7				
01:15	0	5	0	1	0	6				
01:30	0	4	0	2	0	6				
01:45	0	9	24	0	0	12	31			
02:00	0	0	0	2	0	2				
02:15	0	4	0	4	0	8				
02:30	0	7	0	5	0	12				
02:45	0	7	18	0	0	9	31			
03:00	0	2	0	4	0	6				
03:15	0	3	0	1	0	4				
03:30	0	8	0	3	0	11				
03:45	0	6	19	0	0	13	34			
04:00	0	6	0	5	0	11				
04:15	0	6	0	8	0	14				
04:30	0	16	0	8	0	24				
04:45	0	38	66	0	0	58	107			
05:00	0	5	0	13	0	18				
05:15	0	14	0	4	0	18				
05:30	0	10	0	12	0	22				
05:45	0	12	41	0	0	15	73			
06:00	0	12	0	25	0	37				
06:15	0	26	0	36	0	62				
06:30	0	10	0	13	0	23				
06:45	0	7	55	0	0	16	138			
07:00	1	4	1	6	2	10				
07:15	0	5	0	5	0	10				
07:30	0	4	0	4	0	8				
07:45	0	6	19	0	1	10	38			
08:00	2	2	0	3	2	5				
08:15	0	13	0	6	0	19				
08:30	1	7	0	30	1	37				
08:45	0	3	25	0	0	10	71			
09:00	4	0	0	9	4	9				
09:15	1	0	0	4	1	4				
09:30	3	1	0	6	3	7				
09:45	6	14	0	1	1	3	23			
10:00	2	0	1	1	3	1				
10:15	1	0	1	0	2	0				
10:30	0	0	1	0	1	0				
10:45	0	3	0	0	3	0	1			
11:00	1	1	2	2	3	3				
11:15	0	0	0	0	0	0				
11:30	1	0	1	0	2	0				
11:45	1	3	0	1	1	0	3			
Total	24	275	8	286	32	561				
Percent	75.0%	49.0%	25.0%	51.0%						
Day Total		299		294		593				
Peak	09:00	-	04:30	-	09:45	-	06:00	-	-	-
Vol.	14	-	73	-	4	-	83	-	138	-
P.H.F.	0.583		0.480		1.000		0.576		0.536	

Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood



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164969 D Volume
Site Code: 179410329

Start Time	NB		SB		Combin ed		15-Mar-16 Tue			
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.				
12:00	0	0	0	2	0	2				
12:15	0	3	0	0	0	3				
12:30	0	0	0	1	0	1				
12:45	0	0	3	0	0	1	7			
01:00	0	2	0	1	0	3				
01:15	0	0	0	1	0	1				
01:30	0	2	0	2	0	4				
01:45	0	0	5	0	0	7	15			
02:00	0	0	0	1	0	1				
02:15	0	2	0	1	0	3				
02:30	0	4	0	1	0	5				
02:45	0	0	4	0	0	6	15			
03:00	0	3	0	4	0	7				
03:15	0	6	0	0	0	6				
03:30	0	7	0	3	0	10				
03:45	0	0	7	0	0	9	32			
04:00	0	10	0	6	0	16				
04:15	0	7	0	3	0	10				
04:30	0	6	0	9	0	15				
04:45	0	0	8	0	0	16	57			
05:00	0	7	0	8	0	15				
05:15	0	13	0	7	0	20				
05:30	0	3	0	12	0	15				
05:45	0	0	1	0	0	6	56			
06:00	0	8	0	8	0	16				
06:15	0	9	0	6	0	15				
06:30	0	2	0	4	0	6				
06:45	0	0	5	0	0	7	44			
07:00	0	5	0	14	0	19				
07:15	0	6	0	4	0	10				
07:30	0	6	0	8	0	14				
07:45	0	0	1	0	0	7	50			
08:00	1	3	0	6	1	9				
08:15	0	3	0	3	0	6				
08:30	1	1	0	9	1	10				
08:45	2	4	0	0	0	5	30			
09:00	2	0	0	1	2	1				
09:15	3	0	0	5	3	5				
09:30	1	1	0	2	1	3				
09:45	1	7	0	0	0	0	9			
10:00	1	0	0	0	1	0				
10:15	1	0	0	0	1	0				
10:30	0	0	1	0	1	0				
10:45	0	2	0	0	0	1	1			
11:00	0	1	1	1	1	2				
11:15	2	0	2	0	4	0				
11:30	1	0	1	0	2	0				
11:45	0	3	0	4	0	0	2			
Total	16	151	5	167	21	318				
Percent	76.2%	47.5%	23.8%	52.5%						
Day Total		167		172		339				
Peak	08:30	-	04:30	-	10:30	-	04:30	-	-	-
Vol.	8	-	34	-	4	-	35	-	8	-
P.H.F.	0.667	-	0.654	-	0.500	-	0.729	-	0.667	-

Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood



PRECISION
D A T A
INDUSTRIES, LLC

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164969 D Class
Site Code: 179410329

NB

Start Time	Cars	Medium Heavy	Large Heavy												Total
03/14/1															
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
09:00	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
10:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12 PM	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
13:00	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
14:00	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18
15:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19
16:00	66	0	0	0	0	0	0	0	0	0	0	0	0	0	66
17:00	41	0	0	0	0	0	0	0	0	0	0	0	0	0	41
18:00	55	0	0	0	0	0	0	0	0	0	0	0	0	0	55
19:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19
20:00	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25
21:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	298	1	0	0	0	0	0	0	0	0	0	0	0	0	299
Percent	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	09:00														14
PM Peak Vol.	16:00	12:00													66

Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood



PRECISION
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INDUSTRIES, LLC

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164969 D Class
Site Code: 179410329

NB

Start Time	Cars	Medium Heavy	Large Heavy												Total
03/15/1															
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
09:00	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
10:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12 PM	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
13:00	7	2	0	0	0	0	0	0	0	0	0	0	0	0	9
14:00	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
15:00	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23
16:00	31	0	0	0	0	0	0	0	0	0	0	0	0	0	31
17:00	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
18:00	24	0	0	0	0	0	0	0	0	0	0	0	0	0	24
19:00	18	0	0	0	0	0	0	0	0	0	0	0	0	0	18
20:00	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
21:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	165	2	0	0	0	0	0	0	0	0	0	0	0	0	167
Percent	98.8%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	09:00														09:00
PM Peak Vol.	16:00	13:00													16:00
	31	2													31

Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood



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164969 D Class
Site Code: 179410329

SB

Start Time	Cars	Medium Heavy	Large Heavy												Total
03/14/1															
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
11:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
12 PM	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
13:00	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
14:00	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13
15:00	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
16:00	41	0	0	0	0	0	0	0	0	0	0	0	0	0	41
17:00	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32
18:00	83	0	0	0	0	0	0	0	0	0	0	0	0	0	83
19:00	19	0	0	0	0	0	0	0	0	0	0	0	0	0	19
20:00	46	0	0	0	0	0	0	0	0	0	0	0	0	0	46
21:00	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22
22:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	293	1	0	0	0	0	0	0	0	0	0	0	0	0	294
Percent	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	10:00														3
PM Peak Vol.	18:00	12:00													83

Indian Hill Music School Driveway
north of King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood



PRECISION
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INDUSTRIES, LLC

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164969 D Class
Site Code: 179410329

SB

Start Time	Cars	Medium Heavy	Large Heavy												Total
03/15/1															
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
12 PM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
13:00	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
14:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
15:00	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
16:00	26	0	0	0	0	0	0	0	0	0	0	0	0	0	26
17:00	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32
18:00	20	0	0	0	0	0	0	0	0	0	0	0	0	0	20
19:00	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32
20:00	23	0	0	0	0	0	0	0	0	0	0	0	0	0	23
21:00	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
22:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	170	2	0	0	0	0	0	0	0	0	0	0	0	0	172
Percent	98.8%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	11:00														11:00
PM Peak Vol.	17:00	13:00													17:00
	32	2													32



PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
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Email: datarequests@pdillc.com

N/S: Littleton High School Dr/ Driveway
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 J
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Littleton High School Driveway From North				King Street (Route 110/2A) From East				Driveway From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
05:30 PM	2	0	0	0	4	87	0	0	0	0	0	0	0	104	4	0	201
05:45 PM	2	0	0	0	10	83	0	0	1	0	0	0	0	93	6	0	195
Total	4	0	0	0	14	170	0	0	1	0	0	0	0	197	10	0	396
06:00 PM	0	0	0	0	38	94	1	0	0	0	0	0	0	87	11	0	231
06:15 PM	1	0	0	0	57	75	1	0	0	0	0	0	0	79	15	0	228
06:30 PM	2	0	0	0	29	67	0	0	0	0	0	0	1	58	15	0	172
06:45 PM	0	0	1	0	37	59	0	0	0	0	0	0	0	70	16	0	183
Total	3	0	1	0	161	295	2	0	0	0	0	0	1	294	57	0	814
07:00 PM	0	0	1	0	51	68	0	0	0	0	1	0	0	73	27	0	221
07:15 PM	0	0	3	0	17	59	0	0	0	0	0	0	0	50	17	0	146
Grand Total	7	0	5	0	243	592	2	0	1	0	1	0	1	614	111	0	1577
Apprch %	58.3	0	41.7	0	29	70.7	0.2	0	50	0	50	0	0.1	84.6	15.3	0	
Total %	0.4	0	0.3	0	15.4	37.5	0.1	0	0.1	0	0.1	0	0.1	38.9	7	0	
Cars	7	0	5	0	243	589	2	0	1	0	1	0	1	610	111	0	1570
% Cars	100	0	100	0	100	99.5	100	0	100	0	100	0	100	99.3	100	0	99.6
Heavy Vehicles	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	0	7
% Heavy Vehicles	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0.7	0	0	0.4

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 05:30 PM to 07:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	2	0	0	0	2	4	87	0	0	91	0	0	0	0	0	0	104	4	0	108	201
05:45 PM	2	0	0	0	2	10	83	0	0	93	1	0	0	0	1	0	93	6	0	99	195
06:00 PM	0	0	0	0	0	38	94	1	0	133	0	0	0	0	0	0	87	11	0	98	231
06:15 PM	1	0	0	0	1	57	75	1	0	133	0	0	0	0	0	0	79	15	0	94	228
Total Volume	5	0	0	0	5	109	339	2	0	450	1	0	0	0	1	0	363	36	0	399	855
% App. Total	100	0	0	0		24.2	75.3	0.4	0		100	0	0	0		0	91	9	0		
PHF	.625	.000	.000	.000	.625	.478	.902	.500	.000	.846	.250	.000	.000	.000	.250	.000	.873	.600	.000	.924	.925
Cars	5	0	0	0	5	109	336	2	0	447	1	0	0	0	1	0	360	36	0	396	849
% Cars	100	0	0	0	100	100	99.1	100	0	99.3	100	0	0	0	100	0	99.2	100	0	99.2	99.3
Heavy Vehicles	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.7	0	0	0	0	0	0	0.8	0	0	0.8	0.7



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N/S: Littleton High School Dr/ Driveway
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 J
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Littleton High School Driveway From North				King Street (Route 110/2A) From East				Driveway From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
05:30 PM	2	0	0	0	4	86	0	0	0	0	0	0	0	104	4	0	200
05:45 PM	2	0	0	0	10	82	0	0	1	0	0	0	0	92	6	0	193
Total	4	0	0	0	14	168	0	0	1	0	0	0	0	196	10	0	393
06:00 PM	0	0	0	0	38	93	1	0	0	0	0	0	0	85	11	0	228
06:15 PM	1	0	0	0	57	75	1	0	0	0	0	0	0	79	15	0	228
06:30 PM	2	0	0	0	29	67	0	0	0	0	0	0	1	58	15	0	172
06:45 PM	0	0	1	0	37	59	0	0	0	0	0	0	0	69	16	0	182
Total	3	0	1	0	161	294	2	0	0	0	0	0	1	291	57	0	810
07:00 PM	0	0	1	0	51	68	0	0	0	0	1	0	0	73	27	0	221
07:15 PM	0	0	3	0	17	59	0	0	0	0	0	0	0	50	17	0	146
Grand Total	7	0	5	0	243	589	2	0	1	0	1	0	1	610	111	0	1570
Apprch %	58.3	0	41.7	0	29.1	70.6	0.2	0	50	0	50	0	0.1	84.5	15.4	0	
Total %	0.4	0	0.3	0	15.5	37.5	0.1	0	0.1	0	0.1	0	0.1	38.9	7.1	0	

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 05:30 PM to 07:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	2	0	0	0	2	4	86	0	0	90	0	0	0	0	0	0	104	4	0	108	200
05:45 PM	2	0	0	0	2	10	82	0	0	92	1	0	0	0	1	0	92	6	0	98	193
06:00 PM	0	0	0	0	0	38	93	1	0	132	0	0	0	0	0	0	85	11	0	96	228
06:15 PM	1	0	0	0	1	57	75	1	0	133	0	0	0	0	0	0	79	15	0	94	228
Total Volume	5	0	0	0	5	109	336	2	0	447	1	0	0	0	1	0	360	36	0	396	849
% App. Total	100	0	0	0		24.4	75.2	0.4	0		100	0	0	0		0	90.9	9.1	0		
PHF	.625	.000	.000	.000	.625	.478	.903	.500	.000	.840	.250	.000	.000	.000	.250	.000	.865	.600	.000	.917	.931



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N/S: Littleton High School Dr/ Driveway
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 J
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Littleton High School Driveway From North				King Street (Route 110/2A) From East				Driveway From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
05:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
Total	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
06:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	4
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	3	0	0	0	0	0	0	0	4	0	0	7
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	42.9	0	0	0	0	0	0	0	57.1	0	0	

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 05:30 PM to 07:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
06:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
06:15 PM	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	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% App. Total	0	0	0	0	0	0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.375	.000	.000	.375	.500



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E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 J
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
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	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
06:45 PM	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	1	1	0	0	0	0	0	2
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	4
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	66.7	33.3	0	100	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	50	25	0	25	0	0	0	

Start Time	Littleton High School Driveway From North						King Street (Route 110/2A) From East						Driveway From South						King Street (Route 110/2A) From West						Int. Total	
	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		
Peak Hour Analysis From 05:30 PM to 07:15 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 05:30 PM																										
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
05:45 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	
06:00 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	
06:15 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	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	0	0	0	3	
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.000	.000	.000	.250	.750	



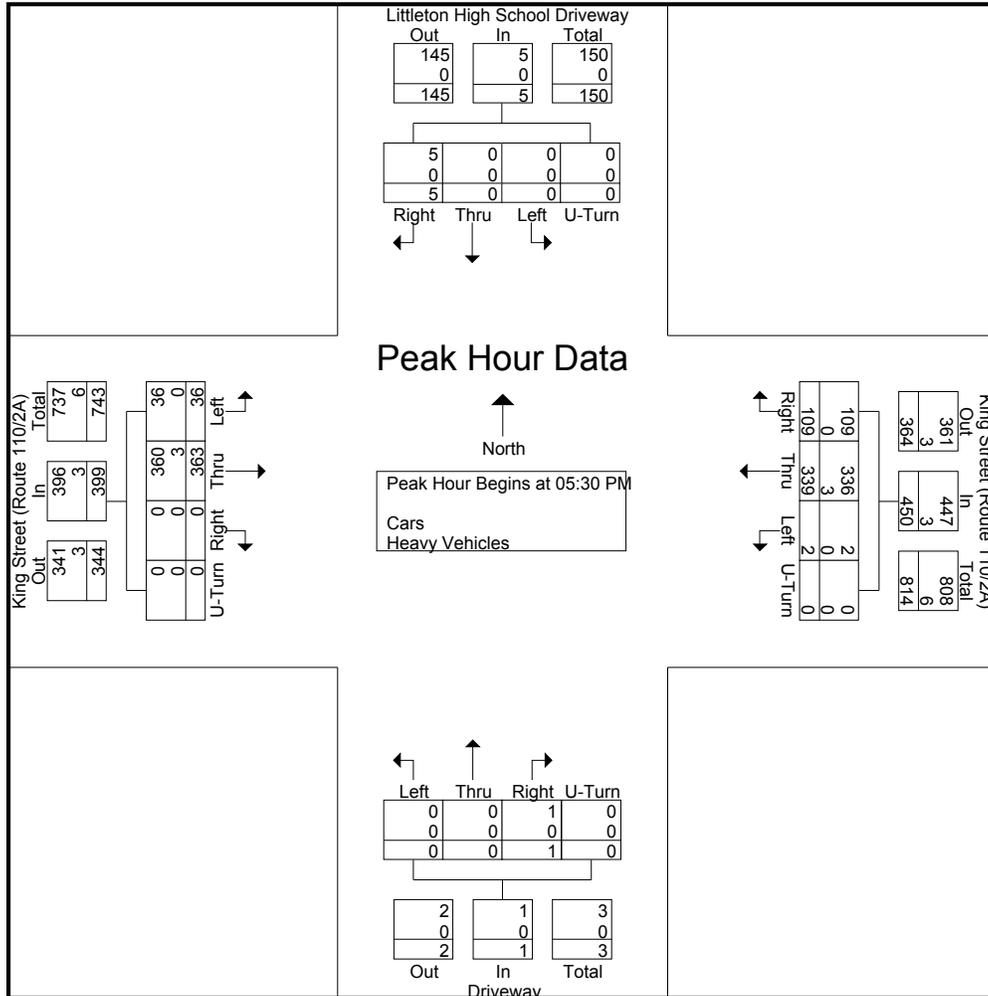
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Page No : 1

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 05:30 PM to 07:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	2	0	0	0	2	4	87	0	0	91	0	0	0	0	0	0	104	4	0	108	201
05:45 PM	2	0	0	0	2	10	83	0	0	93	1	0	0	0	1	0	93	6	0	99	195
06:00 PM	0	0	0	0	0	38	94	1	0	133	0	0	0	0	0	0	87	11	0	98	231
06:15 PM	1	0	0	0	1	57	75	1	0	133	0	0	0	0	0	0	79	15	0	94	228
Total Volume	5	0	0	0	5	109	339	2	0	450	1	0	0	0	1	0	363	36	0	399	855
% App. Total	100	0	0	0		24.2	75.3	0.4	0		100	0	0	0		0	91	9	0		
PHF	.625	.000	.000	.000	.625	.478	.902	.500	.000	.846	.250	.000	.000	.000	.250	.000	.873	.600	.000	.924	.925
Cars	5	0	0	0	5	109	336	2	0	447	1	0	0	0	1	0	360	36	0	396	849
% Cars	100	0	0	0	100	100	99.1	100	0	99.3	100	0	0	0	100	0	99.2	100	0	99.2	99.3
Heavy Vehicles	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Heavy Vehicles	0	0	0	0	0	0	0.9	0	0	0.7	0	0	0	0	0	0	0.8	0	0	0.8	0.7





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File Name : 164969 JJ
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Cars

Start Time	Littleton High School Driveway From North				King Street (Route 110/2A) From East				Driveway From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
09:00 PM	2	0	9	0	1	51	0	0	0	0	0	0	0	36	0	0	99
09:15 PM	3	0	1	0	2	52	0	0	0	0	0	0	0	38	0	0	96
09:30 PM	2	0	4	0	1	36	0	0	0	0	0	0	0	17	0	0	60
09:45 PM	82	0	170	0	0	41	0	0	0	0	0	0	0	19	0	0	312
Total	89	0	184	0	4	180	0	0	0	0	0	0	0	110	0	0	567
10:00 PM	5	0	15	0	0	41	0	0	0	0	0	0	0	29	0	1	91
10:15 PM	12	0	35	0	0	27	0	0	0	0	0	0	0	23	0	0	97
10:30 PM	0	0	3	0	0	34	0	0	0	0	0	0	0	18	0	0	55
10:45 PM	2	0	0	0	1	23	0	0	0	0	0	0	0	16	0	0	42
Total	19	0	53	0	1	125	0	0	0	0	0	0	0	86	0	1	285
Grand Total	108	0	237	0	5	305	0	0	0	0	0	0	0	196	0	1	852
Apprch %	31.3	0	68.7	0	1.6	98.4	0	0	0	0	0	0	0	99.5	0	0.5	
Total %	12.7	0	27.8	0	0.6	35.8	0	0	0	0	0	0	0	23	0	0.1	

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 PM																					
09:00 PM	2	0	9	0	11	1	51	0	0	52	0	0	0	0	0	0	36	0	0	36	99
09:15 PM	3	0	1	0	4	2	52	0	0	54	0	0	0	0	0	0	38	0	0	38	96
09:30 PM	2	0	4	0	6	1	36	0	0	37	0	0	0	0	0	0	17	0	0	17	60
09:45 PM	82	0	170	0	252	0	41	0	0	41	0	0	0	0	0	0	19	0	0	19	312
Total Volume	89	0	184	0	273	4	180	0	0	184	0	0	0	0	0	0	110	0	0	110	567
% App. Total	32.6	0	67.4	0		2.2	97.8	0	0		0	0	0	0		0	100	0	0		
PHF	.271	.000	.271	.000	.271	.500	.865	.000	.000	.852	.000	.000	.000	.000	.000	.000	.724	.000	.000	.724	.454



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Groups Printed- Heavy Vehicles

Start Time	Littleton High School Driveway From North				King Street (Route 110/2A) From East				Driveway From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
10:45 PM	0	0	0	0	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	0	1	0	0	2
Grand Total	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	66.7	0	0	0	0	0	0	0	33.3	0	0	

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:45 PM																					
09:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% App. Total	0	0	0	0	0	0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.750



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N/S: Littleton High School Dr/ Driveway
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 JJ
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM	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
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	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
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %																					

Start Time	Littleton High School Driveway From North						King Street (Route 110/2A) From East						Driveway From South						King Street (Route 110/2A) From West						Int. Total			
	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				
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																												
Peak Hour for Entire Intersection Begins at 09:00 PM																												
09:00 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
09:15 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
09:30 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
09:45 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
Total Volume	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
% App. 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
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



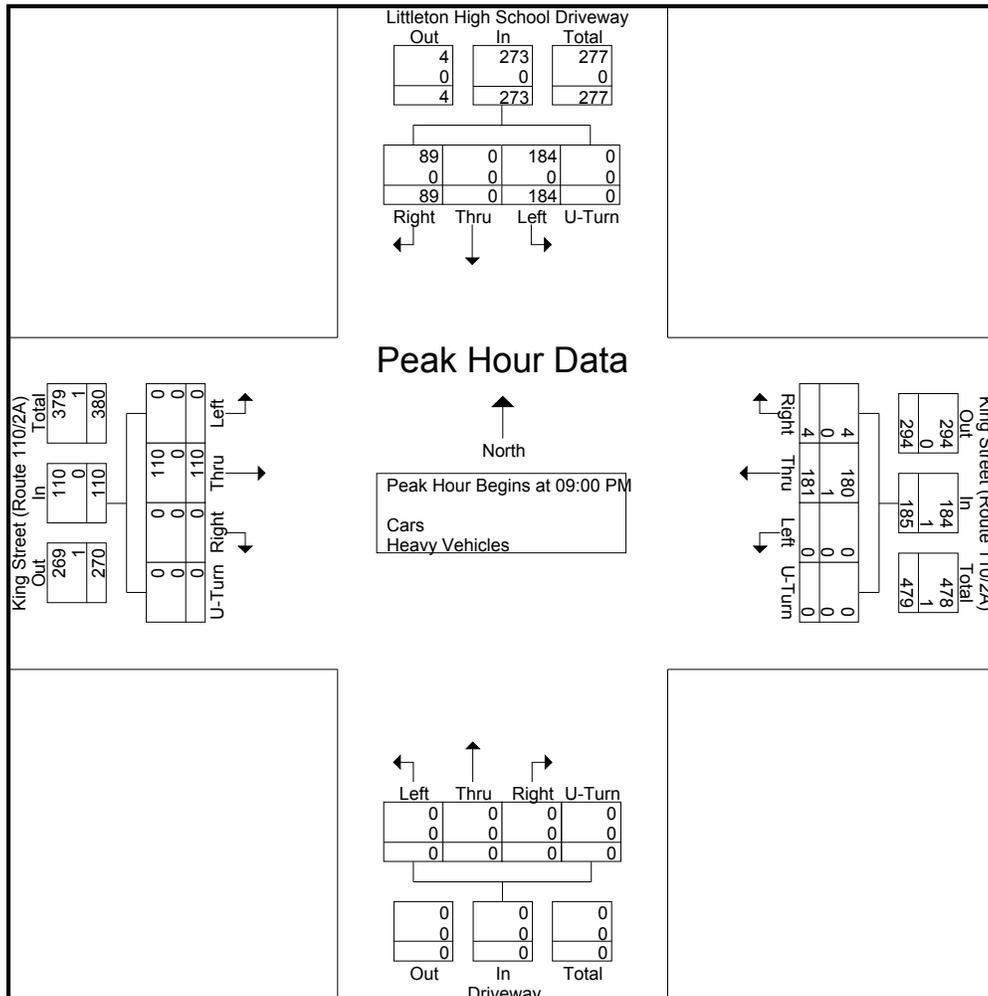
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City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 JJ
Site Code : 17941032
Start Date : 3/12/2016
Page No : 1

Start Time	Littleton High School Driveway From North					King Street (Route 110/2A) From East					Driveway From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 09:00 PM to 10:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:00 PM																					
09:00 PM	2	0	9	0	11	1	51	0	0	52	0	0	0	0	0	0	36	0	0	36	99
09:15 PM	3	0	1	0	4	2	52	0	0	54	0	0	0	0	0	0	38	0	0	38	96
09:30 PM	2	0	4	0	6	1	36	0	0	37	0	0	0	0	0	0	17	0	0	17	60
09:45 PM	82	0	170	0	252	0	42	0	0	42	0	0	0	0	0	0	19	0	0	19	313
Total Volume	89	0	184	0	273	4	181	0	0	185	0	0	0	0	0	0	110	0	0	110	568
% App. Total	32.6	0	67.4	0		2.2	97.8	0	0		0	0	0	0	0	0	100	0	0		
PHF	.271	.000	.271	.000	.271	.500	.870	.000	.000	.856	.000	.000	.000	.000	.000	.000	.724	.000	.000	.724	.454
Cars	89	0	184	0	273	4	180	0	0	184	0	0	0	0	0	0	110	0	0	110	567
% Cars	100	0	100	0	100	100	99.4	0	0	99.5	0	0	0	0	0	0	100	0	0	100	99.8
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0.2





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N/S: Indian Hill Music School/Kimball St
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 K
Site Code : 17941032
Start Date : 3/14/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Indian Hill Music School Driveway From North				King Street (Route 110/2A) From East				Kimball Street From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:45 PM	6	0	13	0	26	156	13	0	3	1	1	0	0	125	11	0	355
Total	6	0	13	0	26	156	13	0	3	1	1	0	0	125	11	0	355
05:00 PM	4	1	8	0	2	151	5	0	6	0	0	0	0	173	3	0	353
05:15 PM	4	0	0	0	11	173	11	0	7	0	0	0	1	117	3	0	327
05:30 PM	5	1	6	0	6	180	12	0	12	0	0	0	0	127	4	0	353
05:45 PM	2	0	0	0	9	172	2	0	6	0	0	0	0	107	3	0	301
Total	15	2	14	0	28	676	30	0	31	0	0	0	1	524	13	0	1334
06:00 PM	12	1	13	0	10	140	5	0	6	0	0	0	0	94	2	0	283
06:15 PM	7	0	29	0	22	128	0	0	10	1	0	0	0	109	3	0	309
06:30 PM	5	0	8	0	7	112	10	0	5	0	0	0	2	68	3	0	220
06:45 PM	2	0	7	0	6	92	9	0	6	0	0	0	0	75	1	0	198
Total	26	1	57	0	45	472	24	0	27	1	0	0	2	346	9	0	1010
07:00 PM	0	1	5	0	3	76	4	0	10	0	0	0	0	69	1	0	169
07:15 PM	1	0	4	0	3	79	7	0	5	0	1	0	0	37	2	0	139
07:30 PM	1	0	3	0	1	58	0	0	4	0	0	0	1	48	3	0	119
07:45 PM	2	0	2	0	3	64	3	0	4	0	0	0	0	32	3	0	113
Total	4	1	14	0	10	277	14	0	23	0	1	0	1	186	9	0	540
08:00 PM	1	0	2	0	0	55	11	0	1	0	0	0	0	23	2	0	95
08:15 PM	0	0	5	0	6	48	2	0	1	1	0	0	0	33	5	0	101
08:30 PM	12	1	18	0	6	74	5	0	1	0	0	0	0	37	1	0	155
Grand Total	64	5	123	0	121	1758	99	0	87	3	2	0	4	1274	50	0	3590
Apprch %	33.3	2.6	64.1	0	6.1	88.9	5	0	94.6	3.3	2.2	0	0.3	95.9	3.8	0	
Total %	1.8	0.1	3.4	0	3.4	49	2.8	0	2.4	0.1	0.1	0	0.1	35.5	1.4	0	
Cars	64	5	123	0	121	1700	98	0	86	3	2	0	4	1210	50	0	3466
% Cars	100	100	100	0	100	96.7	99	0	98.9	100	100	0	100	95	100	0	96.5
Heavy Vehicles	0	0	0	0	0	58	1	0	1	0	0	0	0	64	0	0	124
% Heavy Vehicles	0	0	0	0	0	3.3	1	0	1.1	0	0	0	0	5	0	0	3.5

Start Time	Indian Hill Music School Driveway From North					King Street (Route 110/2A) From East					Kimball Street From South					King Street (Route 110/2A) From West					Int. Total
	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	
04:45 PM	6	0	13	0	19	26	156	13	0	195	3	1	1	0	5	0	125	11	0	136	355
05:00 PM	4	1	8	0	13	2	151	5	0	158	6	0	0	0	6	0	173	3	0	176	353
05:15 PM	4	0	0	0	4	11	173	11	0	195	7	0	0	0	7	1	117	3	0	121	327
05:30 PM	5	1	6	0	12	6	180	12	0	198	12	0	0	0	12	0	127	4	0	131	353
Total Volume	19	2	27	0	48	45	660	41	0	746	28	1	1	0	30	1	542	21	0	564	1388
% App. Total	39.6	4.2	56.2	0		6	88.5	5.5	0		93.3	3.3	3.3	0		0.2	96.1	3.7	0		
PHF	.792	.500	.519	.000	.632	.433	.917	.788	.000	.942	.583	.250	.250	.000	.625	.250	.783	.477	.000	.801	.977
Cars	19	2	27	0	48	45	637	41	0	723	28	1	1	0	30	1	516	21	0	538	1339
% Cars	100	100	100	0	100	100	96.5	100	0	96.9	100	100	100	0	100	100	95.2	100	0	95.4	96.5
Heavy Vehicles	0	0	0	0	0	0	23	0	0	23	0	0	0	0	0	0	26	0	0	26	49
% Heavy Vehicles	0	0	0	0	0	0	3.5	0	0	3.1	0	0	0	0	0	0	4.8	0	0	4.6	3.5

Peak Hour Analysis From 04:45 PM to 08:30 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:45 PM



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N/S: Indian Hill Music School/Kimball St
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City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 K
Site Code : 17941032
Start Date : 3/14/2016
Page No : 1

Groups Printed- Cars

Start Time	Indian Hill Music School Driveway From North				King Street (Route 110/2A) From East				Kimball Street From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:45 PM	6	0	13	0	26	150	13	0	3	1	1	0	0	121	11	0	345
Total	6	0	13	0	26	150	13	0	3	1	1	0	0	121	11	0	345
05:00 PM	4	1	8	0	2	146	5	0	6	0	0	0	0	162	3	0	337
05:15 PM	4	0	0	0	11	166	11	0	7	0	0	0	1	111	3	0	314
05:30 PM	5	1	6	0	6	175	12	0	12	0	0	0	0	122	4	0	343
05:45 PM	2	0	0	0	9	166	2	0	6	0	0	0	0	104	3	0	292
Total	15	2	14	0	28	653	30	0	31	0	0	0	1	499	13	0	1286
06:00 PM	12	1	13	0	10	139	5	0	6	0	0	0	0	93	2	0	281
06:15 PM	7	0	29	0	22	124	0	0	10	1	0	0	0	103	3	0	299
06:30 PM	5	0	8	0	7	107	10	0	5	0	0	0	2	64	3	0	211
06:45 PM	2	0	7	0	6	88	9	0	6	0	0	0	0	71	1	0	190
Total	26	1	57	0	45	458	24	0	27	1	0	0	2	331	9	0	981
07:00 PM	0	1	5	0	3	73	4	0	9	0	0	0	0	63	1	0	159
07:15 PM	1	0	4	0	3	77	7	0	5	0	1	0	0	33	2	0	133
07:30 PM	1	0	3	0	1	56	0	0	4	0	0	0	1	44	3	0	113
07:45 PM	2	0	2	0	3	63	3	0	4	0	0	0	0	30	3	0	110
Total	4	1	14	0	10	269	14	0	22	0	1	0	1	170	9	0	515
08:00 PM	1	0	2	0	0	53	10	0	1	0	0	0	0	23	2	0	92
08:15 PM	0	0	5	0	6	45	2	0	1	1	0	0	0	30	5	0	95
08:30 PM	12	1	18	0	6	72	5	0	1	0	0	0	0	36	1	0	152
Grand Total	64	5	123	0	121	1700	98	0	86	3	2	0	4	1210	50	0	3466
Apprch %	33.3	2.6	64.1	0	6.3	88.6	5.1	0	94.5	3.3	2.2	0	0.3	95.7	4	0	
Total %	1.8	0.1	3.5	0	3.5	49	2.8	0	2.5	0.1	0.1	0	0.1	34.9	1.4	0	

Start Time	Indian Hill Music School Driveway From North					King Street (Route 110/2A) From East					Kimball Street From South					King Street (Route 110/2A) From West					Int. Total
	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	
04:45 PM	6	0	13	0	19	26	150	13	0	189	3	1	1	0	5	0	121	11	0	132	345
05:00 PM	4	1	8	0	13	2	146	5	0	153	6	0	0	0	6	0	162	3	0	165	337
05:15 PM	4	0	0	0	4	11	166	11	0	188	7	0	0	0	7	1	111	3	0	115	314
05:30 PM	5	1	6	0	12	6	175	12	0	193	12	0	0	0	12	0	122	4	0	126	343
Total Volume	19	2	27	0	48	45	637	41	0	723	28	1	1	0	30	1	516	21	0	538	1339
% App. Total	39.6	4.2	56.2	0		6.2	88.1	5.7	0		93.3	3.3	3.3	0		0.2	95.9	3.9	0		
PHF	.792	.500	.519	.000	.632	.433	.910	.788	.000	.937	.583	.250	.250	.000	.625	.250	.796	.477	.000	.815	.970

Peak Hour Analysis From 04:45 PM to 08:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



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File Name : 164969 K
Site Code : 17941032
Start Date : 3/14/2016
Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Indian Hill Music School Driveway From North				King Street (Route 110/2A) From East				Kimball Street From South				King Street (Route 110/2A) From West				Int. Total
	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
04:45 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	4	0	0	10
Total	0	0	0	0	0	6	0	0	0	0	0	0	0	4	0	0	10
05:00 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	11	0	0	16
05:15 PM	0	0	0	0	0	7	0	0	0	0	0	0	0	6	0	0	13
05:30 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0	0	10
05:45 PM	0	0	0	0	0	6	0	0	0	0	0	0	0	3	0	0	9
Total	0	0	0	0	0	23	0	0	0	0	0	0	0	25	0	0	48
06:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
06:15 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	6	0	0	10
06:30 PM	0	0	0	0	0	5	0	0	0	0	0	0	0	4	0	0	9
06:45 PM	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0	8
Total	0	0	0	0	0	14	0	0	0	0	0	0	0	15	0	0	29
07:00 PM	0	0	0	0	0	3	0	0	1	0	0	0	0	6	0	0	10
07:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	4	0	0	6
07:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	4	0	0	6
07:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
Total	0	0	0	0	0	8	0	0	1	0	0	0	0	16	0	0	25
08:00 PM	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
08:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	6
08:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3
Grand Total	0	0	0	0	0	58	1	0	1	0	0	0	0	64	0	0	124
Apprch %	0	0	0	0	0	98.3	1.7	0	100	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	46.8	0.8	0	0.8	0	0	0	0	51.6	0	0	

Start Time	Indian Hill Music School Driveway From North					King Street (Route 110/2A) From East					Kimball Street From South					King Street (Route 110/2A) From West					Int. Total
	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	
04:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
05:00 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	11	0	0	11	16
05:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	13
05:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
Total Volume	0	0	0	0	0	0	23	0	0	23	0	0	0	0	0	0	26	0	0	26	49
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	100	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.821	.000	.000	.821	.000	.000	.000	.000	.000	.000	.591	.000	.000	.591	.766

Peak Hour Analysis From 04:45 PM to 08:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

N/S: Indian Hill Music School/Kimball St
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 K
Site Code : 17941032
Start Date : 3/14/2016
Page No : 1

Groups Printed- Peds and Bicycles

Start Time	Indian Hill Music School Driveway From North					King Street (Route 110/2A) From East					Kimball Street From South					King Street (Route 110/2A) From West					Int. Total
	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	
04:45 PM	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	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
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	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	0	0	0	0	0
05:45 PM	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	1	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	4
07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
07:45 PM	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	1	2	0	0	0	0	0	3
08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	2	0	0	0	0	0	0	0	0	0	3	3	0	0	0	1	0	9
Apprch %	0	0	0	100	0	0	0	0	0	0	0	0	0	50	50	0	0	0	100	0	
Total %	0	0	0	22.2	0	0	0	0	0	0	0	0	0	33.3	33.3	0	0	0	11.1	0	

Start Time	Indian Hill Music School Driveway From North						King Street (Route 110/2A) From East						Kimball Street From South						King Street (Route 110/2A) From West						Int. Total						
	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							
Peak Hour Analysis From 04:45 PM to 08:30 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 06:45 PM																															
06:45 PM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:00 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
07:15 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	0	0	0	0	0	0	2
07:30 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	0	0	0	0	0	0	1
Total Volume	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5
% App. Total	0	0	0	100	0		0	0	0	0	0		0	0	0	33.3	66.7		0	0	0	0	0		0	0	0	0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.500	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625	



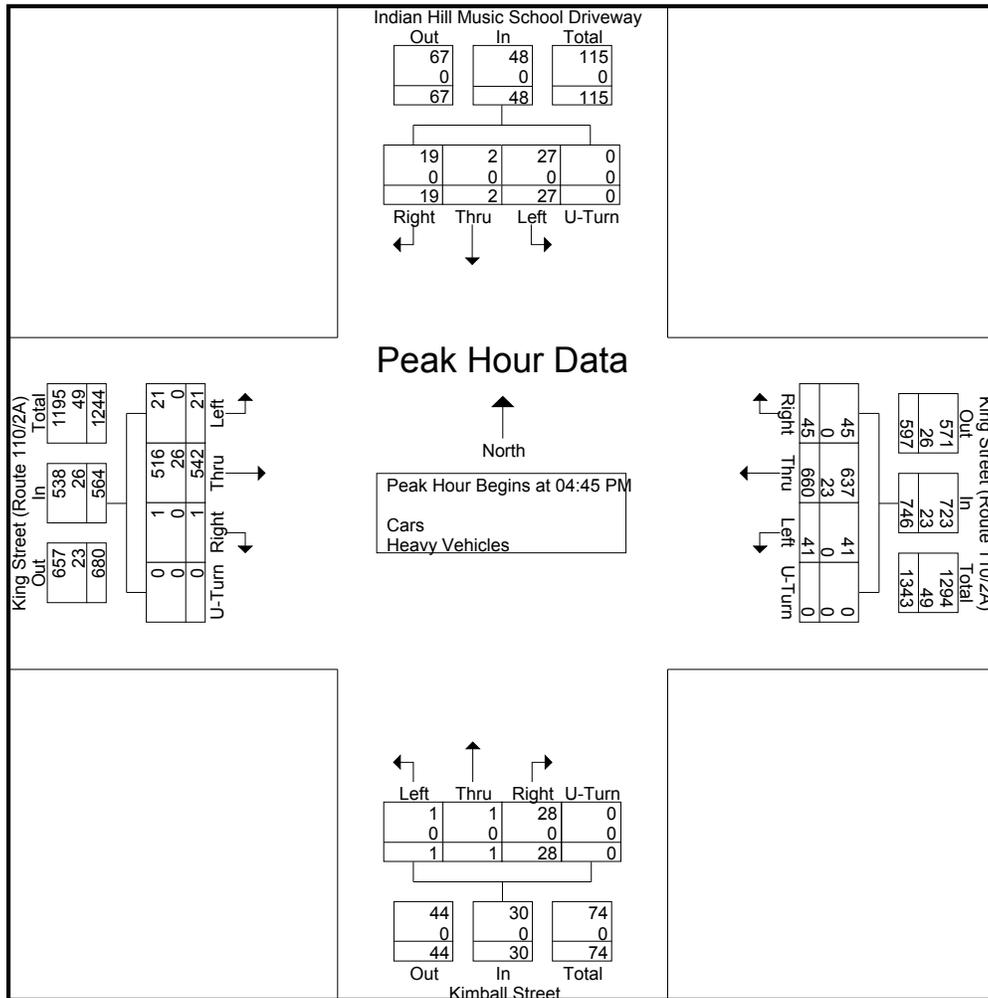
PRECISION
D A T A
INDUSTRIES, LLC

P.O. Box 301 Berlin, MA 01503
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N/S: Indian Hill Music School/Kimball St
E/W: King Street (Route 110/2A)
City, State: Littleton, MA
Client: Stantec/ S. Wood

File Name : 164969 K
Site Code : 17941032
Start Date : 3/14/2016
Page No : 1

Start Time	Indian Hill Music School Driveway From North					King Street (Route 110/2A) From East					Kimball Street From South					King Street (Route 110/2A) From West					Int. Total
	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	
Peak Hour Analysis From 04:45 PM to 08:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	6	0	13	0	19	26	156	13	0	195	3	1	1	0	5	0	125	11	0	136	355
05:00 PM	4	1	8	0	13	2	151	5	0	158	6	0	0	0	6	0	173	3	0	176	353
05:15 PM	4	0	0	0	4	11	173	11	0	195	7	0	0	0	7	1	117	3	0	121	327
05:30 PM	5	1	6	0	12	6	180	12	0	198	12	0	0	0	12	0	127	4	0	131	353
Total Volume	19	2	27	0	48	45	660	41	0	746	28	1	1	0	30	1	542	21	0	564	1388
% App. Total	39.6	4.2	56.2	0		6	88.5	5.5	0		93.3	3.3	3.3	0		0.2	96.1	3.7	0		
PHF	.792	.500	.519	.000	.632	.433	.917	.788	.000	.942	.583	.250	.250	.000	.625	.250	.783	.477	.000	.801	.977
Cars	19	2	27	0	48	45	637	41	0	723	28	1	1	0	30	1	516	21	0	538	1339
% Cars	100	100	100	0	100	100	96.5	100	0	96.9	100	100	100	0	100	100	95.2	100	0	95.4	96.5
Heavy Vehicles	0	0	0	0	0	0	23	0	0	23	0	0	0	0	0	0	26	0	0	26	49
% Heavy Vehicles	0	0	0	0	0	0	3.5	0	0	3.1	0	0	0	0	0	0	4.8	0	0	4.6	3.5



Historical Crash Data Analysis 2011-2013

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	Most Harmful Events	Vehicle Configuration	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway Intersection
2751326	GROTON	22-Jul-2011	4:38 PM	Non-fatal injury	2	1	0	Angle	V1: Traveling straight ahead / V2: Turning left	V1: Eastbound / V2: Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Not reported / V2: Not reported	Dry	Daylight	Clear	MAN STREET Rte 119 E / OLD ATER ROAD	
2705138	GROTON	10-Feb-2011	11:10 AM	Property damage only (none reported)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1: Northbound / V2: Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Not reported / V2: Not reported	Dry	Daylight	Clear/Cloudy	OLD ATER ROAD / MAN STREET	
2710322	GROTON	25-Feb-2011	7:54 AM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Southbound	V1: Collision with motor vehicle in traffic	V1: Passenger car	Snow	Daylight	Snow		262 OLD ATER ROAD
2711016	GROTON	02-Mar-2011	7:48 PM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Eastbound	V1: Collision with animal - deer	V1: Passenger car	Dry	Dark - lit/led roadway	Clear/Clear	BOSTON ROAD / OLD ATER	
2716874	GROTON	13-Apr-2011	3:01 PM	Property damage only (none reported)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1: Westbound / V2: Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Not reported / V2: Not reported	Wet	Daylight	Rain/Rain		301 MAN STREET / COURT ATER ROAD
2728942	GROTON	19-Mar-2011	7:12 AM	Property damage only (none reported)	2	0	0	Sideswipe, opposite direction	V1: Traveling straight ahead / V2: Traveling straight ahead	V1: Eastbound / V2: Not reported	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, pickup, sport utility with four tires / V2: Light truck/van, minivan, pickup, sport utility with only four tires	Wet	Daylight	Clear/Cloudy		MAN STREET Rte 119 E / OLD ATER ROAD
2736550	GROTON	03-Jun-2011	1:30 PM	Property damage only (none reported)	2	0	0	Angle	V1: Traveling straight ahead / V2: Traveling straight ahead	V1: Northbound / V2: Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear/Cloudy		MAN STREET Rte 119 N / LOWELL ROAD Rte 40 W
2754459	GROTON	05-Aug-2011	7:21 AM	Property damage only (none reported)	2	0	0	Angle	V1: Traveling straight ahead / V2: Turning right	V1: Not reported / V2: Westbound	V1: Collision with animal - deer	V1: Passenger car	Dry	Dark - roadway not lit/led	Clear/Clear		MAN STREET / LOWELL ROAD
2815130	GROTON	28-Oct-2011	8:47 PM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Northbound	V1: Collision with animal - deer	V1: Passenger car	Dry	Dark - roadway not lit/led	Clear/Clear		430 OLD ATER ROAD
2815131	GROTON	28-Oct-2011	8:47 PM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Southbound	V1: Collision with animal - deer	V1: Passenger car	Dry	Dark - roadway not lit/led	Clear/Clear		430 OLD ATER ROAD
2820159	GROTON	15-Nov-2011	5:03 PM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Southbound	V1: Collision with animal - other	V1: Not reported	Dry	Dark - unknown roadway lighting	Cloudy/Cloudy		430 OLD ATER ROAD
2829330	GROTON	25-Oct-2011	4:58 PM	Property damage only (none reported)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Traveling straight ahead	V1: Westbound / V2: Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, pickup, sport utility with four tires / V2: Passenger car	Dry	Daylight	Clear/Clear		100 feet W from intersection MAN STREET Rte 119 / LOWELL ROAD Rte 40 W
2878933	GROTON	21-Dec-2011	12:36 PM	Property damage only (none reported)	2	0	0	Angle	V1: Traveling straight ahead / V2: Entering traffic lane	V1: Westbound / V2: Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, pickup, sport utility with four tires / V2: Passenger car	Wet	Daylight	Cloudy/Rain		BOSTON ROAD Rte 119 W / MAN STREET Rte 119 E / BROADMEADOW ROAD / LOWELL ROAD Rte 40 N
2913472	GROTON	28-Dec-2011	9:40 AM	Property damage only (none reported)	2	0	0	Angle	V1: Traveling straight ahead / V2: Turning left	V1: Westbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear/Clear		
2955336	GROTON	10-Dec-2011	4:46 PM	Property damage only (none reported)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Northbound	V1: Collision with animal - deer	V1: Passenger car	Dry	Dark - roadway not lit/led	Clear		282 OLD ATER ROAD

MassDOT Crash Report for GROTON for the year 2013

Crash Number	City/Town Name	Crash Date	Crash Time	Crash Severity	Number of Vehicles	Y2013 Non-fatal Injuries	Y2013 Fatal Injuries	Manner of Collision	Vehicle Action Prior to Crash	Vehicle Travel Directions	Most Harmful Events	Vehicle Configuration	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection	Distance from Nearest Roadway/Intersection
3587401	GROTON	13-Aug-2013 11:31 AM	11:31 AM	Non-fatal injury	3	1	0	Angle	V1: Entering traffic lane / V2: Traveling straight ahead	V1: Southbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Wet	Daylight	Rain/Cloudy	GROTON ROAD / LOYERS ROW	
33685271	GROTON	08-Jan-2013 12:13 AM	12:13 AM	Property damage only (none injured)	2	0	0	Rear-end	V1: Turning left / V2: Traveling straight ahead	V1: Southbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Light truck/van, minivan, truck/van, minivan, panel, sport utility with four ties / V2: Passenger car	Wet	Daylight	Rain/Cloudy	HIGH STREET / FARMERS ROW	
3371510	GROTON	04-Feb-2013 3:27 PM	3:27 PM	Property damage only (none injured)	2	0	0	Angle	V1: Turning left / V2: Traveling straight ahead	V1: Southbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear/Overcast	MAIN STREET Rte 119 W / HOLLIS STREET	
3565338	GROTON	04-Nov-2013 3:33 PM	3:33 PM	Property damage only (none injured)	2	0	0	Angle	V1: Entering traffic lane / V2: Traveling straight ahead	V1: Southbound / V2: Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear	MAIN STREET Rte 119 W / HOLLIS STREET	
3603846	GROTON	27-Sep-2013 1:48 PM	1:48 PM	Property damage only (none injured)	2	0	0	Rear-end	V1: Making U-turn / V2: Traveling straight ahead	V1: Westbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, panel, sport utility with four ties / V2: Passenger car	Dry	Daylight	Clear/Other	OLD AVER ROAD / MAIN STREET Rte 119 W	
3396591	GROTON	27-Mar-2013 2:28 PM	2:28 PM	Non-fatal injury	2	1	0	Angle	V1: Turning left / V2: Traveling straight ahead	V1: Westbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, panel, sport utility with four ties / V2: Motorcycle	Dry	Daylight	Clear	120 OLD AVER ROAD	
3596332	GROTON	02-Sep-2013 9:41 AM	9:41 AM	Non-fatal injury	2	1	0	Head-on	V1: Turning left / V2: Traveling straight ahead	V1: Westbound / V2: Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, panel, sport utility with four ties / V2: Motorcycle	Wet	Daylight	Cloudy	MAIN STREET / OLD AVER ROAD Rte 119 W	
3492506	GROTON	15-Jun-2013 1:31 AM	1:31 AM	Non-Reported Property damage only (none injured)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Northbound	V1: Collision with utility pole	V1: Passenger car	Dry	Daylight	Clear	417 OLD AVER ROAD	
3369524	GROTON	21-Jan-2013 7:04 PM	7:04 PM	Property damage only (none injured)	1	0	0	Single vehicle crash	V1: Traveling straight ahead	V1: Eastbound	V1: Collision with quadral vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Light truck/van, minivan, panel, sport utility with four ties / V2: Passenger car	Snow	Dark - lighted roadway	Snow	380 OLD AVER ROAD	
3396586	GROTON	30-Mar-2013 2:30 PM	2:30 PM	Property damage only (none injured)	2	0	0	Rear-end	V1: Traveling straight ahead	V1: Westbound / V2: Westbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear	200 feet S from intersection BOSTON ROAD Rte 225 E / OLD AVER ROAD	
3422281	GROTON	06-Mar-2013 5:08 PM	5:08 PM	Property damage only (none injured)	2	0	0	Sideswipe, opposite direction	V1: Traveling straight ahead / V2: Traveling straight ahead	V1: Northbound / V2: Southbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear	433 OLD AVER ROAD	
3451184	GROTON	24-Mar-2013 8:34 AM	8:34 AM	Property damage only (none injured)	2	0	0	Rear-end	V1: Slowing or stopped in traffic / V2: Traveling straight ahead	V1: Northbound / V2: Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Wet	Daylight	Cloudy/Rain	310 OLD AVER ROAD	
3719779	GROTON	27-Dec-2013 1:34 PM	1:34 PM	Property damage only (none injured)	2	0	0	Angle	V1: Traveling straight ahead / V2: Entering traffic lane	V1: Eastbound / V2: Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	V1: Passenger car / V2: Passenger car	Dry	Daylight	Clear/Cloudy	50 feet E from intersection MAIN STREET Rte 119 E / HOLLIS STREET	

Early/Late Peak Traffic Operations Analysis Sheets 2016 Existing Conditions

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	36	62	719	246	0
Future Volume (Veh/h)	2	36	62	719	246	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	3	45	66	765	280	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1177	280	280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1177	280	280			
tC, single (s)	6.9	6.2	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.3	2.2			
p0 queue free %	98	94	95			
cM capacity (veh/h)	161	764	1294			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	48	831	280			
Volume Left	3	66	0			
Volume Right	45	0	0			
cSH	619	1294	1700			
Volume to Capacity	0.08	0.05	0.16			
Queue Length 95th (ft)	6	4	0			
Control Delay (s)	11.3	1.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.3	1.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization		67.5%		ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

Existing Conditions
Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	0	1	720	249	62
Future Volume (Veh/h)	64	0	1	720	249	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	80	0	1	758	283	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1078	318	353			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1078	318	353			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	100	100			
cM capacity (veh/h)	244	727	1217			
Direction, Lane #						
	EB 1	NB 1	SB 1			
Volume Total	80	759	353			
Volume Left	80	1	0			
Volume Right	0	0	70			
cSH	244	1217	1700			
Volume to Capacity	0.33	0.00	0.21			
Queue Length 95th (ft)	34	0	0			
Control Delay (s)	26.8	0.0	0.0			
Lane LOS	D	A				
Approach Delay (s)	26.8	0.0	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization		48.9%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: Court St/Hollis St & Main St

Existing Conditions
Friday Evening Peak Hour (Entering)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1	674	154	9	337	4	0	0	0	68	0	8
Future Volume (Veh/h)	1	674	154	9	337	4	0	0	0	68	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92	0.83	0.83	0.83
Hourly flow rate (vph)	1	757	173	10	370	4	0	0	0	82	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	374			930			1248	1324	372	1238	1240	844
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	374			930			1248	1324	372	1238	1240	844
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	46	100	97
cM capacity (veh/h)	1196			744			146	155	678	152	174	366
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	931	384	92									
Volume Left	1	10	82									
Volume Right	173	4	10									
cSH	1196	744	163									
Volume to Capacity	0.00	0.01	0.57									
Queue Length 95th (ft)	0	1	73									
Control Delay (s)	0.0	0.4	52.6									
Lane LOS	A	A	F									
Approach Delay (s)	0.0	0.4	52.6									
Approach LOS			F									
Intersection Summary												
Average Delay			3.6									
Intersection Capacity Utilization			56.2%	ICU Level of Service	B							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
 Friday Evening Peak Hour (Entering)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	16	18	126	92	302	29	63	694	29	
Future Volume (Veh/h)	0	0	0	16	18	126	92	302	29	63	694	29	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.87	0.87	0.87	0.94	0.94	0.94	
Hourly flow rate (vph)	0	0	0	21	24	168	106	347	33	67	738	31	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1559	1478	364	1463	1480	754	769				380		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1559	1478	364	1463	1480	754	769				380		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	77	77	59	87				94		
cM capacity (veh/h)	39	105	686	93	105	413	845				1190		
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	213	486	836										
Volume Left	21	106	67										
Volume Right	168	33	31										
cSH	470	845	1190										
Volume to Capacity	0.45	0.13	0.06										
Queue Length 95th (ft)	58	11	4										
Control Delay (s)	29.9	3.4	1.4										
Lane LOS	D	A	A										
Approach Delay (s)	29.9	3.4	1.4										
Approach LOS	D												
Intersection Summary													
Average Delay			6.0										
Intersection Capacity Utilization			56.2%	ICU Level of Service								B	
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	8	29	77	85	35
Future Volume (Veh/h)	25	8	29	77	85	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.93	0.93
Hourly flow rate (vph)	29	9	34	90	91	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	268	110	129			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268	110	129			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	96	99	98			
cM capacity (veh/h)	709	914	1469			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	38	124	129			
Volume Left	29	34	0			
Volume Right	9	0	38			
cSH	749	1469	1700			
Volume to Capacity	0.05	0.02	0.08			
Queue Length 95th (ft)	4	2	0			
Control Delay (s)	10.1	2.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.1	2.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization		22.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	15	15	50	18	0
Future Volume (Veh/h)	0	15	15	50	18	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.70	0.70	0.97	0.97	0.71	0.71
Hourly flow rate (vph)	0	21	15	52	25	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	67				62	41
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67				62	41
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1547				949	1036
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	21	67	25			
Volume Left	0	0	25			
Volume Right	0	52	0			
cSH	1547	1700	949			
Volume to Capacity	0.00	0.04	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		13.9%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Friday Evening Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	1	167	15	1	90
Future Volume (Veh/h)	14	1	167	15	1	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.70	0.81	0.81	0.72	0.72
Hourly flow rate (vph)	20	1	206	19	1	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	342	216			225	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	342	216			225	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	657	829			1356	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	21	225	126			
Volume Left	20	0	1			
Volume Right	1	19	0			
cSH	664	1700	1356			
Volume to Capacity	0.03	0.13	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	10.6	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	10.6	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			19.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Friday Evening Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	162	2	17	90	0	51
Future Volume (Veh/h)	162	2	17	90	0	51
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.74	0.74	0.88	0.88
Hourly flow rate (vph)	213	3	23	122	0	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			216		382	214
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			216		382	214
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	93
cM capacity (veh/h)			1366		613	831
Direction, Lane #						
	NB 1	SB 1	NW 1			
Volume Total	216	145	58			
Volume Left	0	23	0			
Volume Right	3	0	58			
cSH	1700	1366	831			
Volume to Capacity	0.13	0.02	0.07			
Queue Length 95th (ft)	0	1	6			
Control Delay (s)	0.0	1.3	9.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.3	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			27.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Friday Evening Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	165	0	8	91	0	14
Future Volume (Veh/h)	165	0	8	91	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.73	0.73	0.65	0.65
Hourly flow rate (vph)	196	0	11	125	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			196	343	196	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196	343	196	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			99	100	97	
cM capacity (veh/h)			1389	652	850	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	196	136	22			
Volume Left	0	11	0			
Volume Right	0	0	22			
cSH	1700	1389	850			
Volume to Capacity	0.12	0.01	0.03			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	0.7	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.7	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			21.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	15	164	66	0
Future Volume (Veh/h)	0	7	15	164	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.76	0.76	0.82	0.82
Hourly flow rate (vph)	0	8	20	216	80	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	336	80	80			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	80	80			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	655	986	1531			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	8	236	80			
Volume Left	0	20	0			
Volume Right	8	0	0			
cSH	986	1531	1700			
Volume to Capacity	0.01	0.01	0.05			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		26.1%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	15	164	66	0
Future Volume (Veh/h)	0	7	15	164	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.76	0.76	0.82	0.82
Hourly flow rate (vph)	0	8	20	216	80	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	336	80	80			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	80	80			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	655	986	1531			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	8	236	80			
Volume Left	0	20	0			
Volume Right	8	0	0			
cSH	986	1531	1700			
Volume to Capacity	0.01	0.01	0.05			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		26.1%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 2: Main St & Old Ayer Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	0	0	171	66	12
Future Volume (Veh/h)	17	0	0	171	66	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.78	0.78	0.87	0.87
Hourly flow rate (vph)	34	0	0	219	76	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	302	83	90			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	302	83	90			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	694	982	1518			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	34	219	90			
Volume Left	34	0	0			
Volume Right	0	0	14			
cSH	694	1700	1700			
Volume to Capacity	0.05	0.13	0.05			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	10.5	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.5	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		19.0%		ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: Court St/Hollis St & Main St

Existing Conditions
Friday Evening Peak Hour (Exiting)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	153	46	4	76	1	0	0	0	14	0	3
Future Volume (Veh/h)	0	153	46	4	76	1	0	0	0	14	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.79	0.79	0.79	0.92	0.92	0.92	0.53	0.53	0.53
Hourly flow rate (vph)	0	201	61	5	96	1	0	0	0	26	0	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	97			262			344	368	96	338	338	232
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	97			262			344	368	96	338	338	232
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	96	100	99
cM capacity (veh/h)	1509			1314			608	562	965	618	584	813
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	262	102	32									
Volume Left	0	5	26									
Volume Right	61	1	6									
cSH	1509	1314	647									
Volume to Capacity	0.00	0.00	0.05									
Queue Length 95th (ft)	0	0	4									
Control Delay (s)	0.0	0.4	10.9									
Lane LOS		A	B									
Approach Delay (s)	0.0	0.4	10.9									
Approach LOS			B									
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			20.8%	ICU Level of Service						A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	11	12	36	22	67	4	14	163	8	
Future Volume (Veh/h)	0	0	0	11	12	36	22	67	4	14	163	8	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	0.78	0.78	0.78	
Hourly flow rate (vph)	0	0	0	14	15	46	25	76	5	18	209	10	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	409	384	78	378	381	214	219				81		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	409	384	78	378	381	214	219				81		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	98	97	94	98				99		
cM capacity (veh/h)	502	537	988	569	538	823	1362				1529		
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	75	106	237										
Volume Left	14	25	18										
Volume Right	46	5	10										
cSH	1343	1362	1529										
Volume to Capacity	0.06	0.02	0.01										
Queue Length 95th (ft)	4	1	1										
Control Delay (s)	10.5	1.9	0.7										
Lane LOS	B	A	A										
Approach Delay (s)	10.5	1.9	0.7										
Approach LOS	B												
Intersection Summary													
Average Delay			2.7										
Intersection Capacity Utilization			20.6%	ICU Level of Service	A								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	7	15	164	66	0
Future Volume (Veh/h)	0	7	15	164	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.76	0.76	0.82	0.82
Hourly flow rate (vph)	0	8	20	216	80	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	336	80	80			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	80	80			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	655	986	1531			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	8	236	80			
Volume Left	0	20	0			
Volume Right	8	0	0			
cSH	986	1531	1700			
Volume to Capacity	0.01	0.01	0.05			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		19.5%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	1	3	19	17	11
Future Volume (Veh/h)	4	1	3	19	17	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.63	0.63	0.53	0.53	0.65	0.65
Hourly flow rate (vph)	6	2	6	36	26	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82	34	43			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82	34	43			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	921	1044	1579			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	8	42	43			
Volume Left	6	6	0			
Volume Right	2	0	17			
cSH	949	1579	1700			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	1.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.8	1.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			13.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	2	6	7	3	0
Future Volume (Veh/h)	0	2	6	7	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.50	0.81	0.81	0.75	0.75
Hourly flow rate (vph)	0	4	7	9	4	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	16				16	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16				16	12
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1615				1008	1075
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	4	16	4			
Volume Left	0	0	4			
Volume Right	0	9	0			
cSH	1615	1700	1008			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.6			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Friday Evening Peak Hour (Exiting)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	0	37	2	0	25
Future Volume (Veh/h)	6	0	37	2	0	25
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.71	0.71	0.86	0.86
Hourly flow rate (vph)	12	0	52	3	0	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82	54			55	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82	54			55	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	924	1019			1563	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	12	55	29			
Volume Left	12	0	0			
Volume Right	0	3	0			
cSH	924	1700	1563			
Volume to Capacity	0.01	0.03	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.9	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.9	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Friday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	
Traffic Volume (veh/h)	36	0	3	25	0	7
Future Volume (Veh/h)	36	0	3	25	0	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.75	0.75	0.58	0.58
Hourly flow rate (vph)	47	0	4	33	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			47	88	47	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			47	88	47	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	99	
cM capacity (veh/h)			1573	915	1028	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	47	37	12			
Volume Left	0	4	0			
Volume Right	0	0	12			
cSH	1700	1573	1028			
Volume to Capacity	0.03	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.8	8.5			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.8	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Friday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↕			↕	↕	
Traffic Volume (veh/h)	35	0	2	31	0	3
Future Volume (Veh/h)	35	0	2	31	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.69	0.69	0.65	0.65	0.75	0.75
Hourly flow rate (vph)	51	0	3	48	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			51	105	51	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			51	105	51	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			1568	896	1023	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	51	51	4			
Volume Left	0	3	0			
Volume Right	0	0	4			
cSH	1700	1568	1023			
Volume to Capacity	0.03	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.4	8.5			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.4	8.5			
Approach LOS			A			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	78	88	985	329	0
Future Volume (Veh/h)	2	78	88	985	329	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.95	0.95	0.84	0.84
Hourly flow rate (vph)	2	83	93	1037	392	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1615	392	392			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1615	392	392			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	87	92			
cM capacity (veh/h)	106	659	1178			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	85	1130	392			
Volume Left	2	93	0			
Volume Right	83	0	0			
cSH	587	1178	1700			
Volume to Capacity	0.14	0.08	0.23			
Queue Length 95th (ft)	13	6	0			
Control Delay (s)	12.2	2.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.2	2.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			89.0%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

Existing Conditions
Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	0	2	990	329	73
Future Volume (Veh/h)	97	0	2	990	329	73
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.97	0.97	0.83	0.83
Hourly flow rate (vph)	111	0	2	1021	396	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1465	440	484			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1465	440	484			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	22	100	100			
cM capacity (veh/h)	142	621	1089			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	111	1023	484			
Volume Left	111	2	0			
Volume Right	0	0	88			
cSH	142	1089	1700			
Volume to Capacity	0.78	0.00	0.28			
Queue Length 95th (ft)	120	0	0			
Control Delay (s)	87.1	0.1	0.0			
Lane LOS	F	A				
Approach Delay (s)	87.1	0.1	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			65.7%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 3: Court St/Hollis St & Main St

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	4	988	246	21	434	3	0	0	0	58	0	22
Future Volume (Veh/h)	4	988	246	21	434	3	0	0	0	58	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Hourly flow rate (vph)	4	1098	273	23	472	3	0	0	0	65	0	25
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	475			1371			1787	1898	474	1762	1764	1234
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	475			1371			1787	1898	474	1762	1764	1234
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			100	100	100	0	100	88
cM capacity (veh/h)	1098			507			54	67	595	63	81	217
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	1375	498	90									
Volume Left	4	23	65									
Volume Right	273	3	25									
cSH	1098	507	78									
Volume to Capacity	0.00	0.05	1.15									
Queue Length 95th (ft)	0	4	164									
Control Delay (s)	0.2	1.3	241.6									
Lane LOS	A	A	F									
Approach Delay (s)	0.2	1.3	241.6									
Approach LOS			F									
Intersection Summary												
Average Delay			11.5									
Intersection Capacity Utilization			79.6%	ICU Level of Service	D							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
Monday Afternoon Peak Hour (Entering)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	17	25	185	138	357	30	41	1036	44	
Future Volume (Veh/h)	0	0	0	17	25	185	138	357	30	41	1036	44	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.87	0.87	0.87	0.93	0.93	0.93	
Hourly flow rate (vph)	0	0	0	22	32	237	159	410	34	44	1114	47	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	2105	1994	427	1970	1988	1138	1161				444		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	2105	1994	427	1970	1988	1138	1161				444		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	40	27	3	74				96		
cM capacity (veh/h)	0	43	632	37	44	245	605				1127		
Direction, Lane #	WB 1	SE 1	NW 1										
Volume Total	291	603	1205										
Volume Left	22	159	44										
Volume Right	237	34	47										
cSH	153	605	1127										
Volume to Capacity	1.90	0.26	0.04										
Queue Length 95th (ft)	553	26	3										
Control Delay (s)	476.6	6.9	1.3										
Lane LOS	F	A	A										
Approach Delay (s)	476.6	6.9	1.3										
Approach LOS	F												
Intersection Summary													
Average Delay			68.8										
Intersection Capacity Utilization			95.9%	ICU Level of Service	F								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	78	88	985	329	0
Future Volume (Veh/h)	2	78	88	985	329	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.95	0.95	0.84	0.84
Hourly flow rate (vph)	2	83	93	1037	392	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1615	392	392			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1615	392	392			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	87	92			
cM capacity (veh/h)	106	659	1178			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	85	1130	392			
Volume Left	2	93	0			
Volume Right	83	0	0			
cSH	587	1178	1700			
Volume to Capacity	0.14	0.08	0.23			
Queue Length 95th (ft)	13	6	0			
Control Delay (s)	12.2	2.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.2	2.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			Err%	ICU Level of Service	H	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	14	100	121	96	62
Future Volume (Veh/h)	55	14	100	121	96	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.91	0.91	0.86	0.86
Hourly flow rate (vph)	64	16	110	133	112	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	501	148	184			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	501	148	184			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	98	92			
cM capacity (veh/h)	491	904	1403			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	80	243	184			
Volume Left	64	110	0			
Volume Right	16	0	72			
cSH	541	1403	1700			
Volume to Capacity	0.15	0.08	0.11			
Queue Length 95th (ft)	13	6	0			
Control Delay (s)	12.8	3.9	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.8	3.9	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			34.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	36	34	127	37	0
Future Volume (Veh/h)	0	36	34	127	37	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.91	0.91	0.66	0.66
Hourly flow rate (vph)	0	40	37	140	56	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	177				147	107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177				147	107
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	100
cM capacity (veh/h)	1411				850	953
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	40	177	56			
Volume Left	0	0	56			
Volume Right	0	140	0			
cSH	1411	1700	850			
Volume to Capacity	0.00	0.10	0.07			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.0	9.5			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.5			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		19.6%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	4	312	33	4	161
Future Volume (Veh/h)	30	4	312	33	4	161
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.65	0.65	0.86	0.86	0.91	0.91
Hourly flow rate (vph)	46	6	363	38	4	177
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	567	382			401	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	567	382			401	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	99			100	
cM capacity (veh/h)	487	670			1169	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	52	401	181			
Volume Left	46	0	4			
Volume Right	6	38	0			
cSH	502	1700	1169			
Volume to Capacity	0.10	0.24	0.00			
Queue Length 95th (ft)	9	0	0			
Control Delay (s)	13.0	0.0	0.2			
Lane LOS	B		A			
Approach Delay (s)	13.0	0.0	0.2			
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		28.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	
Traffic Volume (veh/h)	319	2	36	163	0	125
Future Volume (Veh/h)	319	2	36	163	0	125
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.83	0.83	0.92	0.92
Hourly flow rate (vph)	389	2	43	196	0	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			391	672	390	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			391	672	390	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			96	100	79	
cM capacity (veh/h)			1179	409	663	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	391	239	136			
Volume Left	0	43	0			
Volume Right	2	0	136			
cSH	1700	1179	663			
Volume to Capacity	0.23	0.04	0.21			
Queue Length 95th (ft)	0	3	19			
Control Delay (s)	0.0	1.7	11.8			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.7	11.8			
Approach LOS			B			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization			45.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Monday Afternoon Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	
Traffic Volume (veh/h)	301	0	10	169	1	19
Future Volume (Veh/h)	301	0	10	169	1	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.87	0.87	0.71	0.71
Hourly flow rate (vph)	338	0	11	194	1	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			338	554	338	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			338	554	338	
tC, single (s)			4.2	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.3	3.5	3.3	
p0 queue free %			99	100	96	
cM capacity (veh/h)			1178	492	709	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	338	205	28			
Volume Left	0	11	1			
Volume Right	0	0	27			
cSH	1700	1178	698			
Volume to Capacity	0.20	0.01	0.04			
Queue Length 95th (ft)	0	1	3			
Control Delay (s)	0.0	0.5	10.4			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	10.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			27.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Monday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	35	62	778	275	0
Future Volume (Veh/h)	3	35	62	778	275	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	4	49	75	937	331	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1418	331	331			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1418	331	331			
tC, single (s)	6.7	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.8	3.3	2.2			
p0 queue free %	97	93	94			
cM capacity (veh/h)	121	715	1240			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	53	1012	331			
Volume Left	4	75	0			
Volume Right	49	0	0			
cSH	522	1240	1700			
Volume to Capacity	0.10	0.06	0.19			
Queue Length 95th (ft)	8	5	0			
Control Delay (s)	12.7	1.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.7	1.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			72.2%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

Existing Conditions
Monday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	0	1	779	274	59
Future Volume (Veh/h)	62	0	1	779	274	59
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.83	0.83	0.87	0.87
Hourly flow rate (vph)	76	0	1	939	315	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1290	349	383			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1290	349	383			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	58	100	100			
cM capacity (veh/h)	182	699	1187			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	76	940	383			
Volume Left	76	1	0			
Volume Right	0	0	68			
cSH	182	1187	1700			
Volume to Capacity	0.42	0.00	0.23			
Queue Length 95th (ft)	47	0	0			
Control Delay (s)	38.3	0.0	0.0			
Lane LOS	E	A				
Approach Delay (s)	38.3	0.0	0.0			
Approach LOS	E					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization		51.9%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

3: Court St/Hollis St & Main St

Existing Conditions
Monday Evening Peak Hour (Exiting)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	736	174	10	361	5	0	0	0	68	0	9
Future Volume (Veh/h)	0	736	174	10	361	5	0	0	0	68	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.88	0.88	0.88	0.92	0.92	0.92	0.88	0.88	0.88
Hourly flow rate (vph)	0	920	218	11	410	6	0	0	0	77	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	416			1138			1474	1573	413	1464	1467	1029
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	416			1138			1474	1573	413	1464	1467	1029
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	27	100	97
cM capacity (veh/h)	1154			621			101	109	643	106	127	286
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	1138	427	87									
Volume Left	0	11	77									
Volume Right	218	6	10									
cSH	1154	621	114									
Volume to Capacity	0.00	0.02	0.76									
Queue Length 95th (ft)	0	1	106									
Control Delay (s)	0.0	0.5	99.7									
Lane LOS		A	F									
Approach Delay (s)	0.0	0.5	99.7									
Approach LOS			F									
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utilization			60.3%	ICU Level of Service						B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
Monday Evening Peak Hour (Exiting)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	20	20	133	105	313	32	62	761	32	
Future Volume (Veh/h)	0	0	0	20	20	133	105	313	32	62	761	32	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.90	0.90	0.90	0.83	0.83	0.83	
Hourly flow rate (vph)	0	0	0	24	24	160	117	348	36	75	917	39	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1778	1706	366	1686	1704	936	956			384			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1778	1706	366	1686	1704	936	956			384			
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	60	67	50	84			94			
cM capacity (veh/h)	20	72	684	59	73	323	723			1180			
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	208	501	1031										
Volume Left	24	117	75										
Volume Right	160	36	39										
cSH	247	723	1180										
Volume to Capacity	0.84	0.16	0.06										
Queue Length 95th (ft)	168	14	5										
Control Delay (s)	66.6	4.3	1.7										
Lane LOS	F	A	A										
Approach Delay (s)	66.6	4.3	1.7										
Approach LOS	F												
Intersection Summary													
Average Delay			10.2										
Intersection Capacity Utilization			61.9%	ICU Level of Service		B							
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Monday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	35	62	778	275	0
Future Volume (Veh/h)	3	35	62	778	275	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	4	49	75	937	331	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1418	331	331			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1418	331	331			
tC, single (s)	6.7	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.8	3.3	2.2			
p0 queue free %	97	93	94			
cM capacity (veh/h)	121	715	1240			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	53	1012	331			
Volume Left	4	75	0			
Volume Right	49	0	0			
cSH	522	1240	1700			
Volume to Capacity	0.10	0.06	0.19			
Queue Length 95th (ft)	8	5	0			
Control Delay (s)	12.7	1.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.7	1.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Monday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	13	43	73	81	36
Future Volume (Veh/h)	24	13	43	73	81	36
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.74	0.74	0.90	0.90
Hourly flow rate (vph)	30	16	58	99	90	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	325	110	130			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	325	110	130			
tC, single (s)	6.4	6.4	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	95	98	96			
cM capacity (veh/h)	647	909	1468			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	46	157	130			
Volume Left	30	58	0			
Volume Right	16	0	40			
cSH	719	1468	1700			
Volume to Capacity	0.06	0.04	0.08			
Queue Length 95th (ft)	5	3	0			
Control Delay (s)	10.4	3.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.4	3.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			22.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Monday Evening Peak Hour (Exiting)



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	16	11	66	21	0
Future Volume (Veh/h)	0	16	11	66	21	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.66	0.66	0.75	0.75
Hourly flow rate (vph)	0	21	17	100	28	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	117				88	67
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	117				88	67
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1484				918	1002

Direction, Lane #	EB 1	WB 1	SE 1
Volume Total	21	117	28
Volume Left	0	0	28
Volume Right	0	100	0
cSH	1484	1700	918
Volume to Capacity	0.00	0.07	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		14.7%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Monday Evening Peak Hour (Exiting)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	3	160	17	2	100
Future Volume (Veh/h)	8	3	160	17	2	100
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.69	0.69	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	12	4	193	20	2	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	327	203			213	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327	203			213	
tC, single (s)	6.4	6.2			4.6	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.7	
p0 queue free %	98	100			100	
cM capacity (veh/h)	670	843			1118	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	213	122			
Volume Left	12	0	2			
Volume Right	4	20	0			
cSH	706	1700	1118			
Volume to Capacity	0.02	0.13	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	10.2	0.0	0.2			
Lane LOS	B		A			
Approach Delay (s)	10.2	0.0	0.2			
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			19.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Monday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	155	2	22	99	0	66
Future Volume (Veh/h)	155	2	22	99	0	66
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.83	0.83	0.66	0.66
Hourly flow rate (vph)	204	3	27	119	0	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			207		378	206
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			207		378	206
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	88
cM capacity (veh/h)			1376		615	840
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	207	146	100			
Volume Left	0	27	0			
Volume Right	3	0	100			
cSH	1700	1376	840			
Volume to Capacity	0.12	0.02	0.12			
Queue Length 95th (ft)	0	2	10			
Control Delay (s)	0.0	1.5	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.5	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			28.8%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Monday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	153	0	6	96	0	13
Future Volume (Veh/h)	153	0	6	96	0	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.80	0.80	0.65	0.65
Hourly flow rate (vph)	187	0	8	120	0	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			187	323		187
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			187	323		187
tC, single (s)			4.1	6.4		6.2
tC, 2 stage (s)						
tF (s)			2.2	3.5		3.3
p0 queue free %			99	100		98
cM capacity (veh/h)			1399	671		860
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	187	128	20			
Volume Left	0	8	0			
Volume Right	0	0	20			
cSH	1700	1399	860			
Volume to Capacity	0.11	0.01	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.5	9.3			
Lane LOS			A			
Approach Delay (s)	0.0	0.5	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			20.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	43	392	298	0
Future Volume (Veh/h)	0	40	43	392	298	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	0	56	50	456	339	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	895	339	339			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	895	339	339			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	96			
cM capacity (veh/h)	301	708	1231			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	56	506	339			
Volume Left	0	50	0			
Volume Right	56	0	0			
cSH	708	1231	1700			
Volume to Capacity	0.08	0.04	0.20			
Queue Length 95th (ft)	6	3	0			
Control Delay (s)	10.5	1.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.5	1.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			52.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

Existing Conditions
Saturday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	0	0	384	299	53
Future Volume (Veh/h)	44	0	0	384	299	53
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.65	0.65	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	68	0	0	447	340	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	817	370	400			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	817	370	400			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	100	100			
cM capacity (veh/h)	349	680	1170			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	68	447	400			
Volume Left	68	0	0			
Volume Right	0	0	60			
cSH	349	1700	1700			
Volume to Capacity	0.19	0.26	0.24			
Queue Length 95th (ft)	18	0	0			
Control Delay (s)	17.8	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	17.8	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		30.2%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 3: Court St/Hollis St & Main St

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	6	388	94	16	328	1	0	0	0	89	2	12
Future Volume (Veh/h)	6	388	94	16	328	1	0	0	0	89	2	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.94	0.94	0.94	0.92	0.92	0.92	0.76	0.76	0.76
Hourly flow rate (vph)	7	473	115	17	349	1	0	0	0	117	3	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	350			588			946	986	350	928	928	530
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	350			588			946	986	350	928	928	530
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			100	100	100	52	99	97
cM capacity (veh/h)	1220			997			231	244	698	245	264	552
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	595	367	136									
Volume Left	7	17	117									
Volume Right	115	1	16									
cSH	1220	997	263									
Volume to Capacity	0.01	0.02	0.52									
Queue Length 95th (ft)	0	1	69									
Control Delay (s)	0.2	0.6	32.5									
Lane LOS	A	A	D									
Approach Delay (s)	0.2	0.6	32.5									
Approach LOS			D									
Intersection Summary												
Average Delay			4.3									
Intersection Capacity Utilization			40.6%	ICU Level of Service						A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	23	18	106	106	319	9	19	375	38	
Future Volume (Veh/h)	0	0	0	23	18	106	106	319	9	19	375	38	
Sign Control		Stop			Stop			Free				Free	
Grade		0%			0%			0%				0%	
Peak Hour Factor	0.92	0.92	0.92	0.97	0.97	0.97	0.90	0.90	0.90	0.76	0.76	0.76	
Hourly flow rate (vph)	0	0	0	24	19	109	118	354	10	25	493	50	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type								None				None	
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1227	1188	359	1163	1168	518	543			364			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1227	1188	359	1163	1168	518	543			364			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	85	89	81	89			98			
cM capacity (veh/h)	104	165	690	156	169	562	1031			1206			
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	152	482	568										
Volume Left	24	118	25										
Volume Right	109	10	50										
cSH	571	1031	1206										
Volume to Capacity	0.27	0.11	0.02										
Queue Length 95th (ft)	27	10	2										
Control Delay (s)	19.2	3.2	0.6										
Lane LOS	C	A	A										
Approach Delay (s)	19.2	3.2	0.6										
Approach LOS	C												
Intersection Summary													
Average Delay			4.0										
Intersection Capacity Utilization		59.6%		ICU Level of Service						B			
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	43	392	298	0
Future Volume (Veh/h)	0	40	43	392	298	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.71	0.71	0.86	0.86	0.88	0.88
Hourly flow rate (vph)	0	56	50	456	339	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	895	339	339			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	895	339	339			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	96			
cM capacity (veh/h)	301	708	1231			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	56	506	339			
Volume Left	0	50	0			
Volume Right	56	0	0			
cSH	708	1231	1700			
Volume to Capacity	0.08	0.04	0.20			
Queue Length 95th (ft)	6	3	0			
Control Delay (s)	10.5	1.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.5	1.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		45.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	9	4	50	66	24
Future Volume (Veh/h)	30	9	4	50	66	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.75	0.75	0.93	0.93
Hourly flow rate (vph)	34	10	5	67	71	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	161	84	97			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	161	84	97			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	100			
cM capacity (veh/h)	832	981	1509			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	44	72	97			
Volume Left	34	5	0			
Volume Right	10	0	26			
cSH	862	1509	1700			
Volume to Capacity	0.05	0.00	0.06			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	9.4	0.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.4	0.5	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization		15.9%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	16	15	11	23	0
Future Volume (Veh/h)	0	16	15	11	23	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.93	0.93	0.72	0.72
Hourly flow rate (vph)	0	20	16	12	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	28				42	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28				42	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1599				974	1061
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	20	28	32			
Volume Left	0	0	32			
Volume Right	0	12	0			
cSH	1599	1700	974			
Volume to Capacity	0.00	0.02	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	8.8			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	1	71	14	1	80
Future Volume (Veh/h)	13	1	71	14	1	80
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.69	0.69	0.71	0.71
Hourly flow rate (vph)	15	1	103	20	1	113
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	228	113			123	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	228	113			123	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	764	945			1477	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	123	114			
Volume Left	15	0	1			
Volume Right	1	20	0			
cSH	773	1700	1477			
Volume to Capacity	0.02	0.07	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	9.8	0.0	0.1			
Lane LOS	A		A			
Approach Delay (s)	9.8	0.0	0.1			
Approach LOS	A					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			15.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↖
Traffic Volume (veh/h)	69	0	25	80	0	9
Future Volume (Veh/h)	69	0	25	80	0	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.66	0.66	0.74	0.74	0.75	0.75
Hourly flow rate (vph)	105	0	34	108	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			105	281	105	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			105	281	105	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			98	100	99	
cM capacity (veh/h)			1499	697	955	
Direction, Lane #						
	NB 1	SB 1	NW 1			
Volume Total	105	142	12			
Volume Left	0	34	0			
Volume Right	0	0	12			
cSH	1700	1499	955			
Volume to Capacity	0.06	0.02	0.01			
Queue Length 95th (ft)	0	2	1			
Control Delay (s)	0.0	1.9	8.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.9	8.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			22.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Saturday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	78	0	4	82	0	7
Future Volume (Veh/h)	78	0	4	82	0	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.79	0.79	0.58	0.58
Hourly flow rate (vph)	100	0	5	104	0	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			100		214	100
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			100		214	100
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			1505		776	961
Direction, Lane #						
	NB 1	SB 1	NW 1			
Volume Total	100	109	12			
Volume Left	0	5	0			
Volume Right	0	0	12			
cSH	1700	1505	961			
Volume to Capacity	0.06	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.4	8.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.4	8.8			
Approach LOS		A	A			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			17.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	80	71	489	531	0
Future Volume (Veh/h)	5	80	71	489	531	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.88	0.88	0.93	0.93
Hourly flow rate (vph)	7	107	81	556	571	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1289	571	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1289	571	571			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	80	92			
cM capacity (veh/h)	168	522	1012			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	114	637	571			
Volume Left	7	81	0			
Volume Right	107	0	0			
cSH	462	1012	1700			
Volume to Capacity	0.25	0.08	0.34			
Queue Length 95th (ft)	24	7	0			
Control Delay (s)	15.3	2.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.3	2.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			72.8%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

Existing Conditions
Saturday Midday Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	66	0	1	497	531	80
Future Volume (Veh/h)	66	0	1	497	531	80
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.93	0.93	0.96	0.96
Hourly flow rate (vph)	86	0	1	534	553	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1130	594	636			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1130	594	636			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	62	100	100			
cM capacity (veh/h)	225	508	957			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	86	535	636			
Volume Left	86	1	0			
Volume Right	0	0	83			
cSH	225	957	1700			
Volume to Capacity	0.38	0.00	0.37			
Queue Length 95th (ft)	42	0	0			
Control Delay (s)	30.6	0.0	0.0			
Lane LOS	D	A				
Approach Delay (s)	30.6	0.0	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization		43.1%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 3: Court St/Hollis St & Main St

Existing Conditions
 Saturday Midday Peak Hour (Entering)

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	2	474	159	12	605	7	0	0	0	129	0	15
Future Volume (Veh/h)	2	474	159	12	605	7	0	0	0	129	0	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.92	0.92	0.92	0.93	0.93	0.93
Hourly flow rate (vph)	2	494	166	12	624	7	0	0	0	139	0	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	631			660			1248	1316	628	1232	1236	577
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	631			660			1248	1316	628	1232	1236	577
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	9	100	97
cM capacity (veh/h)	961			938			144	155	483	154	175	520
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	662	643	155									
Volume Left	2	12	139									
Volume Right	166	7	16									
cSH	961	938	166									
Volume to Capacity	0.00	0.01	0.94									
Queue Length 95th (ft)	0	1	175									
Control Delay (s)	0.1	0.3	109.2									
Lane LOS	A	A	F									
Approach Delay (s)	0.1	0.3	109.2									
Approach LOS			F									
Intersection Summary												
Average Delay			11.8									
Intersection Capacity Utilization			55.8%	ICU Level of Service	B							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	41	22	168	181	543	40	20	487	57	
Future Volume (Veh/h)	0	0	0	41	22	168	181	543	40	20	487	57	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.93	0.93	0.93	0.99	0.99	0.99	0.93	0.93	0.93	
Hourly flow rate (vph)	0	0	0	44	24	181	183	548	40	22	524	61	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1635	1563	568	1532	1552	554	585				588		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1635	1563	568	1532	1552	554	585				588		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	45	74	66	82				98		
cM capacity (veh/h)	36	89	522	80	91	532	990				997		
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	249	771	607										
Volume Left	44	183	22										
Volume Right	181	40	61										
cSH	262	990	997										
Volume to Capacity	0.95	0.18	0.02										
Queue Length 95th (ft)	221	17	2										
Control Delay (s)	84.6	4.3	0.6										
Lane LOS	F	A	A										
Approach Delay (s)	84.6	4.3	0.6										
Approach LOS	F												
Intersection Summary													
Average Delay			15.2										
Intersection Capacity Utilization			84.6%	ICU Level of Service	E								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	80	71	489	531	0
Future Volume (Veh/h)	5	80	71	489	531	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.75	0.75	0.88	0.88	0.93	0.93
Hourly flow rate (vph)	7	107	81	556	571	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1289	571	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1289	571	571			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	80	92			
cM capacity (veh/h)	168	522	1012			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	114	637	571			
Volume Left	7	81	0			
Volume Right	107	0	0			
cSH	462	1012	1700			
Volume to Capacity	0.25	0.08	0.34			
Queue Length 95th (ft)	24	7	0			
Control Delay (s)	15.3	2.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	15.3	2.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			Err%	ICU Level of Service	H	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 10: Old Ayer Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	71	0	66	85	0	81
Future Volume (Veh/h)	71	0	66	85	0	81
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.77	0.75	0.96	0.96
Hourly flow rate (vph)	81	0	86	113	0	84
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226	142			199	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226	142			199	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	100			100	
cM capacity (veh/h)	766	910			1385	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	81	199	84			
Volume Left	81	0	0			
Volume Right	0	113	0			
cSH	766	1700	1700			
Volume to Capacity	0.11	0.12	0.05			
Queue Length 95th (ft)	9	0	0			
Control Delay (s)	10.3	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.3	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	52	9	13	97	112	34
Future Volume (Veh/h)	52	9	13	97	112	34
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.72	0.72	0.84	0.84
Hourly flow rate (vph)	61	11	18	135	133	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	324	153	173			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324	153	173			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	99	99			
cM capacity (veh/h)	665	898	1416			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	72	153	173			
Volume Left	61	18	0			
Volume Right	11	0	40			
cSH	693	1416	1700			
Volume to Capacity	0.10	0.01	0.10			
Queue Length 95th (ft)	9	1	0			
Control Delay (s)	10.8	1.0	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.8	1.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization		26.1%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	3	29	20	29	31	1
Future Volume (Veh/h)	3	29	20	29	31	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.68	0.68	0.73	0.73
Hourly flow rate (vph)	4	36	29	43	42	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	72				94	50
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	72				94	50
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	100
cM capacity (veh/h)	1541				908	1023
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	40	72	43			
Volume Left	4	0	42			
Volume Right	0	43	1			
cSH	1541	1700	910			
Volume to Capacity	0.00	0.04	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.8	0.0	9.2			
Lane LOS	A		A			
Approach Delay (s)	0.8	0.0	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			14.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	1	144	28	3	125
Future Volume (Veh/h)	20	1	144	28	3	125
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.92	0.92	0.82	0.82
Hourly flow rate (vph)	27	1	157	30	4	152
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	332	172			187	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	332	172			187	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			100	
cM capacity (veh/h)	665	877			1399	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	28	187	156			
Volume Left	27	0	4			
Volume Right	1	30	0			
cSH	671	1700	1399			
Volume to Capacity	0.04	0.11	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	10.6	0.0	0.2			
Lane LOS	B		A			
Approach Delay (s)	10.6	0.0	0.2			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

Existing Conditions
 Saturday Midday Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	144	2	31	129	0	32
Future Volume (Veh/h)	144	2	31	129	0	32
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.81	0.81	0.73	0.73
Hourly flow rate (vph)	164	2	38	159	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			166	400	165	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			166	400	165	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			97	100	95	
cM capacity (veh/h)			1424	593	885	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	166	197	44			
Volume Left	0	38	0			
Volume Right	2	0	44			
cSH	1700	1424	885			
Volume to Capacity	0.10	0.03	0.05			
Queue Length 95th (ft)	0	2	4			
Control Delay (s)	0.0	1.6	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.6	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			29.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	148	2	10	114	0	14
Future Volume (Veh/h)	148	2	10	114	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.86	0.86	0.75	0.75
Hourly flow rate (vph)	151	2	12	133	0	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			153	309	152	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			153	309	152	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			99	100	98	
cM capacity (veh/h)			1440	682	900	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	153	145	19			
Volume Left	0	12	0			
Volume Right	2	0	19			
cSH	1700	1440	900			
Volume to Capacity	0.09	0.01	0.02			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	0.7	9.1			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.7	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			24.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 23: Hollis St & Mayfield Rd

Existing Conditions
 Saturday Midday Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	3	171	0	0	142
Future Volume (Veh/h)	2	3	171	0	0	142
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.63	0.63	0.96	0.96	0.93	0.93
Hourly flow rate (vph)	3	5	178	0	0	153
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	331	178			178	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	331	178			178	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	668	870			1410	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	178	153			
Volume Left	3	0	0			
Volume Right	5	0	0			
cSH	781	1700	1410			
Volume to Capacity	0.01	0.10	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.7	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			19.0%	ICU Level of Service		A
Analysis Period (min)			15			

Early/Late Peak Traffic Operations Analysis Sheets 2024 No-Build Conditions

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	38	64	751	258	0
Future Volume (Veh/h)	1	38	64	751	258	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	1	48	68	799	293	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1228	293	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1228	293	293			
tC, single (s)	6.9	6.2	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.3	2.2			
p0 queue free %	99	94	95			
cM capacity (veh/h)	149	751	1280			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	49	867	293			
Volume Left	1	68	0			
Volume Right	48	0	0			
cSH	694	1280	1700			
Volume to Capacity	0.07	0.05	0.17			
Queue Length 95th (ft)	6	4	0			
Control Delay (s)	10.6	1.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.6	1.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			70.0%	ICU Level of Service	C	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: Main St & Old Ayer Rd

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	0	1	749	259	64
Future Volume (Veh/h)	67	0	1	749	259	64
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.95	0.95	0.88	0.88
Hourly flow rate (vph)	84	0	1	788	294	73
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1120	330	367			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1120	330	367			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	100	100			
cM capacity (veh/h)	230	716	1203			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	84	789	367			
Volume Left	84	1	0			
Volume Right	0	0	73			
cSH	230	1203	1700			
Volume to Capacity	0.36	0.00	0.22			
Queue Length 95th (ft)	40	0	0			
Control Delay (s)	29.4	0.0	0.0			
Lane LOS	D	A				
Approach Delay (s)	29.4	0.0	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			50.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

3: Court St/Hollis St & Main St

2023 No-Build
Friday Evening Peak Hour (Entering)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1	701	160	10	350	4	0	0	0	71	0	9
Future Volume (Veh/h)	1	701	160	10	350	4	0	0	0	71	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.91	0.91	0.91	0.92	0.92	0.92	0.83	0.83	0.83
Hourly flow rate (vph)	1	788	180	11	385	4	0	0	0	86	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	389			968			1300	1379	387	1289	1291	878
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	389			968			1300	1379	387	1289	1291	878
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	100	39	100	97
cM capacity (veh/h)	1181			720			133	144	665	140	162	350
Direction, Lane #												
	NB 1	SB 1	SW 1									
Volume Total	969	400	97									
Volume Left	1	11	86									
Volume Right	180	4	11									
cSH	1181	720	150									
Volume to Capacity	0.00	0.02	0.64									
Queue Length 95th (ft)	0	1	89									
Control Delay (s)	0.0	0.5	64.4									
Lane LOS	A	A	F									
Approach Delay (s)	0.0	0.5	64.4									
Approach LOS			F									
Intersection Summary												
Average Delay			4.4									
Intersection Capacity Utilization			58.2%	ICU Level of Service						B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

2023 No-Build
 Friday Evening Peak Hour (Entering)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	16	19	131	96	314	31	66	721	30	
Future Volume (Veh/h)	0	0	0	16	19	131	96	314	31	66	721	30	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.87	0.87	0.87	0.94	0.94	0.94	
Hourly flow rate (vph)	0	0	0	21	25	175	110	361	36	70	767	32	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1622	1538	379	1522	1540	783	799			397			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1622	1538	379	1522	1540	783	799			397			
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	75	74	56	87			94			
cM capacity (veh/h)	32	95	672	84	95	397	824			1173			
Direction, Lane #													
	WB 1	SE 1	NW 1										
Volume Total	221	507	869										
Volume Left	21	110	70										
Volume Right	175	36	32										
cSH	432	824	1173										
Volume to Capacity	0.51	0.13	0.06										
Queue Length 95th (ft)	71	12	5										
Control Delay (s)	33.5	3.5	1.5										
Lane LOS	D	A	A										
Approach Delay (s)	33.5	3.5	1.5										
Approach LOS	D												
Intersection Summary													
Average Delay			6.6										
Intersection Capacity Utilization			58.2%	ICU Level of Service		B							
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	38	64	751	258	0
Future Volume (Veh/h)	1	38	64	751	258	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	1	48	68	799	293	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1228	293	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1228	293	293			
tC, single (s)	6.9	6.2	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.3	2.2			
p0 queue free %	99	94	95			
cM capacity (veh/h)	149	751	1280			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	49	867	293			
Volume Left	1	68	0			
Volume Right	48	0	0			
cSH	694	1280	1700			
Volume to Capacity	0.07	0.05	0.17			
Queue Length 95th (ft)	6	4	0			
Control Delay (s)	10.6	1.4	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.6	1.4	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	8	31	79	110	36
Future Volume (Veh/h)	27	8	31	79	110	36
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.93	0.93
Hourly flow rate (vph)	31	9	36	92	118	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	302	138	157			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	302	138	157			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	95	99	97			
cM capacity (veh/h)	677	882	1435			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	40	128	157			
Volume Left	31	36	0			
Volume Right	9	0	39			
cSH	714	1435	1700			
Volume to Capacity	0.06	0.03	0.09			
Queue Length 95th (ft)	4	2	0			
Control Delay (s)	10.3	2.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	2.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization		27.2%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	15	15	52	19	0
Future Volume (Veh/h)	0	15	15	52	19	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.70	0.70	0.97	0.97	0.71	0.71
Hourly flow rate (vph)	0	21	15	54	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	69				63	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69				63	42
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1545				948	1034
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	21	69	27			
Volume Left	0	0	27			
Volume Right	0	54	0			
cSH	1545	1700	948			
Volume to Capacity	0.00	0.04	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization		14.0%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

2023 No-Build
 Friday Evening Peak Hour (Entering)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	1	174	15	1	94
Future Volume (Veh/h)	14	1	174	15	1	94
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.70	0.81	0.81	0.72	0.72
Hourly flow rate (vph)	20	1	215	19	1	131
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	358	224			234	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	358	224			234	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	644	820			1345	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	21	234	132			
Volume Left	20	0	1			
Volume Right	1	19	0			
cSH	651	1700	1345			
Volume to Capacity	0.03	0.14	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	10.7	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	10.7	0.0	0.1			
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			20.1%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

2023 No-Build
 Friday Evening Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	170	2	17	94	0	54
Future Volume (Veh/h)	170	2	17	94	0	54
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.74	0.74	0.88	0.88
Hourly flow rate (vph)	224	3	23	127	0	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			227	398	226	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			227	398	226	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			98	100	93	
cM capacity (veh/h)			1353	601	819	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	227	150	61			
Volume Left	0	23	0			
Volume Right	3	0	61			
cSH	1700	1353	819			
Volume to Capacity	0.13	0.02	0.07			
Queue Length 95th (ft)	0	1	6			
Control Delay (s)	0.0	1.3	9.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	1.3	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			28.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

2023 No-Build
 Friday Evening Peak Hour (Entering)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	172	0	10	95	0	14
Future Volume (Veh/h)	172	0	10	95	0	14
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.73	0.73	0.65	0.65
Hourly flow rate (vph)	205	0	14	130	0	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			205		363	205
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			205		363	205
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1378		634	841
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	205	144	22			
Volume Left	0	14	0			
Volume Right	0	0	22			
cSH	1700	1378	841			
Volume to Capacity	0.12	0.01	0.03			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	0.8	9.4			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.8	9.4			
Approach LOS			A			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			23.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

2023 No-Build
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	175	73	0
Future Volume (Veh/h)	0	9	15	175	73	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.76	0.76	0.82	0.82
Hourly flow rate (vph)	0	10	20	230	89	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359	89	89			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	89	89			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	635	975	1519			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	10	250	89			
Volume Left	0	20	0			
Volume Right	10	0	0			
cSH	975	1519	1700			
Volume to Capacity	0.01	0.01	0.05			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			26.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

2: Main St & Old Ayer Rd

2023 No-Build
Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	0	0	178	69	12
Future Volume (Veh/h)	17	0	0	178	69	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.78	0.78	0.87	0.87
Hourly flow rate (vph)	34	0	0	228	79	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	314	86	93			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	86	93			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	683	978	1514			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	34	228	93			
Volume Left	34	0	0			
Volume Right	0	0	14			
cSH	683	1700	1700			
Volume to Capacity	0.05	0.13	0.05			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	10.5	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.5	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		19.4%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

3: Court St/Hollis St & Main St

2023 No-Build
Friday Evening Peak Hour (Exiting)

												
Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	159	48	4	79	1	0	0	0	15	0	3
Future Volume (Veh/h)	0	159	48	4	79	1	0	0	0	15	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.76	0.76	0.76	0.79	0.79	0.79	0.92	0.92	0.92	0.53	0.53	0.53
Hourly flow rate (vph)	0	209	63	5	100	1	0	0	0	28	0	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			272			357	382	100	351	352	240
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			272			357	382	100	351	352	240
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	95	100	99
cM capacity (veh/h)	1504			1303			596	552	960	606	574	803
Direction, Lane #	NB 1	SB 1	SW 1									
Volume Total	272	106	34									
Volume Left	0	5	28									
Volume Right	63	1	6									
cSH	1504	1303	633									
Volume to Capacity	0.00	0.00	0.05									
Queue Length 95th (ft)	0	0	4									
Control Delay (s)	0.0	0.4	11.0									
Lane LOS		A	B									
Approach Delay (s)	0.0	0.4	11.0									
Approach LOS			B									
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			21.3%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 5: Main St & Broadmeadow Rd/Lowell Rd

2023 No-Build
 Friday Evening Peak Hour (Exiting)

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	11	12	37	22	70	4	14	169	9	
Future Volume (Veh/h)	0	0	0	11	12	37	22	70	4	14	169	9	
Sign Control	Stop			Stop			Free			Free			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.79	0.79	0.79	0.88	0.88	0.88	0.78	0.78	0.78	
Hourly flow rate (vph)	0	0	0	14	15	47	25	80	5	18	217	12	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)						2							
Median type							None			None			
Median storage (veh)													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	422	398	82	392	394	223	229				85		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	422	398	82	392	394	223	229				85		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1		
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2		
p0 queue free %	100	100	100	97	97	94	98				99		
cM capacity (veh/h)	491	527	983	558	529	814	1351				1524		
Direction, Lane #	WB 1	SE 1	NW 1										
Volume Total	76	110	247										
Volume Left	14	25	18										
Volume Right	47	5	12										
cSH	1316	1351	1524										
Volume to Capacity	0.06	0.02	0.01										
Queue Length 95th (ft)	5	1	1										
Control Delay (s)	10.6	1.9	0.6										
Lane LOS	B	A	A										
Approach Delay (s)	10.6	1.9	0.6										
Approach LOS	B												
Intersection Summary													
Average Delay			2.7										
Intersection Capacity Utilization			21.0%	ICU Level of Service	A								
Analysis Period (min)			15										

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

2023 No-Build
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	175	73	0
Future Volume (Veh/h)	0	9	15	175	73	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.76	0.76	0.82	0.82
Hourly flow rate (vph)	0	10	20	230	89	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	359	89	89			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359	89	89			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	635	975	1519			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	10	250	89			
Volume Left	0	20	0			
Volume Right	10	0	0			
cSH	975	1519	1700			
Volume to Capacity	0.01	0.01	0.05			
Queue Length 95th (ft)	1	1	0			
Control Delay (s)	8.7	0.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		20.0%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
 11: Old Ayer Rd & Peabody St

2023 No-Build
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	1	3	24	19	11
Future Volume (Veh/h)	4	1	3	24	19	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.63	0.63	0.53	0.53	0.65	0.65
Hourly flow rate (vph)	6	2	6	45	29	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	94	38	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	94	38	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	907	1040	1575			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	8	51	46			
Volume Left	6	6	0			
Volume Right	2	0	17			
cSH	937	1575	1700			
Volume to Capacity	0.01	0.00	0.03			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.9	0.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	0.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			13.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 14: Peabody St & Higley St

2023 No-Build
 Friday Evening Peak Hour (Exiting)

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (veh/h)	0	2	7	8	3	0
Future Volume (Veh/h)	0	2	7	8	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.50	0.50	0.81	0.81	0.75	0.75
Hourly flow rate (vph)	0	4	9	10	4	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	19				18	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	19				18	14
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1611				1005	1072
Direction, Lane #	EB 1	WB 1	SE 1			
Volume Total	4	19	4			
Volume Left	0	0	4			
Volume Right	0	10	0			
cSH	1611	1700	1005			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.6			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization		13.3%		ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 15: Farmers Row & Peabody St

2023 No-Build
 Friday Evening Peak Hour (Exiting)

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	0	38	2	0	26
Future Volume (Veh/h)	7	0	38	2	0	26
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.50	0.50	0.71	0.71	0.86	0.86
Hourly flow rate (vph)	14	0	54	3	0	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	86	56			57	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	86	56			57	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	921	1017			1560	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	14	57	30			
Volume Left	14	0	0			
Volume Right	0	3	0			
cSH	921	1700	1560			
Volume to Capacity	0.02	0.03	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 16: Farmers Row & Higley St

2023 No-Build
 Friday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↙
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (veh/h)	40	0	3	27	0	8
Future Volume (Veh/h)	40	0	3	27	0	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.75	0.75	0.58	0.58
Hourly flow rate (vph)	52	0	4	36	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			52	96	52	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			52	96	52	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	99	
cM capacity (veh/h)			1567	906	1021	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	52	40	14			
Volume Left	0	4	0			
Volume Right	0	0	14			
cSH	1700	1567	1021			
Volume to Capacity	0.03	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.7	8.6			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.7	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			13.9%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 17: Farmers Row & Culver Rd

2023 No-Build
 Friday Evening Peak Hour (Exiting)

	↑	↗	↘	↓	↖	↗
Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	↗			↖	↗	
Traffic Volume (veh/h)	40	0	3	33	0	3
Future Volume (Veh/h)	40	0	3	33	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.69	0.69	0.65	0.65	0.75	0.75
Hourly flow rate (vph)	58	0	5	51	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			58	119	58	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58	119	58	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			1559	879	1014	
Direction, Lane #	NB 1	SB 1	NW 1			
Volume Total	58	56	4			
Volume Left	0	5	0			
Volume Right	0	0	4			
cSH	1700	1559	1014			
Volume to Capacity	0.03	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.7	8.6			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.7	8.6			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			14.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 8: Boston Rd/Main St & Old Ayer Rd

2023 No-Build
 Monday Afternoon Peak Hour (Entering)

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	82	92	1056	354	0
Future Volume (Veh/h)	2	82	92	1056	354	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.95	0.95	0.84	0.84
Hourly flow rate (vph)	2	87	97	1112	421	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1727	421	421			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1727	421	421			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	86	92			
cM capacity (veh/h)	90	635	1149			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	89	1209	421			
Volume Left	2	97	0			
Volume Right	87	0	0			
cSH	559	1149	1700			
Volume to Capacity	0.16	0.08	0.25			
Queue Length 95th (ft)	14	7	0			
Control Delay (s)	12.7	2.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.7	2.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay				2.5		
Intersection Capacity Utilization				94.5%	ICU Level of Service	F
Analysis Period (min)				15		