



June 29, 2021

Ms. Elizabeth Hughes
Town Planner
Town of Concord
141 Keyes Road
Concord, Massachusetts 01742

Re: Concord Children's Center
250 Old Bedford Road
Concord, Massachusetts

Dear Ms. Hughes:

Bayside Engineering is in receipt of TEC's Peer Review letter dated May 25, 2021, review of the Traffic Impact and Access Study (TIAS) and Site Plans prepared for the proposed Concord Children's Center (CCC) development to be located at 250 Old Bedford Road in Concord, MA. The purpose of this letter is to respond to the comments raised on the Bayside Engineering TIAS (dated February 10, 2021) and Stamski and McNary Site Plans (dated March 30, 2021). As a result of TEC's review, Bayside Engineering and Stamski and McNary offer the responses to the comments were raised which are addressed below.

Traffic Impact and Access Study

Comment No. 1

TEC Comment: The traffic study area includes two (2) intersections in the vicinity of the site. Based upon the size and scope of the development, the proximity to the other outlying intersections, and the site's trip generation, TEC finds that the study area as provided in the TIA may not be sufficient to capture the effects of the project on surrounding roadways based on Traffic Impact Assessment (TIA) guidelines set forth by MassDOT. This includes an evaluation of intersection in which the site-generated trips increase the peak hour traffic volume by more than 5 percent and/or by more than 100 vehicles per hour per MassDOT's *TIA Guidelines* (Section 3.I.C). The Applicant should at a minimum provide a calculated value of % impact for the intersection of Old Bedford Road / Bedford Street (Route 62) and Old Bedford Road / Lexington Road based on the proximity and number of site generated trips distributed to those intersections. If an impact of greater of 5% persists, the Applicant should provide additional operational analysis and site related mitigation as warranted.

Applicant Response: *The TIAS conservatively projects 51 and 43 additional trips expected to travel northerly during the weekday morning and weekday evening peak hours, respectively to the intersection of Old Bedford Road and Bedford Street. Similarly, 30 and 26 additional trips expected to travel southerly during the weekday morning and weekday evening peak hours, respectively to the intersection of Old Bedford Road and Lexington Road. It is important to note*

that these trips are not all new to the study area. The project consists of the relocation of relocating classrooms from two existing CCC locations in Concord. Three classrooms are from 134 Old Road to Nine Acre Corner (ORNAC) and three classrooms are from the Ripley School. The TIAS did not take any credit for these existing trips, particularly trips for the Ripley school (at the end of Meriam Road). As can be seen, the conservative projected increases are well less than 100 vehicles per hour.

The percent increase in volume attributable to the proposed CCC at the intersection of Old Bedford Road and Virginia Road (68 trips and 56 trips during the respective weekday morning and weekday evening peak hours) represents an approximate 7 percent increase in volume. As the volume to the north and south will be significantly less, the impacts at the two additional intersections will most likely be less than 5 percent.

Bedford Street and Old Bedford Road *Bedford Street forms the east leg and Old Bedford Road forms the east and south legs of this unsignalized three-legged intersection. The Bedford Street eastbound approach consists of a single lane permitting right-turns. The Old Bedford Road westbound approach consists of a single lane permitting left-turns. The Old Bedford Road northbound approach consists of a single lane permitting left or right-turns. The Old Bedford Road northbound approach operates under STOP-sign control. Sidewalks are provided on the north side of Bedford Street and Old Bedford Road and the east side of Old Bedford Road at the intersection. There is a crosswalk across the Old Bedford Road westbound approach. Land use at the intersection consists of residential homes.*

Lexington Road and Old Bedford Road *Lexington Road forms the east and west legs and Old Bedford Road forms the north leg of this unsignalized three-legged intersection. The Lexington Road eastbound and westbound approaches each consist of a single lane permitting left or right-turns. The Old Bedford Road southbound approach consists of a single lane approaching the intersection where left-and right-turns are separated by a raised, triangular shaped island. The Old Bedford Road approach operates under STOP-sign control. Sidewalks are provided on the north side of Lexington Road west of Old Bedford Road and along the west side of Old Bedford Road at the intersection. There is a crosswalk across Old Bedford Road approximately 180 feet north of the intersection. Land use at the intersection consists of residential homes and wooded land.*

Weekday morning and evening turning movement counts were conducted at the two intersections on Wednesday June 9, 2021 at the intersections of Old Bedford Road and Bedford Street and Old Bedford Road and Lexington Road. The counts were seasonally adjusted for COVID (increased by a factor of 1.225 and projected to 2027 No-Build conditions using the growth projections contained within the TIAS. The site generated traffic volumes were then superimposed on the 2027 No-Build conditions to develop the 2027 Build conditions for the two intersections. The traffic counts and flow networks are included in the Appendix.

The 2027 Build volumes were compared to the 2027 No-Build volumes to determine the percent

increase attributable to the project. The comparison is summarized in Table 1.

**TABLE 1
 INTERSECTION TRAFFIC VOLUME INCREASES**

<i>Intersection</i>	<i>2027 No- Build Traffic Volumes (AM/PM)</i>	<i>2027 Build Traffic Volumes (AM/PM)</i>	<i>Volume Increase (AM/PM)</i>	<i>Percent Increase (AM/PM)</i>
<i>Old Bedford Road and Bedford Street</i>	998/1,194	1,049/1,237	51/43	5.1/3.6
<i>Old Bedford Road and Lexington Road</i>	903/1,101	933/1,127	30/26	3.3/2.4

As shown in Table 1, the percent increase during the weekday morning peak hours is 5.1% or less.

Intersection analyses were performed for the two intersections and the results are summarized in Table 2. The analytical methodologies used for the analysis of unsignalized intersections use conservative analysis parameters, such as high critical gaps. The critical gap is defined as the minimum time between successive main line vehicles for a side street vehicle to execute the appropriate turning maneuver. Actual field observations indicate that drivers at the study area intersections accept smaller gaps in traffic than those used in the analysis procedures and therefore experience less delay than calculated by the HCM methodology. **The analysis results from the HCM model overstate the actual delays experienced in the field.** As shown in Table 2, during the future weekday evening peak hour, the critical movements at the intersection of Bedford Street and Old Bedford Road are projected to operate at LOS F, with or without the project. However, it is important to note that the unsignalized level-of-service results are conservative.

**TABLE 2
UNSIGNALIZED LEVEL-OF-SERVICE ANALYSIS SUMMARY**

Critical Movement/ Peak Hour	2021 Existing					2027 No-Build					2027 Build				
	Demand ^a	V/C ^b	Delay ^c	LOS ^d	Queue ^e	Demand	V/C	Delay	LOS	Queue	Demand	V/C	Delay	LOS	Queue
Bedford Street and Old Bedford Road															
<i>All movements from Old Bedford Road (NB):</i>															
Weekday Morning	150	0.40	18.3	C	47.5	159	0.45	20.7	C	57.5	182	0.63	31.8	D	100.0
Weekday Evening	314	0.84	43.8	E	200.0	333	0.95	66.8	F	270.0	356	1.09	108.0	F	367.5
<i>Left-turn movements from Bedford Street (WB):</i>															
Weekday Morning	214	0.20	8.8	A	17.5	227	0.21	8.9	A	20.0	230	0.22	9.0	A	20.0
Weekday Evening	146	0.13	8.4	A	10.0	155	0.14	8.5	A	12.5	157	0.14	8.6	A	12.5
Lexington Road and Old Bedford Road															
<i>All movements from Old Bedford Road (SB):</i>															
Weekday Morning	230	0.50	18.1	C	70.0	247	0.60	22.6	C	97.5	261	0.64	24.9	C	112.5
Weekday Evening	271	0.40	13.4	B	47.5	287	0.47	15.6	C	62.5	301	0.50	16.3	C	70.0
<i>Left-turn movements from Lexington Road (EB):</i>															
Weekday Morning	181	0.16	8.3	A	15.0	193	0.17	8.4	A	15.0	209	0.19	8.5	A	17.5
Weekday Evening	179	0.19	9.3	A	17.5	191	0.20	9.6	A	20.0	203	0.22	9.6	A	20.0

^aDemand of critical movements in vehicles per hour.

^bVolume-to-capacity ratio.

^cDelay in seconds per vehicle.

^dLevel of service.

^e95th percentile queue in feet.

Comment No. 2

TEC Comment: The traffic study does include a detailed evaluation of the site's exit driveway along Old Bedford Road but does not provide any evaluation of the site's entrance driveway along Virginia Road. The Applicant, at a minimum, should provide future year evaluation of this location to ensure queues along Virginia Road are not detrimental and whether turn lanes may be warranted.

Applicant Response:

The intersection capacity analyses for the future build conditions were reviewed for the project. Based on the anticipated traffic generation and trip assignment, a very small percentage of site generated traffic will be approaching the site from the east on Virginia Road. This volume of traffic will not cause any significant vehicle queuing as shown on the capacity analysis sheets included in the appendix. Most of the traffic will be turning right into the site and will not be affected by any queuing on the Virginia Road approach.

Further, a review of the projected vehicle queuing on Virginia Road at Old Bedford Road indicates a 95th percentile queue of two (2) vehicles during the weekday morning peak hour and eight (8) vehicles during the weekday evening peak hour. This queue during the weekday evening peak hour would have a small affect on site generated traffic, but as the projection is relatively small, it will not affect overall operations or require exclusive turning lanes.

Comment No. 3

TEC Comment: The Applicant has provided traffic data collection within the study area based on counts completed prior to the onset of the COVID-19 pandemic. TEC agrees, therefore, that no pandemic related adjustment to traffic volumes is warranted. Based on the additional locations described in Comment #1, the Applicant may be well served to recount the intersection of Old Bedford Road / Virginia Road along with counts at these two new locations to provide a potential adjustment for reduction of traffic related to COVID-19.

Applicant Response: Bayside performed the additional TMC's at the tow intersections described in the response to Comment No. 1. These intersections were adjusted for COVID. There was no need to recount Old Bedford Road and Virginia Road as a comparison of volumes approaching the intersection from the north and south were higher than the volumes just observed in June at the two additional intersections.

Comment No. 4

TEC Comment: The TIAS utilizes a seasonal adjustment factor of 2% based on the average of counts stations 403 and 4065; both along Route 2 within Concord. TEC concurs with the methodology and the data provided by the Applicant.

Applicant Response: Bayside concurs.

Comment No. 5

TEC Comment: The safety analysis section for the report covers the recent crash history of the study intersections. The data appears to be missing a crash that occurred on October 18, 2019. Although this crash is missing from the data, the presence of only two crashes at these two intersections generally reflects no specific crash trend. Further crash analysis should be conducted for additional study area intersections if warranted.

Applicant Response: A crash analysis was conducted for the additional study area intersections. Crash data from MassDOT's IMPACT website was reviewed for the two intersections. The crash data is included in the Appendix.

A review of the data indicated that at Bedford Street and Old Bedford Road, an average of 1.33 crashes per year occurred between January 1, 2015 and December 31, 2020. At the intersection of Lexington Road and Old Bedford Road, an average of 1.83 crashes per year occurred between January 1, 2015 and December 31, 2020. A review of the crash data did not identify any specific discernable patterns. Also, the crash rate was determined to be well below MassDOT's average crash rates.

Comment No. 6

TEC Comment: The TIAS identifies a 1.0 percent per year growth rate of traffic, double the projections from the Central Transportation Planning Staff (CTPS) estimates. TEC concurs with the methodology and the data provided by the Applicant.

Applicant Response: Bayside concurs.

Comment No. 7

TEC Comment: The TIAS identified additional traffic to the roadway based on a proposed three (3) dwelling unit project at #430 Old Bedford Road. The level of impact for three units is generally negligible; however, the Applicant has projected traffic on the roadway for these units based on industry standard trip methodology (ITE fitted curve) resulting in a conservative number of peak hour trips. TEC has no objection to the methodology utilized.

Applicant Response: Bayside concurs.

Comment No. 8

TEC Comment: TEC has reviewed the Applicant's trip generation methodology which uses the more conservative value for each peak period between empirical data and ITE data. TEC concurs with this methodology.

Applicant Response: Bayside concurs.

Comment No. 9

TEC Comment: The distribution of traffic was based on the addresses of the current student population as provided by the Concord Children's Center. No specific data was provided in the Appendices; however, based on the sensitive nature of the information, TEC will assume that the data as presented in the TIAS is correct.

Applicant Response: Bayside concurs.

Comment No. 10

TEC Comment: The comments as noted above may result in modifications to the results of the capacity and queue analysis and therefore TEC reserves the right to provide additional comments and improvement recommendations upon completion of the peer review comment responses.

Applicant Response: Bayside concurs.

Comment No. 11

BETA Comment: The capacity and queue analysis analyze of the unsignalized intersections using the Highway Capacity Manual (HCM) 2010 methodology instead of the current industry standard HCM 6th Edition methodology. Although TEC does not necessarily expect a significant difference with the usage of 2010 methodology, the Applicant should provide specific justification for its use over HCM 6th Edition, such as a specific parameter that is preventing the use of recent HCM methodology.

Applicant Response: There was found to be no difference between the HCM 6th Edition and the 2010 HCM methodology. The analyses using the HCM 6th Edition are included in the Appendix and a review of the level of service results indicate the 6th Edition results are exactly the same as the 2010 methodology.

Comment No. 12

TEC Comment: Movements from Virginia Road at its intersection with Old Bedford Road

are anticipated to increase from level-of-service (LOS) C to LOS D during both the weekday morning and weekday evening peak hours. Although the level-of-service designation does reduce, the delay per vehicle reported increases by no more than 6 seconds between the No-Build and Build condition. The change in level-of-service occurs because the delay during the No-Build condition is currently at the LOS C/D threshold. Since the delay increases by no more than 6 seconds per vehicle, the maximum queue increases by one vehicle or less, and the volume-to-capacity (v/c) ratio is well below 1.00 during both the weekday morning and weekday evening peak hour, the impact of the project on the intersection is generally negligible for the stop-controlled approach.

Applicant Response: Bayside concurs.

Comment No. 13

TEC Comment: TEC concurs that the overall, the project is not expected to significantly cause noticeable new impact to each study area intersection reported. This comment is subject to change based on response to Comment #1.

Applicant Response: Bayside concurs.

Comment No. 14

TEC Comment: Sight distance measurements provided by Bayside Engineering show that sight lines to the north and south of the exist driveway are in excess of AASHTO recommendation for the 85th percentile speeds as measured by the Automatic Traffic Recorders (ATRs). At a minimum, the Applicant should commit to clear vegetation, in coordination with the Town, along the westerly side of Old Bedford Road and southerly side of Virginia Road within the Town's right-of-way to ensure sight lines are continuously met. This is noted in the TIAS.

Applicant Response: Bayside concurs.

Comment No. 15

TEC Comment: The Applicant should commit to a formalized pick-up and drop-off plan in coordination with the Town to ensure the relative trip generation and parking thresholds are maintained by the site. Understanding that the student population will change on a year-to-year basis, it is reasonable that any thresholds are subjected to a reasonable plus/minus tolerance within such a plan.

Applicant Response: Bayside concurs.

Site Plan - Transportation

Comment No. 16

TEC Comment: The Applicant should confirm on the Site Plans the sight distance triangles both directions from the site's exit driveway along Old Bedford Road. The Site Plans should indicate the areas within those sight triangles where vegetation and signage are to be removed or kept low.

Applicant Response: A sight distance triangle has been added to the plans showing the intersection sight distance in both directions from the site's exit driveway onto Old Bedford Road. Signage/vegetation within the triangle area will be removed or kept low as appropriate.

Comment No. 17

TEC Comment: The Applicant should provide a vehicular circulation plan which shows that a garbage truck (front-loading) can adequately circulate the site and access the dumpster enclosure. Note that the truck should maintain the same directional flow during pick-up as traditional vehicles and avoid all usable parking stalls.

Applicant Response: A turning analysis for a garbage truck has been provided on the revised plans and confirms the truck will maintain the same directional flow during pick-up as traditional vehicles and avoids all useable parking stalls.

Comment No. 18

TEC Comment: The Site Plans do not appear to provide sufficient space for a standard vehicle in the first parking space along the Virginia Road frontage to reverse and exit the site without potential backing out onto Virginia Road while also avoiding the adjacent parking space. TEC asks that the Applicant provide a turning template for a standard passenger vehicle in this stall.

Applicant Response: The parking lot layout has been modified slightly. The exit driveway was shifted west, increasing the distance between the intersection at Virginia Road and Old Bedford Road. This created room for an additional parallel parking space which allowed for the space closest to Virginia Road to be removed without decreasing the total number of parking spaces. A turning analysis has been provided for the parking space closest to Virginia Road to demonstrate a passenger cars ability to back out without backing into the Right of Way (ROW).

Comment No. 19

TEC Comment: The dimensions of the parking spaces and the adjacent parking drive aisles meet Town of Concord Zoning requirements.

Applicant Response: Applicant concurs.

Comment No. 20

TEC Comment: A stop-sign and stop-line should be proposed at the terminus of the exit driveway along Old Bedford Road. The plan set should include a sign summary table for all on-site signage that depicts the sign legend, sign size, and sign lettering dimensions in compliance with the Manual on Uniform Traffic Control Devices (MUTCD).

Applicant Response: A stop sign and stop line at the exit driveway have been added on the revised plan. A summary table for all on-site signage depicting size and lettering dimensions has been added to the site plans.

Comment No. 21

TEC Comment: The site does not meet the minimum requirements for number of total parking stalls per Concord Zoning requirements. Based on the description provided by the Applicant for drop-off and pick-up, it seems that the number of parking spaces provided will be adequate. Although TEC finds that the number of stalls may be adequate, the Applicant should provide a variance request to the Town. In addition, the Applicant should provide the location for potential additional parking spaces for future use (not constructed) should the childcare population be expanded.

Applicant Response: A request for parking relief was submitted with the initial application to the Town on April 1, 2021. There is no intention of expanding the childcare population. The Ripley school, 0.3 miles away from the project site, has allotted two parking spaces in their parking lot for daily use for additional parking for 250 Old Bedford Road if needed.

Comment No. 22

TEC Comment: The site plans should include a crosswalk detail and a detail for traffic signage which includes signage height.

Applicant Response: A crosswalk detail and traffic signage details have been provided on the revised plan.

Comment No. 23

TEC Comment: The typical driveway detail notes the maximum cross-slope as 2%. Please revise the detail to note a maximum 1.5% cross-slope with 0.5%± tolerance to ensure all

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sidewalks are below the Massachusetts Architectural Access Board (AAB) maximum of 2.0%.

Applicant Response: The driveway detail has been updated to reflect a max cross-slope of 1.5%.

Please do not hesitate to contact me if you have any questions or require additional information.

Sincerely,

BAYSIDE ENGINEERING, INC.



Kenneth P. Cram, P.E.
Director, Traffic Engineering

cc: P. Nelson, CCC
M. Obendorf, P.E., Stamski and McNary, Inc.

Appendix

Additional Traffic Counts and Traffic Flow Networks
Crash Data Worksheets _ Two Additional Intersections
Capacity Analysis Worksheets – Virginia Road and Site Entrance
6th Edition Capacity Analysis Worksheets

Town of Concord
June 29, 2021

Additional Traffic Counts and Traffic Flow Networks

Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

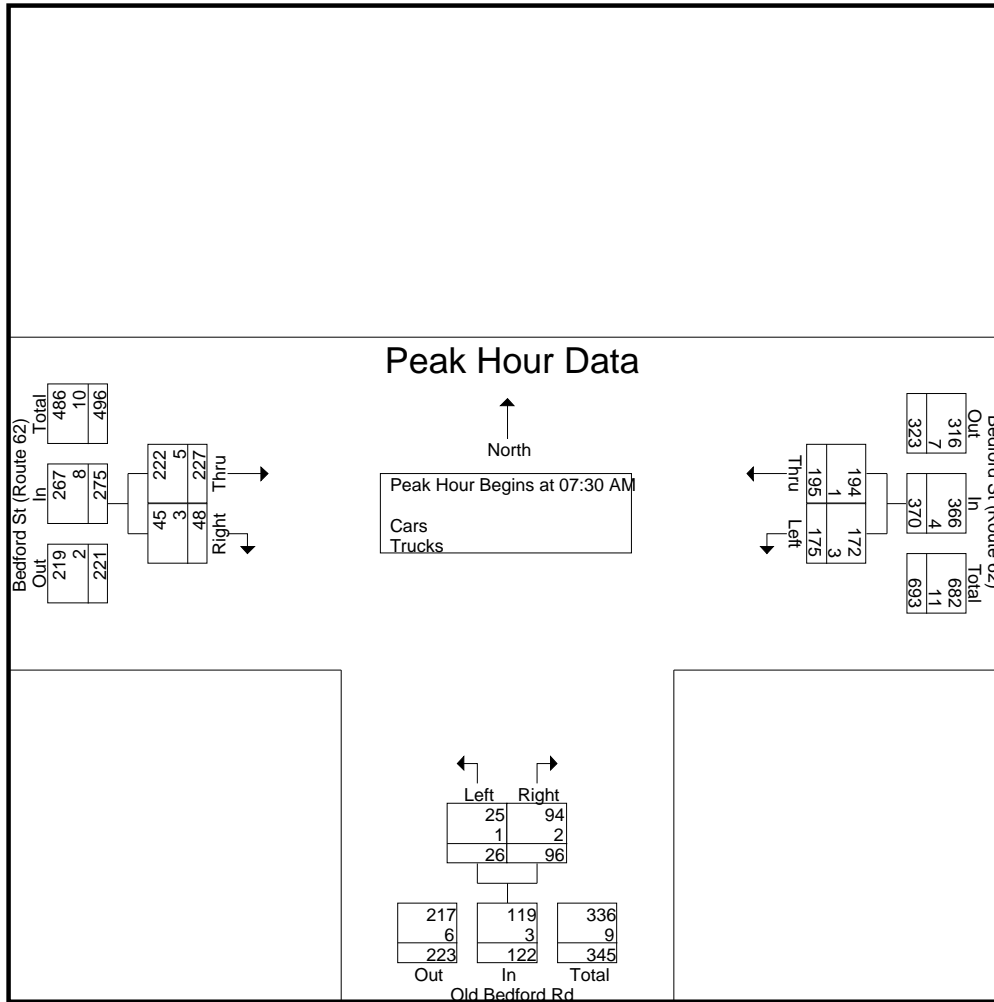
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	30	30	3	13	35	5	116
07:15 AM	39	30	2	22	44	9	146
07:30 AM	44	45	4	16	64	11	184
07:45 AM	45	55	8	28	51	17	204
Total	158	160	17	79	194	42	650
08:00 AM	35	44	8	24	54	13	178
08:15 AM	51	51	6	28	58	7	201
08:30 AM	37	40	7	24	49	13	170
08:45 AM	40	42	6	29	46	11	174
Total	163	177	27	105	207	44	723
Grand Total	321	337	44	184	401	86	1373
Apprch %	48.8	51.2	19.3	80.7	82.3	17.7	
Total %	23.4	24.5	3.2	13.4	29.2	6.3	
Cars	315	332	42	179	392	82	1342
% Cars	98.1	98.5	95.5	97.3	97.8	95.3	97.7
Trucks	6	5	2	5	9	4	31
% Trucks	1.9	1.5	4.5	2.7	2.2	4.7	2.3

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	44	45	89	4	16	20	64	11	75	184
07:45 AM	45	55	100	8	28	36	51	17	68	204
08:00 AM	35	44	79	8	24	32	54	13	67	178
08:15 AM	51	51	102	6	28	34	58	7	65	201
Total Volume	175	195	370	26	96	122	227	48	275	767
% App. Total	47.3	52.7		21.3	78.7		82.5	17.5		
PHF	.858	.886	.907	.813	.857	.847	.887	.706	.917	.940
Cars	172	194	366	25	94	119	222	45	267	752
% Cars	98.3	99.5	98.9	96.2	97.9	97.5	97.8	93.8	97.1	98.0
Trucks	3	1	4	1	2	3	5	3	8	15
% Trucks	1.7	0.5	1.1	3.8	2.1	2.5	2.2	6.3	2.9	2.0

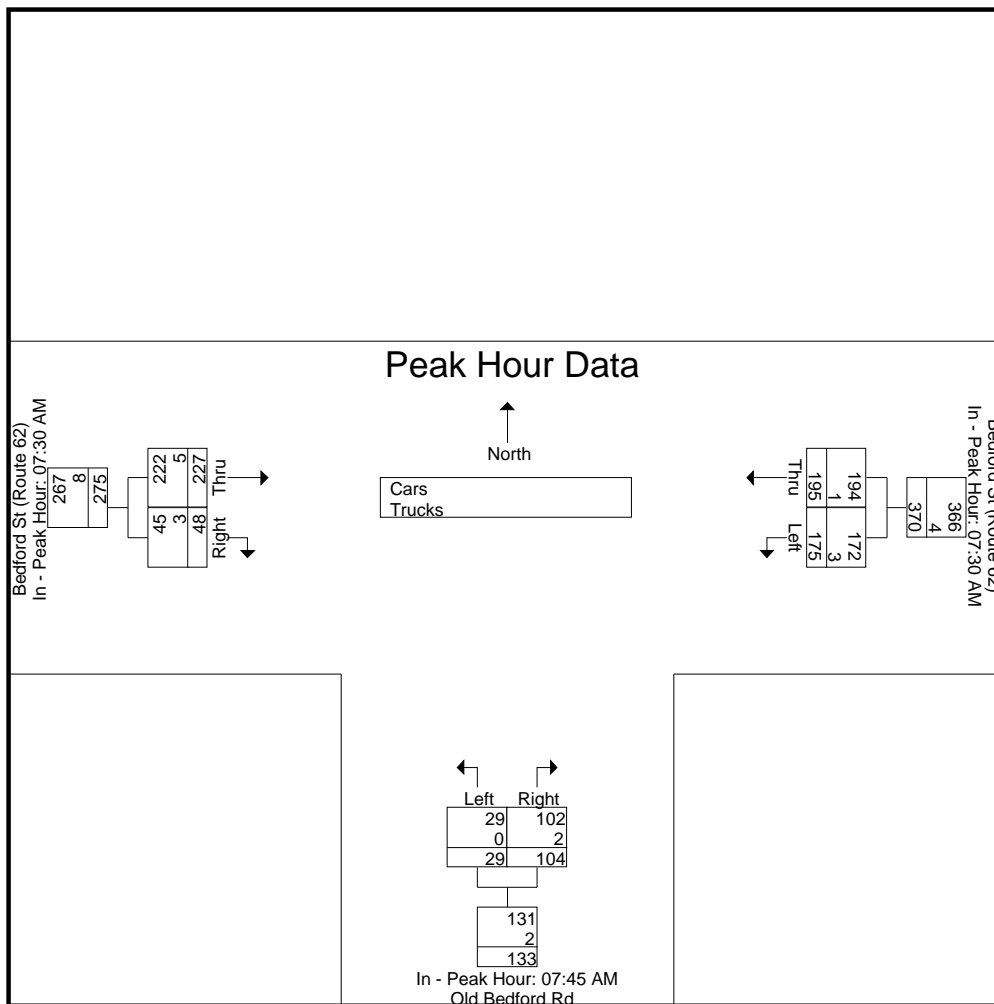
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:30 AM		
+0 mins.	44	45	89	8	28	36	64	11	75
+15 mins.	45	55	100	8	24	32	51	17	68
+30 mins.	35	44	79	6	28	34	54	13	67
+45 mins.	51	51	102	7	24	31	58	7	65
Total Volume	175	195	370	29	104	133	227	48	275
% App. Total	47.3	52.7		21.8	78.2		82.5	17.5	
PHF	.858	.886	.907	.906	.929	.924	.887	.706	.917
Cars	172	194	366	29	102	131	222	45	267
% Cars	98.3	99.5	98.9	100	98.1	98.5	97.8	93.8	97.1
Trucks	3	1	4	0	2	2	5	3	8
% Trucks	1.7	0.5	1.1	0	1.9	1.5	2.2	6.2	2.9

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear

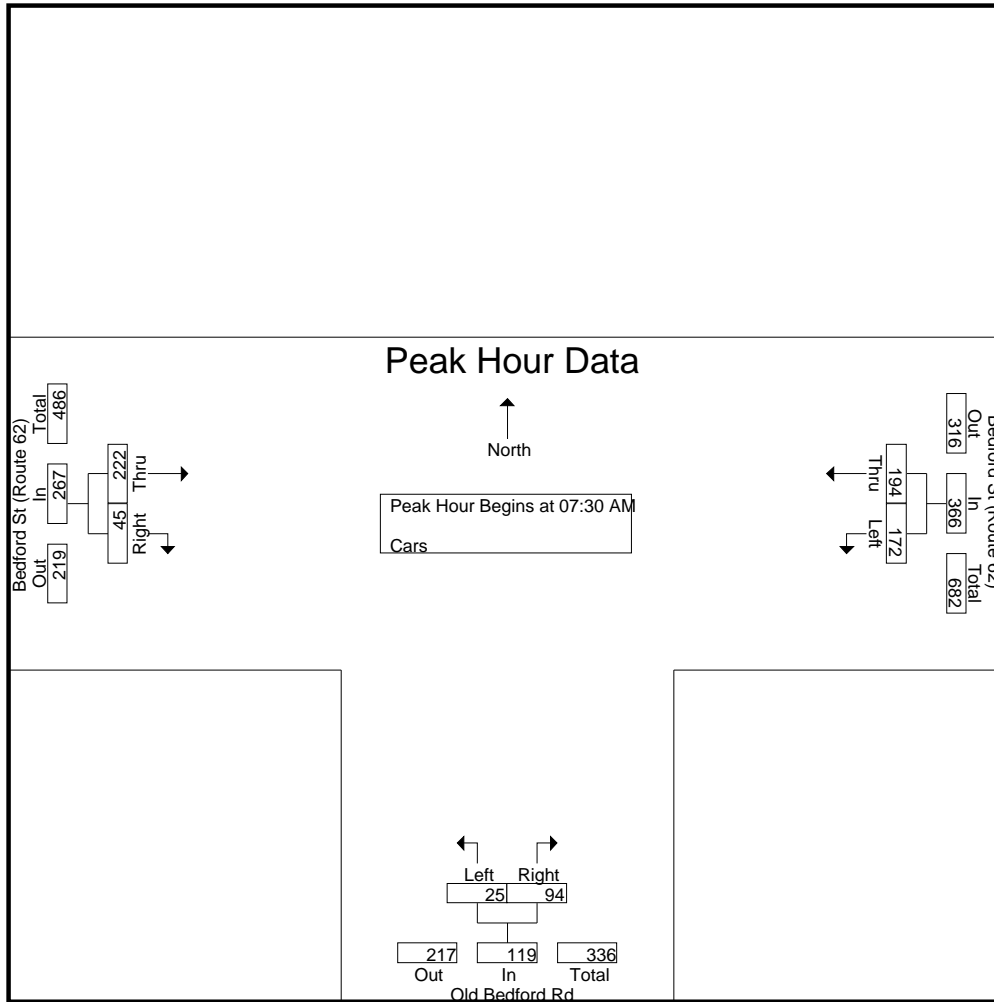
File Name : 27810001
Site Code : 27810001
Start Date : 6/9/2021
Page No : 4

Groups Printed- Cars

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	29	28	2	13	34	5	111
07:15 AM	38	30	2	19	42	8	139
07:30 AM	43	44	3	16	63	11	180
07:45 AM	44	55	8	28	51	15	201
Total	154	157	15	76	190	39	631
08:00 AM	34	44	8	24	51	13	174
08:15 AM	51	51	6	26	57	6	197
08:30 AM	36	40	7	24	48	13	168
08:45 AM	40	40	6	29	46	11	172
Total	161	175	27	103	202	43	711
Grand Total	315	332	42	179	392	82	1342
Apprch %	48.7	51.3	19	81	82.7	17.3	
Total %	23.5	24.7	3.1	13.3	29.2	6.1	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	43	44	87	3	16	19	63	11	74	180
07:45 AM	44	55	99	8	28	36	51	15	66	201
08:00 AM	34	44	78	8	24	32	51	13	64	174
08:15 AM	51	51	102	6	26	32	57	6	63	197
Total Volume	172	194	366	25	94	119	222	45	267	752
% App. Total	47	53		21	79		83.1	16.9		
PHF	.843	.882	.897	.781	.839	.826	.881	.750	.902	.935

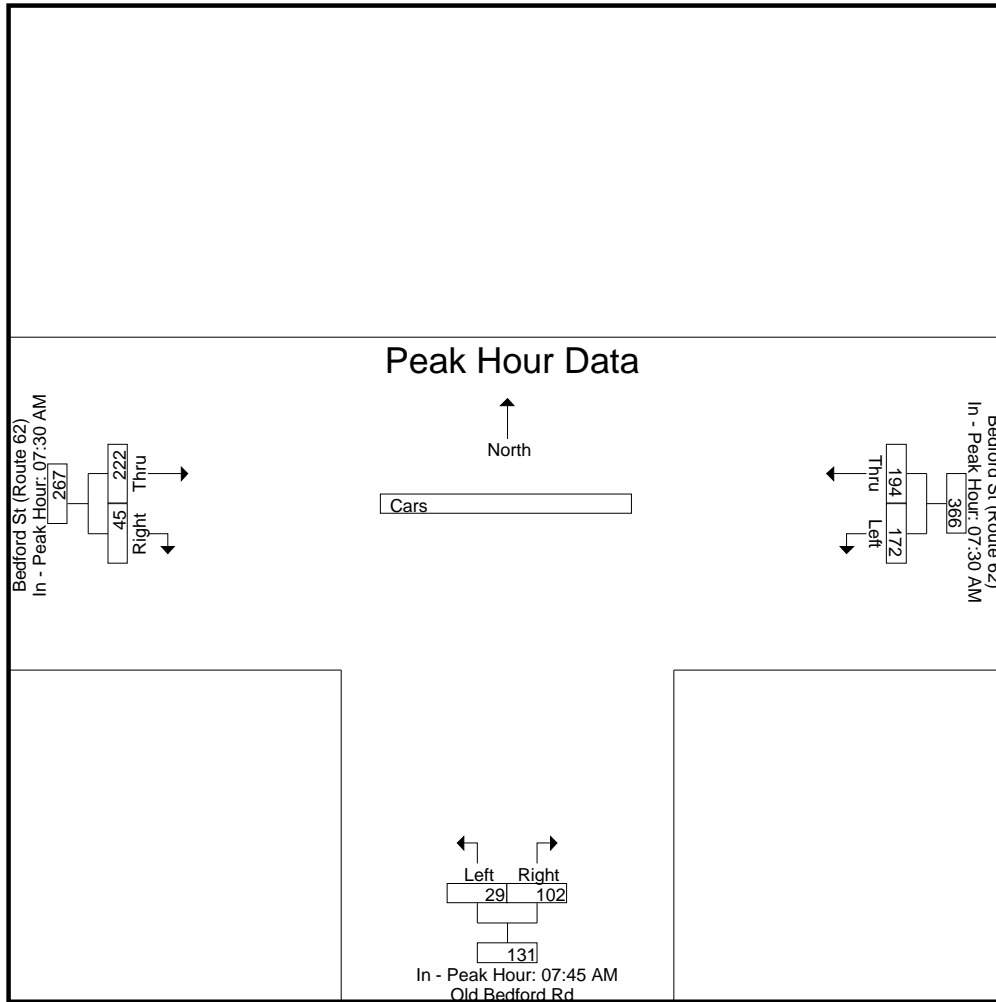
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:30 AM		
+0 mins.	43	44	87	8	28	36	63	11	74
+15 mins.	44	55	99	8	24	32	51	15	66
+30 mins.	34	44	78	6	26	32	51	13	64
+45 mins.	51	51	102	7	24	31	57	6	63
Total Volume	172	194	366	29	102	131	222	45	267
% App. Total	47	53		22.1	77.9		83.1	16.9	
PHF	.843	.882	.897	.906	.911	.910	.881	.750	.902

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear

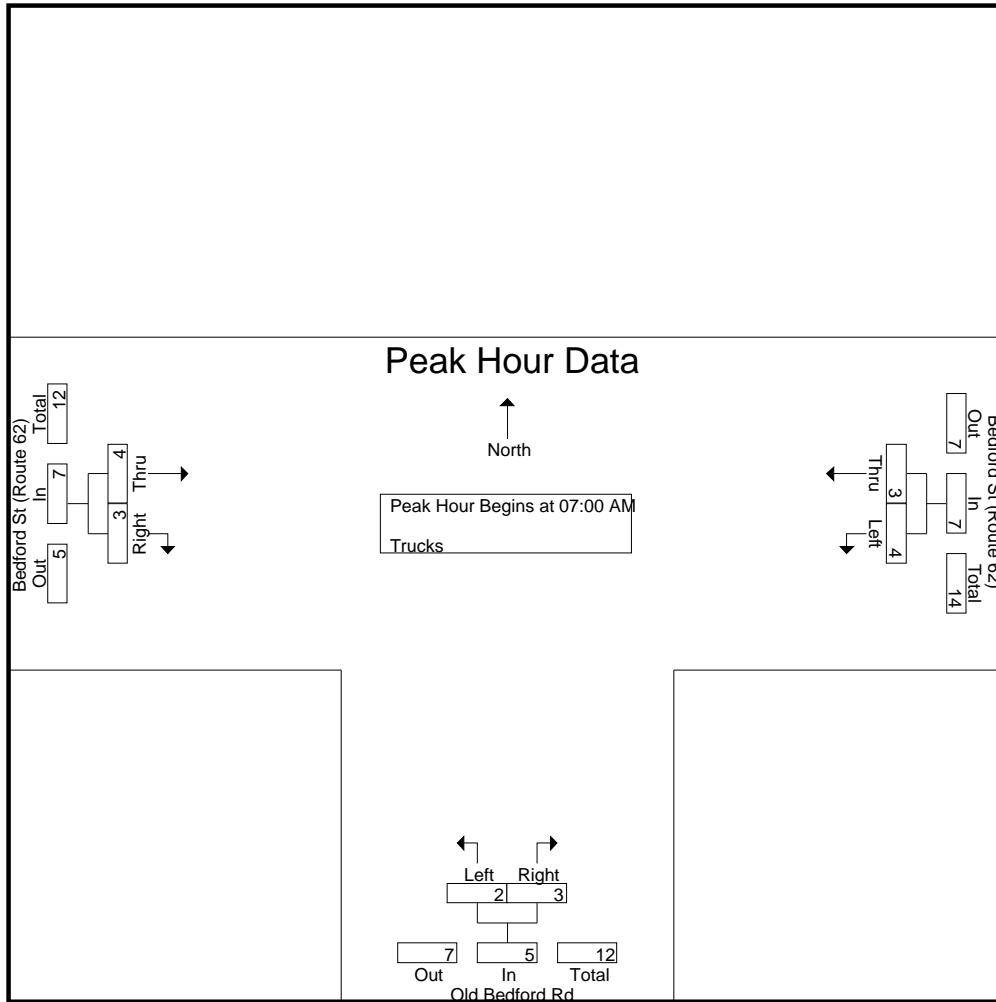
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Page No : 7

Groups Printed- Trucks

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	1	2	1	0	1	0	5
07:15 AM	1	0	0	3	2	1	7
07:30 AM	1	1	1	0	1	0	4
07:45 AM	1	0	0	0	0	2	3
Total	4	3	2	3	4	3	19
08:00 AM	1	0	0	0	3	0	4
08:15 AM	0	0	0	2	1	1	4
08:30 AM	1	0	0	0	1	0	2
08:45 AM	0	2	0	0	0	0	2
Total	2	2	0	2	5	1	12
Grand Total	6	5	2	5	9	4	31
Apprch %	54.5	45.5	28.6	71.4	69.2	30.8	
Total %	19.4	16.1	6.5	16.1	29	12.9	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	2	3	1	0	1	1	0	1	5
07:15 AM	1	0	1	0	3	3	2	1	3	7
07:30 AM	1	1	2	1	0	1	1	0	1	4
07:45 AM	1	0	1	0	0	0	0	2	2	3
Total Volume	4	3	7	2	3	5	4	3	7	19
% App. Total	57.1	42.9		40	60		57.1	42.9		
PHF	1.00	.375	.583	.500	.250	.417	.500	.375	.583	.679

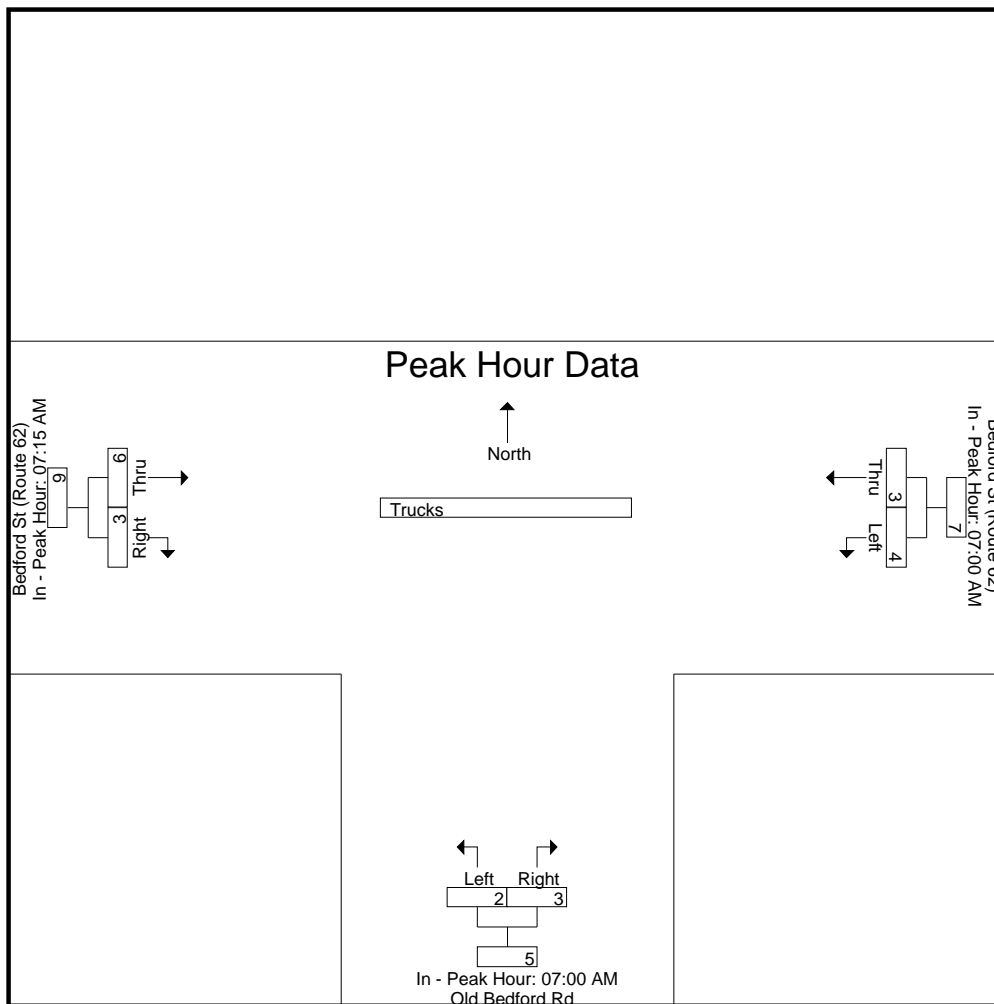
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	1	2	3	1	0	1	2	1	3
+15 mins.	1	0	1	0	3	3	1	0	1
+30 mins.	1	1	2	1	0	1	0	2	2
+45 mins.	1	0	1	0	0	0	3	0	3
Total Volume	4	3	7	2	3	5	6	3	9
% App. Total	57.1	42.9		40	60		66.7	33.3	
PHF	1.000	.375	.583	.500	.250	.417	.500	.375	.750

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

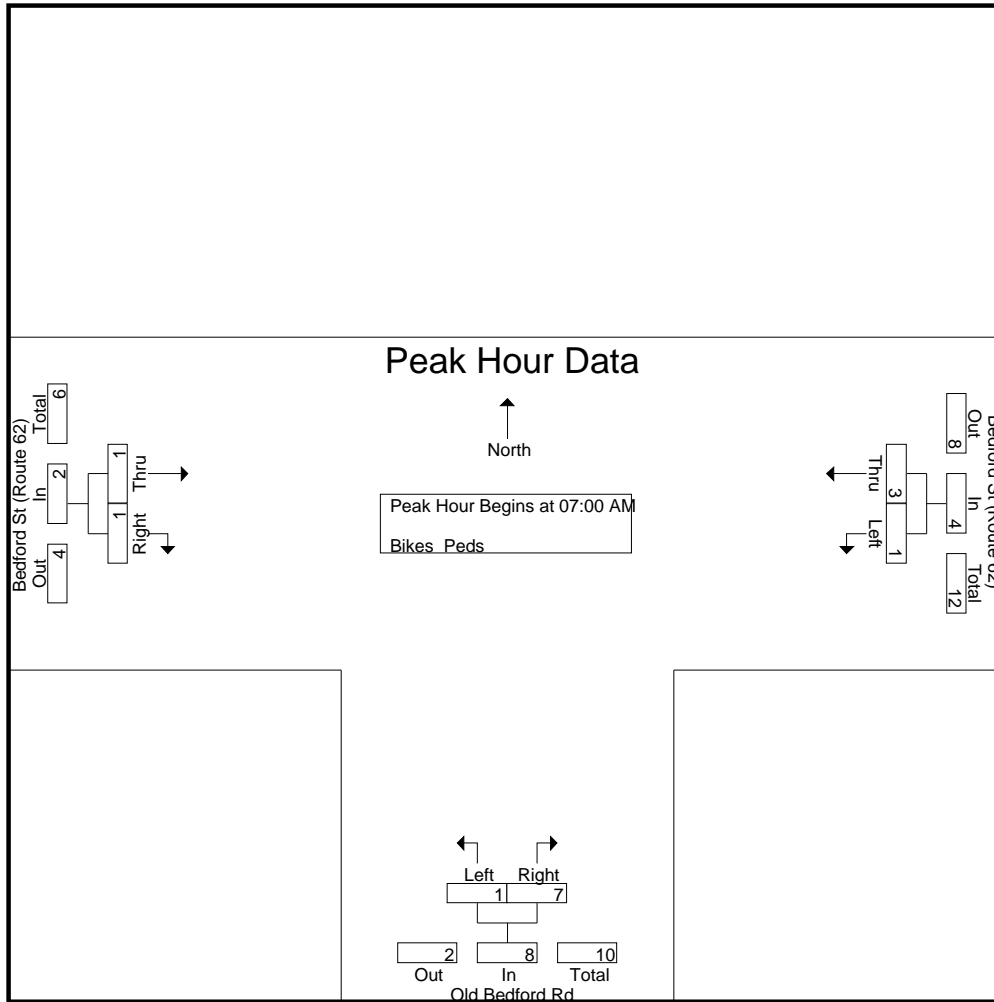
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
07:00 AM	0	1	1	0	3	0	0	0	0	1	4	5
07:15 AM	0	0	1	0	4	0	1	0	0	1	5	6
07:30 AM	1	1	2	0	0	0	0	1	0	2	3	5
07:45 AM	0	1	2	1	0	0	0	0	0	2	2	4
Total	1	3	6	1	7	0	1	1	0	6	14	20
08:00 AM	0	0	0	1	3	0	0	0	1	1	4	5
08:15 AM	0	0	0	0	0	0	1	0	0	0	1	1
08:30 AM	0	1	0	1	0	0	0	1	0	0	3	3
08:45 AM	3	0	1	0	0	0	0	1	0	1	4	5
Total	3	1	1	2	3	0	1	2	1	2	12	14
Grand Total	4	4	7	3	10	0	2	3	1	8	26	34
Apprch %	50	50		23.1	76.9		40	60				
Total %	15.4	15.4		11.5	38.5		7.7	11.5		23.5	76.5	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	0	3	3	0	0	0	4
07:15 AM	0	0	0	0	4	4	1	0	1	5
07:30 AM	1	1	2	0	0	0	0	1	1	3
07:45 AM	0	1	1	1	0	1	0	0	0	2
Total Volume	1	3	4	1	7	8	1	1	2	14
% App. Total	25	75		12.5	87.5		50	50		
PHF	.250	.750	.500	.250	.438	.500	.250	.250	.500	.700

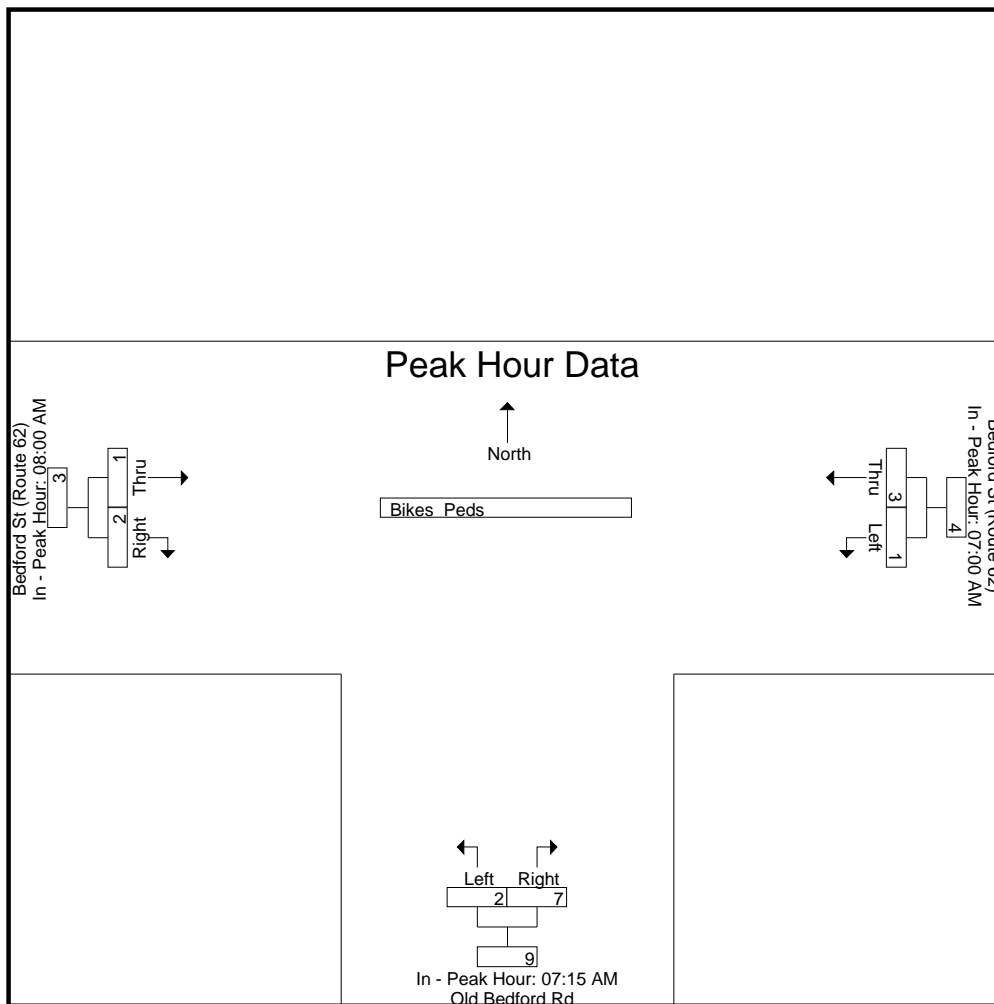
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:15 AM			08:00 AM		
+0 mins.	0	1	1	0	4	4	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	1	1	2	1	0	1	0	1	1
+45 mins.	0	1	1	1	3	4	0	1	1
Total Volume	1	3	4	2	7	9	1	2	3
% App. Total	25	75		22.2	77.8		33.3	66.7	
PHF	.250	.750	.500	.500	.438	.563	.250	.500	.750

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

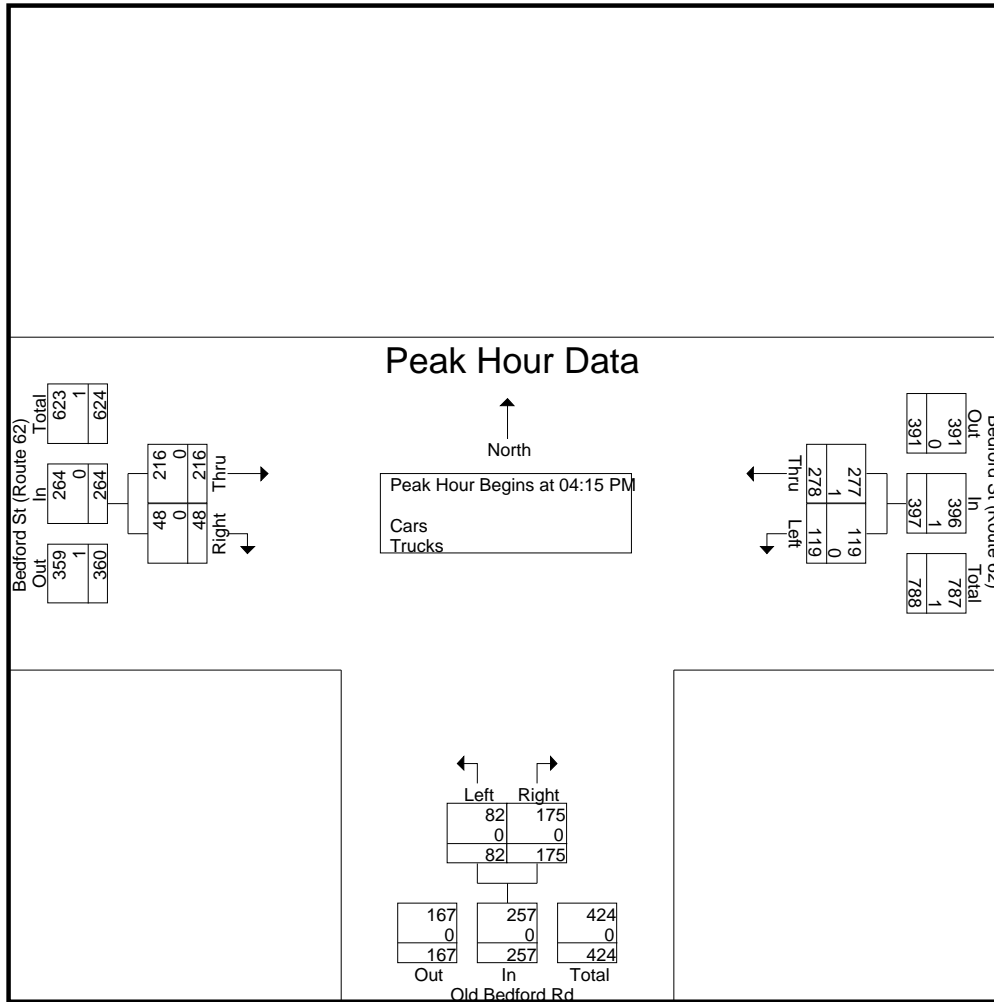
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	21	55	23	67	42	10	218
04:15 PM	30	75	20	47	58	9	239
04:30 PM	27	61	19	44	39	14	204
04:45 PM	33	70	23	31	62	12	231
Total	111	261	85	189	201	45	892
05:00 PM	29	72	20	53	57	13	244
05:15 PM	21	59	21	44	49	9	203
05:30 PM	26	63	18	44	45	7	203
05:45 PM	15	64	20	44	76	14	233
Total	91	258	79	185	227	43	883
06:00 PM	23	44	15	35	25	8	150
06:15 PM	13	51	9	31	44	7	155
Grand Total	238	614	188	440	497	103	2080
Apprch %	27.9	72.1	29.9	70.1	82.8	17.2	
Total %	11.4	29.5	9	21.2	23.9	5	
Cars	238	613	188	439	496	103	2077
% Cars	100	99.8	100	99.8	99.8	100	99.9
Trucks	0	1	0	1	1	0	3
% Trucks	0	0.2	0	0.2	0.2	0	0.1

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	30	75	105	20	47	67	58	9	67	239
04:30 PM	27	61	88	19	44	63	39	14	53	204
04:45 PM	33	70	103	23	31	54	62	12	74	231
05:00 PM	29	72	101	20	53	73	57	13	70	244
Total Volume	119	278	397	82	175	257	216	48	264	918
% App. Total	30	70		31.9	68.1		81.8	18.2		
PHF	.902	.927	.945	.891	.825	.880	.871	.857	.892	.941
Cars	119	277	396	82	175	257	216	48	264	917
% Cars	100	99.6	99.7	100	100	100	100	100	100	99.9
Trucks	0	1	1	0	0	0	0	0	0	1
% Trucks	0	0.4	0.3	0	0	0	0	0	0	0.1

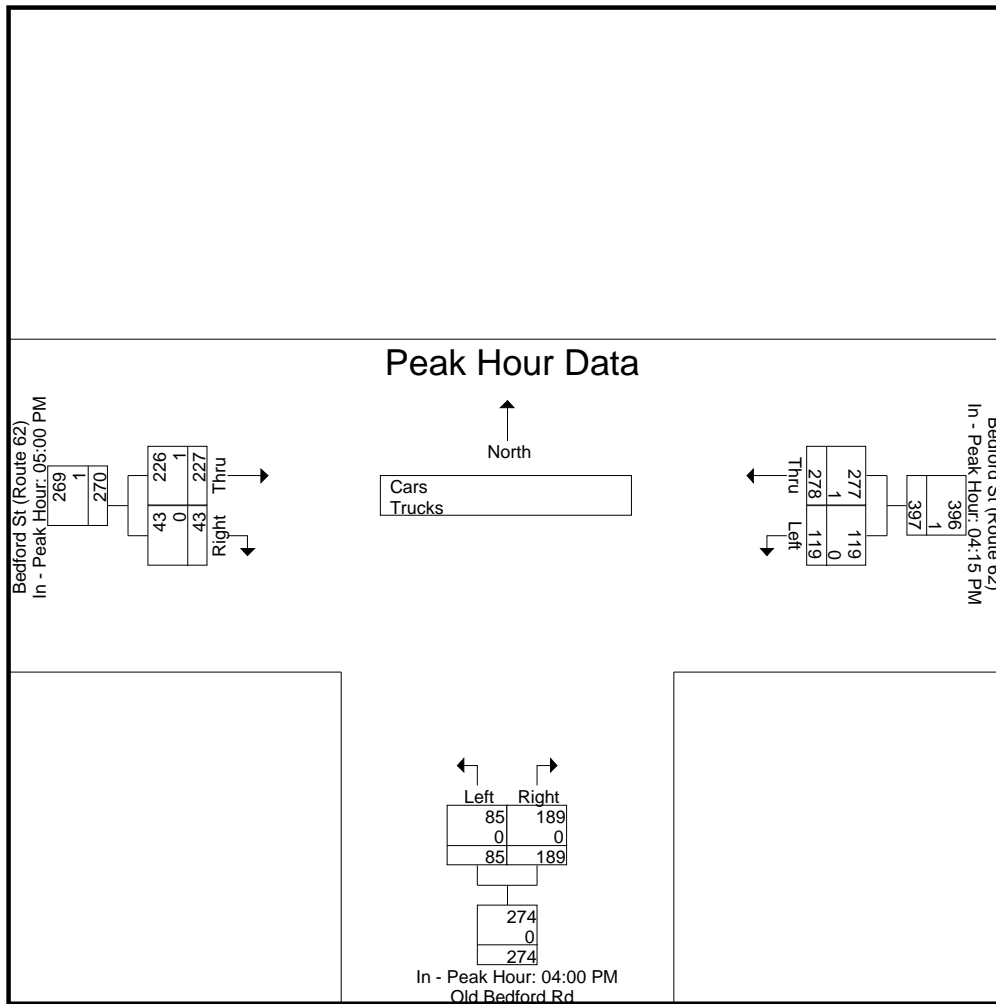
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	30	75	105	23	67	90	57	13	70
+15 mins.	27	61	88	20	47	67	49	9	58
+30 mins.	33	70	103	19	44	63	45	7	52
+45 mins.	29	72	101	23	31	54	76	14	90
Total Volume	119	278	397	85	189	274	227	43	270
% App. Total	30	70		31	69		84.1	15.9	
PHF	.902	.927	.945	.924	.705	.761	.747	.768	.750
Cars	119	277	396	85	189	274	226	43	269
% Cars	100	99.6	99.7	100	100	100	99.6	100	99.6
Trucks	0	1	1	0	0	0	1	0	1
% Trucks	0	0.4	0.3	0	0	0	0.4	0	0.4

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

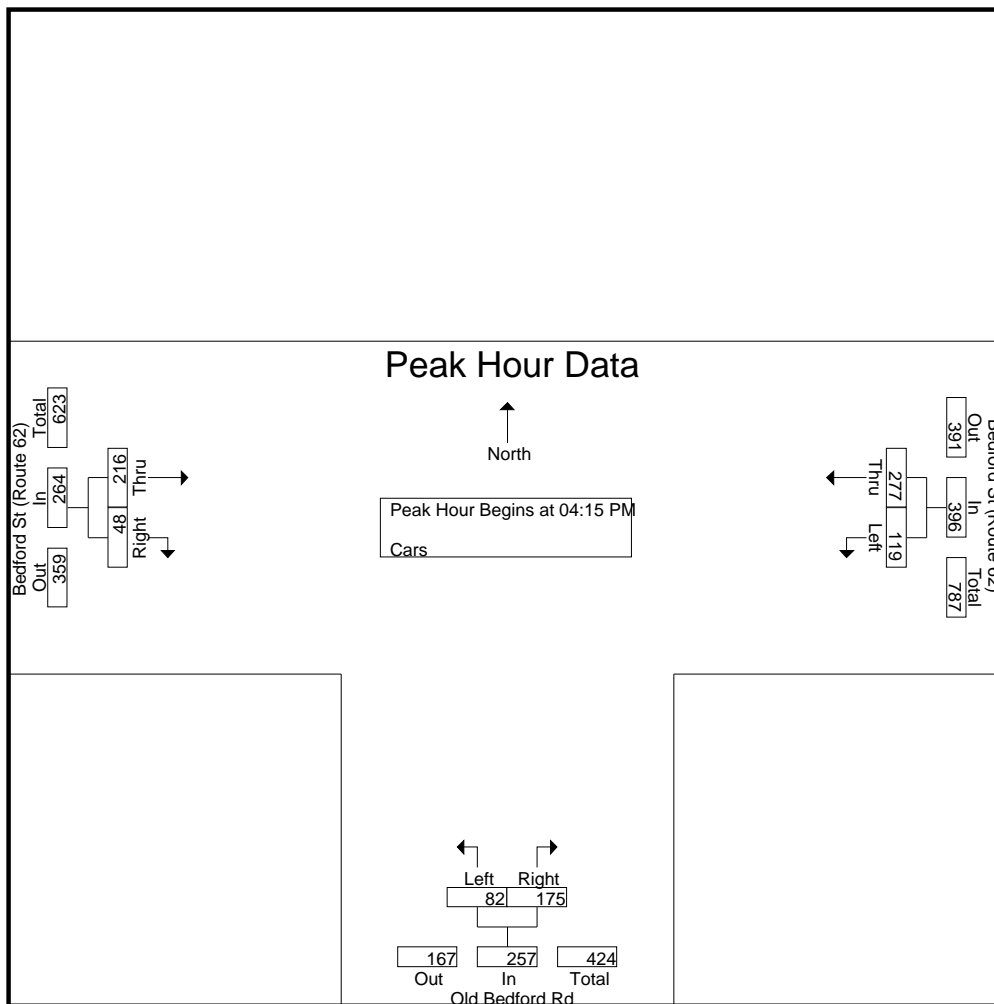
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 4

Groups Printed- Cars

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	21	55	23	67	42	10	218
04:15 PM	30	75	20	47	58	9	239
04:30 PM	27	60	19	44	39	14	203
04:45 PM	33	70	23	31	62	12	231
Total	111	260	85	189	201	45	891
05:00 PM	29	72	20	53	57	13	244
05:15 PM	21	59	21	43	49	9	202
05:30 PM	26	63	18	44	44	7	202
05:45 PM	15	64	20	44	76	14	233
Total	91	258	79	184	226	43	881
06:00 PM	23	44	15	35	25	8	150
06:15 PM	13	51	9	31	44	7	155
Grand Total	238	613	188	439	496	103	2077
Apprch %	28	72	30	70	82.8	17.2	
Total %	11.5	29.5	9.1	21.1	23.9	5	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	30	75	105	20	47	67	58	9	67	239
04:30 PM	27	60	87	19	44	63	39	14	53	203
04:45 PM	33	70	103	23	31	54	62	12	74	231
05:00 PM	29	72	101	20	53	73	57	13	70	244
Total Volume	119	277	396	82	175	257	216	48	264	917
% App. Total	30.1	69.9		31.9	68.1		81.8	18.2		
PHF	.902	.923	.943	.891	.825	.880	.871	.857	.892	.940

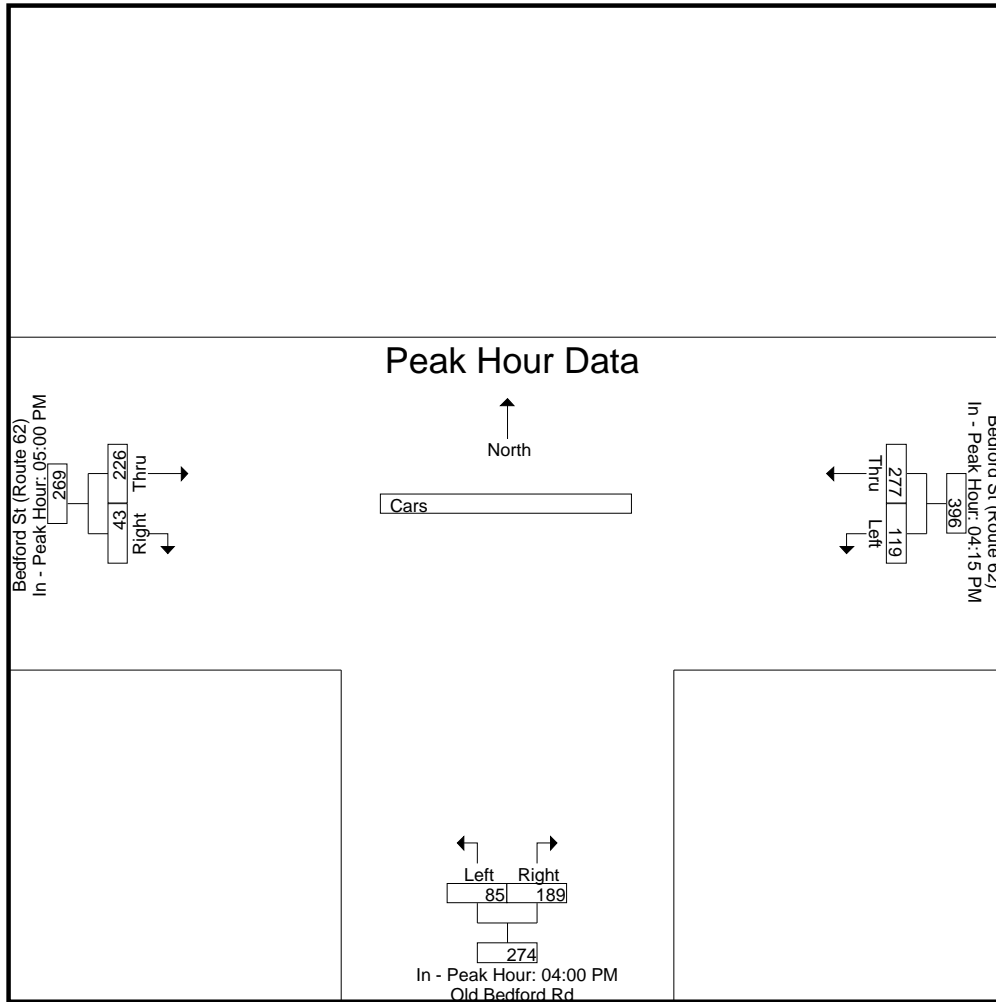
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	30	75	105	23	67	90	57	13	70
+15 mins.	27	60	87	20	47	67	49	9	58
+30 mins.	33	70	103	19	44	63	44	7	51
+45 mins.	29	72	101	23	31	54	76	14	90
Total Volume	119	277	396	85	189	274	226	43	269
% App. Total	30.1	69.9		31	69		84	16	
PHF	.902	.923	.943	.924	.705	.761	.743	.768	.747

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

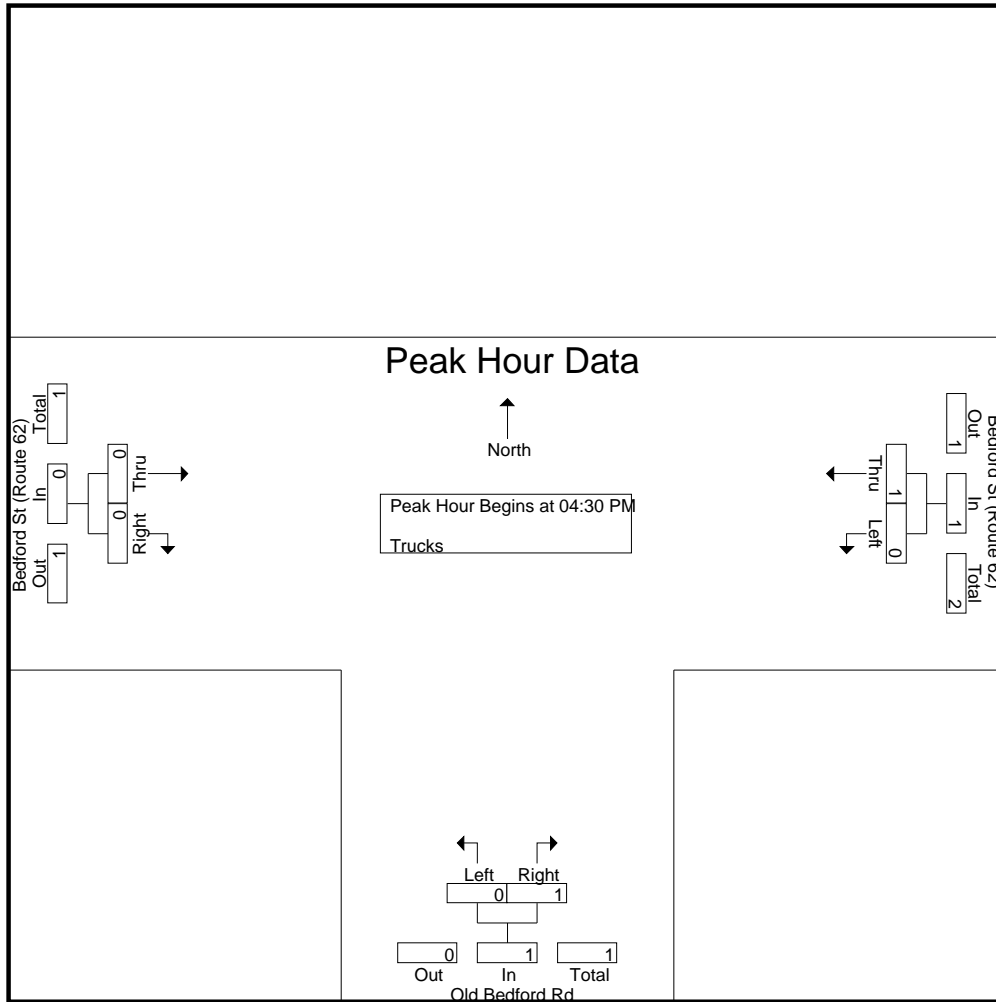
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 7

Groups Printed- Trucks

Start Time	Bedford St (Route 62) From East		Old Bedford Rd From South		Bedford St (Route 62) From West		Int. Total
	Left	Thru	Left	Right	Thru	Right	
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	1	0	0	1
05:30 PM	0	0	0	0	1	0	1
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	1	1	0	2
06:00 PM	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0
Grand Total	0	1	0	1	1	0	3
Apprch %	0	100	0	100	100	0	
Total %	0	33.3	0	33.3	33.3	0	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	0	1	1	0	1	1	0	0	0	2
% App. Total	0	100		0	100		0	0		
PHF	.000	.250	.250	.000	.250	.250	.000	.000	.000	.500

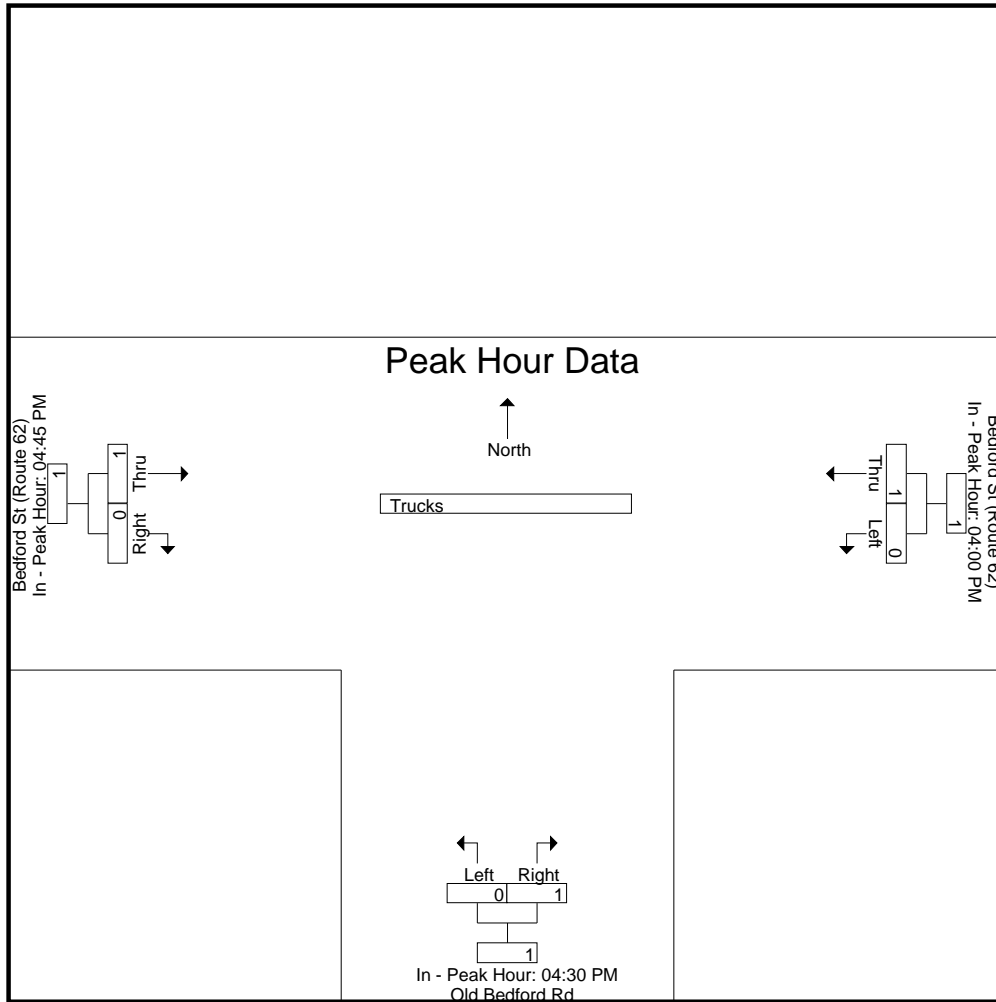
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	1	0	1
Total Volume	0	1	1	0	1	1	1	0	1
% App. Total	0	100		0	100		100	0	
PHF	.000	.250	.250	.000	.250	.250	.250	.000	.250

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Bedford Street (Route 62)
 City/State : Concord, MA
 Weather : Clear

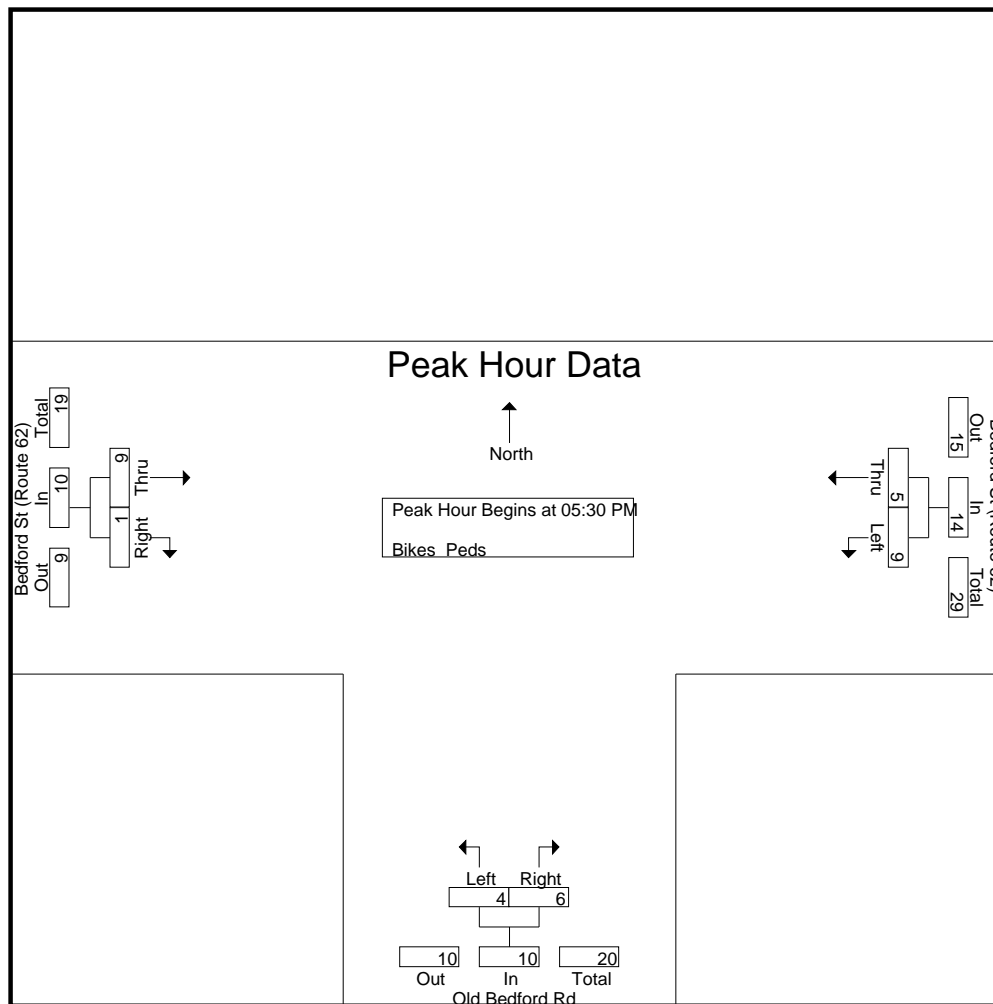
File Name : 27810001
 Site Code : 27810001
 Start Date : 6/9/2021
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	3	0	1	0	0	1	0	0	0	5	5
04:30 PM	0	0	0	0	0	0	1	0	0	0	1	1
04:45 PM	0	1	0	0	0	0	0	0	0	0	1	1
Total	0	4	0	1	0	0	2	0	0	0	7	7
05:00 PM	0	0	0	4	2	0	0	0	0	0	6	6
05:15 PM	0	1	0	2	0	0	1	0	0	0	4	4
05:30 PM	1	0	1	1	2	0	3	0	0	1	7	8
05:45 PM	4	2	0	2	3	0	0	0	0	0	11	11
Total	5	3	1	9	7	0	4	0	0	1	28	29
06:00 PM	2	2	2	1	0	0	3	1	0	2	9	11
06:15 PM	2	1	0	0	1	0	3	0	0	0	7	7
Grand Total	9	10	3	11	8	0	12	1	0	3	51	54
Apprch %	47.4	52.6		57.9	42.1		92.3	7.7				
Total %	17.6	19.6		21.6	15.7		23.5	2		5.6	94.4	

Start Time	Bedford St (Route 62) From East			Old Bedford Rd From South			Bedford St (Route 62) From West			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:30 PM										
05:30 PM	1	0	1	1	2	3	3	0	3	7
05:45 PM	4	2	6	2	3	5	0	0	0	11
06:00 PM	2	2	4	1	0	1	3	1	4	9
06:15 PM	2	1	3	0	1	1	3	0	3	7
Total Volume	9	5	14	4	6	10	9	1	10	34
% App. Total	64.3	35.7		40	60		90	10		
PHF	.563	.625	.583	.500	.500	.500	.750	.250	.625	.773

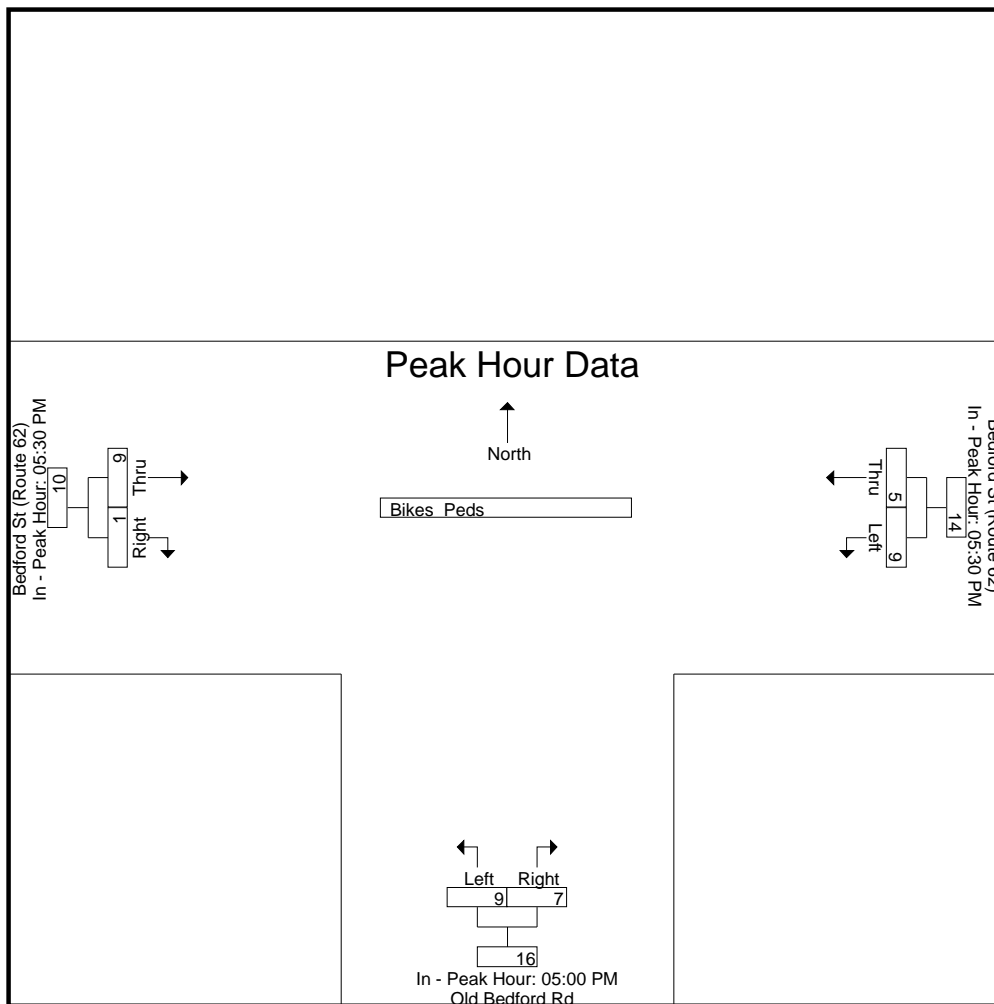
N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM			05:00 PM			05:30 PM		
+0 mins.	1	0	1	4	2	6	3	0	3
+15 mins.	4	2	6	2	0	2	0	0	0
+30 mins.	2	2	4	1	2	3	3	1	4
+45 mins.	2	1	3	2	3	5	3	0	3
Total Volume	9	5	14	9	7	16	9	1	10
% App. Total	64.3	35.7		56.2	43.8		90	10	
PHF	.563	.625	.583	.563	.583	.667	.750	.250	.625

N/S Street : Old Bedford Road
E/W Street : Bedford Street (Route 62)
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Lexington Road
 City/State : Concord, MA
 Weather : Clear

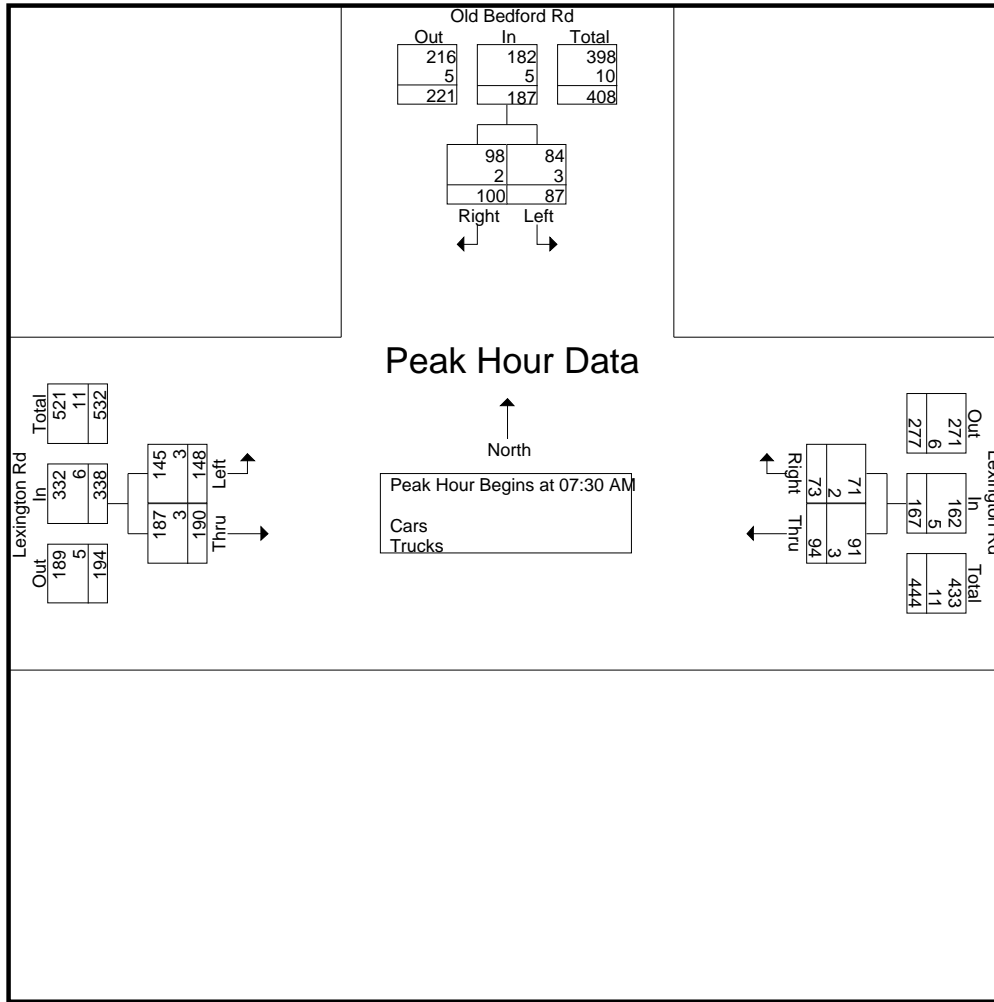
File Name : 27810002
 Site Code : 27810002
 Start Date : 6/9/2021
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	21	5	17	12	29	55	139
07:15 AM	13	22	18	9	31	61	154
07:30 AM	24	32	16	13	37	59	181
07:45 AM	25	24	28	17	44	49	187
Total	83	83	79	51	141	224	661
08:00 AM	22	18	19	17	29	42	147
08:15 AM	16	26	31	26	38	40	177
08:30 AM	19	31	35	15	37	38	175
08:45 AM	24	20	27	18	69	33	191
Total	81	95	112	76	173	153	690
Grand Total	164	178	191	127	314	377	1351
Apprch %	48	52	60.1	39.9	45.4	54.6	
Total %	12.1	13.2	14.1	9.4	23.2	27.9	
Cars	160	172	184	123	308	373	1320
% Cars	97.6	96.6	96.3	96.9	98.1	98.9	97.7
Trucks	4	6	7	4	6	4	31
% Trucks	2.4	3.4	3.7	3.1	1.9	1.1	2.3

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	24	32	56	16	13	29	37	59	96	181
07:45 AM	25	24	49	28	17	45	44	49	93	187
08:00 AM	22	18	40	19	17	36	29	42	71	147
08:15 AM	16	26	42	31	26	57	38	40	78	177
Total Volume	87	100	187	94	73	167	148	190	338	692
% App. Total	46.5	53.5		56.3	43.7		43.8	56.2		
PHF	.870	.781	.835	.758	.702	.732	.841	.805	.880	.925
Cars	84	98	182	91	71	162	145	187	332	676
% Cars	96.6	98.0	97.3	96.8	97.3	97.0	98.0	98.4	98.2	97.7
Trucks	3	2	5	3	2	5	3	3	6	16
% Trucks	3.4	2.0	2.7	3.2	2.7	3.0	2.0	1.6	1.8	2.3

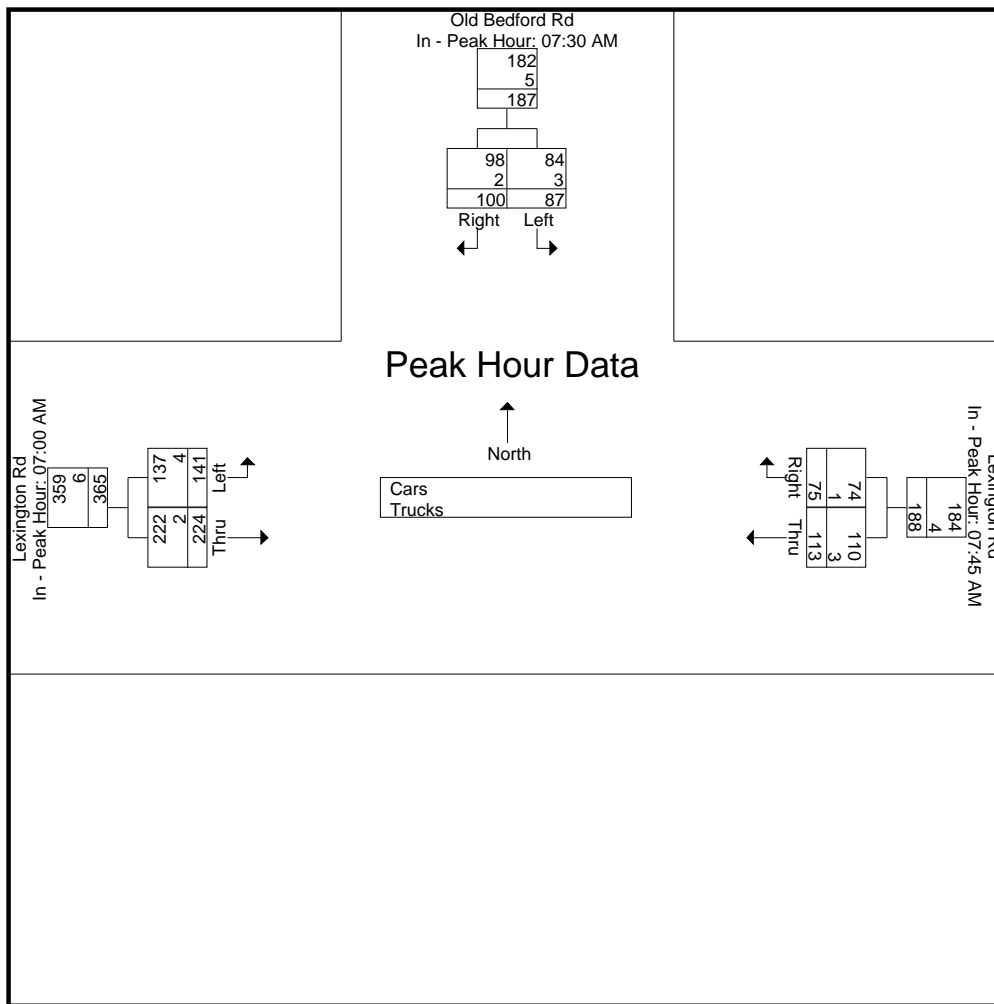
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:00 AM		
+0 mins.	24	32	56	28	17	45	29	55	84
+15 mins.	25	24	49	19	17	36	31	61	92
+30 mins.	22	18	40	31	26	57	37	59	96
+45 mins.	16	26	42	35	15	50	44	49	93
Total Volume	87	100	187	113	75	188	141	224	365
% App. Total	46.5	53.5		60.1	39.9		38.6	61.4	
PHF	.870	.781	.835	.807	.721	.825	.801	.918	.951
Cars	84	98	182	110	74	184	137	222	359
% Cars	96.6	98	97.3	97.3	98.7	97.9	97.2	99.1	98.4
Trucks	3	2	5	3	1	4	4	2	6
% Trucks	3.4	2	2.7	2.7	1.3	2.1	2.8	0.9	1.6

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Lexington Road
 City/State : Concord, MA
 Weather : Clear

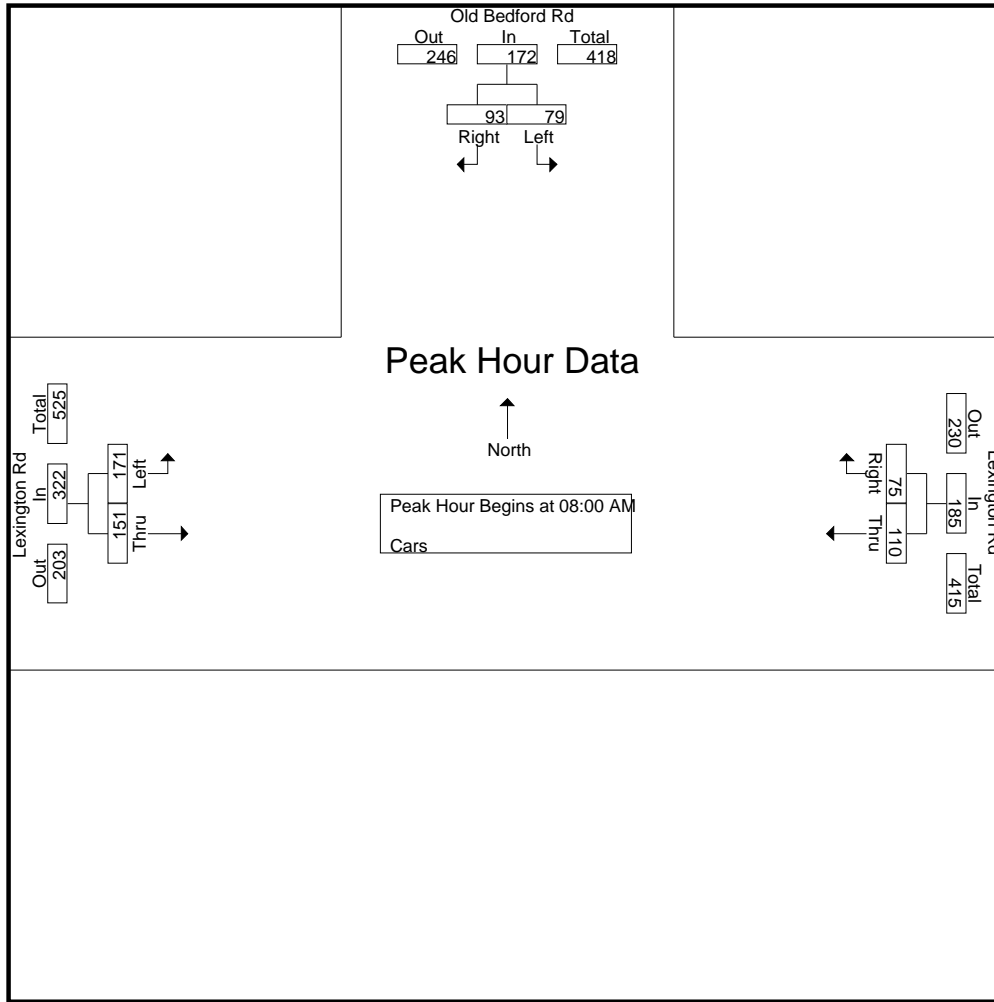
File Name : 27810002
 Site Code : 27810002
 Start Date : 6/9/2021
 Page No : 4

Groups Printed- Cars

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	21	5	17	12	28	55	138
07:15 AM	12	20	16	7	29	60	144
07:30 AM	24	30	15	12	36	58	175
07:45 AM	24	24	26	17	44	49	184
Total	81	79	74	48	137	222	641
08:00 AM	21	18	19	17	29	40	144
08:15 AM	15	26	31	25	36	40	173
08:30 AM	19	30	34	15	37	38	173
08:45 AM	24	19	26	18	69	33	189
Total	79	93	110	75	171	151	679
Grand Total	160	172	184	123	308	373	1320
Apprch %	48.2	51.8	59.9	40.1	45.2	54.8	
Total %	12.1	13	13.9	9.3	23.3	28.3	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	21	18	39	19	17	36	29	40	69	144
08:15 AM	15	26	41	31	25	56	36	40	76	173
08:30 AM	19	30	49	34	15	49	37	38	75	173
08:45 AM	24	19	43	26	18	44	69	33	102	189
Total Volume	79	93	172	110	75	185	171	151	322	679
% App. Total	45.9	54.1		59.5	40.5		53.1	46.9		
PHF	.823	.775	.878	.809	.750	.826	.620	.944	.789	.898

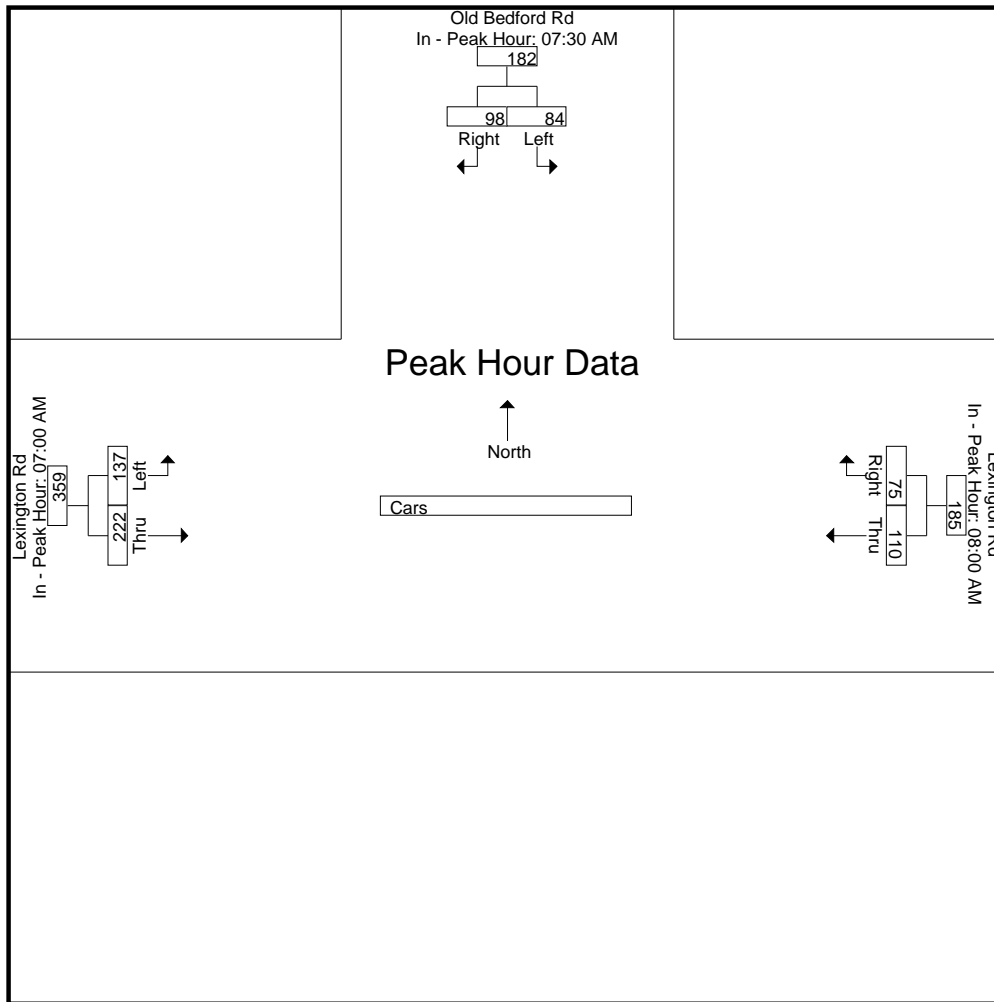
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:00 AM		
+0 mins.	24	30	54	19	17	36	28	55	83
+15 mins.	24	24	48	31	25	56	29	60	89
+30 mins.	21	18	39	34	15	49	36	58	94
+45 mins.	15	26	41	26	18	44	44	49	93
Total Volume	84	98	182	110	75	185	137	222	359
% App. Total	46.2	53.8		59.5	40.5		38.2	61.8	
PHF	.875	.817	.843	.809	.750	.826	.778	.925	.955

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 27810002
Site Code : 27810002
Start Date : 6/9/2021
Page No : 7

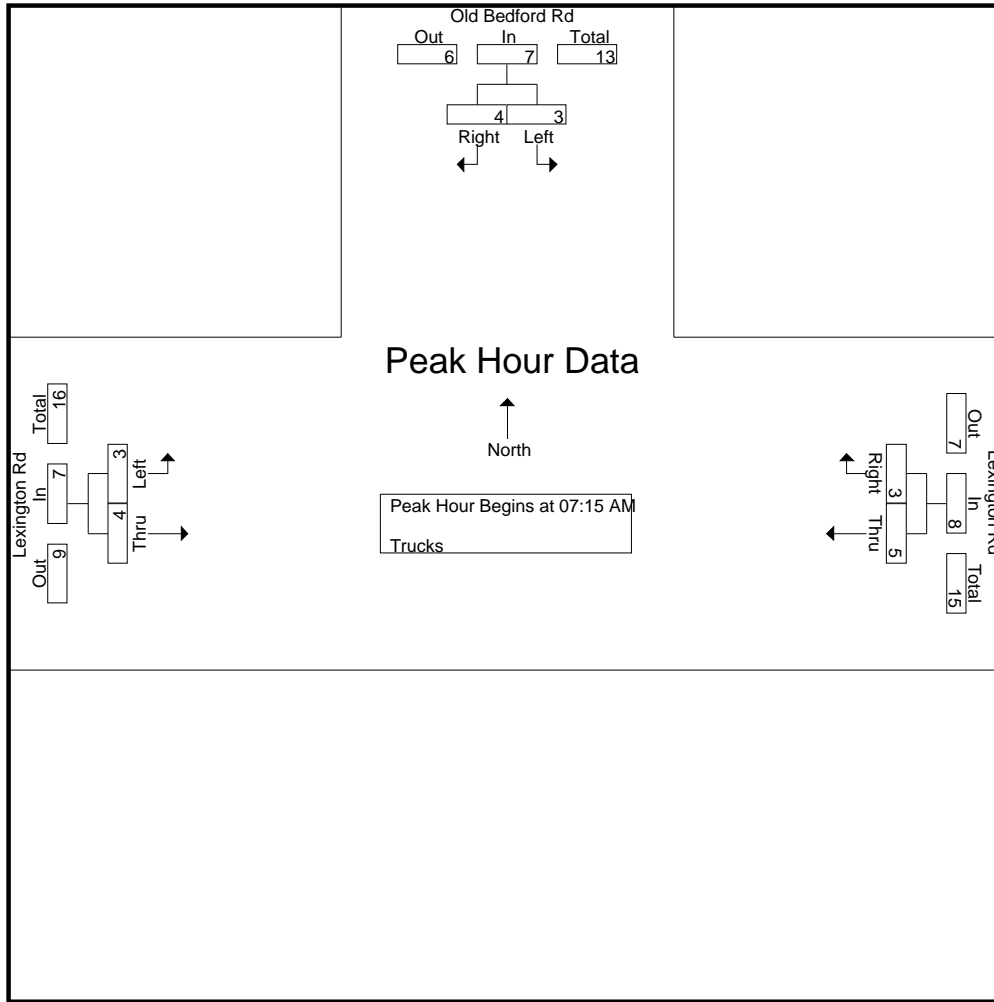
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear

Groups Printed- Trucks

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	0	0	1	0	1
07:15 AM	1	2	2	2	2	1	10
07:30 AM	0	2	1	1	1	1	6
07:45 AM	1	0	2	0	0	0	3
Total	2	4	5	3	4	2	20
08:00 AM	1	0	0	0	0	2	3
08:15 AM	1	0	0	1	2	0	4
08:30 AM	0	1	1	0	0	0	2
08:45 AM	0	1	1	0	0	0	2
Total	2	2	2	1	2	2	11
Grand Total	4	6	7	4	6	4	31
Apprch %	40	60	63.6	36.4	60	40	
Total %	12.9	19.4	22.6	12.9	19.4	12.9	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	1	2	3	2	2	4	2	1	3	10
07:30 AM	0	2	2	1	1	2	1	1	2	6
07:45 AM	1	0	1	2	0	2	0	0	0	3
08:00 AM	1	0	1	0	0	0	0	2	2	3
Total Volume	3	4	7	5	3	8	3	4	7	22
% App. Total	42.9	57.1		62.5	37.5		42.9	57.1		
PHF	.750	.500	.583	.625	.375	.500	.375	.500	.583	.550

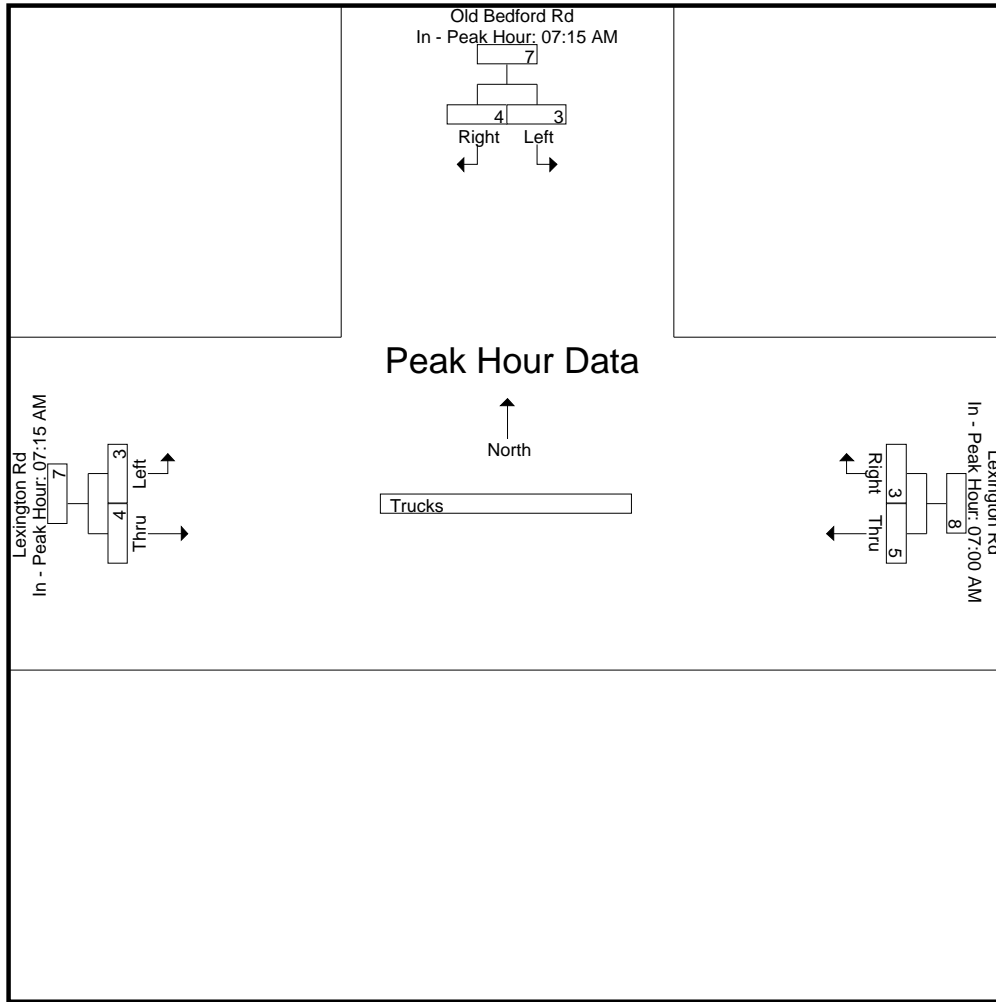
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:00 AM			07:15 AM		
+0 mins.	1	2	3	0	0	0	2	1	3
+15 mins.	0	2	2	2	2	4	1	1	2
+30 mins.	1	0	1	1	1	2	0	0	0
+45 mins.	1	0	1	2	0	2	0	2	2
Total Volume	3	4	7	5	3	8	3	4	7
% App. Total	42.9	57.1		62.5	37.5		42.9	57.1	
PHF	.750	.500	.583	.625	.375	.500	.375	.500	.583

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear

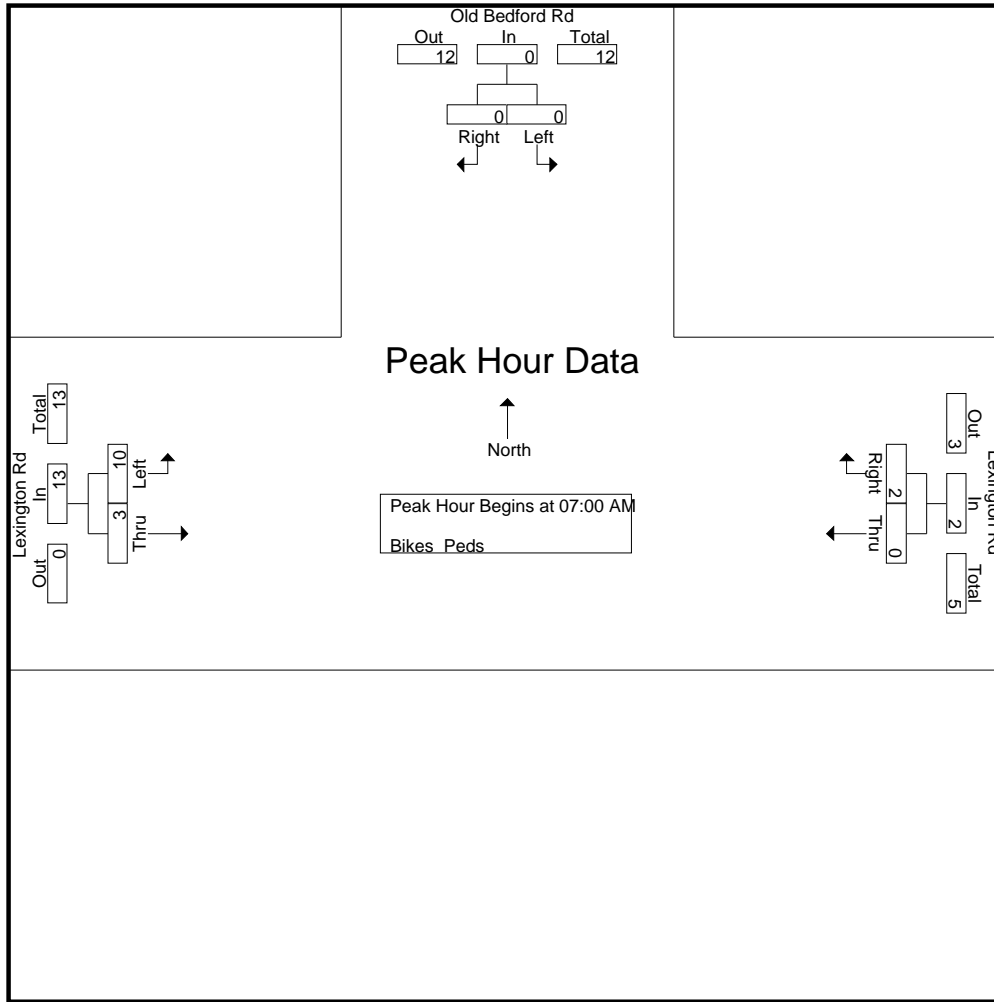
File Name : 27810002
Site Code : 27810002
Start Date : 6/9/2021
Page No : 10

Groups Printed- Bikes Peds

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
07:00 AM	0	0	0	0	0	0	5	2	0	0	7	7
07:15 AM	0	0	0	0	1	0	3	1	0	0	5	5
07:30 AM	0	0	0	0	1	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	2	0	0	0	2	2
Total	0	0	0	0	2	0	10	3	0	0	15	15
08:00 AM	0	3	0	2	0	0	2	0	0	0	7	7
08:15 AM	0	1	0	0	0	0	0	0	0	0	1	1
08:30 AM	0	2	0	0	0	0	0	0	0	0	2	2
08:45 AM	0	1	0	0	0	0	1	0	0	0	2	2
Total	0	7	0	2	0	0	3	0	0	0	12	12
Grand Total	0	7	0	2	2	0	13	3	0	0	27	27
Apprch %	0	100		50	50		81.2	18.8				
Total %	0	25.9		7.4	7.4		48.1	11.1		0	100	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	5	2	7	7
07:15 AM	0	0	0	0	1	1	3	1	4	5
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	2	0	2	2
Total Volume	0	0	0	0	2	2	10	3	13	15
% App. Total	0	0	0	0	100	100	76.9	23.1		
PHF	.000	.000	.000	.000	.500	.500	.500	.375	.464	.536

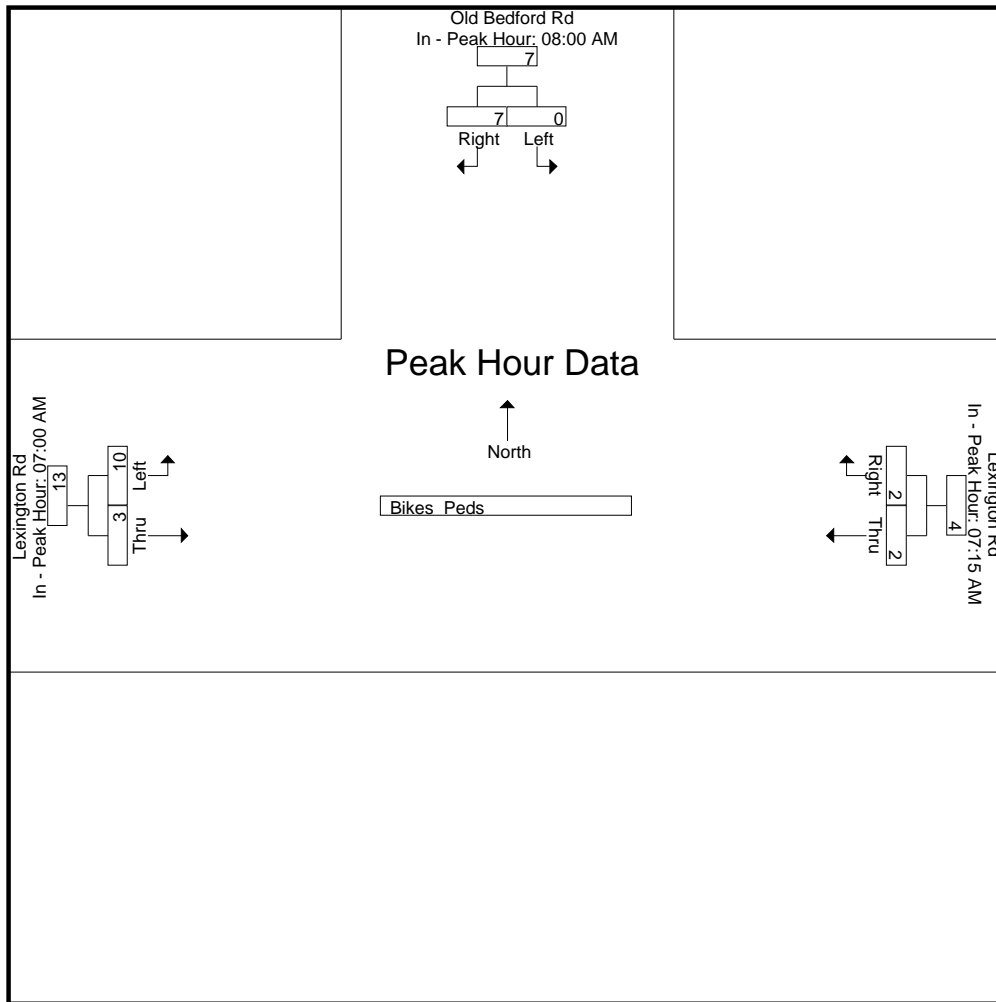
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			07:15 AM			07:00 AM		
+0 mins.	0	3	3	0	1	1	5	2	7
+15 mins.	0	1	1	0	1	1	3	1	4
+30 mins.	0	2	2	0	0	0	0	0	0
+45 mins.	0	1	1	2	0	2	2	0	2
Total Volume	0	7	7	2	2	4	10	3	13
% App. Total	0	100		50	50		76.9	23.1	
PHF	.000	.583	.583	.250	.500	.500	.500	.375	.464

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear

File Name : 27810002
Site Code : 27810002
Start Date : 6/9/2021
Page No : 1

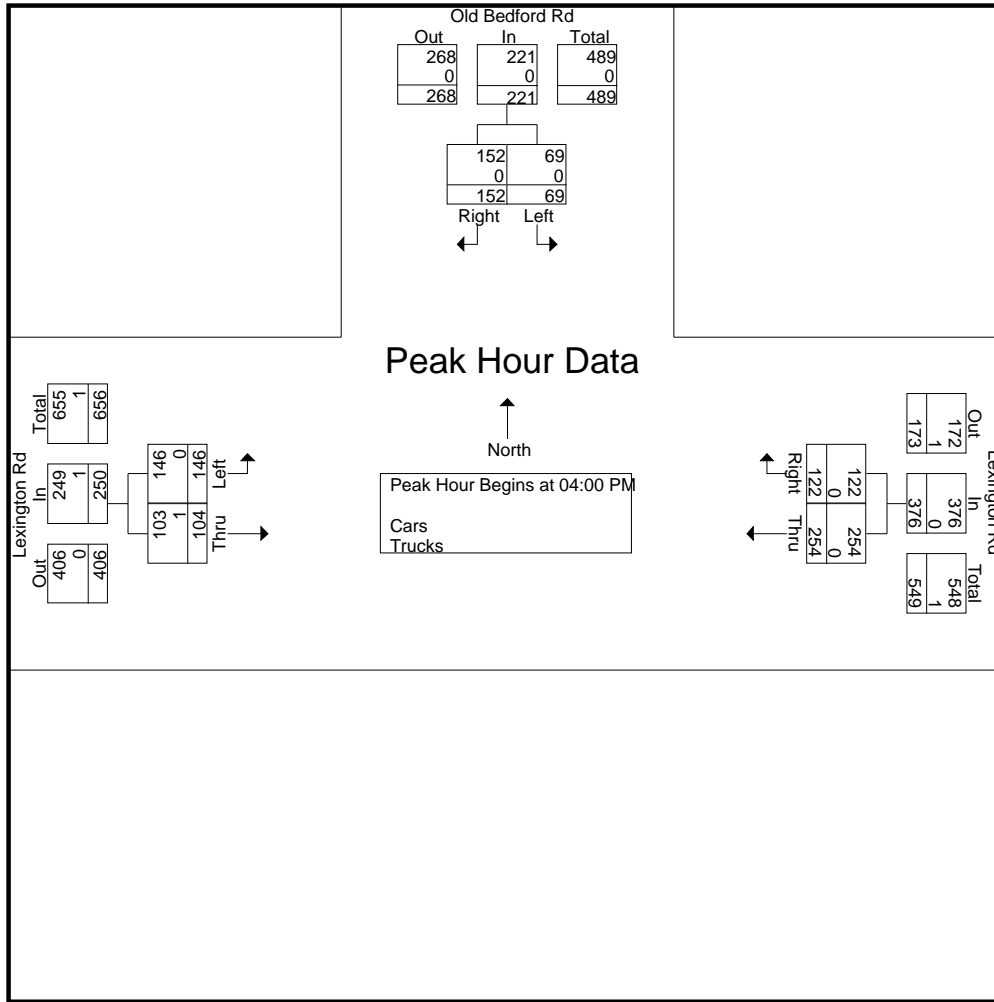
Groups Printed- Cars - Trucks

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	16	36	81	34	38	22	227
04:15 PM	19	37	58	32	32	27	205
04:30 PM	19	39	57	29	40	25	209
04:45 PM	15	40	58	27	36	30	206
Total	69	152	254	122	146	104	847
05:00 PM	19	33	59	26	41	24	202
05:15 PM	13	34	83	31	28	22	211
05:30 PM	15	58	58	27	31	25	214
05:45 PM	23	21	67	37	28	29	205
Total	70	146	267	121	128	100	832
06:00 PM	16	35	70	16	30	23	190
06:15 PM	11	22	41	15	24	21	134
Grand Total	166	355	632	274	328	248	2003
Apprch %	31.9	68.1	69.8	30.2	56.9	43.1	
Total %	8.3	17.7	31.6	13.7	16.4	12.4	
Cars	166	355	628	273	327	246	1995
% Cars	100	100	99.4	99.6	99.7	99.2	99.6
Trucks	0	0	4	1	1	2	8
% Trucks	0	0	0.6	0.4	0.3	0.8	0.4

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	16	36	52	81	34	115	38	22	60	227
04:15 PM	19	37	56	58	32	90	32	27	59	205
04:30 PM	19	39	58	57	29	86	40	25	65	209
04:45 PM	15	40	55	58	27	85	36	30	66	206
Total Volume	69	152	221	254	122	376	146	104	250	847
% App. Total	31.2	68.8		67.6	32.4		58.4	41.6		
PHF	.908	.950	.953	.784	.897	.817	.913	.867	.947	.933
Cars	69	152	221	254	122	376	146	103	249	846
% Cars	100	100	100	100	100	100	100	99.0	99.6	99.9
Trucks	0	0	0	0	0	0	0	1	1	1
% Trucks	0	0	0	0	0	0	0	1.0	0.4	0.1

Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

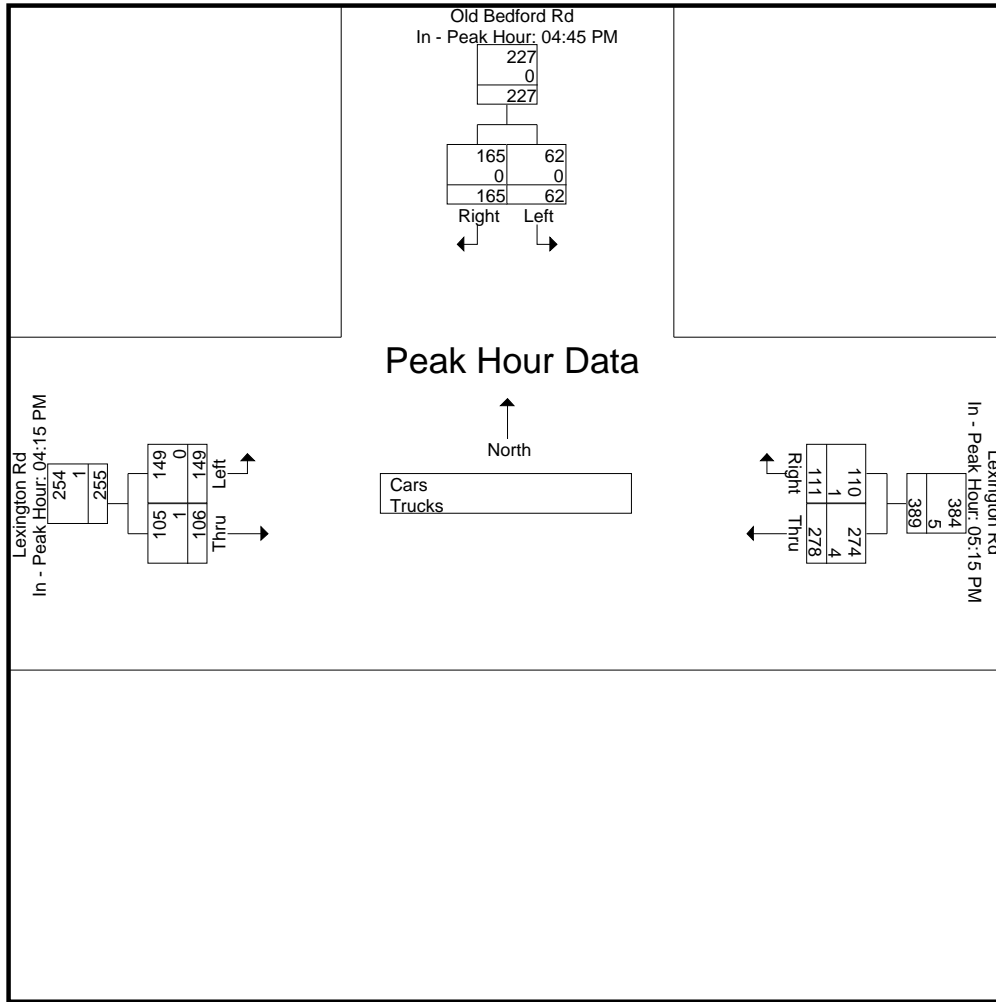
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			05:15 PM			04:15 PM		
+0 mins.	15	40	55	83	31	114	32	27	59
+15 mins.	19	33	52	58	27	85	40	25	65
+30 mins.	13	34	47	67	37	104	36	30	66
+45 mins.	15	58	73	70	16	86	41	24	65
Total Volume	62	165	227	278	111	389	149	106	255
% App. Total	27.3	72.7		71.5	28.5		58.4	41.6	
PHF	.816	.711	.777	.837	.750	.853	.909	.883	.966
Cars	62	165	227	274	110	384	149	105	254
% Cars	100	100	100	98.6	99.1	98.7	100	99.1	99.6
Trucks	0	0	0	4	1	5	0	1	1
% Trucks	0	0	0	1.4	0.9	1.3	0	0.9	0.4

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Lexington Road
 City/State : Concord, MA
 Weather : Clear

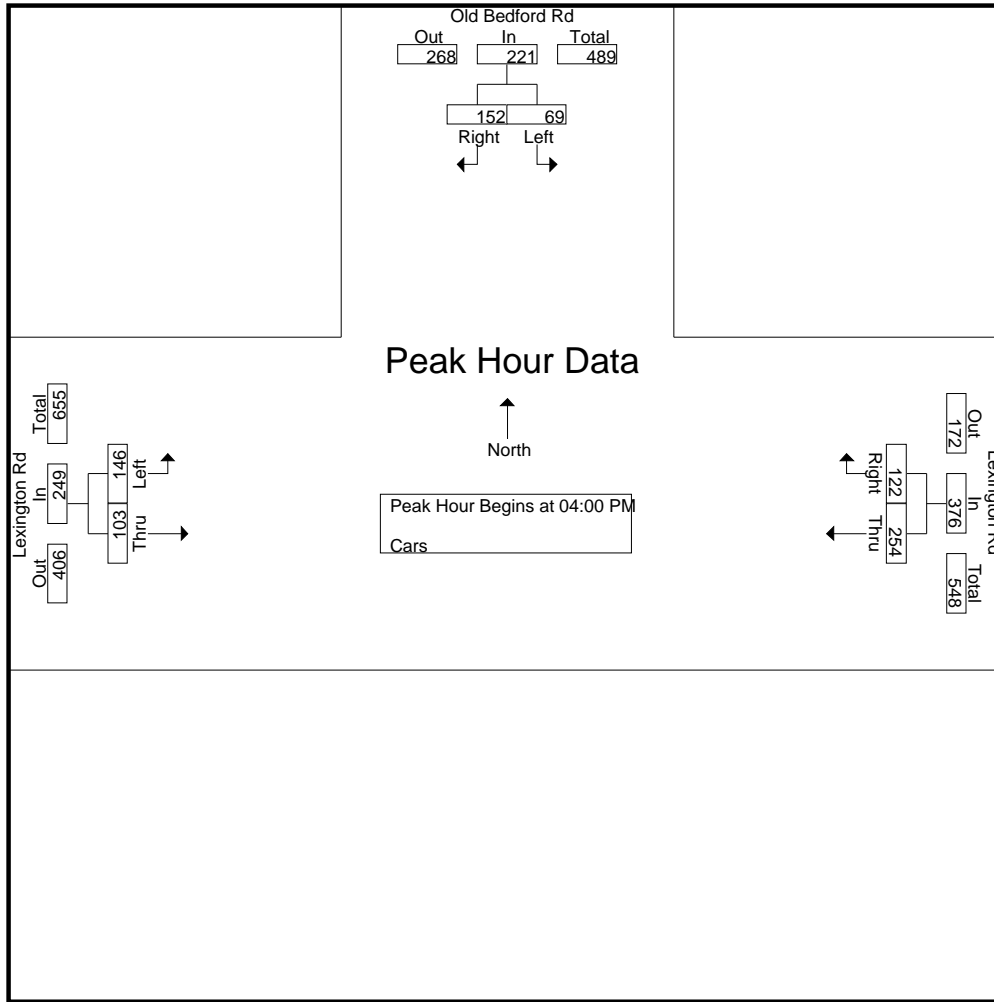
File Name : 27810002
 Site Code : 27810002
 Start Date : 6/9/2021
 Page No : 4

Groups Printed- Cars

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	16	36	81	34	38	22	227
04:15 PM	19	37	58	32	32	26	204
04:30 PM	19	39	57	29	40	25	209
04:45 PM	15	40	58	27	36	30	206
Total	69	152	254	122	146	103	846
05:00 PM	19	33	59	26	41	24	202
05:15 PM	13	34	81	30	28	22	208
05:30 PM	15	58	57	27	31	25	213
05:45 PM	23	21	67	37	28	28	204
Total	70	146	264	120	128	99	827
06:00 PM	16	35	69	16	30	23	189
06:15 PM	11	22	41	15	23	21	133
Grand Total	166	355	628	273	327	246	1995
Apprch %	31.9	68.1	69.7	30.3	57.1	42.9	
Total %	8.3	17.8	31.5	13.7	16.4	12.3	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	16	36	52	81	34	115	38	22	60	227
04:15 PM	19	37	56	58	32	90	32	26	58	204
04:30 PM	19	39	58	57	29	86	40	25	65	209
04:45 PM	15	40	55	58	27	85	36	30	66	206
Total Volume	69	152	221	254	122	376	146	103	249	846
% App. Total	31.2	68.8		67.6	32.4		58.6	41.4		
PHF	.908	.950	.953	.784	.897	.817	.913	.858	.943	.932

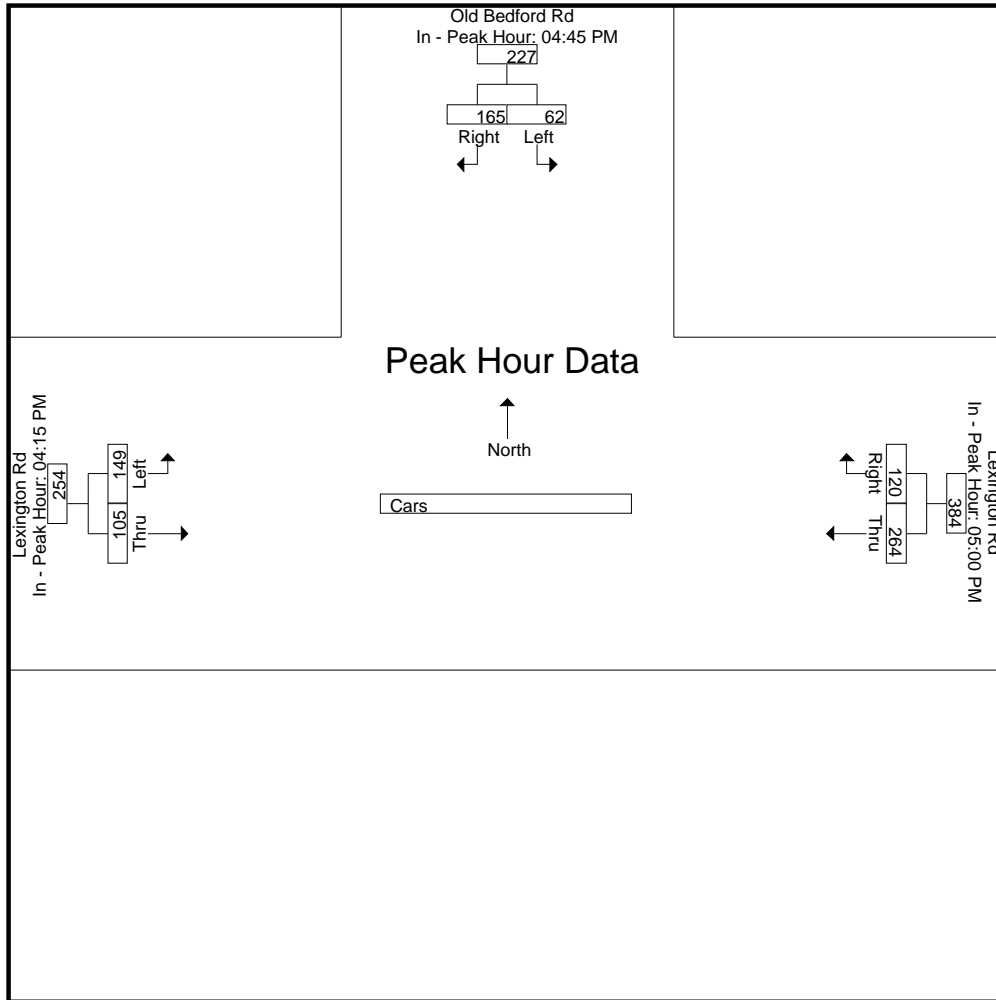
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			05:00 PM			04:15 PM		
+0 mins.	15	40	55	59	26	85	32	26	58
+15 mins.	19	33	52	81	30	111	40	25	65
+30 mins.	13	34	47	57	27	84	36	30	66
+45 mins.	15	58	73	67	37	104	41	24	65
Total Volume	62	165	227	264	120	384	149	105	254
% App. Total	27.3	72.7		68.8	31.2		58.7	41.3	
PHF	.816	.711	.777	.815	.811	.865	.909	.875	.962

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Lexington Road
 City/State : Concord, MA
 Weather : Clear

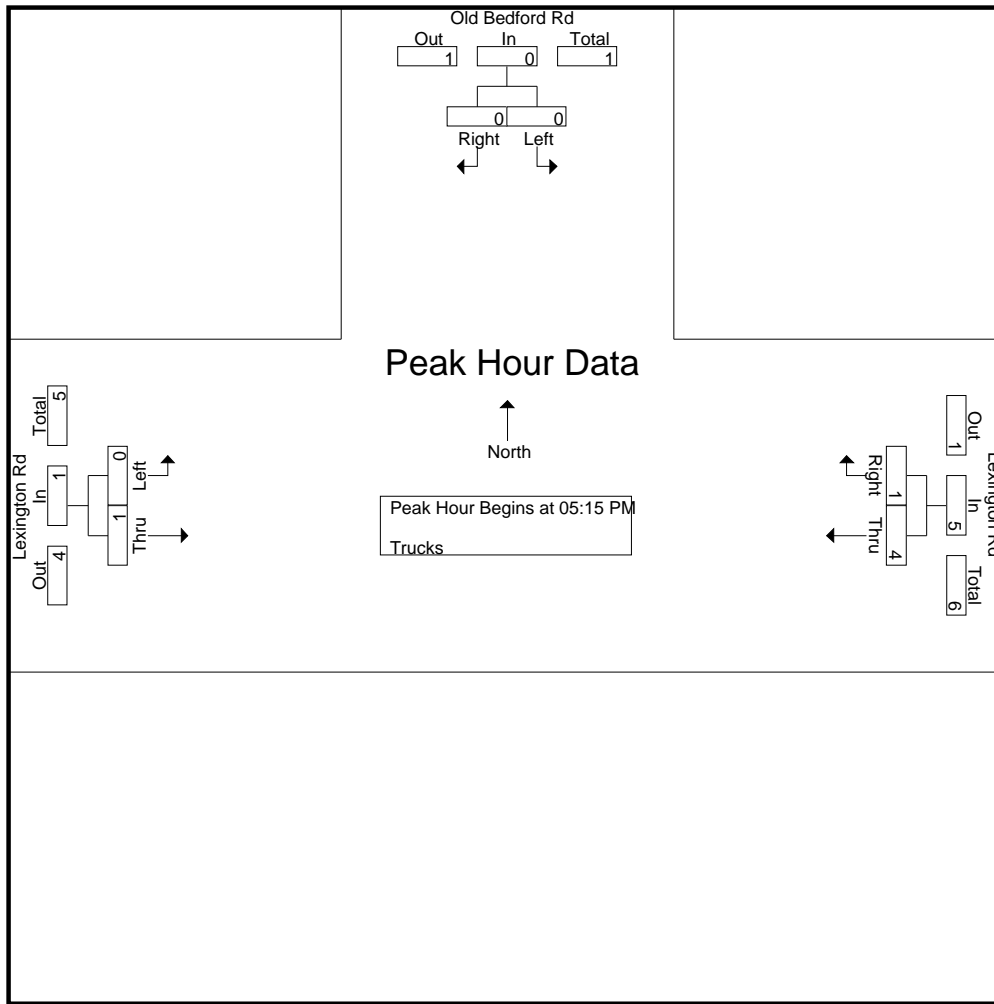
File Name : 27810002
 Site Code : 27810002
 Start Date : 6/9/2021
 Page No : 7

Groups Printed- Trucks

Start Time	Old Bedford Rd From North		Lexington Rd From East		Lexington Rd From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	2	1	0	0	3
05:30 PM	0	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	1	1
Total	0	0	3	1	0	1	5
06:00 PM	0	0	1	0	0	0	1
06:15 PM	0	0	0	0	1	0	1
Grand Total	0	0	4	1	1	2	8
Apprch %	0	0	80	20	33.3	66.7	
Total %	0	0	50	12.5	12.5	25	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:15 PM										
05:15 PM	0	0	0	2	1	3	0	0	0	3
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	1	1	1
06:00 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	4	1	5	0	1	1	6
% App. Total	0	0		80	20		0	100		
PHF	.000	.000	.000	.500	.250	.417	.000	.250	.250	.500

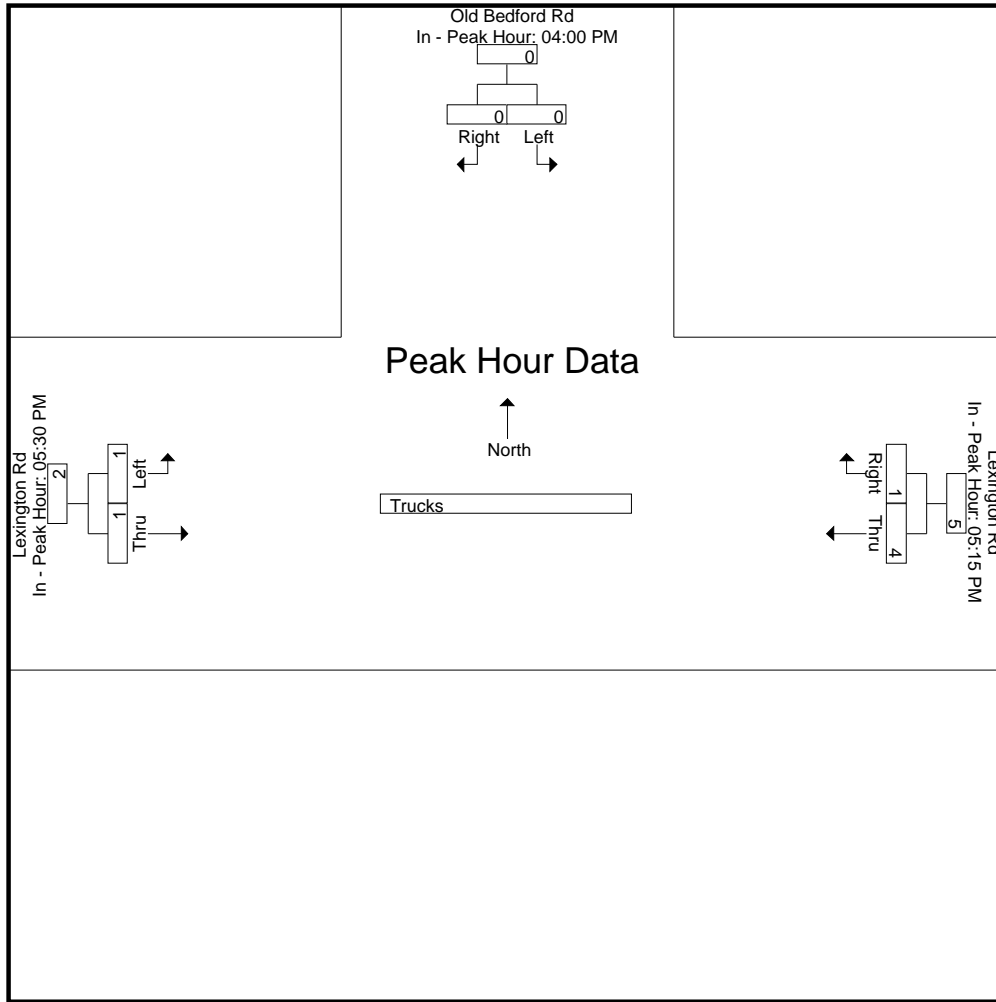
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:15 PM			05:30 PM		
+0 mins.	0	0	0	2	1	3	0	0	0
+15 mins.	0	0	0	1	0	1	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	1	0	1	1	0	1
Total Volume	0	0	0	4	1	5	1	1	2
% App. Total	0	0		80	20		50	50	
PHF	.000	.000	.000	.500	.250	.417	.250	.250	.500

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Old Bedford Road
 E/W Street : Lexington Road
 City/State : Concord, MA
 Weather : Clear

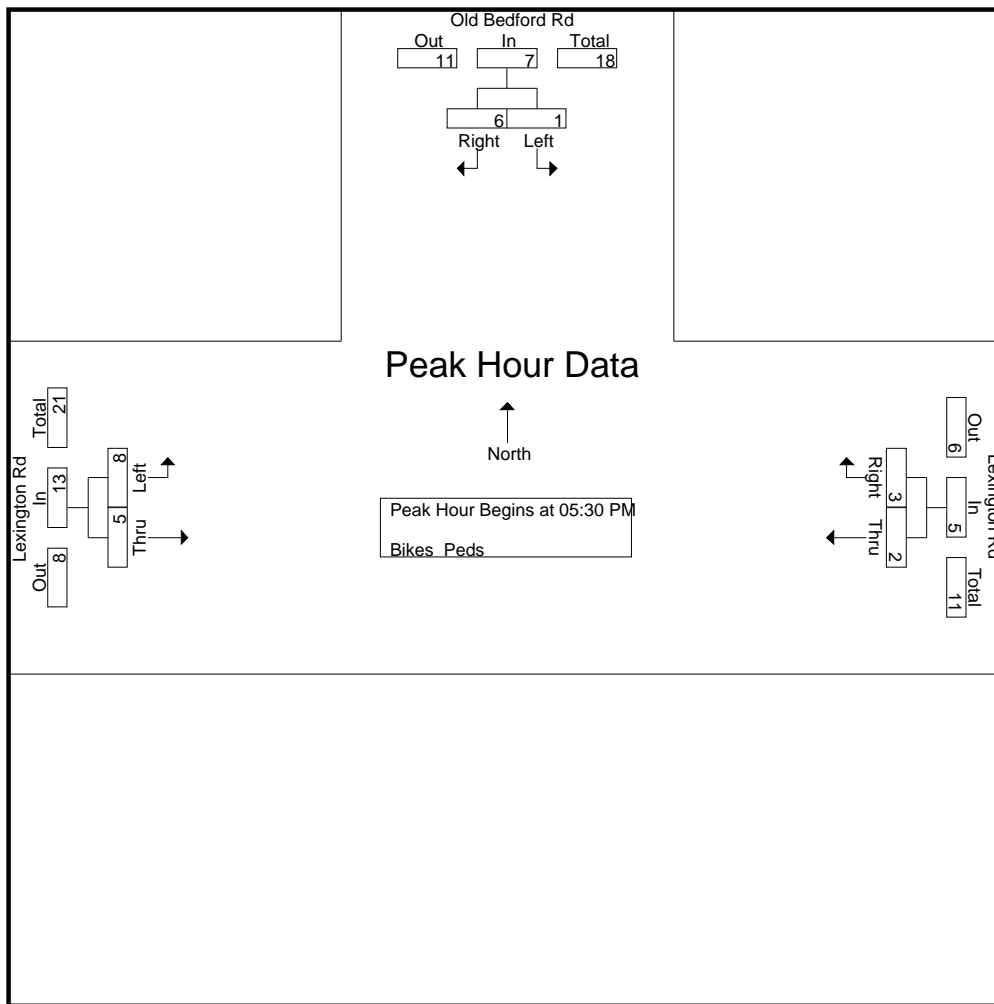
File Name : 27810002
 Site Code : 27810002
 Start Date : 6/9/2021
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
04:00 PM	0	0	0	0	0	0	1	0	0	0	1	1
04:15 PM	0	0	0	0	1	0	0	2	0	0	3	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	0	0	0	0	0	0	0	1	1
Total	0	1	0	0	1	0	1	2	0	0	5	5
05:00 PM	0	2	0	0	0	0	1	0	0	0	3	3
05:15 PM	0	1	0	1	1	0	1	0	0	0	4	4
05:30 PM	0	1	0	0	2	0	0	2	0	0	5	5
05:45 PM	1	0	0	0	1	0	3	1	0	0	6	6
Total	1	4	0	1	4	0	5	3	0	0	18	18
06:00 PM	0	3	0	1	0	0	5	0	0	0	9	9
06:15 PM	0	2	0	1	0	0	0	2	0	0	5	5
Grand Total	1	10	0	3	5	0	11	7	0	0	37	37
Apprch %	9.1	90.9		37.5	62.5		61.1	38.9				
Total %	2.7	27		8.1	13.5		29.7	18.9		0	100	

Start Time	Old Bedford Rd From North			Lexington Rd From East			Lexington Rd From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:30 PM										
05:30 PM	0	1	1	0	2	2	0	2	2	5
05:45 PM	1	0	1	0	1	1	3	1	4	6
06:00 PM	0	3	3	1	0	1	5	0	5	9
06:15 PM	0	2	2	1	0	1	0	2	2	5
Total Volume	1	6	7	2	3	5	8	5	13	25
% App. Total	14.3	85.7		40	60		61.5	38.5		
PHF	.250	.500	.583	.500	.375	.625	.400	.625	.650	.694

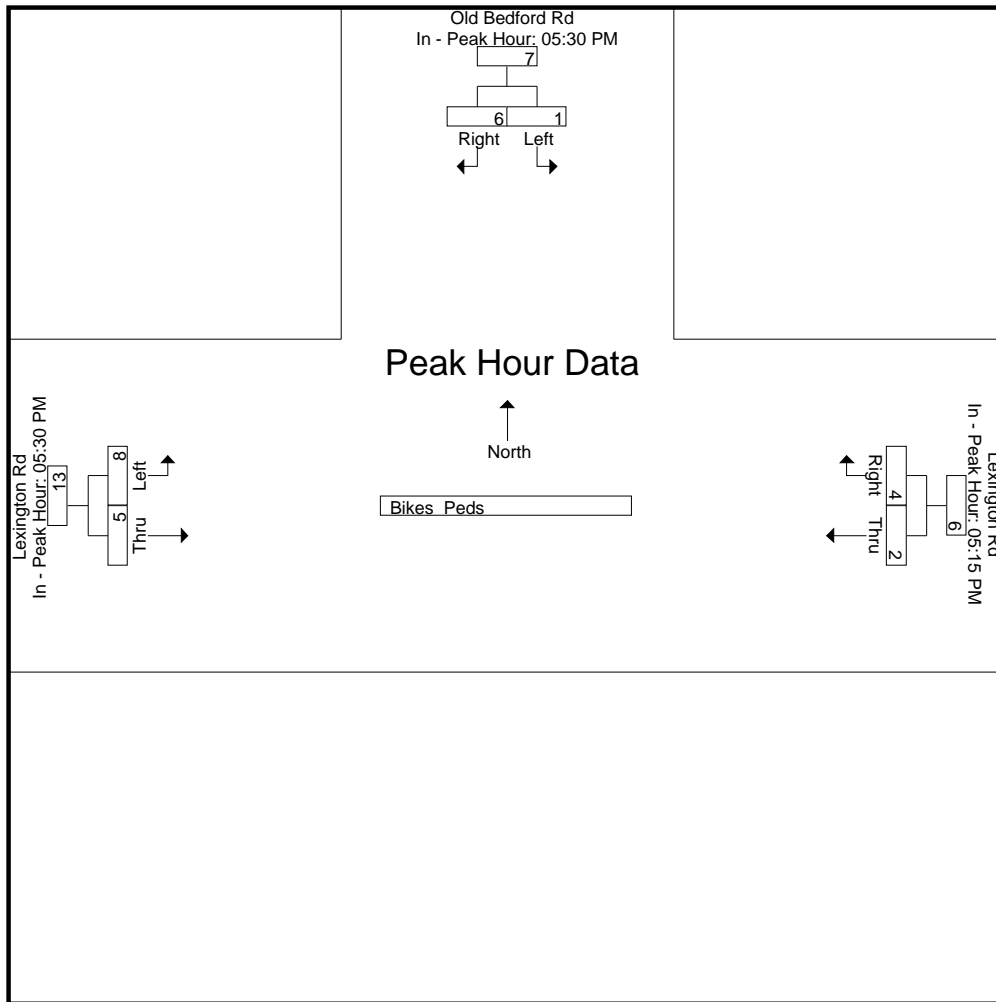
N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM			05:15 PM			05:30 PM		
+0 mins.	0	1	1	1	1	2	0	2	2
+15 mins.	1	0	1	0	2	2	3	1	4
+30 mins.	0	3	3	0	1	1	5	0	5
+45 mins.	0	2	2	1	0	1	0	2	2
Total Volume	1	6	7	2	4	6	8	5	13
% App. Total	14.3	85.7		33.3	66.7		61.5	38.5	
PHF	.250	.500	.583	.500	.500	.750	.400	.625	.650

N/S Street : Old Bedford Road
E/W Street : Lexington Road
City/State : Concord, MA
Weather : Clear



Town of Concord
June 29, 2021

Crash Data Worksheets - Two Additional Intersections

Bedford Street and Old Bedford Road Crash Summary

Crash Number	Crash Date	Crash Severity	Crash Time	Number of Vehicles	Driver Contributing Circumstances (All Drivers)	Driver Distracted By (All Vehicles)	First Harmful Event	Is Geocoded	Light Conditions	Manner of Collision	Road Surface Condition	Roadway Junction Type	Total Fatalities	Total Non-Fatal Injuries	Traffic Control Device Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	First Harmful Event Location	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	School Bus Related	Vehicle Sequence of Events (All Vehicles)	X	Y	Latitude	Longitude	Street Number	Roadway	Near Intersection Roadway	Distance and Direction From Intersection
4003399	2/3/15	Non-fatal injury	8:10 AM	2	D1: (No improper driving) / D2: (Driving too fast for conditions),(Failure to keep in proper lane or running off road)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Head-on	Snow	Not at junction	0	2	No controls	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: W	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Cross median or centerline),(Collision with motor vehicle in traffic)	214524.3	913343.9	42.47049	-71.32339	430	OLD BEDFORD RD	BEDFORD STREET	50 feet E of
4241965	8/29/16	Non-fatal injury	3:22 PM	4	D1: (Followed too closely) / D2: (No improper driving) / D3: (No improper driving) / D4: (No improper driving)	D1: Not Distracted / D2: Not Distracted / D3: Not Distracted / D4: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Not at junction	0	2	Stop signs	V1: Travelling straight ahead / V2: Slowing or stopped in traffic / V3: Slowing or stopped in traffic / V4: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car) / V3:(Passenger car) / V4:(Passenger car)	V1:(No) / V2:(Yes, vehicle or trailer disabled) / V3:(No) / V4:(Yes, vehicle or trailer disabled)	V1: E / V2: E / V3: E / V4: E	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic) / V4:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic) V4:(Collision with motor vehicle in traffic)	214483.8	913302.6	42.47012	-71.32387		BEDFORD STREET Rte SR62 E / OLD BEDFORD ROAD		
4332593	2/14/17	Non-fatal injury	5:53 PM	2	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted / D2: External distraction (outside the vehicle)	Collision with motor vehicle in traffic	Yes	Dark - roadway not lighted	Rear-end	Wet	T-intersection	0	1	No controls	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: S / V2: S	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Road surface condition (wet, icy, snow, slush, etc.)	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214483.3	913302.3	42.47038	-71.32347	430	OLD BEDFORD RD	BEDFORD ST	
4442548	10/17/17	Property damage only (none injured)	12:21 PM	2	D1: (No improper driving) / D2: (Failed to yield right of way)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Not at junction	0	0	No controls	V1: Travelling straight ahead / V2: Making U-turn	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1: N / V2: N	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214516.6	913330.8	42.47038	-71.32347		BEDFORD ST / OLD BEDFORD RD		
4559817	6/21/18	Property damage only (none injured)	4:42 PM	2	D1: (No improper driving) / D2: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner),(Physical impairment)	D1: Not Distracted / D2: Other activity (searching, eating, personal hygiene,	Collision with curb	Yes	Daylight	Sideswipe, opposite direction	Dry	Not at junction	0	0	No controls	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: W	Clear	Roadside	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with mail box),(Collision with traffic),(Collision with curb)	214513.6	913327.7	42.47035	-71.32351	438	OLD BEDFORD RD Rte 62 W		
4578861	8/3/18	Non-fatal injury	1:57 PM	1	D1: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner),(Inattention)		Collision with other light pole or other post/supp	Yes	Daylight	Single vehicle crash	Wet	T-intersection	0	1	Stop signs	V1: Travelling straight ahead	V1:(Passenger car)	V1:(Yes, vehicle or trailer disabled)	V1: N	Cloudy/Rain	Roadway	No hit and run	V1:(Collision with utility pole)	None	No, school bus not involved	V1:(Cross median or centerline),(Collision with utility pole),(Collision with highway traffic sign post)	214483.3	913302.3	42.47012	-71.32388		BEDFORD ST / OLD BEDFORD RD		
4719449	5/22/19	Property damage only (none injured)	8:05 AM	2	D1: (No improper driving) / D2: (Followed too closely),(Inattention)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Not at junction	0	0	No controls	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1: W / V2: W	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214538.2	913365.4	42.47069	-71.32321	450	OLD BEDFORD RD	BEDFORD ST	100 feet E of
4775768	9/23/19	Property damage only (none injured)	8:33 AM	2	D1: (No improper driving) / D2: (Inattention),(Other improper action)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Sideswipe, same direction	Dry	T-intersection	0	0	Stop signs	V2: Overtaking/passing / V1: Turning right	V2:(Passenger car) / V1:(Unknown heavy truck, cannot classify)	V2:(Yes, vehicle or trailer disabled) / V1:(No)	V2: E / V1: E	Clear	Roadway	No hit and run	V2:(Collision with motor vehicle in traffic) / V1:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V2:(Collision with motor vehicle in traffic) V1:(Collision with motor vehicle in traffic)	214516.6	913330.8	42.47037	-71.32348		OLD BEDFORD ROAD / BEDFORD STREET		

Crash Number	Crash Date	Crash Severity	Crash Time	Number of Vehicles	Driver Contributing Circumstances (All Drivers)	Driver Distracted By (All Vehicles)	First Harmful Event	Is Geocoded	Light Conditions	Manner of Collision	Road Surface Condition	Roadway Junction Type	Total Fatalities	Total Non-Fatal Injuries	Traffic Control Device Type	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Weather Conditions	First Harmful Event Location	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	School Bus Related	Vehicle Sequence of Events (All Vehicles)	X	Y	Latitude	Longitude	Street Number	Roadway	Near Intersection Roadway	Distance and Direction From Intersection
4053651	6/9/15	Property damage only (none injured)	4:23 PM	2	D1: (No improper driving) / D2: (Inattention)		Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Not at junction	0	0	No controls	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	Cloudy	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Not reported	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214445.9	912099.1	42.45929	-71.3244		LEXINGTON RD / OLD BEDFORD RD		
4134375	1/7/16	Non-fatal injury	7:53 AM	2	D1: (Failed to yield right of way) / D2: (No improper driving)		Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Y-intersection	0	1	Stop signs	V1: Turning left / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Single-unit truck (2-axle, 6-tires))	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	Not reported	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214445.9	912099.1	42.45929	-71.3244		LEXINGTON ROAD / OLD BEDFORD ROAD		
4257992	9/22/16	Non-fatal injury	3:26 PM	2	D1: (No improper driving) / D2: (Followed too closely)	D1: Not Distracted / D2: External distraction (outside the vehicle)	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Not at junction	0	1	Stop signs	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214443.8	912101.2	42.4593	-71.3244		OLD BEDFORD RD	LEXINGTON RD	10 feet N of
4467217	11/28/17	Property damage only (none injured)	6:43 PM	2	D1: (No improper driving) / D2: (Failed to yield right of way)	D1: Not Distracted / D2: Other activity, electronic device	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Y-intersection	0	0	No controls	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214445.9	912099.1	42.45929	-71.3244		LEXINGTON RD / OLD BEDFORD RD		
4467419	11/30/17	Property damage only (none injured)	2:55 PM	1	D1: (No improper driving)	D1: Not Distracted	Collision with animal - deer	Yes	Daylight	Single vehicle crash	Dry	Not at junction	0	0	No controls	V1: Travelling straight ahead	V1:(Passenger car)	V1:(Yes, vehicle or trailer disabled)	Clear	Roadway	No hit and run	V1:(Collision with animal - deer)	None	No, school bus not involved	V1:(Collision with animal - other)	214439.4	912100.3	42.4593	-71.3245	680	LEXINGTON RD		
4481623	1/3/18	Property damage only (none injured)	6:36 PM	2	D1: (No improper driving) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Y-intersection	0	0	Stop signs	V1: Travelling straight ahead / V2: Turning left	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	Cloudy/Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214445.9	912099.1	42.45929	-71.3244		OLD BEDFORD RD / LEXINGTON RD		
4559819	6/24/18	Non-fatal injury	5:56 PM	2	D1: (No improper driving) / D2: (Inattention)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Wet	Y-intersection	0	2	Stop signs	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(Yes, other reason not disabled) / V2:(No)	Rain	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214445.9	912099.1	42.45929	-71.3244		OLD BEDFORD RD / LEXINGTON RD		
4658028	12/17/18	Property damage only (none injured)	4:42 PM	1	D1: (No improper driving)	D1: Not Distracted	Collision with animal - deer	Yes	Dark - lighted roadway	Single vehicle crash	Dry	Not at junction	0	0	No controls	V1: Travelling straight ahead	V1:(Passenger car)	V1:(No)	Clear	Roadway	No hit and run	V1:(Collision with animal - deer)	None	No, school bus not involved	V1:(Collision with animal - deer)	214379.6	912103.8	42.45933	-71.3252		LEXINGTON RD / OLD BEDFORD RD		
4719385	6/6/19	Property damage only (none injured)	4:16 PM	2	D1: (No improper driving) / D2: (Followed too closely),(Inattention)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	T-intersection	0	0	Stop signs	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	Cloudy	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214379.6	912103.8	42.45933	-71.3252		LEXINGTON RD / OLD BEDFORD RD		
4719476	7/1/19	Property damage only (none injured)	8:58 AM	2	D1: (Other improper action) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Sideswipe, opposite direction	Dry	Y-intersection	0	0	No controls	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	Cloudy	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214379.6	912103.8	42.45933	-71.3252		LEXINGTON RD / OLD BEDFORD RD		
4876896	7/28/20	Non-fatal injury	12:47 PM	2	D1: (Failed to yield right of way),(Distracted) / D2: (No improper driving)	D1: Other activity, electronic device / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Sideswipe, opposite direction	Dry	Y-intersection	0	0	No controls	V1: Turning left / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	Clear	Roadway	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	214379.6	912103.8	42.45933	-71.3252		LEXINGTON ROAD / OLD BEDFORD ROAD		

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Concord COUNT DATE : Mar-20
 DISTRICT : 4 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Bedford Street
 MINOR STREET(S) : Old Bedford Road

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	324	487	314	0		1,125

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____
 Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Concord COUNT DATE : Mar-20

DISTRICT : 4 UNSIGNALIZED : SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Lexington Road

MINOR STREET(S) : Old Bedford Road

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	306	460	0	271		1,037

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION :

0.44

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : _____

Project Title & Date: _____

Town of Concord
June 29, 2021

Capacity Analysis Worksheets – Virginia Road and Site Entrance

9: Entrance Driveway & Virginia Road
Lanes, Volumes, Timings

2027 Build AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	500	44	1	69	0	0
Future Volume (vph)	500	44	1	69	0	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989					
Flt Protected	0.999					
Satd. Flow (prot)	1842	0	0	1861	0	1863
Flt Permitted	0.999					
Satd. Flow (perm)	1842	0	0	1861	0	1863
Link Speed (mph)	30		30		30	
Link Distance (ft)	91		271		73	
Travel Time (s)	2.1		6.2		1.7	
Peak Hour Factor	0.90	0.90	0.81	0.81	0.92	0.92
Adj. Flow (vph)	556	49	1	85	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	605	0	0	86	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0		0		0	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15		15	
Sign Control	Free		Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.3%
Analysis Period (min)	15
	ICU Level of Service A

9: Entrance Driveway & Virginia Road
 HCM 6th TWSC

2027 Build AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	500	44	1	69	0	0
Future Vol, veh/h	500	44	1	69	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	81	81	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	556	49	1	85	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	605	0	- 581
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	- 6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	- 3.318
Pot Cap-1 Maneuver	-	-	973	-	0 514
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	973	-	- 514
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	973	-
HCM Lane V/C Ratio	-	-	-	0.001	-
HCM Control Delay (s)	0	-	-	8.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

9: Entrance Driveway & Virginia Road
Lanes, Volumes, Timings

2027 Build PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	43	32	1	425	0	0
Future Volume (vph)	43	32	1	425	0	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.942					
Fl _t Protected						
Satd. Flow (prot)	1755	0	0	1863	0	1863
Fl _t Permitted						
Satd. Flow (perm)	1755	0	0	1863	0	1863
Link Speed (mph)	30			30	30	
Link Distance (ft)	91			271	73	
Travel Time (s)	2.1			6.2	1.7	
Peak Hour Factor	0.90	0.90	0.83	0.83	0.92	0.92
Adj. Flow (vph)	48	36	1	512	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	0	0	513	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.5%
Analysis Period (min)	15
	ICU Level of Service A

9: Entrance Driveway & Virginia Road
 HCM 6th TWSC

2027 Build PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	43	32	1	425	0	0
Future Vol, veh/h	43	32	1	425	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	36	1	512	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	84	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.218	-	-
Pot Cap-1 Maneuver	-	-	1513	-	0
Stage 1	-	-	-	-	0
Stage 2	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1513	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

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










Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1513	-
HCM Lane V/C Ratio	-	-	-	0.001	-
HCM Control Delay (s)	0	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Town of Concord
June 29, 2021

6th Edition Capacity Analysis Worksheets

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2020 Existing AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	39	28	147	293	189	223
Future Volume (vph)	39	28	147	293	189	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.943		0.910			
Flt Protected	0.972					0.978
Satd. Flow (prot)	1665	0	1723	0	0	1828
Flt Permitted	0.972					0.978
Satd. Flow (perm)	1665	0	1723	0	0	1828
Link Speed (mph)	30		30			30
Link Distance (ft)	441		203			399
Travel Time (s)	10.0		4.6			9.1
Peak Hour Factor	0.81	0.81	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	5%	4%	1%	0%	0%	3%
Adj. Flow (vph)	48	35	163	326	212	251
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	0	489	0	0	463
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.8%			ICU Level of Service B		
Analysis Period (min)	15					

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2020 Existing AM Peak Hour

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	28	147	293	189	223
Future Vol, veh/h	39	28	147	293	189	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	90	90	89	89
Heavy Vehicles, %	5	4	1	0	0	3
Mvmt Flow	48	35	163	326	212	251

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1001	326	0	0	489
Stage 1	326	-	-	-	-
Stage 2	675	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	266	711	-	-	1085
Stage 1	725	-	-	-	-
Stage 2	500	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	206	711	-	-	1085
Mov Cap-2 Maneuver	206	-	-	-	-
Stage 1	725	-	-	-	-
Stage 2	387	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22	0	4.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	293	1085
HCM Lane V/C Ratio	-	-	0.282	0.196
HCM Control Delay (s)	-	-	22	9.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.1	0.7

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2020 Existing AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	11	26	433	244	18
Future Volume (vph)	7	11	26	433	244	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.991	
Flt Protected	0.980			0.997		
Satd. Flow (prot)	1620	0	0	1872	1815	0
Flt Permitted	0.980			0.997		
Satd. Flow (perm)	1620	0	0	1872	1815	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	203	
Travel Time (s)	13.2			9.6	4.6	
Peak Hour Factor	0.90	0.90	0.92	0.92	0.89	0.89
Heavy Vehicles (%)	14%	0%	4%	1%	4%	0%
Adj. Flow (vph)	8	12	28	471	274	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	499	294	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.5%
	ICU Level of Service A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2020 Existing AM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	7	11	26	433	244	18
Future Vol, veh/h	7	11	26	433	244	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	92	92	89	89
Heavy Vehicles, %	14	0	4	1	4	0
Mvmt Flow	8	12	28	471	274	20










Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	811	284	294	0	0
Stage 1	284	-	-	-	-
Stage 2	527	-	-	-	-
Critical Hdwy	6.54	6.2	4.14	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.236	-	-
Pot Cap-1 Maneuver	333	760	1256	-	-
Stage 1	737	-	-	-	-
Stage 2	569	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	323	760	1256	-	-
Mov Cap-2 Maneuver	323	-	-	-	-
Stage 1	715	-	-	-	-
Stage 2	569	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1256	-	498	-	-
HCM Lane V/C Ratio	0.023	-	0.04	-	-
HCM Control Delay (s)	7.9	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2027 No-Build AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	29	153	303	196	233
Future Volume (vph)	40	29	153	303	196	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.943		0.910			
Flt Protected	0.972					0.978
Satd. Flow (prot)	1665	0	1723	0	0	1828
Flt Permitted	0.972					0.978
Satd. Flow (perm)	1665	0	1723	0	0	1828
Link Speed (mph)	30		30			30
Link Distance (ft)	441		203			399
Travel Time (s)	10.0		4.6			9.1
Peak Hour Factor	0.81	0.81	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	5%	4%	1%	0%	0%	3%
Adj. Flow (vph)	49	36	170	337	220	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	507	0	0	482
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.8%			ICU Level of Service B		
Analysis Period (min)	15					

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2027 No-Build AM Peak Hour

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	29	153	303	196	233
Future Vol, veh/h	40	29	153	303	196	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	90	90	89	89
Heavy Vehicles, %	5	4	1	0	0	3
Mvmt Flow	49	36	170	337	220	262

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1041	339	0	0	507
Stage 1	339	-	-	-	-
Stage 2	702	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	251	699	-	-	1068
Stage 1	715	-	-	-	-
Stage 2	486	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	191	699	-	-	1068
Mov Cap-2 Maneuver	191	-	-	-	-
Stage 1	715	-	-	-	-
Stage 2	369	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	4.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	275	1068
HCM Lane V/C Ratio	-	-	0.31	0.206
HCM Control Delay (s)	-	-	23.9	9.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.3	0.8

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2027 No-Build AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	11	26	449	255	18
Future Volume (vph)	7	11	26	449	255	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919				0.991	
Flt Protected	0.980			0.997		
Satd. Flow (prot)	1620	0	0	1873	1815	0
Flt Permitted	0.980			0.997		
Satd. Flow (perm)	1620	0	0	1873	1815	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	203	
Travel Time (s)	13.2			9.6	4.6	
Peak Hour Factor	0.90	0.90	0.92	0.92	0.89	0.89
Heavy Vehicles (%)	14%	0%	4%	1%	4%	0%
Adj. Flow (vph)	8	12	28	488	287	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	516	307	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.9%
ICU Level of Service	A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2027 No-Build AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	7	11	26	449	255	18
Future Vol, veh/h	7	11	26	449	255	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	92	92	89	89
Heavy Vehicles, %	14	0	4	1	4	0
Mvmt Flow	8	12	28	488	287	20

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	841	297	307	0	0
Stage 1	297	-	-	-	-
Stage 2	544	-	-	-	-
Critical Hdwy	6.54	6.2	4.14	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.236	-	-
Pot Cap-1 Maneuver	319	747	1242	-	-
Stage 1	727	-	-	-	-
Stage 2	558	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	309	747	1242	-	-
Mov Cap-2 Maneuver	309	-	-	-	-
Stage 1	704	-	-	-	-
Stage 2	558	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	482	-	-
HCM Lane V/C Ratio	0.023	-	0.041	-	-
HCM Control Delay (s)	8	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2027 Build AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	29	176	320	224	233
Future Volume (vph)	40	29	176	320	224	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.943		0.913			
Flt Protected	0.972					0.976
Satd. Flow (prot)	1665	0	1729	0	0	1826
Flt Permitted	0.972					0.976
Satd. Flow (perm)	1665	0	1729	0	0	1826
Link Speed (mph)	30		30			30
Link Distance (ft)	91		91			399
Travel Time (s)	2.1		2.1			9.1
Peak Hour Factor	0.81	0.81	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	5%	4%	1%	0%	0%	3%
Adj. Flow (vph)	49	36	196	356	252	262
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	552	0	0	514
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	67.6%
Analysis Period (min)	15
	ICU Level of Service C

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2027 Build AM Peak Hour

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	40	29	176	320	224	233
Future Vol, veh/h	40	29	176	320	224	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	90	90	89	89
Heavy Vehicles, %	5	4	1	0	0	3
Mvmt Flow	49	36	196	356	252	262

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1140	374	0	0	552
Stage 1	374	-	-	-	-
Stage 2	766	-	-	-	-
Critical Hdwy	6.45	6.24	-	-	4.1
Critical Hdwy Stg 1	5.45	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-
Follow-up Hdwy	3.545	3.336	-	-	2.2
Pot Cap-1 Maneuver	219	668	-	-	1028
Stage 1	689	-	-	-	-
Stage 2	454	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	156	668	-	-	1028
Mov Cap-2 Maneuver	156	-	-	-	-
Stage 1	689	-	-	-	-
Stage 2	324	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.6	0	4.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	230	1028
HCM Lane V/C Ratio	-	-	0.37	0.245
HCM Control Delay (s)	-	-	29.6	9.6
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.6	1

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2027 Build AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	11	26	465	269	18
Future Volume (vph)	7	11	26	465	269	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.919				0.992	
Fl _t Protected	0.980			0.997		
Satd. Flow (prot)	1620	0	0	1873	1817	0
Fl _t Permitted	0.980			0.997		
Satd. Flow (perm)	1620	0	0	1873	1817	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	112	
Travel Time (s)	13.2			9.6	2.5	
Peak Hour Factor	0.90	0.90	0.92	0.92	0.89	0.89
Heavy Vehicles (%)	14%	0%	4%	1%	4%	0%
Adj. Flow (vph)	8	12	28	505	302	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	533	322	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	54.5%
	ICU Level of Service A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2027 Build AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	7	11	26	465	269	18
Future Vol, veh/h	7	11	26	465	269	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	92	92	89	89
Heavy Vehicles, %	14	0	4	1	4	0
Mvmt Flow	8	12	28	505	302	20










Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	873	312	322	0	0
Stage 1	312	-	-	-	-
Stage 2	561	-	-	-	-
Critical Hdwy	6.54	6.2	4.14	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.236	-	-
Pot Cap-1 Maneuver	306	733	1227	-	-
Stage 1	716	-	-	-	-
Stage 2	548	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	296	733	1227	-	-
Mov Cap-2 Maneuver	296	-	-	-	-
Stage 1	693	-	-	-	-
Stage 2	548	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1227	-	466	-	-
HCM Lane V/C Ratio	0.023	-	0.043	-	-
HCM Control Delay (s)	8	0	13.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

7: Old Bedford Road & Exit Driveway
Lanes, Volumes, Timings

2027 Build AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	24	472	0	0	273
Future Volume (vph)	14	24	472	0	0	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914					
Flt Protected	0.982					
Satd. Flow (prot)	1672	0	1863	0	0	1863
Flt Permitted	0.982					
Satd. Flow (perm)	1672	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	99		112			91
Travel Time (s)	2.3		2.5			2.1
Peak Hour Factor	0.92	0.92	0.90	0.90	0.89	0.89
Adj. Flow (vph)	15	26	524	0	0	307
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	524	0	0	307
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.8%			ICU Level of Service A		
Analysis Period (min)	15					

7: Old Bedford Road & Exit Driveway
 HCM 6th TWSC

2027 Build AM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↑
Traffic Vol, veh/h	14	24	472	0	0	273
Future Vol, veh/h	14	24	472	0	0	273
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	26	524	0	0	307

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	831	524	0	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	340	553	-	0	0	-
Stage 1	594	-	-	0	0	-
Stage 2	746	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	340	553	-	-	-	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 449	-
HCM Lane V/C Ratio	- 0.092	-
HCM Control Delay (s)	- 13.8	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.3	-

9: Entrance Driveway & Virginia Road
Lanes, Volumes, Timings

2027 Build AM Peak Hour












Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	500	44	1	69	0	0
Future Volume (vph)	500	44	1	69	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989					
Flt Protected	0.999					
Satd. Flow (prot)	1842	0	0	1861	0	0
Flt Permitted	0.999					
Satd. Flow (perm)	1842	0	0	1861	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	91			271	73	
Travel Time (s)	2.1			6.2	1.7	
Peak Hour Factor	0.90	0.90	0.81	0.81	0.92	0.92
Adj. Flow (vph)	556	49	1	85	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	605	0	0	86	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	32.3%
Analysis Period (min)	15
	ICU Level of Service A

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2020 Existing PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	99	311	246	28	13	110
Future Volume (vph)	99	311	246	28	13	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.898		0.986			
Flt Protected	0.988					0.995
Satd. Flow (prot)	1686	0	1840	0	0	1890
Flt Permitted	0.988					0.995
Satd. Flow (perm)	1686	0	1840	0	0	1890
Link Speed (mph)	30		30			30
Link Distance (ft)	441		203			399
Travel Time (s)	10.0		4.6			9.1
Peak Hour Factor	0.83	0.83	0.94	0.94	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	119	375	262	30	16	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	494	0	292	0	0	149
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.0%			ICU Level of Service A		
Analysis Period (min)	15					

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2020 Existing PM Peak Hour

Intersection						
Int Delay, s/veh	11.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	99	311	246	28	13	110
Future Vol, veh/h	99	311	246	28	13	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	94	94	83	83
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	119	375	262	30	16	133

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	442	277	0	0	292
Stage 1	277	-	-	-	-
Stage 2	165	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	577	767	-	-	1281
Stage 1	774	-	-	-	-
Stage 2	869	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	569	767	-	-	1281
Mov Cap-2 Maneuver	569	-	-	-	-
Stage 1	774	-	-	-	-
Stage 2	858	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	708	1281
HCM Lane V/C Ratio	-	-	0.698	0.012
HCM Control Delay (s)	-	-	21	7.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	5.7	0

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2020 Existing PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	18	15	264	204	5
Future Volume (vph)	10	18	15	264	204	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914			0.997		
Flt Protected	0.982			0.997		
Satd. Flow (prot)	1642	0	0	1852	1876	0
Flt Permitted	0.982			0.997		
Satd. Flow (perm)	1642	0	0	1852	1876	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	203	
Travel Time (s)	13.2			9.6	4.6	
Peak Hour Factor	0.44	0.44	0.95	0.95	0.85	0.85
Heavy Vehicles (%)	0%	6%	7%	2%	1%	0%
Adj. Flow (vph)	23	41	16	278	240	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	294	246	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.2%
ICU Level of Service	A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2020 Existing PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	10	18	15	264	204	5
Future Vol, veh/h	10	18	15	264	204	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	44	44	95	95	85	85
Heavy Vehicles, %	0	6	7	2	1	0
Mvmt Flow	23	41	16	278	240	6










Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	553	243	246	0	0
Stage 1	243	-	-	-	-
Stage 2	310	-	-	-	-
Critical Hdwy	6.4	6.26	4.17	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.263	-	-
Pot Cap-1 Maneuver	498	786	1291	-	-
Stage 1	802	-	-	-	-
Stage 2	748	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	491	786	1291	-	-
Mov Cap-2 Maneuver	491	-	-	-	-
Stage 1	790	-	-	-	-
Stage 2	748	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1291	-	647	-	-
HCM Lane V/C Ratio	0.012	-	0.098	-	-
HCM Control Delay (s)	7.8	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2027 No-Build PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	103	322	256	29	13	114
Future Volume (vph)	103	322	256	29	13	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.898		0.986			
Flt Protected	0.988					0.995
Satd. Flow (prot)	1686	0	1840	0	0	1890
Flt Permitted	0.988					0.995
Satd. Flow (perm)	1686	0	1840	0	0	1890
Link Speed (mph)	30		30			30
Link Distance (ft)	441		203			399
Travel Time (s)	10.0		4.6			9.1
Peak Hour Factor	0.83	0.83	0.94	0.94	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	124	388	272	31	16	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	512	0	303	0	0	153
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.1%			ICU Level of Service A		
Analysis Period (min)	15					

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2027 No-Build PM Peak Hour

Intersection						
Int Delay, s/veh	12.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	103	322	256	29	13	114
Future Vol, veh/h	103	322	256	29	13	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	94	94	83	83
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	124	388	272	31	16	137

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	457	288	0	0	303
Stage 1	288	-	-	-	-
Stage 2	169	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	565	756	-	-	1269
Stage 1	766	-	-	-	-
Stage 2	866	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	557	756	-	-	1269
Mov Cap-2 Maneuver	557	-	-	-	-
Stage 1	766	-	-	-	-
Stage 2	854	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	1269
HCM Lane V/C Ratio	-	-	0.736	0.012
HCM Control Delay (s)	-	-	23.2	7.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	6.5	0

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2027 No-Build PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	18	15	275	212	5
Future Volume (vph)	10	18	15	275	212	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914			0.997		
Flt Protected	0.982			0.997		
Satd. Flow (prot)	1642	0	0	1852	1876	0
Flt Permitted	0.982			0.997		
Satd. Flow (perm)	1642	0	0	1852	1876	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	203	
Travel Time (s)	13.2			9.6	4.6	
Peak Hour Factor	0.44	0.44	0.95	0.95	0.85	0.85
Heavy Vehicles (%)	0%	6%	7%	2%	1%	0%
Adj. Flow (vph)	23	41	16	289	249	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	305	255	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.7%
	ICU Level of Service A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2027 No-Build PM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	10	18	15	275	212	5
Future Vol, veh/h	10	18	15	275	212	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	44	44	95	95	85	85
Heavy Vehicles, %	0	6	7	2	1	0
Mvmt Flow	23	41	16	289	249	6










Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	573	252	255	0	-	0
Stage 1	252	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Critical Hdwy	6.4	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	484	777	1281	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	477	777	1281	-	-	-
Mov Cap-2 Maneuver	477	-	-	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1281	-	634	-	-
HCM Lane V/C Ratio	0.012	-	0.1	-	-
HCM Control Delay (s)	7.8	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

3: Old Bedford Road & Virginia Road Lanes, Volumes, Timings

2027 Build PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	103	322	279	42	33	114
Future Volume (vph)	103	322	279	42	33	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.898		0.982			
Flt Protected	0.988					0.989
Satd. Flow (prot)	1686	0	1834	0	0	1879
Flt Permitted	0.988					0.989
Satd. Flow (perm)	1686	0	1834	0	0	1879
Link Speed (mph)	30		30			30
Link Distance (ft)	91		91			399
Travel Time (s)	2.1		2.1			9.1
Peak Hour Factor	0.83	0.83	0.94	0.94	0.83	0.83
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	124	388	297	45	40	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	512	0	342	0	0	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.6%			ICU Level of Service B		
Analysis Period (min)	15					

3: Old Bedford Road & Virginia Road
 HCM 6th TWSC

2027 Build PM Peak Hour

Intersection						
Int Delay, s/veh	14.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	103	322	279	42	33	114
Future Vol, veh/h	103	322	279	42	33	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	94	94	83	83
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	124	388	297	45	40	137










Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	537	320	0	0	342
Stage 1	320	-	-	-	-
Stage 2	217	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	508	725	-	-	1228
Stage 1	741	-	-	-	-
Stage 2	824	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	490	725	-	-	1228
Mov Cap-2 Maneuver	490	-	-	-	-
Stage 1	741	-	-	-	-
Stage 2	795	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.9	0	1.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	650	1228
HCM Lane V/C Ratio	-	-	0.788	0.032
HCM Control Delay (s)	-	-	27.9	8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	7.7	0.1

4: Old Bedford Road & Exit Driveway Lanes, Volumes, Timings

2027 Build PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	14	297	0	0	217
Future Volume (vph)	24	14	297	0	0	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951					
Flt Protected	0.969					
Satd. Flow (prot)	1717	0	1863	0	0	1863
Flt Permitted	0.969					
Satd. Flow (perm)	1717	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	91		112			91
Travel Time (s)	2.1		2.5			2.1
Peak Hour Factor	0.92	0.92	0.94	0.94	0.83	0.83
Adj. Flow (vph)	26	15	316	0	0	261
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	316	0	0	261
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.6%		ICU Level of Service A			
Analysis Period (min)	15					

4: Old Bedford Road & Exit Driveway
 HCM 6th TWSC

2027 Build PM Peak Hour

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↑		↑			↑
Traffic Vol, veh/h	24	14	297	0	0	217
Future Vol, veh/h	24	14	297	0	0	217
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	94	94	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	316	0	0	261

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	577	316	0	-	-	-
Stage 1	316	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	478	724	-	0	0	-
Stage 1	739	-	-	0	0	-
Stage 2	783	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	478	724	-	-	-	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	783	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 546	-
HCM Lane V/C Ratio	- 0.076	-
HCM Control Delay (s)	- 12.1	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.2	-

5: Old Bedford Road & Meriam Road
Lanes, Volumes, Timings

2027 Build PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	18	15	287	226	5
Future Volume (vph)	10	18	15	287	226	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.914			0.997		
Flt Protected	0.982			0.997		
Satd. Flow (prot)	1642	0	0	1853	1876	0
Flt Permitted	0.982			0.997		
Satd. Flow (perm)	1642	0	0	1853	1876	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	580			423	112	
Travel Time (s)	13.2			9.6	2.5	
Peak Hour Factor	0.44	0.44	0.95	0.95	0.85	0.85
Heavy Vehicles (%)	0%	6%	7%	2%	1%	0%
Adj. Flow (vph)	23	41	16	302	266	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	318	272	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	37.3% ICU Level of Service A
Analysis Period (min)	15

5: Old Bedford Road & Meriam Road
 HCM 6th TWSC

2027 Build PM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	10	18	15	287	226	5
Future Vol, veh/h	10	18	15	287	226	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	44	44	95	95	85	85
Heavy Vehicles, %	0	6	7	2	1	0
Mvmt Flow	23	41	16	302	266	6

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	603	269	272	0	0
Stage 1	269	-	-	-	-
Stage 2	334	-	-	-	-
Critical Hdwy	6.4	6.26	4.17	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.354	2.263	-	-
Pot Cap-1 Maneuver	465	760	1263	-	-
Stage 1	781	-	-	-	-
Stage 2	730	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	458	760	1263	-	-
Mov Cap-2 Maneuver	458	-	-	-	-
Stage 1	769	-	-	-	-
Stage 2	730	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1263	-	615	-	-
HCM Lane V/C Ratio	0.013	-	0.103	-	-
HCM Control Delay (s)	7.9	0	11.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

9: Entrance Driveway & Virginia Road
Lanes, Volumes, Timings

2027 Build PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	43	32	1	425	0	0
Future Volume (vph)	43	32	1	425	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.942					
Fl _t Protected						
Satd. Flow (prot)	1755	0	0	1863	0	0
Fl _t Permitted						
Satd. Flow (perm)	1755	0	0	1863	0	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	91			271	73	
Travel Time (s)	2.1			6.2	1.7	
Peak Hour Factor	0.90	0.90	0.83	0.83	0.92	0.92
Adj. Flow (vph)	48	36	1	512	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	0	0	513	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9		15	15		9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.5%
Analysis Period (min)	15
	ICU Level of Service A