

September 30, 2025

Ms. Alison Manugian
Community Development Director
Town of Dracut
62 Arlington Street
Dracut, MA 01826

RE: Proposed Residential
2041 Bridge Street, Dracut, MA
Fuss & O'Neill Reference No. 20240929.A10

Dear Ms. Manugian:

Fuss & O'Neill is in receipt of the Green International Affiliates, Inc. (Green) September 4, 2025 review of the Traffic Impact and Access Study (TIAS) prepared for the proposed residential development to be located at 2041 Bridge Street in Dracut, MA. The purpose of this letter is to respond to the traffic comments raised on the Fuss & O'Neill TIAS (dated January 8, 2024). Fuss & O'Neill, in association with Hancock Associates, has prepared the responses below.

Comment No. 1: *Green concurs with the study area and intersections for the analysis.*

Response: Fuss & O'Neill concurs.

Comment No. 2: *The TIAS or Comprehensive Permit did not include an appendix with relevant data to the analysis, thus Green was not able to review the raw data or calculations. Green requests that the traffic impact calculations be provided in the appendix.*

Response: Included with this response letter is a full Appendix, updated as appropriate based on comments within the Green comment letter.

Comment No. 3: *The TIAS identified the segment of Bridge Street within the study area as a "rural minor arterial." Upon reviewing the "MassDOT Road Inventory Viewer" provided by MassDOT "MygeoDOT" GIS database Bridge Street is identified as a "Principal Arterial - Other." Upon reviewing the "Urban Boundaries 2020" provided by the "MassGIS Data Hub" the project location is within the Boston, MA-NH urbanized area. Thus, Green concludes that Bridge Street is classified as an Urban Principal Arterial - Other. Upon reviewing the "MassDOT Road Inventory Viewer" provided by MassDOT "MygeoDOT" GIS database Marsh Hill Road is identified as a "Major Collector." Marsh Hill Road is within the Boston, MA-NH urban boundary. Thus, Green concludes that Marsh Hill Road would be classified as an Urban Major Collector.*

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Response: Fuss & O'Neill concurs.

Comment No. 4: *Cross Road and Old Pasture Road are included in the study intersection analysis. Green recommends including an existing conditions roadway description for Cross Road and Old Pasture Road. Green recommends providing lane widths for the study roadways. The TIAS identified the "Bridge Street at Marsh Hill Road and Cross Road" as a study intersection. Green concurs with the general intersection description; however, the west leg of the intersection is "Cross Road."*

Response: Following is a summary of existing conditions of Cross Road, Old Pasture Road and the intersection of Bridge Street, Marsh Hill Road and Cross Road.

Roadways

Bridge Street

Bridge Street is a two-lane, Urban Principal Arterial under the jurisdiction of the Town of Dracut. Bridge Street traverses the study area in a general north/south direction through the Town of Dracut. Travel lanes are generally twelve (12) to thirteen (13) feet wide and are separated by a double yellow centerline. Marked shoulders are also provided. The posted speed limit on Bridge Street in the vicinity of the site is 35 miles per hour (mph). Land use along Bridge Street in the study area consists of residential properties and commercial uses.

Marsh Hill Road

Marsh Hill Road is a two-lane, Urban Major Collector under the jurisdiction of the Town of Dracut. Marsh Hill Road traverses the study area in a general east/west direction from Bridge Street easterly to Broadway Road (Route 113). Travel lanes are generally twelve (12) feet wide. The posted speed limit on Marsh Hill Road in the vicinity of the site is 30 mph. Land use along Marsh Hill Road in the site vicinity consists of residential properties.

Cross Road

Cross Road is a two-lane, Urban Major Collector under the jurisdiction of the Town of Dracut. Cross Road traverses the study area in a general east/west direction from Bridge Street westerly to its terminus at the intersection with Colburn Avenue. Travel lanes are generally twelve (12) feet wide. The posted speed limit on Cross Road is 30 mph. Land use along Cross Road consists of residential properties.

Old Pasture Road

Old Pasture Road is a two-lane, Local Street under the jurisdiction of the Town of Dracut. Cross Road traverses the study area in a general north/south direction from Marsh Hill Road to its terminus just beyond the intersection with Butternut Road. Travel lanes are generally twelve (12) feet wide. There is no posted speed limit on Old Pasture Road. Land use along Old Pasture Road consists of residential properties.

Intersections

Bridge Street, Cross Road and Marsh Hill Road

Bridge Street forms the north and south legs of this four-legged intersection with Cross Road (west leg) and Marsh Hill Road (east leg). The Bridge Street approaches each consist of an exclusive left-turn lane and a shared through/right-turn lane. The Cross Road approach consists of a single lane and permits all movements. The Marsh Hill Road approach consists of a single lane and permits all movements. The intersection is controlled by a traffic signal. Land use in the vicinity consists of the site and residential and commercial properties.

Comment No. 5: *In the executive summary and in Section 2, the TIAS indicates that the traffic counts were collected in November 2023. The traffic counts consisted of automatic traffic recorders (ATRs) and turning movement counts (TMCs). Green concurs with applying the seasonal factor. Green recommends including the traffic count narrative in the "Section 2 - Existing Traffic Volume" as well for consistency. The narrative is in the "Executive Summary" while the data is in "Section 2 - Table 1."*

Response: The narrative in the "Executive Summary" is also included in the text of Section 2 prior to the data summarized in Table 1.

Comment No. 6: *The TIAS or Comprehensive Permit did not include an appendix with relevant data to the analysis, thus Green was not able to review the raw data or calculations. In order to determine the Seasonal Adjustment Factor that was referenced, Green reviewed the 2019, 2021, 2022, 2023, 2024 MassDOT Weekday Seasonal Factors. The TIAS indicated that, "November volumes to be slightly lower than average month conditions. Therefore, the November traffic volumes were adjusted upward by a factor of 1.012 and used to represent average month conditions." As previously noted, Green concurred that the roadway classification for Bridge Street was inconsistent with MassDOTs resources. Green referred to the U3 or Urban Principal Arterial calculation to evaluate if a seasonal adjustment factor needed to be applied to the data. Based on the MassDOT Seasonal Adjustment Factors for 2019, 2021, 2022,*

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2023, and 2024, traffic volumes collected in November on U3 classified roadway do not need a seasonal adjustment factor. This indicates that typically traffic volumes are higher than the average daily traffic, meaning the traffic volumes do not need to be rounded up or adjusted. As such, seasonal adjustment was not strictly necessary; however, due to the traffic volumes being rounded up rather than down, this results in a more conservative analysis and Green does not take issue with this assumption.

Response: Fuss & O'Neill concurs with Green's assessment of the seasonal adjustment factors. For analysis purposes within this response to comments letter, the original 2023 Existing traffic volumes from the TIAS were held.

Comment No. 7: The TIAS crash analysis summarized the crash analysis in Section 2 Table 2 - Motor Vehicle Crash Data Summary. The crash data analyzed a six-year timeframe from 2017-2022. According to the MassDOT TIAS guidelines, the analysis should be based on five years of data, or a minimum of three years. The TIAS indicates that there were 27 crashes at the Bridge Street at Cross Street and Marsh Hill Road during the six-year timeframe. According to the MassDOT TIA Guidelines, collisions diagrams shall be provided for any study intersection with an average of more than three crashes per year unless otherwise directed by MassDOT. This analysis could be triggered as part of the MassDOT permitting process. If so the TIAS may require a collision diagram, unless otherwise directed by MassDOT. The intersection safety narratives shall discuss the potential crash causes and potential remediation strategies. The collision diagram shall be based on actual crash reports with collision diagrams and narratives. Based off the six-year time frame, the study intersection averaged 4.5 crashes per year. In accordance with the State Highway Access permitting process the Applicant should confirm if MassDOT will request this analysis.

Response: MassDOT will not be requesting any additional analysis as there is no State permit associated with this project. All of the study area roadways are under the jurisdiction of the Town of Dracut.

Comment No. 8: Intersection crash data is typically presented by year in order to identify trends in the yearly crashes. The TIAS reported this information as the total number rather than by year. For example, there were thirteen angle collisions during the six-year timeframe. The TIAS reported the total number of angle crashes, rather than the total angle total for each year. Green recommends summarizing the crash data by year in order to identify crash trends and if there is any yearly variation.

Response: Summarized in Table 1 are the crashes with crash data presented by year in order to identify trends in the yearly crashes. The most prevalent type of crashes were

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angle collisions, with an average of 2.2 crashes per year.

Comment No. 9: *Green request that relevant information from the Lowell Regional Transit Authority (LRTA) and the Massachusetts Bay Transportation Authority (MBTA) be provided. Green concurs with the TIAS public transportation narrative. According to the Site Developments "Layout and Materials Plan" there is a proposed bus shelter located at the northern side of the site driveway at Marsh Hill Road. Please confirm that the shelter and adjacent walkway conform to ADA/PROWAG requirements.*

Response: The bus route information is included in the Appendix. The shelter and adjacent walkway will conform to ADA/PROWAG requirements.

Comment No. 10: *A future analysis year of 2030 was selected based on MassDOT TIAS standards to utilize a seven year traffic volume projection. The TIAS indicates that the background growth rate information was supplied by the Central Transportation Planning Staff (CTPS). The TIAS reported that the "the Central Transportation Planning Staff (CTPS) indicate that a 0.17 percent (minor arterials) to 0.08 percent (interstate) compounded growth rate would be appropriate to develop future No-Build conditions." The TIAS utilized a background growth rate of 1%. Green concurs that 1% is an appropriate background growth rate in order to have a conservative analysis. Green requests that the correspondence with CTPS be included in the appendix.*

Response: The growth rate information is included in the Appendix.

TABLE 1
BRIDGE STREET, MARSH HILL ROAD AND CROSS ROAD
MOTOR VEHICLE CRASH DATA SUMMARY^a

Scenario	2017	2018	2019	2020	2021	2022	Total
<i>Type:</i>							
Angle	3	2	2	1	3	2	13
Rear-End	1	1	0	3	2	3	10
Front-To-Rear	0	0	0	0	0	0	0
Head-On	0	0	0	0	0	0	0
Sideswipe	0	0	0	0	0	0	0
Single Vehicle Crash	0	0	1	0	1	0	1
<u>Unknown</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
Total	6	3	3	4	6	5	27
<i>Time of Day:</i>							
Weekday (7:00 to 9:00 AM)	1	1	0	1	2	1	6
Weekday (4:00 to 6:00 PM)	0	0	0	1	1	1	3
<u>Remainder of Day</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>18</u>
Total	6	3	3	4	6	5	27
<i>Pavement Conditions:</i>							
Dry	4	3	2	4	4	5	22
Wet	2	0	1	0	0	0	3
Snow/Ice	0	0	0	0	2	0	2
Other	0	0	0	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	6	3	3	4	6	5	27
<i>Severity:</i>							
Property Damage Only	5	2	3	4	4	3	21
Personal Injury	1	1	0	0	2	1	5
Fatal Accident	0	0	0	0	0	0	0
<u>Unknown</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>
Total	6	3	3	4	6	5	27

^aSource: MassDOT Impact Crash Portal.

Comment No. 11: *The TIAS report states that the Town was contacted to identify planning developments in the vicinity of the study that could impact future traffic conditions. The Town identified one potential project location on Avis Avenue that could impact traffic flows in the surrounding area. The development consists of 19 single-family detached homes. The TIAS states that the provided Trip Assessment conducted by TEPP LLC was referred to for the trip generation. Green requests that the trip generation worksheets be included in the appendix.*

Response: The trip assignment information is included in the Appendix.

Comment No. 12: *The following Land Use Code (LUC) from the Institute of Transportation Engineer's (ITE) Trip Generation Manual was used to estimate trips expected to be generated by the proposed development:*

- a. LUC 220 – Multi-family housing (Low-Rise) applied to the 40 residential department units**

Green concurs with the LUCs utilized for the trip generation calculation. However, the ITE Trip Generation Handbook calculates an R^2 value (R-square) that indicates how strong of a strong correlation between the independent variable and the dependent variable. An R^2 value of 0.75 or higher indicates a strong correlation between the variables. An R^2 value of 0.74 or below indicates a weak correlation between the variables. The ITE calculates the trip generation with fitted curve and average rate. Where the R^2 value is 0.75 or higher, the fitted curve should be utilized. Where the R^2 value is 0.74 or lower, the average rate should be utilized.

Based on the TIAS Table 4 – Trip Generation Summary, the ITE calculated trips did not take into account the R^2 value. Below is a summary of the discrepancy in the data for the 40 residential unit analysis when referring to the weekday, AM and PM peak hour volumes:

- a. Weekday results: 0.86 R^2 value (strong correlation)**
 - a. Average Rate: 270 (Total), 135 (Entry), 135 (Exit)**
 - b. Fitted Curve: 332 (Total), 166 (Entry), 166 (Exit)**
- b. AM Peak Hour results: 0.79 R^2 value (strong correlation)**
 - a. Average Rate: 16 (Total), 4 (Entry), 12 (Exit)**
 - b. Fitted Curve: 35 (Total), 8 (Entry), 27 (Exit)**
- c. PM Peak Hour results: 0.84 R^2 value (strong correlation)**
 - a. Average Rate: 20 (Total), 13 (Entry), 7 (Exit)**
 - b. Fitted Curve: 38 (Total), 24 (Entry), 14 (Exit)**

The report utilized the “Average Rate” for the daily, AM and PM peak hour volumes. Due to the high R^2 or strong correlation the “Fitted Curve” trip generation should have been used. Green recommends the analysis utilize the Fitted Curve trip generation before conducting the future condition analysis. Green recommends revising the trip generation, trip distribution, and Synchro analysis.

Response: The trip generation calculations were re-evaluated and re-calculated using the 12th Edition of the ITE Trip Generation manual. The updated trip generation calculations are summarized in Table 2 using the appropriate methodology using the fitted curve trip generation where the R^2 value exceeds 0.75.

TABLE 2
TRIP-GENERATION SUMMARY

	Proposed Residential Trips ^a
Average Weekday Daily Trips	248
<i>Weekday Morning Peak Hour:</i>	
Entering	6
<u>Exiting</u>	<u>21</u>
Total	27
<i>Weekday Evening Peak Hour:</i>	
Entering	17
<u>Exiting</u>	<u>10</u>
Total	27

^aBased on ITE LUC 220, Single-Family Housing Attached; 40 dwelling units.

On a typical weekday, the proposed project is expected to generate 248 vehicle trips (124 vehicles entering and 124 vehicles exiting). During the weekday morning peak hour, 27 vehicle trips (6 vehicles entering and 21 vehicles exiting) are expected. During the weekday evening peak hour, 27 vehicle trips (17 vehicles entering and 10 vehicles exiting) are expected. These volumes were used in the updated intersection capacity analyses. The trip generation calculations are included in the Appendix.

Comment No. 13: *The residential trip distribution is based on the existing traffic patterns and anticipated commuter patterns. Green concurs that utilizing U.S. Census Journey to Work data for the residents of the Town of Dracut is the correct method for distributing the residential trips. Green requests that the census data be provided in the appendix in order to confirm the trip distribution percentages.*

Response: The gravity model is included in the Appendix.

Comment No. 14: *Green requests for the Synchro reports to be provided in the appendix in order to evaluate the level of service results. The Synchro analysis should be updated to account for the updated trip generation and trip distribution.*

Response: The updated Synchro Analyses are included within the Appendix along with the updated traffic flow networks.

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Comment No. 15: *Green requests that the “Table 9 – Unsignalized Level-of-Service Analysis Summary” show the level-of-service results for each approach rather than just the southbound direction. Table 9 only shows the Synchro results for the southbound movements, for example from the site driveway or from Old Pasture Road. Green requests that the delay, LOS, V/c and queue length be provided for all movements.*

Response: The unsignalized level of service summary table has been updated to include the results at each intersection for each approach. These results are summarized in Table 3. Table 4 summarizes the updated signalized level of service results.

Comment No. 16: *“Table 11 - Sight Distance Summary” indicates that the stopping sight distance and intersection sight distance used the AASHTO “A Policy on Geometric Design of Highways and Streets, 2018, 7th Edition” for the sight distance calculations. Based on the non-standard intersection sight distances depicted in Table 11, Green surmises the AASHTO “Table 3-2. Stopping Sight Distance on Grades” was considered in evaluating the sight analysis. Green requests confirmation of (if used) roadway grades used for the sight distance calculations. Green conducted a field visit to confirm existing conditions and sight distance at the existing driveway.*

Response: Grades were included in the sight distance assessment. The sight distance worksheets are included in the Appendix.

Comment No. 17: *The following parking space requirements are noted in the Table 6.1.6 of Off-Street Parking Requirements from Town’s Zoning By-Laws. Green concurs with the number of proposed parking spaces.*

Response: Fuss & O’Neill and Hancock Associates concur.

TABLE 3
UNSIGNALIZED LEVEL-OF-SERVICE ANALYSIS SUMMARY

Critical Movement/ Peak Hour	Marsh Hill Road and Old Pasture Road										Marsh Hill Road and Proposed Site Driveway																			
	Demand ^a	V/C ^b	Delay ^c	LOS ^d	Queue ^e	Demand	V/C	Delay	LOS	Queue	Demand	V/C	Delay	LOS	Queue	Demand	V/C	Delay	LOS	Queue										
2023 Existing	All movements from Old Pasture Road (SB): Weekday Morning Weekday Evening										Left-turn movements from Marsh Hill Road (NB): Weekday Morning Weekday Evening										Left-turn movements from Marsh Hill Road (NB): Weekday Morning Weekday Evening									
	27	0.05	10.8	B	5.0	28	0.05	10.9	B	5.0	28	0.05	10.9	B	5.0	21	0.05	12.5	B	2.5										
	11	0.03	11.9	B	2.5	11	0.03	12.1	B	2.5	11	0.03	12.2	B	2.5	10	0.02	11.7	B	2.5										
	8	0.01	7.8	A	0.0	8	0.01	7.8	A	0.0	12	0.01	8.3	A	0.0	4	0.0	7.8	A	0.0										
2030 No-Build																														
2030 Build																														
Demand of critical movements in vehicles per hour.																														
a Delay in seconds per vehicle.																														
b Volume-to-capacity ratio.																														
c Level of service.																														
d 95th percentile queue in feet																														

TABLE 4
SIGNALIZED LEVEL-OF-SERVICE SUMMARY
BRIDGE STREET, CROSS STREET AND MARSH HILL ROAD

Peak Hour/Lane Group	2023 Existing				2030 No-Build				2030 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d	V/C	Delay	LOS	Queue	V/C	Delay	LOS	Queue
<i>Weekday Morning</i>												
Eastbound Lt/Th/Rt	0.91	59.4	E	219/398	0.95	68.3	E	231/421	0.96	69.8	E	232/423
Westbound Lt/Th/Rt	0.95	74.0	E	168/336	1.01	90.9	F	189/355	1.11	123.6	F	215/382
Northbound Lt	0.43	43.5	D	33/65	0.46	43.7	D	35/69	0.46	43.7	D	35/69
Northbound Th/Rt	0.30	10.9	B	88/129	0.31	11.1	B	92/134	0.32	11.2	B	93/135
Southbound Lt	0.55	49.1	D	32/70	0.57	49.8	D	34/74	0.57	49.8	D	34/74
Southbound Th/Rt	0.44	13.3	B	142/235	0.45	13.7	B	150/248	0.45	13.7	B	150/248
Overall	0.57	38.5	D	--	0.60	44.1	D	--	0.63	51.2	D	--
<i>Weekday Evening</i>												
Eastbound Lt/Th/Rt	1.27	184.1	F	260/421	1.41	243.4	F	287/450	1.41	241.9	F	288/452
Westbound Lt/Th/Rt	1.11	115.5	F	293/424	1.18	141.9	F	314/445	1.24	165.9	F	332/463
Northbound Lt	0.65	48.5	D	65/116	0.58	43.2	D	68/121	0.58	43.2	D	68/121
Northbound Th/Rt	0.54	14.3	B	199/295	0.56	14.5	B	210/310	0.57	14.7	B	215/318
Southbound Lt	0.62	52.6	D	40/78	0.63	54.2	D	41/80	0.64	54.6	DS	42/80
Southbound Th/Rt	0.59	17.3	B	221/317	0.62	19.1	B	236/334	0.62	19.1	B	263/334
Overall	0.76	67.1	E	--	0.82	82.6	F	--	0.82	87.3	F	--

^aMaximum volume-to-capacity ratio.

^bDelay in seconds per vehicle.

^cLevel of service.

^dAverage Queue (ft)/95th %tile Queue (ft)

Lt = Left; Th = Through; Rt = Right.

Additional intersection capacity analyses were performed for the future Build condition with the project. A review of existing conditions and the existing traffic signal equipment shows that currently, the signal is operating primarily on a single timing plan throughout the day that is not responsive to existing traffic conditions. By upgrading the existing signal controller and setting operations to fully actuated control, with specific maximum timings during the weekday morning and weekday evening periods, significant improvement in operations can be obtained. Table 5 summarizes the future Build conditions without and with this upgrade.

TABLE 5
SIGNALIZED LEVEL-OF-SERVICE SUMMARY WITH SIGNAL UPGRADES
BRIDGE STREET, CROSS STREET AND MARSH HILL ROAD

Peak Hour/Lane Group	2030 Build				2030 Build with Improvements			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d	V/C	Delay	LOS	Queue
<i>Weekday Morning</i>								
Eastbound Lt/Th/Rt	0.96	69.8	E	232/423	0.71	26.5	C	150/241
Westbound Lt/Th/Rt	1.11	123.6	F	215/382	0.72	27.8	C	119/204
Northbound Lt	0.46	43.7	D	35/69	0.51	34.5	C	26/59
Northbound Th/Rt	0.32	11.2	B	93/135	0.38	13.0	B	93/168
Southbound Lt	0.57	49.8	D	34/74	0.62	43.5	D	24/63
Southbound Th/Rt	0.45	13.7	B	150/248	0.55	16.0	B	146/292
Overall	0.63	51.2	D	--	0.60	22.0	C	--
<i>Weekday Evening</i>								
Eastbound Lt/Th/Rt	1.41	241.9	F	288/452	0.77	34.4	C	168/265
Westbound Lt/Th/Rt	1.24	165.9	F	332/463	0.84	38.3	D	218/297
Northbound Lt	0.58	43.2	D	68/121	0.70	49.1	D	64/119
Northbound Th/Rt	0.57	14.7	B	215/318	0.70	22.3	C	272/411
Southbound Lt	0.64	54.6	DS	42/80	0.55	42.4	D	38/76
Southbound Th/Rt	0.62	19.1	B	263/334	0.73	24.9	C	283/383
Overall	0.82	87.3	F	--	0.76	30.4	C	--

^aMaximum volume-to-capacity ratio.

^bDelay in seconds per vehicle.

^cLevel of service.

^dAverage Queue (ft)/95th %tile Queue (ft)

Lt = Left; Th = Through; Rt = Right.

These measures are shown on the Conceptual Improvement Plan (CIP), contained in the Appendix, along with suggested measures at the proposed site driveway intersection with Marsh Hill Road. The applicant is willing to fund and implement these measures.

Comment No. 18: Green reviewed the parking requirements depicted on sheet 3 of the

“Comprehensive Permit Site Plan.” Green concurs that 80 parking spaces are to be provided to meet the minimum requirements of two parking spaces per unit according to the Town’s bylaws.

Response: Fuss & O'Neill and Hancock Associates concur.

Comment No. 19: ***The U.S. Department of Justice Civil Rights Division published accessible parking space requirements in sections 208.2 of the 2010 ADA Standards for Accessible Design. The ADA Standards for Accessible Design indicates that in parking lots with 76 to 100 parking spaces four ADA parking are two be provided, one of which is van accessible. The current site plans meets the minimum requirements to satisfy the ADA parking standards.***

Response: Fuss & O'Neill and Hancock Associates concur.

Comment No. 20: ***A waiver has been requested to reduce the width and depth of the proposed parking spaces. The current site plans indicates that all of the proposed parking will have a width of nine feet and depth of 18-feet, with a maneuver width of 22-feet. All of the proposed parking spaces fall in the 45 to 90 degree standard. According to the Town’s bylaws, in section 6.1.8.1 General Standards D. Parking Dimensions the “Minimum Parking Stall Dimensions” for a standard 45 to 90 degree parking space shall be ten-feet-wide, 20-feet deep, with a maneuver width of 22-feet. According to the Town’s bylaws, in section 6.1.8.1 General Standards D. Parking Dimensions the “Minimum Parking Stall Dimensions” for an accessible 45 to 90 degree parking space shall be 12-feet-wide, 19-feet deep, with a maneuver width of 22-feet. Due to the minimum maneuver width of 22-feet requirement being met, Green concurs that the parking waiver should be considered to be granted.***

Response: Fuss & O'Neill and Hancock Associates concur.

Comment No. 21: ***A previous peer review conducted by Green was submitted and the plan set was revised in August 2025. The Green peer review had a comment of “The applicant is requesting a waiver for smaller parking depth from 20' to 18'. We recommend aisle with be a minimum of 24' for 18' long parking spaces. Please revise.” The applicant response was “The required drive aisle width is 22'. Increasing the drive aisle width would increase site impacts and push the development closer to the adjacent resource area.” The revisions are not compliant with the Town’s regulations or the industry practices in the Urban Land Institute’s Dimensions of Parking recommends. Green requests the site plans and proposed parking be revised to be compliant with the town’s regulations and the industry practices in the Urban Land Institute’s Dimensions of Parking recommends.***

Response: The purpose of the variance request is to minimize impact to the adjacent resource area while maintaining industry accepted parking space dimensions. While it is understood that a wider aisle width would provide more room for parking maneuvers and access, widening the aisle will result in similar impacts to the resource area as increasing the parking space size in conformance with the by-law.

Comment No. 22: *Green reviewed the “Layout and Materials Plan” depicted on sheet 3 of the Site Development Plans. There is a proposed accessible ramp located near the two proposed accessible parking spaces outside of the building. There is no proposed accessible ramp provided for the accessible parking spaces in the parking garage to access the elevator room. Green requests that an ADA compliant curb ramp be provided within the parking garage in order to access the elevator.*

Response: The parking garage is proposed to be flush with the interior elevation of the lobby and the elevator room; no ramp will be necessary. Drainage within the garage will be provided via minimally sloping the pavement to floor drains.

Comment No. 23: *Green recommends conducting apparatus turning movements within the proposed site that are modeled based on the largest fire truck owned by the Dracut Fire Department. The turning movements should confirm that fire trucks will be able to maneuver the entire site in the case of emergencies.*

Response: A swept-path analysis was performed for the Dracut fire engine. The analysis, along with a letter from the Dracut Deputy Chief indicating their approval of the plan is included in the Appendix.

Comment No. 24: *Due to the discrepancies noted previously in the seasonal adjustment, trip generation calculations and trip distribution, Green cannot evaluate the Synchro results for their accuracy. Green recommends that the errors in the seasonal adjustment, trip generation and trip distribution be addressed then the Synchro analysis can be conducted. Green recommends updating the capacity analysis based on the recommended trip generation. However, Green recognizes that the additional 18 to 19 trips per hour should not significantly worsen the operations presented in the report.*

Response: In the response to Comment No. 15, the trip generation was updated to respond to the comments and to conform with the 12th Edition of the Trip Generation Manual. Updated intersection capacity analyses were performed and are summarized in Table 3.

Comment No. 25: *Green recommends using the latest Synchro 12 software to conduct the capacity analysis, The site driveway analysis should use the HCM 7th TWSC analysis, as it is the most updated Synchro analysis methodology. The “HCM*

7th Signalized Intersection Summary” should be used for the analysis where the “HCM 7th Edition Methodology” is supported. The “HCM 7th Edition Methodology” is the preferred analysis for signalized intersections, unless the intersection has a unique or non-HCM signal phasing. Green recommends utilizing the “HCM 7th Edition Methodology” where applicable at the study intersections. In addition, for Synchro analysis for future year conditions, a Peak Hour Factor (PHF) of 0.92 shall be used per MassDOT standards.

Response: Fuss & O'Neill is currently using Synchro Version 11 software and does not have access to the newer Synchro 12 software. The consistent use of HCM 2000 for signalized intersections and HCM 6 for unsignalized intersections is adequate to provide a comparison of operational changes during Existing, No-Build, Build, and Build Mitigated conditions.

We agree that MassDOT suggests the use 0.92 for future year (No-Build and Build) condition Peak Hour Factors (PHF). For development projects not on state roadways, Fuss & O'Neill evaluates future conditions based on the observed PHFs (by approach). Since the observed PHF are largely lower than 0.92, a global increase would reflect improved operations and would not significantly change the conclusions presented.

Comment No. 26: Green concurs with all of the TIAS recommendations.

Response: Fuss & O'Neill concur.

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

Sincerely,



Kenneth P. Cram, PE
Senior Project Manager | Director of Traffic Engineering

FUSS & O'NEILL

APPENDIX

Traffic Count Data
Seasonal Adjustment
Crash Data Worksheets
Public Transportation
Background Projects
Trip Generation Worksheets
Trip Distribution Worksheets
Capacity Analysis Worksheets
Sight Distance Worksheets
Conceptual Improvement Plan
Fire Department Correspondence and Swept Path Analysis

Traffic Count Data

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	8	69	6	0	83	4	53	10	0	67	8	44	13	0	65	15	54	7	0	76	291
7:15 AM	11	81	9	0	101	14	41	10	0	65	3	62	13	0	78	28	60	7	0	95	339
7:30 AM	6	100	14	0	120	16	41	7	0	64	8	52	3	0	63	22	52	7	0	81	328
7:45 AM	7	91	9	0	107	11	37	10	0	58	4	59	8	0	71	27	58	9	0	94	330
Total	32	341	38	0	411	45	172	37	0	254	23	217	37	0	277	92	224	30	0	346	1288
8:00 AM	7	82	15	0	104	9	31	9	0	49	3	63	23	0	89	32	46	9	0	87	329
8:15 AM	10	98	10	0	118	11	32	6	0	49	6	77	9	0	92	21	41	6	0	68	327
8:30 AM	5	82	6	0	93	7	25	7	0	39	6	73	22	0	101	23	40	12	0	75	308
8:45 AM	11	73	7	0	91	8	15	12	0	35	6	48	19	0	73	19	38	10	0	67	266
Total	33	335	38	0	406	35	103	34	0	172	21	261	73	0	355	95	165	37	0	297	1230
Grand Total	65	676	76	0	817	80	275	71	0	426	44	478	110	0	632	187	389	67	0	643	2518
Approach %	8.0	82.7	9.3	0.0		18.8	64.6	16.7	0.0		7.0	75.6	17.4	0.0		29.1	60.5	10.4	0.0		
Total %	2.6	26.8	3.0	0.0	32.4	3.2	10.9	2.8	0.0	16.9	1.7	19.0	4.4	0.0	25.1	7.4	15.4	2.7	0.0	25.5	
Exiting Leg Total	625					509					934					450					2518
Cars	58	654	66	0	778	74	268	70	0	412	43	448	102	0	593	181	377	63	0	621	2404
% Cars	89.2	96.7	86.8	0.0	95.2	92.5	97.5	98.6	0.0	96.7	97.7	93.7	92.7	0.0	93.8	96.8	96.9	94.0	0.0	96.6	95.5
Exiting Leg Total	585					486					905					428					2404
Heavy Vehicles	7	22	10	0	39	6	7	1	0	14	1	30	8	0	39	6	12	4	0	22	114
% Heavy Vehicles	10.8	3.3	13.2	0.0	4.8	7.5	2.5	1.4	0.0	3.3	2.3	6.3	7.3	0.0	6.2	3.2	3.1	6.0	0.0	3.4	4.5
Exiting Leg Total	40					23					29					22					114

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	11	81	9	0	101	14	41	10	0	65	3	62	13	0	78	28	60	7	0	95	339
7:30 AM	6	100	14	0	120	16	41	7	0	64	8	52	3	0	63	22	52	7	0	81	328
7:45 AM	7	91	9	0	107	11	37	10	0	58	4	59	8	0	71	27	58	9	0	94	330
8:00 AM	7	82	15	0	104	9	31	9	0	49	3	63	23	0	89	32	46	9	0	87	329
Total Volume	31	354	47	0	432	50	150	36	0	236	18	236	47	0	301	109	216	32	0	357	1326
% Approach Total	7.2	81.9	10.9	0.0		21.2	63.6	15.3	0.0		6.0	78.4	15.6	0.0		30.5	60.5	9.0	0.0		
PHF	0.705	0.885	0.783	0.000	0.900	0.781	0.915	0.900	0.000	0.908	0.563	0.937	0.511	0.000	0.846	0.852	0.900	0.889	0.000	0.939	0.978
Cars	28	344	40	0	412	46	147	35	0	228	18	221	45	0	284	107	210	30	0	347	1271
Cars %	90.3	97.2	85.1	0.0	95.4	92.0	98.0	97.2	0.0	96.6	100.0	93.6	95.7	0.0	94.4	98.2	97.2	93.8	0.0	97.2	95.9
Heavy Vehicles	3	10	7	0	20	4	3	1	0	8	0	15	2	0	17	2	6	2	0	10	55
Heavy Vehicles %	9.7	2.8	14.9	0.0	4.6	8.0	2.0	2.8	0.0	3.4	0.0	6.4	4.3	0.0	5.6	1.8	2.8	6.3	0.0	2.8	4.1
Cars Enter Leg	28	344	40	0	412	46	147	35	0	228	18	221	45	0	284	107	210	30	0	347	1271
Heavy Enter Leg	3	10	7	0	20	4	3	1	0	8	0	15	2	0	17	2	6	2	0	10	55
Total Entering Leg	31	354	47	0	432	50	150	36	0	236	18	236	47	0	301	109	216	32	0	357	1326
Cars Exiting Leg					297					268					486					220	1271
Heavy Exiting Leg					21					13					13					8	55
Total Exiting Leg					318					281					499					228	1326

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	6	68	5	0	79	4	52	10	0	66	7	39	12	0	58	12	52	7	0	71	274
7:15 AM	9	79	7	0	95	14	40	10	0	64	3	57	11	0	71	27	57	5	0	89	319
7:30 AM	5	96	12	0	113	14	40	7	0	61	8	50	3	0	61	21	50	7	0	78	313
7:45 AM	7	87	8	0	102	10	36	10	0	56	4	54	8	0	66	27	57	9	0	93	317
Total	27	330	32	0	389	42	168	37	0	247	22	200	34	0	256	87	216	28	0	331	1223
8:00 AM	7	82	13	0	102	8	31	8	0	47	3	60	23	0	86	32	46	9	0	87	322
8:15 AM	10	92	9	0	111	11	30	6	0	47	6	72	7	0	85	20	41	6	0	67	310
8:30 AM	5	78	5	0	88	7	24	7	0	38	6	70	20	0	96	23	36	11	0	70	292
8:45 AM	9	72	7	0	88	6	15	12	0	33	6	46	18	0	70	19	38	9	0	66	257
Total	31	324	34	0	389	32	100	33	0	165	21	248	68	0	337	94	161	35	0	290	1181
Grand Total	58	654	66	0	778	74	268	70	0	412	43	448	102	0	593	181	377	63	0	621	2404
Approach %	7.5	84.1	8.5	0.0		18.0	65.0	17.0	0.0		7.3	75.5	17.2	0.0		29.1	60.7	10.1	0.0		
Total %	2.4	27.2	2.7	0.0	32.4	3.1	11.1	2.9	0.0	17.1	1.8	18.6	4.2	0.0	24.7	7.5	15.7	2.6	0.0	25.8	
Exiting Leg Total					585					486					905					428	2404

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	9	79	7	0	95	14	40	10	0	64	3	57	11	0	71	27	57	5	0	89	319
7:30 AM	5	96	12	0	113	14	40	7	0	61	8	50	3	0	61	21	50	7	0	78	313
7:45 AM	7	87	8	0	102	10	36	10	0	56	4	54	8	0	66	27	57	9	0	93	317
8:00 AM	7	82	13	0	102	8	31	8	0	47	3	60	23	0	86	32	46	9	0	87	322
Total Volume	28	344	40	0	412	46	147	35	0	228	18	221	45	0	284	107	210	30	0	347	1271
% Approach Total	6.8	83.5	9.7	0.0		20.2	64.5	15.4	0.0		6.3	77.8	15.8	0.0		30.8	60.5	8.6	0.0		
PHF	0.778	0.896	0.769	0.000	0.912	0.821	0.919	0.875	0.000	0.891	0.563	0.921	0.489	0.000	0.826	0.836	0.921	0.833	0.000	0.933	0.987
Entering Leg	28	344	40	0	412	46	147	35	0	228	18	221	45	0	284	107	210	30	0	347	1271
Exiting Leg					297					268					486					220	1271
Total					709					496					770					567	2542

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	2	1	1	0	4	0	1	0	0	1	1	5	1	0	7	3	2	0	0	5	17
7:15 AM	2	2	2	0	6	0	1	0	0	1	0	5	2	0	7	1	3	2	0	6	20
7:30 AM	1	4	2	0	7	2	1	0	0	3	0	2	0	0	2	1	2	0	0	3	15
7:45 AM	0	4	1	0	5	1	1	0	0	2	0	5	0	0	5	0	1	0	0	1	13
Total	5	11	6	0	22	3	4	0	0	7	1	17	3	0	21	5	8	2	0	15	65
8:00 AM	0	0	2	0	2	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	7
8:15 AM	0	6	1	0	7	0	2	0	0	2	0	5	2	0	7	1	0	0	0	1	17
8:30 AM	0	4	1	0	5	0	1	0	0	1	0	3	2	0	5	0	4	1	0	5	16
8:45 AM	2	1	0	0	3	2	0	0	0	2	0	2	1	0	3	0	0	1	0	1	9
Total	2	11	4	0	17	3	3	1	0	7	0	13	5	0	18	1	4	2	0	7	49
Grand Total	7	22	10	0	39	6	7	1	0	14	1	30	8	0	39	6	12	4	0	22	114
Approach %	17.9	56.4	25.6	0.0		42.9	50.0	7.1	0.0		2.6	76.9	20.5	0.0		27.3	54.5	18.2	0.0		
Total %	6.1	19.3	8.8	0.0	34.2	5.3	6.1	0.9	0.0	12.3	0.9	26.3	7.0	0.0	34.2	5.3	10.5	3.5	0.0	19.3	
Exiting Leg Total	40					23					29					22					114
Buses	0	1	1	0	2	1	2	0	0	3	1	1	1	0	3	0	9	0	0	9	17
% Buses	0.0	4.5	10.0	0.0	5.1	16.7	28.6	0.0	0.0	21.4	100.0	3.3	12.5	0.0	7.7	0.0	75.0	0.0	0.0	40.9	14.9
Exiting Leg Total	2					11					1					3					17
Single-Unit Trucks	5	17	7	0	29	3	5	1	0	9	0	26	5	0	31	5	3	3	0	11	80
% Single-Unit	71.4	77.3	70.0	0.0	74.4	50.0	71.4	100.0	0.0	64.3	0.0	86.7	62.5	0.0	79.5	83.3	25.0	75.0	0.0	50.0	70.2
Exiting Leg Total	32					10					23					15					80
Articulated Trucks	2	4	2	0	8	2	0	0	0	2	0	3	2	0	5	1	0	1	0	2	17
% Articulated	28.6	18.2	20.0	0.0	20.5	33.3	0.0	0.0	0.0	14.3	0.0	10.0	25.0	0.0	12.8	16.7	0.0	25.0	0.0	9.1	14.9
Exiting Leg Total	6					2					5					4					17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	2	1	1	0	4	0	1	0	0	1	1	5	1	0	7	3	2	0	0	5	17
7:15 AM	2	2	2	0	6	0	1	0	0	1	0	5	2	0	7	1	3	2	0	6	20
7:30 AM	1	4	2	0	7	2	1	0	0	3	0	2	0	0	2	1	2	0	0	3	15
7:45 AM	0	4	1	0	5	1	1	0	0	2	0	5	0	0	5	0	1	0	0	1	13
Total Volume	5	11	6	0	22	3	4	0	0	7	1	17	3	0	21	5	8	2	0	15	65
% Approach Total	22.7	50.0	27.3	0.0		42.9	57.1	0.0	0.0		4.8	81.0	14.3	0.0		33.3	53.3	13.3	0.0		
PHF	0.625	0.688	0.750	0.000	0.786	0.375	1.000	0.000	0.000	0.583	0.250	0.850	0.375	0.000	0.750	0.417	0.667	0.250	0.000	0.625	0.813
Buses	0	1	1	0	2	1	1	0	0	2	1	1	1	0	3	0	5	0	0	5	12
Buses %	0.0	9.1	16.7	0.0	9.1	33.3	25.0	0.0	0.0	28.6	100.0	5.9	33.3	0.0	14.3	0.0	62.5	0.0	0.0	33.3	18.5
Single-Unit Trucks	3	9	3	0	15	1	3	0	0	4	0	15	2	0	17	4	3	1	0	8	44
Single-Unit %	60.0	81.8	50.0	0.0	68.2	33.3	75.0	0.0	0.0	57.1	0.0	88.2	66.7	0.0	81.0	80.0	37.5	50.0	0.0	53.3	67.7
Articulated Trucks	2	1	2	0	5	1	0	0	0	1	0	1	0	0	1	1	0	1	0	2	9
Articulated %	40.0	9.1	33.3	0.0	22.7	33.3	0.0	0.0	0.0	14.3	0.0	5.9	0.0	0.0	4.8	20.0	0.0	50.0	0.0	13.3	13.8
Buses	0	1	1	0	2	1	1	0	0	2	1	1	1	0	3	0	5	0	0	5	12
Single-Unit Trucks	3	9	3	0	15	1	3	0	0	4	0	15	2	0	17	4	3	1	0	8	44
Articulated Trucks	2	1	2	0	5	1	0	0	0	1	0	1	0	0	1	1	0	1	0	2	9
Total Entering Leg	5	11	6	0	22	3	4	0	0	7	1	17	3	0	21	5	8	2	0	15	65
Buses	2					7					1					2					12
Single-Unit Trucks	17					6					13					8					44
Articulated Trucks	3					2					2					2					9
Total Exiting Leg	22					15					16					12					65

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	4
7:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	3
7:30 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	1	0	2	1	1	0	0	2	1	1	1	0	3	0	5	0	0	5	12
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
Grand Total	0	1	1	0	2	1	2	0	0	3	1	1	1	0	3	0	9	0	0	9	17
Approach %	0.0	50.0	50.0	0.0		33.3	66.7	0.0	0.0		33.3	33.3	33.3	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	5.9	5.9	0.0	11.8	5.9	11.8	0.0	0.0	17.6	5.9	5.9	5.9	0.0	17.6	0.0	52.9	0.0	0.0	52.9	
Exiting Leg Total	2					11					1					3					17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					Total
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	4
7:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	3
7:30 AM	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	1	1	0	2	1	1	0	0	2	1	1	1	0	3	0	5	0	0	5	12
% Approach Total	0.0	50.0	50.0	0.0		50.0	50.0	0.0	0.0		33.3	33.3	33.3	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.250	0.000	0.500	0.250	0.250	0.000	0.000	0.500	0.250	0.250	0.250	0.000	0.750	0.000	0.625	0.000	0.000	0.625	0.750
Entering Leg	0	1	1	0	2	1	1	0	0	2	1	1	1	0	3	0	5	0	0	5	12
Exiting Leg	2					7					1					2					12
Total	4					9					4					7					24

PDI File #: **239707 A**
Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
Location: **E: Marsh Hill Road W: Cross Road**
City, State: **Dracut, MA**
Client: **Bayside/ K. Cram**
Site Code: **2233486**
Count Date: **Wednesday, November 15, 2023**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:



Single-Unit Trucks

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	1	0	0	2	0	0	0	0	0	0	4	1	0	5	2	0	0	0	2	9
7:15 AM	1	2	1	0	4	0	1	0	0	1	0	5	1	0	6	1	2	1	0	4	15
7:30 AM	1	3	2	0	6	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	10
7:45 AM	0	3	0	0	3	1	1	0	0	2	0	4	0	0	4	0	1	0	0	1	10
Total	3	9	3	0	15	1	3	0	0	4	0	15	2	0	17	4	3	1	0	8	44
8:00 AM	0	0	2	0	2	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	7
8:15 AM	0	5	1	0	6	0	2	0	0	2	0	5	2	0	7	1	0	0	0	1	16
8:30 AM	0	3	1	0	4	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	8
8:45 AM	2	0	0	0	2	1	0	0	0	1	0	1	0	0	1	0	0	1	0	1	5
Total	2	8	4	0	14	2	2	1	0	5	0	11	3	0	14	1	0	2	0	3	36
Grand Total	5	17	7	0	29	3	5	1	0	9	0	26	5	0	31	5	3	3	0	11	80
Approach %	17.2	58.6	24.1	0.0		33.3	55.6	11.1	0.0		0.0	83.9	16.1	0.0		45.5	27.3	27.3	0.0		
Total %	6.3	21.3	8.8	0.0	36.3	3.8	6.3	1.3	0.0	11.3	0.0	32.5	6.3	0.0	38.8	6.3	3.8	3.8	0.0	13.8	
Exiting Leg Total	32					10					23					15					80

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	1	0	0	2	0	0	0	0	0	0	4	1	0	5	2	0	0	0	2	9
7:15 AM	1	2	1	0	4	0	1	0	0	1	0	5	1	0	6	1	2	1	0	4	15
7:30 AM	1	3	2	0	6	0	1	0	0	1	0	2	0	0	2	1	0	0	0	1	10
7:45 AM	0	3	0	0	3	1	1	0	0	2	0	4	0	0	4	0	1	0	0	1	10
Total Volume	3	9	3	0	15	1	3	0	0	4	0	15	2	0	17	4	3	1	0	8	44
% Approach Total	20.0	60.0	20.0	0.0		25.0	75.0	0.0	0.0		0.0	88.2	11.8	0.0		50.0	37.5	12.5	0.0		
PHF	0.750	0.750	0.375	0.000	0.625	0.250	0.750	0.000	0.000	0.500	0.000	0.750	0.500	0.000	0.708	0.500	0.375	0.250	0.000	0.500	0.733
Entering Leg	3	9	3	0	15	1	3	0	0	4	0	15	2	0	17	4	3	1	0	8	44
Exiting Leg	17					6					13					8					44
Total	32					10					30					16					88

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total		
	from North					from East					from South					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
7:00 AM	1	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	4
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	
7:30 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	2	1	2	0	5	1	0	0	0	0	1	0	1	0	0	0	1	1	0	1	0	2	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	3
8:45 AM	0	1	0	0	1	1	0	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	4
Total	0	3	0	0	3	1	0	0	0	0	1	0	2	2	0	4	0	0	0	0	0	0	8
Grand Total	2	4	2	0	8	2	0	0	0	2	0	3	2	0	5	1	0	1	0	2		17	
Approach %	25.0	50.0	25.0	0.0		100.0	0.0	0.0	0.0		0.0	60.0	40.0	0.0		50.0	0.0	50.0	0.0				
Total %	11.8	23.5	11.8	0.0	47.1	11.8	0.0	0.0	0.0	11.8	0.0	17.6	11.8	0.0	29.4	5.9	0.0	5.9	0.0	11.8			
Exiting Leg Total	6					2					5					4					17		

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total		
	from North					from East					from South					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
7:00 AM	1	0	1	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	4
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	
7:30 AM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	2	1	2	0	5	1	0	0	0	0	1	0	1	0	0	0	1	1	0	1	0	2	9
% Approach Total	40.0	20.0	40.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0			
PHF	0.500	0.250	0.500	0.000	0.625	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.500	0.500	0.563	
Entering Leg	2	1	2	0	5	1	0	0	0	0	1	0	1	0	0	0	1	1	0	1	0	2	9
Exiting Leg					3						2						2					2	9
Total	8					3					3					4					18		

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Bridge Street (Route 38)							Marsh Hill Road							Bridge Street (Route 38)							Cross Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)								Marsh Hill Road								Bridge Street (Route 38)								Cross Road								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Exiting Leg	0								0								0								0								0
Total	0								0								0								0								0

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Bridge Street (Route 38)							Marsh Hill Road							Bridge Street (Route 38)							Cross Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Bridge Street (Route 38)								Marsh Hill Road								Bridge Street (Route 38)								Cross Road								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Exiting Leg	0								0								0								0								0
Total	0								0								0								0								0

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	9	115	10	0	134	14	58	8	0	80	17	98	20	0	135	26	41	17	0	84	433
4:15 PM	6	88	15	0	109	14	59	5	0	78	13	122	31	0	166	18	39	13	0	70	423
4:30 PM	14	91	18	0	123	17	79	8	0	104	6	133	24	0	163	19	45	12	0	76	466
4:45 PM	18	126	11	0	155	12	61	9	0	82	7	114	28	0	149	21	27	17	0	65	451
Total	47	420	54	0	521	57	257	30	0	344	43	467	103	0	613	84	152	59	0	295	1773
5:00 PM	10	97	15	0	122	4	53	5	0	62	17	101	26	0	144	25	41	14	0	80	408
5:15 PM	25	101	10	0	136	14	62	14	0	90	9	95	19	0	123	24	24	16	0	64	413
5:30 PM	21	93	13	0	127	18	66	15	0	99	11	95	26	0	132	20	36	15	0	71	429
5:45 PM	16	79	10	0	105	16	54	7	0	77	12	116	20	0	148	20	31	6	0	57	387
Total	72	370	48	0	490	52	235	41	0	328	49	407	91	0	547	89	132	51	0	272	1637
6:00 PM	14	97	10	0	121	12	52	14	0	78	4	87	18	0	109	9	26	7	0	42	350
6:15 PM	24	61	8	0	93	6	51	2	0	59	8	97	21	0	126	7	17	3	0	27	305
Total	38	158	18	0	214	18	103	16	0	137	12	184	39	0	235	16	43	10	0	69	655
Grand Total	157	948	120	0	1225	127	595	87	0	809	104	1058	233	0	1395	189	327	120	0	636	4065
Approach %	12.8	77.4	9.8	0.0		15.7	73.5	10.8	0.0		7.5	75.8	16.7	0.0		29.7	51.4	18.9	0.0		
Total %	3.9	23.3	3.0	0.0	30.1	3.1	14.6	2.1	0.0	19.9	2.6	26.0	5.7	0.0	34.3	4.6	8.0	3.0	0.0	15.6	
Exiting Leg Total	1305					551					1224					985					4065
Cars	155	933	117	0	1205	125	585	84	0	794	103	1051	232	0	1386	187	321	117	0	625	4010
% Cars	98.7	98.4	97.5	0.0	98.4	98.4	98.3	96.6	0.0	98.1	99.0	99.3	99.6	0.0	99.4	98.9	98.2	97.5	0.0	98.3	98.6
Exiting Leg Total	1293					541					1204					972					4010
Heavy Vehicles	2	15	3	0	20	2	10	3	0	15	1	7	1	0	9	2	6	3	0	11	55
% Heavy Vehicles	1.3	1.6	2.5	0.0	1.6	1.6	1.7	3.4	0.0	1.9	1.0	0.7	0.4	0.0	0.6	1.1	1.8	2.5	0.0	1.7	1.4
Exiting Leg Total	12					10					20					13					55

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	9	115	10	0	134	14	58	8	0	80	17	98	20	0	135	26	41	17	0	84	433
4:15 PM	6	88	15	0	109	14	59	5	0	78	13	122	31	0	166	18	39	13	0	70	423
4:30 PM	14	91	18	0	123	17	79	8	0	104	6	133	24	0	163	19	45	12	0	76	466
4:45 PM	18	126	11	0	155	12	61	9	0	82	7	114	28	0	149	21	27	17	0	65	451
Total Volume	47	420	54	0	521	57	257	30	0	344	43	467	103	0	613	84	152	59	0	295	1773
% Approach Total	9.0	80.6	10.4	0.0		16.6	74.7	8.7	0.0		7.0	76.2	16.8	0.0		28.5	51.5	20.0	0.0		
PHF	0.653	0.833	0.750	0.000	0.840	0.838	0.813	0.833	0.000	0.827	0.632	0.878	0.831	0.000	0.923	0.808	0.844	0.868	0.000	0.878	0.951
Cars	47	411	52	0	510	57	251	29	0	337	42	463	102	0	607	84	149	59	0	292	1746
Cars %	100.0	97.9	96.3	0.0	97.9	100.0	97.7	96.7	0.0	98.0	97.7	99.1	99.0	0.0	99.0	100.0	98.0	100.0	0.0	99.0	98.5
Heavy Vehicles	0	9	2	0	11	0	6	1	0	7	1	4	1	0	6	0	3	0	0	3	27
Heavy Vehicles %	0.0	2.1	3.7	0.0	2.1	0.0	2.3	3.3	0.0	2.0	2.3	0.9	1.0	0.0	1.0	0.0	2.0	0.0	0.0	1.0	1.5
Cars Enter Leg	47	411	52	0	510	57	251	29	0	337	42	463	102	0	607	84	149	59	0	292	1746
Heavy Enter Leg	0	9	2	0	11	0	6	1	0	7	1	4	1	0	6	0	3	0	0	3	27
Total Entering Leg	47	420	54	0	521	57	257	30	0	344	43	467	103	0	613	84	152	59	0	295	1773
Cars Exiting Leg					579					243					524					400	1746
Heavy Exiting Leg					4					6					10					7	27
Total Exiting Leg					583					249					534					407	1773

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Cars

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	9	113	9	0	131	14	57	8	0	79	16	98	20	0	134	26	41	17	0	84	428
4:15 PM	6	85	14	0	105	14	58	5	0	77	13	120	31	0	164	18	37	13	0	68	414
4:30 PM	14	88	18	0	120	17	76	7	0	100	6	132	23	0	161	19	44	12	0	75	456
4:45 PM	18	125	11	0	154	12	60	9	0	81	7	113	28	0	148	21	27	17	0	65	448
Total	47	411	52	0	510	57	251	29	0	337	42	463	102	0	607	84	149	59	0	292	1746
5:00 PM	10	93	15	0	118	3	53	5	0	61	17	100	26	0	143	24	39	13	0	76	398
5:15 PM	23	101	10	0	134	14	62	14	0	90	9	95	19	0	123	23	24	15	0	62	409
5:30 PM	21	93	13	0	127	18	65	14	0	97	11	94	26	0	131	20	36	15	0	71	426
5:45 PM	16	79	9	0	104	15	51	7	0	73	12	116	20	0	148	20	30	6	0	56	381
Total	70	366	47	0	483	50	231	40	0	321	49	405	91	0	545	87	129	49	0	265	1614
6:00 PM	14	96	10	0	120	12	52	13	0	77	4	87	18	0	109	9	26	6	0	41	347
6:15 PM	24	60	8	0	92	6	51	2	0	59	8	96	21	0	125	7	17	3	0	27	303
Total	38	156	18	0	212	18	103	15	0	136	12	183	39	0	234	16	43	9	0	68	650
Grand Total	155	933	117	0	1205	125	585	84	0	794	103	1051	232	0	1386	187	321	117	0	625	4010
Approach %	12.9	77.4	9.7	0.0		15.7	73.7	10.6	0.0		7.4	75.8	16.7	0.0		29.9	51.4	18.7	0.0		
Total %	3.9	23.3	2.9	0.0	30.0	3.1	14.6	2.1	0.0	19.8	2.6	26.2	5.8	0.0	34.6	4.7	8.0	2.9	0.0	15.6	
Exiting Leg Total	1293					541					1204					972					4010

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	9	113	9	0	131	14	57	8	0	79	16	98	20	0	134	26	41	17	0	84	428
4:15 PM	6	85	14	0	105	14	58	5	0	77	13	120	31	0	164	18	37	13	0	68	414
4:30 PM	14	88	18	0	120	17	76	7	0	100	6	132	23	0	161	19	44	12	0	75	456
4:45 PM	18	125	11	0	154	12	60	9	0	81	7	113	28	0	148	21	27	17	0	65	448
Total Volume	47	411	52	0	510	57	251	29	0	337	42	463	102	0	607	84	149	59	0	292	1746
% Approach Total	9.2	80.6	10.2	0.0		16.9	74.5	8.6	0.0		6.9	76.3	16.8	0.0		28.8	51.0	20.2	0.0		
PHF	0.653	0.822	0.722	0.000	0.828	0.838	0.826	0.806	0.000	0.843	0.656	0.877	0.823	0.000	0.925	0.808	0.847	0.868	0.000	0.869	0.957
Entering Leg	47	411	52	0	510	57	251	29	0	337	42	463	102	0	607	84	149	59	0	292	1746
Exiting Leg	579					243					524					400					1746
Total	1089					580					1131					692					3492

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	2	1	0	3	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	5
4:15 PM	0	3	1	0	4	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	9
4:30 PM	0	3	0	0	3	0	3	1	0	4	0	1	1	0	2	0	1	0	0	1	10
4:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Total	0	9	2	0	11	0	6	1	0	7	1	4	1	0	6	0	3	0	0	3	27
5:00 PM	0	4	0	0	4	1	0	0	0	1	0	1	0	0	1	1	2	1	0	4	10
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	4
5:30 PM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	3
5:45 PM	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	0	1	0	0	1	6
Total	2	4	1	0	7	2	4	1	0	7	0	2	0	0	2	2	3	2	0	7	23
6:00 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	3
6:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Total	0	2	0	0	2	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	5
Grand Total	2	15	3	0	20	2	10	3	0	15	1	7	1	0	9	2	6	3	0	11	55
Approach %	10.0	75.0	15.0	0.0		13.3	66.7	20.0	0.0		11.1	77.8	11.1	0.0		18.2	54.5	27.3	0.0		
Total %	3.6	27.3	5.5	0.0	36.4	3.6	18.2	5.5	0.0	27.3	1.8	12.7	1.8	0.0	16.4	3.6	10.9	5.5	0.0	20.0	
Exiting Leg Total	12					10					20					13					55
Buses	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	7
% Buses	0.0	6.7	0.0	0.0	5.0	0.0	30.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	50.0	33.3	0.0	0.0	27.3	12.7
Exiting Leg Total	0					2					2					3					7
Single-Unit Trucks	2	12	3	0	17	1	7	3	0	11	1	6	1	0	8	1	3	3	0	7	43
% Single-Unit	100.0	80.0	100.0	0.0	85.0	50.0	70.0	100.0	0.0	73.3	100.0	85.7	100.0	0.0	88.9	50.0	50.0	100.0	0.0	63.6	78.2
Exiting Leg Total	10					7					16					10					43
Articulated Trucks	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	5
% Articulated	0.0	13.3	0.0	0.0	10.0	50.0	0.0	0.0	0.0	6.7	0.0	14.3	0.0	0.0	11.1	0.0	16.7	0.0	0.0	9.1	9.1
Exiting Leg Total	2					1					2					0					5

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:15 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	3	1	0	4	0	1	0	0	1	0	2	0	0	2	0	2	0	0	2	9
4:30 PM	0	3	0	0	3	0	3	1	0	4	0	1	1	0	2	0	1	0	0	1	10
4:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	3
5:00 PM	0	4	0	0	4	1	0	0	0	1	0	1	0	0	1	1	2	1	0	4	10
Total Volume	0	11	1	0	12	1	5	1	0	7	0	5	1	0	6	1	5	1	0	7	32
% Approach Total	0.0	91.7	8.3	0.0		14.3	71.4	14.3	0.0		0.0	83.3	16.7	0.0		14.3	71.4	14.3	0.0		
PHF	0.000	0.688	0.250	0.000	0.750	0.250	0.417	0.250	0.000	0.438	0.000	0.625	0.250	0.000	0.750	0.250	0.625	0.250	0.000	0.438	0.800
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	28.6	9.4
Single-Unit Trucks	0	10	1	0	11	1	4	1	0	6	0	5	1	0	6	1	2	1	0	4	27
Single-Unit %	0.0	90.9	100.0	0.0	91.7	100.0	80.0	100.0	0.0	85.7	0.0	100.0	100.0	0.0	100.0	100.0	40.0	100.0	0.0	57.1	84.4
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Articulated %	0.0	9.1	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	14.3	6.3
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
Single-Unit Trucks	0	10	1	0	11	1	4	1	0	6	0	5	1	0	6	1	2	1	0	4	27
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Entering Leg	0	11	1	0	12	1	5	1	0	7	0	5	1	0	6	1	5	1	0	7	32
Buses	0					2					0					1					3
Single-Unit Trucks	7					3					12					5					27
Articulated Trucks	0					1					1					0					2
Total Exiting Leg	7					6					13					6					32

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Buses

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	1	2	0	0	3	7
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		
Total %	0.0	14.3	0.0	0.0	14.3	0.0	42.9	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	14.3	28.6	0.0	0.0	42.9	
Exiting Leg Total	0					2					2					3					7

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
% Approach Total	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.625
Entering Leg	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	5
Exiting Leg	0					2					1					2					5
Total	1					4					1					4					10

PDI File #: **239707 A**
Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
Location: **E: Marsh Hill Road W: Cross Road**
City, State: **Dracut, MA**
Client: **Bayside/ K. Cram**
Site Code: **2233486**
Count Date: **Wednesday, November 15, 2023**
Start Time: **4:00 PM**
End Time: **6:30 PM**
Class:



Single-Unit Trucks

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	1	1	0	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3
4:15 PM	0	3	1	0	4	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	6
4:30 PM	0	3	0	0	3	0	3	1	0	4	0	1	1	0	2	0	0	0	0	0	0	9
4:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	3
Total	0	8	2	0	10	0	4	1	0	5	1	4	1	0	6	0	0	0	0	0	0	21
5:00 PM	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	1	2	1	0	4	9	
5:15 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	
5:30 PM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	3	
5:45 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4	
Total	2	3	1	0	6	1	3	1	0	5	0	2	0	0	2	1	3	2	0	6	19	
6:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	2	
6:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	3	
Grand Total	2	12	3	0	17	1	7	3	0	11	1	6	1	0	8	1	3	3	0	7	43	
Approach %	11.8	70.6	17.6	0.0		9.1	63.6	27.3	0.0		12.5	75.0	12.5	0.0		14.3	42.9	42.9	0.0			
Total %	4.7	27.9	7.0	0.0	39.5	2.3	16.3	7.0	0.0	25.6	2.3	14.0	2.3	0.0	18.6	2.3	7.0	7.0	0.0	16.3		
Exiting Leg Total	10					7					16					10					43	

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:15 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
4:30 PM	0	3	0	0	3	0	3	1	0	4	0	1	1	0	2	0	0	0	0	0	9
4:45 PM	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	3
5:00 PM	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	1	2	1	0	4	9
Total Volume	0	10	1	0	11	1	4	1	0	6	0	5	1	0	6	1	2	1	0	4	27
% Approach Total	0.0	90.9	9.1	0.0		16.7	66.7	16.7	0.0		0.0	83.3	16.7	0.0		25.0	50.0	25.0	0.0		
PHF	0.000	0.833	0.250	0.000	0.688	0.250	0.333	0.250	0.000	0.375	0.000	0.625	0.250	0.000	0.750	0.250	0.250	0.250	0.000	0.250	0.750
Entering Leg	0	10	1	0	11	1	4	1	0	6	0	5	1	0	6	1	2	1	0	4	27
Exiting Leg	7					3					12					5					27
Total	18					9					18					9					54

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Articulated Trucks

	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
6:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Grand Total	0	2	0	0	2	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	5
Approach %	0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	40.0	0.0	0.0	40.0	20.0	0.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	20.0	0.0	20.0	0.0	0.0	20.0	
Exiting Leg Total	2					1					2					0					5

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

5:30 PM	Bridge Street (Route 38)					Marsh Hill Road					Bridge Street (Route 38)					Cross Road					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
% Approach Total	0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Exiting Leg	2					0					1					0					3
Total	3					1					2					0					6

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Bridge Street (Route 38)								Marsh Hill Road								Bridge Street (Route 38)								Cross Road								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total		Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total		Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
6:00 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
6:15 PM	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0								0								0								0								0

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Bridge Street (Route 38)							Marsh Hill Road							Bridge Street (Route 38)							Cross Road							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **239707 A**
 Location: **N: Bridge Street (Route 38) S: Bridge Street (Route 38)**
 Location: **E: Marsh Hill Road W: Cross Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Pedestrians

	Bridge Street (Route 38)								Marsh Hill Road								Bridge Street (Route 38)								Cross Road								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Exiting Leg Total	0							0							0							0							0				

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Bridge Street (Route 38)								Marsh Hill Road								Bridge Street (Route 38)								Cross Road								Total
	from North								from East								from South								from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Exiting Leg	0								0								0								0								0
Total	0								0								0								0								0

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	4	2	0	6	0	62	0	62	66	2	0	68	136
7:15 AM	6	2	0	8	0	56	0	56	69	1	0	70	134
7:30 AM	4	3	0	7	0	64	0	64	71	4	0	75	146
7:45 AM	6	0	0	6	1	58	0	59	70	1	0	71	136
Total	20	7	0	27	1	240	0	241	276	8	0	284	552
8:00 AM	3	1	0	4	0	37	0	37	63	2	0	65	106
8:15 AM	3	1	0	4	0	45	0	45	52	2	0	54	103
8:30 AM	0	0	0	0	1	35	0	36	51	2	0	53	89
8:45 AM	1	2	0	3	0	32	0	32	48	3	0	51	86
Total	7	4	0	11	1	149	0	150	214	9	0	223	384
Grand Total	27	11	0	38	2	389	0	391	490	17	0	507	936
Approach %	71.1	28.9	0.0		0.5	99.5	0.0		96.6	3.4	0.0		
Total %	2.9	1.2	0.0	4.1	0.2	41.6	0.0	41.8	52.4	1.8	0.0	54.2	
Exiting Leg Total	19				501				416				936
Cars	26	10	0	36	2	377	0	379	464	17	0	481	896
% Cars	96.3	90.9	0.0	94.7	100.0	96.9	0.0	96.9	94.7	100.0	0.0	94.9	95.7
Exiting Leg Total	19				474				403				896
Heavy Vehicles	1	1	0	2	0	12	0	12	26	0	0	26	40
% Heavy Vehicles	3.7	9.1	0.0	5.3	0.0	3.1	0.0	3.1	5.3	0.0	0.0	5.1	4.3
Exiting Leg Total	0				27				13				40

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	4	2	0	6	0	62	0	62	66	2	0	68	136
7:15 AM	6	2	0	8	0	56	0	56	69	1	0	70	134
7:30 AM	4	3	0	7	0	64	0	64	71	4	0	75	146
7:45 AM	6	0	0	6	1	58	0	59	70	1	0	71	136
Total Volume	20	7	0	27	1	240	0	241	276	8	0	284	552
% Approach Total	74.1	25.9	0.0		0.4	99.6	0.0		97.2	2.8	0.0		
PHF	0.833	0.583	0.000	0.844	0.250	0.938	0.000	0.941	0.972	0.500	0.000	0.947	0.945
Cars	19	6	0	25	1	233	0	234	258	8	0	266	525
Cars %	95.0	85.7	0.0	92.6	100.0	97.1	0.0	97.1	93.5	100.0	0.0	93.7	95.1
Heavy Vehicles	1	1	0	2	0	7	0	7	18	0	0	18	27
Heavy Vehicles %	5.0	14.3	0.0	7.4	0.0	2.9	0.0	2.9	6.5	0.0	0.0	6.3	4.9
Cars Enter Leg	19	6	0	25	1	233	0	234	258	8	0	266	525
Heavy Enter Leg	1	1	0	2	0	7	0	7	18	0	0	18	27
Total Entering Leg	20	7	0	27	1	240	0	241	276	8	0	284	552
Cars Exiting Leg	9				264				252				525
Heavy Exiting Leg	0				19				8				27
Total Exiting Leg	9				283				260				552

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	3	2	0	5	0	62	0	62	59	2	0	61	128
7:15 AM	6	2	0	8	0	55	0	55	65	1	0	66	129
7:30 AM	4	2	0	6	0	60	0	60	67	4	0	71	137
7:45 AM	6	0	0	6	1	56	0	57	67	1	0	68	131
Total	19	6	0	25	1	233	0	234	258	8	0	266	525
8:00 AM	3	1	0	4	0	36	0	36	62	2	0	64	104
8:15 AM	3	1	0	4	0	44	0	44	51	2	0	53	101
8:30 AM	0	0	0	0	1	34	0	35	45	2	0	47	82
8:45 AM	1	2	0	3	0	30	0	30	48	3	0	51	84
Total	7	4	0	11	1	144	0	145	206	9	0	215	371
Grand Total	26	10	0	36	2	377	0	379	464	17	0	481	896
Approach %	72.2	27.8	0.0		0.5	99.5	0.0		96.5	3.5	0.0		
Total %	2.9	1.1	0.0	4.0	0.2	42.1	0.0	42.3	51.8	1.9	0.0	53.7	
Exiting Leg Total	19				474				403				896

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	3	2	0	5	0	62	0	62	59	2	0	61	128
7:15 AM	6	2	0	8	0	55	0	55	65	1	0	66	129
7:30 AM	4	2	0	6	0	60	0	60	67	4	0	71	137
7:45 AM	6	0	0	6	1	56	0	57	67	1	0	68	131
Total Volume	19	6	0	25	1	233	0	234	258	8	0	266	525
% Approach Total	76.0	24.0	0.0		0.4	99.6	0.0		97.0	3.0	0.0		
PHF	0.792	0.750	0.000	0.781	0.250	0.940	0.000	0.944	0.963	0.500	0.000	0.937	0.958
Entering Leg	19	6	0	25	1	233	0	234	258	8	0	266	525
Exiting Leg				9				264				252	525
Total				34				498				518	1050

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class:

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	0	0	0	0	7	0	0	7	8
7:15 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
7:30 AM	0	1	0	1	0	4	0	4	4	0	0	4	9
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total	1	1	0	2	0	7	0	7	18	0	0	18	27
8:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:30 AM	0	0	0	0	0	1	0	1	6	0	0	6	7
8:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	0	0	0	5	0	5	8	0	0	8	13
Grand Total	1	1	0	2	0	12	0	12	26	0	0	26	40
Approach %	50.0	50.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	2.5	2.5	0.0	5.0	0.0	30.0	0.0	30.0	65.0	0.0	0.0	65.0	
Exiting Leg Total	0				27				13				40
Buses	1	1	0	2	0	2	0	2	11	0	0	11	15
% Buses	100.0	100.0	0.0	100.0	0.0	16.7	0.0	16.7	42.3	0.0	0.0	42.3	37.5
Exiting Leg Total	0				12				3				15
Single-Unit Trucks	0	0	0	0	0	9	0	9	12	0	0	12	21
% Single-Unit	0.0	0.0	0.0	0.0	0.0	75.0	0.0	75.0	46.2	0.0	0.0	46.2	52.5
Exiting Leg Total	0				12				9				21
Articulated Trucks	0	0	0	0	0	1	0	1	3	0	0	3	4
% Articulated	0.0	0.0	0.0	0.0	0.0	8.3	0.0	8.3	11.5	0.0	0.0	11.5	10.0
Exiting Leg Total	0				3				1				4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	0	0	0	0	7	0	0	7	8
7:15 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
7:30 AM	0	1	0	1	0	4	0	4	4	0	0	4	9
7:45 AM	0	0	0	0	0	2	0	2	3	0	0	3	5
Total Volume	1	1	0	2	0	7	0	7	18	0	0	18	27
% Approach Total	50.0	50.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.000	0.438	0.000	0.438	0.643	0.000	0.000	0.643	0.750
Buses	1	1	0	2	0	1	0	1	7	0	0	7	10
Buses %	100.0	100.0	0.0	100.0	0.0	14.3	0.0	14.3	38.9	0.0	0.0	38.9	37.0
Single-Unit Trucks	0	0	0	0	0	5	0	5	8	0	0	8	13
Single-Unit %	0.0	0.0	0.0	0.0	0.0	71.4	0.0	71.4	44.4	0.0	0.0	44.4	48.1
Articulated Trucks	0	0	0	0	0	1	0	1	3	0	0	3	4
Articulated %	0.0	0.0	0.0	0.0	0.0	14.3	0.0	14.3	16.7	0.0	0.0	16.7	14.8
Buses	1	1	0	2	0	1	0	1	7	0	0	7	10
Single-Unit Trucks	0	0	0	0	0	5	0	5	8	0	0	8	13
Articulated Trucks	0	0	0	0	0	1	0	1	3	0	0	3	4
Total Entering Leg	1	1	0	2	0	7	0	7	18	0	0	18	27
Buses				0				8				2	10
Single-Unit Trucks				0				8				5	13
Articulated Trucks				0				3				1	4
Total Exiting Leg				0				19				8	27

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	0	0	0	0	4	0	0	4	5
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	1	0	1	0	1	0	1	2	0	0	2	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	0	1	0	1	7	0	0	7	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	4	0	0	4	5
Grand Total	1	1	0	2	0	2	0	2	11	0	0	11	15
Approach %	50.0	50.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	6.7	6.7	0.0	13.3	0.0	13.3	0.0	13.3	73.3	0.0	0.0	73.3	
Exiting Leg Total	0				12				3				15

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	0	0	0	0	4	0	0	4	5
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	1	0	1	0	1	0	1	2	0	0	2	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	1	0	1	7	0	0	7	10
% Approach Total	50.0	50.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.000	0.250	0.000	0.250	0.438	0.000	0.000	0.438	0.500
Entering Leg	1	1	0	2	0	1	0	1	7	0	0	7	10
Exiting Leg				0				8				2	10
Total				2				9				9	20

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	1	0	1	3	0	0	3	4
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	0	0	0	0	5	0	5	8	0	0	8	13
8:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
8:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	0	0	0	4	0	4	4	0	0	4	8
Grand Total	0	0	0	0	0	9	0	9	12	0	0	12	21
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	42.9	0.0	42.9	57.1	0.0	0.0	57.1	
Exiting Leg Total	0				12				9				21

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:15 AM	0	0	0	0	0	1	0	1	3	0	0	3	4
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
8:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total Volume	0	0	0	0	0	6	0	6	8	0	0	8	14
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.667	0.000	0.000	0.667	0.875
Entering Leg	0	0	0	0	0	6	0	6	8	0	0	8	14
Exiting Leg				0				8				6	14
Total				0				14				14	28

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	1	0	1	3	0	0	3	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	1	0	1	3	0	0	3	4
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	75.0	0.0	0.0	75.0	
Exiting Leg Total	0				3				1				4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	1	0	1	3	0	0	3	4
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.375	0.000	0.000	0.375	0.500
Entering Leg	0	0	0	0	0	1	0	1	3	0	0	3	4
Exiting Leg				0				3				1	4
Total				0				4				4	8

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Bicycles (on Roadway and Crosswalks)**

	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0						0						0						0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0						0						0						0
Total	0						0						0						0

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0						0						0						0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0						0						0						0
Total	0						0						0						0

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	3	1	0	4	1	63	0	64	64	5	0	69	137
4:15 PM	1	0	0	1	1	82	0	83	62	6	0	68	152
4:30 PM	2	2	0	4	1	100	0	101	66	3	0	69	174
4:45 PM	3	1	0	4	0	79	0	79	43	2	0	45	128
Total	9	4	0	13	3	324	0	327	235	16	0	251	591
5:00 PM	2	0	0	2	3	58	0	61	74	1	0	75	138
5:15 PM	3	0	0	3	1	102	0	103	39	1	0	40	146
5:30 PM	2	0	0	2	2	98	0	100	55	4	0	59	161
5:45 PM	1	1	0	2	0	71	0	71	48	5	0	53	126
Total	8	1	0	9	6	329	0	335	216	11	0	227	571
6:00 PM	1	0	0	1	0	74	0	74	35	2	0	37	112
6:15 PM	0	1	0	1	0	57	0	57	29	3	0	32	90
Total	1	1	0	2	0	131	0	131	64	5	0	69	202
Grand Total	18	6	0	24	9	784	0	793	515	32	0	547	1364
Approach %	75.0	25.0	0.0		1.1	98.9	0.0		94.1	5.9	0.0		
Total %	1.3	0.4	0.0	1.8	0.7	57.5	0.0	58.1	37.8	2.3	0.0	40.1	
Exiting Leg Total	41				521				802				1364
Cars	18	6	0	24	9	771	0	780	506	31	0	537	1341
% Cars	100.0	100.0	0.0	100.0	100.0	98.3	0.0	98.4	98.3	96.9	0.0	98.2	98.3
Exiting Leg Total	40				512				789				1341
Heavy Vehicles	0	0	0	0	0	13	0	13	9	1	0	10	23
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	1.7	0.0	1.6	1.7	3.1	0.0	1.8	1.7
Exiting Leg Total	1				9				13				23

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:15 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	1	0	0	1	1	82	0	83	62	6	0	68	152
4:30 PM	2	2	0	4	1	100	0	101	66	3	0	69	174
4:45 PM	3	1	0	4	0	79	0	79	43	2	0	45	128
5:00 PM	2	0	0	2	3	58	0	61	74	1	0	75	138
Total Volume	8	3	0	11	5	319	0	324	245	12	0	257	592
% Approach Total	72.7	27.3	0.0		1.5	98.5	0.0		95.3	4.7	0.0		
PHF	0.667	0.375	0.000	0.688	0.417	0.798	0.000	0.802	0.828	0.500	0.000	0.857	0.851
Cars	8	3	0	11	5	313	0	318	238	12	0	250	579
Cars %	100.0	100.0	0.0	100.0	100.0	98.1	0.0	98.1	97.1	100.0	0.0	97.3	97.8
Heavy Vehicles	0	0	0	0	0	6	0	6	7	0	0	7	13
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	1.9	0.0	1.9	2.9	0.0	0.0	2.7	2.2
Cars Enter Leg	8	3	0	11	5	313	0	318	238	12	0	250	579
Heavy Enter Leg	0	0	0	0	0	6	0	6	7	0	0	7	13
Total Entering Leg	8	3	0	11	5	319	0	324	245	12	0	257	592
Cars Exiting Leg	17				241				321				579
Heavy Exiting Leg	0				7				6				13
Total Exiting Leg	17				248				327				592

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Cars

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	3	1	0	4	1	62	0	63	63	4	0	67	134
4:15 PM	1	0	0	1	1	81	0	82	59	6	0	65	148
4:30 PM	2	2	0	4	1	96	0	97	65	3	0	68	169
4:45 PM	3	1	0	4	0	78	0	78	43	2	0	45	127
Total	9	4	0	13	3	317	0	320	230	15	0	245	578
5:00 PM	2	0	0	2	3	58	0	61	71	1	0	72	135
5:15 PM	3	0	0	3	1	102	0	103	39	1	0	40	146
5:30 PM	2	0	0	2	2	96	0	98	55	4	0	59	159
5:45 PM	1	1	0	2	0	68	0	68	47	5	0	52	122
Total	8	1	0	9	6	324	0	330	212	11	0	223	562
6:00 PM	1	0	0	1	0	73	0	73	35	2	0	37	111
6:15 PM	0	1	0	1	0	57	0	57	29	3	0	32	90
Total	1	1	0	2	0	130	0	130	64	5	0	69	201
Grand Total	18	6	0	24	9	771	0	780	506	31	0	537	1341
Approach %	75.0	25.0	0.0		1.2	98.8	0.0		94.2	5.8	0.0		
Total %	1.3	0.4	0.0	1.8	0.7	57.5	0.0	58.2	37.7	2.3	0.0	40.0	
Exiting Leg Total				40				512				789	1341

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:15 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	1	0	0	1	1	81	0	82	59	6	0	65	148
4:30 PM	2	2	0	4	1	96	0	97	65	3	0	68	169
4:45 PM	3	1	0	4	0	78	0	78	43	2	0	45	127
5:00 PM	2	0	0	2	3	58	0	61	71	1	0	72	135
Total Volume	8	3	0	11	5	313	0	318	238	12	0	250	579
% Approach Total	72.7	27.3	0.0		1.6	98.4	0.0		95.2	4.8	0.0		
PHF	0.667	0.375	0.000	0.688	0.417	0.815	0.000	0.820	0.838	0.500	0.000	0.868	0.857
Entering Leg	8	3	0	11	5	313	0	318	238	12	0	250	579
Exiting Leg				17				241				321	579
Total				28				559				571	1158

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
4:15 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
4:30 PM	0	0	0	0	0	4	0	4	1	0	0	1	5
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	7	0	7	5	1	0	6	13
5:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
Total	0	0	0	0	0	5	0	5	4	0	0	4	9
6:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	13	0	13	9	1	0	10	23
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		90.0	10.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	56.5	0.0	56.5	39.1	4.3	0.0	43.5	
Exiting Leg Total				1				9				13	23
Buses	0	0	0	0	0	2	0	2	1	0	0	1	3
% Buses	0.0	0.0	0.0	0.0	0.0	15.4	0.0	15.4	11.1	0.0	0.0	10.0	13.0
Exiting Leg Total				0				1				2	3
Single-Unit Trucks	0	0	0	0	0	11	0	11	7	1	0	8	19
% Single-Unit	0.0	0.0	0.0	0.0	0.0	84.6	0.0	84.6	77.8	100.0	0.0	80.0	82.6
Exiting Leg Total				1				7				11	19
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	10.0	4.3
Exiting Leg Total				0				1				0	1

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
4:15 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
4:30 PM	0	0	0	0	0	4	0	4	1	0	0	1	5
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	7	0	7	5	1	0	6	13
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		83.3	16.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.438	0.417	0.250	0.000	0.500	0.650
Buses	0	0	0	0	0	2	0	2	1	0	0	1	3
Buses %	0.0	0.0	0.0	0.0	0.0	28.6	0.0	28.6	20.0	0.0	0.0	16.7	23.1
Single-Unit Trucks	0	0	0	0	0	5	0	5	3	1	0	4	9
Single-Unit %	0.0	0.0	0.0	0.0	0.0	71.4	0.0	71.4	60.0	100.0	0.0	66.7	69.2
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	16.7	7.7
Buses	0	0	0	0	0	2	0	2	1	0	0	1	3
Single-Unit Trucks	0	0	0	0	0	5	0	5	3	1	0	4	9
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Entering Leg	0	0	0	0	0	7	0	7	5	1	0	6	13
Buses				0				1				2	3
Single-Unit Trucks				1				3				5	9
Articulated Trucks				0				1				0	1
Total Exiting Leg				1				5				7	13

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Buses

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	1	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	2	0	2	1	0	0	1	3
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	66.7	0.0	66.7	33.3	0.0	0.0	33.3	
Exiting Leg Total	0				1				2				3

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	1	0	0	1	3
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.250	0.000	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	2	0	2	1	0	0	1	3
Exiting Leg				0				1				2	3
Total				0				3				3	6

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Single-Unit Trucks

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	3	1	0	4	9
5:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
Total	0	0	0	0	0	5	0	5	4	0	0	4	9
6:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	11	0	11	7	1	0	8	19
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		87.5	12.5	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	57.9	0.0	57.9	36.8	5.3	0.0	42.1	
Exiting Leg Total	1				7				11				19

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:15 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	4
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
Total Volume	0	0	0	0	0	5	0	5	5	0	0	5	10
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.313	0.000	0.313	0.417	0.000	0.000	0.417	0.625
Entering Leg	0	0	0	0	0	5	0	5	5	0	0	5	10
Exiting Leg				0				5				5	10
Total				0				10				10	20

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Articulated Trucks

	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	1
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	
Exiting Leg Total	0				1				0				1

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Old Pasture Road				Marsh Hill Road				Marsh Hill Road				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	1
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	1	1
Exiting Leg				0				1				0	1
Total				0				1				1	2

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**



Bicycles (on Roadway and Crosswalks)

	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0						0						0						0

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0						0						0						0
Total	0						0						0						0

PDI File #: **239707 B**
 Location: **N: Old Pasture Road**
 Location: **E: Marsh Hill Road W: Marsh Hill Road**
 City, State: **Dracut, MA**
 Client: **Bayside/ K. Cram**
 Site Code: **2233486**
 Count Date: **Wednesday, November 15, 2023**
 Start Time: **4:00 PM**
 End Time: **6:30 PM**
 Class:



Pedestrians

	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0						0						0						0

Peak Hour Analysis from 04:00 PM to 06:30 PM begins at:

4:00 PM	Old Pasture Road						Marsh Hill Road						Marsh Hill Road						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0						0						0						0
Total	0						0						0						0

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Tuesday, November 14, 2023
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0

AM Total 0 0 0 0 0 0 0
Percentage #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

AM Peak 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM
Volume 0 0 0 0 0 0 0

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	105	0	1	0	106
12:15 PM	0	0	107	0	3	0	110
12:30 PM	0	0	100	1	4	0	105
12:45 PM	0	0	130	0	2	1	133
1:00 PM	0	0	100	0	1	0	101
1:15 PM	0	0	111	0	7	2	120
1:30 PM	0	0	114	0	7	0	121
1:45 PM	0	0	101	0	2	0	103
2:00 PM	0	0	103	0	2	2	107
2:15 PM	0	0	100	0	5	2	107
2:30 PM	0	0	120	0	5	2	127
2:45 PM	0	0	129	0	3	0	132
3:00 PM	0	0	127	0	2	0	129
3:15 PM	0	0	130	0	3	1	134
3:30 PM	0	0	122	0	0	0	122
3:45 PM	0	0	128	1	2	1	132
4:00 PM	0	0	135	0	4	1	140
4:15 PM	0	0	139	0	0	1	140
4:30 PM	0	0	153	0	5	0	158
4:45 PM	1	0	131	0	1	0	133
5:00 PM	0	1	139	0	2	2	144
5:15 PM	0	0	148	0	1	1	150
5:30 PM	0	0	90	0	0	0	90
5:45 PM	0	0	123	0	1	0	124
6:00 PM	0	0	106	0	2	2	110
6:15 PM	0	0	94	1	1	2	98
6:30 PM	0	0	92	0	0	0	92
6:45 PM	0	0	96	0	0	0	96
7:00 PM	0	0	71	0	3	0	74
7:15 PM	0	0	61	0	0	1	62
7:30 PM	0	0	64	0	1	0	65
7:45 PM	0	0	54	0	1	0	55
8:00 PM	0	0	52	0	0	0	52
8:15 PM	0	0	52	0	0	0	52
8:30 PM	0	0	54	0	1	0	55
8:45 PM	0	0	42	0	1	0	43
9:00 PM	0	0	28	0	0	0	28
9:15 PM	0	0	32	0	0	0	32
9:30 PM	0	0	30	0	1	0	31
9:45 PM	0	0	29	0	0	0	29
10:00 PM	0	0	22	0	1	0	23
10:15 PM	0	0	32	0	0	0	32
10:30 PM	0	0	14	0	0	1	15
10:45 PM	0	0	7	0	1	0	8
11:00 PM	0	0	10	0	0	0	10
11:15 PM	0	0	5	0	0	0	5
11:30 PM	0	0	8	0	0	0	8
11:45 PM	0	0	5	0	0	0	5

PM Total 1 1 3945 3 76 22 4048
Percentage 0.02% 0.02% 97.46% 0.07% 1.88% 0.54%

PM Peak 4:00 PM 4:15 PM 4:30 PM 12:00 PM 1:15 PM 1:45 PM 4:30 PM
Volume 1 1 571 1 18 6 585

Day Total 1 1 3945 3 76 22 4048
Percentage 0.02% 0.02% 97.46% 0.07% 1.88% 0.54%

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Wednesday, November 15, 2023
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	6	0	0	0	6
12:30 AM	0	0	1	0	1	0	2
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	1	0	1
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	2	0	1	0	3
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	2	0	1	0	3
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	7	0	0	0	7
4:15 AM	0	0	9	0	1	0	10
4:30 AM	0	0	10	0	1	0	11
4:45 AM	0	0	13	0	1	0	14
5:00 AM	0	0	15	0	0	0	15
5:15 AM	0	0	18	0	1	1	20
5:30 AM	0	0	30	0	1	2	33
5:45 AM	0	0	33	0	5	0	38
6:00 AM	0	0	37	0	2	0	39
6:15 AM	0	0	54	1	4	0	59
6:30 AM	0	0	54	0	1	1	56
6:45 AM	0	0	68	1	4	1	74
7:00 AM	0	0	50	0	4	1	55
7:15 AM	0	0	75	0	7	1	83
7:30 AM	0	0	68	1	3	1	73
7:45 AM	0	0	71	1	4	1	77
8:00 AM	0	0	76	0	4	0	80
8:15 AM	0	0	90	0	6	0	96
8:30 AM	0	0	87	0	4	2	93
8:45 AM	0	0	60	0	3	2	65
9:00 AM	0	0	82	0	2	1	85
9:15 AM	0	0	91	2	2	0	95
9:30 AM	0	0	85	0	4	0	89
9:45 AM	0	0	82	0	7	1	90
10:00 AM	0	0	107	0	2	2	111
10:15 AM	0	0	81	0	3	0	84
10:30 AM	0	0	88	0	7	1	96
10:45 AM	0	0	87	0	4	2	93
11:00 AM	0	0	79	0	3	0	82
11:15 AM	0	0	74	0	2	0	76
11:30 AM	0	1	77	0	7	2	87
11:45 AM	0	0	119	0	4	1	124

AM Total	0	1	2004	6	107	23	2141
Percentage	0.00%	0.05%	93.60%	0.28%	5.00%	1.07%	
AM Peak	12:00 AM	10:45 AM	9:15 AM	6:00 AM	9:45 AM	8:15 AM	9:15 AM
Volume	0	1	365	2	19	5	385

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	110	0	3	1	114
12:15 PM	0	0	103	0	8	0	111
12:30 PM	0	0	108	0	5	1	114
12:45 PM	0	0	103	0	4	0	107
1:00 PM	1	0	89	0	6	1	97
1:15 PM	0	0	98	0	3	0	101
1:30 PM	0	0	110	0	4	0	114
1:45 PM	0	0	92	0	3	1	96
2:00 PM	0	0	109	1	6	1	117
2:15 PM	0	1	109	0	3	1	114
2:30 PM	0	0	137	0	3	1	141
2:45 PM	0	0	118	0	2	1	121
3:00 PM	0	0	128	0	4	1	133
3:15 PM	0	0	130	0	1	1	132
3:30 PM	0	0	128	0	2	1	131
3:45 PM	0	0	149	0	5	0	154
4:00 PM	0	0	137	0	1	0	138
4:15 PM	0	0	147	0	2	0	149
4:30 PM	0	3	157	1	1	0	162
4:45 PM	0	0	138	0	4	0	142
5:00 PM	0	0	123	0	2	0	125
5:15 PM	0	0	123	0	1	0	124
5:30 PM	0	0	123	0	2	0	125
5:45 PM	0	0	141	0	1	1	143
6:00 PM	0	0	103	0	1	0	104
6:15 PM	0	0	107	0	0	1	108
6:30 PM	0	0	102	0	0	1	103
6:45 PM	0	0	81	0	0	2	83
7:00 PM	0	0	96	0	2	0	98
7:15 PM	0	0	67	0	1	0	68
7:30 PM	0	0	73	1	1	1	76
7:45 PM	0	0	61	0	1	0	62
8:00 PM	0	0	63	0	0	0	63
8:15 PM	0	0	68	0	0	0	68
8:30 PM	0	0	54	0	0	0	54
8:45 PM	0	0	40	0	1	1	42
9:00 PM	0	0	35	0	0	0	35
9:15 PM	0	0	29	0	0	0	29
9:30 PM	0	0	35	0	0	0	35
9:45 PM	0	0	24	0	0	0	24
10:00 PM	0	0	14	0	1	0	15
10:15 PM	0	0	26	0	0	0	26
10:30 PM	0	0	13	0	0	0	13
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	6	0	0	0	6

PM Total	1	4	4032	3	84	18	4142
Percentage	0.02%	0.10%	97.34%	0.07%	2.03%	0.43%	
PM Peak	12:15 PM	3:45 PM	3:45 PM	1:15 PM	12:15 PM	1:45 PM	3:45 PM
Volume	1	3	590	1	23	4	603
Day Total	1	5	6036	9	191	41	6283
Percentage	0.02%	0.08%	96.07%	0.14%	3.04%	0.65%	

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Thursday, November 16, 2023
Direction: NB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	1	0	4
12:15 AM	0	0	8	0	0	0	8
12:30 AM	0	0	6	0	0	0	6
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	3	0	0	0	3
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	4	0	0	0	4
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	3	0	4
3:15 AM	0	0	3	0	0	0	3
3:30 AM	0	0	3	0	1	0	4
3:45 AM	0	0	5	0	0	0	5
4:00 AM	0	0	4	0	0	0	4
4:15 AM	0	0	7	0	1	0	8
4:30 AM	0	0	15	0	0	0	15
4:45 AM	0	0	13	0	0	0	13
5:00 AM	0	0	18	0	1	1	20
5:15 AM	0	0	23	0	1	2	26
5:30 AM	0	0	33	0	4	2	39
5:45 AM	0	0	34	0	1	0	35
6:00 AM	0	0	35	0	5	0	40
6:15 AM	0	0	48	0	5	0	53
6:30 AM	0	0	64	0	4	1	69
6:45 AM	0	0	57	1	4	0	62
7:00 AM	0	0	60	0	4	0	64
7:15 AM	0	0	69	0	9	2	80
7:30 AM	0	0	76	1	5	1	83
7:45 AM	0	0	80	1	4	2	87
8:00 AM	0	0	72	0	9	1	82
8:15 AM	0	0	93	0	3	0	96
8:30 AM	0	0	101	0	4	2	107
8:45 AM	0	0	73	0	2	0	75
9:00 AM	0	0	93	0	3	1	97
9:15 AM	0	0	85	1	2	1	89
9:30 AM	0	0	80	0	2	2	84
9:45 AM	0	0	105	0	6	1	112
10:00 AM	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0

AM Total	0	0	1389	4	84	19	1496
Percentage	0.00%	0.00%	92.85%	0.27%	5.61%	1.27%	

AM Peak	12:00 AM	12:00 AM	9:00 AM	6:45 AM	7:15 AM	7:15 AM	9:00 AM
Volume	0	0	363	2	27	6	382

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0

PM Total	0	0	0	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0	0	0	0

Day Total	0	0	1389	4	84	19	1496
Percentage	0.00%	0.00%	92.85%	0.27%	5.61%	1.27%	

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Tuesday, November 14, 2023
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0

AM Total 0 0 0 0 0 0 0
Percentage #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!

AM Peak 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM 12:00 AM
Volume 0 0 0 0 0 0 0

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	121	0	4	2	127
12:15 PM	0	0	89	0	3	2	94
12:30 PM	0	0	105	0	5	2	112
12:45 PM	0	0	97	1	1	0	99
1:00 PM	0	0	96	0	9	1	106
1:15 PM	0	0	101	0	3	2	106
1:30 PM	0	0	114	0	5	0	119
1:45 PM	0	0	107	0	6	3	116
2:00 PM	0	0	101	2	6	1	110
2:15 PM	0	0	91	0	4	1	96
2:30 PM	0	0	111	0	3	2	116
2:45 PM	0	0	118	0	3	2	123
3:00 PM	0	0	131	0	5	1	137
3:15 PM	0	0	117	1	3	0	121
3:30 PM	0	0	139	1	1	0	141
3:45 PM	0	0	149	0	2	0	151
4:00 PM	0	0	134	1	1	1	137
4:15 PM	0	0	115	0	4	0	119
4:30 PM	0	0	117	0	2	0	119
4:45 PM	0	0	137	0	3	0	140
5:00 PM	0	0	123	0	1	0	124
5:15 PM	0	0	144	0	2	0	146
5:30 PM	0	0	119	0	1	1	121
5:45 PM	0	0	86	0	1	1	88
6:00 PM	0	0	110	0	1	0	111
6:15 PM	0	0	84	0	1	0	85
6:30 PM	0	0	110	1	2	0	113
6:45 PM	0	0	76	0	0	0	76
7:00 PM	0	0	71	0	0	0	71
7:15 PM	0	0	73	0	1	0	74
7:30 PM	0	0	82	0	0	0	82
7:45 PM	0	0	55	0	1	0	56
8:00 PM	0	0	52	0	1	0	53
8:15 PM	0	0	46	0	0	0	46
8:30 PM	0	0	55	0	1	0	56
8:45 PM	0	0	32	0	0	0	32
9:00 PM	0	0	37	0	0	0	37
9:15 PM	0	0	33	0	0	0	33
9:30 PM	0	0	28	0	0	0	28
9:45 PM	0	0	16	0	0	0	16
10:00 PM	0	0	20	0	0	0	20
10:15 PM	0	0	24	0	0	0	24
10:30 PM	0	0	17	0	0	0	17
10:45 PM	0	0	13	0	0	0	13
11:00 PM	0	0	7	0	0	0	7
11:15 PM	0	0	9	0	0	0	9
11:30 PM	0	0	9	0	0	0	9
11:45 PM	0	0	3	0	0	0	3

PM Total 0 0 3824 7 86 22 3939
Percentage 0.00% 0.00% 97.08% 0.18% 2.18% 0.56%

PM Peak 12:00 PM 12:00 PM 3:15 PM 3:15 PM 1:00 PM 1:45 PM 3:00 PM
Volume 0 0 539 3 23 7 550

Day Total 0 0 3824 7 86 22 3939
Percentage 0.00% 0.00% 97.08% 0.18% 2.18% 0.56%

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Wednesday, November 15, 2023
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	2	0	0	0	2
12:15 AM	0	0	5	0	0	0	5
12:30 AM	0	0	1	0	0	0	1
12:45 AM	0	0	4	0	0	0	4
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	2	0	0	0	2
1:30 AM	0	0	2	0	0	0	2
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	2	0	1	0	3
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	4	0	0	0	4
3:00 AM	0	0	2	0	1	0	3
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	0	0	0	0	0
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	6	0	1	0	7
4:15 AM	0	0	5	0	0	0	5
4:30 AM	0	0	10	0	0	0	10
4:45 AM	0	0	9	0	0	0	9
5:00 AM	0	0	26	0	0	0	26
5:15 AM	0	0	27	0	4	1	32
5:30 AM	0	0	50	0	1	1	52
5:45 AM	0	0	44	0	2	0	46
6:00 AM	0	0	52	0	2	0	54
6:15 AM	0	0	68	0	8	1	77
6:30 AM	0	0	69	0	2	0	71
6:45 AM	0	0	103	3	2	0	108
7:00 AM	0	0	84	0	1	1	86
7:15 AM	0	0	100	1	5	1	107
7:30 AM	0	0	103	2	3	0	108
7:45 AM	0	0	112	0	3	2	117
8:00 AM	0	0	98	0	6	0	104
8:15 AM	0	0	104	0	6	0	110
8:30 AM	0	0	86	0	5	1	92
8:45 AM	0	0	90	0	2	1	93
9:00 AM	0	0	78	0	3	5	86
9:15 AM	0	0	77	0	6	1	84
9:30 AM	0	0	80	0	2	0	82
9:45 AM	0	0	84	0	3	0	87
10:00 AM	0	0	78	2	3	0	83
10:15 AM	0	0	80	0	2	4	86
10:30 AM	0	0	91	0	5	0	96
10:45 AM	0	0	107	0	3	1	111
11:00 AM	0	0	78	0	5	2	85
11:15 AM	0	0	83	0	3	0	86
11:30 AM	0	1	84	0	2	0	87
11:45 AM	0	0	103	0	4	3	110

AM Total	0	1	2302	8	96	25	2432
Percentage	0.00%	0.04%	94.65%	0.33%	3.95%	1.03%	

AM Peak	12:00 AM	10:45 AM	7:30 AM	6:45 AM	7:45 AM	8:30 AM	7:30 AM
Volume	0	1	417	6	20	8	439

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	97	0	6	2	105
12:15 PM	0	0	88	0	2	0	90
12:30 PM	0	0	104	0	5	0	109
12:45 PM	0	0	97	0	5	1	103
1:00 PM	0	0	90	0	7	0	97
1:15 PM	0	0	94	0	5	1	100
1:30 PM	0	0	111	0	5	2	118
1:45 PM	0	0	101	1	4	1	107
2:00 PM	0	0	87	1	1	3	92
2:15 PM	0	0	130	1	3	1	135
2:30 PM	0	1	116	0	6	2	125
2:45 PM	0	0	108	0	5	0	113
3:00 PM	0	0	102	0	0	2	104
3:15 PM	0	0	123	1	2	1	127
3:30 PM	0	0	142	0	2	1	145
3:45 PM	0	0	149	0	0	0	149
4:00 PM	0	0	132	1	2	0	135
4:15 PM	0	0	100	0	4	0	104
4:30 PM	0	0	124	0	3	0	127
4:45 PM	0	1	152	0	0	0	153
5:00 PM	0	2	122	0	4	1	129
5:15 PM	0	0	123	0	0	1	124
5:30 PM	0	0	127	0	0	0	127
5:45 PM	0	0	104	0	2	0	106
6:00 PM	0	0	118	0	0	1	119
6:15 PM	0	0	96	0	1	0	97
6:30 PM	0	0	92	0	2	0	94
6:45 PM	0	0	85	0	0	1	86
7:00 PM	0	0	77	0	0	1	78
7:15 PM	0	0	85	0	0	0	85
7:30 PM	0	0	68	1	1	0	70
7:45 PM	0	0	71	0	0	0	71
8:00 PM	0	0	60	0	1	0	61
8:15 PM	0	0	66	0	0	0	66
8:30 PM	0	0	47	0	2	0	49
8:45 PM	0	0	42	0	0	1	43
9:00 PM	0	0	31	0	0	0	31
9:15 PM	0	0	37	0	0	0	37
9:30 PM	0	0	34	0	0	0	34
9:45 PM	0	0	27	0	0	0	27
10:00 PM	0	0	26	0	0	0	26
10:15 PM	0	0	19	0	0	0	19
10:30 PM	0	0	11	0	0	0	11
10:45 PM	0	0	14	0	0	0	14
11:00 PM	0	0	10	0	0	0	10
11:15 PM	0	0	10	0	0	0	10
11:30 PM	0	0	13	0	0	0	13
11:45 PM	0	0	4	0	0	0	4

PM Total	0	4	3866	6	80	23	3979
Percentage	0.00%	0.10%	97.16%	0.15%	2.01%	0.58%	

PM Peak	12:00 PM	4:15 PM	3:15 PM	1:30 PM	12:30 PM	1:15 PM	3:15 PM
Volume	0	3	546	3	22	7	556

Day Total	0	5	6168	14	176	48	6411
Percentage	0.00%	0.08%	96.21%	0.22%	2.75%	0.75%	

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-A

Count Date: Thursday, November 16, 2023
Direction: SB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	3	0	0	0	3
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	0	0	0	0	0
1:00 AM	0	0	3	0	0	0	3
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	2	0	0	0	2
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	3	0	0	0	3
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	4	0	0	0	4
3:00 AM	0	0	2	0	0	0	2
3:15 AM	0	0	2	0	0	0	2
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	1	0	1	1	3
4:00 AM	0	0	5	0	1	0	6
4:15 AM	0	0	11	0	0	0	11
4:30 AM	0	0	7	0	0	0	7
4:45 AM	0	0	15	0	0	0	15
5:00 AM	0	0	24	0	1	0	25
5:15 AM	0	0	32	0	1	3	36
5:30 AM	0	0	37	0	1	0	38
5:45 AM	0	0	47	0	3	1	51
6:00 AM	0	0	59	0	4	0	63
6:15 AM	0	0	57	0	5	0	62
6:30 AM	0	0	83	0	7	0	90
6:45 AM	0	0	93	2	9	1	105
7:00 AM	0	0	97	0	3	0	100
7:15 AM	0	0	90	0	5	0	95
7:30 AM	0	0	103	1	4	2	110
7:45 AM	0	0	107	0	5	2	114
8:00 AM	0	0	100	0	4	1	105
8:15 AM	0	0	115	0	1	1	117
8:30 AM	0	0	102	0	8	2	112
8:45 AM	0	0	114	1	7	2	124
9:00 AM	0	0	85	0	7	0	92
9:15 AM	0	0	82	0	4	0	86
9:30 AM	0	0	82	0	0	1	83
9:45 AM	0	0	86	0	6	2	94
10:00 AM	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0

AM Total	0	0	1667	4	87	19	1777
Percentage	0.00%	0.00%	93.81%	0.23%	4.90%	1.07%	

AM Peak	12:00 AM	12:00 AM	8:00 AM	6:45 AM	8:30 AM	7:30 AM	8:00 AM
Volume	0	0	431	3	26	6	458

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0

PM Total	0	0	0	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	

PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0	0	0	0

Day Total	0	0	1667	4	87	19	1777
Percentage	0.00%	0.00%	93.81%	0.23%	4.90%	1.07%	

**Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486**



PDI File # 239707 ATR-A

Direction: NB

Weekly Report

[illegible]



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100, Fax: 508-875-0118

PDI File # 239707 ATR-A

Direction: SB

Weekly Report

Day	Tuesday		Wednesday		Thursday										Week	
Date	11/14/23		11/15/23		11/16/23										Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	127	2	105	5	0	0	0	0	0	0	0	0	0	2	77
12:15	0	94	5	90	3	0	0	0	0	0	0	0	0	0	3	61
12:30	0	112	1	109	3	0	0	0	0	0	0	0	0	0	1	74
12:45	0	99	4	103	0	0	0	0	0	0	0	0	0	0	1	67
1:00	0	106	0	97	3	0	0	0	0	0	0	0	0	0	1	68
1:15	0	106	2	100	1	0	0	0	0	0	0	0	0	0	1	69
1:30	0	119	2	118	1	0	0	0	0	0	0	0	0	0	1	79
1:45	0	116	2	107	2	0	0	0	0	0	0	0	0	0	1	74
2:00	0	110	3	92	1	0	0	0	0	0	0	0	0	0	1	67
2:15	0	96	3	135	3	0	0	0	0	0	0	0	0	0	2	77
2:30	0	116	2	125	2	0	0	0	0	0	0	0	0	0	1	80
2:45	0	123	4	113	4	0	0	0	0	0	0	0	0	0	3	79
3:00	0	137	3	104	2	0	0	0	0	0	0	0	0	0	2	80
3:15	0	121	1	127	2	0	0	0	0	0	0	0	0	0	1	83
3:30	0	141	0	145	1	0	0	0	0	0	0	0	0	0	0	95
3:45	0	151	1	149	3	0	0	0	0	0	0	0	0	0	1	100
4:00	0	137	7	135	6	0	0	0	0	0	0	0	0	0	4	91
4:15	0	119	5	104	11	0	0	0	0	0	0	0	0	0	5	74
4:30	0	119	10	127	7	0	0	0	0	0	0	0	0	0	6	82
4:45	0	140	9	153	15	0	0	0	0	0	0	0	0	0	8	98
5:00	0	124	26	129	25	0	0	0	0	0	0	0	0	0	17	84
5:15	0	146	32	124	36	0	0	0	0	0	0	0	0	0	23	90
5:30	0	121	52	127	38	0	0	0	0	0	0	0	0	0	30	83
5:45	0	88	46	106	51	0	0	0	0	0	0	0	0	0	32	65
6:00	0	111	54	119	63	0	0	0	0	0	0	0	0	0	39	77
6:15	0	85	77	97	62	0	0	0	0	0	0	0	0	0	46	61
6:30	0	113	71	94	90	0	0	0	0	0	0	0	0	0	54	69
6:45	0	76	108	86	105	0	0	0	0	0	0	0	0	0	71	54
7:00	0	71	86	78	100	0	0	0	0	0	0	0	0	0	62	50
7:15	0	74	107	85	95	0	0	0	0	0	0	0	0	0	67	53
7:30	0	82	108	70	110	0	0	0	0	0	0	0	0	0	73	51
7:45	0	56	117	71	114	0	0	0	0	0	0	0	0	0	77	42
8:00	0	53	104	61	105	0	0	0	0	0	0	0	0	0	70	38
8:15	0	46	110	66	117	0	0	0	0	0	0	0	0	0	76	37
8:30	0	56	92	49	112	0	0	0	0	0	0	0	0	0	68	35
8:45	0	32	93	43	124	0	0	0	0	0	0	0	0	0	72	25
9:00	0	37	86	31	92	0	0	0	0	0	0	0	0	0	59	23
9:15	0	33	84	37	86	0	0	0	0	0	0	0	0	0	57	23
9:30	0	28	82	34	83	0	0	0	0	0	0	0	0	0	55	21
9:45	0	16	87	27	94	0	0	0	0	0	0	0	0	0	60	14
10:00	0	20	83	26	0	0	0	0	0	0	0	0	0	0	28	15
10:15	0	24	86	19	0	0	0	0	0	0	0	0	0	0	29	14
10:30	0	17	96	11	0	0	0	0	0	0	0	0	0	0	32	9
10:45	0	13	111	14	0	0	0	0	0	0	0	0	0	0	37	9
11:00	0	7	85	10	0	0	0	0	0	0	0	0	0	0	28	6
11:15	0	9	86	10	0	0	0	0	0	0	0	0	0	0	29	6
11:30	0	9	87	13	0	0	0	0	0	0	0	0	0	0	29	7
11:45	0	3	110	4	0	0	0	0	0	0	0	0	0	0	37	2
Total	0	3939	2432	3979	1777	0	0	0	0	0	0	0	0	0	1403	2639
Day Total	3939		6411		1777		0		0		0		0		4042	
Peak HR	12:00 AM	3:00 PM	7:30 AM	3:15 PM	8:00 AM	12:00 PM									7:30 AM	3:15 PM
Volume	0	550	439	556	458	0									295	369

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute)

NB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	2	6	5	1	0	0	0	0	0	14	43.1	38.6
1:00 AM	0	0	0	0	0	0	3	1	0	0	0	0	0	4	46.2	44.0
2:00 AM	0	0	0	0	1	3	4	0	0	0	0	0	0	8	42.9	39.3
3:00 AM	0	0	0	0	1	9	4	1	0	0	0	0	0	15	41.0	38.2
4:00 AM	0	0	0	1	8	13	9	8	2	0	0	0	0	41	46.0	39.5
5:00 AM	0	1	3	7	14	27	39	10	0	0	0	0	0	101	43.0	37.6
6:00 AM	0	4	10	17	49	77	46	10	1	1	0	0	0	215	41.0	35.6
7:00 AM	1	1	10	32	51	105	68	12	0	0	0	0	0	280	41.0	35.9
8:00 AM	2	1	14	30	62	142	72	12	0	0	1	0	0	336	41.0	35.9
9:00 AM	0	2	14	32	88	124	62	6	1	0	0	0	0	329	40.0	35.0
10:00 AM	0	1	22	39	102	148	42	4	0	1	0	0	0	359	39.0	34.3
11:00 AM	0	0	26	56	100	130	63	5	1	0	1	1	0	383	40.0	34.3
12:00 PM	0	3	24	45	125	158	74	12	0	0	0	0	0	441	40.0	34.8
1:00 PM	0	5	38	52	108	118	72	4	0	0	0	1	0	398	40.0	33.8
2:00 PM	2	3	19	55	98	189	60	7	0	1	1	0	0	435	40.0	34.5
3:00 PM	0	1	31	53	110	182	76	6	1	0	0	0	0	460	40.0	34.6
4:00 PM	1	3	31	75	123	186	60	9	2	0	0	0	0	490	39.0	34.0
5:00 PM	0	6	32	64	138	161	48	4	0	0	0	0	1	454	39.0	33.4
6:00 PM	1	0	19	36	103	145	51	10	0	0	0	0	0	365	40.0	34.6
7:00 PM	0	3	14	14	59	123	37	6	1	0	0	0	0	257	40.0	35.2
8:00 PM	0	0	8	12	34	87	57	10	2	0	0	0	0	210	41.7	37.0
9:00 PM	0	1	5	6	14	39	40	8	2	1	0	0	0	116	43.0	37.7
10:00 PM	0	0	0	0	6	35	36	8	1	0	0	0	0	86	44.0	40.0
11:00 PM	0	0	0	0	1	8	17	4	1	0	0	0	0	31	45.0	41.6
Total	7	35	320	626	1397	2215	1045	158	15	4	3	2	1	5828	40.0	35.0
Percent	0.12%	0.60%	5.49%	10.74%	23.97%	38.01%	17.93%	2.71%	0.26%	0.07%	0.05%	0.03%	0.02%			

AM Peak	8:00 AM	6:00 AM	11:00 AM	11:00 AM	10:00 AM	10:00 AM	8:00 AM	7:00 AM	4:00 AM	6:00 AM	8:00 AM	11:00 AM		11:00 AM
Volume	2	4	26	56	102	148	72	12	2	1	1	1	0	383
PM Peak	2:00 PM	5:00 PM	1:00 PM	4:00 PM	5:00 PM	2:00 PM	3:00 PM	12:00 PM	4:00 PM	2:00 PM	2:00 PM	1:00 PM	5:00 PM	4:00 PM
Volume	2	6	38	75	138	189	76	12	2	1	1	1	1	490

15th Percentile:	29.0 MPH	Average Speed:	35.0 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	2993
85th Percentile:	40.0 MPH	Number in Pace:	3919	Percent of Vehicles > 35 MPH:	51.4%
95th Percentile:	43.0 MPH	Percent in Pace:	67.2%		

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute)

SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	1	4	5	0	1	0	0	0	0	12	44.0	39.7
1:00 AM	0	0	0	0	0	2	2	2	0	0	0	0	0	6	46.5	42.2
2:00 AM	0	0	0	0	1	2	5	0	0	0	0	0	0	8	44.0	40.0
3:00 AM	0	0	0	0	2	4	4	0	0	0	0	0	0	10	40.7	38.3
4:00 AM	0	0	1	0	2	7	15	8	0	1	0	0	0	34	45.1	41.2
5:00 AM	0	0	3	10	7	44	55	27	2	1	0	0	0	149	45.0	39.8
6:00 AM	0	2	6	18	50	112	77	27	4	1	0	0	0	297	43.0	37.4
7:00 AM	1	2	7	31	59	168	126	28	1	0	0	0	0	423	42.7	37.3
8:00 AM	0	0	5	19	42	180	136	18	1	0	0	0	0	401	42.0	38.0
9:00 AM	1	0	5	24	51	121	114	24	2	0	0	0	0	342	43.0	37.8
10:00 AM	0	1	8	29	62	151	89	13	0	0	0	0	0	353	42.0	36.6
11:00 AM	1	1	10	16	69	148	104	22	0	0	0	0	0	371	42.0	37.1
12:00 PM	1	4	5	37	94	154	98	25	2	0	0	0	0	420	42.0	36.3
1:00 PM	2	5	14	45	102	170	81	15	0	0	0	0	0	434	40.1	35.3
2:00 PM	1	0	7	33	94	184	99	16	0	0	0	0	0	434	41.0	36.3
3:00 PM	0	2	9	38	143	235	100	7	1	0	0	0	0	535	40.0	35.7
4:00 PM	1	9	30	62	144	189	58	7	1	0	0	0	0	501	39.0	33.8
5:00 PM	0	2	5	50	150	190	76	10	0	0	0	0	0	483	40.0	35.2
6:00 PM	0	0	10	35	82	148	92	13	0	0	0	0	0	380	42.0	36.3
7:00 PM	0	0	11	17	53	118	70	16	1	0	0	0	0	286	42.0	36.7
8:00 PM	0	0	3	15	26	74	49	15	2	0	0	0	0	184	43.0	37.6
9:00 PM	0	0	0	6	9	37	49	11	1	1	0	0	0	114	44.0	39.6
10:00 PM	0	0	0	2	10	20	30	10	2	0	0	0	0	74	45.0	39.8
11:00 PM	0	0	0	0	0	10	10	7	2	0	0	0	0	29	46.8	41.4
Total	8	28	139	488	1253	2472	1544	321	23	4	0	0	0	6280	42.0	36.6
Percent	0.13%	0.45%	2.21%	7.77%	19.95%	39.36%	24.59%	5.11%	0.37%	0.06%	0.00%	0.00%	0.00%			

AM Peak	7:00 AM	6:00 AM	11:00 AM	7:00 AM	11:00 AM	8:00 AM	8:00 AM	7:00 AM	6:00 AM	4:00 AM				7:00 AM
Volume	1	2	10	31	69	180	136	28	4	1	0	0	0	423
PM Peak	1:00 PM	4:00 PM	4:00 PM	4:00 PM	5:00 PM	3:00 PM	3:00 PM	12:00 PM	12:00 PM	9:00 PM				3:00 PM
Volume	2	9	30	62	150	235	100	25	2	1	0	0	0	535

15th Percentile:	31.0 MPH	Average Speed:	36.6 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	33 to 42 MPH	Number of Vehicles > 35 MPH:	3959
85th Percentile:	42.0 MPH	Number in Pace:	4185	Percent of Vehicles > 35 MPH:	63.0%
95th Percentile:	45.0 MPH	Percent in Pace:	66.6%		

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute) Combined NB and SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	3	10	10	1	1	0	0	0	0	26	44.0	39.1
1:00 AM	0	0	0	0	0	2	5	3	0	0	0	0	0	10	47.3	42.9
2:00 AM	0	0	0	0	2	5	9	0	0	0	0	0	0	16	43.8	39.6
3:00 AM	0	0	0	0	3	13	8	1	0	0	0	0	0	25	41.0	38.2
4:00 AM	0	0	1	1	10	20	24	16	2	1	0	0	0	75	46.0	40.3
5:00 AM	0	1	6	17	21	71	94	37	2	1	0	0	0	250	45.0	38.9
6:00 AM	0	6	16	35	99	189	123	37	5	2	0	0	0	512	42.0	36.7
7:00 AM	2	3	17	63	110	273	194	40	1	0	0	0	0	703	42.0	36.7
8:00 AM	2	1	19	49	104	322	208	30	1	0	1	0	0	737	42.0	37.0
9:00 AM	1	2	19	56	139	245	176	30	3	0	0	0	0	671	42.0	36.4
10:00 AM	0	2	30	68	164	299	131	17	0	1	0	0	0	712	41.0	35.4
11:00 AM	1	1	36	72	169	278	167	27	1	0	1	1	0	754	41.0	35.7
12:00 PM	1	7	29	82	219	312	172	37	2	0	0	0	0	861	41.0	35.5
1:00 PM	2	10	52	97	210	288	153	19	0	0	0	1	0	832	40.0	34.6
2:00 PM	3	3	26	88	192	373	159	23	0	1	1	0	0	869	40.0	35.4
3:00 PM	0	3	40	91	253	417	176	13	2	0	0	0	0	995	40.0	35.2
4:00 PM	2	12	61	137	267	375	118	16	3	0	0	0	0	991	39.0	33.9
5:00 PM	0	8	37	114	288	351	124	14	0	0	0	0	1	937	39.0	34.3
6:00 PM	1	0	29	71	185	293	143	23	0	0	0	0	0	745	41.0	35.5
7:00 PM	0	3	25	31	112	241	107	22	2	0	0	0	0	543	41.0	36.0
8:00 PM	0	0	11	27	60	161	106	25	4	0	0	0	0	394	42.0	37.3
9:00 PM	0	1	5	12	23	76	89	19	3	2	0	0	0	230	44.0	38.6
10:00 PM	0	0	0	2	16	55	66	18	3	0	0	0	0	160	44.0	39.9
11:00 PM	0	0	0	0	1	18	27	11	3	0	0	0	0	60	46.2	41.5
Total	15	63	459	1114	2650	4687	2589	479	38	8	3	2	1	12108	41.0	35.8
Percent	0.12%	0.52%	3.79%	9.20%	21.89%	38.71%	21.38%	3.96%	0.31%	0.07%	0.02%	0.02%	0.01%			

AM Peak	7:00 AM	6:00 AM	11:00 AM	11:00 AM	11:00 AM	8:00 AM	8:00 AM	7:00 AM	6:00 AM	6:00 AM	8:00 AM	11:00 AM		11:00 AM
Volume	2	6	36	72	169	322	208	40	5	2	1	1	0	754
PM Peak	2:00 PM	4:00 PM	4:00 PM	4:00 PM	5:00 PM	3:00 PM	3:00 PM	12:00 PM	8:00 PM	9:00 PM	2:00 PM	1:00 PM	5:00 PM	3:00 PM
Volume	3	12	61	137	288	417	176	37	4	2	1	1	1	995

15th Percentile:	30.0 MPH	Average Speed:	35.8 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	6952
85th Percentile:	41.0 MPH	Number in Pace:	8065	Percent of Vehicles > 35 MPH:	57.4%
95th Percentile:	44.0 MPH	Percent in Pace:	66.6%		

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute)

NB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	4	8	2	2	0	0	0	0	0	16	41.5	38.4
1:00 AM	0	0	0	0	0	0	3	0	0	0	0	0	0	3	42.7	42.3
2:00 AM	0	0	0	0	0	0	6	1	0	0	0	0	0	7	43.3	42.3
3:00 AM	0	0	0	0	1	3	1	0	1	0	1	0	0	7	51.1	42.0
4:00 AM	0	0	0	2	8	20	11	1	1	0	0	0	0	43	41.0	37.2
5:00 AM	1	1	6	12	22	30	29	10	2	0	0	0	0	113	43.0	36.1
6:00 AM	1	3	8	21	35	92	51	13	1	0	0	0	0	225	41.0	36.1
7:00 AM	1	1	16	26	54	109	55	12	0	1	0	0	1	276	41.0	35.7
8:00 AM	1	3	15	38	63	112	60	10	1	0	0	0	0	303	41.0	35.1
9:00 AM	0	1	12	43	90	138	50	8	0	0	1	0	0	343	40.0	34.8
10:00 AM	0	1	14	38	84	145	71	10	0	0	0	0	0	363	41.0	35.4
11:00 AM	1	2	11	32	90	134	61	13	2	0	0	0	0	346	41.0	35.4
12:00 PM	0	3	22	54	101	145	65	6	2	0	1	0	0	399	40.0	34.4
1:00 PM	0	1	16	42	86	169	67	8	1	1	0	0	0	391	41.0	35.3
2:00 PM	0	4	14	51	116	184	64	6	1	0	0	1	1	442	40.0	34.9
3:00 PM	0	8	32	66	123	161	66	15	0	0	1	0	1	473	40.0	34.1
4:00 PM	0	0	30	74	169	147	69	8	0	0	0	0	0	497	40.0	33.7
5:00 PM	0	5	30	52	135	156	55	2	0	0	0	0	0	435	39.0	33.7
6:00 PM	0	2	17	39	93	155	68	6	0	0	1	0	0	381	40.0	35.1
7:00 PM	0	5	10	21	66	122	62	4	0	0	0	0	0	290	40.0	35.4
8:00 PM	0	2	9	14	32	82	52	7	1	1	0	0	0	200	41.2	36.5
9:00 PM	0	0	1	6	9	55	49	11	0	1	0	0	0	132	43.0	38.9
10:00 PM	0	0	0	0	4	29	25	4	5	1	0	0	0	68	44.0	40.6
11:00 PM	0	0	0	1	1	9	10	5	1	0	0	0	0	27	46.0	40.6
Total	5	42	263	632	1386	2205	1052	162	19	5	5	1	3	5780	41.0	35.1
Percent	0.09%	0.73%	4.55%	10.93%	23.98%	38.15%	18.20%	2.80%	0.33%	0.09%	0.09%	0.02%	0.05%			

AM Peak	5:00 AM	6:00 AM	7:00 AM	9:00 AM	9:00 AM	10:00 AM	10:00 AM	6:00 AM	5:00 AM	7:00 AM	3:00 AM		7:00 AM	10:00 AM
Volume	1	3	16	43	90	145	71	13	2	1	1	0	1	363

PM Peak		3:00 PM	3:00 PM	4:00 PM	4:00 PM	2:00 PM	4:00 PM	3:00 PM	10:00 PM	1:00 PM	12:00 PM	2:00 PM	2:00 PM	4:00 PM
Volume	0	8	32	74	169	184	69	15	5	1	1	1	1	497

15th Percentile:	29.0 MPH	Average Speed:	35.1 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	3027
85th Percentile:	41.0 MPH	Number in Pace:	3803	Percent of Vehicles > 35 MPH:	52.4%
95th Percentile:	44.0 MPH	Percent in Pace:	65.8%		

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute)

SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	0	3	5	4	0	0	0	0	0	12	45.4	41.5
1:00 AM	0	0	0	0	2	0	2	1	1	0	0	0	0	6	47.5	41.5
2:00 AM	0	0	0	0	1	5	3	3	0	0	0	0	0	12	45.0	39.8
3:00 AM	0	0	0	0	1	2	0	1	1	0	0	0	0	5	47.8	39.6
4:00 AM	0	0	0	1	5	7	8	8	1	0	0	0	0	30	46.0	40.3
5:00 AM	1	1	5	10	11	40	66	24	3	0	0	0	0	161	45.0	39.0
6:00 AM	0	0	5	15	26	107	130	20	4	0	0	0	0	307	43.0	38.6
7:00 AM	0	0	9	32	83	164	101	26	1	0	0	0	0	416	43.0	36.8
8:00 AM	1	0	6	30	69	175	103	17	0	0	0	0	0	401	42.0	36.9
9:00 AM	1	2	3	23	52	137	97	23	1	0	0	0	0	339	43.0	37.6
10:00 AM	0	0	3	25	69	155	92	18	1	0	0	0	0	363	42.0	37.1
11:00 AM	0	2	6	20	72	143	104	18	1	0	0	0	0	366	42.0	37.0
12:00 PM	1	4	15	30	89	170	69	19	1	0	0	0	0	398	41.0	35.7
1:00 PM	0	0	7	33	98	164	103	5	0	0	0	0	0	410	41.0	36.0
2:00 PM	1	2	9	55	104	180	77	15	0	0	0	0	0	443	41.0	35.4
3:00 PM	1	6	18	57	158	194	71	10	0	1	0	0	0	516	40.0	34.5
4:00 PM	1	7	35	54	145	180	67	15	1	0	0	0	0	505	40.0	34.0
5:00 PM	0	2	11	69	159	162	74	4	0	0	0	0	0	481	40.0	34.3
6:00 PM	1	0	10	28	104	147	68	18	1	0	0	0	0	377	41.0	35.9
7:00 PM	0	2	7	19	60	132	79	14	2	0	0	0	0	315	42.0	36.7
8:00 PM	0	1	3	15	31	95	65	10	1	0	0	0	0	221	42.0	37.2
9:00 PM	0	0	0	1	10	42	52	20	1	1	0	0	0	127	45.0	40.4
10:00 PM	0	0	0	1	7	27	22	11	2	0	0	0	0	70	45.0	39.8
11:00 PM	0	0	0	0	0	14	13	7	2	0	0	0	0	36	46.0	41.3
Total	8	29	152	518	1356	2445	1471	311	25	2	0	0	0	6317	42.0	36.3
Percent	0.13%	0.46%	2.41%	8.20%	21.47%	38.71%	23.29%	4.92%	0.40%	0.03%	0.00%	0.00%	0.00%			

AM Peak	5:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	6:00 AM	7:00 AM	6:00 AM					7:00 AM
Volume	1	2	9	32	83	175	130	26	4	0	0	0	0	416
PM Peak	12:00 PM	4:00 PM	4:00 PM	5:00 PM	5:00 PM	3:00 PM	1:00 PM	9:00 PM	7:00 PM	3:00 PM				3:00 PM
Volume	1	7	35	69	159	194	103	20	2	1	0	0	0	516

15th Percentile:	31.0 MPH	Average Speed:	36.3 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	3783
85th Percentile:	42.0 MPH	Number in Pace:	4194	Percent of Vehicles > 35 MPH:	59.9%
95th Percentile:	45.0 MPH	Percent in Pace:	66.4%		

Bridge Street (Route 38)
north of Marsh Hill Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR A (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute)																
Combined NB and SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	0	4	11	7	6	0	0	0	0	0	28	45.0	39.7
1:00 AM	0	0	0	0	2	0	5	1	1	0	0	0	0	9	45.4	41.8
2:00 AM	0	0	0	0	1	5	9	4	0	0	0	0	0	19	45.0	40.7
3:00 AM	0	0	0	0	2	5	1	1	2	0	1	0	0	12	50.7	41.0
4:00 AM	0	0	0	3	13	27	19	9	2	0	0	0	0	73	43.4	38.5
5:00 AM	2	2	11	22	33	70	95	34	5	0	0	0	0	274	44.0	37.8
6:00 AM	1	3	13	36	61	199	181	33	5	0	0	0	0	532	42.0	37.6
7:00 AM	1	1	25	58	137	273	156	38	1	1	0	0	1	692	42.0	36.3
8:00 AM	2	3	21	68	132	287	163	27	1	0	0	0	0	704	41.0	36.1
9:00 AM	1	3	15	66	142	275	147	31	1	0	1	0	0	682	41.0	36.2
10:00 AM	0	1	17	63	153	300	163	28	1	0	0	0	0	726	42.0	36.3
11:00 AM	1	4	17	52	162	277	165	31	3	0	0	0	0	712	41.0	36.2
12:00 PM	1	7	37	84	190	315	134	25	3	0	1	0	0	797	40.0	35.1
1:00 PM	0	1	23	75	184	333	170	13	1	1	0	0	0	801	41.0	35.7
2:00 PM	1	6	23	106	220	364	141	21	1	0	0	1	1	885	40.0	35.1
3:00 PM	1	14	50	123	281	355	137	25	0	1	1	0	1	989	40.0	34.3
4:00 PM	1	7	65	128	314	327	136	23	1	0	0	0	0	1002	40.0	33.9
5:00 PM	0	7	41	121	294	318	129	6	0	0	0	0	0	916	39.0	34.0
6:00 PM	1	2	27	67	197	302	136	24	1	0	1	0	0	758	41.0	35.5
7:00 PM	0	7	17	40	126	254	141	18	2	0	0	0	0	605	41.0	36.1
8:00 PM	0	3	12	29	63	177	117	17	2	1	0	0	0	421	42.0	36.9
9:00 PM	0	0	1	7	19	97	101	31	1	2	0	0	0	259	44.0	39.6
10:00 PM	0	0	0	1	11	56	47	15	7	1	0	0	0	138	45.0	40.2
11:00 PM	0	0	0	1	1	23	23	12	3	0	0	0	0	63	46.0	41.0
Total	13	71	415	1150	2742	4650	2523	473	44	7	5	1	3	12097	41.0	35.8
Percent	0.11%	0.59%	3.43%	9.51%	22.67%	38.44%	20.86%	3.91%	0.36%	0.06%	0.04%	0.01%	0.02%			

AM Peak	5:00 AM	11:00 AM	7:00 AM	8:00 AM	11:00 AM	10:00 AM	6:00 AM	7:00 AM	5:00 AM	7:00 AM	3:00 AM		7:00 AM	10:00 AM
Volume	2	4	25	68	162	300	181	38	5	1	1	0	1	726
PM Peak	12:00 PM	3:00 PM	4:00 PM	4:00 PM	4:00 PM	2:00 PM	1:00 PM	9:00 PM	10:00 PM	9:00 PM	12:00 PM	2:00 PM	2:00 PM	4:00 PM
Volume	1	14	65	128	314	364	170	31	7	2	1	1	1	1002

15th Percentile:	30.0 MPH	Average Speed:	35.8 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	6810
85th Percentile:	41.0 MPH	Number in Pace:	7997	Percent of Vehicles > 35 MPH:	56.3%
95th Percentile:	44.0 MPH	Percent in Pace:	66.1%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B

Count Date: Tuesday, November 14, 2023
Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	3	0	0	0	3
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	0	0	0	0	0
12:45 AM	0	0	1	0	0	0	1
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	1	0	0	0	1
2:30 AM	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0
3:00 AM	0	0	3	0	0	0	3
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	4	0	0	0	4
4:00 AM	0	0	3	0	0	0	3
4:15 AM	0	0	6	0	0	0	6
4:30 AM	0	0	12	0	0	0	12
4:45 AM	0	0	17	0	0	0	17
5:00 AM	0	0	18	0	0	0	18
5:15 AM	0	0	26	0	1	0	27
5:30 AM	0	0	21	0	0	0	21
5:45 AM	0	0	36	0	0	0	36
6:00 AM	0	0	36	1	1	0	38
6:15 AM	0	0	39	5	1	0	45
6:30 AM	0	0	52	1	0	0	53
6:45 AM	0	0	54	0	1	0	55
7:00 AM	0	0	62	2	1	1	66
7:15 AM	0	0	54	0	3	1	58
7:30 AM	0	0	65	3	3	1	72
7:45 AM	0	0	54	0	1	0	55
8:00 AM	0	0	71	0	1	0	72
8:15 AM	0	0	53	0	0	1	54
8:30 AM	0	0	65	3	1	0	69
8:45 AM	0	0	54	0	1	1	56
9:00 AM	0	0	45	0	2	0	47
9:15 AM	0	0	40	0	2	0	42
9:30 AM	0	0	41	0	3	1	45
9:45 AM	0	0	22	0	0	2	24
10:00 AM	0	0	33	0	2	0	35
10:15 AM	0	0	36	0	3	0	39
10:30 AM	0	0	27	0	5	1	33
10:45 AM	0	0	31	0	2	1	34
11:00 AM	0	0	26	0	2	0	28
11:15 AM	0	0	21	0	1	0	22
11:30 AM	0	0	35	0	3	0	38
11:45 AM	0	0	34	0	1	0	35

AM Total	0	0	1210	15	41	10	1276
Percentage	0.00%	0.00%	94.83%	1.18%	3.21%	0.78%	
AM Peak	12:00 AM	12:00 AM	7:15 AM	6:15 AM	10:00 AM	6:45 AM	7:15 AM
Volume	0	0	244	8	12	3	257

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	45	0	1	2	48
12:15 PM	0	0	33	1	1	0	35
12:30 PM	0	0	34	0	1	1	36
12:45 PM	0	0	38	0	2	0	40
1:00 PM	0	0	36	0	3	0	39
1:15 PM	0	0	47	0	2	2	51
1:30 PM	0	0	40	0	1	1	42
1:45 PM	0	0	32	0	2	1	35
2:00 PM	0	0	62	5	1	1	69
2:15 PM	0	0	49	1	4	0	54
2:30 PM	0	0	50	0	0	0	50
2:45 PM	0	0	65	0	3	0	68
3:00 PM	0	0	76	0	4	1	81
3:15 PM	0	0	43	2	2	0	47
3:30 PM	0	0	50	1	0	0	51
3:45 PM	0	0	55	0	1	0	56
4:00 PM	0	0	66	2	1	0	69
4:15 PM	0	0	66	0	0	0	66
4:30 PM	0	0	65	0	0	0	65
4:45 PM	0	0	60	0	1	0	61
5:00 PM	0	0	66	0	2	0	68
5:15 PM	0	0	54	0	1	0	55
5:30 PM	0	0	65	0	1	0	66
5:45 PM	0	0	44	0	0	0	44
6:00 PM	0	0	34	0	0	0	34
6:15 PM	0	0	23	0	0	0	23
6:30 PM	0	0	35	0	0	0	35
6:45 PM	0	0	28	0	0	0	28
7:00 PM	0	0	25	0	0	0	25
7:15 PM	0	0	25	0	0	0	25
7:30 PM	0	0	40	0	0	0	40
7:45 PM	0	0	16	0	0	0	16
8:00 PM	0	0	19	0	0	0	19
8:15 PM	0	0	12	0	0	0	12
8:30 PM	0	0	7	0	0	0	7
8:45 PM	0	0	12	0	0	0	12
9:00 PM	0	0	10	0	1	0	11
9:15 PM	0	0	10	0	0	0	10
9:30 PM	0	0	13	1	0	0	14
9:45 PM	0	0	12	0	0	0	12
10:00 PM	0	0	4	0	0	0	4
10:15 PM	0	0	7	0	0	0	7
10:30 PM	0	0	7	0	0	0	7
10:45 PM	0	0	11	0	0	0	11
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	4	0	0	0	4
11:30 PM	0	0	0	0	0	0	0
11:45 PM	0	0	2	0	0	0	2

PM Total	0	0	1600	13	35	9	1657
Percentage	0.00%	0.00%	96.56%	0.78%	2.11%	0.54%	
PM Peak	12:00 PM	12:00 PM	4:00 PM	1:30 PM	2:15 PM	1:15 PM	4:00 PM
Volume	0	0	257	6	11	5	261
Day Total	0	0	2810	28	76	19	2933
Percentage	0.00%	0.00%	95.81%	0.95%	2.59%	0.65%	

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B

Count Date: Wednesday, November 15, 2023
Direction: EB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	4	0	0	0	4
12:15 AM	0	0	2	0	0	0	2
12:30 AM	0	0	2	0	0	0	2
12:45 AM	0	0	3	0	0	0	3
1:00 AM	0	0	1	0	0	0	1
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	1	0	0	0	1
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	2	0	0	0	2
2:30 AM	0	0	2	0	0	0	2
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	5	0	0	0	5
3:30 AM	0	0	1	0	0	0	1
3:45 AM	0	0	4	0	0	0	4
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	7	0	0	0	7
4:30 AM	0	0	18	0	0	0	18
4:45 AM	0	0	14	0	0	0	14
5:00 AM	0	0	24	0	0	0	24
5:15 AM	0	0	24	0	1	1	26
5:30 AM	0	0	30	0	0	0	30
5:45 AM	0	0	39	0	0	0	39
6:00 AM	0	0	33	1	0	1	35
6:15 AM	0	0	42	4	1	0	47
6:30 AM	0	0	50	1	0	0	51
6:45 AM	0	0	57	0	1	0	58
7:00 AM	0	0	61	3	2	0	66
7:15 AM	0	0	67	1	3	0	71
7:30 AM	0	0	67	3	4	1	75
7:45 AM	0	0	69	0	1	1	71
8:00 AM	0	0	61	0	2	0	63
8:15 AM	0	0	56	0	1	0	57
8:30 AM	0	0	47	4	2	0	53
8:45 AM	0	0	51	0	0	0	51
9:00 AM	0	0	39	0	2	2	43
9:15 AM	0	0	31	0	3	0	34
9:30 AM	0	0	26	1	1	0	28
9:45 AM	0	0	38	0	0	0	38
10:00 AM	0	0	32	0	2	0	34
10:15 AM	0	0	30	1	2	2	35
10:30 AM	0	0	25	0	0	0	25
10:45 AM	0	0	32	1	0	0	33
11:00 AM	0	0	33	0	2	1	36
11:15 AM	0	0	37	0	3	1	41
11:30 AM	0	0	49	0	2	0	51
11:45 AM	0	0	43	0	1	2	46

AM Total	0	0	1263	20	36	12	1331
Percentage	0.00%	0.00%	94.89%	1.50%	2.70%	0.90%	

AM Peak	12:00 AM	12:00 AM	7:00 AM	6:15 AM	6:45 AM	11:00 AM	7:00 AM
Volume	0	0	264	8	10	4	283

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	46	0	3	0	49
12:15 PM	0	0	26	1	1	0	28
12:30 PM	0	0	34	0	1	0	35
12:45 PM	0	0	40	0	3	1	44
1:00 PM	0	0	49	0	4	0	53
1:15 PM	0	0	37	1	1	0	39
1:30 PM	0	0	39	0	0	1	40
1:45 PM	0	0	42	1	1	0	44
2:00 PM	0	0	63	4	0	0	67
2:15 PM	0	0	53	1	3	0	57
2:30 PM	0	0	68	0	4	0	72
2:45 PM	0	0	54	0	2	0	56
3:00 PM	0	0	74	0	1	0	75
3:15 PM	0	0	57	2	0	0	59
3:30 PM	0	0	74	1	1	1	77
3:45 PM	0	0	61	0	2	0	63
4:00 PM	0	0	66	0	2	0	68
4:15 PM	0	0	64	1	3	0	68
4:30 PM	0	0	68	1	1	0	70
4:45 PM	0	0	45	0	0	0	45
5:00 PM	0	0	73	0	1	0	74
5:15 PM	0	0	41	0	0	0	41
5:30 PM	0	0	58	0	0	0	58
5:45 PM	0	0	52	0	0	0	52
6:00 PM	0	0	39	0	0	0	39
6:15 PM	0	0	33	0	0	0	33
6:30 PM	0	0	35	0	0	0	35
6:45 PM	0	0	22	0	0	0	22
7:00 PM	0	0	26	0	0	1	27
7:15 PM	0	0	26	0	0	0	26
7:30 PM	0	0	30	0	0	0	30
7:45 PM	0	0	32	0	0	0	32
8:00 PM	0	0	27	0	0	0	27
8:15 PM	0	0	28	0	0	0	28
8:30 PM	0	0	21	0	1	0	22
8:45 PM	0	0	17	0	0	0	17
9:00 PM	0	0	8	0	0	0	8
9:15 PM	0	0	15	0	0	0	15
9:30 PM	0	0	14	0	1	0	15
9:45 PM	0	0	10	0	0	0	10
10:00 PM	0	0	11	0	0	0	11
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	9	0	0	0	9
10:45 PM	0	0	8	0	0	0	8
11:00 PM	0	0	4	0	0	0	4
11:15 PM	0	0	1	0	0	0	1
11:30 PM	0	0	7	0	0	0	7
11:45 PM	0	0	2	0	0	0	2

PM Total	0	0	1715	13	36	4	1768
Percentage	0.00%	0.00%	97.00%	0.74%	2.04%	0.23%	

PM Peak	12:00 PM	12:00 PM	3:00 PM	1:15 PM	2:15 PM	12:45 PM	3:30 PM
Volume	0	0	266	6	10	2	276

Day Total	0	0	2978	33	72	16	3099
Percentage	0.00%	0.00%	96.10%	1.06%	2.32%	0.52%	

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B

Count Date: Tuesday, November 14, 2023
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	1	0	0	0	1
12:15 AM	0	0	7	0	0	0	7
12:30 AM	0	0	3	0	0	0	3
12:45 AM	0	0	4	0	0	0	4
1:00 AM	0	0	2	0	0	0	2
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	1	0	0	0	1
2:00 AM	0	0	0	0	0	0	0
2:15 AM	0	0	1	0	1	0	2
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	1	0	0	0	1
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	4	0	0	0	4
3:45 AM	0	0	3	0	0	0	3
4:00 AM	0	0	0	0	0	1	1
4:15 AM	0	0	5	0	0	0	5
4:30 AM	0	0	2	0	0	0	2
4:45 AM	0	0	4	0	0	0	4
5:00 AM	0	0	8	0	1	0	9
5:15 AM	0	0	6	0	0	0	6
5:30 AM	0	0	10	0	0	0	10
5:45 AM	0	0	16	0	0	0	16
6:00 AM	0	0	13	1	0	0	14
6:15 AM	0	0	15	1	1	0	17
6:30 AM	0	0	25	2	1	0	28
6:45 AM	0	0	62	1	0	0	63
7:00 AM	0	0	80	1	0	1	82
7:15 AM	0	0	62	1	0	0	63
7:30 AM	0	0	60	1	2	0	63
7:45 AM	0	0	39	0	4	0	43
8:00 AM	0	0	47	0	1	0	48
8:15 AM	0	0	43	0	1	0	44
8:30 AM	0	0	32	0	1	0	33
8:45 AM	0	0	44	0	1	0	45
9:00 AM	0	0	33	0	2	0	35
9:15 AM	0	0	30	0	1	0	31
9:30 AM	0	0	24	1	2	0	27
9:45 AM	0	0	27	1	2	0	30
10:00 AM	0	0	29	0	2	0	31
10:15 AM	0	0	30	0	0	0	30
10:30 AM	0	1	33	0	2	1	37
10:45 AM	0	0	34	0	2	2	38
11:00 AM	0	0	25	0	2	1	28
11:15 AM	0	0	31	1	2	0	34
11:30 AM	0	0	36	0	3	1	40
11:45 AM	0	0	23	0	0	1	24

AM Total	0	1	959	11	34	8	1013
Percentage	0.00%	0.10%	94.67%	1.09%	3.36%	0.79%	
AM Peak	12:00 AM	9:45 AM	6:45 AM	6:00 AM	10:45 AM	10:15 AM	6:45 AM
Volume	0	1	264	5	9	4	271

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	40	0	2	1	43
12:15 PM	0	0	45	0	1	0	46
12:30 PM	0	0	34	0	1	0	35
12:45 PM	0	0	28	1	3	0	32
1:00 PM	0	0	28	0	1	0	29
1:15 PM	0	0	46	7	1	1	55
1:30 PM	0	0	40	2	0	1	43
1:45 PM	0	0	51	0	0	0	51
2:00 PM	0	0	44	0	3	0	47
2:15 PM	0	0	63	2	2	1	68
2:30 PM	0	0	83	1	5	0	89
2:45 PM	0	0	63	0	0	2	65
3:00 PM	0	0	75	1	1	0	77
3:15 PM	0	0	74	0	2	0	76
3:30 PM	0	0	69	0	2	0	71
3:45 PM	0	0	109	4	1	0	114
4:00 PM	0	0	80	0	4	0	84
4:15 PM	0	0	72	1	1	0	74
4:30 PM	0	0	83	0	0	0	83
4:45 PM	0	0	72	0	2	0	74
5:00 PM	0	0	87	0	1	1	89
5:15 PM	0	0	74	0	0	0	74
5:30 PM	0	0	74	0	0	0	74
5:45 PM	0	0	63	0	0	0	63
6:00 PM	0	0	57	1	0	0	58
6:15 PM	0	0	55	0	0	0	55
6:30 PM	0	0	45	0	1	0	46
6:45 PM	0	0	50	0	0	0	50
7:00 PM	0	0	41	0	1	0	42
7:15 PM	0	0	29	0	0	0	29
7:30 PM	0	0	42	0	0	0	42
7:45 PM	0	0	25	0	1	0	26
8:00 PM	0	0	16	0	0	0	16
8:15 PM	0	0	15	0	0	0	15
8:30 PM	0	0	14	0	0	0	14
8:45 PM	0	0	16	0	0	0	16
9:00 PM	0	0	15	0	0	0	15
9:15 PM	0	0	14	0	0	0	14
9:30 PM	0	0	16	0	0	0	16
9:45 PM	0	0	8	0	0	0	8
10:00 PM	0	0	8	0	0	0	8
10:15 PM	0	0	6	0	0	0	6
10:30 PM	0	0	5	0	0	0	5
10:45 PM	0	0	6	0	0	0	6
11:00 PM	0	0	3	0	0	0	3
11:15 PM	0	0	11	0	0	0	11
11:30 PM	0	0	11	0	0	0	11
11:45 PM	0	0	6	0	0	0	6

PM Total	0	0	2011	20	36	7	2074
Percentage	0.00%	0.00%	96.96%	0.96%	1.74%	0.34%	
PM Peak	12:00 PM	12:00 PM	3:45 PM	12:45 PM	1:45 PM	2:00 PM	3:45 PM
Volume	0	0	344	10	10	3	355
Day Total	0	1	2970	31	70	15	3087
Percentage	0.00%	0.03%	96.21%	1.00%	2.27%	0.49%	

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B

Count Date: Wednesday, November 15, 2023
Direction: WB

AM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	5	0	0	0	5
12:15 AM	0	0	7	0	0	0	7
12:30 AM	0	0	4	0	0	0	4
12:45 AM	0	0	5	0	0	0	5
1:00 AM	0	0	0	0	0	0	0
1:15 AM	0	0	1	0	0	0	1
1:30 AM	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0
2:00 AM	0	0	1	0	0	0	1
2:15 AM	0	0	0	0	0	0	0
2:30 AM	0	0	1	0	0	0	1
2:45 AM	0	0	1	0	0	0	1
3:00 AM	0	0	0	0	0	0	0
3:15 AM	0	0	1	0	0	0	1
3:30 AM	0	0	2	0	0	0	2
3:45 AM	0	0	1	0	0	0	1
4:00 AM	0	0	1	0	0	0	1
4:15 AM	0	0	5	0	0	0	5
4:30 AM	0	0	3	0	0	0	3
4:45 AM	0	0	2	0	0	0	2
5:00 AM	0	0	6	0	0	0	6
5:15 AM	0	0	8	0	0	0	8
5:30 AM	0	0	11	0	0	0	11
5:45 AM	0	0	15	0	4	0	19
6:00 AM	0	0	20	1	1	0	22
6:15 AM	0	0	28	1	0	0	29
6:30 AM	0	0	33	3	0	0	36
6:45 AM	0	0	50	2	1	0	53
7:00 AM	0	0	65	1	0	0	66
7:15 AM	0	0	60	0	2	0	62
7:30 AM	0	0	65	1	2	0	68
7:45 AM	0	0	62	0	2	0	64
8:00 AM	0	0	38	0	2	0	40
8:15 AM	0	0	48	0	2	0	50
8:30 AM	0	0	35	1	0	0	36
8:45 AM	0	0	32	0	1	1	34
9:00 AM	0	0	38	1	1	0	40
9:15 AM	0	0	37	1	0	0	38
9:30 AM	0	0	27	0	1	0	28
9:45 AM	0	0	39	0	1	2	42
10:00 AM	0	0	50	0	3	0	53
10:15 AM	0	0	32	0	0	0	32
10:30 AM	0	0	39	0	2	0	41
10:45 AM	0	0	32	0	1	1	34
11:00 AM	0	0	21	0	2	1	24
11:15 AM	0	0	27	0	2	1	30
11:30 AM	0	0	33	0	2	2	37
11:45 AM	0	0	38	0	4	0	42

AM Total	0	0	1029	12	36	8	1085
Percentage	0.00%	0.00%	94.84%	1.11%	3.32%	0.74%	
AM Peak	12:00 AM	12:00 AM	7:00 AM	6:00 AM	11:00 AM	10:45 AM	7:00 AM
Volume	0	0	252	7	10	5	260

PM	Bicycles	Motorcycle	Cars & Light Goods	Buses	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	33	0	6	0	39
12:15 PM	0	0	36	0	2	0	38
12:30 PM	0	0	45	0	4	1	50
12:45 PM	0	0	30	0	4	0	34
1:00 PM	0	0	46	0	1	0	47
1:15 PM	0	0	45	10	2	0	57
1:30 PM	0	0	57	1	0	1	59
1:45 PM	0	0	54	0	2	0	56
2:00 PM	0	0	53	0	1	0	54
2:15 PM	0	0	39	3	3	0	45
2:30 PM	0	0	57	0	3	0	60
2:45 PM	0	0	74	0	4	0	78
3:00 PM	0	0	75	1	2	0	78
3:15 PM	0	0	69	0	1	0	70
3:30 PM	0	0	99	0	5	0	104
3:45 PM	0	0	91	2	1	0	94
4:00 PM	0	0	66	1	0	0	67
4:15 PM	0	0	86	1	0	0	87
4:30 PM	0	0	97	0	4	0	101
4:45 PM	0	0	81	0	2	0	83
5:00 PM	0	0	59	0	1	0	60
5:15 PM	0	0	104	0	1	0	105
5:30 PM	0	0	96	0	1	0	97
5:45 PM	0	0	68	0	2	1	71
6:00 PM	0	0	75	0	1	0	76
6:15 PM	0	0	55	0	1	0	56
6:30 PM	0	0	59	0	1	1	61
6:45 PM	0	0	53	0	0	2	55
7:00 PM	0	0	56	0	0	0	56
7:15 PM	0	0	43	0	0	0	43
7:30 PM	0	0	26	0	0	0	26
7:45 PM	0	0	38	0	0	0	38
8:00 PM	0	0	34	0	0	0	34
8:15 PM	0	0	31	0	0	0	31
8:30 PM	0	0	26	0	0	0	26
8:45 PM	0	0	19	0	0	0	19
9:00 PM	0	0	21	0	0	0	21
9:15 PM	0	0	15	0	0	0	15
9:30 PM	0	0	14	0	0	0	14
9:45 PM	0	0	12	0	0	0	12
10:00 PM	0	0	22	1	0	0	23
10:15 PM	0	0	12	0	0	0	12
10:30 PM	0	0	14	0	0	0	14
10:45 PM	0	0	3	0	0	0	3
11:00 PM	0	0	9	0	0	0	9
11:15 PM	0	0	8	0	0	0	8
11:30 PM	0	0	4	0	0	0	4
11:45 PM	0	0	7	0	0	0	7

PM Total	0	0	2216	20	55	6	2297
Percentage	0.00%	0.00%	96.47%	0.87%	2.39%	0.26%	
PM Peak	12:00 PM	12:00 PM	5:15 PM	12:45 PM	12:00 PM	6:00 PM	3:30 PM
Volume	0	0	343	11	16	3	352
Day Total	0	0	3245	32	91	14	3382
Percentage	0.00%	0.00%	95.95%	0.95%	2.69%	0.41%	



PRECISION
DATA
INDUSTRIES, LLC

157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100, Fax: 508-875-0118

Weekly Report

Day Date	Tuesday 11/14/23		Wednesday 11/15/23												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	3	48	4	49	0	0	0	0	0	0	0	0	0	0	4	49
12:15	2	35	2	28	0	0	0	0	0	0	0	0	0	0	2	32
12:30	0	36	2	35	0	0	0	0	0	0	0	0	0	0	1	36
12:45	1	40	3	44	0	0	0	0	0	0	0	0	0	0	2	42
1:00	1	39	1	53	0	0	0	0	0	0	0	0	0	0	1	46
1:15	1	51	1	39	0	0	0	0	0	0	0	0	0	0	1	45
1:30	1	42	1	40	0	0	0	0	0	0	0	0	0	0	1	41
1:45	0	35	0	44	0	0	0	0	0	0	0	0	0	0	0	40
2:00	1	69	0	67	0	0	0	0	0	0	0	0	0	0	1	68
2:15	1	54	2	57	0	0	0	0	0	0	0	0	0	0	2	56
2:30	0	50	2	72	0	0	0	0	0	0	0	0	0	0	1	61
2:45	0	68	1	56	0	0	0	0	0	0	0	0	0	0	1	62
3:00	3	81	1	75	0	0	0	0	0	0	0	0	0	0	2	78
3:15	1	47	5	59	0	0	0	0	0	0	0	0	0	0	3	53
3:30	2	51	1	77	0	0	0	0	0	0	0	0	0	0	2	64
3:45	4	56	4	63	0	0	0	0	0	0	0	0	0	0	4	60
4:00	3	69	1	68	0	0	0	0	0	0	0	0	0	0	2	69
4:15	6	66	7	68	0	0	0	0	0	0	0	0	0	0	7	67
4:30	12	65	18	70	0	0	0	0	0	0	0	0	0	0	15	68
4:45	17	61	14	45	0	0	0	0	0	0	0	0	0	0	16	53
5:00	18	68	24	74	0	0	0	0	0	0	0	0	0	0	21	71
5:15	27	55	26	41	0	0	0	0	0	0	0	0	0	0	27	48
5:30	21	66	30	58	0	0	0	0	0	0	0	0	0	0	26	62
5:45	36	44	39	52	0	0	0	0	0	0	0	0	0	0	38	48
6:00	38	34	35	39	0	0	0	0	0	0	0	0	0	0	37	37
6:15	45	23	47	33	0	0	0	0	0	0	0	0	0	0	46	28
6:30	53	35	51	35	0	0	0	0	0	0	0	0	0	0	52	35
6:45	55	28	58	22	0	0	0	0	0	0	0	0	0	0	57	25
7:00	66	25	66	27	0	0	0	0	0	0	0	0	0	0	66	26
7:15	58	25	71	26	0	0	0	0	0	0	0	0	0	0	65	26
7:30	72	40	75	30	0	0	0	0	0	0	0	0	0	0	74	35
7:45	55	16	71	32	0	0	0	0	0	0	0	0	0	0	63	24
8:00	72	19	63	27	0	0	0	0	0	0	0	0	0	0	68	23
8:15	54	12	57	28	0	0	0	0	0	0	0	0	0	0	56	20
8:30	69	7	53	22	0	0	0	0	0	0	0	0	0	0	61	15
8:45	56	12	51	17	0	0	0	0	0	0	0	0	0	0	54	15
9:00	47	11	43	8	0	0	0	0	0	0	0	0	0	0	45	10
9:15	42	10	34	15	0	0	0	0	0	0	0	0	0	0	38	13
9:30	45	14	28	15	0	0	0	0	0	0	0	0	0	0	37	15
9:45	24	12	38	10	0	0	0	0	0	0	0	0	0	0	31	11
10:00	35	4	34	11	0	0	0	0	0	0	0	0	0	0	35	8
10:15	39	7	35	6	0	0	0	0	0	0	0	0	0	0	37	7
10:30	33	7	25	9	0	0	0	0	0	0	0	0	0	0	29	8
10:45	34	11	33	8	0	0	0	0	0	0	0	0	0	0	34	10
11:00	28	3	36	4	0	0	0	0	0	0	0	0	0	0	32	4
11:15	22	4	41	1	0	0	0	0	0	0	0	0	0	0	32	3
11:30	38	0	51	7	0	0	0	0	0	0	0	0	0	0	45	4
11:45	35	2	46	2	0	0	0	0	0	0	0	0	0	0	41	2
Total	1276	1657	1331	1768	0	0	0	0	0	0	0	0	0	0	1304	1713
Day Total	2933		3099		0		0		0		0		0		3016	
Peak HR	7:15 AM	4:00 PM	7:00 AM	3:30 PM											7:15 AM	3:45 PM
Volume	257	261	283	276											269	263

**Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486**



PDI File # 239707 ATR-B

Direction: WB

Weekly Report

Day	Tuesday		Wednesday												Week			
Date	11/14/23		11/15/23												Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	1	43	5	39	0	0	0	0	0	0	0	0	0	0	3	41		
12:15	7	46	7	38	0	0	0	0	0	0	0	0	0	0	7	42		
12:30	3	35	4	50	0	0	0	0	0	0	0	0	0	0	4	43		
12:45	4	32	5	34	0	0	0	0	0	0	0	0	0	0	5	33		
1:00	2	29	0	47	0	0	0	0	0	0	0	0	0	0	1	38		
1:15	1	55	1	57	0	0	0	0	0	0	0	0	0	0	1	56		
1:30	0	43	0	59	0	0	0	0	0	0	0	0	0	0	0	51		
1:45	1	51	0	56	0	0	0	0	0	0	0	0	0	0	1	54		
2:00	0	47	1	54	0	0	0	0	0	0	0	0	0	0	1	51		
2:15	2	68	0	45	0	0	0	0	0	0	0	0	0	0	1	57		
2:30	1	89	1	60	0	0	0	0	0	0	0	0	0	0	1	75		
2:45	1	65	1	78	0	0	0	0	0	0	0	0	0	0	1	72		
3:00	1	77	0	78	0	0	0	0	0	0	0	0	0	0	1	78		
3:15	1	76	1	70	0	0	0	0	0	0	0	0	0	0	1	73		
3:30	4	71	2	104	0	0	0	0	0	0	0	0	0	0	3	88		
3:45	3	114	1	94	0	0	0	0	0	0	0	0	0	0	2	104		
4:00	1	84	1	67	0	0	0	0	0	0	0	0	0	0	1	76		
4:15	5	74	5	87	0	0	0	0	0	0	0	0	0	0	5	81		
4:30	2	83	3	101	0	0	0	0	0	0	0	0	0	0	3	92		
4:45	4	74	2	83	0	0	0	0	0	0	0	0	0	0	3	79		
5:00	9	89	6	60	0	0	0	0	0	0	0	0	0	0	8	75		
5:15	6	74	8	105	0	0	0	0	0	0	0	0	0	0	7	90		
5:30	10	74	11	97	0	0	0	0	0	0	0	0	0	0	11	86		
5:45	16	63	19	71	0	0	0	0	0	0	0	0	0	0	18	67		
6:00	14	58	22	76	0	0	0	0	0	0	0	0	0	0	18	67		
6:15	17	55	29	56	0	0	0	0	0	0	0	0	0	0	23	56		
6:30	28	46	36	61	0	0	0	0	0	0	0	0	0	0	32	54		
6:45	63	50	53	55	0	0	0	0	0	0	0	0	0	0	58	53		
7:00	82	42	66	56	0	0	0	0	0	0	0	0	0	0	74	49		
7:15	63	29	62	43	0	0	0	0	0	0	0	0	0	0	63	36		
7:30	63	42	68	26	0	0	0	0	0	0	0	0	0	0	66	34		
7:45	43	26	64	38	0	0	0	0	0	0	0	0	0	0	54	32		
8:00	48	16	40	34	0	0	0	0	0	0	0	0	0	0	44	25		
8:15	44	15	50	31	0	0	0	0	0	0	0	0	0	0	47	23		
8:30	33	14	36	26	0	0	0	0	0	0	0	0	0	0	35	20		
8:45	45	16	34	19	0	0	0	0	0	0	0	0	0	0	40	18		
9:00	35	15	40	21	0	0	0	0	0	0	0	0	0	0	38	18		
9:15	31	14	38	15	0	0	0	0	0	0	0	0	0	0	35	15		
9:30	27	16	28	14	0	0	0	0	0	0	0	0	0	0	28	15		
9:45	30	8	42	12	0	0	0	0	0	0	0	0	0	0	36	10		
10:00	31	8	53	23	0	0	0	0	0	0	0	0	0	0	42	16		
10:15	30	6	32	12	0	0	0	0	0	0	0	0	0	0	31	9		
10:30	37	5	41	14	0	0	0	0	0	0	0	0	0	0	39	10		
10:45	38	6	34	3	0	0	0	0	0	0	0	0	0	0	36	5		
11:00	28	3	24	9	0	0	0	0	0	0	0	0	0	0	26	6		
11:15	34	11	30	8	0	0	0	0	0	0	0	0	0	0	32	10		
11:30	40	11	37	4	0	0	0	0	0	0	0	0	0	0	39	8		
11:45	24	6	42	7	0	0	0	0	0	0	0	0	0	0	33	7		
Total	1013	2074	1085	2297	0	0	0	0	0	0	0	0	0	0	1049	2186		
Day Total	3087		3382		0		0		0		0		0		3235			
Peak HR	6:45 AM	3:45 PM	7:00 AM	3:30 PM													6:45 AM	3:45 PM
Volume	271	355	260	352													260	352

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	2	1	0	1	0	1	0	0	0	6	50.3	38.8
1:00 AM	0	0	0	0	2	0	1	0	0	0	0	0	0	3	40.3	37.0
2:00 AM	0	0	0	0	1	0	1	0	0	0	0	0	0	2	41.2	37.0
3:00 AM	0	0	0	1	5	2	2	0	0	0	0	0	0	10	38.9	34.9
4:00 AM	0	0	0	1	18	13	10	1	0	0	0	0	0	43	41.0	35.9
5:00 AM	0	0	0	2	35	48	12	4	1	1	0	0	0	103	40.0	36.3
6:00 AM	0	0	0	12	85	81	9	0	0	0	0	0	0	187	38.0	34.3
7:00 AM	1	3	4	18	104	104	18	1	0	1	0	0	0	254	38.0	34.2
8:00 AM	1	0	5	18	95	101	21	1	0	0	0	0	0	242	38.0	34.4
9:00 AM	2	1	6	10	53	62	13	3	0	0	0	0	0	150	39.0	34.2
10:00 AM	0	1	3	14	60	54	11	1	0	0	0	0	0	144	39.0	34.0
11:00 AM	0	2	5	9	54	35	9	5	0	0	0	0	0	119	39.0	33.8
12:00 PM	2	1	6	18	59	53	16	3	0	1	0	0	0	159	39.0	33.9
1:00 PM	1	2	3	23	71	57	11	1	0	0	0	0	0	169	37.0	33.3
2:00 PM	3	2	6	46	95	71	15	1	0	0	0	0	0	239	37.0	32.4
3:00 PM	2	0	7	25	106	62	17	1	0	0	0	0	0	220	37.0	33.1
4:00 PM	2	2	5	17	91	105	16	1	0	0	0	0	0	239	38.0	34.1
5:00 PM	0	0	3	32	79	73	13	2	0	0	0	0	0	202	37.0	33.6
6:00 PM	0	0	2	15	60	38	6	1	0	0	0	0	0	122	37.0	33.5
7:00 PM	0	1	1	13	44	38	9	0	0	0	0	0	0	106	38.0	33.8
8:00 PM	0	0	0	11	23	19	1	0	0	0	0	0	0	54	37.0	33.0
9:00 PM	0	0	1	8	20	14	2	1	0	0	0	0	0	46	37.0	33.3
10:00 PM	0	0	0	6	10	11	0	2	0	0	0	0	0	29	37.0	33.9
11:00 PM	0	0	1	1	5	1	2	0	0	0	0	0	0	10	40.0	33.7
Total	14	15	58	301	1177	1043	215	30	1	4	0	0	0	2858	38.0	33.9
Percent	0.49%	0.52%	2.03%	10.53%	41.18%	36.49%	7.52%	1.05%	0.03%	0.14%	0.00%	0.00%	0.00%			

AM Peak	9:00 AM	7:00 AM	9:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	11:00 AM	5:00 AM	12:00 AM				7:00 AM
Volume	2	3	6	18	104	104	21	5	1	1	0	0	0	254

PM Peak	2:00 PM	1:00 PM	3:00 PM	2:00 PM	3:00 PM	4:00 PM	3:00 PM	12:00 PM		12:00 PM				2:00 PM
Volume	3	2	7	46	106	105	17	3	0	1	0	0	0	239

15th Percentile:	30.0 MPH	Average Speed:	33.9 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	30 to 39 MPH	Number of Vehicles > 30 MPH:	2348
85th Percentile:	38.0 MPH	Number in Pace:	2220	Percent of Vehicles > 30 MPH:	82.2%
95th Percentile:	41.0 MPH	Percent in Pace:	77.7%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	6	5	2	2	0	0	0	0	0	16	40.0	36.4
1:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	47.1	41.3
2:00 AM	0	0	0	0	1	5	0	0	0	0	0	0	0	6	38.3	37.0
3:00 AM	0	0	1	1	4	2	1	1	0	0	0	0	0	10	40.3	34.2
4:00 AM	0	0	0	1	3	4	7	0	0	0	0	0	0	15	41.9	37.3
5:00 AM	0	0	0	2	18	17	4	4	0	0	0	0	0	45	41.4	35.9
6:00 AM	0	0	2	8	50	50	20	1	0	0	0	0	0	131	40.0	35.2
7:00 AM	0	1	5	14	93	100	30	4	0	0	0	0	0	247	39.0	34.9
8:00 AM	0	0	2	11	53	78	31	3	0	0	0	0	0	178	40.5	35.7
9:00 AM	0	1	1	9	44	61	19	0	0	0	0	0	0	135	39.0	35.0
10:00 AM	0	0	2	14	51	56	9	1	1	0	0	0	0	134	38.1	34.4
11:00 AM	0	1	2	17	51	53	11	0	0	0	0	0	0	135	39.0	34.0
12:00 PM	0	0	2	10	58	77	13	1	0	0	0	0	0	161	38.0	34.7
1:00 PM	0	0	2	20	60	80	21	1	0	0	0	0	0	184	39.0	34.8
2:00 PM	1	1	10	28	93	114	22	3	0	1	0	0	0	273	39.0	34.1
3:00 PM	14	19	21	51	107	76	14	0	0	0	0	0	0	302	37.0	30.4
4:00 PM	3	4	13	44	147	75	11	0	0	0	0	0	0	297	36.0	32.0
5:00 PM	2	3	19	53	114	65	16	1	0	0	0	0	0	273	37.0	31.8
6:00 PM	0	0	2	17	99	86	13	0	0	0	0	0	0	217	38.0	34.3
7:00 PM	0	0	1	6	49	72	18	2	0	0	0	0	0	148	39.0	35.5
8:00 PM	0	0	0	1	17	34	14	3	0	0	0	0	0	69	41.0	37.0
9:00 PM	0	0	0	2	17	21	14	1	2	0	0	0	0	57	40.6	36.8
10:00 PM	0	0	0	0	7	13	4	1	0	0	0	0	0	25	40.4	37.1
11:00 PM	0	0	0	1	11	6	11	4	0	0	0	0	0	33	43.0	37.6
Total	20	30	85	311	1153	1152	305	35	3	1	0	0	0	3095	39.0	34.0
Percent	0.65%	0.97%	2.75%	10.05%	37.25%	37.22%	9.85%	1.13%	0.10%	0.03%	0.00%	0.00%	0.00%			

AM Peak 7:00 AM 7:00 AM 11:00 AM 7:00 AM 7:00 AM 8:00 AM 5:00 AM 10:00 AM 7:00 AM
Volume 0 1 5 17 93 100 31 4 1 0 0 0 0 247

PM Peak 3:00 PM 3:00 PM 3:00 PM 5:00 PM 4:00 PM 2:00 PM 2:00 PM 11:00 PM 9:00 PM 2:00 PM 3:00 PM
Volume 14 19 21 53 147 114 22 4 2 1 0 0 0 302

15th Percentile:	30.0 MPH	Average Speed:	34.0 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	30 to 39 MPH	Number of Vehicles > 30 MPH:	2524
85th Percentile:	39.0 MPH	Number in Pace:	2305	Percent of Vehicles > 30 MPH:	81.6%
95th Percentile:	41.0 MPH	Percent in Pace:	74.5%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Tuesday, November 14, 2023

Speed (60-minute) Combined EB and WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	2	8	6	2	3	0	1	0	0	0	22	45.1	37.0
1:00 AM	0	0	0	0	2	2	1	2	0	0	0	0	0	7	46.2	39.4
2:00 AM	0	0	0	0	2	5	1	0	0	0	0	0	0	8	39.0	37.0
3:00 AM	0	0	1	2	9	4	3	1	0	0	0	0	0	20	41.0	34.6
4:00 AM	0	0	0	2	21	17	17	1	0	0	0	0	0	58	41.0	36.3
5:00 AM	0	0	0	4	53	65	16	8	1	1	0	0	0	148	40.0	36.2
6:00 AM	0	0	2	20	135	131	29	1	0	0	0	0	0	318	38.0	34.7
7:00 AM	1	4	9	32	197	204	48	5	0	1	0	0	0	501	39.0	34.5
8:00 AM	1	0	7	29	148	179	52	4	0	0	0	0	0	420	39.0	34.9
9:00 AM	2	2	7	19	97	123	32	3	0	0	0	0	0	285	39.0	34.6
10:00 AM	0	1	5	28	111	110	20	2	1	0	0	0	0	278	39.0	34.2
11:00 AM	0	3	7	26	105	88	20	5	0	0	0	0	0	254	39.0	33.9
12:00 PM	2	1	8	28	117	130	29	4	0	1	0	0	0	320	38.0	34.3
1:00 PM	1	2	5	43	131	137	32	2	0	0	0	0	0	353	38.0	34.1
2:00 PM	4	3	16	74	188	185	37	4	0	1	0	0	0	512	38.0	33.3
3:00 PM	16	19	28	76	213	138	31	1	0	0	0	0	0	522	37.0	31.5
4:00 PM	5	6	18	61	238	180	27	1	0	0	0	0	0	536	37.0	32.9
5:00 PM	2	3	22	85	193	138	29	3	0	0	0	0	0	475	37.0	32.6
6:00 PM	0	0	4	32	159	124	19	1	0	0	0	0	0	339	38.0	34.0
7:00 PM	0	1	2	19	93	110	27	2	0	0	0	0	0	254	38.0	34.7
8:00 PM	0	0	0	12	40	53	15	3	0	0	0	0	0	123	39.0	35.2
9:00 PM	0	0	1	10	37	35	16	2	2	0	0	0	0	103	40.0	35.2
10:00 PM	0	0	0	6	17	24	4	3	0	0	0	0	0	54	39.0	35.4
11:00 PM	0	0	1	2	16	7	13	4	0	0	0	0	0	43	42.7	36.7
Total	34	45	143	612	2330	2195	520	65	4	5	0	0	0	5953	38.0	33.9
Percent	0.57%	0.76%	2.40%	10.28%	39.14%	36.87%	8.74%	1.09%	0.07%	0.08%	0.00%	0.00%	0.00%			

AM Peak	9:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	5:00 AM	5:00 AM	12:00 AM				7:00 AM
Volume	2	4	9	32	197	204	52	8	1	1	0	0	0	501

PM Peak	3:00 PM	3:00 PM	3:00 PM	5:00 PM	4:00 PM	2:00 PM	2:00 PM	12:00 PM	9:00 PM	12:00 PM				4:00 PM
Volume	16	19	28	85	238	185	37	4	2	1	0	0	0	536

15th Percentile:	30.0 MPH	Average Speed:	33.9 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	30 to 39 MPH	Number of Vehicles > 30 MPH:	4872
85th Percentile:	38.0 MPH	Number in Pace:	4525	Percent of Vehicles > 30 MPH:	81.8%
95th Percentile:	41.0 MPH	Percent in Pace:	76.0%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute)

EB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	1	2	2	5	1	1	0	1	0	0	0	13	44.0	37.2
1:00 AM	0	0	0	0	0	1	2	0	0	0	0	0	0	3	42.4	41.0
2:00 AM	0	1	1	0	2	0	1	0	0	0	0	0	0	5	36.6	28.4
3:00 AM	0	0	0	2	2	6	1	0	0	0	0	0	0	11	38.0	34.4
4:00 AM	0	0	0	2	13	20	4	1	0	0	0	0	0	40	39.0	35.8
5:00 AM	0	0	0	5	46	59	11	5	0	0	0	0	0	126	39.0	35.6
6:00 AM	1	0	0	9	62	98	18	2	1	0	0	0	0	191	38.5	35.3
7:00 AM	3	1	4	28	98	106	29	2	1	0	0	0	0	272	39.0	34.3
8:00 AM	0	1	3	22	105	73	16	3	0	0	0	0	0	223	38.0	33.9
9:00 AM	0	0	2	22	80	42	10	0	0	0	0	0	0	156	37.0	33.0
10:00 AM	0	1	6	18	50	40	11	0	0	0	0	0	0	126	38.0	33.2
11:00 AM	0	0	2	15	84	62	13	0	1	0	0	0	0	177	38.0	34.1
12:00 PM	0	1	4	20	57	69	10	2	0	0	0	0	0	163	38.0	33.9
1:00 PM	0	1	2	16	69	65	12	2	0	0	0	0	0	167	38.0	34.2
2:00 PM	1	2	11	29	105	79	12	0	1	0	0	0	0	240	38.0	33.1
3:00 PM	2	2	5	28	110	68	20	2	0	0	0	0	0	237	38.0	33.3
4:00 PM	0	1	4	30	110	77	9	0	0	0	0	0	0	231	37.0	33.2
5:00 PM	0	0	3	32	82	60	4	2	0	1	0	0	0	184	37.0	33.1
6:00 PM	0	0	2	17	50	42	4	0	0	0	0	0	0	115	37.0	33.2
7:00 PM	0	0	1	18	38	49	6	2	0	0	1	0	0	115	38.0	34.4
8:00 PM	0	0	1	15	52	25	6	4	0	0	0	0	0	103	38.0	33.8
9:00 PM	0	0	0	8	17	18	4	1	0	0	0	0	0	48	39.0	33.9
10:00 PM	0	0	1	5	13	13	3	0	0	1	0	0	0	36	39.0	34.4
11:00 PM	0	0	0	2	4	6	1	1	0	0	0	0	0	14	39.1	35.5
Total	7	11	53	345	1251	1083	208	30	4	3	1	0	0	2996	38.0	33.9
Percent	0.23%	0.37%	1.77%	11.52%	41.76%	36.15%	6.94%	1.00%	0.13%	0.10%	0.03%	0.00%	0.00%			

AM Peak	7:00 AM	2:00 AM	10:00 AM	7:00 AM	8:00 AM	7:00 AM	7:00 AM	5:00 AM	6:00 AM	12:00 AM				7:00 AM
Volume	3	1	6	28	105	106	29	5	1	1	0	0	0	272

PM Peak	3:00 PM	2:00 PM	2:00 PM	5:00 PM	3:00 PM	2:00 PM	3:00 PM	8:00 PM	2:00 PM	5:00 PM	7:00 PM			2:00 PM
Volume	2	2	11	32	110	79	20	4	1	1	1	0	0	240

15th Percentile:	30.0 MPH	Average Speed:	33.9 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	29 to 38 MPH	Number of Vehicles > 30 MPH:	2436
85th Percentile:	38.0 MPH	Number in Pace:	2334	Percent of Vehicles > 30 MPH:	81.3%
95th Percentile:	41.0 MPH	Percent in Pace:	77.9%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute)

WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	2	2	7	11	0	1	0	0	0	0	23	42.0	38.5
1:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	31.0	31.0
2:00 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	3	38.4	37.7
3:00 AM	0	0	0	0	2	2	0	0	0	0	0	0	0	4	36.7	34.3
4:00 AM	0	0	0	2	4	4	1	2	0	0	0	0	0	13	42.8	36.4
5:00 AM	0	0	0	3	15	22	7	0	0	0	0	0	0	47	39.1	35.3
6:00 AM	0	0	2	13	49	55	23	2	0	0	0	0	0	144	40.0	35.0
7:00 AM	0	0	6	23	98	103	34	4	1	0	0	0	0	269	39.0	34.9
8:00 AM	0	0	3	8	60	84	15	4	0	0	0	0	0	174	38.0	35.1
9:00 AM	0	0	5	18	53	55	18	3	0	0	0	0	0	152	39.0	34.5
10:00 AM	0	0	1	9	56	85	12	2	0	0	0	0	0	165	38.0	35.0
11:00 AM	0	0	1	13	36	61	21	2	0	0	0	0	0	134	40.0	35.6
12:00 PM	0	0	4	11	58	81	15	6	0	0	0	0	0	175	39.0	35.2
1:00 PM	0	0	1	17	96	91	17	5	0	0	0	0	0	227	38.0	34.8
2:00 PM	0	0	7	30	111	73	12	1	0	0	0	0	0	234	38.0	33.4
3:00 PM	9	9	16	39	141	88	11	1	0	0	0	0	0	314	37.0	31.7
4:00 PM	0	1	8	60	149	104	15	0	0	0	0	0	0	337	37.0	32.8
5:00 PM	25	18	23	58	115	43	3	0	0	0	0	0	0	285	35.0	28.2
6:00 PM	0	0	4	22	124	82	19	0	1	0	0	0	0	252	38.0	33.9
7:00 PM	0	0	3	12	57	88	16	0	0	0	0	0	0	176	38.0	34.9
8:00 PM	0	0	2	5	48	43	16	1	0	0	0	0	0	115	38.9	34.8
9:00 PM	0	0	0	1	22	26	11	0	0	1	0	0	0	61	40.0	36.2
10:00 PM	0	0	0	3	18	25	7	1	0	0	0	0	0	54	39.1	35.7
11:00 PM	0	0	0	0	6	15	8	2	0	0	0	0	0	31	43.0	37.7
Total	34	28	86	349	1321	1240	292	36	3	1	0	0	0	3390	38.0	33.8
Percent	1.00%	0.83%	2.54%	10.29%	38.97%	36.58%	8.61%	1.06%	0.09%	0.03%	0.00%	0.00%	0.00%			

AM Peak
Volume 0 0 6 23 98 103 34 4 1 0 0 0 0 269

PM Peak
Volume 25 18 23 60 149 104 19 6 1 1 0 0 0 337

15th Percentile:	30.0 MPH	Average Speed:	33.8 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 30 MPH:	2780
85th Percentile:	38.0 MPH	Number in Pace:	2565	Percent of Vehicles > 30 MPH:	82.0%
95th Percentile:	41.0 MPH	Percent in Pace:	75.7%		

Marsh Hill Road
west of Old Pasture Road
City, State: Dracut, MA
Client: Bayside/ K. Cram
Site Code: 2233486



PDI File #: 239707 ATR-B (Speed)

Count Date
Wednesday, November 15, 2023

Speed (60-minute) Combined EB and WB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70+	Total	85th %ile	Ave Speed
12:00 AM	0	0	1	4	4	12	12	1	1	1	0	0	0	36	42.0	38.0
1:00 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	4	42.1	38.5
2:00 AM	0	1	1	0	2	3	1	0	0	0	0	0	0	8	38.9	31.9
3:00 AM	0	0	0	2	4	8	1	0	0	0	0	0	0	15	38.0	34.3
4:00 AM	0	0	0	4	17	24	5	3	0	0	0	0	0	53	39.2	36.0
5:00 AM	0	0	0	8	61	81	18	5	0	0	0	0	0	173	39.0	35.5
6:00 AM	1	0	2	22	111	153	41	4	1	0	0	0	0	335	39.0	35.1
7:00 AM	3	1	10	51	196	209	63	6	2	0	0	0	0	541	39.0	34.6
8:00 AM	0	1	6	30	165	157	31	7	0	0	0	0	0	397	38.0	34.4
9:00 AM	0	0	7	40	133	97	28	3	0	0	0	0	0	308	38.0	33.8
10:00 AM	0	1	7	27	106	125	23	2	0	0	0	0	0	291	38.0	34.2
11:00 AM	0	0	3	28	120	123	34	2	1	0	0	0	0	311	39.0	34.7
12:00 PM	0	1	8	31	115	150	25	8	0	0	0	0	0	338	38.0	34.6
1:00 PM	0	1	3	33	165	156	29	7	0	0	0	0	0	394	38.0	34.5
2:00 PM	1	2	18	59	216	152	24	1	1	0	0	0	0	474	38.0	33.2
3:00 PM	11	11	21	67	251	156	31	3	0	0	0	0	0	551	37.0	32.4
4:00 PM	0	2	12	90	259	181	24	0	0	0	0	0	0	568	37.0	33.0
5:00 PM	25	18	26	90	197	103	7	2	0	1	0	0	0	469	36.0	30.1
6:00 PM	0	0	6	39	174	124	23	0	1	0	0	0	0	367	38.0	33.7
7:00 PM	0	0	4	30	95	137	22	2	0	0	1	0	0	291	38.0	34.7
8:00 PM	0	0	3	20	100	68	22	5	0	0	0	0	0	218	38.0	34.3
9:00 PM	0	0	0	9	39	44	15	1	0	1	0	0	0	109	39.8	35.2
10:00 PM	0	0	1	8	31	38	10	1	0	1	0	0	0	90	39.0	35.2
11:00 PM	0	0	0	2	10	21	9	3	0	0	0	0	0	45	42.4	37.0
Total	41	39	139	694	2572	2323	500	66	7	4	1	0	0	6386	38.0	33.8
Percent	0.64%	0.61%	2.18%	10.87%	40.28%	36.38%	7.83%	1.03%	0.11%	0.06%	0.02%	0.00%	0.00%			

AM Peak	7:00 AM	2:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	7:00 AM	12:00 AM				7:00 AM
Volume	3	1	10	51	196	209	63	7	2	1	0	0	0	541
PM Peak	5:00 PM	5:00 PM	5:00 PM	4:00 PM	4:00 PM	4:00 PM	3:00 PM	12:00 PM	2:00 PM	5:00 PM	7:00 PM			4:00 PM
Volume	25	18	26	90	259	181	31	8	1	1	1	0	0	568

15th Percentile:	30.0 MPH	Average Speed:	33.8 MPH	Posted Speed Limit:	30 MPH
50th Percentile:	34.0 MPH	10 MPH Pace:	30 to 39 MPH	Number of Vehicles > 30 MPH:	5216
85th Percentile:	38.0 MPH	Number in Pace:	4895	Percent of Vehicles > 30 MPH:	81.7%
95th Percentile:	41.0 MPH	Percent in Pace:	76.7%		

Seasonal Adjustment

Massachusetts Highway Department

4094: Monthly Hourly Volume for January 2017

Location ID: 4094
County: Middlesex
Functional Class: 1
Location: INTERSTATE 495 NORTH OF ROUTE 38

Seasonal Factor Group: U1-Boston
Daily Factor Group:
Axle Factor Group: U1-Boston
Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	1181	1310	750	523	382	434	712	987	1484	2581	3904	5226	6375	6029	5257	4860	4267	5352	4041	3278	2419	1914	1465	1078	65809
2	676	452	352	304	492	1014	1796	2346	2694	3535	4675	5560	6081	6337	6355	6359	5621	4867	4033	3096	2390	2024	1345	960	73364
3	591	397	402	528	1174	4047	7711	10151	9732	7325	5211	3384	2833	2889	3735	4291	4199	4237	3200	1910	1260	930	805	694	81636
4																									
5	780	481	535	634	1268	4099	7916	10771	9928	7162	5528	5432	5639	5984	8136	9366	10028	9589	7456	4520	3058	2546	1864	1501	124221
6	845	531	498	610	1163	3654	6348	8576	8236	7122	5308	5308	5616	6007	8285	9197	8899	8551	7085	4526	3322	2718	2252	1831	116488
7	1018	609	515	487	604	1310	1980	2860	3606	4505	5111	5411	5156	4032	3559	2811	2475	1952	1657	1245	984	911	862	728	54388
8	638	391	324	266	319	583	1105	1509	1987	2752	4163	5091	5829	5911	5634	5522	5346	4846	4181	3228	2624	1771	1317	944	66281
9	545	373	378	553	1224	3956	7592	8568	8724	7890	5278	5116	5237	5614	7468	8932	9270	9477	7075	4126	2611	2103	1596	1271	114977
10	721	443	457	581	1214	2956	4227	8787	9299	7097	5187	4764	4907	5414	6961	7988	8023	9168	7267	4154	2834	2223	1599	1330	107601
11	761	457	468	529	1225	4012	7971	10328	9834	6961	5338	5356	5437	6146	8036	9787	10105	9663	7427	4457	3139	2456	1746	1386	123025
12	831	535	483	623	1242	3999	7890	10289	9668	7372	5547	5422	5853	6309	8073	9446	9250	8951	6018	4995	3209	2509	1867	1449	121830
13	816	541	535	613	1255	3916	7164	9413	8885	7143	6164	6132	6450	7094	8552	6958	5570	7844	7822	5503	3523	2878	2477	2011	119259
14	1050	657	544	432	589	1325	1859	3026	3918	5098	5773	6599	7032	6656	6832	6709	6435	5614	4483	3510	2494	1932	1776	1818	86161
15	1479	841	546	307	282	536	942	1509	2338	3475	4621	5661	6281	6115	6314	6025	5831	5378	4339	3398	2760	2127	1497	1107	73709
16	643	419	354	474	1068	3229	5777	7473	7165	6112	5684	6395	6672	6951	8208	8557	8907	9040	6169	4145	2893	2232	1641	1206	111414
17	631	433	460	609	1217	4269	8192	11011	10043	7007	5584	5447	5683	6092	8341	9879	9828	9270	6134	3791	2400	1833	1347	1220	120721
18	737	435	409	524	1090	3702	6831	9271	8985	6650	5124	4865	4937	5444	7026	8518	8981	8565	6649	4175	2833	2244	1707	1365	111067
19	737	441	498	605	1257	4125	7843	10586	10446	7509	5641	5603	5845	6104	8287	9794	9761	9456	7445	4619	3273	2557	1859	1475	125766
20	865	568	506	593	1203	3829	7037	9558	8844	6713	5936	5957	6075	6899	8965	9752	9469	8873	6982	4639	3201	2732	2317	1912	123425
21	1105	620	508	482	582	1372	2132	3001	3961	4837	5575	6134	6500	6354	6484	6373	6234	5741	4775	3709	2889	2591	2227	1673	85859
22	1100	715	464	321	355	600	1058	1542	2412	3472	4835	5936	6638	6667	6632	6571	5625	4982	3770	2542	2013	1631	2272	1307	73460
23	753	428	339	504	1221	3886	7443	9000	9008	7425	5050	4846	5177	5307	7049	8304	8889	8379	6199	3478	2308	1719	1267	1135	109114
24	625	356	445	524	862	2733	5565	7800	7827	6560	4900	4340	4486	4774	6490	7686	8262	8407	6041	3597	2577	2140	1550	1284	99831
25	682	441	436	603	1201	4170	8032	10980	10199	7540	5974	5574	5718	5977	7972	9479	9546	9768	7488	4345	3171	2420	1777	1432	124925
26	726	526	506	628	1222	4188	7953	10684	10459	7265	5584	5441	5791	6152	8015	9595	9846	9606	7631	4528	3213	2655	1911	1487	125612
27	793	555	493	598	1167	3859	7230	9781	9022	6637	5498	6103	6370	7054	9087	10138	9970	9081	7176	4646	3407	2908	2318	1816	125707
28	1048	606	561	481	549	1293	2147	3173	3987	4879	5772	6148	6808	6423	6648	6471	6236	5633	4712	3544	2800	2620	2307	1618	86464
29	1050	673	418	328	299	549	1057	1811	2529	3696	4830	5815	6458	6759	6771	6829	6312	5549	4585	3665	2767	2067	1418	947	77182
30	533	370	363	524	1228	4102	8118	10549	10000	6520	5281	5005	5330	5641	7408	8970	9374	9428	7017	3952	2644	2129	1521	1269	117276
31	726	415	456	590	1197	4146	8288	10851	9859	6944	5325	5247	5557	5846	8054	9389	9313	8702	6315	3628	2460	1853	1463	1235	117859

Massachusetts Highway Department

4094: Monthly Hourly Volume for February 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38

Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1																									
2																									
3	793	564	565	652	1169	3842	6993	9381	8830	6543	5637	5991	6477	6811	8931	9954	9742	9096	7276	4791	3328	2777	2197	1797	124137
4	1087	585	536	455	548	1304	2123	3014	3961	5014	5796	6464	6549	6591	6637	6312	6232	5964	4682	3560	2869	2647	2071	1577	86578
5	1004	577	499	308	298	512	967	1532	2160	3163	4235	5292	5625	5623	5810	5675	5570	4909	2947	1703	1614	1623	1394	3293	66333
6	1022	432	362	448	1040	3548	7199	10123	9606	6822	5414	5149	5400	5611	7547	8666	8640	8498	7070	3874	2767	2243	1595	1246	114322
7	730	457	479	573	1188	3860	7010	9386	8085	5623	3927	3802	4274	4418	5618	6196	6515	6112	4547	2879	1960	1700	1305	1177	91821
8	746	440	414	540	1046	2402	5929	8233	9181	8577	6631	5535	5626	5922	7812	9376	9931	8359	6976	5612	3783	2945	2121	1656	119793
9																									
10	462	341	347	503	988	3213	5594	7719	8268	6905	5677	5707	6024	6514	8150	9234	8296	9199	7001	4887	3299	2882	2370	1853	115433
11	1049	645	523	487	616	1151	1690	1999	2501	3204	4049	4658	5526	5602	5443	5230	5166	4982	4052	3370	2659	2362	2135	1537	70636
12	970	637	457	323	342	633	1210	1722	2404	3295	4280	4405	4301	3694	2931	2496	2387	1501	1300	885	868	599	610	550	42800
13	342	265	240	344	514	1063	1904	2724	3033	3652	3299	3146	3147	3363	4025	4489	4985	5426	3974	2804	2065	1743	1349	1150	59046
14	632	399	418	613	1282	4120	7932	9545	9869	8731	5717	5421	5597	5698	7876	9229	8810	8717	8255	4829	3081	2547	1817	1468	122603
15	859	567	514	622	1251	4068	8172	10807	10247	7354	5402	5324	5404	5617	7658	9358	9710	9180	7343	4508	3105	2302	1703	1349	122424
16	738	541	449	621	1170	3356	6712	9363	9475	7548	5486	5339	5319	5587	7631	8968	9804	8994	7361	4796	3416	2799	1984	1538	118995
17	841	536	529	653	1254	3845	7115	9710	9324	7316	6300	6299	6622	8020	9119	9749	9150	8820	7599	6505	4088	3385	2723	2089	131591
18	1212	719	587	497	681	1454	2265	3416	4575	5650	6781	7266	7260	7117	7225	6804	6627	6323	5071	3972	3144	2568	2340	1645	95199
19	1007	708	425	340	322	665	1109	1710	2555	3979	5333	6407	6974	6918	6887	6690	6728	6163	5202	3934	3096	2298	1726	1166	82342
20	724	488	392	419	862	2562	4882	6384	6221	5841	6157	6658	6872	7034	7878	8681	8266	7983	5751	4066	3046	2347	1657	1227	106398
21	618	467	425	592	1274	4115	7377	9761	9796	7390	6177	5698	6184	6539	8009	9703	10202	9709	7272	4409	3004	2465	1709	1307	124202
22	759	479	451	568	1235	4020	7690	10199	9613	7265	5923	6256	6284	6535	8056	9610	9150	9724	7918	4623	3272	2629	1831	1358	125448
23	740	501	535	643	1231	4099	7569	10226	9277	7600	6639	6693	6696	6796	8716	9896	9272	9421	7634	5106	3573	2769	2051	1492	129175
24	863	623	584	645	1213	3707	6928	8942	8600	6861	6440	6686	7128	7467	9343	9955	9091	9199	7392	5144	3464	2926	2304	2004	127509
25	1166	801	618	549	576	1389	2133	3178	4162	5321	6008	6991	7223	7170	7271	7225	6889	6125	5389	4133	3260	2658	2319	1695	94249
26	1103	753	523	351	344	603	1101	1723	2695	3866	5098	6199	7180	6851	6913	7049	6536	5601	4980	3826	2783	2199	1468	939	80684
27	613	416	366	592	1224	4198	8004	10740	10118	6907	5334	5338	5509	5866	7426	9119	9612	9918	7157	4107	2868	2304	1704	1312	120752
28	779	487	507	598	1292	4187	8047	10825	10111	7165	5369	5225	5399	5804	7849	9311	10308	10213	7393	4341	3120	2520	1737	1355	123942

103856.5

Location ID:	4094	Seasonal Factor Group:	U1-Boston
County:	Middlesex	Daily Factor Group:	
Funcationl Class	1	Axle Factor Group:	U1-Boston
Location:	INTERSTATE 495 NORTH OF ROUTE 38	Growth Factor Group:	

[illegible]

Massachusetts Highway Department

4094: Monthly Hourly Volume for April 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38
 Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									
17																									
18																									
19																									
20																									
21	1005	698	596	653	1228	3738	6829	8910	8414	6971	6823	6955	7466	7883	9293	9589	9029	8243	7862	4835	3448	2921	2462	1901	127752
22	1195	704	568	524	693	1513	2707	3523	4640	5750	6523	7013	7498	7410	7123	7165	6961	6333	5420	3919	3405	2855	2548	1899	97889
23	1144	834	555	343	448	785	1484	2589	3455	4514	6071	6937	7516	7988	7642	7301	7101	6514	5638	4767	3568	2697	1839	1184	92914
24	755	509	502	622	1338	4474	8572	10820	9873	7921	5826	5741	5693	6068	8085	8757	9709	9985	7165	4437	3103	2329	1802	1274	125360
25	809	529	543	677	1326	4367	8500	11052	8986	7764	5857	5753	5909	6125	8079	8981	8966	8719	7730	4722	3109	2468	1753	1325	124049
26	759	517	505	623	1263	4136	8375	9855	9801	8294	5944	5650	5959	6219	8241	9839	10191	10026	7839	4838	3342	2497	1894	1475	128082
27	900	558	530	701	1387	4504	8768	10687	10559	7828	6362	6187	6529	6776	8864	10065	10217	9959	7964	5380	3800	3218	2274	1708	135725
28	1001	723	608	691	1316	4093	7595	9695	9667	7220	6524	7043	7412	8078	9383	9990	9740	9531	7752	5601	4065	3585	2811	2238	136362
29	1321	853	649	561	675	1516	2650	3856	5183	6296	6942	7411	7762	7459	7710	7194	6673	6676	5850	4544	3790	3198	2716	1962	103447
30	1235	848	540	377	380	701	1492	2510	3463	4752	6154	6732	7658	7496	7935	7480	7258	6491	5749	4711	2989	2467	1711	1107	92236

Massachusetts Highway Department

4094: Monthly Hourly Volume for May 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38
 Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	654	443	424	608	1346	4473	8859	11074	10304	7266	6171	6117	5787	6328	8062	9754	9676	9296	6939	4407	3138	2438	1777	1360	126701
2	852	525	507	669	1350	4414	8599	10760	9908	8501	6132	5678	5856	6563	8056	9848	10147	9514	7623	4795	3449	2693	1963	1474	129876
3	941	602	557	618	1280	4672	8870	10736	10497	8522	6319	6023	6081	6383	8425	10104	10764	10133	8508	5034	3642	2860	2078	1557	135206
4																									
5	951	728	616	682	1325	4119	7805	9933	9408	7328	6410	6778	7225	7748	9258	9333	8700	8495	7446	4867	3619	2878	2459	1983	130094
6	1088	713	547	553	572	1385	2680	3722	4770	5881	6588	7136	7733	7923	7785	7440	6826	6326	5321	4426	3674	3119	2572	1780	100560
7	1182	773	502	367	360	725	1572	2564	3486	4723	6038	6900	7658	7762	7699	7799	7593	6812	5834	4485	3435	2581	1681	1180	93711
8	696	486	454	618	1349	4571	8394	10689	10530	7587	5921	5934	5812	6283	8074	9823	10315	10428	7652	4586	3212	2471	1687	1343	128915
9	832	556	517	625	1383	4718	9224	11280	10240	7720	6084	5945	5866	6510	8446	10094	10456	10134	7990	4849	3523	2582	1861	1482	132917
10	821	555	557	636	1499	4752	8998	10841	10369	8011	6359	6113	6511	6638	8880	10561	10443	10643	8657	5440	3714	2813	1927	1490	137228
11																									
12	922	653	594	698	1358	4374	8022	10148	9631	7544	6862	7276	7576	8117	9774	10376	10013	9583	8379	5908	4336	3522	2700	2181	140547
13	1275	820	591	595	707	1694	2981	4183	5445	6860	6898	7712	8313	8676	8734	8281	7887	7233	6411	5148	3864	3317	2765	1879	112269
14	1108	856	476	358	315	586	1130	1820	2700	4260	5774	7209	7870	7726	7702	7500	6871	6527	5830	4563	3585	2491	1761	1149	90167
15	648	435	401	599	1351	4505	8667	10125	8990	8439	6286	6153	6273	6469	8418	9845	9978	10389	7559	4433	3181	2450	1729	1424	128747
16	958	534	553	662	1323	4984	9040	10865	10313	8466	6456	6073	6199	6710	8538	9992	9376	9883	8277	5266	3656	2783	1995	1420	134322
17	923	573	587	666	1417	4695	8937	11064	10476	8730	6602	6451	6747	7124	8850	9390	8840	9417	8738	5493	3952	2753	2181	1567	136173
18	1090	671	564	714	1433	4666	8794	9739	9789	9161	7851	7044	7129	7810	9771	9721	7991	8416	8747	5864	4054	3279	2302	1769	138369
19	1016	818	793	769	1339	4447	7817	9907	9165	7941	7427	7557	8146	8676	9846	9320	8774	8556	7925	5845	4539	3549	2786	2264	139222
20	1457	1150	686	667	743	1884	3060	4380	5733	6592	7341	8075	8265	8535	8495	8317	8050	7429	6423	5359	4506	3921	2991	2140	116199
21	1293	822	532	409	436	872	1747	2746	4014	5410	6721	7823	8623	8570	8504	8463	8312	7468	6868	5733	4070	2913	2198	1416	105963
22	798	526	472	612	1346	4461	8499	10264	9724	8354	6435	6212	6309	6515	8357	9541	9857	9112	7454	4835	3146	2431	1698	1311	128269
23	811	650	564	669	1372	4668	8996	10096	9895	7701	6391	5980	5977	6468	8068	9739	9937	9874	8298	5175	3733	2957	1998	1550	131567
24	903	619	566	675	1416	4669	8944	11205	10567	8118	6326	6213	6526	7176	9282	10186	10148	9237	8452	5194	3880	3213	2287	1615	137417
25	965	683	599	724	1433	4617	8797	10966	9839	8527	6880	6774	6943	7678	8913	9176	8364	7774	7664	6273	4226	3095	2429	1982	135321
26	1160	682	639	712	1310	4057	7141	9165	8534	7488	7307	8083	8683	8442	9780	9169	9095	8324	7289	5718	4587	3610	2870	2181	136026
27	1358	827	690	594	766	1552	2803	4148	5645	6739	7217	7737	7648	7671	7073	6620	6478	6097	5149	4539	3783	3219	2483	1770	102606
28	1070	728	531	388	422	761	1539	2087	3133	4542	5942	7030	7383	7382	6863	6583	6316	5960	5550	4838	4137	3283	2537	1623	90628
29	1012	668	440	374	444	854	1595	2128	3207	4549	5921	6334	7038	7218	7289	6834	6512	6231	5658	4541	3088	2520	1597	1020	87072
30	650	479	408	632	1397	4686	9110	10706	9262	8728	6670	6495	6508	7066	8639	10155	9131	9248	7915	4846	3329	2644	1899	1490	132093
31	874	591	530	596	1426	4697	9105	10166	9610	8368	6265	6262	6373	6688	8538	10076	9197	9114	8518	5083	3687	2800	2078	1472	132114

Massachusetts Highway Department

4094: Monthly Hourly Volume for June 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38
 Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1																									
2	1089	743	652	735	1394	4567	8217	10250	9581	7572	6851	7541	7814	8386	9717	10048	8731	8984	7689	5769	4291	3720	2903	2203	139447
3	1325	871	711	593	718	1785	3180	4250	5417	6360	6985	7828	7884	7896	7928	7750	7291	6880	5925	4711	3872	3470	2898	2116	108644
4	1300	790	561	407	424	804	1673	2549	3775	4909	6272	7314	8160	8215	8578	8066	8003	7408	6231	4882	3684	2531	1831	1255	99622
5	652	477	437	609	1316	4336	8620	10568	8155	8256	6440	6328	6296	6406	8303	9590	9167	7552	7759	4865	3225	2547	1760	1332	124996
6	874	499	532	583	1344	4388	8689	10017	9803	8421	6298	6005	5932	6576	8125	8809	8994	8646	7955	4969	3075	2600	1898	1398	126430
7	846	537	542	618	1301	4677	8877	10640	10462	8409	6638	6337	6260	6766	8551	10007	9523	9311	8364	5520	3710	3007	2333	1663	134899
8	1039	695	596	774	1403	4703	9134	10430	10110	8627	7056	6801	6830	7313	9071	10197	9767	9781	8101	5720	4137	3314	2707	1919	140225
9	1144	712	623	737	1369	4372	7931	9826	9068	7597	7274	7696	8143	8822	9923	9782	9011	8480	7180	5743	4460	3477	3008	2276	138654
10	1424	912	689	570	735	1694	3068	4408	5547	6527	7578	8030	8296	8578	8345	8318	7577	7215	5938	5070	3900	3664	2923	2352	113358
11	1367	842	581	429	434	936	1791	3192	4652	6460	7791	8583	8876	8628	8269	8418	8075	7864	7239	6850	4609	3831	2990	1647	114354
12	862	560	504	674	1354	4599	8802	9305	9871	8542	6800	6427	6805	7037	8897	9530	9348	9407	7909	4977	3454	2720	2124	1483	131991
13	947	565	592	652	1394	4834	8801	9681	10045	8776	6682	6436	6566	7046	8970	10137	9731	8741	8097	5082	3637	2756	2132	1516	133816
14	880	665	597	627	1438	5029	8910	10140	9932	8660	6956	6950	6758	6949	8848	9687	9356	9209	8159	5460	3849	2814	2495	1666	136034
15	915	651	668	725	1352	4759	9150	10323	9366	9073	7237	6985	7066	7808	9475	9569	9367	8775	8069	5902	3980	3028	2448	1711	138402
16	980	812	677	748	1337	4391	7976	9100	9027	7669	7256	7752	8277	8836	8070	9002	7760	7055	7364	5691	4264	3317	2721	2122	132204
17	1312	760	639	568	805	1704	2921	4079	5155	6247	7488	8212	8415	8374	8391	8053	7567	7049	5778	5143	4054	3396	3292	2289	111691
18	1404	834	526	376	400	837	1605	2542	3557	5166	7082	8459	8872	8851	8394	7668	7718	7720	6627	5967	4676	3511	2561	1675	107028
19	825	582	507	640	1369	4746	9186	10689	10173	8585	6844	6669	6948	7060	8715	10141	9867	7769	7608	5003	3193	2560	1744	1562	132985
20	906	577	556	667	1351	4601	8828	10251	10093	9136	6743	6801	6818	7171	8826	10015	9976	8479	8664	5426	3885	3100	2116	1532	136518
21	977	657	616	703	1492	4843	8764	9115	9875	8084	7148	6970	6915	7548	9035	9872	9624	9076	8491	5724	4158	3168	2278	1772	136905
22	985	682	630	747	1551	4881	8775	10089	9920	8800	8075	7484	7608	7982	9518	10205	9444	8573	8856	6330	4470	3398	2386	1954	143343
23	1136	762	711	811	1425	4627	7933	10177	9318	7996	8078	7705	9352	9160	8626	9374	8451	8270	7286	6412	4582	3620	2933	2255	141000
24	1441	845	697	637	762	1807	2986	4162	5533	6784	7915	8830	8994	8660	8302	8043	7352	7119	6261	5032	4034	3677	3267	2508	115648
25	1478	925	557	386	482	937	1926	3146	4539	6110	7930	8848	9018	9238	9182	8774	8211	8408	6997	6506	5410	4337	2397	1856	117598
26	1115	785	564	676	1420	4902	8995	9597	9630	8559	7940	7767	7314	7458	8941	10053	9733	9303	7759	5451	3937	3036	2127	1577	138639
27	922	574	547	707	1441	4909	9174	10783	10222	8610	7008	6846	7054	7397	8323	8347	8100	8228	8140	5504	3676	2905	2164	1672	133253
28	980	612	588	723	1486	4845	8703	10439	9803	9368	8348	7957	8005	8335	9584	10188	9679	8483	8478	5943	4576	3689	2641	1830	145283
29	1078	644	647	777	1470	4864	8898	11032	9997	8829	7820	8185	8456	8421	9760	10156	9689	9344	8635	6215	4702	3478	2600	1995	147692
30	1253	958	732	821	1482	4490	7748	9591	9214	8353	8322	8781	9164	8922	9827	9389	8826	8325	6747	6132	4934	4036	3153	2638	143838

Massachusetts Highway Department

4094: Monthly Hourly Volume for July 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38

Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	1601	973	766	713	976	1913	3655	5461	7229	7834	8398	8598	8017	8288	7530	6614	6852	6361	5606	5056	4358	3580	2999	2074	115452
2	1290	745	561	409	481	828	1755	2925	4390	6097	7194	7983	7819	7307	6947	6690	6100	6003	6261	5210	4641	3850	3001	1704	100191
3	1036	677	507	561	851	2326	4164	5666	6146	6514	6860	7173	7327	7298	7736	8103	7533	6649	5516	4722	3838	3274	3128	2124	109729
4	1265	687	548	536	605	1070	1823	2678	3744	4625	5502	6398	6880	6311	5906	5585	5429	5382	5084	4541	4084	3205	2879	2592	87359
5	1854	740	452	544	1266	4460	7380	9857	9474	8542	8143	8018	7844	7887	8764	9840	9342	9082	7564	5235	4063	3353	2406	1667	137777
6																									
7	1038	705	610	689	1283	4033	6937	8818	8383	7361	7522	8143	8386	8693	8642	8369	8370	8463	7608	5589	4344	3319	2752	2142	132199
8	1463	813	711	643	830	1801	3268	4602	5787	7128	8428	8981	9340	9119	7376	8570	7476	6302	5541	4956	4165	3250	2714	2055	115319
9	1323	778	553	390	492	907	1845	3221	4845	6343	7612	8637	8898	8530	8278	7798	7677	7011	6790	6521	5485	3986	2814	1543	112277
10	831	522	517	631	1407	4983	8677	9791	8846	8686	8075	8136	7390	7517	8865	9908	9402	9639	8062	5222	3947	2842	2020	1491	137407
11	884	581	550	639	1339	4519	8297	10118	9411	8457	7117	6951	6850	7048	8722	9968	9822	9832	8159	5174	3985	3100	2166	1646	135335
12	884	649	564	672	1392	4840	8826	11043	9562	9009	7253	6951	6967	7477	9406	9789	8482	8545	7473	5580	4199	3039	2124	1579	136305
13	971	638	640	660	1330	4694	8447	10273	9135	8134	6499	7886	7288	7640	9675	10158	10115	9411	8605	6095	4147	3318	2327	1735	139821
14	1005	722	684	687	1332	4477	7535	9794	9003	7767	7846	8398	8973	9158	9852	9793	9287	8285	7836	5985	4497	3478	3004	2482	141880
15	1540	1015	751	605	824	1875	3002	4449	5922	7365	8719	8945	8888	8848	8773	8436	7616	7109	6011	4872	4261	3829	3055	2253	118963
16	1340	940	614	454	452	847	1800	2925	4673	6429	7551	8631	8838	8358	8054	7909	7718	7350	7492	6490	5832	4680	3432	1722	114531
17	970	656	484	679	1432	4820	8663	9605	9553	9280	8069	7624	7449	7683	8963	10158	9700	8401	8231	5415	3777	2912	2097	1631	138252
18	933	579	557	662	1395	4759	8641	10613	10401	8514	7234	6834	6987	7201	8866	10203	7893	8489	8388	5347	3766	3062	2235	1604	135163
19	1054	658	588	660	1409	4824	8716	10364	10251	9211	8059	7462	7535	7640	9270	9653	8573	8743	8540	5813	4296	3590	2569	2083	141561
20	1227	738	721	709	1437	4818	8685	10253	9805	8319	8130	8174	8144	8665	9674	9533	8928	7340	8458	6323	4837	3689	2669	1959	143235
21	1210	775	629	747	1319	4336	7659	9485	9460	8649	8502	8476	8759	9069	9516	9243	8816	8111	7543	6218	5386	4050	3330	2451	143739
22	1448	980	700	614	817	1841	3398	5119	7061	8233	8699	9363	9187	8974	9118	8294	7672	7283	6214	5640	4706	3860	3271	2485	124977
23	1318	867	590	434	495	903	1783	2757	4213	5785	7863	8728	8527	8163	8152	7864	7424	7767	7126	6431	5053	4266	2530	1535	110574
24	790	550	522	652	1395	4625	8187	9688	9368	8264	6897	7040	7032	7579	8168	8424	8927	8325	7406	4942	3299	2608	1804	1384	127876
25	909	573	588	640	1421	4656	8581	10455	9628	8139	6781	6631	6692	7211	8822	9460	10360	9755	8108	5213	4069	3094	2097	1630	135513
26	985	609	543	680	1448	4894	8287	10291	10177	8743	8202	7213	7330	7251	8974	10249	9616	9467	8690	6025	4402	3568	2764	1803	142211
27	1156	656	704	728	1442	4727	8289	10422	9917	8540	7548	7551	7675	8245	8975	9213	8653	8149	8628	6529	4401	3415	2700	2017	140280
28	1112	858	686	721	1422	4366	7544	9850	9359	8556	8181	8642	8592	9237	9865	7956	8013	8690	7695	6412	5050	4086	3128	2559	142580
29	1475	906	758	631	834	1762	3262	4600	6532	8034	8510	8003	9855	8876	9067	8521	8141	7134	6206	5052	4533	3842	3423	2373	122330
30	1399	1042	622	455	476	895	1712	2761	4431	6087	7985	8840	8708	9158	8544	8482	7781	7773	7319	6351	5689	4126	2971	1855	115462
31	921	603	472	632	1404	4748	8667	10018	9995	8217	8055	7781	6099	7665	8987	9795	9486	8975	7752	5577	4166	3218	2341	1647	137221

Massachusetts Highway Department

4094: Monthly Hourly Volume for August 2017

Location ID: 4094
 County: Middlesex
 Functional Class: 1
 Location: INTERSTATE 495 NORTH OF ROUTE 38

Seasonal Factor Group: U1-Boston
 Daily Factor Group:
 Axle Factor Group: U1-Boston
 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	944	621	627	637	1419	4935	8628	10629	10318	7700	8244	6948	7225	7473	9164	9655	8493	9431	8012	5490	4211	3339	2347	1590	138080
2	963	612	624	698	1376	4880	8584	10372	10075	8768	7758	7078	7299	7437	9165	9129	7946	8528	7720	5476	3863	2971	2083	1594	134999
3	985	589	634	732	1393	4815	8592	10531	9125	8441	8131	7778	7878	7844	9585	9328	9040	8746	8459	6598	4624	3787	2927	2130	142692
4	1229	777	692	767	1428	4414	7297	9184	9100	7899	7982	8667	9086	9114	9130	8252	8525	8467	7316	6574	5123	4371	3429	2542	141365
5	1723	1108	749	638	902	1846	3152	4724	6444	7454	8110	8595	8720	8959	8366	8143	7560	6732	5626	4675	3822	3399	2838	2172	116457
6	1285	797	585	401	485	915	1758	3012	4741	6696	8434	9018	9060	8896	8351	7997	7921	7808	7546	6774	5224	5122	3596	1829	118251
7																									
8	847	546	528	661	1428	4564	8394	10665	10130	8042	6945	7152	7081	7272	8822	10065	9924	9997	7905	5329	3992	3112	2247	1586	137234
9	958	618	537	645	1428	4692	8341	10313	10043	9033	8171	7856	8052	8012	9298	8400	8976	8559	8289	5763	4352	3196	2513	1932	139977
10	1079	663	600	693	1450	4739	8078	10553	9944	8335	7711	7988	7573	8097	9731	9087	7887	8557	8390	6125	4610	3613	2704	2074	140281
11	1280	773	665	754	1385	4313	7357	9235	9233	8678	8622	9249	9100	9344	9945	9303	7741	8895	7084	6594	5059	4025	3232	2315	144181
12	1442	900	710	620	814	1696	2963	4564	5894	7692	9096	9483	9552	9415	8930	8912	7782	7248	6318	5091	4418	3795	3172	2327	122834
13	1324	872	584	434	504	850	1729	2825	4724	6520	8533	8883	8766	8618	8054	8060	8073	7697	7279	6661	5856	4697	3176	1571	116290
14	921	623	521	663	1392	4661	8319	10532	10162	8637	8061	8128	7879	7928	9345	10031	10093	9566	7676	5083	3890	2930	2133	1553	140727
15	920	616	561	672	1415	4658	8142	10453	9981	8227	7243	7307	7301	7297	9262	10095	10196	9495	8067	5072	3932	3022	2341	1612	137887
16	999	587	599	660	1371	4646	8289	10363	10193	9132	8314	8213	7667	7997	9344	10093	9692	9214	8035	5762	4365	3450	2644	1922	143551
17	1037	632	621	723	1453	4731	8403	10602	9435	8863	8411	8066	8015	8376	9873	9886	8942	9302	8653	6336	4703	3463	2649	1847	145022
18	1083	751	625	729	1391	4082	6829	9248	8723	7965	8126	8371	8549	9341	9448	8642	8685	8833	6974	5874	4491	3453	2697	2224	137134
19	1287	802	676	614	740	1664	2923	4359	5846	7457	8712	9533	9518	9228	9080	8642	7819	7426	6211	5299	4574	3788	3113	2237	121548
20	1343	878	485	404	465	871	1713	2871	4452	6464	8090	8995	9164	8822	8569	8049	7113	8241	7061	6048	4655	4860	2698	1573	113884
21	881	656	514	654	1432	4600	8081	10602	10013	8641	8057	7840	7901	7653	8709	9948	9797	9226	7535	5236	4051	2986	2190	1544	138747
22	886	625	570	727	1376	4551	8448	10714	9976	9025	7532	7490	7398	7405	9253	9674	9890	9258	8297	5406	4066	3222	2348	1684	139821
23	1008	575	561	705	1319	4556	8402	10496	5992	6851	7442	7540	7178	7558	9268	9782	9146	8803	8804	5800	4204	3305	2485	1870	133650
24	1094	670	602	751	1470	4640	8255	10604	9821	8981	8649	8593	8706	8830	9848	9542	9689	8771	8587	6333	4895	3680	2796	1912	147719
25	1125	784	659	774	1398	4208	7363	9509	9069	8299	8605	8982	9247	9617	9385	9274	8642	8524	7464	6057	4751	4001	3120	2278	143135
26	1525	925	745	596	736	1689	2836	4294	5823	7496	8783	9502	9494	9041	8783	8214	7844	7199	6406	4920	4464	3707	2900	1970	119892
27	1287	1759	703	405	412	834	1603	2445	3860	5848	7433	8468	8544	8283	8299	7956	7884	7482	6918	6081	4940	3475	2150	1453	108522
28	896	533	509	647	1430	4472	8523	10703	10162	8052	7577	7555	6911	7153	9025	9551	9532	9210	7941	5121	3774	2708	1996	1384	135365
29	885	573	583	650	1438	4545	8498	10190	8308	8573	6742	6598	6711	6828	8651	10081	9995	9424	8040	5007	3523	2728	1899	1437	131907
30	869	561	480	693	1330	4493	8281	10497	10237	7982	6538	6692	6936	7074	8914	9618	9623	9142	7887	5347	3924	3084	2235	1584	134021
31	1019	631	607	727	1415	4622	8339	10676	10254	8205	7515	7367	7414	7950	8898	9624	8787	8279	7934	6089	4534	3182	2445	1980	138493

Location ID:	4094	Seasonal Factor Group:	U1-Boston
County:	Middlesex	Daily Factor Group:	
Funcationl Class	1	Axle Factor Group:	U1-Boston
Location:	INTERSTATE 495 NORTH OF ROUTE 38	Growth Factor Group:	

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1	950	672	621	688	1473	4229	8464	11297	10020	8129	7026	7093	7263	7485	8863	9834	8508	8990	8407	5937	4332	3443	2790	2042	138556
2	1235	836	685	719	1381	3745	6855	9027	8569	7745	7889	8324	8761	8863	9489	9401	8848	8240	6732	6210	5032	4145	3146	2320	138197
3	1497	830	644	596	741	1346	2727	4073	5660	6740	7867	8063	8052	7793	7306	6815	6586	6184	5427	4850	4139	3483	2842	1969	106230
4	1318	747	526	413	403	645	1282	2176	3212	4888	6210	7098	7436	7253	7000	6452	6419	6299	5903	5336	4736	3676	2965	1875	94268
5	1086	635	490	349	447	749	1465	2144	3238	4696	6052	6992	6921	6965	6916	6720	6621	6219	5921	5008	3732	2747	1793	1133	89039
6	589	422	397	600	1351	4166	8433	9806	9603	8482	6863	6720	6954	7066	8675	9918	9811	9378	7349	4642	3018	2311	1865	1363	129782
7	849	558	514	648	1309	4277	7268	9788	9805	7604	6376	6056	6507	6821	8699	10064	9818	9673	7703	5094	3480	2619	1861	1479	128870
8	827	576	554	677	1405	4425	8813	10017	10525	8177	6828	6617	6716	7213	9042	10009	9657	9685	7917	5627	3788	2673	1995	1490	135253
9	968	637	576	734	1341	4095	8212	10119	9410	8002	7311	7682	8223	8606	9791	9508	9270	9041	8242	6458	4190	3432	2862	2228	140938
10	1351	763	673	502	783	1646	2918	4188	5513	6501	7765	8136	8232	8096	8067	7801	7593	6949	5750	4854	4061	3625	2935	2158	110860
11	1404	822	525	387	401	731	1483	2449	3451	5199	6462	7951	8461	8151	7712	7605	7779	6767	5970	5101	3772	2392	1765	1193	97933
12	808	505	505	624	1372	4318	8891	10555	9832	8609	6534	6483	6370	6596	7940	9590	9678	9555	7861	4974	3172	2351	1840	1439	130402
13	788	532	532	650	1339	4237	8702	10306	10032	8956	6412	6233	6387	6696	8719	10147	9955	9794	7802	5173	3557	2738	2052	1497	133236
14	865	582	606	617	1327	4411	9047	10643	10199	8845	6644	6510	6665	7016	9210	9323	8272	9654	7905	5095	3575	2643	1928	1515	133097
15	953	704	653	703	1394	4410	9337	10549	10153	8615	6885	6519	7013	7336	9327	10222	9106	9427	8553	5835	3831	3008	2258	1820	138611
16	988	698	586	704	1376	4159	8011	10651	9467	7501	7372	7640	8083	8061	9879	9721	9244	8896	8160	6386	4346	3521	2764	2150	140364
17	1429	777	625	615	730	1592	2677	3981	5391	6498	7783	8369	8579	8461	8431	7685	7781	7504	6368	5075	4153	3370	2687	2172	112733
18	1387	760	568	388	416	715	1380	2326	3745	5346	6874	8107	8313	7952	7496	7393	6970	6922	6149	5000	3465	2358	1596	1138	96764
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									
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28																									
29																									
30																									

Massachusetts Highway Department
4094: Monthly Hourly Volume for October 2016

Location ID: 4094
County: Middlesex
Functional Class: 1
Location: INTERSTATE 495 NORTH OF ROUTE 38

Seasonal Factor Group: U1-Boston
Daily Factor Group:
Axle Factor Group: U1-Boston
Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1																									
2	1125	770	496	360	355	807	1543	2418	3760	5078	6342	7934	8894	8298	7633	7066	7547	6972	5953	4940	3592	2946	1854	1104	97787
3	673	472	450	661	1320	4353	8738	10659	10123	8023	6529	6367	6497	6604	8527	10097	10119	10167	7286	4779	2957	2414	1681	1275	130771
4	764	523	503	620	1392	4438	7985	10399	10405	8622	6359	6097	6305	6568	8602	9994	9629	8748	8292	5151	3270	2312	1812	1439	130229
5	841	574	531	699	1359	3818	7202	8196	7996	7550	6745	6264	6583	6768	8815	9793	9325	9103	8409	5287	3414	2475	1910	1548	125205
6	900	618	563	718	1385	4486	8901	10590	10466	8404	6644	6732	6967	7342	9469	9411	9113	8852	8636	6228	3947	3030	2318	1690	137410
7	1053	708	611	726	1353	4294	7793	10014	9400	8135	7810	8210	8378	8400	9722	9161	8439	8340	8252	7295	5143	4034	3179	2455	142905
8	1500	865	691	562	684	1586	2627	4340	5850	7069	8307	8406	8668	8597	8629	8312	7595	7001	5923	4922	3870	3271	2865	2208	114348
9	1217	783	537	348	366	677	1342	2156	3120	4607	5897	7004	7717	6906	6386	5987	6252	5813	4890	4328	3218	2308	1700	1243	84802
10	735	491	429	540	991	2786	5450	7437	6984	6637	7206	8085	7942	8066	8452	8888	8039	7738	7011	5839	3964	2860	2038	1411	120019
11	770	535	494	657	1363	4567	8327	10462	9036	8112	7176	6343	6602	6999	8750	10024	9377	9169	8332	4385	3815	2710	1881	1477	131363
12	923	532	541	625	1338	4485	8928	10657	9934	7800	6395	6318	6562	6620	8980	9949	9375	8848	8314	5192	3549	2768	1856	1636	132125
13	875	592	590	636	1399	4475	8601	10149	10381	8373	6453	6464	6611	7544	9425	10002	9994	8764	8298	5846	3974	2718	2153	1705	136022
14	992	674	626	699	1344	4204	7723	10208	9222	7694	7211	7545	8042	8306	8790	9416	8290	8416	8193	6216	4098	3569	2531	2456	136465
15	1376	827	655	566	691	1631	2827	4238	5356	6499	7556	8156	9018	8232	8569	9072	8409	7650	6509	5025	3950	3394	2977	2085	115268
16	1222	865	503	362	368	811	1702	2622	3817	5229	6688	7705	8478	7888	7050	6806	7336	7332	6663	4885	3608	2576	1781	1113	97410
17	701	434	427	618	1312	4457	8794	10777	10324	7772	6495	6033	6186	6224	8651	10086	10059	9757	7608	4615	2933	2249	1735	1302	129549
18	799	535	497	636	1286	4351	8634	10337	10487	8139	5985	6000	6094	6607	8916	10254	9976	9199	7998	4889	3168	2639	1912	1648	130986
19	905	602	560	699	1303	4353	8697	11150	9922	7471	5874	5819	5942	6429	6210	9619	8135	7952	8076	5016	3076	2520	2028	1636	123994
20																									
21	978	707	605	729	1290	4147	5628	5878	4901	7883	6642	7095	7601	8072	9743	9516	9012	9212	7064	5097	3419	3026	2927	2250	123422
22	1193	715	610	504	662	1419	2296	3419	4847	5720	6623	7481	7605	7568	7716	7272	7143	6597	5528	4339	3147	2968	2685	2010	100067
23	1292	755	470	341	378	660	1404	2296	3234	4578	5871	6896	7651	7780	7434	7408	6950	6164	5303	4340	3098	1984	1658	1047	88992
24	695	435	469	665	1282	4516	8620	10677	10097	7354	5845	5879	6134	6334	8238	9486	9744	9542	7638	4444	2858	2248	1628	1304	126132
25	761	495	537	632	1298	4375	8788	10870	10326	7781	6028	5559	5907	6297	8437	9878	10451	10154	7761	4624	3107	2420	1904	1413	129803
26	872	566	536	596	1321	4319	8630	11007	10415	8055	5875	5929	6274	6555	8678	10246	10153	9955	7696	4994	3325	2735	1982	1476	132190
27	792	570	570	604	1329	4331	8465	10664	10562	7718	6111	6158	6124	6725	8735	9455	9175	8960	7714	4931	3508	2864	1968	1509	129542
28	884	660	578	619	1200	3864	7087	9724	8823	7568	6531	6654	7265	8043	9274	9206	8591	8561	7193	5043	3596	2993	2435	1924	128316
29	1208	824	627	486	676	1504	2439	3522	4734	5593	6639	6917	7434	6973	7697	7344	7292	6292	5417	4327	3420	3058	2735	2192	99350
30	1431	889	681	472	404	647	1308	2107	3227	4361	5544	6651	7468	6811	6403	6200	6494	7186	5510	3961	3021	2314	1576	1048	85714
31	693	467	434	596	1274	4288	8458	10711	9704	7019	5583	5450	5752	6191	8121	10003	9392	8699	5585	3489	2764	2275	1610	1253	119811

4094: Monthly Hourly Volume for November 2016

Growth Factor Group:

[illegible]

Massachusetts Highway Department

4094: Monthly Hourly Volume for December 2016

Location ID: 4094 Seasonal Factor Group: U1-Boston
 County: Middlesex Daily Factor Group:
 Functionl Class 1 Axle Factor Group: U1-Boston
 Location: INTERSTATE 495 NORTH OF ROUTE 38 Growth Factor Group:

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9	837	588	542	634	1251	4096	7284	9643	8838	6994	6196	6241	6923	7367	9280	8845	8401	8674	7390	4610	3363	2929	2610	2075	125611
10	1176	763	563	477	609	1495	2315	3212	4364	5353	6055	6794	7119	6967	7168	6775	6843	6622	5542	3965	3090	2909	2674	2089	94939
11	1166	805	456	303	284	665	1139	1744	2571	3774	5113	6172	6977	6952	7024	7045	6724	5967	4811	3736	2850	2074	1472	964	80788
12	593	404	366	492	993	2829	5201	6978	6828	6099	5015	4479	4539	5066	6756	7621	8293	8212	5856	3550	2558	1882	1504	1296	97410
13	922	699	598	645	1289	4213	8085	10443	9917	8373	6072	5657	5759	6250	8237	9739	8849	8938	7887	4475	3188	2419	1772	1419	125845
14	794	519	485	598	1319	4349	8172	10505	10379	7663	6000	5832	6066	6248	8315	9310	9541	8995	7798	5145	3470	2731	1939	1494	127667
15	866	547	561	677	1265	4403	8148	10364	10261	7617	5993	6049	6173	6761	9201	9121	8736	8620	7463	4939	3484	2810	2274	1635	127968
16	961	638	547	604	1222	3679	6662	9103	8580	6845	6246	6615	7099	7614	8483	8645	8763	8229	7525	5328	3951	3296	2947	2288	125870
17	1350	793	619	587	610	1149	1400	1793	2181	2007	2307	2334	3064	3049	4171	4718	4394	4100	3594	2924	2430	2211	2099	1618	55502
18	1050	634	432	317	300	610	1044	1504	2372	3789	5137	6170	7299	7431	6835	6959	6276	5337	4250	3745	3152	2271	1544	1033	79491
19	622	428	407	536	1238	4205	7693	10353	9410	7046	5804	5789	5794	6334	8196	9875	9871	9558	7148	4333	2983	2251	1690	1384	122948
20	862	564	481	566	1258	4212	7930	10371	9414	7117	6243	6121	6350	6465	8558	9658	9388	9077	7520	4725	3248	2630	2002	1599	126359
21	928	622	505	611	1304	4153	7720	10055	9498	7388	6234	6425	6592	7318	9390	9577	9215	8913	7334	4997	3440	2831	2079	1678	128807
22	927	653	598	702	1281	3964	6905	9002	8181	6838	5984	6757	7103	7333	9109	9593	9223	8265	6610	4590	3463	2991	2299	1755	124126
23	1069	711	579	704	1075	3047	5213	6561	6407	6215	6802	7769	8391	8683	9499	9124	7401	6479	5227	4321	3582	2996	2654	2124	116633
24	1197	752	655	521	537	884	1438	2208	3128	4229	5460	6108	6660	6150	5772	5660	5756	5771	4653	3454	3604	3977	3603	2228	84405
25	1019	642	425	224	170	274	627	948	1552	2797	4174	5728	7292	7035	5795	4945	4972	5435	5252	4947	4377	3282	2231	1290	75433
26	731	422	296	283	464	951	1543	2158	2932	4512	6353	7429	7626	7652	7189	7156	6451	5799	4729	3820	3036	2387	1751	1181	86851
27	726	468	423	489	1018	3263	5252	6945	6705	6481	6720	7059	7350	7435	8792	9092	9108	8253	5820	4015	3069	2595	2096	1464	114638
28	881	542	493	550	1136	3443	5699	7212	7241	6775	6978	7378	7866	7639	9112	9791	9224	9199	6778	4622	3612	3031	2179	1632	123013
29	963	620	570	684	1136	3347	5324	6559	6466	6309	5820	6018	6404	5854	6604	6639	6038	5365	3528	1992	1840	1571	1597	1118	92366
30	699	504	473	550	934	2506	4002	5312	5434	5323	5937	6772	7467	8215	9179	8954	8420	6990	5634	4308	3326	2604	2433	1793	107769
31	1135	810	597	415	562	977	1639	2287	3117	4131	5286	6014	6466	6057	6272	5900	5403	4868	4054	3049	2235	1713	1440	1094	75521

Massachusetts Highway Department

4094: Monthly Volume for 2016 & 2017

Location ID:	4094	Seasonal Factor Group:	U1-Boston
County:	Middlesex	Daily Factor Group:	
Functional Class	1	Axle Factor Group:	U1-Boston
Location:	INTERSTATE 495 NORTH OF ROUTE 38	Growth Factor Group:	

Month	Volume	Seasonal Factor	
January	102148	0.87	
February	103856	0.88	November Multiplier to Average Month
March	111590	0.95	1.012
April	116382	0.99	
May	123114	1.05	
June	129810	1.10	
July	127851	1.09	
August	133456	1.13	
September	121952	1.04	
October	120000	1.02	
November	116243	0.99	
December	105216	0.89	
	117635		

Crash Data Worksheets

Crash Number	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	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	Trafficway Description	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Emergency Use (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)		Weather Conditions	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	School Bus Related	Speed Limit	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Roadway
																						V1: E / V2: E / V3: E	V3: E											
4404668	08/07/2017	Property damage only (none injured)	6:35 PM	No injury	3	D2: (Followed too closely)		Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Not at junction	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead / V3: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car) / V3:(Passenger car)	V1:(No) / V2:(No) / V3:(No)	V1:(No) / V2:(No) / V3:(No)	V1: E / V2: E / V3: E	Cloudy	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)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with motor vehicle in traffic)	42.69033	-71.31192	CROSS ROAD	
4416060	09/03/2017	Property damage only (none injured)	6:28 PM	No injury	2	D1: (Disregarded traffic signs, signals, road markings),(Operating defective equipment) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dusk	Angle	Wet	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: N	Rain	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69036	-71.311737	CROSS RD / BRIDGE ST. Rte 38 N / CROSS RD.	
4448844	10/30/2017	Property damage only (none injured)	3:52 PM	No injury	2	D1: (Inattention) / D2: (No improper driving),(No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Stop signs	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: S / V2: E	Clear/Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69036	-71.311737	BRIDGE ST Rte 38 S / CROSS RD	
4449314	10/31/2017	Property damage only (none injured)	7:42 AM	No injury	3	D1: (Disregarded traffic signs, signals, road markings) / D2: (No improper driving),(No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Stop signs	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Travelling straight ahead / V3: Not reported	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No) / V3:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled) / V3:(Yes, vehicle or trailer disabled)	V1: E / V2: N / V3: Not Reported	Clear/Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with other movable object)	None	No, school bus not involved	45	No, device not functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic) / V3:(Collision with other movable object)	42.69036	-71.311737	/ / / BRIDGE STREET Rte 38 N	
4455833	11/18/2017	Non-fatal injury	1:59 PM	Non-fatal injury - Possible	2	D1: (No improper driving) / D2: (Inattention),(Distracted)	D2: Other activity (searching, eating, personal hygiene, etc.)	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69036	-71.311737	BRIDGE ST / BRIDGE ST Rte 38 S / MARSH HILL RD	
4466228	12/10/2017	Property damage only (none injured)	12:59 PM	No injury	2	D1: (Failed to yield right of way),(Unknown) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Not reported	Wet	Not at junction	0	0	No controls	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: S / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69036	-71.311737	BRIDGE ST Rte 38 S	
4543025	05/23/2018	Property damage only (none injured)	7:36 AM	No injury	2	D1: (Unknown) / D2: (Unknown)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Bus (seats for 16 or more, including driver))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: S / V2: W	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 / BRIDGE STREET Rte 38 S / CROSS ROAD	
4550711	06/08/2018	Non-fatal injury	11:02 PM	Non-fatal injury - Possible	2	D1: (Disregarded traffic signs, signals, road markings),(Operating vehicle in erratic, reckless, careless, negligent or aggressive manner) / D2: (No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: S	Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic),(Collision with guardrail) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST / CROSS RD / MARSH HILL RD	
4582926	08/19/2018	Property damage only (none injured)	3:00 PM	No injury	2	D1: (Inattention),(Followed too closely) / D2: (No improper driving),(No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Clear/Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 S / CROSS RD / MARSH HILL RD	
4709203	06/05/2019	Property damage only (none injured)	1:31 PM	No Apparent Injury (0)	2	D1: (Unknown) / D2: (Unknown)		Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Turning left / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: N / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 N / BRIDGE STREET Rte 38 S / CROSS ROAD	
4711316	06/13/2019	Property damage only (none injured)	11:18 AM	No Apparent Injury (0)	2	D1: (Disregarded traffic signs, signals, road markings)	D1: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Wet	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: E	Cloudy/Rain	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	MARSH HILL RD / BRIDGE ST. / CROSS RD.	
4792302	12/22/2019	Property damage only (none injured)	8:11 PM	No Apparent Injury (0)	1	D1: (No improper driving),(No improper driving)	D1: Not Distracted	Collision with animal - deer	Yes	Dark - lighted roadway	Single vehicle crash	Dry	Four-way intersection	0	0	No controls	Two-way, divided, unprotected median	V1: Travelling straight ahead	V1:(Passenger car)	V1:(No)	V1:(No)	V1: E	Clear/Clear	No hit and run	V1:(Collision with animal - deer)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with animal - deer)	42.69035	-71.311738	CROSS RD AT BRIDGE ST / BRIDGE ST / MARSH HILL RD	
4839454	04/22/2020	Property damage only (none injured)	3:48 PM	No Apparent Injury (0)	2	D1: (Failed to yield right of way) / D2: (No improper driving),(No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Turning right / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: W / V2: N	Clear/Cloudy	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 N / MARSH HILL RD	
4858709	07/12/2020	Property damage only (none injured)	5:17 PM	No Apparent Injury (0)	2	D1: (No improper driving) / D2: (Followed too closely)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Light truck(van, mini-van, pickup, sport utility))	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: W / V2: W	Not Reported	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	CROSS RD / CROSS ROAD / BRIDGE STREET	
4878087	09/15/2020	Property damage only (none injured)	8:06 AM	No Apparent Injury (0)	2	D1: (No improper driving) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V2: Slowing or stopped in traffic / V1: Backing	V2:(Light truck(van, mini-van, pickup, sport utility)) / V1:(Tractor/triples)	V2:(No) / V1:(No)	V2:(No) / V1:(No)	V2: S / V1: S	Clear	No hit and run	V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V2:(Collision with motor vehicle in traffic) / V1:(Collision with motor vehicle in traffic)	42.69035	-71.311738	MARSH HILL ROAD / BRIDGE STREET / MARSH HILL ROAD	
4908402	11/19/2020	Property damage only (none injured)	8:45 PM	No Apparent Injury (0)	2	D1: (Distracted),(Other improper action) / D2: (No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: Not Reported / V2: Not Reported	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	45	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 / CROSS RD	
4928713	02/07/2021	Non-fatal injury	1:28 PM	Possible Injury (C)	2	D1: (Driving too fast for conditions) / D2: (No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Snow	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Other)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: W / V2: N	Snow/Clear	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	25	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST / MARSH HILL RD	
4949206	03/15/2021	Property damage only (none injured)	12:38 PM	No Apparent Injury (0)	2	D1: (Other improper action) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST / CROSS RD / MARSH HILL RD	
5012429	04/21/2021	Non-fatal injury	7:43 AM	Suspected Minor Injury (B)	2	D1: (Unknown) / D2: (Unknown)		Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Travelling straight ahead / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled)	V1: E / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST / CROSS RD	

Crash Number	Crash Date	Crash Severity	Crash Time	Max Injury Severity Reported	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 Non-Fatal		Traffic Control Device Type	Trafficway Description	Vehicle Actions Prior to Crash (All Vehicles)	Vehicle Configuration (All Vehicles)	Vehicle Emergency Use (All Vehicles)	Vehicle Towed From Scene (All Vehicles)	Vehicle Travel Directions (All Vehicles)	Weather Conditions	Hit and Run	Most Harmful Event (All Vehicles)	Road Contributing Circumstance	School Bus Related	Speed Limit	Traffic Control Device Function	Vehicle Sequence of Events (All Vehicles)	Latitude	Longitude	Roadway
														Total Fatalities	Fatal Injuries																		
5029164	10/29/2021	Property damage only (none injured)	9:18 PM	No Apparent Injury (0)	2	D1: (No improper driving) / D2: (Disregarded traffic signs, signals, road markings)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - unknown roadway lighting	Angle	Dry	Four-way intersection	0	0	No controls	Two-way, divided, unprotected median	V1: Turning left / V2: Slowing or stopped in traffic	V1:(Light truck(van, mini-van, pickup, sport utility)) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(Yes, vehicle or trailer disabled)	V1: N / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	No, device not functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	CROSS ROAD / BRIDGE STREET
5050115	12/25/2021	Property damage only (none injured)	8:11 AM	No Apparent Injury (0)	1	D1: (No improper driving)	D1: Not Distracted	Collision with tree	Yes	Daylight	Single vehicle crash	Ice	Not at junction	0	0	No controls	Two-way, not divided	V1: Travelling straight ahead	V1:(Passenger car)	V1:(No)	V1:(Yes, vehicle or trailer disabled)	V1: W	Sleet, hail (freezing rain or drizzle)	No hit and run	V1:(Collision with tree)	Road surface condition (wet, icy, snow, slush, etc.)	No, school bus not involved	30	Not reported	V1:(Collision with tree)	42.69035	-71.311738	MARSH HILL RD / BRIDGE ST
5050260	12/13/2021	Property damage only (none injured)	4:45 PM	No Apparent Injury (0)	2	D1: (Inattention),(Followed too closely) / D2: (No improper driving)	D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - roadway not lighted	Rear-end	Dry	Not at junction	0	0	No controls	Two-way, not divided	V1: Travelling straight ahead / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: N / V2: N	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	40	Not reported	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 / MARSH HILL RD
5128766	06/18/2022	Property damage only (none injured)	1:05 PM	No Apparent Injury (0)	2	D1: (Inattention) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: S / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST / CROSS RD
5128843	06/16/2022	Non-fatal injury	6:15 AM	Suspected Minor Injury (B)	3	D1: (Operating vehicle in erratic, reckless, careless, negligent or aggressive manner),(Made an improper turn) / D2: (No improper driving) / D3: (No improper driving)	D1: Not Distracted / D2: Not Distracted / D3: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Angle	Dry	Four-way intersection	0	1	Traffic control signal	Two-way, not divided	V1: Turning right / V2: Travelling straight ahead / V3: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car) / V3:(Passenger car)	V1:(No) / V2:(No) / V3:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(Yes, vehicle or trailer disabled) / V3:(No)	V1: E / V2: S / V3: N	Clear	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)	None	No, school bus not involved	30	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic) V3:(Collision with motor vehicle in traffic)	42.69035	-71.311738	MARSH HILL RD / BRIDGE ST
5130301	07/20/2022	Property damage only (none injured)	4:51 PM	No Apparent Injury (0)	2	D1: (Inattention) / D2: (No improper driving)	D1: Other activity (searching, eating, personal hygiene, etc.) / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Daylight	Rear-end	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Slowing or stopped in traffic / V2: Slowing or stopped in traffic	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	45	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	CROSS RD / BRIDGE ST
5163682	10/12/2022	Unknown	7:52 AM	Not reported	2	D1: (No improper driving) / D2: (Unknown)	D1: Not Distracted	Collision with parked motor vehicle	Yes	Daylight	Front to Rear	Dry	Not at junction	0	0	Traffic control signal	Two-way, divided, unprotected median	V1: Slowing or stopped in traffic / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(No) / V2:(No)	V1: S / V2: S	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with parked motor vehicle)	None	No, school bus not involved		Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with parked motor vehicle)	42.69042	-71.311757	BRIDGE ST
5195134	12/26/2022	Property damage only (none injured)	7:13 PM	No Apparent Injury (0)	2	D1: (Failed to yield right of way) / D2: (No improper driving)	D1: Not Distracted / D2: Not Distracted	Collision with motor vehicle in traffic	Yes	Dark - lighted roadway	Angle	Dry	Four-way intersection	0	0	Traffic control signal	Two-way, not divided	V1: Changing lanes / V2: Travelling straight ahead	V1:(Passenger car) / V2:(Passenger car)	V1:(No) / V2:(No)	V1:(Yes, vehicle or trailer disabled) / V2:(No)	V1: N / V2: N	Clear	No hit and run	V1:(Collision with motor vehicle in traffic) / V2:(Collision with motor vehicle in traffic)	None	No, school bus not involved	35	Yes, device functioning	V1:(Collision with motor vehicle in traffic) V2:(Collision with motor vehicle in traffic)	42.69035	-71.311738	BRIDGE ST Rte 38 / MARSH HILL RD

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Dracut COUNT DATE : Nov 2023
 DISTRICT : 4 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Bridge Street
 MINOR STREET(S) : Cross Street and Marsh Hill 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) :	304	348	622	530		1,804

" K " FACTOR :

0.090

INTERSECTION ADT (V) = TOTAL DAILY
 APPROACH VOLUME :

20,044

TOTAL # OF CRASHES :

27

OF
 YEARS :

6

AVERAGE # OF
 CRASHES PER YEAR (A) :

4.50

CRASH RATE CALCULATION :

0.62

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

Comments : _____

Project Title & Date: _____

Public Transportation

Weekday

Saturday

Outbound

Inbound

Scroll to see full schedule →

Kennedy Center	6:30am	7:35am	8:30am	9:30am	10:30am	11:30am	12:30pm	1:30pm	2:30pm	3:30pm	4:30pm	5:30pm
Market Basket at Sunrise Plaza	6:43am	7:48am	8:43am	9:43am	10:43am	11:43am	12:43pm	1:43pm	2:43pm	3:43pm	4:43pm	5:43pm
Dracut Village Square at Scola's	6:47am	7:52am	8:47am	9:47am	10:47am	11:47am	12:47pm	1:47pm	2:47pm	3:47pm	4:47pm	5:47pm
Hannaford	6:52am	7:57am	8:52am	9:52am	10:52am	11:52am	12:52pm	1:52pm	2:52pm	3:52pm	4:52pm	5:52pm
Dracut High School	6:56am	8:01am	8:56am	9:56am	10:56am	11:56am	12:56pm	1:56pm	2:56pm	3:56pm	4:56pm	5:56pm
Lakeview Ave & Mammoth Rd	6:58am	8:03am	8:58am	9:58am	10:58am	11:58am	12:58pm	1:58pm	2:58pm	3:58pm	4:58pm	5:58pm
Lakeview Apartments Tyngsborough	7:03am	8:08am	9:03am	10:03am	11:03am	12:03pm	1:03pm	2:03pm	3:03pm	4:03pm	5:03pm	6:03pm
Four Corners	7:05am	8:10am	9:05am	10:05am	11:05am	12:05pm	1:05pm	2:05pm	3:05pm	4:05pm	5:05pm	6:05pm
Ayotte's Market Hudson, NH	7:09am	8:14am	9:09am	10:09am	11:09am	12:09pm	1:09pm	2:09pm	3:09pm	4:09pm	5:09pm	6:09pm

Scroll to see full schedule →

Ayotte's Market Hudson, NH	7:20am	8:20am	9:15am	10:15am	11:15am	12:15pm	1:15pm	2:15pm	3:15pm	4:15pm	5:15pm	6:15pm
Four Corners (Lakeview Ave & Coburn Rd)	7:25am	8:25am	9:20am	10:20am	11:20am	12:20pm	1:20pm	2:20pm	3:20pm	4:20pm	5:20pm	6:20pm
Lakeview Ave & Pinehurst Ave	7:27am	8:27am	9:22am	10:22am	11:22am	12:22pm	1:22pm	2:22pm	3:22pm	4:22pm	5:22pm	6:22pm
Lakeview Ave and Mammoth Road	7:30am	8:30am	9:25am	10:25am	11:25am	12:25pm	1:25pm	2:25pm	3:25pm	4:25pm	5:25pm	6:25pm
Dracut High School	7:33am	8:33am	9:28am	10:28am	11:28am	12:28pm	1:28pm	2:28pm	3:28pm	4:28pm	5:28pm	6:28pm
Hannaford	7:39am	8:39am	9:34am	10:34am	11:34am	12:34pm	1:34pm	2:34pm	3:34pm	4:34pm	5:34pm	6:34pm
Dracut Village Square at Scola's	7:44am	8:44am	9:39am	10:39am	11:39am	12:39pm	1:39pm	2:39pm	3:39pm	4:39pm	5:39pm	6:39pm
Market Basket at Sunrise Plaza	7:48am	8:48am	9:43am	10:43am	11:43am	12:43pm	1:43pm	2:43pm	3:43pm	4:43pm	5:43pm	6:43pm
Kennedy Center	8:01am	9:01am	9:56am	10:56am	11:56am	12:56pm	1:56pm	2:56pm	3:56pm	4:56pm	5:56pm	6:56pm

Scroll to see full schedule →

Kennedy Center	8:30am	9:30am	10:30am	11:30am	12:30pm	1:30pm	2:30pm	3:30pm	4:30pm	5:30pm
Market Basket at Sunrise Plaza	8:43am	9:43am	10:43am	11:43am	12:43pm	1:43pm	2:43pm	3:43pm	4:43pm	5:43pm
Dracut Village Square at Scola's	8:47am	9:47am	10:47am	11:47am	12:47pm	1:47pm	2:47pm	3:47pm	4:47pm	5:47pm
Hannaford	8:52am	9:52am	10:52am	11:52am	12:52pm	1:52pm	2:52pm	3:52pm	4:52pm	5:52pm
Dracut High School	8:56am	9:56am	10:56am	11:56am	12:56pm	1:56pm	2:56pm	3:56pm	4:56pm	5:56pm
Lakeview Ave & Mammoth Rd	8:58am	9:58am	10:58am	11:58am	12:58pm	1:58pm	2:58pm	3:58pm	4:58pm	5:58pm
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Four Corners	9:05am	10:05am	11:05am	12:05pm	1:05pm	2:05pm	3:05pm	4:05pm	5:05pm	6:05pm
Ayotte's Market Hudson, NH	9:09am	10:09am	11:09am	12:09pm	1:09pm	2:09pm	3:09pm	4:09pm	5:09pm	6:09pm

Scroll to see full schedule →

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Lakeview Ave & Pinehurst Ave	9:22am	10:22am	11:22am	12:22pm	1:22pm	2:22pm	3:22pm	4:22pm	5:22pm	6:22pm
Lakeview Ave and Mammoth Road	9:25am	10:25am	11:25am	12:25pm	1:25pm	2:25pm	3:25pm	4:25pm	5:25pm	6:25pm
Dracut High School	9:28am	10:28am	11:28am	12:28pm	1:28pm	2:28pm	3:28pm	4:28pm	5:28pm	6:28pm
Hannaford	9:34am	10:34am	11:34am	12:34pm	1:34pm	2:34pm	3:34pm	4:34pm	5:34pm	6:34pm
Dracut Village Square at Scola's	9:39am	10:39am	11:39am	12:39pm	1:39pm	2:39pm	3:39pm	4:39pm	5:39pm	6:39pm
Market Basket at Sunrise Plaza	9:43am	10:43am	11:43am	12:43pm	1:43pm	2:43pm	3:43pm	4:43pm	5:43pm	6:43pm
Kennedy Center	9:56am	10:56am	11:56am	12:56pm	1:56pm	2:56pm	3:56pm	4:56pm	5:56pm	6:56pm

Background Projects

Kenneth P. Cram

From: Steven Andrews <sandrews@ctps.org>
Sent: Tuesday, November 7, 2023 12:55 PM
To: Kenneth P. Cram
Cc: Tanner Bonner; Justin Rodriguez
Subject: Re: Growth Rate Request - Dracut, MA

Hi Ken,

Please see the municipality-level growth rates for **Dracut and the Northern Middlesex Council of Governments** below:

Compound Average Annual Growth Rate (CAGR) from 2019 to 2050:

Roadway Type	Dracut CAGR	NMCOG CAGR
Highway	NA	0.077%
Major Arterial	0.169%	0.073%
Minor Arterial and Collector	0.127%	0.150%
All Facilities	0.181%	0.103%

These growth rates are based on socioeconomic forecasts developed by MassDOT and the UMass Donahue Institute, processed by MAPC, and incorporated into the CTPS TDM23 travel demand model (version 0.1). Growth rates represent the projected change of VMT within a given geography between the base scenario (2019) and the LRTP plan scenario (2050).

Please be cautious when the table shows a negative growth rate. It may be more conservative to swap in a zero- or low-growth rate instead. To aid in your decision making, we have also included the growth rate for the entire RPA.

You may also access historic traffic data using MassDOT's MS2 platform (<https://mhd.public.ms2soft.com/tcds/tsearch.asp?loc=Mhd&mod=TCDS>).

Example calculations are in a previously attached PDF.

Let us know if you have any questions.

Steven Andrews | he, him, his
Transportation Analyst
Central Transportation Planning Staff
Boston Region Metropolitan Planning Organization
[857.702.3643](tel:857.702.3643) | sandrews@ctps.org | bostonmpo.org

On Mon, Nov 6, 2023 at 10:06 AM Kenneth P. Cram <kcram@baysideengineering.com> wrote:

Steven,

Thanks for the Haverhill data and the pdf.

I have another project in Dracut. It is at the intersection of Bridge Street and Marsh Hill Road. Can you tell me what the model has for Dracut?

Thanks.

Ken

Please note that I will be out of the office on November 15 and 16, 2023.



Kenneth P. Cram, P.E.

Director, Traffic Engineering

Bayside Engineering, Inc.

600 Unicorn Park Drive | Woburn, MA 01801

781-932-3201 ext. 624

978-478-7980 (c)

baysideengineering.com

From: Steven Andrews <sandrews@ctps.org>

Sent: Friday, October 27, 2023 5:04 PM

To: Kenneth P. Cram <kcram@baysideengineering.com>

Cc: Tanner Bonner <tbonner@ctps.org>

Subject: Re: Growth Rate Request

- *Avis Avenue Departures to Route 138.* The analysis results indicate that the available sight lines meet or exceed AASHTO's minimum recommended ISD criteria looking to the north and south from Avis Avenue onto Route 38 based on the regulatory speed limit. MDM notes that the sight line from a position 14.5 feet back from the travel way looking to the north from Avis Avenue onto Route 138 is limited by a recently constructed stone retaining wall on the property on the northeast corner. It is our understanding that this wall has recently partially reconstructed based on complaints by the Avis Avenue neighborhood to step the wall back to provide the minimum ISD for Avis Avenue looking to the north on Route 138. The sight distance from 8 feet back from the travel way satisfies the ideal sight line looking to the north onto Route 38. Likewise, trucks that park on the shoulder in front of an unprotected utility pole along Route 38 for the Dunkin Donuts block the sight line visibility looking to the south. *MDM recommends that the Town consider a "no parking" zone along Route 38 between the Dunkin Driveway and Avis Avenue to restrict occurrences of sight line restrictions at the intersection.*

Trip Generation Characteristics

Trip estimates for the Project are appropriately based on characteristics published by the Institute of Transportation Engineers (ITE) in *Trip Generation* 10th Edition for single family detached housing, Land Use Code (LUC) 210. Table 3 presents the trip-generation estimates for the proposed development based on ITE methodology.

TABLE 3
TRIP-GENERATION SUMMARY

Peak Hour/Direction	Single Family Homes (19 Units) ¹
<i>Weekday Morning Peak Hour:</i>	
Entering	5
<u>Exiting</u>	<u>13</u>
Total	18
<i>Weekday Evening Peak Hour:</i>	
Entering	13
<u>Exiting</u>	<u>8</u>
Total	21
<i>Daily (24 Hours):</i>	226

¹ITE LUC 210 – Single Family Detached Housing applied to 19 homes.

MDM

Trip Generation Worksheets

2041 Bridge Street, Dracut, MA

Land Use Code (LUC) 220 - Multifamily Housing (Low-Rise)_
Source: Institute of Transportation Engineers (ITE) - 12th Edition

Average Vehicle Trips Ends vs: Dwelling units
Independent Variable (X): 40

AVERAGE WEEKDAY DAILY

$T = 5.63 * (X) + 120.45$	28 Studies, Avg size = 208 units
$T = 5.63 * (40) + 120.45$	$R^2 = 0.70$ AR = 6.21
$T = 248.40$	Use AR as $R^2 < 0.75$
$T = 248$ vehicle trips	#
with 50% (124 vpd) entering and 50% (124 vpd) exiting.	

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.35 * (X) + 12.93$	51 Studies, Avg size = 219 units
$T = 0.35 * (40) + 12.93$	$R^2 = 0.81$ AR = 0.41
$T = 26.93$	
$T = 27$ vehicle trips	
with 24% (6 vpd) entering and 76% (21 vpd) exiting.	

WEEKDAY MORNING PEAK HOUR OF GENERATOR

$T = 0.43 * (X) + 6.30$	25 Studies, Avg size = 161 units
$T = 0.43 * (40) + 6.30$	$R^2 = 0.84$ AR = 0.47
$T = 23.50$	
$T = 24$ vehicle trips	
with 27% (6 vpd) entering and 73% (18 vpd) exiting.	

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.48 * (X) + 7.35$	61 Studies, Avg size = 215 units
$T = 0.48 * (40) + 7.35$	$R^2 = 0.83$ AR = 0.52
$T = 26.55$	
$T = 27$ vehicle trips	
with 62% (17 vph) entering and 38% (10 vph) exiting.	

WEEKDAY EVENING PEAK HOUR OF GENERATOR

$T = 0.61 * (X) + 1.61$	24 Studies, Avg size = 151 units
$T = 0.61 * (40) + 1.61$	$R^2 = 0.84$ AR = 0.62
$T = 26.01$	
$T = 26$ vehicle trips	
with 60% (16 vph) entering and 40% (10 vph) exiting.	

2041 Bridge Street, Dracut, MA

Land Use Code (LUC) 220 - Multifamily Housing (Low-Rise)_
Source: Institute of Transportation Engineers (ITE) - 12th Edition

Average Vehicle Trips Ends vs: Dwelling units
Independent Variable (X): 40

SATURDAY DAILY (10th Edition Data - Only 1 Data Point in 11th Edition)

$T = 14.01 * (X) - 521.69$	5 Studies, Avg size = 89 units	38.71
$T = 14.01 * (40) - 521.69$	$R^2 = 0.93$ AR = 8.14	
$T = 38.71$		
$T = 326$ vehicle trips	#	
with 50% (163 vpd) entering and 50% (163 vpd) exiting.		

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

(10th Edition Data - Only 1 Data Point in 11th Edition)

$T = 1.08 * (X) - 33.24$	5 Studies, Avg size = 89 units
$T = 1.08 * (40) - 33.24$	$R^2 = 0.92$ AR = 0.70
$T = 9.96$	
$T = 28$ vehicle trips	
with 50% (14 vph) entering and 50% (14 vph) exiting.	
0.35	0.35

Trip Distribution Worksheets

Capacity Analysis Worksheets

3: Bridge Street & Cross Road/Marsh Hill Road 2023 Existing Weekday Morning Peak Hour

Lanes, Volumes, Timings Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	32	221	110	40	167	56	48	239	18	49	358	31
Future Volume (vph)	32	221	110	40	167	56	48	239	18	49	358	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.971			0.990			0.988	
Flt Protected		0.996			0.992		0.950			0.950		
Satd. Flow (prot)	0	1939	0	0	1769	0	1620	1722	0	1517	1752	0
Flt Permitted		0.908			0.719		0.950			0.950		
Satd. Flow (perm)	0	1768	0	0	1282	0	1620	1722	0	1517	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			13			6			6	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			818			697			608	
Travel Time (s)		18.6			18.6			10.6			9.2	
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Adj. Flow (vph)	34	235	117	44	184	62	56	281	21	54	398	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	386	0	0	290	0	56	302	0	54	432	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	11.5	11.5		11.5	11.5		10.0	16.0		10.0	16.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.6			21.6		8.8	54.2		7.5	52.8	
Actuated g/C Ratio		0.23			0.23		0.09	0.58		0.08	0.57	
v/c Ratio		0.91			0.94		0.37	0.30		0.44	0.43	
Control Delay		60.8			75.8		46.6	11.3		53.7	14.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		60.8			75.8		46.6	11.3		53.7	14.1	
LOS		E			E		D	B		D	B	

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3: Bridge Street & Cross Road/Marsh Hill Road 2023 Existing Weekday Morning Peak Hour

Lanes, Volumes, Timings Baseline

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		60.8			75.8			16.8			18.5	
Approach LOS		E			E			B			B	
Queue Length 50th (ft)		219			168		33	88		32	142	
Queue Length 95th (ft)		#398			#336		65	129		70	235	
Internal Link Dist (ft)		737			738			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		426			307		262	1005		131	997	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.91			0.94		0.21	0.30		0.41	0.43	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 59.4%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
12 s	58 s	25.5 s
 Ø5	 Ø6	 Ø8
19 s	51 s	25.5 s

3: Bridge Street & Cross Road/Marsh Hill Road 2023 Existing Weekday Morning Peak Hour HCM Signalized Intersection Capacity Analysis

Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	221	110	40	167	56	48	239	18	49	358	31
Future Volume (vph)	32	221	110	40	167	56	48	239	18	49	358	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1938			1770		1620	1721		1517	1753	
Flt Permitted		0.91			0.72		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1767			1283		1620	1721		1517	1753	
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	34	235	117	44	184	62	56	281	21	54	398	34
RTOR Reduction (vph)	0	16	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	370	0	0	280	0	56	299	0	54	429	0
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1		7.5	52.2		6.1	50.8	
Effective Green, g (s)		21.6			21.6		7.5	54.2		6.1	52.8	
Actuated g/C Ratio		0.23			0.23		0.08	0.58		0.06	0.56	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		406			295		129	993		98	985	
v/s Ratio Prot							0.03	0.17		c0.04	c0.24	
v/s Ratio Perm		0.21			c0.22							
v/c Ratio		0.91			0.95		0.43	0.30		0.55	0.44	
Uniform Delay, d1		35.2			35.6		41.2	10.2		42.6	11.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		24.2			38.4		2.3	0.8		6.6	1.4	
Delay (s)		59.4			74.0		43.5	10.9		49.1	13.3	
Level of Service		E			E		D	B		D	B	
Approach Delay (s)		59.4			74.0			16.0			17.3	
Approach LOS		E			E			B			B	
Intersection Summary												
HCM 2000 Control Delay		38.5			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		93.9			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		59.4%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings

No-Build Weekday Morning Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	228	115	41	174	58	52	248	19	51	371	32
Future Volume (vph)	33	228	115	41	174	58	52	248	19	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.971			0.989			0.988	
Flt Protected		0.996			0.993		0.950			0.950		
Satd. Flow (prot)	0	1939	0	0	1771	0	1620	1720	0	1517	1752	0
Flt Permitted		0.900			0.704		0.950			0.950		
Satd. Flow (perm)	0	1752	0	0	1256	0	1620	1720	0	1517	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			13			7			6	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			818			697			608	
Travel Time (s)		18.6			18.6			10.6			9.2	
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Adj. Flow (vph)	35	243	122	45	191	64	61	292	22	57	412	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	400	0	0	300	0	61	314	0	57	448	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		10.0	24.0		10.0	24.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.6			21.6		9.1	54.1		7.5	52.6	
Actuated g/C Ratio		0.23			0.23		0.10	0.58		0.08	0.57	
v/c Ratio		0.95			1.00		0.39	0.31		0.47	0.45	
Control Delay		68.5			88.8		46.9	11.4		54.7	14.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		68.5			88.8		46.9	11.4		54.7	14.5	
LOS		E			F		D	B		D	B	

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Synchro 11 Report

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Lanes, Volumes, Timings

No-Build Weekday Morning Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		68.5			88.8			17.2			19.1	
Approach LOS		E			F			B			B	
Queue Length 50th (ft)		231			~189		35	92		34	150	
Queue Length 95th (ft)		#421			#355		69	134		74	248	
Internal Link Dist (ft)		737			738			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		422			301		262	1004		131	993	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.95			1.00		0.23	0.31		0.44	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 44.4

Intersection LOS: D

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
12 s	58 s	25.5 s
 Ø5	 Ø6	 Ø8
19 s	51 s	25.5 s

HCM Signalized Intersection Capacity Analysis

3: Bridge Street & Cross Road/Marsh Hill Road

No-Build Weekday Morning Peak Hour

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	33	228	115	41	174	58	52	248	19	51	371	32
Future Volume (vph)	33	228	115	41	174	58	52	248	19	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1938			1771		1620	1721		1517	1752	
Flt Permitted		0.90			0.70		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1752			1256		1620	1721		1517	1752	
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	35	243	122	45	191	64	61	292	22	57	412	36
RTOR Reduction (vph)	0	16	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	384	0	0	290	0	61	311	0	57	445	0
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1		7.7	52.1		6.2	50.6	
Effective Green, g (s)		21.6			21.6		7.7	54.1		6.2	52.6	
Actuated g/C Ratio		0.23			0.23		0.08	0.58		0.07	0.56	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		403			288		132	991		100	981	
v/s Ratio Prot							c0.04	0.18		0.04	c0.25	
v/s Ratio Perm		0.22			c0.23							
v/c Ratio		0.95			1.01		0.46	0.31		0.57	0.45	
Uniform Delay, d1		35.6			36.2		41.1	10.3		42.6	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		32.6			54.8		2.6	0.8		7.3	1.5	
Delay (s)		68.3			90.9		43.7	11.1		49.8	13.7	
Level of Service		E			F		D	B		D	B	
Approach Delay (s)		68.3			90.9			16.4			17.8	
Approach LOS		E			F			B			B	
Intersection Summary												
HCM 2000 Control Delay			44.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			93.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			61.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

2030 Build Weekday Morning Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Future Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.972			0.988			0.988	
Flt Protected		0.996			0.992		0.950			0.950		
Satd. Flow (prot)	0	1939	0	0	1771	0	1620	1720	0	1517	1752	0
Flt Permitted		0.897			0.664		0.950			0.950		
Satd. Flow (perm)	0	1746	0	0	1186	0	1620	1720	0	1517	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			13			8			6	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			239			697			608	
Travel Time (s)		18.6			5.4			10.6			9.2	
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Adj. Flow (vph)	35	244	122	52	195	65	61	292	26	57	412	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	401	0	0	312	0	61	318	0	57	448	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		11.0	24.0		11.0	24.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.6			21.6		9.1	54.1		7.5	52.6	
Actuated g/C Ratio		0.23			0.23		0.10	0.58		0.08	0.57	
v/c Ratio		0.95			1.09		0.39	0.32		0.47	0.45	
Control Delay		69.6			116.6		46.9	11.4		54.7	14.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		69.6			116.6		46.9	11.4		54.7	14.5	
LOS		E			F		D	B		D	B	

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Synchro 11 Report

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		69.6			116.6			17.1			19.1	
Approach LOS		E			F			B			B	
Queue Length 50th (ft)		232			~215		35	93		34	150	
Queue Length 95th (ft)		#423			#382		69	135		74	248	
Internal Link Dist (ft)		737			159			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		420			285		262	1005		131	993	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.95			1.09		0.23	0.32		0.44	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 50.4

Intersection LOS: D

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
12 s	58 s	25.5 s
 Ø5	 Ø6	 Ø8
19 s	51 s	25.5 s

HCM Signalized Intersection Capacity Analysis

3: Bridge Street & Cross Road/Marsh Hill Road

2030 Build Weekday Morning Peak Hour

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Future Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1938			1771		1620	1719		1517	1752	
Flt Permitted		0.90			0.66		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1745			1185		1620	1719		1517	1752	
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	35	244	122	52	195	65	61	292	26	57	412	36
RTOR Reduction (vph)	0	16	0	0	10	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	385	0	0	302	0	61	315	0	57	445	0
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1		7.7	52.1		6.2	50.6	
Effective Green, g (s)		21.6			21.6		7.7	54.1		6.2	52.6	
Actuated g/C Ratio		0.23			0.23		0.08	0.58		0.07	0.56	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		401			272		132	990		100	981	
v/s Ratio Prot							c0.04	0.18		0.04	c0.25	
v/s Ratio Perm		0.22			c0.25							
v/c Ratio		0.96			1.11		0.46	0.32		0.57	0.45	
Uniform Delay, d1		35.7			36.2		41.1	10.3		42.6	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		34.1			87.4		2.6	0.8		7.3	1.5	
Delay (s)		69.8			123.6		43.7	11.2		49.8	13.7	
Level of Service		E			F		D	B		D	B	
Approach Delay (s)		69.8			123.6			16.4			17.8	
Approach LOS		E			F			B			B	
Intersection Summary												
HCM 2000 Control Delay		51.2					HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		93.9					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		62.1%					ICU Level of Service			B		
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings

2030 Build Optimized Weekday Morning Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Future Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.972			0.988			0.988	
Flt Protected		0.996			0.992		0.950			0.950		
Satd. Flow (prot)	0	1939	0	0	1771	0	1620	1720	0	1517	1752	0
Flt Permitted		0.948			0.810		0.950			0.950		
Satd. Flow (perm)	0	1846	0	0	1446	0	1620	1720	0	1517	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			18			7			6	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			239			697			608	
Travel Time (s)		18.6			5.4			10.6			9.2	
Peak Hour Factor	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Adj. Flow (vph)	35	244	122	52	195	65	61	292	26	57	412	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	401	0	0	312	0	61	318	0	57	448	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		11.0	24.0		11.0	24.0	
Total Split (s)	32.0	32.0		32.0	32.0		15.0	36.0		12.0	33.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		18.8%	45.0%		15.0%	41.3%	
Maximum Green (s)	26.5	26.5		26.5	26.5		11.0	30.0		8.0	27.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		20.1			20.1		8.2	33.0		7.4	32.2	
Actuated g/C Ratio		0.30			0.30		0.12	0.49		0.11	0.48	
v/c Ratio		0.71			0.71		0.31	0.38		0.35	0.54	
Control Delay		27.4			30.1		34.6	15.4		38.0	19.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		27.4			30.1		34.6	15.4		38.0	19.1	
LOS		C			C		C	B		D	B	

FO

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Synchro 11 Report

Page 1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		27.4			30.1			18.5			21.2	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		150			119		26	93		24	146	
Queue Length 95th (ft)		241			204		59	168		63	292	
Internal Link Dist (ft)		737			159			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		804			627		271	842		184	836	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.50			0.50		0.23	0.38		0.31	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 67.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.9

Intersection LOS: C

Intersection Capacity Utilization 62.1%

ICU Level of Service B

Analysis Period (min) 15

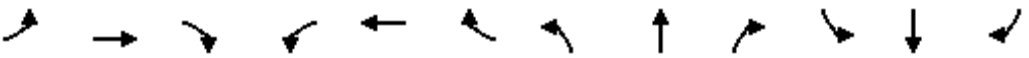
Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
12 s	36 s	32 s
 Ø5	 Ø6	 Ø8
15 s	33 s	32 s

HCM Signalized Intersection Capacity Analysis 2030 Build Optimized Weekday Morning Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Future Volume (vph)	33	229	115	47	177	59	52	248	22	51	371	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1938			1771		1620	1719		1517	1752	
Flt Permitted		0.95			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1845			1447		1620	1719		1517	1752	
Peak-hour factor, PHF	0.94	0.94	0.94	0.91	0.91	0.91	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	35	244	122	52	195	65	61	292	26	57	412	36
RTOR Reduction (vph)	0	21	0	0	13	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	380	0	0	299	0	61	314	0	57	445	0
Heavy Vehicles (%)	6%	3%	2%	3%	2%	8%	4%	6%	0%	15%	3%	10%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		18.5			18.5		5.1	31.0		4.2	30.1	
Effective Green, g (s)		20.0			20.0		5.1	33.0		4.2	32.1	
Actuated g/C Ratio		0.29			0.29		0.07	0.48		0.06	0.46	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		533			418		119	819		92	812	
v/s Ratio Prot							c0.04	0.18		0.04	c0.25	
v/s Ratio Perm		0.21			c0.21							
v/c Ratio		0.71			0.72		0.51	0.38		0.62	0.55	
Uniform Delay, d1		22.0			22.1		30.9	11.6		31.7	13.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.5			5.7		3.7	1.4		11.8	2.7	
Delay (s)		26.5			27.8		34.5	13.0		43.5	16.0	
Level of Service		C			C		C	B		D	B	
Approach Delay (s)		26.5			27.8			16.4			19.1	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			22.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			69.2				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			62.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

Existing Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

Baseline

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	159	85	30	260	58	104	473	45	57	425	48
Future Volume (vph)	60	159	85	30	260	58	104	473	45	57	425	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.977			0.987			0.985	
Flt Protected		0.990			0.996		0.950			0.950		
Satd. Flow (prot)	0	1970	0	0	1817	0	1668	1793	0	1678	1777	0
Flt Permitted		0.571			0.885		0.950			0.950		
Satd. Flow (perm)	0	1136	0	0	1615	0	1668	1793	0	1678	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			10			8			8	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			818			697			608	
Travel Time (s)		18.6			18.6			10.6			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Adj. Flow (vph)	68	181	97	36	313	70	113	514	49	68	506	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	346	0	0	419	0	113	563	0	68	563	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	11.5	11.5		11.5	11.5		10.0	16.0		10.0	16.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.6			21.6		11.4	54.2		7.5	50.6	
Actuated g/C Ratio		0.23			0.23		0.12	0.58		0.08	0.54	
v/c Ratio		1.25			1.10		0.56	0.54		0.50	0.58	
Control Delay		170.1			110.6		49.3	14.7		55.3	18.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		170.1			110.6		49.3	14.7		55.3	18.5	
LOS		F			F		D	B		E	B	

Lanes, Volumes, Timings

Existing Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

Baseline

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		170.1			110.6			20.5			22.4	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)		~260			~293		65	199		40	221	
Queue Length 95th (ft)		#421			#424		116	295		78	317	
Internal Link Dist (ft)		737			738			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		277			382		269	1046		144	968	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.25			1.10		0.42	0.54		0.47	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 64.3

Intersection LOS: E

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

		
Ø1	Ø2	Ø4
12 s	58 s	25.5 s
		
Ø5	Ø6	Ø8
19 s	51 s	25.5 s

HCM Signalized Intersection Capacity Analysis

3: Bridge Street & Cross Road/Marsh Hill Road

Existing Weekday Afternoon Peak Hour

Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	60	159	85	30	260	58	104	473	45	57	425	48
Future Volume (vph)	60	159	85	30	260	58	104	473	45	57	425	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1971			1817		1668	1793		1678	1777	
Flt Permitted		0.57			0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1136			1616		1668	1793		1678	1777	
Peak-hour factor, PHF	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	68	181	97	36	313	70	113	514	49	68	506	57
RTOR Reduction (vph)	0	15	0	0	8	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	331	0	0	411	0	113	560	0	68	559	0
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.1			20.1		9.8	52.1		6.2	48.5	
Effective Green, g (s)		21.6			21.6		9.8	54.1		6.2	50.5	
Actuated g/C Ratio		0.23			0.23		0.10	0.58		0.07	0.54	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		261			371		174	1033		110	955	
v/s Ratio Prot							c0.07	c0.31		0.04	c0.31	
v/s Ratio Perm		c0.29			0.25							
v/c Ratio		1.27			1.11		0.65	0.54		0.62	0.59	
Uniform Delay, d1		36.2			36.2		40.4	12.3		42.7	14.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		148.0			79.4		8.1	2.0		9.9	2.6	
Delay (s)		184.1			115.5		48.5	14.3		52.6	17.3	
Level of Service		F			F		D	B		D	B	
Approach Delay (s)		184.1			115.5			20.0			21.1	
Approach LOS		F			F			C			C	
Intersection Summary												
HCM 2000 Control Delay		67.1					HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		93.9					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		73.2%					ICU Level of Service			D		
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings

No-Build Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	165	90	31	269	60	109	490	47	59	441	50
Future Volume (vph)	62	165	90	31	269	60	109	490	47	59	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.978			0.987			0.985	
Flt Protected		0.990			0.996		0.950			0.950		
Satd. Flow (prot)	0	1970	0	0	1819	0	1668	1793	0	1678	1777	0
Flt Permitted		0.544			0.873		0.950			0.950		
Satd. Flow (perm)	0	1082	0	0	1594	0	1668	1793	0	1678	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			10			8			8	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			818			697			608	
Travel Time (s)		18.6			18.6			10.6			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Adj. Flow (vph)	70	188	102	37	324	72	118	533	51	70	525	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	433	0	118	584	0	70	585	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		12.0	36.0		12.0	36.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.5			21.5		11.6	55.0		7.6	48.7	
Actuated g/C Ratio		0.23			0.23		0.12	0.59		0.08	0.52	
v/c Ratio		1.37			1.16		0.57	0.56		0.52	0.63	
Control Delay		220.4			133.1		49.9	15.0		56.3	20.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		220.4			133.1		49.9	15.0		56.3	20.3	
LOS		F			F		D	B		E	C	

FO

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Synchro 11 Report

Page 1

Lanes, Volumes, Timings
3: Bridge Street & Cross Road/Marsh Hill Road

No-Build Weekday Afternoon Peak Hour

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		220.4			133.1			20.9			24.2	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)		~287			~314		68	210		41	236	
Queue Length 95th (ft)		#450			#445		121	310		80	334	
Internal Link Dist (ft)		737			738			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		262			372		266	1052		143	926	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.37			1.16		0.44	0.56		0.49	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93.9

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 77.9

Intersection LOS: E

Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

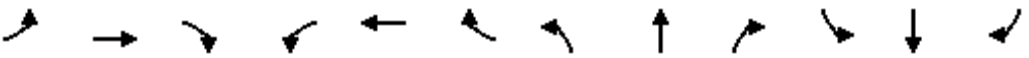
 Ø1	 Ø2	 Ø4
12 s	58 s	25.5 s
 Ø5	 Ø6	 Ø8
19 s	51 s	25.5 s

HCM Signalized Intersection Capacity Analysis

3: Bridge Street & Cross Road/Marsh Hill Road

No-Build Weekday Afternoon Peak Hour

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	62	165	90	31	269	60	109	490	47	59	441	50
Future Volume (vph)	62	165	90	31	269	60	109	490	47	59	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.98		1.00	0.99		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1970			1818		1668	1793		1678	1777	
Flt Permitted		0.54			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1081			1594		1668	1793		1678	1777	
Peak-hour factor, PHF	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	70	188	102	37	324	72	118	533	51	70	525	60
RTOR Reduction (vph)	0	15	0	0	8	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	345	0	0	425	0	118	581	0	70	581	0
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.0			20.0		11.6	53.0		6.3	47.7	
Effective Green, g (s)		21.5			21.5		11.6	55.0		6.3	49.7	
Actuated g/C Ratio		0.23			0.23		0.12	0.58		0.07	0.52	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		245			361		204	1040		111	931	
v/s Ratio Prot							c0.07	0.32		0.04	c0.33	
v/s Ratio Perm		c0.32			0.27							
v/c Ratio		1.41			1.18		0.58	0.56		0.63	0.62	
Uniform Delay, d1		36.6			36.6		39.3	12.4		43.1	15.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		206.8			105.2		3.9	2.2		11.1	3.2	
Delay (s)		243.4			141.9		43.2	14.5		54.2	19.1	
Level of Service		F			F		D	B		D	B	
Approach Delay (s)		243.4			141.9			19.3			22.9	
Approach LOS		F			F			B			C	
Intersection Summary												
HCM 2000 Control Delay		82.6					HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		94.8					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		75.4%					ICU Level of Service			D		
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings

2030 Build Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Future Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.978			0.985			0.985	
Flt Protected		0.990			0.995		0.950			0.950		
Satd. Flow (prot)	0	1970	0	0	1817	0	1668	1789	0	1678	1777	0
Flt Permitted		0.548			0.847		0.950			0.950		
Satd. Flow (perm)	0	1090	0	0	1547	0	1668	1789	0	1678	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			10			10			8	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			239			697			608	
Travel Time (s)		18.6			5.4			10.6			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Adj. Flow (vph)	70	190	102	43	325	73	118	533	61	71	525	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	362	0	0	441	0	118	594	0	71	585	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		10.0	24.0		10.0	24.0	
Total Split (s)	25.5	25.5		25.5	25.5		19.0	58.0		12.0	51.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		19.9%	60.7%		12.6%	53.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		15.0	52.0		8.0	45.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		21.5			21.5		11.6	54.9		7.6	48.7	
Actuated g/C Ratio		0.23			0.23		0.12	0.58		0.08	0.52	
v/c Ratio		1.37			1.22		0.57	0.57		0.53	0.63	
Control Delay		219.1			154.1		49.9	15.2		56.6	20.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		219.1			154.1		49.9	15.2		56.6	20.3	
LOS		F			F		D	B		E	C	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		219.1			154.1			21.0			24.3	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)		~288			~332		68	215		42	236	
Queue Length 95th (ft)		#452			#463		121	318		80	334	
Internal Link Dist (ft)		737			159			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		264			362		266	1050		143	926	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		1.37			1.22		0.44	0.57		0.50	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 95.5

Actuated Cycle Length: 93.9

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 82.0

Intersection LOS: F

Intersection Capacity Utilization 74.5%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
12 s	58 s	25.5 s
 Ø5	 Ø6	 Ø8
19 s	51 s	25.5 s

HCM Signalized Intersection Capacity Analysis

3: Bridge Street & Cross Road/Marsh Hill Road

2030 Build Weekday Afternoon Peak Hour

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Future Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.98		1.00	0.98		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1971			1816		1668	1789		1678	1777	
Flt Permitted		0.55			0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1091			1546		1668	1789		1678	1777	
Peak-hour factor, PHF	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	70	190	102	43	325	73	118	533	61	71	525	60
RTOR Reduction (vph)	0	15	0	0	8	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	347	0	0	433	0	118	590	0	71	581	0
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.0			20.0		11.6	53.0		6.3	47.7	
Effective Green, g (s)		21.5			21.5		11.6	55.0		6.3	49.7	
Actuated g/C Ratio		0.23			0.23		0.12	0.58		0.07	0.52	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		247			350		204	1037		111	931	
v/s Ratio Prot							c0.07	0.33		0.04	c0.33	
v/s Ratio Perm		c0.32			0.28							
v/c Ratio		1.41			1.24		0.58	0.57		0.64	0.62	
Uniform Delay, d1		36.6			36.6		39.3	12.5		43.1	15.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		205.2			129.2		3.9	2.3		11.5	3.2	
Delay (s)		241.9			165.9		43.2	14.7		54.6	19.1	
Level of Service		F			F		D	B		D	B	
Approach Delay (s)		241.9			165.9			19.5			22.9	
Approach LOS		F			F			B			C	
Intersection Summary												
HCM 2000 Control Delay		87.3					HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		94.8					Sum of lost time (s)			12.0		
Intersection Capacity Utilization		74.5%					ICU Level of Service			D		
Analysis Period (min)		15										
c Critical Lane Group												

Lanes, Volumes, Timings

2030 Build Optimized Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Future Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	12	12	12	10	11	12	11	11	12
Storage Length (ft)	0		0	0		0	175		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.962			0.978			0.985			0.985	
Flt Protected		0.990			0.995		0.950			0.950		
Satd. Flow (prot)	0	1970	0	0	1817	0	1668	1789	0	1678	1777	0
Flt Permitted		0.730			0.920		0.950			0.950		
Satd. Flow (perm)	0	1452	0	0	1680	0	1668	1789	0	1678	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			12			8			8	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		817			239			697			608	
Travel Time (s)		18.6			5.4			10.6			9.2	
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Adj. Flow (vph)	70	190	102	43	325	73	118	533	61	71	525	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	362	0	0	441	0	118	594	0	71	585	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		10.0	24.0		10.0	24.0	
Total Split (s)	34.0	34.0		34.0	34.0		16.0	43.0		13.0	40.0	
Total Split (%)	37.8%	37.8%		37.8%	37.8%		17.8%	47.8%		14.4%	44.4%	
Maximum Green (s)	28.5	28.5		28.5	28.5		12.0	37.0		9.0	34.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		0.0	2.0		0.0	2.0	
Lost Time Adjust (s)		-1.5			-1.5		0.0	-2.0		0.0	-2.0	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)		26.0			26.0		10.3	39.7		8.1	37.7	
Actuated g/C Ratio		0.31			0.31		0.12	0.48		0.10	0.45	
v/c Ratio		0.77			0.83		0.58	0.69		0.44	0.72	
Control Delay		37.1			41.1		48.1	24.7		46.9	27.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		37.1			41.1		48.1	24.7		46.9	27.9	
LOS		D			D		D	C		D	C	

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Synchro 11 Report

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		37.1			41.1			28.5			30.0	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		168			218		64	272		38	283	
Queue Length 95th (ft)		265			297		119	411		76	383	
Internal Link Dist (ft)		737			159			617			528	
Turn Bay Length (ft)							175			150		
Base Capacity (vph)		547			622		244	855		184	807	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.66			0.71		0.48	0.69		0.39	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 74.5%

ICU Level of Service D

Analysis Period (min) 15

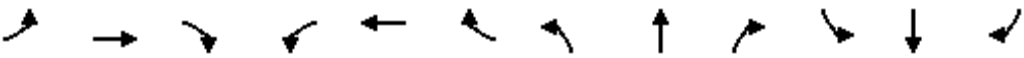
Splits and Phases: 3: Bridge Street & Cross Road/Marsh Hill Road

 Ø1	 Ø2	 Ø4
13 s	43 s	34 s
 Ø5	 Ø6	 Ø8
16 s	40 s	34 s

HCM Signalized Intersection Capacity Analysis - Build Optimized Weekday Afternoon Peak Hour

3: Bridge Street & Cross Road/Marsh Hill Road

09/17/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Future Volume (vph)	62	167	90	36	270	61	109	490	56	60	441	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	15	12	12	12	12	10	11	12	11	11	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.98		1.00	0.98		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1971			1816		1668	1789		1678	1777	
Flt Permitted		0.73			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1452			1679		1668	1789		1678	1777	
Peak-hour factor, PHF	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	70	190	102	43	325	73	118	533	61	71	525	60
RTOR Reduction (vph)	0	17	0	0	8	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	345	0	0	433	0	118	590	0	71	581	0
Heavy Vehicles (%)	0%	2%	0%	3%	2%	0%	1%	1%	2%	4%	2%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		24.5			24.5		8.5	37.7		6.5	35.7	
Effective Green, g (s)		26.0			26.0		8.5	39.7		6.5	37.7	
Actuated g/C Ratio		0.31			0.31		0.10	0.47		0.08	0.45	
Clearance Time (s)		5.5			5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		448			518		168	843		129	795	
v/s Ratio Prot							c0.07	c0.33		0.04	0.33	
v/s Ratio Perm		0.24			c0.26							
v/c Ratio		0.77			0.84		0.70	0.70		0.55	0.73	
Uniform Delay, d1		26.4			27.1		36.6	17.5		37.4	19.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.0			11.2		12.5	4.8		5.0	5.8	
Delay (s)		34.4			38.3		49.1	22.3		42.4	24.9	
Level of Service		C			D		D	C		D	C	
Approach Delay (s)		34.4			38.3			26.8			26.8	
Approach LOS		C			D			C			C	
Intersection Summary												
HCM 2000 Control Delay		30.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		84.2			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		74.5%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	280	243	1	7	20
Future Vol, veh/h	8	280	243	1	7	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	94	94	84	84
Heavy Vehicles, %	0	7	3	0	14	5
Mvmt Flow	8	295	259	1	8	24
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	260	0	-	0	571	260
Stage 1	-	-	-	-	260	-
Stage 2	-	-	-	-	311	-
Critical Hdwy	4.1	-	-	-	6.54	6.25
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.345
Pot Cap-1 Maneuver	1316	-	-	-	463	771
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1316	-	-	-	460	771
Mov Cap-2 Maneuver	-	-	-	-	460	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	717	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		10.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1316	-	-	-	656	
HCM Lane V/C Ratio	0.006	-	-	-	0.049	
HCM Control Delay (s)	7.8	0	-	-	10.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	290	252	1	7	21
Future Vol, veh/h	8	290	252	1	7	21
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	95	95	94	94	84	84
Heavy Vehicles, %	0	7	3	0	14	5
Mvmt Flow	8	305	268	1	8	25
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	269	0	-	0	590	269
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.1	-	-	-	6.54	6.25
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.345
Pot Cap-1 Maneuver	1306	-	-	-	451	762
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1306	-	-	-	448	762
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	709	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		10.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1306	-	-	-	648	
HCM Lane V/C Ratio	0.006	-	-	-	0.051	
HCM Control Delay (s)	7.8	0	-	-	10.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	293	253	1	7	21
Future Vol, veh/h	8	293	253	1	7	21
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	95	95	94	94	84	84
Heavy Vehicles, %	0	7	3	0	14	5
Mvmt Flow	8	308	269	1	8	25
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	270	0	-	0	594	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	4.1	-	-	-	6.54	6.25
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.345
Pot Cap-1 Maneuver	1305	-	-	-	448	761
Stage 1	-	-	-	-	748	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1305	-	-	-	445	761
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	707	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		10.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1305	-	-	-	646	
HCM Lane V/C Ratio	0.006	-	-	-	0.052	
HCM Control Delay (s)	7.8	0	-	-	10.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	293	253	1	7	21
Future Vol, veh/h	8	293	253	1	7	21
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	95	95	94	94	84	84
Heavy Vehicles, %	0	7	3	0	14	5
Mvmt Flow	8	308	269	1	8	25

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	270	0	594
Stage 1	-	-	270
Stage 2	-	-	324
Critical Hdwy	4.1	-	6.54
Critical Hdwy Stg 1	-	-	5.54
Critical Hdwy Stg 2	-	-	5.54
Follow-up Hdwy	2.2	-	3.626
Pot Cap-1 Maneuver	1305	-	448
Stage 1	-	-	748
Stage 2	-	-	707
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1305	-	445
Mov Cap-2 Maneuver	-	-	445
Stage 1	-	-	743
Stage 2	-	-	707

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1305	-	-	-	646
HCM Lane V/C Ratio	0.006	-	-	-	0.052
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
6: Marsh Hill Road & Old Pasture Road

Existing Weekday Afternoon Peak Hour
Baseline

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	249	340	5	3	8
Future Vol, veh/h	12	249	340	5	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	80	80	69	69
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	14	290	425	6	4	12

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	431	0	0 746 428
Stage 1	-	-	- 428 -
Stage 2	-	-	- 318 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1139	-	- 384 631
Stage 1	-	-	- 662 -
Stage 2	-	-	- 742 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1139	-	- 378 631
Mov Cap-2 Maneuver	-	-	- 378 -
Stage 1	-	-	- 652 -
Stage 2	-	-	- 742 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1139	-	-	-	534
HCM Lane V/C Ratio	0.012	-	-	-	0.03
HCM Control Delay (s)	8.2	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	259	352	5	3	8
Future Vol, veh/h	12	259	352	5	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	80	80	69	69
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	14	301	440	6	4	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	446	0	-	0	772	443
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1125	-	-	-	371	619
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1125	-	-	-	365	619
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	734	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		12.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1125	-	-	-	520	
HCM Lane V/C Ratio	0.012	-	-	-	0.031	
HCM Control Delay (s)	8.2	0	-	-	12.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	261	356	5	3	8
Future Vol, veh/h	12	261	356	5	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	80	80	69	69
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	14	303	445	6	4	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	451	0	-	0	779	448
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	331	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1120	-	-	-	367	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	361	615
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	732	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		12.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1120	-	-	-	516	
HCM Lane V/C Ratio	0.012	-	-	-	0.031	
HCM Control Delay (s)	8.3	0	-	-	12.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	261	356	5	3	8
Future Vol, veh/h	12	261	356	5	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	80	80	69	69
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	14	303	445	6	4	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	451	0	-	0	779	448
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	331	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1120	-	-	-	367	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	361	615
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	732	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.4	0		12.2		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1120	-	-	-	516	
HCM Lane V/C Ratio	0.012	-	-	-	0.031	
HCM Control Delay (s)	8.3	0	-	-	12.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 6th TWSC
8: Marsh Hill Road & Proposed Driveway

2030 Build Weekday Morning Peak Hour
09/19/2025

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	298	273	2	15	6
Future Vol, veh/h	4	298	273	2	15	6
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	92	92	92	92	92	92
Heavy Vehicles, %	0	7	3	0	0	0
Mvmt Flow	4	324	297	2	16	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	299	0	-	0	630	298
Stage 1	-	-	-	-	298	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1274	-	-	-	449	746
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1274	-	-	-	447	746
Mov Cap-2 Maneuver	-	-	-	-	447	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	731	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		12.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1274	-	-	-	505	
HCM Lane V/C Ratio	0.003	-	-	-	0.045	
HCM Control Delay (s)	7.8	0	-	-	12.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 6th TWSC
8: Marsh Hill Road & Proposed Driveway

2030 Build Optimized Weekday Morning Peak Hour
09/19/2025

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	298	273	2	15	6
Future Vol, veh/h	4	298	273	2	15	6
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	92	92	92	92	92	92
Heavy Vehicles, %	0	7	3	0	0	0
Mvmt Flow	4	324	297	2	16	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	299	0	-	0	630	298
Stage 1	-	-	-	-	298	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1274	-	-	-	449	746
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1274	-	-	-	447	746
Mov Cap-2 Maneuver	-	-	-	-	447	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	731	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		12.5		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1274	-	-	-	505	
HCM Lane V/C Ratio	0.003	-	-	-	0.045	
HCM Control Delay (s)	7.8	0	-	-	12.5	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 6th TWSC
8: Marsh Hill Road & Proposed Driveway

2030 Build Weekday Afternoon Peak Hour
09/19/2025

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	271	360	5	3	7
Future Vol, veh/h	12	271	360	5	3	7
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	92	92	92	92	92	92
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	13	295	391	5	3	8
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	396	0	-	0	715	394
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1174	-	-	-	400	659
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1174	-	-	-	395	659
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	740	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.3	0		11.7		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1174	-	-	-	549	
HCM Lane V/C Ratio	0.011	-	-	-	0.02	
HCM Control Delay (s)	8.1	0	-	-	11.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 6th TWSC
8: Marsh Hill Road & Proposed Driveway

2030 Build Optimized Weekday Afternoon Peak Hour

09/19/2025

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	271	360	5	3	7
Future Vol, veh/h	12	271	360	5	3	7
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	92	92	92	92	92	92
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	13	295	391	5	3	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	396	0	0 715 394
Stage 1	-	-	- 394 -
Stage 2	-	-	- 321 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1174	-	- 400 659
Stage 1	-	-	- 686 -
Stage 2	-	-	- 740 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1174	-	- 395 659
Mov Cap-2 Maneuver	-	-	- 395 -
Stage 1	-	-	- 677 -
Stage 2	-	-	- 740 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1174	-	-	-	549
HCM Lane V/C Ratio	0.011	-	-	-	0.02
HCM Control Delay (s)	8.1	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Sight Distance Worksheets

Sight Distance Calculations

Dracut, MA

Inputs

Posted Speed Limit = 30 mph

Direction 1 = Marsh Hill Road EB 85% Speed = 38 mph Grade : 7.5 t = 2.5 s a = 11.2 ft/s²

Direction 2 = Marsh Hill Road WB 85% Speed = 39 mph Grade : -7.2 t = 2.5 s a = 11.2 ft/s²

Left: t_g = 7.5 s

Right: t_g = 6.5 s

SSD = Reaction Distance + Braking Distance

Reaction Distance = 1.47 x V x t

Braking Distance = V² / (30 x ((a/32.2) + G))

ISD = 1.47 x V x t_g

Where t = reaction time (sec)

t_g = time gap for minor road vehicle to enter the major road

V = travel speed (mph)

G = roadway grade

a = deceleration rate (ft/s²)

Calculations

	Reaction Distance (ft)	Brake Distance (ft)	SSD (ft)
Marsh Hill Road EB	139.7	113.8	253
Marsh Hill Road WB	143.3	183.8	327

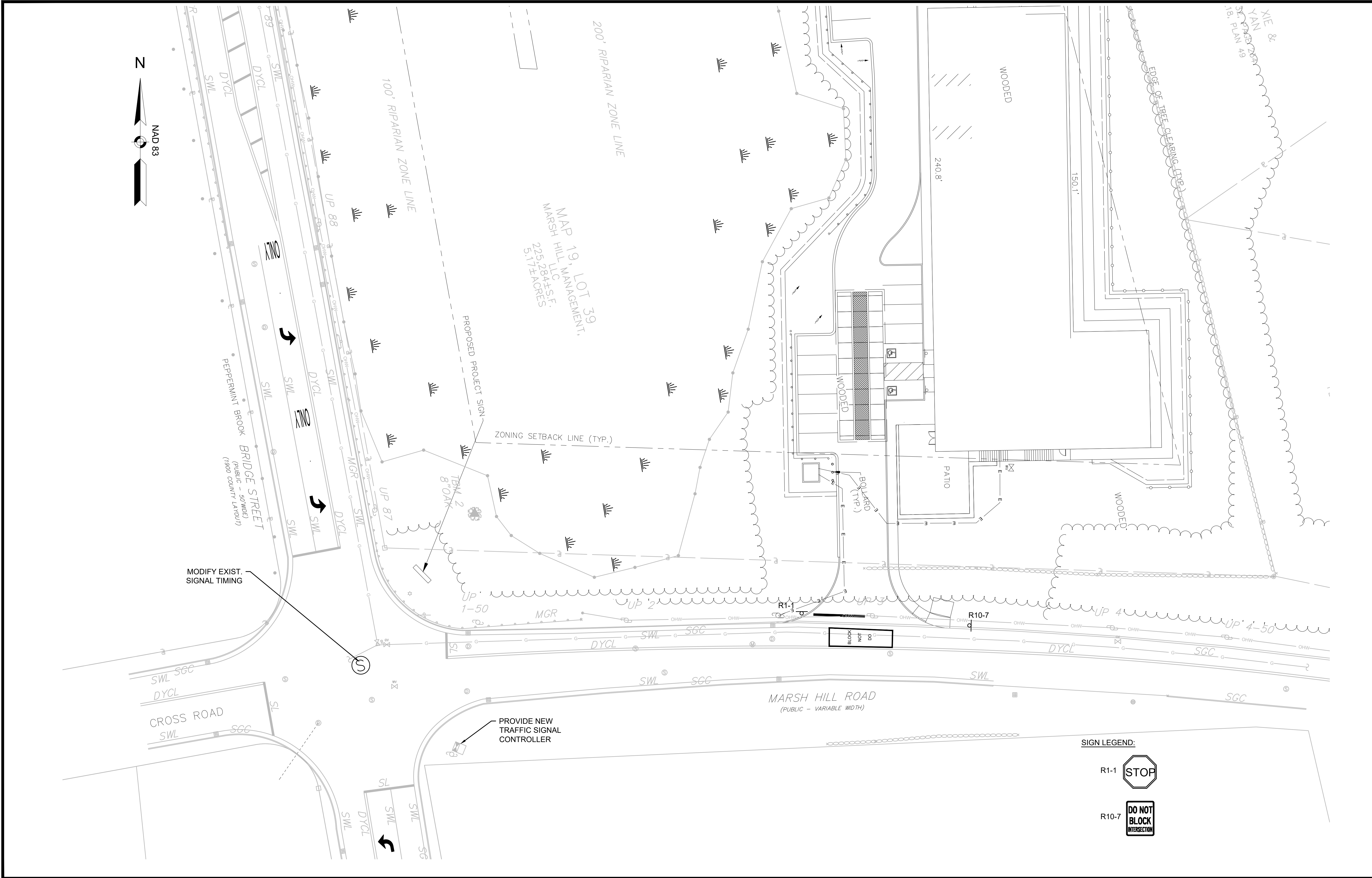
For 38 mph:

Left Turn ISD = 419 ft
Right Turn ISD = 363 ft

For 39 mph:

Left Turn ISD = 430 ft
Right Turn ISD = 373 ft

Conceptual Improvement Plan



####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
####	####	####	####	####	####
No.	DATE	DESCRIPTION	DESIGNER	REVIEWER	

SEAL

SEAL

SCALE:
HORZ.: 1" = 20'
VERT.: -
DATUM:
HORZ.: -
VERT.: -
0 10' 20' 40'
GRAPHIC SCALE

FUSS & O'NEILL
50 COMMERCIAL STREET
MANCHESTER, NH 03101
603.668.8223
www.fando.com

Proposed Residential Development
Conceptual Improvement Plan
Marsh Hill Road at Bridge Street
Dracut, MA

PROJ. No.: 20240929
DATE: 8-15-2025
Fig 1

Fire Department Correspondence and Swept-Path Analysis

ZONING

BUSINESS 4 (B-4)

ASSESSORS

MAP 19, LOT 39

RECORD OWNER

DAVID LERICHE

DIMENSIONAL REQUIREMENTS

	REQUIRED	PROVIDED
LOT AREA	40,000 SF	230,868 SF
FRONTAGE	200 FT	645± FT
LOT WIDTH	50 FT	550± FT
FRONT YARD	100 FT	53± FT*
SIDE YARD	15 FT	28± FT
REAR YARD	40 FT	28± FT*
MAXIMUM BUILDING HEIGHT	45 FT	52± FT*
MAXIMUM STORIES	3.5	4.5*

*WAIVER REQUESTED

PLAN INTENT

THE INTENT OF THIS PLAN IS TO CONCEPTUALLY SHOW A RESIDENTIAL LAND DEVELOPMENT PROPOSAL FOR A 40B HOUSING MULTI-FAMILY BUILDING. THIS PLAN DOES NOT CONVEY ZONING COMPLIANCE AND SHALL NOT BE USED FOR PERMITTING AND CONSTRUCTION PURPOSES

BASE PLAN NOTES

- PROPERTY LINE AND CONTOUR/ELEVATION DATA SHOWN HEREON WERE COMPLIED FROM MASSMAPPER ONLINE GIS AND ARE APPROXIMATE. THE ELEVATION REFERENCE DATUM IS UNKNOWN.
- EXISTING UTILITY DATA WAS SCALED FROM THE TOWN OF DRACUT ONLINE GIS MAPS. OTHER UTILITIES EXIST AND ARE NOT SHOWN ON THIS PLAN.
- WETLANDS AND STREAM LOCATION HAVE BEEN SCALED ONTO THIS PLAN VIA A SKETCH PLAN GENERATED FROM GPS POINTS. THEIR LOCATIONS ARE APPROXIMATE.
- A FULL EXISTING CONDITIONS SURVEY IS REQUIRED TO VERIFY THE FEASIBILITY OF THE LAND DEVELOPMENT CONCEPT ON THIS PLAN.

UTILITY NOTES

- EXISTING UTILITY DATA WAS SCALED FROM THE TOWN OF DRACUT ONLINE GIS MAPS. OTHER UTILITIES EXIST AND ARE NOT SHOWN ON THIS PLAN.
- THE PROPOSED UTILITY CONNECTIONS ONLY SHOW THE SERVICE LOCATIONS INTO MARSH HILL ROAD. THE TOWN MAY REQUIRE THE UPGRADE OF UTILITY LINES IN THE RIGHT OF WAY TO SUPPORT THIS DEVELOPMENT

PERMITTING PATH

ZONING BOARD OF APPEALS - COMPREHENSIVE PERMIT
CONSERVATION COMMISSION - NOTICE OF INTENT

WAIVERS REQUIRED

PER THE "TOWN OF DRACUT ZONING BYLAWS, INCORPORATED FEBRUARY 26, 1701", WITH AMENDMENTS THOUGH NOVEMBER 7, 2022

- SECTION 3.3 - PERMITTED USES: MULTI-FAMILY DWELLING IN A B-4 DISTRICT
SECTION 4.4 - FRONT YARD SETBACK - (100 FT MIN REQUIRED, 53 FT PROPOSED)
SECTION 4.4 - REAR YARD SETBACK - (40 FT MIN REQUIRED, 28 FT PROPOSED)
SECTION 4.4 - MAXIMUM BUILDING HEIGHT - (45 FT MAX REQUIRED, 52 FT PROPOSED)
SECTION 4.4 - MAXIMUM BUILDING HEIGHT - (3.5 STORIES MAX REQUIRED, 4 STORIES PROPOSED)
SECTION 4.5.4 - BUFFERING AND SCREENING - (50 FT WIDTH REQUIRED, 5 FT PROPOSED)
SECTION 6.1.8.1.D - PARKING DIMENSIONS - (10' STALL WIDTH REQUIRED, 9' STALL WIDTH PROVIDED IN GARAGE SPACES)
SECTION 6.1.8.1.D - PARKING DIMENSIONS - (20' STALL DEPTH REQUIRED, 18' STALL DEPTH PROVIDED IN GARAGE SPACES)

PARKING REQUIREMENTS

PER THE "TOWN OF DRACUT ZONING BYLAWS, INCORPORATED FEBRUARY 26, 1701", WITH AMENDMENTS THOUGH NOVEMBER 7, 2022. SECTION 6.1.6 TABLE OF OFF STREET PARKING REQUIREMENTS

REQUIRED

USE: MULTI-FAMILY DWELLING = 2 SPACES PER DWELLING UNIT
40 UNITS x 2 SPACES PER DWELLING UNIT = 80 SPACES

PROPOSED

USE: MULTI-FAMILY DWELLING = 2 SPACES PER DWELLING UNIT
40 UNITS x 2.0 SPACES PER DWELLING UNIT = 81 SPACES (55 SURFACE SPACES, 26 GARAGE SPACES)



LOCUS MAP SCALE: 1" = 500'

PROPERTY ADDRESS:

2041 BRIDGE STREET
Dracut, Massachusetts 01826

PREPARED FOR:

Marsh Hill
Management, LLC

39 Myrtle Street
Lowell, Massachusetts 01854

HANCOCK
ASSOCIATES

Civil Engineers

Land Surveyors

Environmental
Consultants

34 CHELMSFORD ST., CHELMSFORD, MA 01824
VOICE (978) 244-0110, FAX (978) 244-1133
WWW.HANCOCKASSOCIATES.COM

NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION
DATE:	10/16/23	DESIGN BY:	RT		
SCALE:	AS SHOWN	DRAWN BY:	RT		
APPR'D BY:	BC	CHECK BY:	JP		

SWEPT PATH
ANALYSIS
PLAN

DWG: 27164-c3.dwg	SP
LAYOUT: Swept Path	
SHEET: 2 OF 2	
JOB NO.: 27164	



**TOWN OF DRACUT, MASSACHUSETTS
FIRE DEPARTMENT**

488 Pleasant Street

Office: (978) 454-2113

Fax: (978) 454-1443

August 7, 2025

Alison Manugian
Community Development Director
28 Arlington St
Dracut, Ma 01826

Dear Alison,

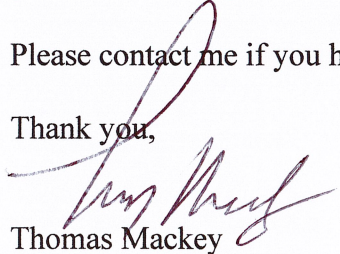
This letter provides clarification of the Dracut Fire Department's (DFD) approval of a project to build an apartment building at 2041 Bridge St by Mr. William Renaud of Renaud Properties. Dracut Fire Chief Richard Patterson submitted a letter dated February 21, 2024 (attached) outlining the DFD's approval of the project with a list of stipulations. Chief Patterson and I had discussions with Mr. Renaud and his team regarding building and fire code requirements and agreed to a list of stipulations to satisfy those requirements.

One of the topics of discussion was access to the site for emergency vehicles. Although it is preferable to have two access roads, there is no requirement to have such in any fire safety code or the Town of Dracut Bylaws. Also, the topography of the area and easement issues make it impossible to create a secondary access road. However, an initial Swept Path Analysis of the site indicated there will be ample room for the DFD's apparatus to access and maneuver about the site with the one access road with no issues.

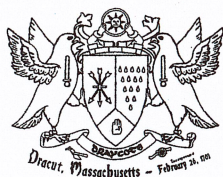
DFD will ensure all stipulations will be incorporated into the plans during our reviews prior to the Zoning Board of Appeals (ZBA) decision and during the permitting review/approval process performed in conjunction with the Building Department.

Please contact me if you have any questions or concerns.

Thank you,


Thomas Mackey
Deputy Chief, Operations
Fire Prevention Officer
Dracut Fire Department
978-454-1526 x3014

The Town of Dracut is an Equal Opportunity/Affirmative Action Employer



TOWN OF DRACUT, MASSACHUSETTS FIRE DEPARTMENT

488 Pleasant Street

Office: (978) 454-2113

Fax: (978) 454-1443

February 21, 2024

Alison Manugian
Community Development Director
28 Arlington St.
Dracut, MA 01826

Dear Alison,

Please accept this commentary as approval from the fire department for the project proposed at 2041 Bridge St. by William Renaud of Renaud Properties.

As you are aware, the applicant has worked with the department to ensure adequate access and a fire/life safety system for the residents of this building. Due to the size of the buildable area, we have incorporated alternative compliance methods, at the expense of the applicant to meet the fire and building code requirements for this proposal.

I have approved the proposal with the following stipulations:

1. Access to the building must be available on three sides for the Aerial Ladder.
2. A standpipe system must be included in one of the stairwells for hose deployment on all levels.
3. The rear of the building must have a walkway, to be maintained year-round, for ground ladder and hose access, if needed.
4. The building must be tied into the municipal fire alarm system for early notification.

The building must be fully sprinklered and fire alarmed by code as well as other safety systems. The building will be owned, managed, and maintained by the developer so upkeep and adherence to these stipulations should not be an issue. Please contact me should you have any questions or concerns.

Respectfully,

Richard E Patterson Jr.
Chief of Department

File: