Traffic Impact and Access Study

Proposed Goodridge Brook Estates
Sterling Road
Lancaster, Massachusetts

Prepared for

Crescent Builders, Inc.

June 2018

Prepared by

GREEN INTERNATIONAL AFFILIATES, INC.
Civil and Structural Engineers

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

This report provides an analysis of the potential traffic impacts, area circulation and the access/egress characteristics associated with the proposed Goodridge Brook Estates development project situated in Lancaster, Ma. The development is proposed to consist of 64 single-family homes and 136 apartment units. The previous plan (Fieldcrest Estates) was evaluated in 2006 and was proposed to consist of a 150-unit residential condominium development. Access to the proposed development project will be via three proposed site driveways with direct access to Sterling Road between its intersections with Deershorn Road to the east and Clinton Road/Sterling Street (Route 62) to the west. The Driveway 1 will connect with Sterling Road approximately 1,300 feet west of the intersection of Sterling Road and Deershorn Road. Driveway 1 will provide access to the majority of the proposed single-family homes included in the proposed development. Driveway 2 is located approximately 400 feet west of Driveway 1 and will provide access to the remaining proposed single-family homes. Driveway 3 will provide access to the 136 apartment units and is located approximately 1,300 feet west of Driveway 1. The project location is shown on Figure 1 with respect to the surrounding area. The proposed site plan is included in the Appendix.

This report describes the potential traffic impacts on the adjacent roadways and nearby intersections as a result of the development project. Intersection capacity analyses were completed at the study intersections for the existing, future No-Build, and future Build conditions. An analysis of available stopping sight distance (SSD) and intersection sight distance (ISD) conditions was also completed for the proposed site driveways.

The analysis and evaluation in this report includes traffic volumes, safety data and review, and an analysis of the roadway/site access interface. The guidelines of the Massachusetts Department of Transportation (MassDOT) and the Institute of Transportation Engineers (ITE) were used for completing this traffic impact and access study. The report's content contains descriptions of existing characteristics of the abutting roadway network, current traffic conditions, estimated traffic impacts and access/egress characteristics of the proposed residential development.

FUTURE CONDITIONS

For this study, the future year 2025 was chosen based on current MassDOT analysis guidelines. The evaluation of future conditions involves comparing No-Build and Build conditions.

The proposed development project is estimated to generate approximately 1,678 vehicle trips (entering and exiting) per day with 115 and 144 vehicle trips during the weekday AM and PM peak hours, respectively. The trips were distributed across the study area network based on existing traffic patterns of the area and a review of U.S. census data that summarized the areas of employment for Lancaster residents as well as the corresponding percentages of Lancaster residents that were employed in those areas. This data was used to predict the travel routes of employees and students of the proposed Goodridge Brook Estates project.

The analyses indicated the following:

- The abutting roads and intersections have the capacity to accommodate added vehicles due to the proposed residential development
- The proposed Goodridge Brook Estates development project results in minimum changes to vehicle delays and no changes in level of service compared to the 2025 Future No-Build conditions
- Traffic is expected to enter and exit the three proposed site driveways safely and efficiently with minimal vehicle delays and queues

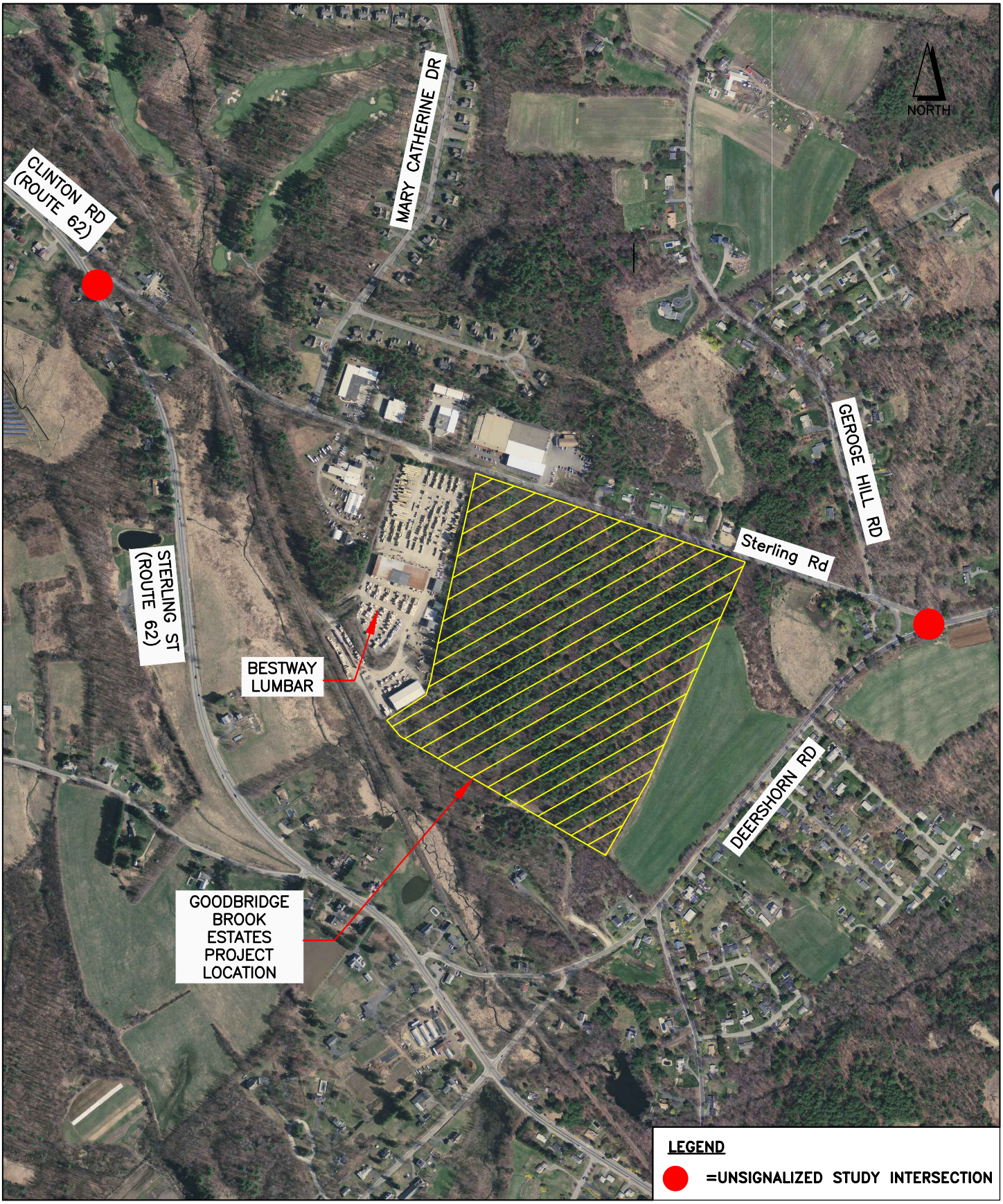

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Figure 1
Project Location
Goodridge Brook Estates
Lancaster, MA

CONCLUSIONS AND RECOMMENDATIONS

The analyses demonstrate that traffic impacts to the surrounding roadway network associated with the proposed Goodridge Brook Estates project are not expected to cause any new operational issues on the adjacent roadways. The roadways and intersections within the study area are able to accommodate the additional traffic associated with the proposed development project. Site traffic is expected to be able to enter and exit the site safely and efficiently. Sufficient sight distance with respect to the site drive locations will be available with the planned site drive construction.

Recommendations

While the analyses show that the proposed project can be accommodated on the study area network, several recommendations have been made to enhance the transportation system. The proposed actions are as follows:

- Provide appropriate pavement markings and associated STOP bars marked at the site access driveway approaches to Sterling Road. A STOP sign (R1-1) should be installed on all site driveway approaches to Sterling Road.
- All STOP signs to be installed shall be consistent with current Manual on Uniform Traffic Control Devices (MUTCD) standards and guidelines.
- Any grading, landscaping, and signing proposed at the site drive intersections with Sterling Road should be designed and maintained in such a manner (low-lying and set-back) so as to enhance sight distances at the driveway.
- A marked STOP bar should be provided along the Sterling Road westbound approach to its intersection with Clinton Road/Sterling Road (Route 62). A STOP sign ahead (W3-1) sign should be implemented on Sterling Road approximately 300 feet east of the intersection to alert westbound drivers approaching the relatively sharp angle along Sterling Road just east of the intersection that they must stop.
- Independent of the proposed development project, safety and traffic flow improvements in the area of the intersection of Sterling Road and Deershorn Road should be considered. Historical studies have identified improvements such as reconfiguring the layout of the Sterling Road / Deershorn Road intersection to be better defined as a “T” type intersection with the eastbound Sterling Road approach operating under STOP control. One potential option would be to re-align the intersection and remove the 15 foot to 16 foot wide two-way segment between Sterling Road and Deershorn Road and replace it with loam and seed. Another potential option would re-align the intersection as under the previous option; however, the 15 foot to 16 foot wide lane between Sterling Road and Deershorn Road would be redefined as a one-way with the use of signage and pavement markings. Other options to slow traffic as well as increase safety for turning vehicles, such as a modern roundabout could be explored by the Town if desired.

W3-1

2.0 EXISTING TRAFFIC CONDITIONS

The following sections describe the existing transportation system in terms of physical and operational characteristics. The selection of the study area took into account the location and type of project and focused on the evaluation of the roadways and intersections in the vicinity of the site that are anticipated to be most impacted by the proposed Goodridge Brook Estates project.

2.1 Existing Roadway Network

The study focused on the roadway network in the vicinity of the proposed project with an emphasis on the following two (2) intersections:

- Sterling Road/Flagg Road at Clinton Road/Sterling Street (Route 62)
- Sterling Road at Deershorn Road/George Hill Road

As part of this study, a field reconnaissance was conducted to verify the physical and geometric layout of the study intersections and roadways and to observe traffic operations in the study area. A description of the study roadways serving the project site is as follows:

Clinton Road / Sterling Street (Route 62)

Route 62, looking south from its intersection with Sterling Road

Clinton Road / Sterling Street (Route 62) is classified as an urban principal arterial roadway east of Chocksett Road and is classified as an urban minor arterial roadway west of Chocksett Road. Route 62 is depicted as Clinton Road within the Town of Lancaster where it is owned and maintained by the Town. South of the Lancaster/Sterling Town Line Route 62 is depicted as Sterling Street where it is owned and maintained by the Town of Sterling. In the vicinity of the proposed project, Route 62 provides one travel lane in both directions with a double-yellow centerline separating the directions of traffic flow and solid white edge lines depicting the shoulders of the roadway. Route 62 generally extends in an east-west direction from Barre in the west to Beverly in the east. The posted speed limit on Route 62 in the project area was noted as 45 miles per hour (mph). There are no sidewalks along Route 62 near the study area.

Sterling Road

Sterling Road (between Deershorn Road and Route 62), looking east

Sterling Road is functionally classified as a local roadway between Clinton Road/Sterling Street (Route 62) and Deershorn Road. Sterling Road continues east of Deershorn Road and is functionally classified as an urban collector until its terminus at its intersection with Main Street (Route 70). Sterling Road is owned and maintained by the Town of Lancaster within the Town's limits. Sterling Road becomes Flagg Road west of the Lancaster/Sterling Town Line where it is owned and maintained by the Town of Sterling. Sterling Road generally follows an east to west alignment providing access to Sterling in the west and Main Street (Route 70) in Lancaster in the east. In the vicinity of the proposed project, Sterling Road provides one travel lane in each direction with a single-yellow centerline separating the directions of traffic flow and solid white edge lines depicting the shoulders of the roadway. The posted speed limits on Sterling Road are 35 mph in both directions between Route 62 and Deershorn Road and 30 mph in both directions between Deershorn Road and Main Street (Route 70). There is an asphalt sidewalk with a grass strip providing a buffer between the sidewalk and the edge of roadway along the north side of Sterling Road between George Hill Road and Main Street (Route 70). Field reconnaissance verified that the existing at-grade railway crossing across Sterling Road approximately 1,500' west of the proposed development project is active and operates more than one time per day.

Deershorn Road

Deershorn Road, looking southwest from its intersection with Sterling Road

Deershorn Road is functionally classified as an Urban Collector in the vicinity of the proposed project and is owned and maintained by the Town of Lancaster. Deershorn Road generally extends in a north-south direction from Chace Hill Road in the south and Sterling Road in the north. Deershorn Road provides one travel lane in each direction with a single-yellow centerline separating the directions of traffic flow and solid white edge lines depicting the shoulders of the roadway. The posted speed limit on Deershorn Road is 30 mph in both directions and there are no sidewalks on Deershorn Road.

Sterling Road/Flagg Road at Clinton Road/Sterling Street (Route 62)

Route 62 at Sterling Road/Flagg Road, looking north

West of the proposed project site Sterling Road has its west terminus at the intersection with Clinton Road/Sterling Street (Route 62). At this T-type intersection, Clinton Road (Route 62) provides the north leg, Sterling Street (Route 62) provides the south leg and Sterling Road/Flagg Road provides the east leg. The intersection operates under STOP control with the Sterling Road/Flagg Road westbound approach required to stop and the Route 62 approaches operating freely. Markings along the Route 62 approaches include double-yellow centerlines and solid white edge lines. The solid white edge lines along the Route 62 southbound approach are extremely faded and barely visible. Markings along the Sterling Road/Flagg Road westbound approach consist of a faded single-yellow centerline with faded solid white edge lines and a STOP bar. All approaches to this three-way intersection consist of one travel lane in each direction.

Sterling Road at Deershorn Road at George Hill Road

Sterling Road at Deershorn Road at George Hill Road, looking southwest

East of the proposed project site Sterling Road meets Deershorn Road and George Hill Road to form a three-way unsignalized intersection. This intersection operates under STOP control with the Sterling Road eastbound approach and George Hill Road southbound approach operating under STOP control. The Sterling Road northeast leg and Deershorn Road southwest leg operate freely at the intersection. At this intersection, George Hill Road operates as a two-way "slip lane" that is separated from the Sterling Road/Deershorn Road intersection by a large grass traffic island. The George Hill Road "slip lane" is utilized by vehicles traveling along Deershorn Road turning left onto Sterling Road and vehicles traveling along the Sterling Road eastbound approach turning right onto Deershorn Road. Both ends of the George Hill Road "slip lane" operate under STOP control. Markings include single-yellow center lines and white edge lines on both Sterling Rd and Deershorn Rd. There are STOP bars located along the Sterling Road eastbound approach and at both end of the George Hill Road "slip lane".

2.2 Traffic Volumes

As part of this study, traffic volume data were obtained and used to form the basis of the traffic analysis. The data collection consisted of weekday peak period (7:00-9:00 AM and 4:00-6:00 PM) manual turning

movement counts (TMC) at the study intersections noted previously. The TMC data were collected on Wednesday April 11, 2018. The count program also included one (1) 48-hour vehicle count on Sterling Road (east of the proposed Goodridge Brook Estates site driveways) using an Automatic Traffic Recorder (ATR) conducted on April 10-11, 2018. The complete TMC and ATR count data collected as a part of this study are included in the Appendix.

Tables 2.1 and 2.2 summarize the ATR data that were collected as part of this study. As indicated, the 2018 weekday average daily traffic (ADT) volume on Sterling Road east of the proposed Goodridge Brook Estates project site is approximately 3,260 vehicles per day (vpd). The weekday morning peak hour on Sterling Road occurred between 7:15 and 8:15 AM and traffic volumes represent approximately 9.4% of daily traffic, respectively. The weekday afternoon peak hour on Sterling Road (east of proposed project) occurs from 4:45-5:45 PM and traffic volumes represent approximately 9.2% of the daily traffic. The weekday afternoon peak hour on Sterling Road occurred from 3:45-4:45 PM and traffic volumes represent approximately 9.9% of the daily traffic. During the AM peak hour, 54% of traffic travels in the eastbound direction while 59% of traffic travels in the westbound direction along Sterling Road during the PM peak hour.

The 85th percentile speeds along Sterling Road were measured to be 45 mph and 44 mph in the eastbound and westbound travel directions, respectively. These measured 85th percentile speeds along Sterling Road in the vicinity of the Goodridge Brook Estates site are relatively higher than the posted speed limit of 35 mph. These speeds were used later in the report to calculate and analyze available sight distances at the proposed Goodridge Brook Estates site driveways.

Table 2.1 - Summary of Observed Sterling Road ATR Traffic Data (east of the proposed Goodridge Brook Estates)

	AM Peak Hour	PM Peak Hour	Weekday Average
Time Period	7:15-8:15	4:45-5:45	Daily
Traffic Volume[1]	307 vph	323 vph	3,256 vpd
K-Factor[2]	9.4%	9.9%	-
Directional Distribution	54% EB/ 46%WB	41% EB/ 59% WB	47% EB/ 53%WB
Average Speed	41 mph EB / 40 mph WB		
85th %-ile Speed	45 mph EB / 44 mph WB		

[1] vpd = vehicles per day, vph = vehicles per hour
[2] percent of daily traffic that occurs during the peak hour

Note: Data have been averaged over two days and rounded. April 2018 (ATR) data.

In developing the estimated average of typical volume conditions for study purposes, a review of permanent traffic count station data maintained by the Massachusetts Department of Transportation (MassDOT) was completed. This review determined the seasonal variation of traffic flow on roadways similar to the function and/or in the general region and serves as the basis of any appropriate seasonal adjustments. Data from the MassDOT permanent count station 34 (on Route 2 in Lancaster between I-190 and Lunenburg Road (Route 70)) was used. The seasonal variation of the local station indicated that April average daily traffic volumes tended to be about two (2) percent below annual daily volumes; thus, a seasonal adjustment factor of two (2) percent was applied to the existing traffic volumes in order to provide a conservative analysis.

Figure 2 illustrates the 2018 existing weekday morning and afternoon peak hour traffic volumes.

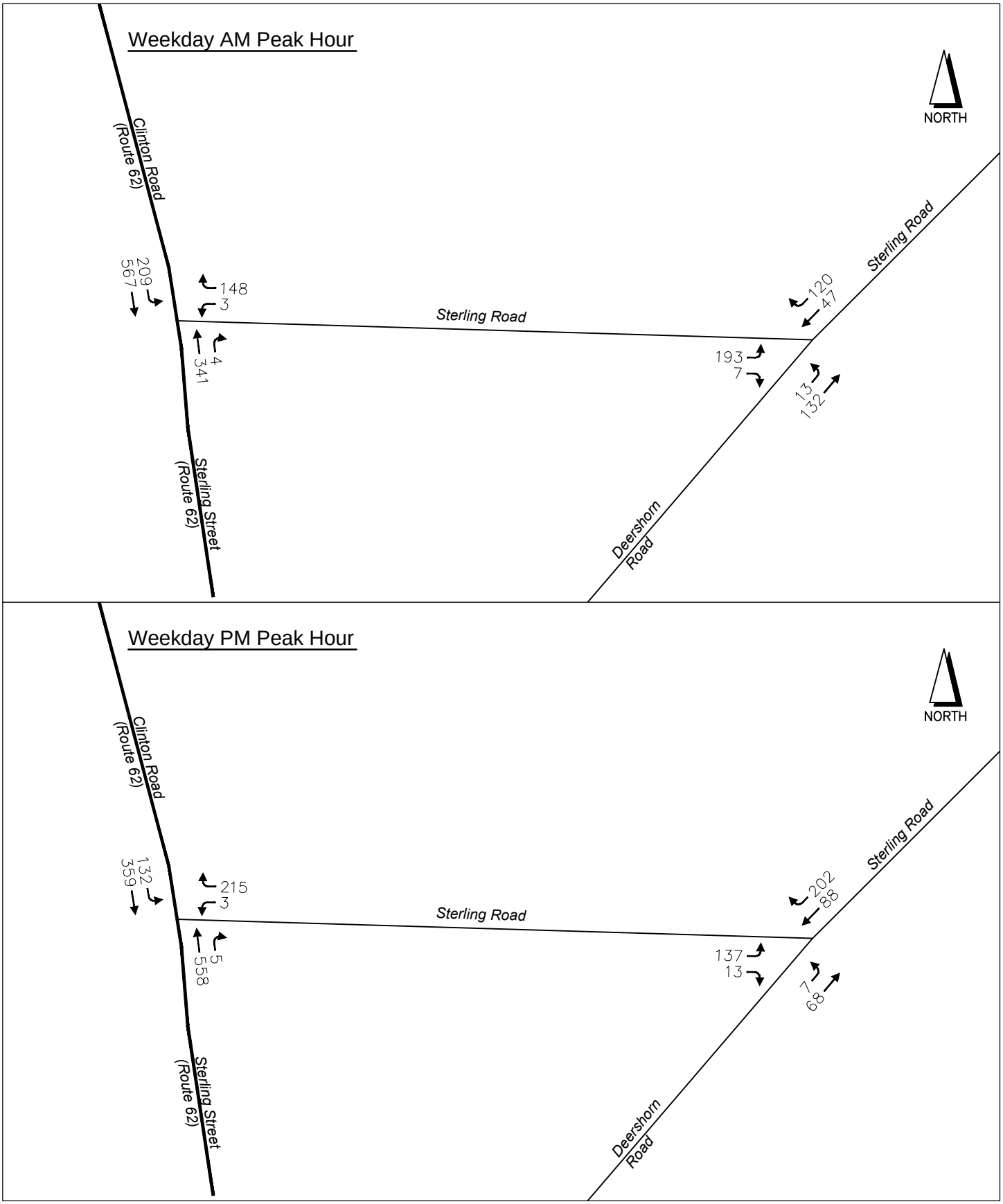

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Figure 2
2018 Existing Peak Hour Traffic Volumes
Goodridge Brook Estates
Lancaster, MA

2.3 Crash Experience

Recent crash history for the study intersections for the most recent three-year period available (2013-2015) were reviewed as part of this study. Crash data presented in this report were obtained from the MassDOT Crash Record System (CRS). In addition to summarizing the data and identifying the crash characteristics, the average number of crashes reported annually and the reported crash rate were also computed. Table 2.3 summarizes the crash data reported at the study intersections.

There is a relatively low frequency of reported crashes at the study intersections during the most recent three-year period available. At the un-signalized intersections of Sterling Road at Deershorn Road and Sterling Road at Clinton Road/Sterling Street (Route 62) there were a total of one (1) and six (6) reported crashes, respectively, for the years 2013-2015.

The crash rate at each study intersection is measured in crashes per million entering vehicles (MEV). The standard MassDOT Crash Rate Worksheet was used to determine the crash rate at each location. The calculation of the crash rate relates the number of accidents at a location to the amount of traffic that passes through the location. It is a more comprehensive measure for identifying potentially hazardous locations compared to simple averages as it takes volume into account, even though the crash rates can skew higher due to low volumes. The calculated rate is compared to the MassDOT District-wide averages. Intersections experiencing crash rates greater than the averages are potentially experiencing an unusually high number or higher than expected number of crashes relative to traffic volumes at that particular location and may warrant further investigation or improvements. MassDOT District 3, which includes the Town of Dighton, has an average crash rate of 0.65 crashes per MEV unsignalized intersections. The crash rate worksheets are included in the attached Appendix.

Green determined the crash rate for the un-signalized intersections of Sterling Road at Deershorn Road and Route 62 at Sterling Road to be 0.14 and 0.35 crashes per MEV, respectively. These crash rates are lower than the MassDOT average of 0.65 for unsignalized intersections in District 3.

Table 2.2 - Summary of Reported Crash Data

	Sterling Road at Deershorn Road			Sterling Road at Clinton Road/Sterling Street (Route 62)		
	2013	2014	2015	2013	2014	2015
Severity						
Property Damage	1			4		1
Injury						1
Fatality						
Unknown						
Collision Type						
Rear End				1		
Angle	1					
Side Swipe				2		
Head On						1
Single Vehicle				1		1
Collision with Ped						
Collision with Bike						
Other/Unknown						
Time of Day						
6:01 AM – 10:00 AM				1		1
10:01 AM – 4:00 PM	1			2		
4:01 PM – 7:00 PM						1
7:01 PM – 6:00 AM				1		
Roadway Conditions						
Dry	1			4		2
Wet						
Snow/Ice						
Other/Unknown						
Season						
Dec-Feb				1		1
Mar-May				1		
June-Aug				1		1
Sept-Nov	1			1		
Light Conditions						
Daylight	1			3		1
Dawn/Dusk						
Dark (Unlit)				1		1
Dark (Lit)						
Unknown						
Totals	***1***	***0***	***0***	***4***	***0***	***2***
Annual Average Crashes	0.33			2.00		
Intersection Crash Rate	***0.14***			***0.35***		
MassDOT District 3 Average Crash Rate	0.65			0.65		

2.4 Existing Public Transportation Network

As part of the inventory, the presence of nearby public transit systems was identified to better understand the potential interaction among multiple modes of travel as well the impact that commuters driving to transit stations will have on the roadway network. Based on the review, there is no public transportation service in close proximity to the site.

3.0 PROBABLE IMPACTS OF THE PROJECT

The impact of the proposed Goodridge Brook Estates residential development project on the roadway network within the study area was evaluated and the results are described in this section. This study used the year 2025 for the future analysis year, which represents a seven-year permitting and build-out timeframe from the present condition and is consistent with current MassDOT guidelines for traffic studies.

3.1 No-Build Traffic Volumes

A year 2025 No-Build traffic volume network was developed by identifying potential area-wide background traffic volume growth and known specific nearby development projects that could contribute to traffic flow on the 2025 study network.

Background Traffic Growth

Traffic growth and historical traffic count trends for the project's analysis area have been reviewed. Based upon review of local count stations an annual growth rate of one-half percent (0.5%) per year for seven years was used to forecast future roadway volumes. The count station used was MassDOT spot count station ID 236025 located on Sterling Road between Route 62 and Mary Catherine Dr. These rates would presumably account for some of the more remote growth in the region as well as potential nearby smaller residential and business growth that could result in added traffic through the study area. The count station data can be found in the Appendix.

Specific Development Projects

In addition to the application of the general background growth rate, traffic generated by other specific development projects was also taken into consideration. Through research and contact with the Town of Lancaster's Community Development and Planning Department, Green identified one (1) development project in the Town of Lancaster near the proposed project site. Jones Crossing is a proposed residential development consisting of 36 single-family homes located between Deershorn Road and Sterling Street (Route 62) in the Town of Lancaster. Access to the proposed Jones Crossing development is to be provided through a single access roadway (Bartlett Lane) located off of Deershorn Road. The access roadway has already been constructed and a single model home exists within the project site for potential buyers to view. This project was assumed to generate trips onto Deershorn Road and Clinton Road/Sterling Street (Route 62) based on the trip distribution percentages developed for the proposed residential development as part of the 2005 Traffic Impact and Access Study[1] completed by MS Transportation Systems, Inc. Since the 2005 Study was completed the proposed site plan for the development has changed. Back in 2005 the Jones Crossing development was proposed to consist of a 36-unit residential condominium complex. As mentioned previously, the current site plan for the Jones Crossing development project is proposed to consist of 36 single homes. As a result, new trip generation estimates for the newly proposed 36 single-family homes were calculated using LUC 210 – Single Family Homes to

[1] MS Transportation Systems, Inc. Traffic Impact and Access Study: Proposed Jones Crossing, Lancaster, Massachusetts, 2005

reflect the change in the development project. Detailed trip generation calculations for the proposed Jones Crossing development project are included in the Appendix. The projected site generated trips were then distributed onto the roadway network based on the distribution patterns developed as part of the 2005 Study.

No-Build Traffic Volumes

Based on the above noted research, the year 2025 No-Build peak hour traffic volume projections were developed by adding seven (7) years' background traffic growth of one half percent (0.5%) annually plus the volumes projected to result from the proposed Jones Crossing residential development to the existing traffic volumes in the study area. The projected year 2025 No-Build traffic volumes projected for the weekday morning and afternoon peak hours at the study intersections are shown in Figure 3.

3.2 Proposed Project Description

The proposed Goodridge Brook Estates 40B residential development project situated in Lancaster, Massachusetts is currently planned to consist of 64 single-family homes and 136 apartment units. The previous plan evaluated in 2006 was proposed to consist of a 150-unit residential condominium development (Fieldcrest Estates).

Access to the proposed development project will be via three proposed site driveways with direct access to Sterling Road between its intersections with Deershorn Road and Clinton Road/Sterling Street (Route 62). The first driveway will connect with Sterling Road approximately 1,300 feet west of the intersection of Sterling Road and Deershorn Road and will provide access to the majority of the proposed single-family homes included in the proposed development. Driveway 2 is located approximately 400 feet west of Driveway 1 and will provide access to the remaining proposed single-family homes. Driveway 3 will provide access to the 136 apartment units and is located approximately 1,300 feet west of Driveway 1. Land use in the surrounding area of the proposed development project is primarily residential in character with a few industrial facilities located to the west of the proposed project site.

3.3 Site Generated Traffic Volumes

In this section, the traffic forecasts related to the development are described. An estimate of traffic to be generated by the proposed development project was completed and assigned to roadways/intersections within the study area to develop the Build traffic condition, based upon the year 2025 No-Build traffic volume network.

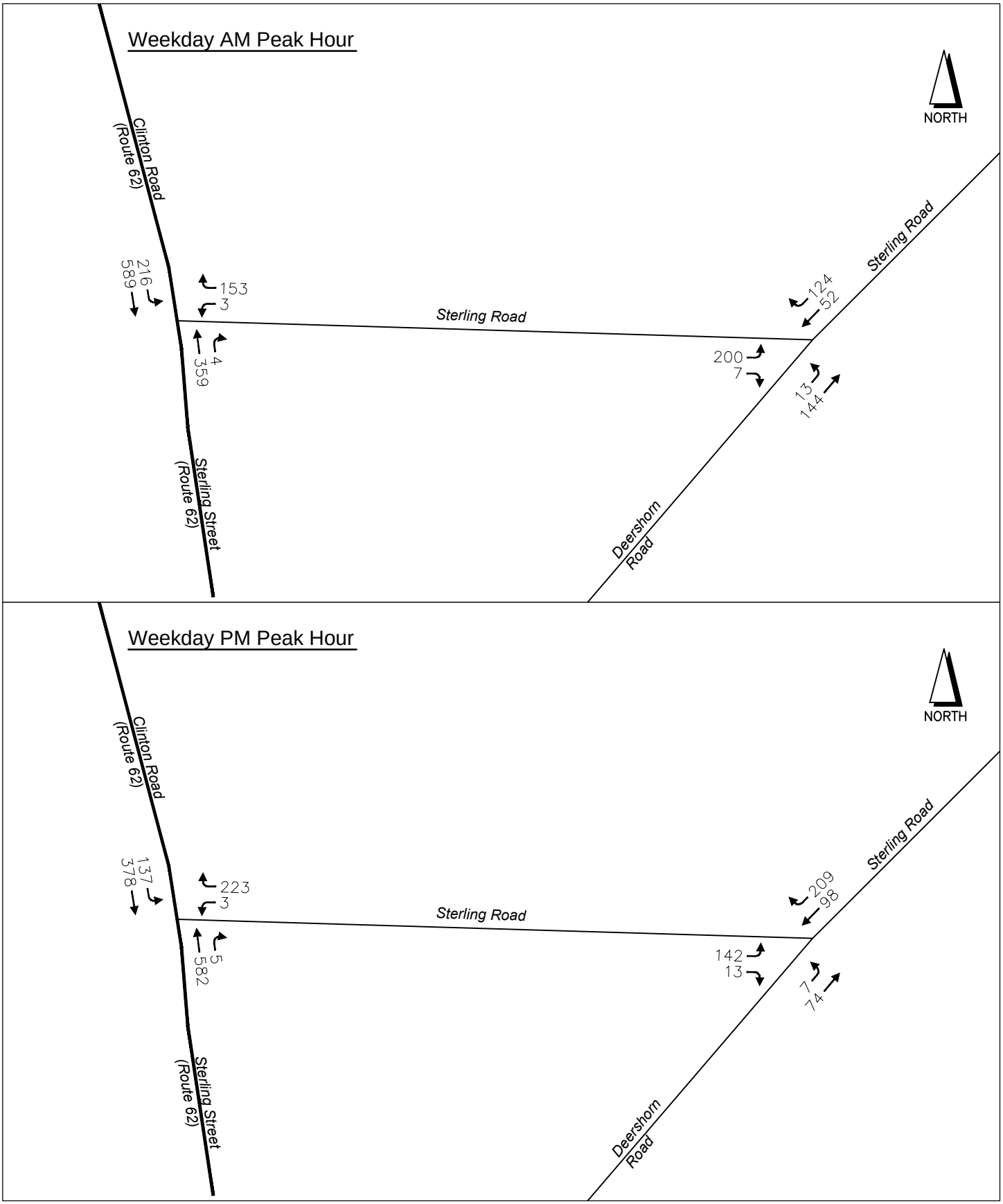

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Figure 3
2025 No Build Peak Hour Traffic Volumes
Goodridge Brook Estates
Lancaster, MA

Site Trip Generation

In order to estimate the number of trips that could be generated by the proposed development, statistics published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*[2] for similar land uses were examined. The ITE trip generation statistics represent compilations of data from studies/projects throughout the United States collected over the past 40+ years on trip generation characteristics for different types of land uses. The data have been compiled to provide transportation analysts with guidelines in forecasting daily and peak hour volumes for the specified use. The ITE report is based on observations of actual developments located in both general urban / suburban and dense multi-use urban settings Based on a review of the ITE database, Land Use Code (LUC) 210 – Single Family Detached Housing was selected as the most similar to the proposed 64 single-family homes and LUC 220 – Multifamily Housing (Low-Rise) was selected as the most similar to the proposed 136 apartment units.

The total estimated trips generated by the proposed project are presented in Table 3.1. Detailed trip generation calculations for the proposed development are included in the Appendix. In summary, once the proposed development is fully constructed and occupied it is expected to generate a total of approximately 1,678 net new vehicle trips over the course of an average weekday including 839 entering trips and 839 exiting trips. During the average weekday morning peak hour, the proposed project is expected to generate approximately 115 vehicle trips with 28 entering and 87 exiting trips and is expected to generate approximately 144 vehicle trips with 91 entering and 53 exiting trips during the afternoon peak hour.

Table 3.1 - Summary of Estimated Site Trip Generation

	AM PEAK HOUR			PM PEAK HOUR			WEEKDAY DAILY		
LAND USE	**ENTER**	**EXIT**	**TOTAL**	**ENTER**	**EXIT**	**TOTAL**	**ENTER**	**EXIT**	**TOTAL**
Single-Family Homes (LUC 210)	13	38	51	42	24	66	345	345	690
Apartment Units (LUC 220)	15	49	64	49	29	78	494	494	988
Total Net New Trips	28	87	115	91	53	144	839	839	1678

Source: ITE Trip Generation, 10th Edition, 2017; LUC 210, LUC 220

Site Trip Distribution/Assignment

Once the number of trips projected to be generated by the development have been determined, trips are assigned to the site driveways and study area based on trip distribution patterns determined for the project. For this project, an analysis of directional distribution of generated trips to and from the site was completed in addition to a review of U.S. census data that summarized the areas of employment for Lancaster residents as well as the corresponding percentages of Lancaster residents that were employed in those areas. The U.S. census data reviewed is included in the Appendix.

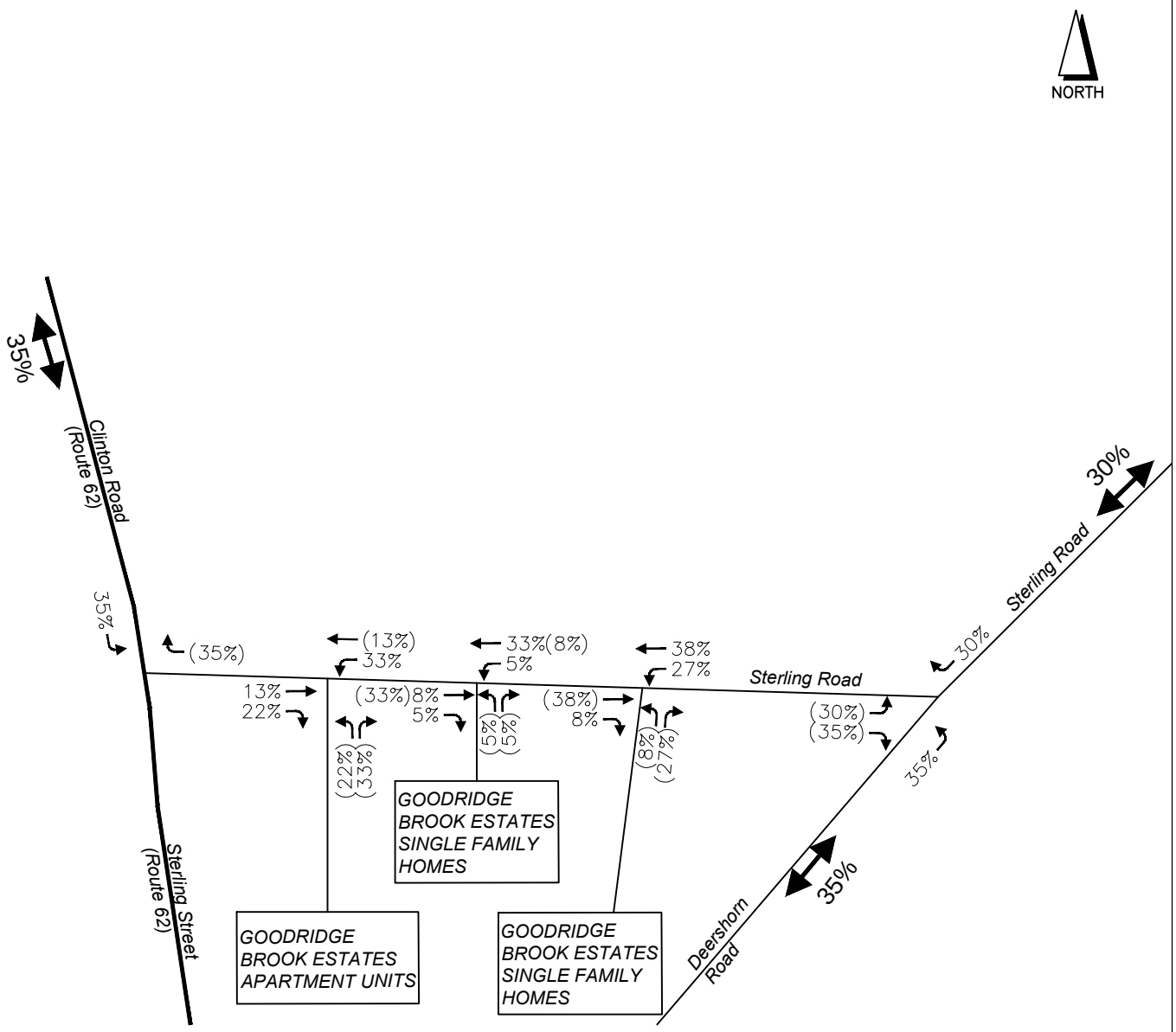
The vehicle trips generated by the proposed Goodridge Brook Estates project were then distributed onto the roadway network to develop future build peak hour traffic volumes. Directional distribution of generated trips to and from the site is generally expected to follow existing traffic patterns, which, in turn, are a function of regional population densities, shopping opportunities, areas of employment, and recreational activities. Directional distributions of generated trips at the three proposed site driveways were calculated based on the number and type of units the proposed site driveways are expected to serve. It is noted that five (5) of the 64 proposed single-family homes will have direct driveway access to Sterling Road. Thus, the site generated trips associated with these five (5) single-family homes will access Sterling Road via their own private driveways rather than via one (1) of the three (3) proposed main site driveways.

[2] Institute of Transportation Engineers, *Trip Generation Manual,* 10th Edition, Washington, D.C., September 2017

However, in order to provide a conservative analysis along the main site driveways, the trips expected to be generated by these five (5) single-family homes were added to Driveway 2. The existing traffic patterns and the U.S. Census data mentioned above were used to predict the travel routes of residents of the proposed residential development. Figure 4 shows the trip distribution percentages within the study area.

Build Traffic Volumes

The vehicle-trips estimated for the proposed development were assigned to the study intersections and the study area roadways using the trip distribution percentages discussed above. Figure 5 shows the additional traffic during the AM and PM peak hours expected to be generated by the proposed Goodridge Brook Estates project. The peak hour site traffic volumes were then added to the future No-Build traffic volumes in order to establish the 2025 Build condition traffic volume networks. Figure 6 presents the Build traffic volumes for the weekday morning and afternoon peak hours.



LEGEND

Entering (Exiting) Peak Hour Trips

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Figure 4
Estimated Trip Distribution
Goodridge Brook Estates
Lancaster, MA

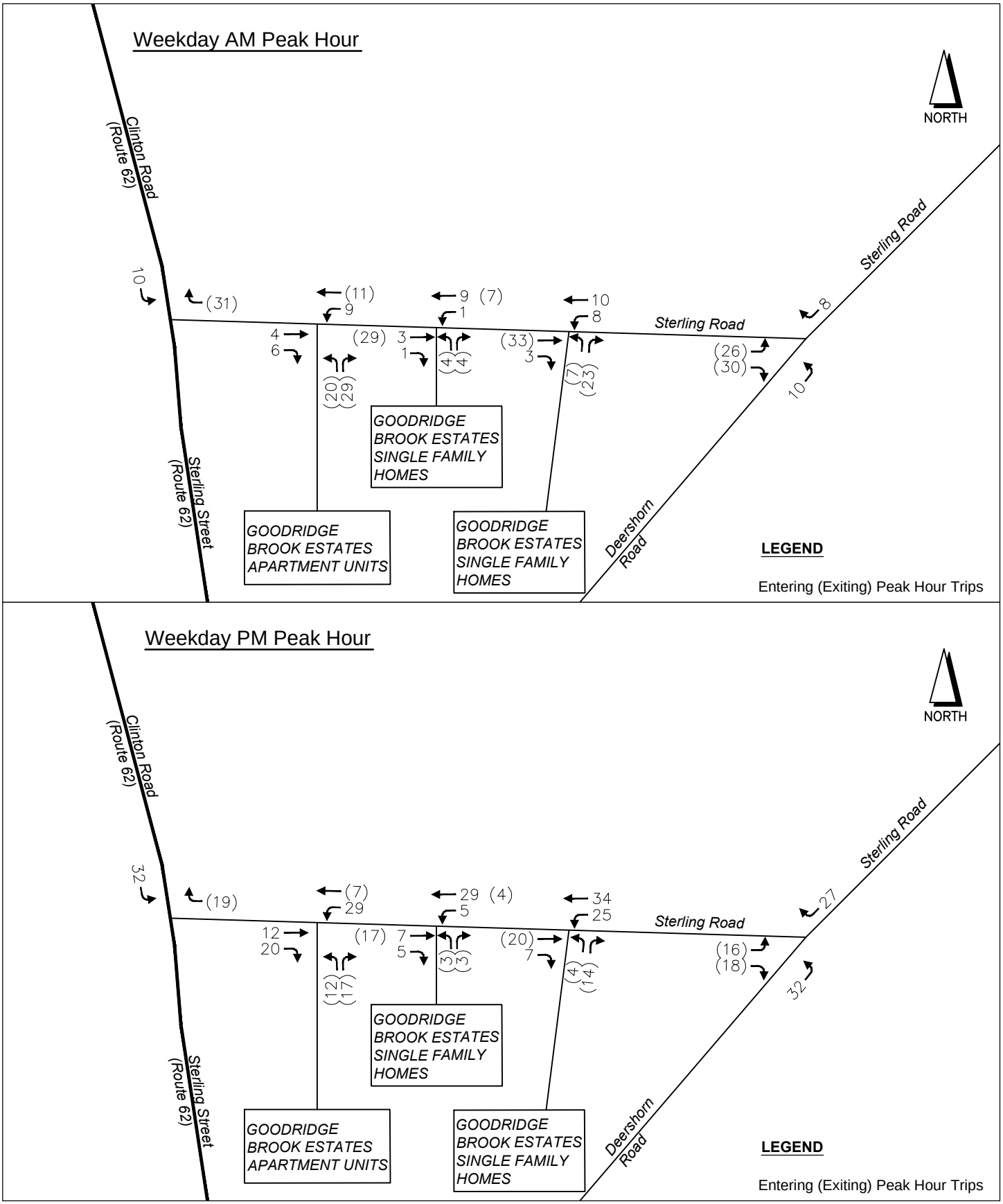

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Figure 5
Site-Generated Vehicle Trips
Goodridge Brook Estates
Lancaster, MA

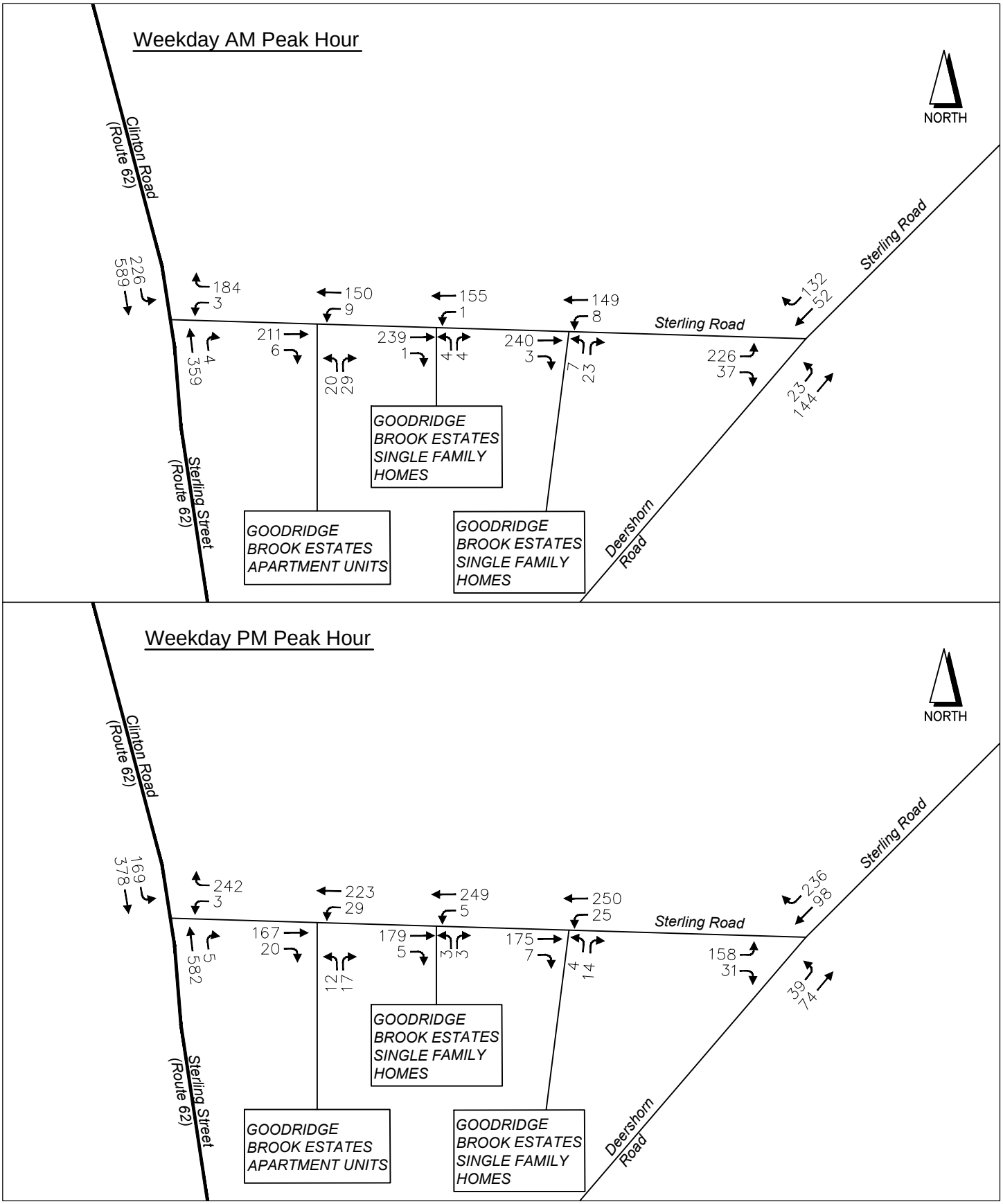

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Figure 6
2025 Build Peak Hour Traffic Volumes
Goodridge Brook Estates
Lancaster, MA

4.0 ANALYSIS

Previous sections of this report described the current conditions of the study intersections and the development of the 2025 No-Build and 2025 Build traffic volume networks, including the new site-generated trip forecasts associated with the proposed development project. Included in this section is an examination of the volume changes, intersection capacity analyses for the study intersections and a discussion of the available sight distances at the existing site driveways.

4.1 Traffic Volume Increases

Traffic impacts to the surrounding roadway network are not expected to cause new operational issues. None of the study intersections are expected to experience a significant change in Level of Service relative to the No-Build conditions during either the morning or afternoon peak hours. With the construction of the proposed development, roadway volumes on Route 62 (north of Sterling Road) will experience relatively small increases ranging from 41-96 vehicles during the AM and PM peak hours (Table 4.1). Sterling Road (between Deershorn Road and Main Street) experiences moderate increases in traffic east and west of the project ranging site from 47 to 73 vehicles and 47 to 96 vehicles, respectively, during the AM and PM peak hours. Sterling Road (between Deershorn Road and Main Street) experiences relatively small to moderate increases in traffic ranging from 34-43 vehicles during the AM and PM peak hours. Lastly, Deershorn Road (south of Sterling Road) experiences moderate increases in traffic ranging from 39 to 50 vehicles during the AM and PM peak hours. The intersection capacity analysis has shown that the abutting roads have the capacity to accommodate added vehicles due to the project and that traffic operations are not substantially altered as a result of the proposed residential development.

Table 4.1 – Summary of Estimated Center Street Peak Hour Traffic Increases

	AM Peak Hour			PM Peak Hour		
	No-Build	Build	Δ	No-Build	Build	Δ
Route 62						
North of Sterling Road	1317	1358	41	1320	1371	51
South of Sterling Road	955	955	0	968	968	0
Sterling Road (Between Deershorn Road & Route 62)						
East of Project Site	344	418	74	371	418	47
West of Project Site	376	419	43	368	464	96
Sterling Road (between Deershorn Road & Main Street)						
North of George Hill Road	520	554	34	523	566	43
Deershorn Road						
South of Sterling Road	216	256	40	192	242	50

4.2 Intersection Capacity Analysis

The study intersections were examined with regard to flow rates, capacity and delay characteristics to determine the Level of Service (LOS), using the methodology defined in the Highway Capacity Manual (HCM)[3] for the existing and future (No-Build and Build) traffic conditions. Level of Service is an indicator of operating conditions which occur on a given roadway feature while accommodating varying levels of traffic volumes. It is a qualitative measure that accounts for a number of operational factors including roadway geometry, speed, traffic composition, peak hour factors, travel delay, freedom to maneuver and driver expectation. When all of these measures are assessed and a Level of Service is assigned to a roadway or intersection, it is equivalent to presenting an "index" to the operational qualities of the section under study. Level of Service is classified into six levels that are designated 'A' through 'F' based on the control delay ranges they fall under. Additionally, a movement with a volume-to-capacity (v/c) ratio of over 1.00 will be denoted with a LOS of 'F', regardless of delay. These particular criteria are presented in Table 4.2 for both signalized and unsignalized intersections.

In practice, any given roadway/intersection may operate at a wide LOS range depending upon time of day, day of week or period of year. It should be noted that for unsignalized intersections, the Level of Service is not computed for the intersection as a whole. Instead, the level of service is determined by the computed or measured control delay for each individual critical movement (typically the side street movements).

Table 4.2 – Level of Service Criteria for Unsignalized Intersections

LOS	UNSIGNALIZED INTERSECTION (SEC)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50 or v/c ≥1.00

The study intersections were evaluated using the Synchro 10 computer software to complete the analysis for the unsignalized study intersection. Using existing roadway features and the intersection controls, traffic operations at the study intersection were evaluated for existing as well as predicted 2025 conditions. Analysis results are presented in Tables 4.3 and 4.4 for the AM and PM peak hours at the study intersections, respectively.

The Level of Service analysis indicated the following:

- The analysis shows that the abutting roads and intersections have the capacity to accommodate added vehicles due to the proposed residential development
- The proposed Goodridge Brook Estates development project results in minimum changes to vehicle delays and no changes in level of service compared to the 2025 Future No-Build conditions.
- All approaches at the two study intersections operate at LOS 'B' or better during both AM and PM peak hours except for the Sterling Road WB approach to its intersection with Clinton Road/Sterling Street (Route 62) which operates at LOS 'C' during the PM peak hour.

[3] Transportation Research Board, of the National Academies, Highway Capacity Manual 2010, Washington, D.C., 2010.

- All three of the proposed Goodridge Brook Estates site driveways are estimated to operate at LOS 'B' during both the AM and PM peak hours with minimum delays and 95th percentile queue lengths to vehicles entering and exiting the site under the 2025 Future Build conditions.

Table 4.3 – Summary of Level of Service Analysis Period: AM Peak Hour

	2018 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	V/C	95th % Q (ft.)	Delay	LOS	V/C	95th % Q (ft.)	Delay	LOS	V/C	95th % Q (ft.)
Sterling St / Clinton Rd (Route 62) @ Sterling Rd												
Clinton Rd SB LT	2.4	A	0.19	18	2.4	A	0.20	18	2.5	A	0.21	20
Sterling St NB TR	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Sterling Rd WB LR	13.2	B	0.27	28	13.7	B	0.29	30	14.3	B	0.34	38
Sterling Rd @ Deershorn Rd												
Deershorn Rd EB LT	0.7	A	0.01	0	0	0.6	A	0.01	1.0	A	0.02	3
Sterling Rd WB TR	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Sterling Rd SB LR	12.5	B	0.32	35	12.9	B	0.34	38	14.9	B	0.42	53
Sterling Rd @ Proposed SFH East Driveway (Driveway 1)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.4	A	0	0
SFH East Driveway NB LR	-	-	-	-	-	-	-	-	10.3	B	0.05	3
Sterling Rd @ Proposed SFH West Driveway (Driveway 2)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.1	A	0.00	0
SFH West Driveway NB LR	-	-	-	-	-	-	-	-	10.5	B	0.01	0
Sterling Rd @ Proposed Apartment Driveway (Driveway 3)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.4	A	0.01	0
Apartment Driveway NB LR	-	-	-	-	-	-	-	-	10.5	B	0.08	5

Table 4.4 – Summary of Level of Service Analysis Period: PM Peak Hour

	2018 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	V/C	95th % Q (ft.)	Delay	LOS	V/C	95th % Q (ft.)	Delay	LOS	V/C	95th % Q (ft.)
Sterling St / Clinton Rd (Route 62) @ Sterling Rd												
Clinton Rd SB LT	2.5	A	0.14	13	2.5	A	0.15	13	2.9	A	0.18	18
Sterling St NB TR	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Sterling Rd WB LR	18.1	C	0.46	60	19.4	C	0.49	65	20.6	C	0.53	75
Sterling Rd @ Deershorn Rd												
Deershorn Rd EB LT	0.7	A	0.01	0	0.6	A	0.01	0	0.0	A	-	0
Sterling Rd WB TR	0.0	A	-	0	0.0	A	-	0	0.0	A	-	0
Sterling Rd SB LR	11.6	B	0.22	20	11.9	B	0.23	22.5	12.3	B	0.27	28
Sterling Rd @ Proposed SFH East Driveway (Driveway 1)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.7	A	0.02	3
SFH East Driveway NB LR	-	-	-	-	-	-	-	-	10.0	B	0.03	3
Sterling Rd @ Proposed SFH West Driveway (Driveway 2)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.2	A	0.00	0
SFH West Driveway NB LR	-	-	-	-	-	-	-	-	10.5	B	0.01	0
Sterling Rd @ Proposed Apartment Driveway (Driveway 3)												
Sterling Rd EB TR	-	-	-	-	-	-	-	-	0.0	A	-	0
Sterling Rd WB LT	-	-	-	-	-	-	-	-	0.9	A	0.02	3
Apartment Driveway NB LR	-	-	-	-	-	-	-	-	10.6	B	0.05	3

4.3 Sight Distance Analysis

Adequate sight distance is an important safety consideration at intersections. Sight distances were reviewed at each of the three proposed site drive locations. Stopping sight distance (SSD) is the distance required for an approaching driver (with an eye height of 3.5 feet) to perceive and stop in time to avoid a collision with an object, 2 feet high in the roadway. The values are based on a perception and reaction time of 2.5 seconds and braking distance required under wet, level pavements. Corner or intersection sight distance (ISD) is based upon the time required to perceive, react, and complete desired exiting maneuver from a driveway once the driver decides to execute the maneuver. Adjustments for the grade of the roadway are applied to both SSD and ISD.

Values for ISD represent the time to (1) turn left or right, in addition to accelerating to the operating speed of the roadway, without causing approaching vehicles to reduce speed by more than 10 mph, and (2) upon turning left, to clear the near half of the intersection without conflicting with the vehicles approaching from the left. ISD is more related to operations and to some degree, the convenience or inconvenience of oncoming motorists. The minimum criteria are defined by the American Association of State and Highway and Transportation Officials (AASHTO)[4]. SSD relates specifically to safety. As indicated by AASHTO, if the available ISD meets or exceeds the minimum SSD criteria, then there is adequate safe sight distance available for motorists to avoid collisions. A criterion for calculating minimum required sight distances can be established based on operating speed, the speed at or under which most motorists (85th-percentile) actually travel along a particular portion of roadway.

The posted speed limit on Sterling Road is 35 miles per hour (mph) along the entire roadway segment. However, 85th percentile travel speeds on Sterling Road in the vicinity of the proposed Goodridge Brook Estates site driveways were observed to be 45 mph and 44 mph in the eastbound and westbound travel directions. respectively. To be conservative, a speed of 45 mph was used in the sight distance analysis for the for the proposed site driveway intersections with Sterling Road in addition to the posted 35 mph speed limit.

The SSD and ISD were measured in the field and compared to minimum and desirable distances; Table 4.6 summarizes the results of the evaluation and indicates that the available sight distances exceed the minimum requirements at the proposed site driveway intersections with Sterling Road and are anticipated to allow for safe traffic operations entering and exiting the site.

Table 4.6 - Summary of Sight Distance Analysis

Location	Stopping Sight Distance (ft.)			Intersection Sight Distance (ft.)				
	Measured	Minimum Required		Measured	Minimum Required		Desirable	
Proposed Apartment Driveway (Driveway 3) at Sterling Rd		35 mph	45 mph		35 mph	45 mph	35 mph	45 mph
Sterling Road Eastbound	385	245	360	385	245	360	385	495
Sterling Road Westbound	945	245	360	945	245	360	385	495
Proposed SFH West Driveway (Driveway 2) at Sterling Rd								
Sterling Road Eastbound	560	245	360	500	245	360	385	495
Sterling Road Westbound	>1,000	245	360	>1,000	245	360	385	495
Proposed SFH East Driveway (Driveway 1) at Sterling Rd								
Sterling Road Eastbound	415	245	360	415	245	360	385	495
Sterling Road Westbound	900	245	360	900	245	360	385	495

Notes: Assumes selective clearing of vegetation near the proposed site driveways

4 American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, Washington, D.C., 2011.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The analyses demonstrate that traffic impacts to the surrounding roadway network associated with the proposed Goodridge Brook Estates project are not expected to cause any new operational issues on the adjacent roadways. The roadways and intersections within the study area are able to accommodate the additional traffic associated with the proposed development project. Site traffic is expected to be able to enter and exit the site safely and efficiently. Sufficient sight distance with respect to the site drive locations will be available with the planned site drive construction.

Recommendations

While the analyses show that the proposed project can be accommodated on the study area network, several recommendations have been made to enhance the transportation system. The proposed actions are as follows:

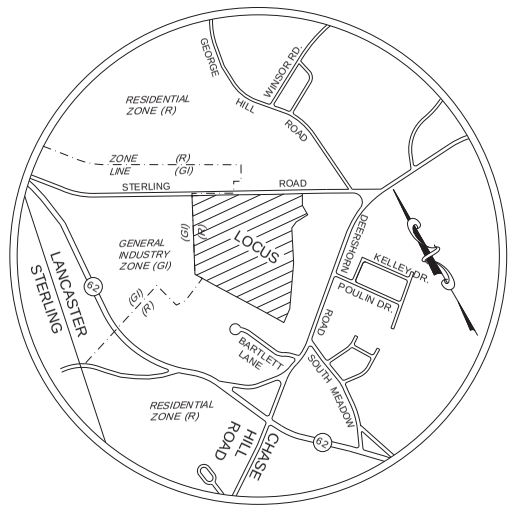
- Provide appropriate pavement markings and associated STOP bars marked at the site access driveway approaches to Sterling Road. A STOP sign (R1-1) should be installed on all site driveway approaches to Sterling Road.
- All STOP signs to be installed shall be consistent with current Manual on Uniform Traffic Control Devices (MUTCD) standards and guidelines.
- Any grading, landscaping, and signing proposed at the site drive intersections with Sterling Road should be designed and maintained in such a manner (low-lying and set-back) so as to enhance sight distances at the driveway.
- A marked STOP bar should be provided along the Sterling Road westbound approach to its intersection with Clinton Road/Sterling Road (Route 62). A STOP sign ahead (W3-1) sign should be implemented on Sterling Road approximately 300 feet east of the intersection to alert westbound drivers approaching the relatively sharp angle along Sterling Road just east of the intersection that they must stop.
- Independent of the proposed development project, safety and traffic flow improvements in the area of the intersection of Sterling Road and Deershorn Road should be considered. Historical studies have identified improvements such as reconfiguring the layout of the Sterling Road / Deershorn Road intersection to be better defined as a “T” type intersection with the eastbound Sterling Road approach operating under STOP control. One potential option would be to re-align the intersection and remove the 15 foot to 16 foot wide two-way segment between Sterling Road and Deershorn Road and replace it with loam and seed. Another potential option would re-align the intersection as under the previous option; however, the 15 foot to 16 foot wide lane between Sterling Road and Deershorn Road would be redefined as a one-way with the use of signage and pavement markings. Other options to slow traffic as well as increase safety for turning vehicles, such as a modern roundabout could be explored by the Town if desired.

W3-1

Appendix

- Proposed Site Plan
- Traffic Volume Data
- MassDOT Seasonal Adjustment Factors and Historical Growth
- Crash Rate Calculations
- Journey to Work Census Data
- Trip Generation Calculations
- Intersection Capacity Analysis Worksheets

APPENDIX A – PROPOSED SITE PLAN



LOCUS MAP
1" = 1200'

TOTAL PARCEL AREA: 45.4 ACRES

PROJECT SUMMARY:
64 SINGLE FAMILY HOUSE LOTS
136 APARTMENT STYLE UNITS
200 TOTAL PROPOSED UNITS

OWNER REFERENCE:
GLADY C KILBOURN
PO BOX 275
SO LANCASTER, MA

DEED REFERENCE:
REGISTRY OF DEEDS
BOOK 2922, PAGE 341

TOWN OF LANCASTER ASSESSOR'S REFERENCE

MAP 41, LOT 34B

PLAN REFERENCE:
WORCESTER COUNTY REGISTRY
1) PLAN BOOK 466, PLAN No. 69
2) PLAN BOOK 422, PLAN No. 76
3) PLAN BOOK 539, PLAN No. 80
4) PLAN BOOK 763, PLAN No. 63

ZONING CLASSIFICATION:

RESIDENTIAL	
AREA:	2 ACRES
FRONTAGE:	225'
FRONT SETBACK:	74'
SIDE SETBACK:	20'
REAR SETBACK:	20'

PROPOSED LAYOUT

REVISIONS		
No.	DATE	DESCRIPTION
1	04/10/18	APARTMENTS 136 UNITS

SITE DEVELOPMENT PLAN "GOODRIDGE BROOK ESTATES" Multi Unit & Single Family Subdivision Layout LANCASTER, MASSACHUSETTS

PREPARED FOR:
CRESCENT BUILDERS, INC.
94 NORTH MAIN STREET
BOYLSTON MA 01583

GLM Engineering Consultants, Inc.
19 EXCHANGE STREET
HOLLISTON, MA 01746
P:508-429-1100
F:508-429-7160
www.GLMengineering.com

DRW.:	RST
JOB No.	12,274
DATE:	FEBRUARY 8, 2018
SCALE:	1"= 80'
SHEET:	3 of 3
PLAN #:	27,147

APPENDIX B – TRAFFIC VOLUME DATA

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
EB

186200 A Class
Site Code: TBA

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/10/1														
8	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
05:00	0	17	10	0	2	0	0	0	0	0	0	0	0	29
06:00	0	58	20	0	7	0	0	0	0	0	0	0	0	85
07:00	2	127	37	0	6	1	0	0	0	0	0	0	0	173
08:00	1	66	20	2	2	1	0	0	1	0	0	0	0	93
09:00	0	63	19	2	7	0	0	0	0	0	0	0	0	91
10:00	2	59	19	0	7	1	0	1	2	0	0	0	0	91
11:00	2	72	15	0	6	2	0	0	0	0	0	0	0	97
12 PM	0	58	20	0	8	1	0	0	0	0	0	0	0	87
13:00	1	61	19	1	4	1	0	1	3	0	0	0	0	91
14:00	0	56	33	1	6	0	0	1	0	0	0	0	0	97
15:00	0	69	20	0	7	0	0	0	0	0	0	0	0	96
16:00	2	88	14	1	6	0	0	1	0	0	0	0	0	112
17:00	0	97	19	0	4	0	0	1	0	0	0	0	0	121
18:00	0	62	14	0	1	0	0	0	0	0	0	0	0	77
19:00	1	40	5	0	4	0	0	0	0	0	0	0	0	50
20:00	0	38	6	0	1	0	0	0	0	0	0	0	0	45
21:00	0	21	6	0	1	0	0	0	0	0	0	0	0	28
22:00	0	8	3	0	0	0	0	0	0	0	0	0	0	11
23:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8
Total	11	1076	302	7	81	7	0	5	6	0	0	0	0	1495
Percent	0.7%	72.0%	20.2%	0.5%	5.4%	0.5%	0.0%	0.3%	0.4%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	08:00	06:00	11:00		10:00	10:00					07:00
Vol.	2	127	37	2	7	2		1	2					173
PM Peak	16:00	17:00	14:00	13:00	12:00	12:00		13:00	13:00					17:00
Vol.	2	97	33	1	8	1		1	3					121

PRECISION
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186200 A Class
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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/11/1														
8	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	4	0	1	0	0	0	0	0	0	0	0	0	5
03:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	19	8	0	1	0	0	0	0	0	0	0	0	28
06:00	0	61	22	1	4	0	0	0	0	0	0	0	0	88
07:00	0	140	39	0	7	0	1	0	0	0	0	0	0	187
08:00	0	76	26	1	11	0	0	0	1	0	0	0	0	115
09:00	0	61	13	3	4	0	0	0	0	0	0	0	0	81
10:00	0	51	18	1	11	0	0	1	0	1	0	0	0	83
11:00	0	51	21	1	5	0	0	1	0	0	0	0	0	79
12 PM	0	86	15	1	4	1	0	0	0	0	0	0	0	107
13:00	0	81	16	0	3	0	0	0	0	0	0	0	0	100
14:00	0	68	23	0	3	0	0	0	0	0	0	0	0	94
15:00	0	75	25	1	5	0	0	2	0	0	0	0	0	108
16:00	2	86	17	0	4	0	0	0	0	0	0	0	0	109
17:00	1	96	22	0	1	1	0	0	0	0	0	0	0	121
18:00	0	60	15	0	2	0	0	1	0	0	0	0	0	78
19:00	0	39	3	0	0	1	0	0	0	0	0	0	0	43
20:00	0	43	7	0	2	0	0	0	0	0	0	0	0	52
21:00	0	38	2	0	1	0	0	0	0	0	0	0	0	41
22:00	0	9	0	0	1	0	0	0	0	0	0	0	0	10
23:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Total	3	1160	293	10	69	3	1	5	1	1	0	0	0	1546
Percent	0.2%	75.0%	19.0%	0.6%	4.5%	0.2%	0.1%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	
AM Peak		07:00	07:00	09:00	08:00		07:00	10:00	08:00	10:00				07:00
Vol.		140	39	3	11		1	1	1	1				187
PM Peak	16:00	17:00	15:00	12:00	15:00	12:00		15:00						17:00
Vol.	2	96	25	1	5	1		2						121

PRECISION
D A T A
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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/10/1														
8	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	1	2	3	0	1	1	0	0	0	0	0	0	0	8
05:00	0	18	4	0	1	0	0	0	0	0	0	0	0	23
06:00	0	50	14	1	9	0	0	0	0	0	0	0	0	74
07:00	1	89	21	0	1	1	0	1	0	1	0	0	0	115
08:00	0	73	29	1	7	0	0	0	0	0	0	0	0	110
09:00	0	49	20	0	10	1	0	0	1	0	0	0	0	81
10:00	1	63	26	0	9	0	0	0	2	0	0	0	0	101
11:00	0	63	16	1	11	0	0	1	1	0	0	0	0	93
12 PM	0	72	21	1	9	2	0	0	0	0	0	0	0	105
13:00	1	70	20	1	10	2	0	0	0	0	0	0	0	104
14:00	1	70	23	0	11	0	0	0	1	0	0	0	0	106
15:00	1	100	36	1	10	1	0	0	0	0	0	0	0	149
16:00	1	102	38	0	12	0	0	0	0	0	0	0	0	153
17:00	1	137	34	0	13	1	0	0	0	0	0	0	0	186
18:00	0	74	19	0	4	0	0	0	1	0	0	0	0	98
19:00	0	50	9	3	3	0	0	1	0	0	0	0	0	66
20:00	0	34	6	0	2	0	0	0	0	0	0	0	0	42
21:00	0	25	6	0	1	0	0	0	0	0	0	0	0	32
22:00	0	17	0	0	1	0	0	0	0	0	0	0	0	18
23:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
Total	8	1173	345	9	126	9	0	3	6	1	0	0	0	1680
Percent	0.5%	69.8%	20.5%	0.5%	7.5%	0.5%	0.0%	0.2%	0.4%	0.1%	0.0%	0.0%	0.0%	
AM Peak	04:00	07:00	08:00	06:00	11:00	04:00		07:00	10:00	07:00				07:00
Vol.	1	89	29	1	11	1		1	2	1				115
PM Peak	13:00	17:00	16:00	19:00	17:00	12:00		19:00	14:00					17:00
Vol.	1	137	38	3	13	2		1	1					186

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
WB

186200 A Class
Site Code: TBA

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/11/1														
8	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	4	0	1	0	0	0	0	0	0	0	0	6
05:00	0	14	3	0	4	1	0	0	0	0	0	0	0	22
06:00	1	57	16	2	4	0	0	0	0	0	0	0	0	80
07:00	4	86	26	1	11	2	0	1	0	0	0	0	0	131
08:00	0	106	29	1	7	1	0	2	0	0	0	0	0	146
09:00	1	60	19	3	6	1	0	0	1	0	0	0	0	91
10:00	0	58	18	0	16	0	0	0	0	0	0	0	0	92
11:00	0	61	20	1	10	0	0	2	2	0	0	0	0	96
12 PM	2	79	26	0	11	1	0	1	0	0	0	0	0	120
13:00	0	66	28	1	8	0	0	0	0	0	0	0	0	103
14:00	0	92	15	0	11	0	0	0	0	0	0	0	0	118
15:00	1	93	44	5	17	0	0	1	0	0	0	0	0	161
16:00	0	128	36	0	9	0	0	0	0	0	0	0	0	173
17:00	0	146	24	0	12	2	0	1	0	0	0	0	0	185
18:00	0	80	17	0	5	0	0	0	0	0	0	0	0	102
19:00	0	51	9	0	4	0	0	0	0	0	0	0	0	64
20:00	0	38	5	0	1	1	0	0	0	0	0	0	0	45
21:00	0	18	2	0	1	0	0	1	0	0	0	0	0	22
22:00	0	15	0	0	0	0	0	0	0	0	0	0	0	15
23:00	0	11	1	1	0	0	0	0	0	0	0	0	0	13
Total	9	1264	343	16	138	9	0	9	3	0	0	0	0	1791
Percent	0.5%	70.6%	19.2%	0.9%	7.7%	0.5%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	09:00	10:00	07:00		08:00	11:00					08:00
Vol.	4	106	29	3	16	2		2	2					146
PM Peak	12:00	17:00	15:00	15:00	15:00	17:00		12:00						17:00
Vol.	2	146	44	5	17	2		1						185

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
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663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
EB

186200 A SPEED
Site Code: TBA

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/10/ 18	0	0	0	0	0	1	0	1	0	0	0	0	0	2	47	42
01:00	0	0	0	0	0	1	2	0	0	0	0	0	0	3	42	40
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	1	2	0	1	0	0	0	0	4	51	43
04:00	0	0	0	0	1	3	0	0	0	0	0	0	0	4	38	36
05:00	0	0	0	0	3	12	6	6	2	0	0	0	0	29	47	41
06:00	0	0	0	4	8	31	33	6	**3**	0	0	0	0	85	43	39
07:00	**1**	0	**2**	**6**	**18**	**45**	**76**	**23**	2	0	0	0	0	**173**	43	39
08:00	0	0	0	1	6	29	44	11	2	0	0	0	0	93	43	40
09:00	0	0	0	2	7	26	41	12	2	**1**	0	0	0	91	44	41
10:00	0	0	0	5	5	36	36	8	1	0	0	0	0	91	43	39
11:00	0	0	0	1	5	34	45	10	1	0	**1**	0	0	97	43	40
12 PM	0	0	0	**4**	6	26	37	12	1	**1**	0	0	0	87	44	40
13:00	0	**1**	0	3	4	28	39	14	2	0	0	0	0	91	44	40
14:00	0	0	0	1	**10**	29	44	12	1	0	0	0	0	97	43	40
15:00	0	0	0	1	2	30	40	**21**	1	1	0	0	0	96	46	41
16:00	0	0	0	3	9	26	**56**	14	3	0	**1**	0	0	112	44	41
17:00	0	0	0	1	6	**34**	56	18	**5**	1	0	0	0	**121**	45	41
18:00	0	0	0	1	4	24	32	13	3	0	0	0	0	77	45	41
19:00	0	0	0	0	2	15	26	7	0	0	0	0	0	50	43	41
20:00	0	0	0	0	1	18	18	7	0	1	0	0	0	45	44	41
21:00	0	0	0	0	0	9	12	6	1	0	0	0	0	28	46	42
22:00	0	0	0	1	1	2	5	2	0	0	0	0	0	11	44	40
23:00	0	0	0	0	0	1	2	3	2	0	0	0	0	8	51	46
Total	1	1	2	34	98	461	652	206	33	5	2	0	0	1495		
%	0.1%	0.1%	0.1%	2.3%	6.6%	30.8%	43.6%	13.8%	2.2%	0.3%	0.1%	0.0%	0.0%			
AM Peak	07:00		07:00	07:00	07:00	07:00	07:00	07:00	06:00	09:00	11:00			07:00		
Vol.	1		2	6	18	45	76	23	3	1	1			173		
PM Peak		13:00		12:00	14:00	17:00	16:00	15:00	17:00	12:00	16:00			17:00		
Vol.		1		4	10	34	56	21	5	1	1			121		

Stats

15th Percentile :	34 MPH
50th Percentile :	40 MPH
85th Percentile :	44 MPH
95th Percentile :	48 MPH
Mean Speed(Average) :	40 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	1113
Percent in Pace :	74.4%
Number of Vehicles > 45 MPH :	205
Percent of Vehicles > 45 MPH :	13.7%

PRECISION D A T A INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
EB

186200 A SPEED
Site Code: TBA

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/11/ 18	0	0	0	0	0	1	1	1	0	0	0	0	0	3	46	42
01:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2	42	37
02:00	0	0	0	0	0	2	1	0	2	0	0	0	0	5	52	44
03:00	0	0	0	1	0	2	0	0	0	0	0	0	0	3	37	34
04:00	0	0	0	0	0	2	0	0	0	0	0	0	0	2	38	37
05:00	0	0	0	0	2	10	14	1	0	1	0	0	0	28	43	40
06:00	0	0	0	**4**	3	23	38	17	1	**2**	0	0	0	88	45	41
07:00	0	0	**1**	1	2	**44**	**96**	**35**	**7**	1	0	0	0	**187**	46	42
08:00	0	0	1	2	**9**	37	49	11	5	1	0	0	0	115	43	40
09:00	0	0	0	1	2	30	39	7	2	0	0	0	0	81	43	40
10:00	0	0	0	0	8	33	30	10	1	1	0	0	0	83	43	40
11:00	0	0	0	1	2	32	31	12	0	1	0	0	0	79	44	40
12 PM	0	0	1	4	5	22	**57**	15	2	0	0	0	**1**	107	44	41
13:00	0	0	1	0	5	30	46	13	5	0	0	0	0	100	45	41
14:00	0	0	0	0	6	21	46	**19**	1	**1**	0	0	0	94	45	42
15:00	**1**	0	0	1	8	**33**	42	19	4	0	0	0	0	108	45	41
16:00	0	0	1	0	8	25	53	17	5	0	0	0	0	109	45	41
17:00	1	0	**3**	**5**	**10**	33	45	16	**7**	1	0	0	0	**121**	45	40
18:00	0	0	1	1	6	18	41	11	0	0	0	0	0	78	43	40
19:00	0	0	0	0	2	14	17	8	2	0	0	0	0	43	46	41
20:00	0	0	0	0	3	20	24	5	0	0	0	0	0	52	43	40
21:00	0	0	1	1	7	12	14	4	1	0	**1**	0	0	41	43	39
22:00	0	0	0	0	0	2	4	3	0	1	0	0	0	10	48	44
23:00	0	0	0	0	0	2	2	3	0	0	0	0	0	7	47	43
Total	2	0	10	22	89	448	691	227	45	10	1	0	1	1546		
%	0.1%	0.0%	0.6%	1.4%	5.8%	29.0%	44.7%	14.7%	2.9%	0.6%	0.1%	0.0%	0.1%			
AM Peak			07:00	06:00	08:00	07:00	07:00	07:00	07:00	06:00				07:00		
Vol.			1	4	9	44	96	35	7	2				187		
PM Peak	15:00		17:00	17:00	17:00	15:00	12:00	14:00	17:00	14:00	21:00		12:00	17:00		
Vol.	1		3	5	10	33	57	19	7	1	1		1	121		

Stats

15th Percentile :	35 MPH
50th Percentile :	40 MPH
85th Percentile :	45 MPH
95th Percentile :	48 MPH
Mean Speed(Average) :	41 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	1139
Percent in Pace :	73.7%
Number of Vehicles > 45 MPH :	239
Percent of Vehicles > 45 MPH :	15.4%

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
WB

186200 A SPEED
Site Code: TBA

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/10/ 18	0	0	0	0	0	0	1	2	0	0	0	0	0	3	47	45
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1	43	42
04:00	0	0	1	1	1	2	0	2	1	0	0	0	0	8	48	38
05:00	0	0	0	0	5	7	7	4	0	0	0	0	0	23	44	39
06:00	0	0	0	2	12	22	25	10	2	**1**	0	0	0	74	44	40
07:00	0	**2**	1	**3**	11	34	51	13	0	0	0	0	0	**115**	43	39
08:00	0	0	**5**	3	5	29	**52**	13	**3**	0	0	0	0	110	43	40
09:00	0	0	0	0	10	26	27	**16**	1	1	0	0	0	81	45	40
10:00	0	0	1	1	**13**	**38**	32	14	2	0	0	0	0	101	44	39
11:00	0	0	0	2	10	28	39	13	1	0	0	0	0	93	44	40
12 PM	0	**1**	0	4	13	50	32	4	1	0	0	0	0	105	42	38
13:00	0	0	**1**	**7**	12	35	37	11	0	0	0	0	**1**	104	43	38
14:00	0	0	0	2	11	36	38	16	3	0	0	0	0	106	44	40
15:00	0	0	0	0	16	53	54	21	**5**	0	0	0	0	149	44	40
16:00	0	0	0	0	9	43	**73**	**25**	3	0	0	0	0	153	45	41
17:00	0	0	0	6	**20**	**65**	72	21	1	0	**1**	0	0	**186**	43	39
18:00	0	0	0	0	14	29	37	15	3	0	0	0	0	98	45	40
19:00	0	0	0	0	7	21	28	8	2	0	0	0	0	66	44	40
20:00	0	0	0	1	3	19	15	3	1	0	0	0	0	42	43	39
21:00	0	0	0	0	3	12	14	1	1	0	0	0	1	32	43	40
22:00	0	0	0	1	1	8	3	5	0	0	0	0	0	18	46	40
23:00	0	0	0	0	1	3	5	1	2	0	0	0	0	12	49	42
Total	0	3	9	33	177	560	643	218	32	2	1	0	2	1680		
%	0.0%	0.2%	0.5%	2.0%	10.5%	33.3%	38.3%	13.0%	1.9%	0.1%	0.1%	0.0%	0.1%			
AM Peak		07:00	08:00	07:00	10:00	10:00	08:00	09:00	08:00	06:00				07:00		
Vol.		2	5	3	13	38	52	16	3	1				115		
PM Peak		12:00	13:00	13:00	17:00	17:00	16:00	16:00	15:00		17:00		13:00	17:00		
Vol.		1	1	7	20	65	73	25	5		1		1	186		

Stats

15th Percentile :	34 MPH
50th Percentile :	39 MPH
85th Percentile :	44 MPH
95th Percentile :	47 MPH
Mean Speed(Average) :	40 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	1203
Percent in Pace :	71.6%
Number of Vehicles > 45 MPH :	211
Percent of Vehicles > 45 MPH :	12.6%

PRECISION
D A T A
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663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman
WB

186200 A SPEED
Site Code: TBA

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/11/ 18	0	0	0	0	0	0	1	0	0	0	0	0	0	1	43	42
01:00	0	0	0	0	0	0	0	0	1	0	0	0	0	1	53	52
02:00	0	0	0	1	0	1	0	0	0	0	0	0	0	2	37	32
03:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2	37	35
04:00	0	0	0	0	1	2	2	0	1	0	0	0	0	6	49	40
05:00	0	0	**1**	0	4	6	7	2	1	1	0	0	0	22	45	39
06:00	0	0	0	2	5	28	33	7	4	1	0	0	0	80	44	40
07:00	0	**1**	1	**6**	9	**40**	**60**	12	2	0	0	0	0	131	43	39
08:00	0	0	0	3	**26**	38	54	**19**	3	**2**	**1**	0	0	**146**	44	40
09:00	0	0	0	1	6	35	31	14	3	1	0	0	0	91	45	41
10:00	0	0	0	1	8	36	27	14	**6**	0	0	0	0	92	46	40
11:00	0	0	0	0	13	29	41	10	3	0	0	0	0	96	43	40
12 PM	0	0	0	4	16	38	46	13	3	0	0	0	0	120	43	39
13:00	0	0	0	0	8	29	46	17	3	0	0	0	0	103	45	41
14:00	0	**1**	0	4	10	49	43	9	2	0	0	0	0	118	43	39
15:00	0	0	0	2	15	58	61	23	1	**1**	0	0	0	161	44	40
16:00	0	0	0	1	8	53	**85**	**25**	1	0	0	0	0	173	44	41
17:00	0	0	**2**	**16**	**37**	**65**	51	12	2	0	0	0	0	**185**	42	37
18:00	0	0	0	5	11	29	36	16	**5**	0	0	0	0	102	45	40
19:00	0	0	0	1	6	25	24	8	0	0	0	0	0	64	43	40
20:00	0	0	1	3	4	20	14	2	0	1	0	0	0	45	42	38
21:00	0	0	1	0	4	9	4	4	0	0	0	0	0	22	44	38
22:00	0	0	0	0	2	6	2	4	0	1	0	0	0	15	47	41
23:00	0	0	0	0	0	1	7	4	1	0	0	0	0	13	47	44
Total	0	2	6	50	194	598	675	215	42	8	1	0	0	1791		
%	0.0%	0.1%	0.3%	2.8%	10.8%	33.4%	37.7%	12.0%	2.3%	0.4%	0.1%	0.0%	0.0%			
AM Peak		07:00	05:00	07:00	08:00	07:00	07:00	08:00	10:00	08:00	08:00			08:00		
Vol.		1	1	6	26	40	60	19	6	2	1			146		
PM Peak		14:00	17:00	17:00	17:00	17:00	16:00	16:00	18:00	15:00				17:00		
Vol.		1	2	16	37	65	85	25	5	1				185		

Stats

15th Percentile :	34 MPH
50th Percentile :	39 MPH
85th Percentile :	43 MPH
95th Percentile :	48 MPH
Mean Speed(Average) :	40 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	1273
Percent in Pace :	71.1%
Number of Vehicles > 45 MPH :	223
Percent of Vehicles > 45 MPH :	12.5%

PRECISION
D A T A
INDUSTRIES, LLC
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663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman

186200 A VOLUME
Site Code: TBA

Start	EB				WB				Combined				4/10/2018
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Tue
12:00	0		26		1		29		1		55		
12:15	0		22		0		29		0		51		
12:30	1		15		1		27		2		42		
12:45	1	2	24	87	1	3	20	105	2	5	44	192	
01:00	0		17		0		22		0		39		
01:15	2		29		0		26		2		55		
01:30	1		21		0		35		1		56		
01:45	0	3	24	91	0	0	21	104	0	3	45	195	
02:00	0		27		0		22		0		49		
02:15	0		27		0		23		0		50		
02:30	0		25		0		37		0		62		
02:45	0	0	18	97	0	0	24	106	0	0	42	203	
03:00	2		22		1		39		3		61		
03:15	1		22		0		30		1		52		
03:30	1		24		0		31		1		55		
03:45	0	4	28	96	0	1	49	149	0	5	77	245	
04:00	2		28		0		47		2		75		
04:15	1		24		1		27		2		51		
04:30	1		28		5		31		6		59		
04:45	0	4	32	112	2	8	48	153	2	12	80	265	
05:00	2		42		6		58		8		100		
05:15	5		35		3		40		8		75		
05:30	10		26		4		44		14		70		
05:45	12	29	18	121	10	23	44	186	22	52	62	307	
06:00	20		22		12		26		32		48		
06:15	14		21		19		24		33		45		
06:30	20		13		24		24		44		37		
06:45	31	85	21	77	19	74	24	98	50	159	45	175	
07:00	45		17		22		9		67		26		
07:15	36		19		24		26		60		45		
07:30	45		8		37		11		82		19		
07:45	47	173	6	50	32	115	20	66	79	288	26	116	
08:00	29		4		37		11		66		15		
08:15	16		18		33		7		49		25		
08:30	23		8		18		15		41		23		
08:45	25	93	15	45	22	110	9	42	47	203	24	87	
09:00	25		9		18		7		43		16		
09:15	22		4		22		12		44		16		
09:30	27		7		19		8		46		15		
09:45	17	91	8	28	22	81	5	32	39	172	13	60	
10:00	19		3		31		6		50		9		
10:15	19		4		21		4		40		8		
10:30	18		2		33		1		51		3		
10:45	35	91	2	11	16	101	7	18	51	192	9	29	
11:00	20		3		18		4		38		7		
11:15	14		1		25		5		39		6		
11:30	31		2		29		2		60		4		
11:45	32	97	2	8	21	93	1	12	53	190	3	20	
Total	672		823		609		1071		1281		1894		
Percent	52.5%		43.5%		47.5%		56.5%						
Day Total		1495				1680				3175			
Peak	07:00	-	04:30	-	07:30	-	04:45	-	07:00	-	04:45	-	-	-
Vol.	173	-	137	-	139	-	190	-	288	-	325	-	-	-
P.H.F.	0.920		0.815		0.939		0.819		0.878		0.813			

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

663 Sterling Road
west of Deershorn Road
City, State: Lancaster,MA.
Client: GIA/ Jon Freeman

186200 A VOLUME
Site Code: TBA

Start	EB				WB				Combined				4/11/2018
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Wed
12:00	0		36		1		35		1		71		
12:15	1		18		0		32		1		50		
12:30	1		34		0		26		1		60		
12:45	1	3	19	107	0	1	27	120	1	4	46	227	
01:00	0		25		1		30		1		55		
01:15	1		16		0		24		1		40		
01:30	1		30		0		27		1		57		
01:45	0	2	29	100	0	1	22	103	0	3	51	203	
02:00	1		21		0		28		1		49		
02:15	2		20		1		28		3		48		
02:30	1		26		0		30		1		56		
02:45	1	5	27	94	1	2	32	118	2	7	59	212	
03:00	1		34		1		36		2		70		
03:15	1		23		0		36		1		59		
03:30	0		25		1		32		1		57		
03:45	1	3	26	108	0	2	57	161	1	5	83	269	
04:00	1		29		0		40		1		69		
04:15	0		21		0		36		0		57		
04:30	1		32		4		46		5		78		
04:45	0	2	27	109	2	6	51	173	2	8	78	282	
05:00	3		39		0		51		3		90		
05:15	4		33		6		35		10		68		
05:30	11		31		6		53		17		84		
05:45	10	28	18	121	10	22	46	185	20	50	64	306	
06:00	14		12		14		26		28		38		
06:15	19		22		17		29		36		51		
06:30	21		19		22		22		43		41		
06:45	34	88	25	78	27	80	25	102	61	168	50	180	
07:00	42		5		21		18		63		23		
07:15	47		10		24		14		71		24		
07:30	45		14		38		14		83		28		
07:45	53	187	14	43	48	131	18	64	101	318	32	107	
08:00	30		17		42		17		72		34		
08:15	33		20		34		11		67		31		
08:30	24		7		39		12		63		19		
08:45	28	115	8	52	31	146	5	45	59	261	13	97	
09:00	19		11		27		7		46		18		
09:15	16		12		25		5		41		17		
09:30	18		9		22		4		40		13		
09:45	28	81	9	41	17	91	6	22	45	172	15	63	
10:00	18		1		18		9		36		10		
10:15	20		3		23		2		43		5		
10:30	24		0		25		2		49		2		
10:45	21	83	6	10	26	92	2	15	47	175	8	25	
11:00	17		3		24		3		41		6		
11:15	14		0		20		3		34		3		
11:30	22		2		31		3		53		5		
11:45	26	79	2	7	21	96	4	13	47	175	6	20	
Total	676		870		670		1121		1346		1991		
Percent	50.2%		43.7%		49.8%		56.3%						
Day Total		1546				1791				3337			
Peak	07:00	-	04:30	-	07:45	-	04:45	-	07:15	-	04:45	-	-	-
Vol.	187	-	131	-	163	-	190	-	327	-	320	-	-	-
P.H.F.	0.882		0.840		0.849		0.896		0.809		0.889			

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	4	42	0	46	21	9	0	30	20	3	0	23	99
7:15 AM	2	47	0	49	22	6	0	28	45	3	0	48	125
7:30 AM	0	47	0	47	35	15	0	50	33	1	0	34	131
7:45 AM	1	53	0	54	40	16	0	56	31	6	0	37	147
Total	7	189	0	196	118	46	0	164	129	13	0	142	502
8:00 AM	1	27	0	28	39	6	0	45	20	1	0	21	94
8:15 AM	2	32	0	34	34	6	0	40	20	0	0	20	94
8:30 AM	1	28	0	29	39	12	0	51	9	2	0	11	91
8:45 AM	4	29	0	33	34	15	0	49	15	3	0	18	100
Total	8	116	0	124	146	39	0	185	64	6	0	70	379
Grand Total	15	305	0	320	264	85	0	349	193	19	0	212	881
Approach %	4.7	95.3	0.0		75.6	24.4	0.0		91.0	9.0	0.0		
Total %	1.7	34.6	0.0	36.3	30.0	9.6	0.0	39.6	21.9	2.2	0.0	24.1	
Exiting Leg Total				283				498				100	881
Cars	13	296	0	309	253	79	0	332	186	17	0	203	844
% Cars	86.7	97.0	0.0	96.6	95.8	92.9	0.0	95.1	96.4	89.5	0.0	95.8	95.8
Exiting Leg Total				270				482				92	844
Heavy Vehicles	2	9	0	11	11	6	0	17	7	2	0	9	37
% Heavy Vehicles	13.3	3.0	0.0	3.4	4.2	7.1	0.0	4.9	3.6	10.5	0.0	4.2	4.2
Exiting Leg Total				13				16				8	37

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

7:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	4	42	0	46	21	9	0	30	20	3	0	23	99
7:15 AM	2	47	0	49	22	6	0	28	45	3	0	48	125
7:30 AM	0	47	0	47	35	15	0	50	33	1	0	34	131
7:45 AM	1	53	0	54	40	16	0	56	31	6	0	37	147
Total Volume	7	189	0	196	118	46	0	164	129	13	0	142	502
% Approach Total	3.6	96.4	0.0		72.0	28.0	0.0		90.8	9.2	0.0		
PHF	0.438	0.892	0.000	0.907	0.738	0.719	0.000	0.732	0.717	0.542	0.000	0.740	0.854
Cars	6	185	0	191	113	41	0	154	127	11	0	138	483
Cars %	85.7	97.9	0.0	97.4	95.8	89.1	0.0	93.9	98.4	84.6	0.0	97.2	96.2
Heavy Vehicles	1	4	0	5	5	5	0	10	2	2	0	4	19
Heavy Vehicles %	14.3	2.1	0.0	2.6	4.2	10.9	0.0	6.1	1.6	15.4	0.0	2.8	3.8
Cars Enter Leg	6	185	0	191	113	41	0	154	127	11	0	138	483
Heavy Enter Leg	1	4	0	5	5	5	0	10	2	2	0	4	19
Total Entering Leg	7	189	0	196	118	46	0	164	129	13	0	142	502
Cars Exiting Leg				124				312				47	483
Heavy Exiting Leg				7				6				6	19
Total Exiting Leg				131				318				53	502

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	3	41	0	44	21	8	0	29	19	2	0	21	94
7:15 AM	2	46	0	48	19	6	0	25	44	2	0	46	119
7:30 AM	0	46	0	46	34	11	0	45	33	1	0	34	125
7:45 AM	1	52	0	53	39	16	0	55	31	6	0	37	145
Total	6	185	0	191	113	41	0	154	127	11	0	138	483
8:00 AM	1	27	0	28	37	6	0	43	18	1	0	19	90
8:15 AM	2	30	0	32	32	6	0	38	17	0	0	17	87
8:30 AM	1	26	0	27	37	12	0	49	9	2	0	11	87
8:45 AM	3	28	0	31	34	14	0	48	15	3	0	18	97
Total	7	111	0	118	140	38	0	178	59	6	0	65	361
Grand Total	13	296	0	309	253	79	0	332	186	17	0	203	844
Approach %	4.2	95.8	0.0		76.2	23.8	0.0		91.6	8.4	0.0		
Total %	1.5	35.1	0.0	36.6	30.0	9.4	0.0	39.3	22.0	2.0	0.0	24.1	
Exiting Leg Total				270				482				92	844

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

7:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	3	41	0	44	21	8	0	29	19	2	0	21	94
7:15 AM	2	46	0	48	19	6	0	25	44	2	0	46	119
7:30 AM	0	46	0	46	34	11	0	45	33	1	0	34	125
7:45 AM	1	52	0	53	39	16	0	55	31	6	0	37	145
Total Volume	6	185	0	191	113	41	0	154	127	11	0	138	483
% Approach Total	3.1	96.9	0.0		73.4	26.6	0.0		92.0	8.0	0.0		
PHF	0.500	0.889	0.000	0.901	0.724	0.641	0.000	0.700	0.722	0.458	0.000	0.750	0.833
Entering Leg	6	185	0	191	113	41	0	154	127	11	0	138	483
Exiting Leg				124				312				47	483
Total				315				466				185	966

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

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

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	1	0	2	0	1	0	1	1	1	0	2	5
7:15 AM	0	1	0	1	3	0	0	3	1	1	0	2	6
7:30 AM	0	1	0	1	1	4	0	5	0	0	0	0	6
7:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total	1	4	0	5	5	5	0	10	2	2	0	4	19
8:00 AM	0	0	0	0	2	0	0	2	2	0	0	2	4
8:15 AM	0	2	0	2	2	0	0	2	3	0	0	3	7
8:30 AM	0	2	0	2	2	0	0	2	0	0	0	0	4
8:45 AM	1	1	0	2	0	1	0	1	0	0	0	0	3
Total	1	5	0	6	6	1	0	7	5	0	0	5	18
Grand Total	2	9	0	11	11	6	0	17	7	2	0	9	37
Approach %	18.2	81.8	0.0		64.7	35.3	0.0		77.8	22.2	0.0		
Total %	5.4	24.3	0.0	29.7	29.7	16.2	0.0	45.9	18.9	5.4	0.0	24.3	
Exiting Leg Total				13				16				8	37
Buses	0	1	0	1	0	1	0	1	3	1	0	4	6
% Buses	0.0	11.1	0.0	9.1	0.0	16.7	0.0	5.9	42.9	50.0	0.0	44.4	16.2
Exiting Leg Total				1				4				1	6
Single-Unit Trucks	1	7	0	8	8	3	0	11	3	1	0	4	23
% Single-Unit	50.0	77.8	0.0	72.7	72.7	50.0	0.0	64.7	42.9	50.0	0.0	44.4	62.2
Exiting Leg Total				9				10				4	23
Articulated Trucks	1	1	0	2	3	2	0	5	1	0	0	1	8
% Articulated	50.0	11.1	0.0	18.2	27.3	33.3	0.0	29.4	14.3	0.0	0.0	11.1	21.6
Exiting Leg Total				3				2				3	8

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

7:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	1	0	2	0	1	0	1	1	1	0	2	5
7:15 AM	0	1	0	1	3	0	0	3	1	1	0	2	6
7:30 AM	0	1	0	1	1	4	0	5	0	0	0	0	6
7:45 AM	0	1	0	1	1	0	0	1	0	0	0	0	2
Total Volume	1	4	0	5	5	5	0	10	2	2	0	4	19
% Approach Total	20.0	80.0	0.0		50.0	50.0	0.0		50.0	50.0	0.0		
PHF	0.250	1.000	0.000	0.625	0.417	0.313	0.000	0.500	0.500	0.500	0.000	0.500	0.792
Buses	0	1	0	1	0	1	0	1	1	1	0	2	4
Buses %	0.0	25.0	0.0	20.0	0.0	20.0	0.0	10.0	50.0	50.0	0.0	50.0	21.1
Single-Unit Trucks	1	2	0	3	3	2	0	5	1	1	0	2	10
Single-Unit %	100.0	50.0	0.0	60.0	60.0	40.0	0.0	50.0	50.0	50.0	0.0	50.0	52.6
Articulated Trucks	0	1	0	1	2	2	0	4	0	0	0	0	5
Articulated %	0.0	25.0	0.0	20.0	40.0	40.0	0.0	40.0	0.0	0.0	0.0	0.0	26.3
Buses	0	1	0	1	0	1	0	1	1	1	0	2	4
Single-Unit Trucks	1	2	0	3	3	2	0	5	1	1	0	2	10
Articulated Trucks	0	1	0	1	2	2	0	4	0	0	0	0	5
Total Entering Leg	1	4	0	5	5	5	0	10	2	2	0	4	19
Buses				1				2				1	4
Single-Unit Trucks				4				3				3	10
Articulated Trucks				2				1				2	5
Total Exiting Leg				7				6				6	19

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	3	31	0	34	16	8	0	24	17	1	0	18	76
7:15 AM	2	40	0	42	15	4	0	19	40	0	0	40	101
7:30 AM	0	39	0	39	30	8	0	38	31	1	0	32	109
7:45 AM	1	47	0	48	33	14	0	47	26	5	0	31	126
Total	6	157	0	163	94	34	0	128	114	7	0	121	412
8:00 AM	1	20	0	21	31	6	0	37	13	0	0	13	71
8:15 AM	2	25	0	27	27	4	0	31	17	0	0	17	75
8:30 AM	1	19	0	20	30	10	0	40	6	1	0	7	67
8:45 AM	0	22	0	22	27	10	0	37	15	2	0	17	76
Total	4	86	0	90	115	30	0	145	51	3	0	54	289
Grand Total	10	243	0	253	209	64	0	273	165	10	0	175	701
Approach %	4.0	96.0	0.0		76.6	23.4	0.0		94.3	5.7	0.0		
Total %	1.4	34.7	0.0	36.1	29.8	9.1	0.0	38.9	23.5	1.4	0.0	25.0	
Exiting Leg Total				219				408				74	701

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

7:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	3	31	0	34	16	8	0	24	17	1	0	18	76
7:15 AM	2	40	0	42	15	4	0	19	40	0	0	40	101
7:30 AM	0	39	0	39	30	8	0	38	31	1	0	32	109
7:45 AM	1	47	0	48	33	14	0	47	26	5	0	31	126
Total Volume	6	157	0	163	94	34	0	128	114	7	0	121	412
% Approach Total	3.7	96.3	0.0		73.4	26.6	0.0		94.2	5.8	0.0		
PHF	0.500	0.835	0.000	0.849	0.712	0.607	0.000	0.681	0.713	0.350	0.000	0.756	0.817
Entering Leg	6	157	0	163	94	34	0	128	114	7	0	121	412
Exiting Leg				101				271				40	412
Total				264				399				161	824

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	10	0	10	5	0	0	5	2	1	0	3	18
7:15 AM	0	6	0	6	4	2	0	6	4	2	0	6	18
7:30 AM	0	7	0	7	4	3	0	7	2	0	0	2	16
7:45 AM	0	5	0	5	6	2	0	8	5	1	0	6	19
Total	0	28	0	28	19	7	0	26	13	4	0	17	71
8:00 AM	0	7	0	7	6	0	0	6	5	1	0	6	19
8:15 AM	0	5	0	5	5	2	0	7	0	0	0	0	12
8:30 AM	0	7	0	7	7	2	0	9	3	1	0	4	20
8:45 AM	3	6	0	9	7	4	0	11	0	1	0	1	21
Total	3	25	0	28	25	8	0	33	8	3	0	11	72
Grand Total	3	53	0	56	44	15	0	59	21	7	0	28	143
Approach %	5.4	94.6	0.0		74.6	25.4	0.0		75.0	25.0	0.0		
Total %	2.1	37.1	0.0	39.2	30.8	10.5	0.0	41.3	14.7	4.9	0.0	19.6	
Exiting Leg Total				51				74				18	143

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

7:15 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	0	6	0	6	4	2	0	6	4	2	0	6	18
7:30 AM	0	7	0	7	4	3	0	7	2	0	0	2	16
7:45 AM	0	5	0	5	6	2	0	8	5	1	0	6	19
8:00 AM	0	7	0	7	6	0	0	6	5	1	0	6	19
Total Volume	0	25	0	25	20	7	0	27	16	4	0	20	72
% Approach Total	0.0	100.0	0.0		74.1	25.9	0.0		80.0	20.0	0.0		
PHF	0.000	0.893	0.000	0.893	0.833	0.583	0.000	0.844	0.800	0.500	0.000	0.833	0.947
Entering Leg	0	25	0	25	20	7	0	27	16	4	0	20	72
Exiting Leg				24				41				7	72
Total				49				68				27	144

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	0	1	0	1	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1	1	1	0	2	4
8:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
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	2	0	0	2	2
Grand Total	0	1	0	1	0	1	0	1	3	1	0	4	6
Approach %	0.0	100.0	0.0		0.0	100.0	0.0		75.0	25.0	0.0		
Total %	0.0	16.7	0.0	16.7	0.0	16.7	0.0	16.7	50.0	16.7	0.0	66.7	
Exiting Leg Total				1				4				1	6

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

7:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	1	0	1	0	1	0	1	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	1	0	1	1	1	0	2	4
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		50.0	50.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.500	0.500
Entering Leg	0	1	0	1	0	1	0	1	1	1	0	2	4
Exiting Leg				1				2				1	4
Total				2				3				3	8

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	1	1	0	2	0	0	0	0	1	0	0	1	3
7:15 AM	0	1	0	1	1	0	0	1	0	1	0	1	3
7:30 AM	0	0	0	0	1	2	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	2	0	3	3	2	0	5	1	1	0	2	10
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:15 AM	0	2	0	2	2	0	0	2	2	0	0	2	6
8:30 AM	0	2	0	2	2	0	0	2	0	0	0	0	4
8:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
Total	0	5	0	5	5	1	0	6	2	0	0	2	13
Grand Total	1	7	0	8	8	3	0	11	3	1	0	4	23
Approach %	12.5	87.5	0.0		72.7	27.3	0.0		75.0	25.0	0.0		
Total %	4.3	30.4	0.0	34.8	34.8	13.0	0.0	47.8	13.0	4.3	0.0	17.4	
Exiting Leg Total				9				10				4	23

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

8:00 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:15 AM	0	2	0	2	2	0	0	2	2	0	0	2	6
8:30 AM	0	2	0	2	2	0	0	2	0	0	0	0	4
8:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	2
Total Volume	0	5	0	5	5	1	0	6	2	0	0	2	13
% Approach Total	0.0	100.0	0.0		83.3	16.7	0.0		100.0	0.0	0.0		
PHF	0.000	0.625	0.000	0.625	0.625	0.250	0.000	0.750	0.250	0.000	0.000	0.250	0.542
Entering Leg	0	5	0	5	5	1	0	6	2	0	0	2	13
Exiting Leg				5				7				1	13
Total				10				13				3	26

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
7:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
7:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	2	2	0	4	0	0	0	0	5
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	1	0	0	1	1	0	0	1	3
Grand Total	1	1	0	2	3	2	0	5	1	0	0	1	8
Approach %	50.0	50.0	0.0		60.0	40.0	0.0		100.0	0.0	0.0		
Total %	12.5	12.5	0.0	25.0	37.5	25.0	0.0	62.5	12.5	0.0	0.0	12.5	
Exiting Leg Total				3				2				3	8

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

7:15 AM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
7:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	2
7:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	2
7:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	1	0	1	3	2	0	5	0	0	0	0	6
% Approach Total	0.0	100.0	0.0		60.0	40.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.375	0.250	0.000	0.625	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	1	0	1	3	2	0	5	0	0	0	0	6
Exiting Leg				3				1				2	6
Total				4				6				2	12

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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		
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 #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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		
Total %	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	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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		
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 #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars and Heavy Vehicles (Combined)**

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	6	27	0	33	41	25	0	66	18	5	0	23	122
4:15 PM	2	25	0	27	36	32	0	68	25	5	0	30	125
4:30 PM	5	28	0	33	49	23	0	72	11	3	0	14	119
4:45 PM	5	30	0	35	53	22	0	75	11	3	0	14	124
Total	18	110	0	128	179	102	0	281	65	16	0	81	490
5:00 PM	3	39	0	42	49	17	0	66	14	2	0	16	124
5:15 PM	3	31	0	34	39	23	0	62	18	1	0	19	115
5:30 PM	2	34	0	36	57	24	0	81	24	1	0	25	142
5:45 PM	3	16	0	19	41	22	0	63	32	5	0	37	119
Total	11	120	0	131	186	86	0	272	88	9	0	97	500
Grand Total	29	230	0	259	365	188	0	553	153	25	0	178	990
Approach %	11.2	88.8	0.0		66.0	34.0	0.0		86.0	14.0	0.0		
Total %	2.9	23.2	0.0	26.2	36.9	19.0	0.0	55.9	15.5	2.5	0.0	18.0	
Exiting Leg Total				390				383				217	990
Cars	28	227	0	255	360	181	0	541	145	25	0	170	966
% Cars	96.6	98.7	0.0	98.5	98.6	96.3	0.0	97.8	94.8	100.0	0.0	95.5	97.6
Exiting Leg Total				385				372				209	966
Heavy Vehicles	1	3	0	4	5	7	0	12	8	0	0	8	24
% Heavy Vehicles	3.4	1.3	0.0	1.5	1.4	3.7	0.0	2.2	5.2	0.0	0.0	4.5	2.4
Exiting Leg Total				5				11				8	24

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

4:45 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	5	30	0	35	53	22	0	75	11	3	0	14	124
5:00 PM	3	39	0	42	49	17	0	66	14	2	0	16	124
5:15 PM	3	31	0	34	39	23	0	62	18	1	0	19	115
5:30 PM	2	34	0	36	57	24	0	81	24	1	0	25	142
Total Volume	13	134	0	147	198	86	0	284	67	7	0	74	505
% Approach Total	8.8	91.2	0.0		69.7	30.3	0.0		90.5	9.5	0.0		
PHF	0.650	0.859	0.000	0.875	0.868	0.896	0.000	0.877	0.698	0.583	0.000	0.740	0.889
Cars	12	132	0	144	195	80	0	275	66	7	0	73	492
Cars %	92.3	98.5	0.0	98.0	98.5	93.0	0.0	96.8	98.5	100.0	0.0	98.6	97.4
Heavy Vehicles	1	2	0	3	3	6	0	9	1	0	0	1	13
Heavy Vehicles %	7.7	1.5	0.0	2.0	1.5	7.0	0.0	3.2	1.5	0.0	0.0	1.4	2.6
Cars Enter Leg	12	132	0	144	195	80	0	275	66	7	0	73	492
Heavy Enter Leg	1	2	0	3	3	6	0	9	1	0	0	1	13
Total Entering Leg	13	134	0	147	198	86	0	284	67	7	0	74	505
Cars Exiting Leg				202				198				92	492
Heavy Exiting Leg				3				3				7	13
Total Exiting Leg				205				201				99	505

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Class: **Cars-Combined (Motorcycles, Cars, Light Goods)**

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	6	26	0	32	41	24	0	65	16	5	0	21	118
4:15 PM	2	25	0	27	36	32	0	68	20	5	0	25	120
4:30 PM	5	28	0	33	48	23	0	71	11	3	0	14	118
4:45 PM	5	29	0	34	53	22	0	75	11	3	0	14	123
Total	18	108	0	126	178	101	0	279	58	16	0	74	479
5:00 PM	3	38	0	41	48	15	0	63	14	2	0	16	120
5:15 PM	2	31	0	33	38	23	0	61	17	1	0	18	112
5:30 PM	2	34	0	36	56	20	0	76	24	1	0	25	137
5:45 PM	3	16	0	19	40	22	0	62	32	5	0	37	118
Total	10	119	0	129	182	80	0	262	87	9	0	96	487
Grand Total	28	227	0	255	360	181	0	541	145	25	0	170	966
Approach %	11.0	89.0	0.0		66.5	33.5	0.0		85.3	14.7	0.0		
Total %	2.9	23.5	0.0	26.4	37.3	18.7	0.0	56.0	15.0	2.6	0.0	17.6	
Exiting Leg Total				385				372				209	966

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

4:45 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	5	29	0	34	53	22	0	75	11	3	0	14	123
5:00 PM	3	38	0	41	48	15	0	63	14	2	0	16	120
5:15 PM	2	31	0	33	38	23	0	61	17	1	0	18	112
5:30 PM	2	34	0	36	56	20	0	76	24	1	0	25	137
Total Volume	12	132	0	144	195	80	0	275	66	7	0	73	492
% Approach Total	8.3	91.7	0.0		70.9	29.1	0.0		90.4	9.6	0.0		
PHF	0.600	0.868	0.000	0.878	0.871	0.870	0.000	0.905	0.688	0.583	0.000	0.730	0.898
Entering Leg	12	132	0	144	195	80	0	275	66	7	0	73	492
Exiting Leg				202				198				92	492
Total				346				473				165	984

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

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

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	1	0	1	2	0	0	2	4
4:15 PM	0	0	0	0	0	0	0	0	5	0	0	5	5
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	1	1	0	2	7	0	0	7	11
5:00 PM	0	1	0	1	1	2	0	3	0	0	0	0	4
5:15 PM	1	0	0	1	1	0	0	1	1	0	0	1	3
5:30 PM	0	0	0	0	1	4	0	5	0	0	0	0	5
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	1	0	2	4	6	0	10	1	0	0	1	13
Grand Total	1	3	0	4	5	7	0	12	8	0	0	8	24
Approach %	25.0	75.0	0.0		41.7	58.3	0.0		100.0	0.0	0.0		
Total %	4.2	12.5	0.0	16.7	20.8	29.2	0.0	50.0	33.3	0.0	0.0	33.3	
Exiting Leg Total				5				11				8	24
Buses	0	0	0	0	1	1	0	2	1	0	0	1	3
% Buses	0.0	0.0	0.0	0.0	20.0	14.3	0.0	16.7	12.5	0.0	0.0	12.5	12.5
Exiting Leg Total				1				1				1	3
Single-Unit Trucks	1	2	0	3	3	3	0	6	5	0	0	5	14
% Single-Unit	100.0	66.7	0.0	75.0	60.0	42.9	0.0	50.0	62.5	0.0	0.0	62.5	58.3
Exiting Leg Total				3				7				4	14
Articulated Trucks	0	1	0	1	1	3	0	4	2	0	0	2	7
% Articulated	0.0	33.3	0.0	25.0	20.0	42.9	0.0	33.3	25.0	0.0	0.0	25.0	29.2
Exiting Leg Total				1				3				3	7

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

4:45 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	1	0	1	1	2	0	3	0	0	0	0	4
5:15 PM	1	0	0	1	1	0	0	1	1	0	0	1	3
5:30 PM	0	0	0	0	1	4	0	5	0	0	0	0	5
Total Volume	1	2	0	3	3	6	0	9	1	0	0	1	13
% Approach Total	33.3	66.7	0.0		33.3	66.7	0.0		100.0	0.0	0.0		
PHF	0.250	0.500	0.000	0.750	0.750	0.375	0.000	0.450	0.250	0.000	0.000	0.250	0.650
Buses	0	0	0	0	1	1	0	2	1	0	0	1	3
Buses %	0.0	0.0	0.0	0.0	33.3	16.7	0.0	22.2	100.0	0.0	0.0	100.0	23.1
Single-Unit Trucks	1	2	0	3	1	3	0	4	0	0	0	0	7
Single-Unit %	100.0	100.0	0.0	100.0	33.3	50.0	0.0	44.4	0.0	0.0	0.0	0.0	53.8
Articulated Trucks	0	0	0	0	1	2	0	3	0	0	0	0	3
Articulated %	0.0	0.0	0.0	0.0	33.3	33.3	0.0	33.3	0.0	0.0	0.0	0.0	23.1
Buses	0	0	0	0	1	1	0	2	1	0	0	1	3
Single-Unit Trucks	1	2	0	3	1	3	0	4	0	0	0	0	7
Articulated Trucks	0	0	0	0	1	2	0	3	0	0	0	0	3
Total Entering Leg	1	2	0	3	3	6	0	9	1	0	0	1	13
Buses				1				1				1	3
Single-Unit Trucks				1				2				4	7
Articulated Trucks				1				0				2	3
Total Exiting Leg				3				3				7	13

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	4	24	0	28	32	18	0	50	14	5	0	19	97
4:15 PM	1	21	0	22	31	30	0	61	14	5	0	19	102
4:30 PM	5	24	0	29	39	15	0	54	10	2	0	12	95
4:45 PM	3	24	0	27	42	18	0	60	11	3	0	14	101
Total	13	93	0	106	144	81	0	225	49	15	0	64	395
5:00 PM	3	29	0	32	45	11	0	56	13	1	0	14	102
5:15 PM	2	27	0	29	31	19	0	50	16	1	0	17	96
5:30 PM	2	29	0	31	39	14	0	53	20	1	0	21	105
5:45 PM	3	11	0	14	33	19	0	52	28	5	0	33	99
Total	10	96	0	106	148	63	0	211	77	8	0	85	402
Grand Total	23	189	0	212	292	144	0	436	126	23	0	149	797
Approach %	10.8	89.2	0.0		67.0	33.0	0.0		84.6	15.4	0.0		
Total %	2.9	23.7	0.0	26.6	36.6	18.1	0.0	54.7	15.8	2.9	0.0	18.7	
Exiting Leg Total				315				315				167	797

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

4:45 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	3	24	0	27	42	18	0	60	11	3	0	14	101
5:00 PM	3	29	0	32	45	11	0	56	13	1	0	14	102
5:15 PM	2	27	0	29	31	19	0	50	16	1	0	17	96
5:30 PM	2	29	0	31	39	14	0	53	20	1	0	21	105
Total Volume	10	109	0	119	157	62	0	219	60	6	0	66	404
% Approach Total	8.4	91.6	0.0		71.7	28.3	0.0		90.9	9.1	0.0		
PHF	0.833	0.940	0.000	0.930	0.872	0.816	0.000	0.913	0.750	0.500	0.000	0.786	0.962
Entering Leg	10	109	0	119	157	62	0	219	60	6	0	66	404
Exiting Leg				163				169				72	404
Total				282				388				138	808

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	2	2	0	4	9	6	0	15	2	0	0	2	21
4:15 PM	1	4	0	5	5	2	0	7	6	0	0	6	18
4:30 PM	0	4	0	4	9	8	0	17	1	1	0	2	23
4:45 PM	2	5	0	7	11	4	0	15	0	0	0	0	22
Total	5	15	0	20	34	20	0	54	9	1	0	10	84
5:00 PM	0	9	0	9	3	4	0	7	1	1	0	2	18
5:15 PM	0	4	0	4	7	4	0	11	1	0	0	1	16
5:30 PM	0	5	0	5	17	6	0	23	4	0	0	4	32
5:45 PM	0	5	0	5	7	3	0	10	4	0	0	4	19
Total	0	23	0	23	34	17	0	51	10	1	0	11	85
Grand Total	5	38	0	43	68	37	0	105	19	2	0	21	169
Approach %	11.6	88.4	0.0		64.8	35.2	0.0		90.5	9.5	0.0		
Total %	3.0	22.5	0.0	25.4	40.2	21.9	0.0	62.1	11.2	1.2	0.0	12.4	
Exiting Leg Total				70				57				42	169

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

4:45 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:45 PM	2	5	0	7	11	4	0	15	0	0	0	0	22
5:00 PM	0	9	0	9	3	4	0	7	1	1	0	2	18
5:15 PM	0	4	0	4	7	4	0	11	1	0	0	1	16
5:30 PM	0	5	0	5	17	6	0	23	4	0	0	4	32
Total Volume	2	23	0	25	38	18	0	56	6	1	0	7	88
% Approach Total	8.0	92.0	0.0		67.9	32.1	0.0		85.7	14.3	0.0		
PHF	0.250	0.639	0.000	0.694	0.559	0.750	0.000	0.609	0.375	0.250	0.000	0.438	0.688
Entering Leg	2	23	0	25	38	18	0	56	6	1	0	7	88
Exiting Leg				39				29				20	88
Total				64				85				27	176

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	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	0	0	0	0	0
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	0	0	0	0	0
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	1	1	0	0	1	2
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	1	1	0	2	1	0	0	1	3
Grand Total	0	0	0	0	1	1	0	2	1	0	0	1	3
Approach %	0.0	0.0	0.0		50.0	50.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	33.3	33.3	0.0	66.7	33.3	0.0	0.0	33.3	
Exiting Leg Total				1				1				1	3

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

4:00 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	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	0	0	0	0	0
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	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		
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
Entering Leg	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 #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	1	0	0	1	5	0	0	5	7
5:00 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
5:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	3
5:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	1	1	0	2	2	3	0	5	0	0	0	0	7
Grand Total	1	2	0	3	3	3	0	6	5	0	0	5	14
Approach %	33.3	66.7	0.0		50.0	50.0	0.0		100.0	0.0	0.0		
Total %	7.1	14.3	0.0	21.4	21.4	21.4	0.0	42.9	35.7	0.0	0.0	35.7	
Exiting Leg Total				3				7				4	14

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

4:00 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	1	1	0	0	1	5	0	0	5	7
% Approach Total	0.0	100.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.417	0.000	0.000	0.417	0.583
Entering Leg	0	1	0	1	1	0	0	1	5	0	0	5	7
Exiting Leg				1				6				0	7
Total				2				7				5	14

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	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	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	1	0	1	0	1	0	1	2	0	0	2	4
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	1	0	2	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	2	0	3	0	0	0	0	3
Grand Total	0	1	0	1	1	3	0	4	2	0	0	2	7
Approach %	0.0	100.0	0.0		25.0	75.0	0.0		100.0	0.0	0.0		
Total %	0.0	14.3	0.0	14.3	14.3	42.9	0.0	57.1	28.6	0.0	0.0	28.6	
Exiting Leg Total				1				3				3	7

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

4:00 PM	Sterling Road from North				Sterling Road from East				Dearshorn Road from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	1	0	1	0	1	0	0	0	0	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	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	1	0	1	0	1	0	1	2	0	0	2	4
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	1	0	1	0	1	0	1	2	0	0	2	4
Exiting Leg				0				3				1	4
Total				1				4				3	8

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	Total
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
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	1	0	0	0	1	1
Grand Total	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1	3
Approach %	0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	33.3	
Exiting Leg Total						1						1						1	3

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

4:00 PM	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	Total
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	0	1	0	0	0	0	0	0	1
Total Volume	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	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	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	2
Exiting Leg						0						1						1	2
Total						1						2						1	4

PDI File #: **186200 A**
Location: **N: Sterling Road**
Location: **E: Sterling Road W: Dearshorn Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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
Grand Total	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0	0	0	0	100		0	0	0	0	0		0	0	0	0	0		
Total %	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total						1						0						0	1

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

4:00 PM	Sterling Road from North						Sterling Road from East						Dearshorn Road 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	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0		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	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg						1						0						0	1
Total						2						0						0	2

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	130	51	0	181	37	0	0	37	1	75	0	76	294
7:15 AM	124	53	1	178	22	1	0	23	0	88	0	88	289
7:30 AM	144	49	0	193	34	1	0	35	1	94	0	95	323
7:45 AM	154	63	0	217	46	1	0	47	0	67	0	67	331
Total	552	216	1	769	139	3	0	142	2	324	0	326	1237
8:00 AM	134	40	0	174	43	0	0	43	3	85	0	88	305
8:15 AM	107	34	0	141	36	2	0	38	2	82	0	84	263
8:30 AM	81	24	0	105	38	0	0	38	1	83	0	84	227
8:45 AM	85	24	0	109	38	1	0	39	1	80	0	81	229
Total	407	122	0	529	155	3	0	158	7	330	0	337	1024
Grand Total	959	338	1	1298	294	6	0	300	9	654	0	663	2261
Approach %	73.9	26.0	0.1		98.0	2.0	0.0		1.4	98.6	0.0		
Total %	42.4	14.9	0.0	57.4	13.0	0.3	0.0	13.3	0.4	28.9	0.0	29.3	
Exiting Leg Total				949				347				965	2261
Cars	904	319	0	1223	280	5	0	285	9	616	0	625	2133
% Cars	94.3	94.4	0.0	94.2	95.2	83.3	0.0	95.0	100.0	94.2	0.0	94.3	94.3
Exiting Leg Total				896				328				909	2133
Heavy Vehicles	55	19	1	75	14	1	0	15	0	38	0	38	128
% Heavy Vehicles	5.7	5.6	100.0	5.8	4.8	16.7	0.0	5.0	0.0	5.8	0.0	5.7	5.7
Exiting Leg Total				53				19				56	128

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

7:15 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	124	53	1	178	22	1	0	23	0	88	0	88	289
7:30 AM	144	49	0	193	34	1	0	35	1	94	0	95	323
7:45 AM	154	63	0	217	46	1	0	47	0	67	0	67	331
8:00 AM	134	40	0	174	43	0	0	43	3	85	0	88	305
Total Volume	556	205	1	762	145	3	0	148	4	334	0	338	1248
% Approach Total	73.0	26.9	0.1		98.0	2.0	0.0		1.2	98.8	0.0		
PHF	0.903	0.813	0.250	0.878	0.788	0.750	0.000	0.787	0.333	0.888	0.000	0.889	0.943
Cars	521	196	0	717	136	2	0	138	4	321	0	325	1180
Cars %	93.7	95.6	0.0	94.1	93.8	66.7	0.0	93.2	100.0	96.1	0.0	96.2	94.6
Heavy Vehicles	35	9	1	45	9	1	0	10	0	13	0	13	68
Heavy Vehicles %	6.3	4.4	100.0	5.9	6.2	33.3	0.0	6.8	0.0	3.9	0.0	3.8	5.4
Cars Enter Leg	521	196	0	717	136	2	0	138	4	321	0	325	1180
Heavy Enter Leg	35	9	1	45	9	1	0	10	0	13	0	13	68
Total Entering Leg	556	205	1	762	145	3	0	148	4	334	0	338	1248
Cars Exiting Leg				457				200				523	1180
Heavy Exiting Leg				23				9				36	68
Total Exiting Leg				480				209				559	1248

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	126	48	0	174	36	0	0	36	1	71	0	72	282
7:15 AM	112	50	0	162	19	1	0	20	0	83	0	83	265
7:30 AM	135	48	0	183	32	1	0	33	1	92	0	93	309
7:45 AM	146	62	0	208	44	0	0	44	0	65	0	65	317
Total	519	208	0	727	131	2	0	133	2	311	0	313	1173
8:00 AM	128	36	0	164	41	0	0	41	3	81	0	84	289
8:15 AM	103	32	0	135	34	2	0	36	2	73	0	75	246
8:30 AM	75	21	0	96	36	0	0	36	1	76	0	77	209
8:45 AM	79	22	0	101	38	1	0	39	1	75	0	76	216
Total	385	111	0	496	149	3	0	152	7	305	0	312	960
Grand Total	904	319	0	1223	280	5	0	285	9	616	0	625	2133
Approach %	73.9	26.1	0.0		98.2	1.8	0.0		1.4	98.6	0.0		
Total %	42.4	15.0	0.0	57.3	13.1	0.2	0.0	13.4	0.4	28.9	0.0	29.3	
Exiting Leg Total				896				328				909	2133

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

7:15 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	112	50	0	162	19	1	0	20	0	83	0	83	265
7:30 AM	135	48	0	183	32	1	0	33	1	92	0	93	309
7:45 AM	146	62	0	208	44	0	0	44	0	65	0	65	317
8:00 AM	128	36	0	164	41	0	0	41	3	81	0	84	289
Total Volume	521	196	0	717	136	2	0	138	4	321	0	325	1180
% Approach Total	72.7	27.3	0.0		98.6	1.4	0.0		1.2	98.8	0.0		
PHF	0.892	0.790	0.000	0.862	0.773	0.500	0.000	0.784	0.333	0.872	0.000	0.874	0.931
Entering Leg	521	196	0	717	136	2	0	138	4	321	0	325	1180
Exiting Leg				457				200				523	1180
Total				1174				338				848	2360

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

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

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	4	3	0	7	1	0	0	1	0	4	0	4	12
7:15 AM	12	3	1	16	3	0	0	3	0	5	0	5	24
7:30 AM	9	1	0	10	2	0	0	2	0	2	0	2	14
7:45 AM	8	1	0	9	2	1	0	3	0	2	0	2	14
Total	33	8	1	42	8	1	0	9	0	13	0	13	64
8:00 AM	6	4	0	10	2	0	0	2	0	4	0	4	16
8:15 AM	4	2	0	6	2	0	0	2	0	9	0	9	17
8:30 AM	6	3	0	9	2	0	0	2	0	7	0	7	18
8:45 AM	6	2	0	8	0	0	0	0	0	5	0	5	13
Total	22	11	0	33	6	0	0	6	0	25	0	25	64
Grand Total	55	19	1	75	14	1	0	15	0	38	0	38	128
Approach %	73.3	25.3	1.3		93.3	6.7	0.0		0.0	100.0	0.0		
Total %	43.0	14.8	0.8	58.6	10.9	0.8	0.0	11.7	0.0	29.7	0.0	29.7	
Exiting Leg Total				53				19				56	128
Buses	6	1	0	7	1	1	0	2	0	5	0	5	14
% Buses	10.9	5.3	0.0	9.3	7.1	100.0	0.0	13.3	0.0	13.2	0.0	13.2	10.9
Exiting Leg Total				6				1				7	14
Single-Unit Trucks	40	12	1	53	10	0	0	10	0	21	0	21	84
% Single-Unit	72.7	63.2	100.0	70.7	71.4	0.0	0.0	66.7	0.0	55.3	0.0	55.3	65.6
Exiting Leg Total				32				12				40	84
Articulated Trucks	9	6	0	15	3	0	0	3	0	12	0	12	30
% Articulated	16.4	31.6	0.0	20.0	21.4	0.0	0.0	20.0	0.0	31.6	0.0	31.6	23.4
Exiting Leg Total				15				6				9	30

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

7:15 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	12	3	1	16	3	0	0	3	0	5	0	5	24
7:30 AM	9	1	0	10	2	0	0	2	0	2	0	2	14
7:45 AM	8	1	0	9	2	1	0	3	0	2	0	2	14
8:00 AM	6	4	0	10	2	0	0	2	0	4	0	4	16
Total Volume	35	9	1	45	9	1	0	10	0	13	0	13	68
% Approach Total	77.8	20.0	2.2		90.0	10.0	0.0		0.0	100.0	0.0		
PHF	0.729	0.563	0.250	0.703	0.750	0.250	0.000	0.833	0.000	0.650	0.000	0.650	0.708
Buses	4	1	0	5	1	1	0	2	0	2	0	2	9
Buses %	11.4	11.1	0.0	11.1	11.1	100.0	0.0	20.0	0.0	15.4	0.0	15.4	13.2
Single-Unit Trucks	26	5	1	32	5	0	0	5	0	6	0	6	43
Single-Unit %	74.3	55.6	100.0	71.1	55.6	0.0	0.0	50.0	0.0	46.2	0.0	46.2	63.2
Articulated Trucks	5	3	0	8	3	0	0	3	0	5	0	5	16
Articulated %	14.3	33.3	0.0	17.8	33.3	0.0	0.0	30.0	0.0	38.5	0.0	38.5	23.5
Buses	4	1	0	5	1	1	0	2	0	2	0	2	9
Single-Unit Trucks	26	5	1	32	5	0	0	5	0	6	0	6	43
Articulated Trucks	5	3	0	8	3	0	0	3	0	5	0	5	16
Total Entering Leg	35	9	1	45	9	1	0	10	0	13	0	13	68
Buses				3				1				5	9
Single-Unit Trucks				12				5				26	43
Articulated Trucks				8				3				5	16
Total Exiting Leg				23				9				36	68

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	111	38	0	149	31	0	0	31	1	54	0	55	235
7:15 AM	96	41	0	137	14	0	0	14	0	64	0	64	215
7:30 AM	116	41	0	157	30	0	0	30	1	76	0	77	264
7:45 AM	133	53	0	186	35	0	0	35	0	55	0	55	276
Total	456	173	0	629	110	0	0	110	2	249	0	251	990
8:00 AM	115	29	0	144	39	0	0	39	1	72	0	73	256
8:15 AM	87	26	0	113	29	1	0	30	1	65	0	66	209
8:30 AM	67	17	0	84	32	0	0	32	0	67	0	67	183
8:45 AM	61	14	0	75	32	1	0	33	1	68	0	69	177
Total	330	86	0	416	132	2	0	134	3	272	0	275	825
Grand Total	786	259	0	1045	242	2	0	244	5	521	0	526	1815
Approach %	75.2	24.8	0.0		99.2	0.8	0.0		1.0	99.0	0.0		
Total %	43.3	14.3	0.0	57.6	13.3	0.1	0.0	13.4	0.3	28.7	0.0	29.0	
Exiting Leg Total				763				264				788	1815

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

7:15 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	96	41	0	137	14	0	0	14	0	64	0	64	215
7:30 AM	116	41	0	157	30	0	0	30	1	76	0	77	264
7:45 AM	133	53	0	186	35	0	0	35	0	55	0	55	276
8:00 AM	115	29	0	144	39	0	0	39	1	72	0	73	256
Total Volume	460	164	0	624	118	0	0	118	2	267	0	269	1011
% Approach Total	73.7	26.3	0.0		100.0	0.0	0.0		0.7	99.3	0.0		
PHF	0.865	0.774	0.000	0.839	0.756	0.000	0.000	0.756	0.500	0.878	0.000	0.873	0.916
Entering Leg	460	164	0	624	118	0	0	118	2	267	0	269	1011
Exiting Leg				385				166				460	1011
Total				1009				284				729	2022

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	15	10	0	25	5	0	0	5	0	17	0	17	47
7:15 AM	16	9	0	25	5	1	0	6	0	19	0	19	50
7:30 AM	19	7	0	26	2	1	0	3	0	16	0	16	45
7:45 AM	13	9	0	22	9	0	0	9	0	10	0	10	41
Total	63	35	0	98	21	2	0	23	0	62	0	62	183
8:00 AM	13	7	0	20	2	0	0	2	2	9	0	11	33
8:15 AM	16	6	0	22	5	1	0	6	1	8	0	9	37
8:30 AM	8	4	0	12	4	0	0	4	1	9	0	10	26
8:45 AM	18	8	0	26	6	0	0	6	0	7	0	7	39
Total	55	25	0	80	17	1	0	18	4	33	0	37	135
Grand Total	118	60	0	178	38	3	0	41	4	95	0	99	318
Approach %	66.3	33.7	0.0		92.7	7.3	0.0		4.0	96.0	0.0		
Total %	37.1	18.9	0.0	56.0	11.9	0.9	0.0	12.9	1.3	29.9	0.0	31.1	
Exiting Leg Total				133				64				121	318

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

7:00 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	15	10	0	25	5	0	0	5	0	17	0	17	47
7:15 AM	16	9	0	25	5	1	0	6	0	19	0	19	50
7:30 AM	19	7	0	26	2	1	0	3	0	16	0	16	45
7:45 AM	13	9	0	22	9	0	0	9	0	10	0	10	41
Total Volume	63	35	0	98	21	2	0	23	0	62	0	62	183
% Approach Total	64.3	35.7	0.0		91.3	8.7	0.0		0.0	100.0	0.0		
PHF	0.829	0.875	0.000	0.942	0.583	0.500	0.000	0.639	0.000	0.816	0.000	0.816	0.915
Entering Leg	63	35	0	98	21	2	0	23	0	62	0	62	183
Exiting Leg				83				35				65	183
Total				181				58				127	366

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Buses

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	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	1	0	1	1
7:30 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	3
Total	3	1	0	4	0	1	0	1	0	1	0	1	6
8:00 AM	1	0	0	1	1	0	0	1	0	1	0	1	3
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
8:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	3	0	0	3	1	0	0	1	0	4	0	4	8
Grand Total	6	1	0	7	1	1	0	2	0	5	0	5	14
Approach %	85.7	14.3	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
Total %	42.9	7.1	0.0	50.0	7.1	7.1	0.0	14.3	0.0	35.7	0.0	35.7	
Exiting Leg Total				6				1				7	14

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

7:15 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:30 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
7:45 AM	2	0	0	2	0	1	0	1	0	0	0	0	3
8:00 AM	1	0	0	1	1	0	0	1	0	1	0	1	3
Total Volume	4	1	0	5	1	1	0	2	0	2	0	2	9
% Approach Total	80.0	20.0	0.0		50.0	50.0	0.0		0.0	100.0	0.0		
PHF	0.500	0.250	0.000	0.625	0.250	0.250	0.000	0.500	0.000	0.500	0.000	0.500	0.750
Entering Leg	4	1	0	5	1	1	0	2	0	2	0	2	9
Exiting Leg				3				1				5	9
Total				8				3				7	18

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	3	2	0	5	1	0	0	1	0	4	0	4	10
7:15 AM	10	3	1	14	1	0	0	1	0	1	0	1	16
7:30 AM	7	0	0	7	2	0	0	2	0	1	0	1	10
7:45 AM	5	0	0	5	2	0	0	2	0	2	0	2	9
Total	25	5	1	31	6	0	0	6	0	8	0	8	45
8:00 AM	4	2	0	6	0	0	0	0	0	2	0	2	8
8:15 AM	4	2	0	6	2	0	0	2	0	5	0	5	13
8:30 AM	4	1	0	5	2	0	0	2	0	4	0	4	11
8:45 AM	3	2	0	5	0	0	0	0	0	2	0	2	7
Total	15	7	0	22	4	0	0	4	0	13	0	13	39
Grand Total	40	12	1	53	10	0	0	10	0	21	0	21	84
Approach %	75.5	22.6	1.9		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	47.6	14.3	1.2	63.1	11.9	0.0	0.0	11.9	0.0	25.0	0.0	25.0	
Exiting Leg Total				32				12				40	84

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

7:00 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	3	2	0	5	1	0	0	1	0	4	0	4	10
7:15 AM	10	3	1	14	1	0	0	1	0	1	0	1	16
7:30 AM	7	0	0	7	2	0	0	2	0	1	0	1	10
7:45 AM	5	0	0	5	2	0	0	2	0	2	0	2	9
Total Volume	25	5	1	31	6	0	0	6	0	8	0	8	45
% Approach Total	80.6	16.1	3.2		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.625	0.417	0.250	0.554	0.750	0.000	0.000	0.750	0.000	0.500	0.000	0.500	0.703
Entering Leg	25	5	1	31	6	0	0	6	0	8	0	8	45
Exiting Leg				15				5				25	45
Total				46				11				33	90

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
7:00 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
7:15 AM	2	0	0	2	2	0	0	2	0	3	0	3	7
7:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	2
Total	5	2	0	7	2	0	0	2	0	4	0	4	13
8:00 AM	1	2	0	3	1	0	0	1	0	1	0	1	5
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	3
8:30 AM	1	2	0	3	0	0	0	0	0	2	0	2	5
8:45 AM	2	0	0	2	0	0	0	0	0	2	0	2	4
Total	4	4	0	8	1	0	0	1	0	8	0	8	17
Grand Total	9	6	0	15	3	0	0	3	0	12	0	12	30
Approach %	60.0	40.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	30.0	20.0	0.0	50.0	10.0	0.0	0.0	10.0	0.0	40.0	0.0	40.0	
Exiting Leg Total				15				6				9	30

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

8:00 AM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
8:00 AM	1	2	0	3	1	0	0	1	0	1	0	1	5
8:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	3
8:30 AM	1	2	0	3	0	0	0	0	0	2	0	2	5
8:45 AM	2	0	0	2	0	0	0	0	0	2	0	2	4
Total Volume	4	4	0	8	1	0	0	1	0	8	0	8	17
% Approach Total	50.0	50.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.500	0.500	0.000	0.667	0.250	0.000	0.000	0.250	0.000	0.667	0.000	0.667	0.850
Entering Leg	4	4	0	8	1	0	0	1	0	8	0	8	17
Exiting Leg				9				4				4	17
Total				17				5				12	34

PDI File #: **186200 B**
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Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

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46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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		
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 #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

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Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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		
Total %	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	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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		
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 #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	86	24	0	110	52	0	0	52	1	134	0	135	297
4:15 PM	64	25	0	89	49	2	0	51	0	138	0	138	278
4:30 PM	86	30	0	116	45	0	0	45	2	150	0	152	313
4:45 PM	86	28	0	114	56	0	0	56	1	140	0	141	311
Total	322	107	0	429	202	2	0	204	4	562	0	566	1199
5:00 PM	91	31	0	122	62	2	0	64	1	139	0	140	326
5:15 PM	89	40	0	129	48	1	0	49	1	118	0	119	297
5:30 PM	88	28	0	116	50	1	0	51	0	114	0	114	281
5:45 PM	82	17	0	99	46	2	0	48	1	126	0	127	274
Total	350	116	0	466	206	6	0	212	3	497	0	500	1178
Grand Total	672	223	0	895	408	8	0	416	7	1059	0	1066	2377
Approach %	75.1	24.9	0.0		98.1	1.9	0.0		0.7	99.3	0.0		
Total %	28.3	9.4	0.0	37.7	17.2	0.3	0.0	17.5	0.3	44.6	0.0	44.8	
Exiting Leg Total				1467				230				680	2377
Cars	659	221	0	880	399	7	0	406	6	1033	0	1039	2325
% Cars	98.1	99.1	0.0	98.3	97.8	87.5	0.0	97.6	85.7	97.5	0.0	97.5	97.8
Exiting Leg Total				1432				227				666	2325
Heavy Vehicles	13	2	0	15	9	1	0	10	1	26	0	27	52
% Heavy Vehicles	1.9	0.9	0.0	1.7	2.2	12.5	0.0	2.4	14.3	2.5	0.0	2.5	2.2
Exiting Leg Total				35				3				14	52

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

4:30 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:30 PM	86	30	0	116	45	0	0	45	2	150	0	152	313
4:45 PM	86	28	0	114	56	0	0	56	1	140	0	141	311
5:00 PM	91	31	0	122	62	2	0	64	1	139	0	140	326
5:15 PM	89	40	0	129	48	1	0	49	1	118	0	119	297
Total Volume	352	129	0	481	211	3	0	214	5	547	0	552	1247
% Approach Total	73.2	26.8	0.0		98.6	1.4	0.0		0.9	99.1	0.0		
PHF	0.967	0.806	0.000	0.932	0.851	0.375	0.000	0.836	0.625	0.912	0.000	0.908	0.956
Cars	345	128	0	473	208	3	0	211	4	540	0	544	1228
Cars %	98.0	99.2	0.0	98.3	98.6	100.0	0.0	98.6	80.0	98.7	0.0	98.6	98.5
Heavy Vehicles	7	1	0	8	3	0	0	3	1	7	0	8	19
Heavy Vehicles %	2.0	0.8	0.0	1.7	1.4	0.0	0.0	1.4	20.0	1.3	0.0	1.4	1.5
Cars Enter Leg	345	128	0	473	208	3	0	211	4	540	0	544	1228
Heavy Enter Leg	7	1	0	8	3	0	0	3	1	7	0	8	19
Total Entering Leg	352	129	0	481	211	3	0	214	5	547	0	552	1247
Cars Exiting Leg				748				132				348	1228
Heavy Exiting Leg				10				2				7	19
Total Exiting Leg				758				134				355	1247

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars-Combined (Motorcycles, Cars, Light Goods)

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	82	24	0	106	50	0	0	50	1	126	0	127	283
4:15 PM	63	25	0	88	48	2	0	50	0	129	0	129	267
4:30 PM	82	29	0	111	44	0	0	44	2	148	0	150	305
4:45 PM	86	28	0	114	56	0	0	56	1	137	0	138	308
Total	313	106	0	419	198	2	0	200	4	540	0	544	1163
5:00 PM	89	31	0	120	61	2	0	63	1	137	0	138	321
5:15 PM	88	40	0	128	47	1	0	48	0	118	0	118	294
5:30 PM	87	27	0	114	48	1	0	49	0	114	0	114	277
5:45 PM	82	17	0	99	45	1	0	46	1	124	0	125	270
Total	346	115	0	461	201	5	0	206	2	493	0	495	1162
Grand Total	659	221	0	880	399	7	0	406	6	1033	0	1039	2325
Approach %	74.9	25.1	0.0		98.3	1.7	0.0		0.6	99.4	0.0		
Total %	28.3	9.5	0.0	37.8	17.2	0.3	0.0	17.5	0.3	44.4	0.0	44.7	
Exiting Leg Total				1432				227				666	2325

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

4:30 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:30 PM	82	29	0	111	44	0	0	44	2	148	0	150	305
4:45 PM	86	28	0	114	56	0	0	56	1	137	0	138	308
5:00 PM	89	31	0	120	61	2	0	63	1	137	0	138	321
5:15 PM	88	40	0	128	47	1	0	48	0	118	0	118	294
Total Volume	345	128	0	473	208	3	0	211	4	540	0	544	1228
% Approach Total	72.9	27.1	0.0		98.6	1.4	0.0		0.7	99.3	0.0		
PHF	0.969	0.800	0.000	0.924	0.852	0.375	0.000	0.837	0.500	0.912	0.000	0.907	0.956
Entering Leg	345	128	0	473	208	3	0	211	4	540	0	544	1228
Exiting Leg				748				132				348	1228
Total				1221				343				892	2456

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

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

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	4	0	0	4	2	0	0	2	0	8	0	8	14
4:15 PM	1	0	0	1	1	0	0	1	0	9	0	9	11
4:30 PM	4	1	0	5	1	0	0	1	0	2	0	2	8
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	9	1	0	10	4	0	0	4	0	22	0	22	36
5:00 PM	2	0	0	2	1	0	0	1	0	2	0	2	5
5:15 PM	1	0	0	1	1	0	0	1	1	0	0	1	3
5:30 PM	1	1	0	2	2	0	0	2	0	0	0	0	4
5:45 PM	0	0	0	0	1	1	0	2	0	2	0	2	4
Total	4	1	0	5	5	1	0	6	1	4	0	5	16
Grand Total	13	2	0	15	9	1	0	10	1	26	0	27	52
Approach %	86.7	13.3	0.0		90.0	10.0	0.0		3.7	96.3	0.0		
Total %	25.0	3.8	0.0	28.8	17.3	1.9	0.0	19.2	1.9	50.0	0.0	51.9	
Exiting Leg Total				35				3				14	52
Buses	3	0	0	3	1	0	0	1	0	2	0	2	6
% Buses	23.1	0.0	0.0	20.0	11.1	0.0	0.0	10.0	0.0	7.7	0.0	7.4	11.5
Exiting Leg Total				3				0				3	6
Single-Unit Trucks	5	0	0	5	5	0	0	5	1	15	0	16	26
% Single-Unit	38.5	0.0	0.0	33.3	55.6	0.0	0.0	50.0	100.0	57.7	0.0	59.3	50.0
Exiting Leg Total				20				1				5	26
Articulated Trucks	5	2	0	7	3	1	0	4	0	9	0	9	20
% Articulated	38.5	100.0	0.0	46.7	33.3	100.0	0.0	40.0	0.0	34.6	0.0	33.3	38.5
Exiting Leg Total				12				2				6	20

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

4:00 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	4	0	0	4	2	0	0	2	0	8	0	8	14
4:15 PM	1	0	0	1	1	0	0	1	0	9	0	9	11
4:30 PM	4	1	0	5	1	0	0	1	0	2	0	2	8
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total Volume	9	1	0	10	4	0	0	4	0	22	0	22	36
% Approach Total	90.0	10.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.563	0.250	0.000	0.500	0.500	0.000	0.000	0.500	0.000	0.611	0.000	0.611	0.643
Buses	3	0	0	3	0	0	0	0	0	2	0	2	5
Buses %	33.3	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	9.1	13.9
Single-Unit Trucks	3	0	0	3	2	0	0	2	0	12	0	12	17
Single-Unit %	33.3	0.0	0.0	30.0	50.0	0.0	0.0	50.0	0.0	54.5	0.0	54.5	47.2
Articulated Trucks	3	1	0	4	2	0	0	2	0	8	0	8	14
Articulated %	33.3	100.0	0.0	40.0	50.0	0.0	0.0	50.0	0.0	36.4	0.0	36.4	38.9
Buses	3	0	0	3	0	0	0	0	0	2	0	2	5
Single-Unit Trucks	3	0	0	3	2	0	0	2	0	12	0	12	17
Articulated Trucks	3	1	0	4	2	0	0	2	0	8	0	8	14
Total Entering Leg	9	1	0	10	4	0	0	4	0	22	0	22	36
Buses				2				0				3	5
Single-Unit Trucks				14				0				3	17
Articulated Trucks				10				1				3	14
Total Exiting Leg				26				1				9	36

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	69	21	0	90	42	0	0	42	1	103	0	104	236
4:15 PM	53	23	0	76	41	1	0	42	0	110	0	110	228
4:30 PM	72	23	0	95	37	0	0	37	2	120	0	122	254
4:45 PM	76	23	0	99	46	0	0	46	1	116	0	117	262
Total	270	90	0	360	166	1	0	167	4	449	0	453	980
5:00 PM	77	26	0	103	54	0	0	54	1	123	0	124	281
5:15 PM	78	37	0	115	37	1	0	38	0	112	0	112	265
5:30 PM	80	23	0	103	39	1	0	40	0	101	0	101	244
5:45 PM	75	10	0	85	38	1	0	39	1	114	0	115	239
Total	310	96	0	406	168	3	0	171	2	450	0	452	1029
Grand Total	580	186	0	766	334	4	0	338	6	899	0	905	2009
Approach %	75.7	24.3	0.0		98.8	1.2	0.0		0.7	99.3	0.0		
Total %	28.9	9.3	0.0	38.1	16.6	0.2	0.0	16.8	0.3	44.7	0.0	45.0	
Exiting Leg Total				1233				192				584	2009

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

4:30 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:30 PM	72	23	0	95	37	0	0	37	2	120	0	122	254
4:45 PM	76	23	0	99	46	0	0	46	1	116	0	117	262
5:00 PM	77	26	0	103	54	0	0	54	1	123	0	124	281
5:15 PM	78	37	0	115	37	1	0	38	0	112	0	112	265
Total Volume	303	109	0	412	174	1	0	175	4	471	0	475	1062
% Approach Total	73.5	26.5	0.0		99.4	0.6	0.0		0.8	99.2	0.0		
PHF	0.971	0.736	0.000	0.896	0.806	0.250	0.000	0.810	0.500	0.957	0.000	0.958	0.945
Entering Leg	303	109	0	412	174	1	0	175	4	471	0	475	1062
Exiting Leg				645				113				304	1062
Total				1057				288				779	2124

PDI File #: **186200 B**
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City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Light Goods Vehicle

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	12	3	0	15	8	0	0	8	0	23	0	23	46
4:15 PM	10	2	0	12	7	1	0	8	0	19	0	19	39
4:30 PM	10	6	0	16	7	0	0	7	0	26	0	26	49
4:45 PM	9	5	0	14	10	0	0	10	0	21	0	21	45
Total	41	16	0	57	32	1	0	33	0	89	0	89	179
5:00 PM	11	5	0	16	7	2	0	9	0	14	0	14	39
5:15 PM	10	3	0	13	10	0	0	10	0	6	0	6	29
5:30 PM	7	4	0	11	9	0	0	9	0	13	0	13	33
5:45 PM	6	7	0	13	7	0	0	7	0	10	0	10	30
Total	34	19	0	53	33	2	0	35	0	43	0	43	131
Grand Total	75	35	0	110	65	3	0	68	0	132	0	132	310
Approach %	68.2	31.8	0.0		95.6	4.4	0.0		0.0	100.0	0.0		
Total %	24.2	11.3	0.0	35.5	21.0	1.0	0.0	21.9	0.0	42.6	0.0	42.6	
Exiting Leg Total				197				35				78	310

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

4:00 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	12	3	0	15	8	0	0	8	0	23	0	23	46
4:15 PM	10	2	0	12	7	1	0	8	0	19	0	19	39
4:30 PM	10	6	0	16	7	0	0	7	0	26	0	26	49
4:45 PM	9	5	0	14	10	0	0	10	0	21	0	21	45
Total Volume	41	16	0	57	32	1	0	33	0	89	0	89	179
% Approach Total	71.9	28.1	0.0		97.0	3.0	0.0		0.0	100.0	0.0		
PHF	0.854	0.667	0.000	0.891	0.800	0.250	0.000	0.825	0.000	0.856	0.000	0.856	0.913
Entering Leg	41	16	0	57	32	1	0	33	0	89	0	89	179
Exiting Leg				121				16				42	179
Total				178				49				131	358

PDI File #: **186200 B**
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Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

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Office: 508-875-0100 Fax: 508-875-0118
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Buses

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	3	0	0	0	0	0	2	0	2	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
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	1	0	0	1	0	0	0	0	1
Grand Total	3	0	0	3	1	0	0	1	0	2	0	2	6
Approach %	100.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
Total %	50.0	0.0	0.0	50.0	16.7	0.0	0.0	16.7	0.0	33.3	0.0	33.3	
Exiting Leg Total				3				0				3	6

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

4:00 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	0	0	3	0	0	0	0	0	2	0	2	5
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.417
Entering Leg	3	0	0	3	0	0	0	0	0	2	0	2	5
Exiting Leg				2				0				3	5
Total				5				0				5	10

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	5	0	5	6
4:15 PM	1	0	0	1	0	0	0	0	0	6	0	6	7
4:30 PM	2	0	0	2	1	0	0	1	0	1	0	1	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	3	2	0	0	2	0	12	0	12	17
5:00 PM	1	0	0	1	1	0	0	1	0	1	0	1	3
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	1	0	0	1	1	0	0	1	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	0	1	0	2	0	2	3
Total	2	0	0	2	3	0	0	3	1	3	0	4	9
Grand Total	5	0	0	5	5	0	0	5	1	15	0	16	26
Approach %	100.0	0.0	0.0		100.0	0.0	0.0		6.3	93.8	0.0		
Total %	19.2	0.0	0.0	19.2	19.2	0.0	0.0	19.2	3.8	57.7	0.0	61.5	
Exiting Leg Total				20				1				5	26

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

4:00 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	0	0	0	0	1	0	0	1	0	5	0	5	6
4:15 PM	1	0	0	1	0	0	0	0	0	6	0	6	7
4:30 PM	2	0	0	2	1	0	0	1	0	1	0	1	4
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	0	0	3	2	0	0	2	0	12	0	12	17
% Approach Total	100.0	0.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.375	0.000	0.000	0.375	0.500	0.000	0.000	0.500	0.000	0.500	0.000	0.500	0.607
Entering Leg	3	0	0	3	2	0	0	2	0	12	0	12	17
Exiting Leg				14				0				3	17
Total				17				2				15	34

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	2	0	0	2	1	0	0	1	0	2	0	2	5
4:15 PM	0	0	0	0	1	0	0	1	0	3	0	3	4
4:30 PM	1	1	0	2	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total	3	1	0	4	2	0	0	2	0	8	0	8	14
5:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
5:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
5:30 PM	0	1	0	1	1	0	0	1	0	0	0	0	2
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	2	1	0	3	1	1	0	2	0	1	0	1	6
Grand Total	5	2	0	7	3	1	0	4	0	9	0	9	20
Approach %	71.4	28.6	0.0		75.0	25.0	0.0		0.0	100.0	0.0		
Total %	25.0	10.0	0.0	35.0	15.0	5.0	0.0	20.0	0.0	45.0	0.0	45.0	
Exiting Leg Total				12				2				6	20

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

4:00 PM	Clinton Road (Route 62) from North				Sterling Road from East				Sterling Street (Route 62) from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Total
4:00 PM	2	0	0	2	1	0	0	1	0	2	0	2	5
4:15 PM	0	0	0	0	1	0	0	1	0	3	0	3	4
4:30 PM	1	1	0	2	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	3	0	3	3
Total Volume	3	1	0	4	2	0	0	2	0	8	0	8	14
% Approach Total	75.0	25.0	0.0		100.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.375	0.250	0.000	0.500	0.500	0.000	0.000	0.500	0.000	0.667	0.000	0.667	0.700
Entering Leg	3	1	0	4	2	0	0	2	0	8	0	8	14
Exiting Leg				10				1				3	14
Total				14				3				11	28

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
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	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
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	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Grand Total	1	1	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3
Approach %	50.0	50.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	33.3	33.3	0.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	33.3	
Exiting Leg Total						1						1						1	3

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

4:30 PM	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	Total
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
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	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.250
Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Exiting Leg						1						0						1	2
Total						2						0						2	4

PDI File #: **186200 B**
Location: **N: Clinton Road (Route 62) S: Sterling Street (Route 62)**
Location: **E: Sterling Road**
City, State: **Lancaster, MA**
Client: **GIA, Inc/ J. Freeman**
Site Code: **TBA**
Count Date: **Wednesday, April 11, 2018**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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
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		
Total %	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 06:00 PM begins at:

4:00 PM	Clinton Road (Route 62) from North						Sterling Road from East						Sterling Street (Route 62) from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	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		
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

APPENDIX C – MASSDOT SEASONAL ADJUSTMENT FACTORS AND HISTORICAL GROWTH

GREEN INTERNATIONAL AFFILIATES, INC.
Civil and Structural Engineers
239 Littleton Road, Suite 3
WESTFORD, MA 01886

JOB 18019.005 Goodridge Brook Estates, Lancaster, MA
SHEET NO. _____ OF _____
CALCULATED BY AS DATE 4/10/2018
CHECKED BY JG DATE 4/12/2018
DESCRIPTION Seasonal Traffic Patterns

Daily Avg. Counts on Weekdays

From MassDOT Interactive Transportation Data Management System

Sterling Road - Lancaster, MA	**MassDOT spot count, location ID 236025 - between Route 62 and Mary Catherine Dr**	
year	**2001**	**2015**
Daily traffic volume	3,200	3,378
average annual growth rate (relative to 2005)		0.39%

Use 0.5%

Seasonal Adjustment Factor

George W Stanton Hwy (Route 2)	**MassDOT continuous count, location ID 34 - between I-190 and Lunenburg Rd (Route 70), Lancaster, MA**												
Month (2016)	January	February	March	April	May	June	July	August	September	October	November	December	Average
Average Total Daily Traffic	50,715	50,526	53,846	54,273	56,293	58,955	55,719	59,010	57,730	57,451	55,282	52,258	55,172
Seasonal Adjustment Factor	0.9192	0.9158	0.9760	0.9837	1.0203	1.0686	1.0099	1.0696	1.0464	1.0413	1.0020	0.9472	-

Insufficient data for January, September, and November in 2017; hence, 2016 is used

APPENDIX D – CRASH RATE CALCULATIONS

INTERSECTION CRASH RATE WORKSHEET

TOWN : Lancaster COUNT DATE : 4/11/2018

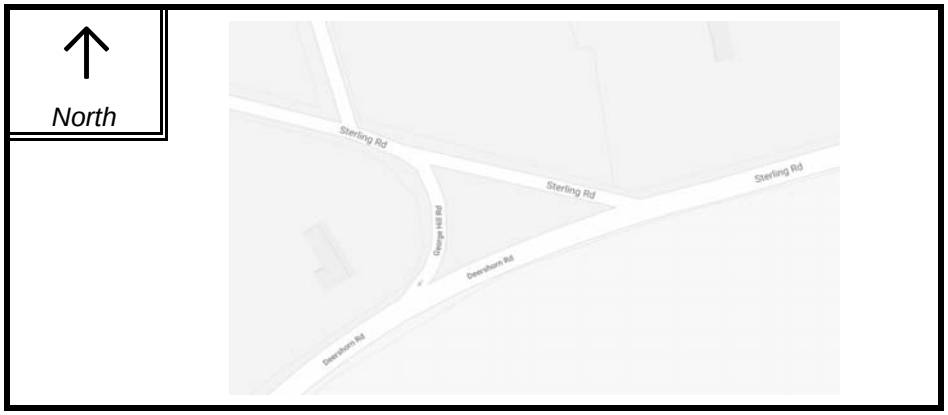
DISTRICT : 3 UNSIGNALIZED : √ SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Sterling Rd / Deershorn Rd

MINOR STREET(S) : Sterling Rd

INTERSECTION DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	SB	EB	WB			
PEAK HOURLY VOLUMES (PM) :	147	74	284			**505**

" K " FACTOR : 0.08 INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **6,313**

TOTAL # OF CRASHES : 1 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.33**

CRASH RATE CALCULATION : **0.14** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : The average crash rate for un-signalized intersections in District 3 is 0.65 MEV

Project Title & Date: 18019 - Proposed Goodridge Brook Estates 40B Development, Lancaster, MA

INTERSECTION CRASH RATE WORKSHEET

TOWN : Lancaster COUNT DATE : 4/11/2018

DISTRICT : 3 UNSIGNALIZED : √ SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Clinton Road / Sterling Street (Route 62)

MINOR STREET(S) : Sterling Rd

INTERSECTION DIAGRAM

PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	WB			
PEAK HOURLY VOLUMES (PM) :	552	481	214			**1,247**

" K " FACTOR : 0.08 INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **15,588**

TOTAL # OF CRASHES : 6 # OF YEARS : 3 AVERAGE # OF CRASHES PER YEAR (**A**) : **2.00**

CRASH RATE CALCULATION : **0.35** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments : The average crash rate for un-signalized intersections in District 3 is 0.65 MEV

Project Title & Date: 18019 - Proposed Goodridge Brook Estates 40B Development, Lancaster, MA

APPENDIX E – JOURNEY TO WORK CENSUS DATA

A302100 - Total Workers (1) (Workers 16 years and over)
Current date: 4/19/2018 1:09:36 PM (Eastern Daylight Time)

Measures - Workers 16 and Over

Output				
RESIDENCE	**WORKPLACE**	Estimate	Percentage	Margin of Error
Lancaster town,	Lancaster town, Worcester County, Massachusetts	615	18.44%	178
	Worcester city, Worcester County, Massachusetts	355	10.64%	146
	Clinton town, Worcester County, Massachusetts	235	7.04%	110
	Marlborough city, Middlesex County, Massachusetts	210	6.29%	112
	Leominster city, Worcester County, Massachusetts	190	5.70%	101
	Acton town, Middlesex County, Massachusetts	110	3.30%	83
	Hudson town, Middlesex County, Massachusetts	90	2.70%	54
	Bolton town, Worcester County, Massachusetts	90	2.70%	57
	Concord town, Middlesex County, Massachusetts	80	2.40%	98
	Stow town, Middlesex County, Massachusetts	70	2.10%	68
	Harvard town, Worcester County, Massachusetts	70	2.10%	66
	Framingham town, Middlesex County, Massachusetts	55	1.65%	64
	Ayer town, Middlesex County, Massachusetts	50	1.50%	56
	Auburn town, Worcester County, Massachusetts	50	1.50%	46
	Hopkinton town, Middlesex County, Massachusetts	45	1.35%	42
	Boston city, Suffolk County, Massachusetts	45	1.35%	36
	Andover town, Essex County, Massachusetts	40	1.20%	44
	Chelmsford town, Middlesex County, Massachusetts	40	1.20%	39
	Fitchburg city, Worcester County, Massachusetts	40	1.20%	39
	Westborough town, Worcester County, Massachusett	40	1.20%	41
	Mendon town, Worcester County, Massachusetts	35	1.05%	62
	Princeton town, Worcester County, Massachusetts	30	0.90%	47
	Sterling town, Worcester County, Massachusetts	30	0.90%	32
	Methuen Town city, Essex County, Massachusetts	25	0.75%	39
	Boxborough town, Middlesex County, Massachusetts	25	0.75%	31
	Natick town, Middlesex County, Massachusetts	25	0.75%	30
	Westford town, Middlesex County, Massachusetts	25	0.75%	32
	Hardwick town, Worcester County, Massachusetts	25	0.75%	28
	Lunenburg town, Worcester County, Massachusetts	25	0.75%	31
	Northborough town, Worcester County, Massachuset	25	0.75%	37
	West Boylston town, Worcester County, Massachuset	25	0.75%	31
	Dublin town, Cheshire County, New Hampshire	25	0.75%	38
	Wilbraham town, Hampden County, Massachusetts	20	0.60%	38
	South Hadley town, Hampshire County, Massachusett	20	0.60%	33
	Billerica town, Middlesex County, Massachusetts	20	0.60%	27
	Cambridge city, Middlesex County, Massachusetts	20	0.60%	24
	Groton town, Middlesex County, Massachusetts	20	0.60%	27
	Lowell city, Middlesex County, Massachusetts	20	0.60%	24
	Waltham city, Middlesex County, Massachusetts	20	0.60%	35
	Revere city, Suffolk County, Massachusetts	20	0.60%	31
	Grafton town, Worcester County, Massachusetts	20	0.60%	25
	Oxford town, Worcester County, Massachusetts	20	0.60%	32
	Spencer town, Worcester County, Massachusetts	20	0.60%	32
	Lincoln town, Providence County, Rhode Island	20	0.60%	32
	Saugus town, Essex County, Massachusetts	15	0.45%	24
	Ashland town, Middlesex County, Massachusetts	15	0.45%	25
	Lexington town, Middlesex County, Massachusetts	15	0.45%	25
	Littleton town, Middlesex County, Massachusetts	15	0.45%	26
	Medford city, Middlesex County, Massachusetts	15	0.45%	23
	Shirley town, Middlesex County, Massachusetts	15	0.45%	25
	Woburn city, Middlesex County, Massachusetts	15	0.45%	24
	Quincy city, Norfolk County, Massachusetts	15	0.45%	28
	Shrewsbury town, Worcester County, Massachusetts	15	0.45%	25
	Southbridge Town city, Worcester County, Massachus	15	0.45%	23
	East Granby town, Hartford County, Connecticut	10	0.30%	21
	Reading town, Middlesex County, Massachusetts	10	0.30%	18
	Canton town, Norfolk County, Massachusetts	10	0.30%	13
	Dedham town, Norfolk County, Massachusetts	10	0.30%	14
	Winthrop Town city, Suffolk County, Massachusetts	10	0.30%	22
	Gardner city, Worcester County, Massachusetts	10	0.30%	14
	Southborough town, Worcester County, Massachuset	10	0.30%	14
	Sutton town, Worcester County, Massachusetts	10	0.30%	14
	Hudson town, Hillsborough County, New Hampshire	10	0.30%	16
	Sudbury town, Middlesex County, Massachusetts	4	0.12%	9
	Wayland town, Middlesex County, Massachusetts	4	0.12%	10
	Milford town, Worcester County, Massachusetts	4	0.12%	11
	Millbury town, Worcester County, Massachusetts	4	0.12%	6

U.S. Census Bureau, American Community Survey 2006-2010 Five-year estimates. Special Tabulation: Census Transportal

TOTAL ESTIMATE **3,336**

APPENDIX F – TRIP GENERATION CALCULATIONS

TRIP GENERATION WORKSHEET

LAND USE: *Single Family Detached Housing*
LAND USE CODE: 210 Independent Variable---Trips per DU
SETTING/LOCATION: General Urban / Suburban

JOB: Goodridge Brook Estates, Lancaster, MA
JOB NUMBER: 18019 Number of Units: 64

WEEKDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	9.44	4.81	19.39	50%	50%	159
AM PEAK	0.74	0.33	2.27	25%	75%	173
PM PEAK	0.99	0.44	2.98	63%	37%	190
PK GEN AM	0.76	0.36	2.27	26%	74%	157
PK GEN PM	1	0.49	2.98	64%	36%	165

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	604	302	302	690	345	345	0.95
AM PEAK	47	12	35	50	13	38	0.89
PM PEAK	63	40	23	66	42	24	0.92
PK GEN AM	49	13	36	54	14	40	0.89
PK GEN PM	64	41	23	70	45	25	0.92

SATURDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	9.54	5.32	15.25	50%	50%	52
PEAK HR	0.93	0.64	1.75	54%	46%	31

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	611	306	306	645	323	323	0.91
PEAK HR	60	32	28	72	39	33	0.87

SUNDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	8.55	4.74	11.82	50%	50%	51
PEAK HR	0.85	0.6	1.45	53%	47%	31

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	547	274	274	503	252	252	0.94
PEAK HR	54	29	25	62	33	29	0.88

SOURCE: Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

TRIP GENERATION WORKSHEET

LAND USE: *Multifamily Housing (Low-Rise)*
LAND USE CODE: 220 Independent Variable---Dwelling Units
SETTING/LOCATION: General Urban / Suburban

PROJECT NAME: Goodridge Brook Estates, Lancaster, MA
PROJECT #: 18019 Number of Units: 136

WEEKDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	7.32	4.45	10.97	50%	50%	29
AM PEAK	0.46	0.18	0.74	23%	77%	42
PM PEAK	0.56	0.18	1.25	63%	37%	50
PK GEN AM	0.56	0.34	0.97	28%	72%	36
PK GEN PM	0.67	0.41	1.25	59%	41%	35

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	996	498	498	987	494	494	0.96
AM PEAK	63	14	49	64	15	49	0.90
PM PEAK	76	48	28	78	49	29	0.86
PK GEN AM	76	21	55	76	21	55	0.91
PK GEN PM	91	54	37	91	54	37	0.94

SATURDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	8.14	3.36	11.40	50%	50%	5
PEAK HR	0.7	0.41	0.93	-	-	5

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	1107	554	554	1384	692	692	0.92
PEAK HR	95	-	-	114	-	-	

SUNDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	6.28	2.61	8.22	50%	50%	5
PEAK HR	0.67	0.36	0.93	-	-	5

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	854	427	427	1036	518	518	
PEAK HR	91	-	-	112	-	-	

SOURCE: Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

TRIP GENERATION WORKSHEET

LAND USE: *Single Family Detached Housing*
LAND USE CODE: 210 Independent Variable---Trips per DU
SETTING/LOCATION: General Urban / Suburban

JOB: Jones Crossing, Lancaster, MA
JOB NUMBER: 18019 Number of Units: 36

WEEKDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	9.44	4.81	19.39	50%	50%	159
AM PEAK	0.74	0.33	2.27	25%	75%	173
PM PEAK	0.99	0.44	2.98	63%	37%	190
PK GEN AM	0.76	0.36	2.27	26%	74%	157
PK GEN PM	1	0.49	2.98	64%	36%	165

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	340	170	170	406	203	203	0.95
AM PEAK	27	7	20	30	8	23	0.89
PM PEAK	36	23	13	38	24	14	0.92
PK GEN AM	27	7	20	32	8	24	0.89
PK GEN PM	36	23	13	41	26	15	0.92

SATURDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	9.54	5.32	15.25	50%	50%	52
PEAK HR	0.93	0.64	1.75	54%	46%	31

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	343	172	172	376	188	188	0.91
PEAK HR	33	18	15	48	26	22	0.87

SUNDAY

RATES:	Total Trip Ends			Directional Dist.		Number
	Average	Low	High	Enter	Exit	of Studies
DAILY	8.55	4.74	11.82	50%	50%	51
PEAK HR	0.85	0.6	1.45	53%	47%	31

	BY AVERAGE			BY REGRESSION			
	Total	Enter	Exit	Total	Enter	Exit	R^2
DAILY	308	154	154	254	127	127	0.94
PEAK HR	31	16	15	39	21	18	0.88

SOURCE: Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

APPENDIX G – INTERSECTION CAPACITY ANALYSIS

2018 EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	148	341	4	209	567
Future Vol, veh/h	3	148	341	4	209	567
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	33	6	4	0	4	6
Mvmt Flow	3	157	363	4	222	603

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1412	365	0	0	367	0
Stage 1	365	-	-	-	-	-
Stage 2	1047	-	-	-	-	-
Critical Hdwy	6.73	6.26	-	-	4.14	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.354	-	-	2.236	-
Pot Cap-1 Maneuver	130	671	-	-	1181	-
Stage 1	639	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	93	671	-	-	1181	-
Mov Cap-2 Maneuver	93	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	296	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	597	1181	-
HCM Lane V/C Ratio	-	-	0.269	0.188	-
HCM Control Delay (s)	-	-	13.2	8.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.7	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	132	47	120	193	0
Future Vol, veh/h	0	132	47	120	193	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	2	11	4	2	0
Mvmt Flow	0	155	55	141	227	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	196	0	-	0	281	126
Stage 1	-	-	-	-	126	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1389	-	-	-	709	930
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	873	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1389	-	-	-	709	930
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	873	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1389	-	-	-	709
HCM Lane V/C Ratio	-	-	-	-	0.32
HCM Control Delay (s)	0	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	193	7	0	120	13	0
Future Vol, veh/h	193	7	0	120	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	14	0	4	15	0
Mvmt Flow	227	8	0	141	15	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	235	0	372	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.1	-	6.55	6.2
Critical Hdwy Stg 1	-	-	-	-	5.55	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	-	-	2.2	-	3.635	3.3
Pot Cap-1 Maneuver	-	-	1344	-	604	813
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1344	-	604	813
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	604	-	-	1344	-
HCM Lane V/C Ratio	0.025	-	-	-	-
HCM Control Delay (s)	11.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	132	47	0	0	7
Future Vol, veh/h	13	132	47	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	15	2	11	0	2	14
Mvmt Flow	15	155	55	0	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	55	0	-	0	240	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	4.25	-	-	-	6.42	6.34
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.335	-	-	-	3.518	3.426
Pot Cap-1 Maneuver	1471	-	-	-	748	979
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	847	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1471	-	-	-	740	979
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	847	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1471	-	-	-	979
HCM Lane V/C Ratio	0.01	-	-	-	0.008
HCM Control Delay (s)	7.5	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	215	558	5	132	359
Future Vol, veh/h	3	215	558	5	132	359
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	1	20	1	2
Mvmt Flow	3	224	581	5	138	374

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1234	584	0	0	586	0
Stage 1	584	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	197	513	-	-	994	-
Stage 1	561	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	163	513	-	-	994	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	498	994	-
HCM Lane V/C Ratio	-	-	0.456	0.138	-
HCM Control Delay (s)	-	-	18.1	9.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.4	0.5	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	68	88	202	137	0
Future Vol, veh/h	0	68	88	202	137	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	2	2	0
Mvmt Flow	0	76	99	227	154	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	326	0	-	0	289	213
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1245	-	-	-	702	832
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	702	832
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	-	702
HCM Lane V/C Ratio	-	-	-	-	0.219
HCM Control Delay (s)	0	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	13	0	202	7	0
Future Vol, veh/h	137	13	0	202	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	8	0	2	0	0
Mvmt Flow	154	15	0	227	8	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	169	0	389	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	227	-
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	-	-	1421	-	619	888
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	619	888
Mov Cap-2 Maneuver	-	-	-	-	619	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	815	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	619	-	-	1421	-
HCM Lane V/C Ratio	0.013	-	-	-	-
HCM Control Delay (s)	10.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	68	88	0	0	13
Future Vol, veh/h	7	68	88	0	0	13
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	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	0	0	8
Mvmt Flow	8	76	99	0	0	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	99	0	-	0	191	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	92	-
Critical Hdwy	4.1	-	-	-	6.4	6.28
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.372
Pot Cap-1 Maneuver	1507	-	-	-	803	941
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	937	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1507	-	-	-	798	941
Mov Cap-2 Maneuver	-	-	-	-	798	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1507	-	-	-	941
HCM Lane V/C Ratio	0.005	-	-	-	0.016
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2025 NO-BUILD CONDITION

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	153	359	4	216	589
Future Vol, veh/h	3	153	359	4	216	589
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	33	6	4	0	4	6
Mvmt Flow	3	163	382	4	230	627

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1471	384	0	0	386	0
Stage 1	384	-	-	-	-	-
Stage 2	1087	-	-	-	-	-
Critical Hdwy	6.73	6.26	-	-	4.14	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.354	-	-	2.236	-
Pot Cap-1 Maneuver	119	655	-	-	1162	-
Stage 1	626	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	655	-	-	1162	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	282	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	578	1162	-
HCM Lane V/C Ratio	-	-	0.287	0.198	-
HCM Control Delay (s)	-	-	13.7	8.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.7	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	144	52	124	200	0
Future Vol, veh/h	0	144	52	124	200	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	2	11	4	2	0
Mvmt Flow	0	169	61	146	235	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	207	0	-	0	303	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1376	-	-	-	689	920
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1376	-	-	-	689	920
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	861	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1376	-	-	-	689
HCM Lane V/C Ratio	-	-	-	-	0.342
HCM Control Delay (s)	0	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	200	7	0	124	13	0
Future Vol, veh/h	200	7	0	124	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	14	0	4	15	0
Mvmt Flow	235	8	0	146	15	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	243	0	385	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	-	-	4.1	-	6.55	6.2
Critical Hdwy Stg 1	-	-	-	-	5.55	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	-	-	2.2	-	3.635	3.3
Pot Cap-1 Maneuver	-	-	1335	-	593	805
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	850	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	593	805
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	850	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1335	-
HCM Lane V/C Ratio	0.026	-	-	-	-
HCM Control Delay (s)	11.2	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	144	52	0	0	7
Future Vol, veh/h	13	144	52	0	0	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	85	85	85	85	85	85
Heavy Vehicles, %	15	2	11	0	2	14
Mvmt Flow	15	169	61	0	0	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	61	0	-	0	260	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	4.25	-	-	-	6.42	6.34
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.335	-	-	-	3.518	3.426
Pot Cap-1 Maneuver	1463	-	-	-	729	971
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	835	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1463	-	-	-	721	971
Mov Cap-2 Maneuver	-	-	-	-	721	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	971
HCM Lane V/C Ratio	0.01	-	-	-	0.008
HCM Control Delay (s)	7.5	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	223	582	5	137	378
Future Vol, veh/h	3	223	582	5	137	378
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	1	20	1	2
Mvmt Flow	3	232	606	5	143	394

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1289	609	0	0	611	0
Stage 1	609	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	182	497	-	-	973	-
Stage 1	547	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	148	497	-	-	973	-
Mov Cap-2 Maneuver	148	-	-	-	-	-
Stage 1	444	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	482	973	-
HCM Lane V/C Ratio	-	-	0.488	0.147	-
HCM Control Delay (s)	-	-	19.4	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0.5	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	74	98	209	142	0
Future Vol, veh/h	0	74	98	209	142	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	2	2	0
Mvmt Flow	0	83	110	235	160	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	345	0	-	0	311	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1225	-	-	-	681	816
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1225	-	-	-	681	816
Mov Cap-2 Maneuver	-	-	-	-	681	-
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	940	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	681
HCM Lane V/C Ratio	-	-	-	-	0.234
HCM Control Delay (s)	0	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	13	0	209	7	0
Future Vol, veh/h	142	13	0	209	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	8	0	2	0	0
Mvmt Flow	160	15	0	235	8	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	175	0	403	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	235	-
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	-	-	1414	-	607	881
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	809	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1414	-	607	881
Mov Cap-2 Maneuver	-	-	-	-	607	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	809	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	607	-	-	1414	-
HCM Lane V/C Ratio	0.013	-	-	-	-
HCM Control Delay (s)	11	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	74	98	0	0	13
Future Vol, veh/h	7	74	98	0	0	13
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	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	0	0	8
Mvmt Flow	8	83	110	0	0	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	110	0	-	0	209	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	99	-
Critical Hdwy	4.1	-	-	-	6.4	6.28
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.372
Pot Cap-1 Maneuver	1493	-	-	-	784	927
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	930	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1493	-	-	-	779	927
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	914	-
Stage 2	-	-	-	-	930	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1493	-	-	-	927
HCM Lane V/C Ratio	0.005	-	-	-	0.016
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

2025 BUILD CONDITION

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	184	359	4	226	589
Future Vol, veh/h	3	184	359	4	226	589
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	33	6	4	0	4	6
Mvmt Flow	3	196	382	4	240	627

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1491	384	0	0	386	0
Stage 1	384	-	-	-	-	-
Stage 2	1107	-	-	-	-	-
Critical Hdwy	6.73	6.26	-	-	4.14	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.354	-	-	2.236	-
Pot Cap-1 Maneuver	116	655	-	-	1162	-
Stage 1	626	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	79	655	-	-	1162	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	276	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	2.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	586	1162	-
HCM Lane V/C Ratio	-	-	0.339	0.207	-
HCM Control Delay (s)	-	-	14.3	8.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.8	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	144	52	132	225	0
Future Vol, veh/h	22	144	52	132	225	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	2	11	4	2	0
Mvmt Flow	26	169	61	155	265	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	216	0	-	0	360	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1366	-	-	-	639	915
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1366	-	-	-	626	915
Mov Cap-2 Maneuver	-	-	-	-	626	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	816	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1366	-	-	-	626
HCM Lane V/C Ratio	0.019	-	-	-	0.423
HCM Control Delay (s)	7.7	0	-	-	14.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	226	37	0	132	22	0
Future Vol, veh/h	226	37	0	132	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	14	0	4	15	0
Mvmt Flow	266	44	0	155	26	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	310	0	443	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	155	-
Critical Hdwy	-	-	4.1	-	6.55	6.2
Critical Hdwy Stg 1	-	-	-	-	5.55	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	-	-	2.2	-	3.635	3.3
Pot Cap-1 Maneuver	-	-	1262	-	549	756
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1262	-	549	756
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	842	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	549	-	-	1262	-
HCM Lane V/C Ratio	0.047	-	-	-	-
HCM Control Delay (s)	11.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	144	52	0	0	36
Future Vol, veh/h	22	144	52	0	0	36
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	85	85	85	85	85	85
Heavy Vehicles, %	15	2	11	0	0	14
Mvmt Flow	26	169	61	0	0	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	61	0	-	0	282	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.25	-	-	-	6.4	6.34
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.335	-	-	-	3.5	3.426
Pot Cap-1 Maneuver	1463	-	-	-	712	971
Stage 1	-	-	-	-	967	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1463	-	-	-	698	971
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	971
HCM Lane V/C Ratio	0.018	-	-	-	0.044
HCM Control Delay (s)	7.5	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	211	6	8	150	20	29
Future Vol, veh/h	211	6	8	150	20	29
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, %	3	2	2	5	2	2
Mvmt Flow	229	7	9	163	22	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	236	0	414	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	181	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1331	-	595	806
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	850	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1331	-	591	806
Mov Cap-2 Maneuver	-	-	-	-	591	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	702	-	-	1331	-
HCM Lane V/C Ratio	0.076	-	-	0.007	-
HCM Control Delay (s)	10.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	239	1	1	154	4	4
Future Vol, veh/h	239	1	1	154	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	2	2	5	2	2
Mvmt Flow	260	1	1	167	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	261	0	430	261
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1303	-	582	778
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1303	-	581	778
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	861	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	-	-	1303	-
HCM Lane V/C Ratio	0.013	-	-	0.001	-
HCM Control Delay (s)	10.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	240	3	8	148	7	23
Future Vol, veh/h	240	3	8	148	7	23
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, %	3	2	2	5	2	2
Mvmt Flow	261	3	9	161	8	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	264	0	442	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	179	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1300	-	573	776
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1300	-	568	776
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	715	-	-	1300	-
HCM Lane V/C Ratio	0.046	-	-	0.007	-
HCM Control Delay (s)	10.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	241	582	5	169	378
Future Vol, veh/h	3	241	582	5	169	378
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	1	1	20	1	2
Mvmt Flow	3	251	606	5	176	394

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1355	609	0	0	611	0
Stage 1	609	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Critical Hdwy	6.4	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	166	497	-	-	973	-
Stage 1	547	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	497	-	-	973	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.6	0	2.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	480	973	-
HCM Lane V/C Ratio	-	-	0.53	0.181	-
HCM Control Delay (s)	-	-	20.6	9.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	3	0.7	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	74	98	236	158	0
Future Vol, veh/h	0	74	98	236	158	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	2	2	0
Mvmt Flow	0	83	110	265	178	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	375	0	-	0	326	243
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	4.1	-	-	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.2	-	-	-	3.518	3.3
Pot Cap-1 Maneuver	1195	-	-	-	668	801
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1195	-	-	-	668	801
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	940	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1195	-	-	-	668
HCM Lane V/C Ratio	-	-	-	-	0.266
HCM Control Delay (s)	0	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	158	31	0	236	37	0
Future Vol, veh/h	158	31	0	236	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	8	0	2	0	0
Mvmt Flow	178	35	0	265	42	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	461	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	265	-
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	-	-	1369	-	562	850
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1369	-	562	850
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	784	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	562	-	-	1369	-
HCM Lane V/C Ratio	0.074	-	-	-	-
HCM Control Delay (s)	11.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	74	98	0	0	30
Future Vol, veh/h	39	74	98	0	0	30
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	89	89	89	89	89	89
Heavy Vehicles, %	0	2	7	0	0	8
Mvmt Flow	44	83	110	0	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	110	0	-	0	281	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.1	-	-	-	6.4	6.28
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.372
Pot Cap-1 Maneuver	1493	-	-	-	713	927
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1493	-	-	-	691	927
Mov Cap-2 Maneuver	-	-	-	-	691	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	2.6	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1493	-	-	-	927
HCM Lane V/C Ratio	0.029	-	-	-	0.036
HCM Control Delay (s)	7.5	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	167	20	29	223	11	17
Future Vol, veh/h	167	20	29	223	11	17
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, %	2	2	2	2	2	2
Mvmt Flow	182	22	32	242	12	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	204	0	499	193
Stage 1	-	-	-	-	193	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1368	-	531	849
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	517	849
Mov Cap-2 Maneuver	-	-	-	-	517	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	747	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	678	-	-	1368	-
HCM Lane V/C Ratio	0.045	-	-	0.023	-
HCM Control Delay (s)	10.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	179	5	5	249	3	3
Future Vol, veh/h	179	5	5	249	3	3
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, %	2	2	2	2	2	2
Mvmt Flow	195	5	5	271	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	479	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	281	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1372	-	545	843
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	767	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1372	-	543	843
Mov Cap-2 Maneuver	-	-	-	-	543	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	661	-	-	1372	-
HCM Lane V/C Ratio	0.01	-	-	0.004	-
HCM Control Delay (s)	10.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	7	25	250	4	14
Future Vol, veh/h	175	7	25	250	4	14
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, %	2	2	2	2	2	2
Mvmt Flow	190	8	27	272	4	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	198	0	520	194
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1375	-	516	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1375	-	504	847
Mov Cap-2 Maneuver	-	-	-	-	504	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	736	-	-	1375	-
HCM Lane V/C Ratio	0.027	-	-	0.02	-
HCM Control Delay (s)	10	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-