## Traffic Impact Assessment

# Senior Living Community - Wakefield, Massachusetts 

To: Mr. Michael Glynn<br>The Shelter Group<br>218 North Charles Street<br>Baltimore, MD 21201<br>From: Jason R. Plourde, P.E., PTP<br>Barbara J. Lamb<br>DATE: December 1, 2014

Tighe \& Bond, Inc. (Tighe \& Bond) has prepared this Traffic Impact Assessment for proposed senior living community to be located along the western side of Crescent Street between Main Street (Route 129) and Centre Street/Otis Street in Wakefield, Massachusetts. The site currently consists of two- and three-family residences located at 11, 15, 17, 19, 21, and 25 Crescent Street and an office building at 338 Main Street. As proposed, the existing structures would be razed and a 137 unit senior living community would be constructed. Access to the site is currently provided via five full access driveways on Crescent Street. As proposed, access would be provided via a full access driveway on Crescent Street for a parking garage, and a loop driveway that would provide one-way traffic flow for a drop-off area (an entrance only driveway and an exit only driveway).

The project site is bounded by Crescent Street to the north and east, residential uses to the south, and a mix of a church and residential, commercial, and office uses to the west. The site location in relation to the surrounding roadways is shown on Figure 1.

Based on coordination efforts with the Town of Wakefield's Peer Review Consultant (Mr. John Kennedy, P.E., PTOE of Vanasse Hangen Brustlin, Inc.), this study has been prepared to evaluate the traffic impacts and access requirements for the proposed redevelopment project.

## 1 Existing Conditions

To evaluate the traffic impacts associated with the proposed redevelopment project, existing roadway and traffic conditions were first established. In preparing this study for the proposed project, the following intersections have been analyzed and evaluated:

- Crescent Street at Main Street
- Crescent Street at Centre Street and Otis Street

A description of the geometric and traffic control characteristics of the study area roadways and intersections is provided in the following along with quantification of existing traffic volumes.


### 1.1 Study Area Roadways

The jurisdictional responsibility and classification of each roadway within the study area were researched. Within the study area, Crescent Street, Main Street, Centre Street, and Otis Street are under Town of Wakefield jurisdiction. As defined by the Massachusetts Department of Transportation (MassDOT), Crescent Street is functionally classified as an Urban Minor Arterial, Main Street as an Urban Principal Arterial, and Centre Street and Otis Street as Local Roads. The jurisdiction and classification of the roadways were obtained from the MassDOT Road Inventory Interactive Map website (http://services.massdot.state.ma.us/maptemplate/ RoadInventory/).

### 1.2 Study Area Intersections

### 1.2.1 Crescent Street at Main Street

Crescent Street intersects Main Street from the east and west to form a four-way, unsignalized intersection. The Main Street northbound and southbound approaches each consist of a single general purpose travel lane with directional flow separated by a double yellow centerline. The Crescent Street eastbound and westbound approaches are under STOP-sign control consisting of a single general purpose travel lane. Directional flow along the Crescent Street west leg is separated by a single yellow centerline and there are no pavement marking to separate directional flow along the Crescent Street east leg. The Crescent Street departure on the west leg of the intersection provides right turns only onto Common Street northbound and has a "No Truck" signs posted.

Sidewalks are provided along both sides of Main Street, both sides of the Crescent Street east leg, and along the south side of the Crescent Street west leg of the intersection. Crosswalks are striped across the Crescent Street east leg and the Main Street north leg of the intersection that leads to a paved pedestrian walkway for Wakefield Upper Common. On the Crescent Street east leg of the intersection, "No Parking This Side of Street" signs are posted along the north side, a "No Parking Here to Corner" sign is posted near the intersection on the south side, and "Two Hour Parking" signs are posted along the south side to the east of the intersection.

The speed limit along Main Street is posted at 20 miles per hour (mph). Although there are no speed limit signs posted along Crescent Street within the study area, discussions with Police Department officials revealed that the enforced speed limit is 30 mph . Land use in the vicinity of the intersection consists of Wakefield Un-Common Antiques, Wakefield Upper Common, and residences.

### 1.2.2 Crescent Street at Centre Street and Otis Street

Centre Street and Otis Street intersect Crescent Street from the west and east, respectively, to form a four-way, unsignalized intersection with the Centre Street and Otis Street approaches under STOP-sign control. An overhead flashing beacon is present at the intersection to supplemental the traffic control (i.e., free flow along the Crescent Street approaches and STOP control along the Centre Street and Otis Street approaches).

Each approach to the intersection consists of a single general purpose travel lane. There are no pavement marking to separate directional flow along Crescent Street, Centre Street, or Otis Street. There are "No Truck" signs posted facing the intersection from Otis Street. Although there are no speed limit signs posted along Crescent Street, Centre Street, or Otis Street within the study area, Wakefield Police Department officials stated that the enforced speed limits are 30 mph .

Sidewalks are provided along both sides of Otis Street. Crosswalks are striped across all legs of the intersection. "No Parking This Side of Street" signs are posted along the east side of Crescent Street and along the south sides of Centre Street and Otis Street. "No Parking Here to Corner" signs are posted along the north sides of Centre Street and Otis Street. Land use in the vicinity of the intersection consists of the Wakefield Police and Fire Stations, Lincoln School retirement housing, and residences.

### 1.3 Traffic Volumes

Base traffic conditions within the study area were developed by conducting manual turning movement counts (TMCs) and vehicle classification counts in September 2014 when local schools were in regular session. The traffic counts were performed at the study area intersections during the weekday AM peak period (7:00 to 9:00 AM) and the weekday PM peak period (4:00 to 6:00 PM). In addition, automatic traffic recorder (ATR) counts were collected along Crescent Street adjacent to the site in September 2014. The traffic-count data are provided in the Appendix.

Traffic on a given roadway typically fluctuates throughout the year depending on the area and the type of roadway. To determine if the traffic-count data needed to be adjusted to account for this fluctuation, seasonal traffic-volume data were reviewed from nearby MassDOT Permanent Count Stations. ${ }^{1}$ This information revealed September traffic volumes are between 0.61 and 2.42 percent higher than annual average-month conditions. Therefore, the traffic counts were used as collected to provide a conservative analytical framework (higher than average). The MassDOT seasonal adjustment data are provided in the Appendix.

Figure 2 graphically depicts the 2014 Existing weekday AM and weekday PM peak-hour traffic flow networks. The existing traffic volumes along Crescent Street adjacent to the site are summarized in Table 1.

TABLE 1
Existing Traffic-Volume Summary

| Location/Time Period | Daily Volume a | Peak-Hour Volumes ${ }^{\text {b }}$ | K Factors ${ }^{\text {c }}$ | Directional Distribution ${ }^{\text {d }}$ |
| :---: | :---: | :---: | :---: | :---: |
| Crescent St adjacent to the site: | 2659 |  |  |  |
| Weekday Dally Weekday AM Peak Hour |  | 217 | 8.2 | 60\% NB |
| Weekday PM Peak Hour |  | 225 | 8.5 | 56\% SB |

[^0][^1]

### 1.4 Vehicle Speeds

Speed measurements were conducted along Crescent Street south of Eaton Street adjacent to the site. The travel time was recorded using ATRs over a 24 -hour period, thereby also recording travel speeds during non-peak hours when vehicle speeds are not affected by platooning. The speeds were determined by dividing the elapsed time by the measured distance between two checkpoints.

The average speeds along Crescent Street south of Eaton Street adjacent to the site were found to be between 24 and 26 mph with $85^{\text {th }}$ percentile speeds between 28 and 29 mph for northbound and southbound travel. These speed measurements were observed to be generally lower than the enforced speed limit of 30 mph along Crescent Street, are not excessive, and are representative of the roadway classification and alignment.

Due to the horizontal curvature of Crescent Street between Main Street and Eaton Street, supplemental speed measurements were conducted along Crescent Street by utilizing a standard traffic engineering procedure called the "floating car method." In this method, speeds are recorded by a vehicle that is traveling consistent with the speed of traffic on the roadway. Based on several observations, the speeds along Crescent Street between Main Street and Eaton Street ranged between 20 and 24 mph .

### 1.5 Capacity and Queue Analyses

### 1.5.1 Capacity Analysis Methodology

Capacity analyses were performed for the study intersections with the 2014 Existing traffic volumes during the weekday AM and weekday PM peak hours based on the methodology and procedures set forth in the Highway Capacity Manual (HCM). ${ }^{2}$

The analysis results are categorized in terms of Level of Service (LOS), which describes the qualitative intersection operational conditions based on the calculated average delay per vehicle. A definition of LOS is provided in the Appendix.

### 1.5.2 Queue Length Analysis Methodology

Vehicle queue analyses were computed for the study area intersections for the 2014 Existing traffic volumes during the weekday AM and weekday PM peak hours. For unsignalized intersections, the quantitative measure of vehicle queue length is defined as the $95^{\text {th }}$ percentile queue. The $95^{\text {th }}$ percentile queue at an unsignalized intersection represents a vehicular queue that would not be exceeded for 95 percent of the time period being evaluated (i.e., the queue would be exceeded only 5 percent of the time).

### 1.5.3 Capacity and Queue Length Analysis Results

The capacity and queue length analysis results are summarized in Table 2 for the 2014 Existing traffic-volume conditions. The computer-generated analysis reports are provided in the Appendix.

[^2]TABLE 2
Intersection Analysis Summary - Existing Conditions

| Intersection/ <br> Peak Hour/Critical Movement | 2014 Existing |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $V / C^{\text {a }}$ | Del. ${ }^{\text {b }}$ | LOS ${ }^{\text {c }}$ | Queue ${ }^{\text {d }}$ |
| Crescent St at Main St |  |  |  |  |
| Weekday AM: |  |  |  |  |
| Main St NB left turns | 0.00 | 9.4 | A | 0.0 |
| Main St SB left turns | 0.03 | 7.9 | A | 0.1 |
| Crescent St EB left/through/right | 0.36 | 40.6 | E | 1.5 |
| Crescent Street WB left/through/right | 0.87 | 81.7 | F | 6.8 |
| Weekday PM: |  |  |  |  |
| Main St NB left turns | 0.01 | 8.1 | A | 0.0 |
| Main St SB left turns | 0.04 | 8.3 | A | 0.1 |
| Crescent St EB left/through/right | 0.64 | 45.7 | E | 3.9 |
| Crescent Street WB left/through/right | 0.44 | 28.7 | D | 2.1 |
| Crescent St at Centre St and Otis St |  |  |  |  |
| Weekday AM: |  |  |  |  |
| Crescent St NB left turns | 0.04 | 7.4 | A | 0.1 |
| Crescent St SB left turns | 0.01 | 7.6 | A | 0.0 |
| Centre St EB left/through/right | 0.16 | 13.6 | B | 0.6 |
| Otis St WB left/through/right | 0.52 | 17.6 | C | 3.0 |
| Weekday PM: |  |  |  |  |
| Crescent St NB left turns | 0.01 | 7.4 | A | 0.0 |
| Crescent St SB left turns | 0.02 | 7.6 | A | 0.1 |
| Centre St EB left/through/right | 0.31 | 14.6 | B | 1.3 |
| Otis St WB left/through/right | 0.16 | 11.8 | B | 0.6 |

a Volume-to-capacity ratio.
${ }^{\mathrm{b}}$ Average control delay in seconds per vehicle.
${ }^{c}$ Level of service.
${ }^{d} 95^{\text {th }}$ percentile queue length in vehicles per lane (assuming 25 feet per vehicle).

### 1.5.3.1 Crescent Street at Main Street

Under 2014 Existing traffic-volume conditions, the Main Street major street left turns at the unsignalized intersection with Crescent Street currently operate at optimal levels (LOS A) during the weekday AM and weekday PM peak hours. The Crescent Street minor street movements operate with long delays (LOS E/F), but with ample capacity available (volume-to-capacity [ $\mathrm{v} / \mathrm{c}$ ] ratios $<1.00$ ) during the weekday peak hours.

### 1.5.3.2 Crescent Street at Centre Street and Otis Street

Under 2014 Existing traffic-volume conditions, the Crescent Street major street left turns at the unsignalized intersection with Centre Street and Otis Street currently operate at optimal levels (LOS A) during the weekday AM and weekday PM peak hours. The Centre Street and Otis Street minor street movements operate at desirable levels (LOS C or better) and with ample capacity available ( $\mathrm{v} / \mathrm{c}$ ratios $<1.00$ ) during the weekday peak hours.

## 2 Future No-Build Conditions

To estimate the impact of site-generated traffic within the study area, existing traffic volumes were projected to the year 2020 which represents a six-year design horizon. The proposed development is expected to be completed and operational before the 2020 design year. Traffic volumes on the roadway network will include existing traffic, new traffic due to normal traffic growth, and traffic related to significant development by others expected to be completed within the area by 2020. Consideration of these factors resulted in the
development of 2020 No-Build traffic volumes, which assume the proposed development is not built. The incremental impacts of the proposed development may then be determined by adding site-generated traffic volumes (Build conditions) and making comparisons to the NoBuild conditions.

### 2.1 Traffic Growth

To develop the 2020 No-Build forecast volumes, two components of traffic growth were considered. First, an annual average traffic-growth percentage was determined based on MassDOT historical traffic-volume data from nearby MassDOT Permanent Count Stations. ${ }^{3}$ The MassDOT historical data revealed that traffic volumes have ranged from an annual decrease of 2.16 percent to an annual increase of 0.72 percent. Based on coordination efforts with the Wakefield's Peer Review Consultant, a 1.0 percent compounded annual growth rate was assumed to provide a conservative (worse than expected) scenario in accounting for general population growth and the traffic generated by any smaller area developments.

Second, traffic to be generated by planned developments estimated to add substantial volumes of traffic through the study area within the next six years was considered. Based on discussions with the Wakefield's Peer Review Consultant, there are no developments proposed or permitted that would significantly increase traffic volumes within the study area.

The 2020 No-Build peak-hour traffic volumes were accordingly developed by applying a 1.0 percent per year traffic growth rate (or 6.2 percent compounded over six years) to the 2014 Existing volumes. The 2020 No-Build traffic volumes are shown graphically for the study area intersections on Figure 3 for the weekday AM and weekday PM peak hours.

### 2.2 Planned Roadway Improvements

Based on discussions with the Wakefield's Peer Review Consultant, there are no planned roadway improvements contemplated in the surrounding area of the proposed project.

## 3 Future Build Conditions

The site currently consists of two- and three-family residences at $11,15,17,19,21$, and 25 Crescent Street and a 25,737 square foot office building at 338 Main Street. As proposed, the existing structures would be razed and a 137 unit senior living community would be constructed.

[^3]

### 3.1 Trip Generation

Traffic to be generated by the proposed senior living community was forecast using the Institute of Transportation Engineers (ITE) Trip Generation Manual. ${ }^{4}$ Based on a review of ITE data, the description for Land Use Code 254 (Assisted Living) most closely represents the characteristics of the proposed development (i.e., independent living units and assisted living units). For trip-generation comparison purposes, estimates were calculated for the reoccupancy of the existing uses based on ITE trip data and information published by the Town of Wakefield's online property assessment data. The trip-generation calculations are provided in the Appendix. Table 3 summarizes a comparison of the trip-generation characteristics for the existing uses and the proposed senior living community.

TABLE 3
Trip-Generation Comparison - Proposed vs. Existing Uses

| Time Period/Direction | Existing Uses ${ }^{\text {a }}$ | $\begin{gathered} \text { Proposed } \\ \text { Uses }{ }^{\text {b }} \\ \hline \end{gathered}$ | Additional Trips ${ }^{\text {c }}$ |
| :---: | :---: | :---: | :---: |
| Weekday Daily | 620 | 376 | (244) |
| Weekday AM: |  |  |  |
| Enter | 60 | 17 | (43) |
| Exit | 21 | 8 | (13) |
| Total | 81 | 25 | (56) |
| Weekday PM: |  |  |  |
| Enter | 30 | 20 | (10) |
| Exit | 96 | 20 | (76) |
| Total | 126 | 40 | (86) |

${ }^{\text {a }}$ ITE Land Use Code 221 (Low-Rise Apartment) for 23 dwelling units, and Land Use Code 710 (General Office Building) for 25,737 sf.
${ }^{\mathrm{b}}$ ITE Land Use Code 254 (Assisted Living) for 137 occupied beds.
${ }^{\text {c }}$ Proposed Uses minus Existing Uses.
The ITE trip-generation comparison indicated that the proposed development is expected to generate significantly less trips on a weekday as well as during the weekday AM and weekday PM peak hours than the existing uses. This comparison suggests that the proposed use would not have as much of an impact along the adjacent roadway system than the existing uses, as the site would generate significantly less vehicle trips.

### 3.2 Arrival/Departure Distribution

After project-generated vehicle trips have been estimated, the next step in the traffic study is to determine the distribution of project traffic and assign these trips to the local roadway network. Due to the type of development proposed, the directional distribution of the estimated site traffic was developed upon evaluation of existing travel patterns and site access routes. Based on the traffic-generation and distribution estimates for the proposed project, the traffic volumes associated with the proposed senior living community (Table 3) were

[^4]assigned to the local roadway network and the traffic volumes associated with the existing uses were removed (Table 3).

The site-generated traffic volumes are shown on Figure 4 for the weekday AM and weekday PM peak hours. The site-generated traffic volumes were assigned to the roadway network and combined with the 2020 No-Build traffic volumes to develop the 2020 Build peak-hour trafficvolume networks. The 2020 Build weekday AM and weekday PM peak-hour traffic volumes are illustrated on Figure 5.

### 3.3 Site Access and Internal Circulation

Access to the site is currently provided via four full access driveways on Crescent Street. As proposed, access would be provided via a full access driveway on Crescent Street for a garage at the northern end of the property and a drop off area on the eastern end of the property with an enter-only driveway and an exit-only driveway for one-way traffic circulation flow.

### 3.3.1 On-Site Circulation

The proposed Crescent Street full access driveway at the northern end of the site would provide access to a parking garage for the proposed senior living community. The full access driveway would also provide for a loading area.

The proposed Crescent Street drop off area would accommodate a one-way circulation flow that enters to the north on the northeastern end of the site and exits to the southeast. Oneway traffic circulation painted arrows are proposed to be located within the drop-off area driveway directing users of proper site circulation.

The site driveways have been designed in accordance with Access Management Principles and Designs by providing and managing access to the site while simultaneously preserving the flow of traffic on the surrounding roadway system in terms of safety and capacity. 5 These goals have been met by reducing the number curb cuts and providing one-way traffic circulation flow through the drop-off area.

### 3.3.2 Pedestrian Accommodations

In the vicinity of and adjacent to the site, sidewalks are currently present along both sides of Crescent Street. At the intersection with Main Street, a crosswalk is striped across the Crescent Street east leg and across the Main Street north leg. On the northwest corner of the intersection, the Main Street crosswalk leads to a paved pedestrian walkway for Wakefield Upper Common. In addition, crosswalks are striped across all legs of the Crescent Street intersection with Centre Street and Otis Street.

[^5]

Not To
Scale


Based on public comment from the October 8, 2014 Board of Appeals meeting, concerns were raised with pedestrian safety when crossing Main Street at the intersection with Crescent Street. Upon field reconnaissance, there are no pedestrian warning signs posted to bring attention to motorists of the crosswalks (e.g., Pedestrian Crossing [W11-2] warning sign with a diagonal downward pointing arrow [W16-7P] plaque, In-Street Pedestrian Crossing [R1-6] sign, etc.). In addition, there are no pedestrian warning signs posted at the Crescent Street intersection with Centre Street and Otis Street. It is recommended that the applicant coordinate with the Town of Wakefield on the feasibility and desire of installing pedestrian warning signs at these locations.

### 3.3.3 Parking Spaces

As proposed the site would provide a total of 74 parking spaces, of which 4 spaces would be handicapped accessible. The parking garage is proposed to accommodate 72 parking spaces, of which 2 spaces would be accessible spaces. The drop-off area would also provide for 2 accessible parking spaces at surface level.

Based on the Town of Wakefield's requirements these types of developments require 1.0 space per 2 employees in the maximum working shift, plus 1 space per 2 units. As proposed, the senior living community is projected to have 36 employees during the maximum working shift that would require 18 spaces ( 1 spaces/2 employees $\times 36$ employees). In addition, the proposed 137 unit senior living community would require 69 parking spaces (1 space/2 units $\times 137$ units). As such, the senior living community would require a total of 87 on-site parking spaces.

To determine the peak period parking demand anticipated to be generated by the proposed senior living community, $T^{6}{ }^{6}$ parking generation data were researched Land Use Code 254 (Assisted Living). The average peak period parking demand is 0.41 spaces per dwelling unit on a weekday. Applying this ratio, the proposed 137 unit senior living community would require an average of 56 parking spaces ( 0.41 spaces $/ 1$ dwelling unit $\times 137$ units).

As proposed, the senior living community would provide 74 parking spaces which are below the Town's requirements ( 87 spaces) and exceed ITE's average peak parking demand (i.e., 56 spaces).

### 3.3.4 Sight Distances

To identify potential safety concerns associated with site access and egress, sight distances have been evaluated at the proposed Crescent Street site driveways to determine if the available sight distances for vehicles exiting the site meet or exceed the minimum distances required for approaching vehicles to safely stop. The available sight distances were compared with minimum requirements, as established by the American Association of State Highway and Transportation Officials (AASHTO) ${ }^{7}$.

6 Parking Generation. $4^{\text {th }}$ ed. Washington, DC: Institute of Transportation Engineers, 2010.
7 A Policy on Geometric Design of Highways and Streets; American Association of State Highway and Transportation Officials (AASHTO); 2004.

Sight distance is the length of roadway ahead visible to the driver. The Stopping Sight Distance (SSD) is the minimum distance required for a vehicle traveling along the major roadway to safely stop before reaching a stationary object in its path. The Intersection Sight Distance (ISD) is provided on minor street approach to allow the motorists of stopped vehicles sufficient view of the major roadway to decide when to enter the major roadway.

The available SSD and ISD at the proposed site driveway locations were measured and compared to minimum requirements as established by AASHTO. Consistent with Town of Wakefield's guidelines, the sight lines were measured assuming the existing site structures were razed and vegetation along the site frontage was removed or lowered to a point 2-1/2 feet above street level. Based on the observed traveled speeds (Section 1.4) and the enforced speed limit ( 30 mph ) along Crescent Street, the SSD and ISD requirements at the proposed site driveways were calculated. Since the enter-only driveway for the drop-off area would not provide exiting movements, sight lines at this driveway were only compared with the SSD requirements. As shown in Table 4, the required minimum sight distances for the observed speeds and the enforced speed limit are compared to the available distances.

As indicated in Table 4, available sight distances at the proposed site driveways would be expected to exceed the AASHTO requirements for safe operation. In accordance with Town of Wakefield's standards (Zoning Bylaw Article VI, Section 190-31.F), "Traffic visibility at driveways and corners. A fence, hedge, wall, sign or other structure or vegetation may be maintained on any lot, provided that in the front yard area no such structure or vegetation shall be over two and one-half ( $21 / 2$ ) feet in height above the adjacent ground within five feet of the front lot line unless it can be shown that such vegetation or structure will not restrict visibility in such a way as to hinder the safe entry or exit of a vehicle from any driveway to the street or restrict visibility at a corner of two streets."
TEChnical Memorandum

## 4 Capacity and Queue Length Analyses

Capacity and queue analyses were performed for the study intersections with the 2020 NoBuild and 2020 Build traffic volumes during the weekday AM and weekday PM peak hours. The capacity and queue length analysis results are summarized in Table 5 for the 2020 NoBuild and 2020 Build traffic-volume conditions. The computer-generated analysis reports are provided in the Appendix.

### 4.1 Crescent Street at Main Street

Under 2020 No-Build future traffic-volume conditions, long delays (LOS E/F) are expected on the Crescent Street approaches to Main Street during the weekday AM and weekday PM peak hours, with capacity constraints ( $\mathrm{v} / \mathrm{c}$ ratios $>1.00$ ) on the Crescent Street westbound approach during the weekday PM peak hour. With the proposed development constructed and occupied, there is expected to be improved operations on the minor street movements during both the weekday AM and weekday PM peak hours.

### 4.2 Crescent Street at Centre Street and Otis Street

Under future traffic-volume conditions, the Crescent Street and Otis Street approaches to Crescent Street are anticipated to operate at desirable levels (LOS C or better) during the weekday AM and weekday PM peak hours. With the proposed development constructed and occupied, there is expected to be improved operations on the minor street approaches during both the weekday AM and weekday PM peak hours.
TABLE 5
Intersection Analysis Summary - Future Conditions

| Intersection/Peak Hour/Critical Movement | 2020 No-Build |  |  |  | 2020 Build |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $V / C^{\text {a }}$ | Del. ${ }^{\text {b }}$ | LOS ${ }^{\text {c }}$ | Queue ${ }^{\text {d }}$ | V/C | Del. | LOS | Queue |
| Crescent St at Main St |  |  |  |  |  |  |  |  |
| Weekday AM: |  |  |  |  |  |  |  |  |
| Main St NB left turns | 0.00 | 9.6 | A | 0.0 | 0.00 | 9.6 | A | 0.0 |
| Main St SB left turns | 0.03 | 7.9 | A | 0.1 | 0.03 | 7.9 | A | 0.0 |
| Crescent St EB left/through/right | 0.44 | 52.5 | F | 2.0 | 0.35 | 46.8 | E | 1.4 |
| Crescent Street WB left/through/right | 1.04 | 128.4 | F | 8.9 | 0.96 | 105.5 | F | 7.8 |
| Weekday PM: |  |  |  |  |  |  |  |  |
| Main St NB left turns | 0.01 | 8.2 | A | 0.0 | 0.01 | 8.2 | A | 0.0 |
| Main St SB left turns | 0.04 | 8.4 | A | 0.1 | 0.04 | 8.5 | A | 0.1 |
| Crescent St EB left/through/right | 0.76 | 62.6 | F | 5.1 | 0.69 | 54.2 | F | 4.3 |
| Crescent Street WB left/through/right | 0.52 | 36.2 | E | 2.8 | 0.40 | 31.0 | D | 1.8 |
| Crescent St at Centre St and Otis St |  |  |  |  |  |  |  |  |
| Weekday AM: |  |  |  |  |  |  |  |  |
| Crescent St NB left turns | 0.04 | 7.5 | A | 0.1 | 0.04 | 7.4 | A | 0.1 |
| Crescent St SB left turns | 0.01 | 7.6 | A | 0.0 | 0.01 | 7.5 | A | 0.0 |
| Centre St EB left/through/right | 0.18 | 14.1 | B | 0.6 | 0.16 | 13.2 | B | 0.6 |
| Otis St WB left/through/right | 0.56 | 19.0 | C | 3.5 | 0.53 | 17.4 | C | 3.1 |
| Weekday PM: |  |  |  |  |  |  |  |  |
| Crescent St NB left turns | 0.01 | 7.5 | A | 0.0 | 0.01 | 7.4 | A | 0.0 |
| Crescent St SB left turns | 0.02 | 7.6 | A | 0.1 | 0.01 | 7.5 | A | 0.0 |
| Centre St EB left/through/right | 0.34 | 15.4 | C | 1.5 | 0.30 | 13.6 | B | 1.3 |
| Otis St WB left/through/right | 0.18 | 12.2 | B | 0.6 | 0.16 | 11.5 | B | 0.6 |

[^6]
## 5 Conclusions

Existing and future conditions in the study area have been described, analyzed, and evaluated with respect to traffic operations and the impact of the proposed senior living community. Conclusions of these efforts are summarized in the following:

- The site currently consists of two- and three-family residences at $11,15,17,19,21$, and 25 Crescent Street and a 25,737 square foot office building at 338 Main Street. As proposed, the existing structures would be razed and a 137 unit senior living community would be constructed.
- Access to the site is currently provided via five full access driveways on Crescent Street. As proposed, access would be provided via a full access driveway on Crescent Street for a parking garage, and a loop driveway that would provide one-way traffic flow for a drop-off area (an entrance only driveway and an exit only driveway).
- The senior living community proposes to provide 74 parking spaces which are below the Town of Wakefield's requirement (i.e., 87 spaces) and exceed ITE's average peak parking demand (i.e., 56 spaces).
- With the proposed development constructed, sight distances at the site driveways are anticipated to exceed AASHTO guidelines. The available sight lines were measured assuming the existing site structures were razed and vegetation along the site frontage was removed or lowered to a point 2-1/2 feet above street level. In accordance with Town of Wakefield's standards, proposed plantings, vegetation, landscaping, and signing along the site frontage are recommended to be kept low to the ground (i.e., 2-1/2 feet above ground level) or set back sufficiently from the edge of the roadways so as not to inhibit the available sight lines in an effort to provide the safe and efficient flow of traffic to and from the site.
- The proposed senior living community is expected to generate 25 vehicle trips ( 17 entering and 8 exiting) during the weekday AM peak hour and 40 vehicle trips ( 20 entering and 209 exiting) during the weekday PM peak hour. The proposed development is anticipated to generate 244 less vehicle trips on a typical weekday, 56 less vehicle trips during the weekday AM peak hour, and 86 less vehicle trips during the weekday PM peak hour than the existing uses.
- Under 2020 No-Build future traffic-volume conditions, long delays (LOS E/F) are expected on the Crescent Street approaches to Main Street, with capacity constraints ( $\mathrm{v} / \mathrm{c}$ ratios $>1.00$ ) on the Crescent Street westbound approach during the weekday PM peak hour. With the proposed development constructed and occupied, there is expected to be improved operations on the minor street movements during both the weekday AM and weekday PM peak hours with the reduction of between 16 and 30 vehicles per hour.
- Under future traffic-volume conditions, the Crescent Street and Otis Street approaches to Crescent Street are anticipated to operate at desirable levels (LOS C or better) during the weekday AM and weekday PM peak hours. With the proposed development constructed and occupied, there is expected to be improved operations on the minor street approaches during both the weekday AM and weekday PM peak hours with the reduction of between 40 and 56 vehicles per hour.


## APPENDIX

Traffic Counts
MassDOT Traffic Adjustment Data Capacity Analysis Methodology Analysis Worksheets: Existing Trip-Generation Calculations Analysis Worksheets: No-Build and Build

Traffic Counts

Location : Crescent Street
Location : South of Eaton Street
Site Code: 16670001
City/State: Wakefield, MA

| Start | 04-Sep-14 | NB |  | Hour Totals |  | SB |  | Hour Totals |  | Combined Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | Thu | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |  |  |
| 12:00 |  | 0 | 21 |  |  | 0 | 29 |  |  |  |  |
| 12:15 |  | 2 | 9 |  |  | 0 | 15 |  |  |  |  |
| 12:30 |  | 1 | 15 |  |  | 0 | 24 |  |  |  |  |
| 12:45 |  | 0 | 23 | 3 | 68 | 0 | 25 | 0 | 93 | 3 | 161 |
| 01:00 |  | 0 | 21 |  |  | 0 | 17 |  |  |  |  |
| 01:15 |  | 0 | 28 |  |  | 0 | 14 |  |  |  |  |
| 01:30 |  | 0 | 19 |  |  | 1 | 20 |  |  |  |  |
| 01:45 |  | 0 | 19 | 0 | 87 | 1 | 13 | 2 | 64 | 2 | 151 |
| 02:00 |  | 0 | 32 |  |  | 0 | 16 |  |  |  |  |
| 02:15 |  | 0 | 28 |  |  | 0 | 15 |  |  |  |  |
| 02:30 |  | 0 | 31 |  |  | 0 | 17 |  |  |  |  |
| 02:45 |  | 0 | 32 | 0 | 123 | 0 | 10 | 0 | 58 | 0 | 181 |
| 03:00 |  | 0 | 26 |  |  | 0 | 26 |  |  |  |  |
| 03:15 |  | 0 | 32 |  |  | 0 | 19 |  |  |  |  |
| 03:30 |  | 0 | 34 |  |  | 0 | 32 |  |  |  |  |
| 03:45 |  | 1 | 37 | 1 | 129 | 0 | 23 | 0 | 100 | 1 | 229 |
| 04:00 |  | 0 | 35 |  |  | 0 | 21 |  |  |  |  |
| 04:15 |  | 1 | 17 |  |  | 1 | 30 |  |  |  |  |
| 04:30 |  | 1 | 51 |  |  | 1 | 25 |  |  |  |  |
| 04:45 |  | 2 | 50 | 4 | 153 | 1 | 33 | 3 | 109 | 7 | 262 |
| 05:00 |  | 5 | 26 |  |  | 2 | 42 |  |  |  |  |
| 05:15 |  | 6 | 40 |  |  | 1 | 32 |  |  |  |  |
| 05:30 |  | 4 | 25 |  |  | 3 | 33 |  |  |  |  |
| 05:45 |  | 7 | 25 | 22 | 116 | 2 | 25 | 8 | 132 | 30 | 248 |
| 06:00 |  | 11 | 26 |  |  | 1 | 31 |  |  |  |  |
| 06:15 |  | 7 | 23 |  |  | 7 | 19 |  |  |  |  |
| 06:30 |  | 21 | 28 |  |  | 6 | 15 |  |  |  |  |
| 06:45 |  | 19 | 27 | 58 | 104 | 17 | 20 | 31 | 85 | 89 | 189 |
| 07:00 |  | 27 | 9 |  |  | 20 | 14 |  |  |  |  |
| 07:15 |  | 32 | 9 |  |  | 18 | 15 |  |  |  |  |
| 07:30 |  | 36 | 8 |  |  | 21 | 16 |  |  |  |  |
| 07:45 |  | 32 | 13 | 127 | 39 | 25 | 13 | 84 | 58 | 211 | 97 |
| 08:00 |  | 28 | 8 |  |  | 22 | 8 |  |  |  |  |
| 08:15 |  | 22 | 16 |  |  | 14 | 9 |  |  |  |  |
| 08:30 |  | 32 | 7 |  |  | 18 | 12 |  |  |  |  |
| 08:45 |  | 23 | 2 | 105 | 33 | 19 | 7 | 73 | 36 | 178 | 69 |
| 09:00 |  | 24 | 12 |  |  | 15 | 7 |  |  |  |  |
| 09:15 |  | 15 | 10 |  |  | 14 | 8 |  |  |  |  |
| 09:30 |  | 22 | 3 |  |  | 16 | 5 |  |  |  |  |
| 09:45 |  | 17 | 3 | 78 | 28 | 14 | 4 | 59 | 24 | 137 | 52 |
| 10:00 |  | 18 | 5 |  |  | 16 | 6 |  |  |  |  |
| 10:15 |  | 19 | 4 |  |  | 15 | 10 |  |  |  |  |
| 10:30 |  | 21 | 3 |  |  | 13 | 3 |  |  |  |  |
| 10:45 |  | 15 | 0 | 73 | 12 | 21 | 2 | 65 | 21 | 138 | 33 |
| 11:00 |  | 29 | 0 |  |  | 19 | 4 |  |  |  |  |
| 11:15 |  | 19 | 3 |  |  | 17 | 4 |  |  |  |  |
| 11:30 |  | 17 | 1 |  |  | 35 | 2 |  |  |  |  |
| 11:45 |  | 22 | 0 | 87 | 4 | 19 | 0 | 90 | 10 | 177 | 14 |
| Total |  | 558 | 896 |  |  | 415 | 790 |  |  | 973 | 1686 |
| Percent |  | 38.4\% | 61.6\% |  |  | 34.4\% | 65.6\% |  |  | 36.6\% | 63.4\% |

Location : Crescent Street
Location : South of Eaton Street
City/State: Wakefield, MA

| Start | 05-Sep-14 | NB |  | Hour Totals |  | SB |  | Hour Totals |  | Combined Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | Fri | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 |  | 2 | 14 |  |  | 0 | 22 |  |  |  | Atternoon |
| 12:15 |  | 0 | 22 |  |  | 1 | 13 |  |  |  |  |
| 12:30 |  | 0 | 20 |  |  | 1 | 19 |  |  |  |  |
| 12:45 |  | 0 | 24 | 2 | 80 | 0 | 20 | 2 | 74 | 4 | 154 |
| 01:00 |  | 0 | 12 |  |  | 0 | 25 |  |  |  |  |
| 01:15 |  | 0 | 22 |  |  | 0 | 23 |  |  |  |  |
| 01:30 |  | 1 | 19 |  |  | 0 | 22 |  |  |  |  |
| 01:45 |  | 0 | 16 | 1 | 69 | 0 | 17 | 0 | 87 | 1 | 156 |
| 02:00 |  | 0 | 16 |  |  | 0 | 18 |  |  |  |  |
| 02:15 |  | 0 | 13 |  |  | 0 | 28 |  |  |  |  |
| 02:30 |  | 0 | 29 |  |  | 0 | 12 |  |  |  |  |
| 02:45 |  | 0 | 18 | 0 | 76 | 0 | 33 | 0 | 91 | 0 | 167 |
| 03:00 |  | 0 | 24 |  |  | 0 | 27 |  |  |  |  |
| 03:15 |  | 0 | 29 |  |  | 0 | 17 |  |  |  |  |
| 03:30 |  | 0 | 20 |  |  | 1 | 41 |  |  |  |  |
| 03:45 |  | 0 | 26 | 0 | 99 | 0 | 33 | 1 | 118 | 1 | 217 |
| 04:00 |  | 0 | 26 |  |  | 0 | 30 |  |  |  | 21 |
| 04:15 |  | 0 | 29 |  |  | 1 | 27 |  |  |  |  |
| 04:30 |  | 1 | 32 |  |  | 0 | 17 |  |  |  |  |
| 04:45 |  | 3 | 22 | 4 | 109 | 2 | 33 | 3 | 107 | 7 | 216 |
| 05:00 |  | 3 | 20 |  |  | 2 | 34 |  |  |  |  |
| 05:15 |  | 7 | 17 |  |  | 2 | 29 |  |  |  |  |
| 05:30 |  | 4 | 21 |  |  | 4 | 31 |  |  |  |  |
| 05:45 |  | 7 | 32 | 21 | 90 | 4 | 23 | 12 | 117 | 33 | 207 |
| 06:00 |  | 6 | 25 |  |  | 2 | 25 |  |  |  |  |
| 06:15 |  | 9 | 20 |  |  | 9 | 22 |  |  |  |  |
| 06:30 |  | 14 | 22 |  |  | 8 | 15 |  |  |  |  |
| 06:45 |  | 18 | 10 | 47 | 77 | 22 | 18 | 41 | 80 | 88 | 157 |
| 07:00 |  | 25 | 32 |  |  | 18 | 21 |  |  | 8 | 157 |
| 07:15 |  | 23 | 12 |  |  | 17 | 20 |  |  |  |  |
| 07:30 |  | 36 | 9 |  |  | 27 | 19 |  |  |  |  |
| 07:45 |  | 34 | 18 | 118 | 71 | 12 | 8 | 74 | 68 | 192 | 139 |
| 08:00 |  | 33 | 9 |  |  | 21 | 9 |  |  | 192 | 139 |
| 08:15 |  | 20. | 10 |  |  | 18 | 11 |  |  |  |  |
| 08:30 |  | 23 | 9 |  |  | 15 | 7 |  |  |  |  |
| 08:45 |  | 32 | 1 | 108 | 29 | 24 | 6 | 78 | 33 | 186 | 62 |
| 09:00 |  | 16 | 12 |  |  | 28 | 12 |  |  |  |  |
| 09:15 |  | 19 | 2 |  |  | 17 | 4 |  |  |  |  |
| 09:30 |  | 11 | 7 |  |  | 16 | 9 |  |  |  |  |
| 09:45 |  | 24 | 3 | 70 | 24 | 26 | 3 | 87 | 28 | 157 | 52 |
| 10:00 |  | 19 | 5 |  |  | 15 | 5 |  | 28 |  | 52 |
| 10:15 |  | 17 | 7 |  |  | 11 | 4 |  |  |  |  |
| 10:30 |  | 11 | 9 |  |  | 15 | 6 |  |  |  |  |
| 10:45 |  | 25 | 1 | 72 | 22 | 13 | 5 | 54 | 20 | 126 | 42 |
| 11:00 |  | 19 | 6 |  |  | 17 | 3 |  |  |  |  |
| 11:15 |  | 30 | 6 |  |  | 26 | 5 |  |  |  |  |
| 11:30 |  | 14 | 1 |  |  | 31 | 2 |  |  |  |  |
| 11:45 |  | 15 | 2 | 78 | 15 | 24 | 1 | 98 | 11 | 176 | 26 |
| Total |  | 521 | 761 |  |  | 450 | 834 |  |  | 971 | 1595 |
| Percent |  | 40.6\% | 59.4\% |  |  | 35.0\% | 65.0\% |  |  | 37.8\% | 62.2\% |

Location : South of Eaton Street
1667 VOL 1
City/State: Wakefield, MA

| Start | 06-Sep-14 | NB |  | Hour Totals |  | SB |  | Hour Totals |  | Combined Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | Sat | Morning | Afternoon | Morning | Atternoon | Morning | Afternoon | Morning | Afternoon |  | Afternoon |
| 12:00 |  | 0 | 15 |  |  | 3 | 24 |  |  |  |  |
| 12:15 |  | 0 | 15 |  |  | 1 | 16 |  |  |  |  |
| 12:30 |  | 3 | 25 |  |  | 2 | 11 |  |  |  |  |
| 12:45 |  | 0 | 20 | 3 | 75 | 1 | 23 | 7 | 74 | 10 | 149 |
| 01:00 |  | 3 | 23 |  |  | 1 | 18 |  |  |  |  |
| 01:15 |  | 1 | 21 |  |  | 0 | 13 |  |  |  |  |
| 01:30 |  | 0 | 28 |  |  | 2 | 20 |  |  |  |  |
| 01:45 |  | 0 | 15 | 4 | 87 | 1 | 28 | 4 | 79 | 8 | 166 |
| 02:00 |  | 0 | 20 |  |  | 1 | 14 |  |  |  |  |
| 02:15 |  | 2 | 22 |  |  | 2 | 14 |  |  |  |  |
| 02:30 |  | 1 | 20 |  |  | 0 | 24 |  |  |  |  |
| 02:45 |  | 0 | 11 | 3 | 73 | 3 | 20 | 6 | 72 | 9 | 145 |
| 03:00 |  | 0 | 17 |  |  | 0 | 12 |  |  |  |  |
| 03:15 |  | 0 | 20 |  |  | 0 | 27 |  |  |  |  |
| 03:30 |  | 0 | 13 |  |  | 0 | 18 |  |  |  |  |
| 03:45 |  | 0 | 14 | 0 | 64 | 1 | 9 | 1 | 66 | 1 | 130 |
| 04:00 |  | 0 | 18 |  |  | 1 | 12 |  |  |  |  |
| 04:15 |  | 2 | 16 |  |  | 0 | 14 |  |  |  |  |
| 04:30 |  | 0 | 16 |  |  | 0 | 9 1 |  |  |  |  |
| 04:45 |  | 0 | 13 | 2 | 63 | 1 | 13 | 2 | 48 | 4 | 111 |
| 05:00 |  | 0 | 15 |  |  | 1 | 21 |  |  |  |  |
| 05:15 |  | 2 | 22 |  |  | 0 | 13 |  |  |  |  |
| 05:30 |  | 2 | 19 |  |  | 1 | 9 |  |  |  |  |
| 05:45 |  | 0 | 20 | 4 | 76 | 0 | 13 | 2 | 56 | 6 | 132 |
| 06:00 |  | 4 | 10 |  |  | 3 | 6 |  |  |  |  |
| 06:15 |  | 3 | 9 |  |  | 0 | 4 |  |  |  |  |
| 06:30 |  | 5 | 6 |  |  | 3 | 12 |  |  |  |  |
| 06:45 |  | 2 | 11 | 14 | 36 | 4 | 9 | 10 | 31 | 24 | 67 |
| 07:00 |  | 3 | 6 |  |  | 6 | 8 |  |  |  |  |
| 07:15 |  | 10 | 9 |  |  | 7 | 8 |  |  |  |  |
| 07:30 |  | 7 | 7 |  |  | 6 | 12 |  |  |  |  |
| 07:45 |  | 10 | 8 | 30 | 30 | 17 | 7 | 36 | 35 | 66 | 65 |
| 08:00 |  | 7 | 8 |  |  | 15 | 8 |  |  |  |  |
| 08:15 |  | 12 | 7 |  |  | 7 | 4 |  |  |  |  |
| 08:30 |  | 15 | 1 |  |  | 14 | 5 |  |  |  |  |
| 08:45 |  | 15 | 9 | 49 | 25 | 11 | 9 | 47 | 26 | 96 | 51 |
| 09:00 |  | 17 | 8 |  |  | 18 | 12 |  |  |  |  |
| 09:15 |  | 22 | 3 |  |  | 13 | 4 |  |  |  |  |
| 09:30 |  | 21 | 2 |  |  | 18 | 2 |  |  |  |  |
| 09:45 |  | 19 | 2 | 79 | 15 | 14 | 2 | 63 | 20 | 142 | 35 |
| 10:00 |  | 26 | 2 |  |  | 13 | 6 |  |  |  |  |
| 10:15 |  | 32 | 2 |  |  | 21 | 5 |  |  |  |  |
| 10:30 |  | 19 | 4 |  |  | 17 | 2 |  |  |  |  |
| 10:45 |  | 28 | 4 | 105 | 12 | 19 | 2 | 70 | 15 | 175 | 27 |
| 11:00 |  | 28 | 2 |  |  | 19 | 4 |  |  |  |  |
| 11:15 |  | 22 | 2 |  |  | 24 | 3 |  |  |  |  |
| 11:30 |  | 27 | 4 |  |  | 13 | 4 |  |  |  |  |
| 11:45 |  | 20 | 0 | 97 | 8 | 30 | 1 | 86 | 12 | 183 | 20 |
| Total |  | 390 | 564 |  |  | 334 | 534 |  |  | 724 | 1098 |
| Percent |  | 40.9\% | 59.1\% |  |  | 38.5\% | 61.5\% |  |  | 39.7\% | 60.3\% |

Location : Crescent Street
Location : South of Eaton Street City/State: Wakefield, MA

| Start <br> Time | $\begin{gathered} \text { 07-Sep-14 } \\ \text { Sun } \end{gathered}$ | NB |  | Hour Totals |  | SB |  | Hour Totals |  | Combined Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12.00 |  | Morning | Atternoon |  | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:15 |  | 2 | 14 |  |  | 2 | - 16 |  |  |  |  |
| 12:30 |  | 1 | 36 |  |  | 1 | 21 |  |  |  |  |
| 12:45 |  | 2 | 30 | 5 | 116 | 1 | 23 | 5 | 75 | 10 | 191 |
| 01:00 |  | 0 | 15 |  |  | 2 | 13 |  | - 75 | 10 | 191 |
| 01:15 |  | 0 | 22 |  |  | 1 | 14 |  |  |  |  |
| 01:30 |  | 1 | 18 |  |  | 1 | 17 |  |  |  |  |
| 01:45 |  | 0 | 10 | 1 | 65 | 1 | 12 | 5 | 56 | 6 | 121 |
| 02:00 |  | 0 | 18 |  |  | 1 | 16 |  |  |  |  |
| 02:15 |  | 0 | 15 |  |  | 0 | 8 |  |  |  |  |
| 02:30 |  | 0 | 25 |  |  | 0 | 14 |  |  |  |  |
| 02:45 |  | 0 | 24 | 0 | 82 | 0 | 17 | 1 | 55 | 1 | 137 |
| 03:00 |  | 0 | 10 |  |  | 1 | 8 |  |  |  |  |
| 03:15 |  | 0 | 8 |  |  | 0 | 11 | . |  |  |  |
| 03:30 |  | 0 | 21 |  |  | 1 | 6 |  |  |  |  |
| 03:45 |  | 0 | 20 | 0 | 59 | 0 | 5 | 2 | 30 | 2 | 89 |
| 04:00 |  | 0 | 25 |  |  | 1 | 9 |  |  |  |  |
| 04:15 |  | 0 | 19 |  |  | 0 | 4 |  |  |  |  |
| 04:30 |  | 0 | 17 |  |  | 0 | 9 |  |  |  |  |
| 04:45 |  | 0 | 15 | 0 | 76 | 1 | 15 | 2 | 37 | 2 | 113 |
| 05:00 |  | 0 | 14 |  |  | 1 | 11 |  |  |  |  |
| 05:15 |  | 1 | 19 |  |  | 0 | 15 |  |  |  |  |
| 05:30 |  | 0 | 11 |  |  | 0 | 18 |  |  |  |  |
| 05:45 |  | 1 | 11 | 2 | 55 | 0 | 13 | 1 | 57 | 3 | 112 |
| 06:00 |  | 2 | 15 |  |  | 1 | 14 |  | - 57 |  | 112 |
| 06:15 |  | 3 | 23 |  |  | 0 | - 11 |  |  |  |  |
| 06:30 |  | 3 | 12 |  |  | 2 | 10 |  |  |  |  |
| 06:45 |  | 2 | 5 | 10 | 55 | 2 | 14 | 5 | 49 | 15 | 104 |
| 07:00 |  | 9 | 12 |  |  | 5 | 11 |  | - 40 | 15 | 104 |
| 07:15 |  | 12 | 9 |  |  | 3 | 15 |  |  |  |  |
| 07:30 |  | 9 | 12 |  |  | 6 | 5 |  |  |  |  |
| 07:45 |  | 10 | 8 | 40 | 41 | 9 | 5 | 23 | 36 | 63 | 77 |
| 08:00 |  | 13 | 6 |  |  | 3 | 4 |  |  |  |  |
| 08:15 |  | 9 | 5 |  |  | 7 | 4 |  |  |  |  |
| 08:30 |  | 10 | 3 |  |  | 3 | 6 |  |  |  |  |
| 08:45 |  | 5 | 4 | 37 | 18 | 9 | 3 | 22 | 17 | 59 | 35 |
| 09:00 |  | 14 | 2 |  |  | 9 | 2 |  |  |  |  |
| 09:15 |  | 4 | 3 |  |  | 8 | 5 |  |  |  |  |
| 09:30 |  | 25 | 2 |  |  | 10 | 2 |  |  |  |  |
| 09:45 |  | 10 | 1 | 53 | 8 | 13 | 3 | 40 | 12 | 93 | 20 |
| 10:00 |  | 12 | 1 |  |  | 5 | 2 |  |  |  |  |
| 10:15 |  | 19 | 2 |  |  | 15 | 1 |  |  |  |  |
| 10:30 |  | 24 | 1 |  |  | 15 | 2 |  |  |  |  |
| 10:45 |  | 25 | 2 | 80 | 6 | 10 | 3 | 45 | 8 | 125 | 14 |
| 11:00 |  | 21 | 0 |  |  | 7 | 1 |  |  |  |  |
| 11:15 |  | 15 | 2 |  |  | 5 | 0 |  |  |  |  |
| 11:30 |  | 34 | 0 |  |  | 11 | 0 |  |  |  |  |
| 11:45 |  | 24 | 0 | 94 | 2 | 20 | 1 | 43 | 2 | 137 | 4 |
| Total |  | 322 | 583 |  |  | 194 | 434 |  |  | 516 | 1017 |
| Percent |  | 35.6\% | 64.4\% |  |  | 30.9\% | 69.1\% |  |  | $33.7 \%$ | 66.3\% |

Location: Crescent Street Location : South of Eaton Street

Site Code: 16670001 1667VOLI

| Start | 08-Sep-14 | NB |  | Hour Totals |  | SB |  | Hour Totals |  | Combined Totals |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | Mon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 |  | 0 | 19 |  |  | 1 | 24 |  |  |  |  |
| 12:15 |  | 0 | 22 |  |  | 1 | 29 |  |  |  |  |
| 12:30 |  | 0 | 30 |  |  | 0 | 15 |  |  |  |  |
| 12:45 |  | 0 | 18 | 0 | 89 | 2 | 20 | 4 | 88 | 4 | 177 |
| 01:00 |  | 2 | 10 |  |  | 0 | 21 |  |  |  |  |
| 01:15 |  | 0 | 26 |  |  | 1 | 22 |  |  |  |  |
| 01:30 |  | 0 | 17 |  |  | 1 | 17 |  |  |  |  |
| 01:45 |  | 0 | 10 | 2 | 63 | 1 | 13 | 3 | 73 | 5 | 136 |
| 02:00 |  | 2 | 31 |  |  | 0 | 20 |  |  |  |  |
| 02:15 |  | 0 | 19 |  |  | 0 | 15 |  |  |  |  |
| 02:30 | * | 0 | 14 |  |  | 0 | 24 |  |  |  |  |
| 02:45 |  | 0 | 23 | 2 | 87 | 0 | 24 | 0 | 83 | 2 | 170 |
| 03:00 |  | 0 | 25 |  |  | 0 | 28 |  |  |  |  |
| 03:15 |  | 0 | 37 |  |  | 0 | 18 |  |  |  |  |
| 03:30 |  | 0 | 22 |  |  | 1 | 18 |  |  |  |  |
| 03:45 |  | 0 | 11 | 0 | 95 | 0 | 19 | 1 | 83 | 1 | 178 |
| 04:00 |  | 2 | 15 |  |  | 0 | 27 |  |  |  |  |
| 04:15 |  | 0 | 32 |  |  | 0 | 22 |  |  |  |  |
| 04:30 |  | 2 | 29 |  |  | 0 | 38 |  |  |  |  |
| 04:45 |  | 3 | 23 | 7 | 99 | 1 | 31 | 1 | 118 | 8 | 217 |
| 05:00 |  | 6 | 28 |  |  | 3 | 27 |  |  |  |  |
| 05:15 |  | 6 | 29 |  |  | 2 | 36 |  |  |  |  |
| 05:30 |  | 5 | 21 |  |  | 3 | 29 |  |  |  |  |
| 05:45 |  | 10 | 14 | 27 | 92 | 1 | 34 | 9 | 126 | 36 | 218 |
| 06:00 |  | 14 | 15 |  |  | 4 | 28 |  |  |  |  |
| 06:15 |  | 13 | 16 |  |  | 10 | 23 |  |  |  |  |
| 06:30 |  | 21 | 24 |  |  | 11 | 18 |  |  |  |  |
| 06:45 |  | 16 | 7 | 64 | 62 | 20 | 18 | 45 | 87 | 109 | 149 |
| 07:00 |  | 30 | 16 |  |  | 20 | 9 |  |  |  |  |
| 07:15 |  | 34 | 12 |  |  | 21 | 14 |  |  |  |  |
| 07:30 |  | 42 | 8 |  |  | 23 | 13 |  |  |  |  |
| 07:45 |  | 26 | 12 | 132 | 48 | 24 | 8 | 88 | 44 | 220 | 92 |
| 08:00 |  | 26 | 9 |  |  | 14 | 7 |  |  |  |  |
| 08:15 |  | 36 | 3 |  |  | 15 | 6 |  |  |  |  |
| 08:30 |  | 24 | 5 |  |  | 20 | 5 |  |  |  |  |
| 08:45 |  | 30 | 4 | 116 | 21 | 24 | 8 | 73 | 26 | 189 | 47 |
| 09:00 |  | 23 | 8 |  |  | 22 | 6 |  |  |  |  |
| 09:15 |  | 28 | 2 |  |  | 15 | 3 |  |  |  |  |
| 09:30 |  | 8 | 4 |  |  | 14 | 3 |  |  |  |  |
| 09:45 |  | 13 | 3 | 72 | 17 | 45 | 3 | 96 | 15 | 168 | 32 |
| 10:00 |  | 22 | 1 |  |  | 20 | 4 |  |  |  |  |
| 10:15 |  | 31 | 1 |  |  | 16 | 2 |  |  |  |  |
| 10:30 |  | 26 | 3 |  |  | 12 | 1 |  |  |  |  |
| 10:45 |  | 16 | 0 | 95 | 5 | 25 | 3 | 73 | 10 | 168 | 15 |
| 11:00 |  | 12 | 2 |  |  | 17 | 0 |  |  |  |  |
| 11:15 |  | 18 | 0 |  |  | 21 | 1 |  |  |  |  |
| 11:30 |  | 25 | 1 |  |  | 13 | 0 |  |  |  |  |
| 11:45 |  | 24 | 0 | 79 | 3 | 16 | 1 | 67 | 2 | 146 | 5 |
| Total |  | 596 | 681 |  |  | 460 | 755 |  |  | 1056 | 1436 |
| Percent |  | 46.7\% | 53.3\% |  |  | 37.9\% | 62.1\% |  |  | 42.4\% | 57.6\% |
| Grand |  | 2387 | 3485 |  |  | 1853 | 3347 |  |  | 4240 | 6832 |
| Percent |  | 40.7\% | 59.3\% |  |  | 35.6\% | 64.4\% |  |  | 38.3\% | 61.7\% |
| ADT |  | ADT 2,214 |  | ADT 2,214 |  |  |  |  |  |  |  |


| Start | 01-Sep-14 |  | Tue |  | Wed |  | Thu |  | Fri |  | Sat |  | Sun |  | Week Average |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB |  |  |
| 12:00 AM |  | * |  | * | * | * | 3 | 0 | 2 | 2 | 3 | 7 | 5 | 5 | 3 | 4 |
| 01:00 |  | * | * | * | * | * | 0 | 2 | 1 | 0 | 4 | 4 | 1 | 5 | 2 | 3 |
| 02:00 |  | * | * | * | * | * | 0 | 0 | 0 | 0 | 3 | 6 | 0 | 1 | 1 | 2 |
| 03:00 |  | * | * | * | * | * | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 1 |
| 04:00 |  | * | * | * | * | * | 4 | 3 | 4 | 3 | 2 | 2 | 0 | 2 | 2 | 2 |
| 05:00 |  | * | * | * | * | * | 22 | 8 | 21 | 12 | 4 | 2 | 2 | 1 | 12 | 6 |
| 06:00 |  | * | * | * | * | * | 58 | 31 | 47 | 41 | 14 | 10 | 10 | 5 | 32 | 22 |
| 07:00 |  | * | * | * | * | * | 127 | 84 | 118 | 74 | 30 | 36 | 40 | 23 | 79 | 54 |
| 08:00 |  | * |  | * |  | * | 105 | 73 | 108 | 78 | 49 | 47 | 37 | 22 | 75 | 55 |
| 09:00 |  | * |  | * | * | * | 78 | 59 | 70 | 87 | 79 | 63 | 53 | 40 | 70 | 62 |
| 10:00 |  | * | * | * | * | * | 73 | 65 | 72 | 54 | 105 | 70 | 80 | 45 | 82 | 58 |
| 11:00 |  | * |  | * | * | * | 87 | 90 | 78 | 98 | 97 | 86 | 94 | 43 | 89 | 79 |
| 12:00 PM |  | * |  | * |  | * | 68 | 93 | 80 | 74 | 75 | 74 | 116 | 75 | 85 | 79 |
| 01:00 |  | * |  | * |  | * | 87 | 64 | 69 | 87 | 87 | 79 | 65 | 56 | 77 | 72 |
| 02:00 |  | * |  | * | * | * | 123 | 58 | 76 | 91 | 73 | 72 | 82 | 55 | 88 | 69 |
| 03:00 |  | * | * | * | * | * | 129 | 100 | 99 | 118 | 64 | 66 | 59 | 30 | 88 | 78 |
| 04:00 |  | * |  | * | * | * | 153 | 109 | 109 | 107 | 63 | 48 | 76 | 37 | 100 | 75 |
| 05:00 |  | * |  | * |  | * | 116 | 132 | 90 | 117 | 76 | 56 | 55 | 57 | 84 | 90 |
| 06:00 |  | * | * | * | * | * | 104 | 85 | 77 | 80 | 36 | 31 | 55 | 49 | 68 | 61 |
| 07:00 |  | * | * | * | * | * | 39 | 58 | 71 | 68 | 30 | 35 | 41 | 36 | 45 | 49 |
| 08:00 |  | * | * | * | * | * | 33 | 36 | 29 | 33 | 25 | 26 | 18 | 17 | 26 | 28 |
| 09:00 |  | * |  | * | * | * | 28 | 24 | 24 | 28 | 15 | 20 | 8 | 12 | 19 | 21 |
| 10:00 |  | * |  | * | * | * | 12 | 21 | 22 | 20 | 12 | 15 | 6 | 8 | 13 | 16 |
| 11:00 |  | * | * | * | * | * | 4 | 10 | 15 | 11 | 8 | 12 | 2 | 2 | 7 | 9 |
| Lane | 0 | 0 | 0 | 0 | 0 | 0 | 1454 | 1205 | 1282 | 1284 | 954 | 868 | 905 | 628 | 1147 | 995 |
| Day |  |  |  |  |  |  |  |  |  |  |  | 86 |  | 3 |  | 995 |
| AM Peak |  | - | - | - | - | - | 07:00 | 11:00 | 07:00 | 11:00 | 10:00 | 11:00 | 11:00 | 10:00 | 11:00 | 11:00 |
| ' Vol. |  | - | - | - | - | - | 127 | 90 | 118 | 98 | 105 | 86 | 94 | 45 | 89 | 79 |
| PM Peak | - | - | - | - | - | - | 16:00 | 17:00 | 16:00 | 15:00 | 13:00 | 13:00 | 12:00 | 12:00 | 16:00 | 17:00 |
| Vol. |  | - | - | - | - | - | 153 | 132 | 109 | 118 | 87 | 79 | 116 | 75 | 100 | 90 |







 Location ：Crescent Street
Location ：South of Eaton St Location ：South of Eaton Street
City／State：Wakefield，MA City／State：Wakefield，MA
Northbound

|  |  | 91. $00: Z \downarrow$ |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { 乙 } \\ & 00: \varepsilon 1 \end{aligned}$ | $\begin{aligned} & \varepsilon L \\ & 00: \zeta \downarrow \end{aligned}$ | $\begin{aligned} & S G \\ & 00: Z 1 \end{aligned}$ | レ <br> 00：Z1 | $6$ $00: 81$ | $z$ $00: 21$ | $10 \wedge$ yead Wd |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\square 6$ |  |  |  |  |  |  |  | $\downarrow$ | $\downarrow$ | O1 |  | 82 | $\varepsilon$ | $\downarrow$ | $\begin{aligned} & 10 \wedge \\ & \text { yeə } \end{aligned}$ |
|  |  | 00：L． |  |  |  |  |  |  |  | 00：20 | 00：01 | 00： 11 | 00：11 | 00：01 | 00：80 | 00：50 | WV |
|  |  |  | \％0＇0 | \％000 | \％000 | \％00 | \％0＊0 | \％000 | \％000 | \％ 50 | \％900 | \％6．6 | \％019 | \％ナてを | \％で乌 | \％80 | quajed |
|  |  | S06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 06 | Z97 | ع6Z | $2 t$ | $L$ | ［E10］ |
| 62 | 82 | Z | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 00：عz |
| 七乙 | てZ | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $z$ | $\varepsilon$ | 0 | 00：乙乙 |
| 62 | 82 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\square$ | $\varepsilon$ | 0 | ， | 00．12 |
| て\＆ | 62 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 乙 | 8 | $L$ | 1 | 0 | 00．02 |
| 62 | $8 乙$ | － | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\downarrow$ | 81 | G1 | 2 | 0 | 00：81 |
| $1 \varepsilon$ | $8 乙$ | GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | Sl | 2 | 6 | 2 | 00： 21 |
| て\＆ | 62 | GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | LZ | 21 | ¢ | 0 | 00：91 |
| $\varepsilon \varepsilon$ | 62 | 92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | ${ }_{\mathrm{G}}$ | 68 | Gl | 0 | 0 | 00：Gl |
| 乙\＆ | 62 | 6S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\underline{9}$ | 68 | OL | Z | 0 | 00：ャレ |
| $\varepsilon \varepsilon$ | 62 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | z | 6 | し¢ | LZ | Z | 0 | 00：EL |
| $\downarrow \varepsilon$ | $0 \varepsilon$ | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Z | \＆． | GS | 17 | $L$ | 0 | Wd Zl |
| て¢ | 62 | 915 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 01 | 99 | GZ | Z | $\downarrow$ | 00：レレ |
| て\＆ | 62 | p6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 01 | 95 | 82 | 1 | 1 | 00：01 |
| $\varepsilon \varepsilon$ | 62 | 08 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\downarrow$ | 6 | Ot | $8 \mathrm{8Z}$ | 2 | 0 | 00：60 |
| $1 \varepsilon$ | 62 | $\varepsilon G$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | l2 | 9 | $\varepsilon$ | 0 | 00：80 |
| $0 \varepsilon$ | 62 | $\angle \varepsilon$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | も | 92 | 8 | $\downarrow$ | 0 | 00： 20 |
| $\varepsilon \varepsilon$ | 62 | Ot | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 乙 | 乙 | 9 | 0 | 0 | 00：90 |
| $\varepsilon \varepsilon$ | $1 \varepsilon$ | O1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | C | 1 | 0 | 1 | 00：90 |
| $\downarrow$ 乙 | $\varepsilon 乙$ | z | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00： 00 |
| ＊ | ＊ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00：ع0 |
| ＊ | ＊ | 0 | 0 | 0 | 0 0 | 0 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00：20 |
| ${ }_{6}^{*}$ | ${ }^{*} 6$ | 0 | 0 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 00：10 |
| 82 | 92 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | $\checkmark$ | 0 | 0 | ャレ／L0／60 |
| 7uəjed | 戸uөアコəd | 1 elOL | 666 | GL | 02 | 99 | 09 | SS | OG | St | $0 \pm$ | SE | $0 \varepsilon$ | SZ | $0 Z$ | 91 | 2ull |
| 4796 | 4798 |  | 92 | $1 . L$ | 99 | 19 | 9 S | LS | 97 | $1 \downarrow$ | $9 \varepsilon$ | $1 \varepsilon$ | 97 | 12 | 91 | 1 | pels |

Location : Crescent Street
Location : South of Eaton Street



Page 8


11:00
13:00
$13: 00$
79
$6<$


高 73
96
73 67
88 09:00
 09:00 17:00 운 응 0 응 $\circ$ 웅
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| PM | $18: 00$ | $17: 00$ | $16: 00$ | $17: 00$ | $12: 00$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| Peak | 9 | 21 | 51 | 45 | 7 |
| Vol. | 9 | 720 | 2109 | 1825 | 303 |
| Grand | 227 | $72 \%$ |  |  |  |
| Total | $4.4 \%$ | $13.8 \%$ | $40.6 \%$ | $35.1 \%$ | $5.8 \%$ |
| Percent | 15 th Percentile : |  |  |  |  |

21-30 MPH

Location : Crescent Street
Location: South of Eaton

> Southbound

> | Start | 1 | 16 | 21 |
| :---: | ---: | ---: | ---: |
| Time | 15 | 20 | 25 |
| $09 / 08 / 14$ | 1 | 0 | 2 |

> Southbound
Location : Crescent Street
Location: South of Eaton Street Location : South of Eaton S
City/State: Wakefield, MA
Site Code: 16670001



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0
 Location : South of Eaton Street

City/State: Wakefield, MA City/State: Wakeneld, MA | Northbound, Southbound |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Start | 1 | 16 | 21 | 26 |
| Time | 15 | 20 | 25 | 30 |



Location: Crescent Street
Location: South of Eaton Street
Location : South of Eaton Street
Northbound, Southbound

돋
Location: Crescent Street
Location: South of Eaton Street
City/State: Wakefield, MA
City/State: Wakefield, MA
Northbound, Southbound


| AM Peak Vol. | $09: 00$ 31 | $11: 00$ 20 | $\begin{array}{r} 10: 00 \\ 68 \\ \hline \end{array}$ | $\begin{array}{r} 07: 00 \\ 112 \\ \hline \end{array}$ | $\begin{array}{rr} 0 & 08: 00 \\ 2 & 34 \\ \hline \end{array}$ | 06:00 |  |  |  |  |  |  |  |  | $\begin{array}{r} 07: 00 \\ 220 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM Peak | 18:00 | 17:00 | 16:00 | 17:00 | 12:00 | 13:00 | 14:00 |  |  |  |  |  |  |  | 17:00 |
| Vol. | 12 | 27 | 83 | 89 | 15 | 1 | 1 |  |  |  |  |  |  |  | 218 |
| Grand Total | 330 | 1073 | 4144 | 4594 | 4889 | 37 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11072 |
| Percent | 3.0\% | 9.7\% | 37.4\% | 41.5\% | \% 8.0\% | 0.3\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |
|  |  |  | Perce <br> Perce <br> Perce <br> Perce |  | $\begin{aligned} & 20 \mathrm{MPH} \\ & 24 \mathrm{MPH} \\ & 29 \mathrm{MPH} \\ & 32 \mathrm{MPH} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |
| Statistic S | 10 MPH Pace Speed : |  |  |  | 21-30 MPH |  |  |  |  |  |  |  |  |  |  |
|  | Number in Pace : |  |  |  | $\begin{array}{r} 8738 \\ 78.9 \% \end{array}$ |  |  |  |  |  |  |  |  |  |  |
|  | Number of Vehicles > 25 MPH : |  |  |  | 5525 |  |  |  |  |  |  |  |  |  |  |
|  | Percent of Vehicles > 25 MPH : |  |  |  | $\begin{array}{r} 49.9 \% \\ 25 \mathrm{MPH} \end{array}$ |  |  |  |  |  |  |  |  |  |  |

## Accurate Counts

## 978-664-2565

N/S Street : Main Street E/W Street : Crescent Street City/State : Wakefield, MA
Weather : Clear

File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 1

Groups Printed-Cars - Trucks

|  | Main St <br> From North |  |  | Crescent St From East |  |  | Main St <br> From South |  |  | Crescent St From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 3 | 133 | 6 | 2 | 20 | 11 | 0 | 48 | 1 | 0 | 14 | 0 | 238 |
| 07:15 AM | 4 | 203 | 6 | 6 | 25 | 14 | 0 | 46 | 1 | 0 | 8 | 0 | 313 |
| 07:30 AM | 7 | 151 | 3 | 5 | 29 | 10 | 1 | 69 | 1 | 1 | 11 | 0 | 288 |
| 07:45 AM | 6 | 157 | 6 | 5 | 27 | 9 | 1 | 68 | 2 | 1 | 13 | 0 | 295 |
| Total | 20 | 644 | 21 | 18 | 101 | 44 | 2 | 231 | 5 | 2 | 46 | 0 | 1134 |


| 08:00 AM | 13 | 140 | 2 | 6 | 29 | 6 | 0 | 58 | 1 | 3 | 8 | 0 | 266 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 4 | 133 | 2 | 4 | 29 | 10 | 2 | 73 | 1 | 7 | 12 | 1 | 278 |
| 08:30 AM | 3 | 127 | 4 | 9 | 28 | 11 | 4 | 56 | 2 | 3 | 16 | 0 | 263 |
| 08:45 AM | 13 | 125 | 6 | 7 | 22 | 9 | 2 | 46 | 4 | 6 | 14 | 0 | 254 |
| Total | 33 | 525 | 14 | 26 | 108 | 36 | 8 | 233 | 8 | 19 | 50 | 1 | 1061 |


| Grand Total | 53 | 1169 | 35 | 44 | 209 | 80 | 10 | 464 | 13 | 21 | 96 | 1 | 2195 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 4.2 | 93 | 2.8 | 13.2 | 62.8 | 24 | 2.1 | 95.3 | 2.7 | 17.8 | 81.4 | 0.8 |  |
| Total \% | 2.4 | 53.3 | 1.6 | 2 | 9.5 | 3.6 | 0.5 | 21.1 | 0.6 | 1 | 4.4 | 0 |  |
| Cars | 53 | 1142 | 35 | 43 | 209 | 79 | 10 | 444 | 13 | 20 | 96 | 1 | 2145 |
| \% Cars | 100 | 97.7 | 100 | 97.7 | 100 | 98.8 | 100 | 95.7 | 100 | 95.2 | 100 | 100 | 97.7 |
| Trucks | 0 | 27 | 0 | 1 | 0 | 1 | 0 | 20 | 0 | 1 | 0 | 0 | 50 |
| \% Trucks | 0 | 2.3 | 0 | 2.3 | 0 | 1.2 | 0 | 4.3 | 0 | 4.8 | 0 | 0 | 2.3 |

## Accurate Counts

978-664-2565

N/S Street : Main Street
File Name : 16670001
E/W Street : Crescent Street
City/State : Wakefield, MA
Site Code : 16670001
Start Date : 9/9/2014
Weather : Clear
Page No : 2

|  | Main St From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour for Entire Intersection Begins at 07:15 AM

| 07:15 AM | 4 | 203 | 6 | 213 | 6 | 25 | 14 | 45 | 0 | 46 | 1 | 47 | 0 | 8 | 0 | 8 | 313 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:30 AM | 7 | 151 | 3 | 161 | 5 | 29 | 10 | 44 | 1 | 69 | 1 | 71 | 1 | 11 | 0 | 12 | 288 |
| 07:45 AM | 6 | 157 | 6 | 169 | 5 | 27 | 9 | 41 | 1 | 68 | 2 | 71 | 1 | 13 | 0 | 14 | 295 |
| 08:00 AM | 13 | 140 | 2 | 155 | 6 | 29 | 6 | 41 | 0 | 58 | 1 | 59 | 3 | 8 | 0 | 11 | 266 |
| Total Volume | 30 | 651 | 17 | 698 | 22 | 110 | 39 | 171 | 2 | 241 | 5 | 248 | 5 | 40 | 0 | 45 | 1162 |
| \% App. Total | 4.3 | 93.3 | 2.4 |  | 12.9 | 64.3 | 22.8 |  | 0.8 | 97.2 | 2 |  | 11.1 | 88.9 | 0 |  |  |
| PHF | . 577 | . 802 | . 708 | . 819 | . 917 | . 948 | . 696 | . 950 | . 500 | . 873 | . 625 | . 873 | . 417 | . 769 | . 000 | . 804 | . 928 |
| Cars | 30 | 634 | 17 | 681 | 21 | 110 | 39 | 170 | 2 | 230 | 5 | 237 | 5 | 40 | 0 | 45 | 1133 |
| \% Cars | 100 | 97.4 | 100 | 97.6 | 95.5 | 100 | 100 | 99.4 | 100 | 95.4 | 100 | 95.6 | 100 | 100 | 0 | 100 | 97.5 |
| Trucks | 0 | 17 | 0 | 17 | 1 | 0 | 0 | 1 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 | 29 |
| \% Trucks | 0 | 2.6 | 0 | 2.4 | 4.5 | 0 | 0 | 0.6 | 0 | 4.6 | 0 | 4.4 | 0 | 0 | 0 | 0 | 2.5 |



## Accurate Counts <br> 978-664-2565

N/S Street : Main Street
File Name : 16670001
E/W Street : Crescent Street
City/State : Wakefield, MA
Site Code : 16670001
Start Date : 9/9/2014
Page No : 3

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | $\begin{gathered} \text { Main St } \\ \text { From South } \end{gathered}$ |  |  |  | Crescent St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:15 AM |  |  |  | 07:45 AM |  |  |  | 07:30 AM |  |  |  | 08:00 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 4 | 203 | 6 | 213 | 5 | 27 | 9 | 41 | 1 | 69 | 1 | 71 | 3 | 8 | 0 | 11 |
| +15 mins. | 7 | 151 | 3 | 161 | 6 | 29 | 6 | 41 | 1 | 68 | 2 | 71 | 7 | 12 | 1 | 20 |
| +30 mins. | 6 | 157 | 6 | 169 | 4 | 29 | 10 | 43 | 0 | 58 | 1 | 59 | 3 | 16 | 0 | 19 |
| +45 mins. | 13 | 140 | 2 | 155 | 9 | 28 | 11 | 48 | 2 | 73 | 1 | 76 | 6 | 14 | 0 | 20 |
| Total Volume | 30 | 651 | 17 | 698 | 24 | 113 | 36 | 173 | 4 | 268 | 5 | 277 | 19 | 50 | 1 | 70 |
| \% App. Total | 4.3 | 93.3 | 2.4 |  | 13.9 | 65.3 | 20.8 |  | 1.4 | 96.8 | 1.8 |  | 27.1 | 71.4 | 1.4 |  |
| PHF | . 577 | . 802 | . 708 | . 819 | . 667 | . 974 | . 818 | . 901 | . 500 | . 918 | . 625 | . 911 | . 679 | . 781 | . 250 | . 875 |
| Cars | 30 | 634 | 17 | 681 | 24 | 113 | 35 | 172 | 4 | 256 | 5 | 265 | 18 | 50 | 1 | 69 |
| \% Cars | 100 | 97.4 | 100 | 97.6 | 100 | 100 | 97.2 | 99.4 | 100 | 95.5 | 100 | 95.7 | 94.7 | 100 | 100 | 98.6 |
| Trucks | 0 | 17 | 0 | 17 | 0 | 0 | 1 | 1 | 0 | 12 | 0 | 12 | 1 | 0 | 0 | 1 |
| \% Trucks | 0 | 2.6 | 0 | 2.4 | 0 | 0 | 2.8 | 0.6 | 0 | 4.5 | 0 | 4.3 | 5.3 | 0 | 0 | 1.4 |


|  |  |  |
| :---: | :---: | :---: |
|  | Peak Hour Data |  |
|  |  |  |

## Accurate Counts

978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670001 Site Code : 16670001 Start Date : 9/9/2014
Page No : 4

|  | Main St <br> From North |  |  | Crescent St From East |  |  | Main St <br> From South |  |  | Crescent St From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thry | Right | Left | Thu | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 3 | 131 | 6 | 2 | 20 | 11 | 0 | 44 | 1 | 0 | 14 | 0 | 232 |
| 07:15 AM | 4 | 198 | 6 | 5 | 25 | 14 | 0 | 45 | 1 | 0 | 8 | 0 | 306 |
| 07:30 AM | 7 | 146 | 3 | 5 | 29 | 10 | 1 | 67 | 1 | 1 | 11 | 0 | 281 |
| 07:45 AM | 6 | 152 | 6 | 5 | 27 | 9 | 1 | 66 | 2 | 1 | 13 | 0 | 288 |
| Total | 20 | 627 | 21 | 17 | 101 | 44 | 2 | 222 | 5 | 2 | 46 | 0 | 1107 |


| 08:00 AM | 13 | 138 | 2 | 6 |  | 6 | 0 | 52 | 1 | 3 | 8 | 0 | 258 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 4 | 130 | 2 | 4 | 29 | 10 | 2 | 71 | 1 | 6 | 12 | 1 | 272 |
| 08:30 AM | 3 | 125 | 4 | 9 | 28 | 10 | 4 | 55 | 2 | 3 | 16 | 0 | 259 |
| 08:45 AM | 13 | 122 | 6 | 7 | 22 | 9 | 2 | 44 | 4 | 6 | 14 | 0 | 249 |
| Total | 33 | 515 | 14 | 26 | 108 | 35 | 8 | 222 | 8 | 18 | 50 | 1 | 1038. |
| Grand Total | 53 | 1142 | 35 | 43 | 209 | 79 | 10 | 444 | 13 | 20 | 96 | 1 | 2145 |
| Apprch \% | 4.3 | 92.8 | 2.8 | 13 | 63.1 | 23.9 | 2.1 | 95.1 | 2.8 | 17.1 | 82.1 | 0.9 |  |
| Total \% | 2.5 | 53.2 | 1.6 | 2 | 9.7 | 3.7 | 0.5 | 20.7 | 0.6 | 0.9 | 4.5 | 0 |  |

## Accurate Counts <br> 978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 5

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

| 07:15 AM | 4 | 198 | 6 | 208 | 5 | 25 | 14 | 44 | 0 | 45 | 1 | 46 | 0 | 8 | 0 | 8 | 306 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:30 AM | 7 | 146 | 3 | 156 | 5 | 29 | 10 | 44 | 1 | 67 | 1 | 69 | 1 | 11 | 0 | 12 | 281 |
| 07:45 AM | 6 | 152 | 6 | 164 | 5 | 27 | 9 | 41 | 1 | 66 | 2 | 69 | 1 | 13 | 0 | 14 | 288 |
| 08:00 AM | 13 | 138 | 2 | 153 | 6 | 29 | 6 | 41 | 0 | 52 | 1 | 53 | 3 | 8 | 0 | 11 | 258 |
| Total Volume | 30 | 634 | 17 | 681 | 21 | 110 | 39 | 170 | 2 | 230 | 5 | 237 | 5 | 40 | 0 | 45 | 1133 |
| \% App. Total | 4.4 | 93.1 | 2.5 |  | 12.4 | 64.7 | 22.9 |  | 0.8 | 97 | 2.1 |  | 11.1 | 88.9 | 0 |  |  |
| PHF | . 577 | . 801 | . 708 | . 819 | . 875 | . 948 | . 696 | . 966 | . 500 | . 858 | . 625 | . 859 | . 417 | . 769 | . 000 | . 804 | . 926 |



## Accurate Counts

978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 6

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thre | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:15 AM |  |  |  | 07:45 AM |  |  |  | 07:30 AM |  |  |  | 08:00 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 4 | 198 | 6 | 208 | 5 | 27 | 9 | 41 | 1 | 67 | 1 | 69 | 3 | 8 | 0 | 11 |
| +15 mins. | 7 | 146 | 3 | 156 | 6 | 29 | 6 | 41 | 1 | 66 | 2 | 69 | 6 | 12 | 1 | 19 |
| +30 mins. | 6 | 152 | 6 | 164 | 4 | 29 | 10 | 43 | 0 | 52 | 1 | 53 | 3 | 16 | 0 | 19 |
| +45 mins. | 13 | 138 | 2 | 153 | 9 | 28 | 10 | 47 | 2 | 71 | 1 | 74 | 6 | 14 | 0 | 20 |
| Total Volume | 30 | 634 | 17 | 681 | 24 | 113 | 35 | 172 | 4 | 256 | 5 | 265 | 18 | 50 | 1 | 69 |
| \% App. Total | 4.4 | 93.1 | 2.5 |  | 14 | 65.7 | 20.3 |  | 1.5 | 96.6 | 1.9 |  | 26.1 | 72.5 | 1.4 |  |
| PHF | . 577 | . 801 | . 708 | . 819 | . 667 | . 974 | . 875 | . 915 | . 500 | . 901 | . 625 | . 895 | . 750 | . 781 | . 250 | . 863 |



## Accurate Counts

978-664-2565


> Groups Printed- Trucks

|  | Main St From North |  |  | Crescent St From East |  |  | Main St <br> From South |  |  | Crescent St From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 6 |
| 07:15 AM | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 |
| 07:30 AM | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 |
| 07:45 AM | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 7 |
| Total | 0 | 17 | 0 | 1 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 27 |


| 08:00 AM | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 6 |
| 08:30 AM | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 08:45 AM | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 5 |
| Total | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 1 | 0 | 0 | 23 |


| Grand Total | 0 | 27 | 0 | 1 | 0 | 1 | 0 | 20 | 0 | 1 | 0 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Apprch $\%$ | 0 | 100 | 0 | 50 | 0 | 50 | 0 | 100 | 0 | 100 | 0 |
| Total $\%$ | 0 | 54 | 0 | 2 | 0 | 2 | 0 | 40 | 0 | 2 | 0 |

## Accurate Counts

978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
File Name: 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 8

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St From South |  |  |  | Crescent St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour for Entire Intersection Begins at 07:15 AM

| 07:15 AM | 0 | 5 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:30 AM | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 7 |
| 07:45 AM | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 7 |
| 08:00 AM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 8 |
| Total Volume | 0 | 17 | 0 | 17 | 1 | 0 | 0 | 1 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 | 29 |
| \% App. Total | 0 | 100 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 850 | . 000 | . 850 | . 250 | . 000 | . 000 | . 250 | . 000 | 458 | . 000 | . 458 | . 000 | . 000 | . 000 | . 000 | . 906 |



## Accurate Counts <br> 978-664-2565

N/S Street : Main Street
File Name : 16670001 E/W Street : Crescent Street City/State : Wakefield, MA

Site Code : 16670001
Start Date : 9/9/2014
Weather : Clear
Page No : 9

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:00 AM |  |  |  | 07:00 AM |  |  |  | 07:30 AM |  |  |  | 07:30 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 5 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 1 |
| Total Volume | 0 | 17 | 0 | 17 | 1 | 0 | 0 | 1 | 0 | 12 | 0 | 12 | 1 | 0 | 0 | 1 |
| \% App. Total | 0 | 100 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  | 100 | 0 | 0 |  |
| PHF | . 000 | . 850 | . 000 | . 850 | . 250 | . 000 | . 000 | . 250 | . 000 | . 500 | . 000 | . 500 | . 250 | . 000 | . 000 | . 250 |



## Accurate Counts

## 978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
File Name: 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 10

|  | Main St From North |  |  |  | Crescent St From East |  |  |  | Main St From South |  |  |  | Crescent St From West |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thut | Right | Peds | Exclu. Tolal | Lnclu Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 12 |
| 07:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 |
| 07:45 AM | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 5 |
| Total | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 1 | 26 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 1 | 8 |
| 08:45 AM | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 2 | 10 |
| Total | 0 | 0 | 0 | 7 | 1 | 0 | 0 | 7 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 15 | 3 | 18 |



## Accurate Counts

978-664-2565

N/S Street : Main Street
File Name : 16670001
E/W Street : Crescent Street
Site Code : 16670001
Start Date : 9/9/2014
Page No : 11

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1


| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| Total Volume | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 3 |
| \% App. Total | 0 | 0 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 250 | . 000 | . 000 | . 250 | . 000 | . 500 | . 000 | . 500 | . 000 | . 000 | . 000 | . 000 | . 375 |



## Accurate Counts <br> 978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 12

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:00 AM |  |  |  | 07:00 AM |  |  |  | 08:00 AM |  |  |  | 07:00 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 100 | 0 |  | 0 | 100 | 0 |  | 0 | 0 | 0 |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 250 | . 000 | . 250 | . 000 | . 500 | . 000 | . 500 | . 000 | . 000 | . 000 | . 000 |



## Accurate Counts

## 978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670001
Site Code : 16670001 Start Date : 9/9/2014
Page No : 1

|  | Main St <br> From North |  |  | Crescent St <br> From East |  |  | Main St From South |  |  | Crescent St <br> From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 04:00 PM | 5 | 73 | 2 | 1 | 19 | 11 | 0 | 89 | 4 | 1 | 22 | 0 | 227 |
| 04:15 PM | 6 | 74 | 2 | 4 | 17 | 6 | 1 | 101 | 3 | 7 | 22 | 0 | 243 |
| 04:30 PM | 7 | 81 | 0 | 6 | 13 | 14 | 3 | 87 | 5 | 1 | 25 | 2 | 244 |
| 04:45 PM | 9 | 67 | 2 | 7 | 13 | 13 | 4 | 90 | 4 | 1 | 25 | 0 | 235 |
| Total | 27 | 295 | 6 | 18 | 62 | 44 | 8 | 367 | 16 | 10 | 94 | 2 | 949 |


| 05:00 PM | 7 | 83 | 2 | 1 | 13 | 11 | 3 | 90 | 5 | 2 | 21 | 1 | 239 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 9 | 89 | 1 | 3 | 12 | 11 | 4 | 79 | 0 | 4 | 28 | 0 | 240 |
| 05:30 PM | 10 | 86 | 2 | 6 | 16 | 7 | 2 | 111 | 4 | 7 | 28 | 1 | 280 |
| 05:45 PM | 9 | 101 | 3 | 1 | 12 | 4 | 3 | 79 | 5 | 1 | 21 | 0 | 239 |
| Total | 35 | 359 | 8 | 11 | 53 | 33 | 12 | 359 | 14 | 14 | 98 | 2 | 998 |


| Grand Total | 62 | 654 | 14 | 29 | 115 | 77 | 20 | 726 | 30 | 24 | 192 | 4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Apprch \% | 8.5 | 89.6 | 1.9 | 13.1 | 52 | 34.8 | 2.6 | 93.6 | 3.9 | 10.9 | 87.3 | 1.8 |
| Total \% | 3.2 | 33.6 | 0.7 | 1.5 | 5.9 | 4 | 1 | 37.3 | 1.5 | 1.2 | 9.9 | 0.2 |
| Cars | 62 | 644 | 14 | 29 | 115 | 76 | 20 | 723 | 30 | 24 | 192 | 4 |
| \% Cars | 100 | 98.5 | 100 | 100 | 100 | 98.7 | 100 | 99.6 | 100 | 100 | 100 | 100 |
| Trucks | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 |
| \% Trucks | 0 | 1.5 | 0 | 0 | 0 | 1.3 | 0 | 0.4 | 0 | 0.3 |  |  |

## Accurate Counts <br> 978-664-2565

N/S Street : Main Street
File Name : 16670001
Site Code : 16670001
E/W Street : Crescent Street
Start Date: 9/9/2014
Page No : 2

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Entire Intersection Begins at 05:00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 05:00 PM | 7 | 83 | 2 | 92 | 1 | 13 | 11 | 25 | 3 | 90 | 5 | 98 | 2 | 21 | 1 | 24 | 239 |
| 05:15 PM | 9 | 89 | 1 | 99 | 3 | 12 | 11 | 26 | 4 | 79 | 0 | 83 | 4 | 28 | 0 | 32 | 240 |
| 05:30 PM | 10 | 86 | 2 | 98 | 6 | 16 | 7 | 29 | 2 | 111 | 4 | 117 | 7 | 28 | 1 | 36 | 280 |
| 05:45 PM | 9 | 101 | 3 | 113 | 1 | 12 | 4 | 17 | 3 | 79 | 5 | 87 | 1 | 21 | 0 | 22 | 239 |
| Total Volume | 35 | 359 | 8 | 402 | 11 | 53 | 33 | 97 | 12 | 359 | 14 | 385 | 14 | 98 | 2 | 114 | 998 |
| \% App. Total | 8.7 | 89.3 | 2 |  | 11.3 | 54.6 | 34 |  | 3.1 | 93.2 | 3.6 |  | 12.3 | 86 | 1.8 |  |  |
| PHF | . 875 | . 889 | . 667 | . 889 | . 458 | . 828 | . 750 | . 836 | . 750 | . 809 | . 700 | . 823 | . 500 | . 875 | . 500 | . 792 | . 891 |
| Cars | 35 | 353 | 8 | 396 | 11 | 53 | 32 | 96 | 12 | 358 | 14 | 384 | 14 | 98 | 2 | 114 | 990 |
| \% Cars | 100 | 98.3 | 100 | 98.5 | 100 | 100 | 97.0 | 99.0 | 100 | 99.7 | 100 | 99.7 | 100 | 100 | 100 | 100 | 99.2 |
| Trucks | 0 | 6 | 0 | 6 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| \% Trucks | 0 | 1.7 | 0 | 1.5 | 0 | 0 | 3.0 | 1.0 | 0 | 0.3 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0.8 |



## Accurate Counts

## 978-664-2565

N/S Street : Main Street
File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014

W Street : Crescent Stree
City/State : Wakefield, MA
Weather : Clear

Page No : 3

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

|  | 05:00 PM |  |  |  | 04:00 PM |  |  |  | 04:15 PM |  |  |  | 04:45 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 7 | 83 | 2 | 92 | 1 | 19 | 11 | 31 | 1 | 101 | 3 | 105 | 1 | 25 | 0 | 26 |
| +15 mins. | 9 | 89 | 1 | 99 | 4 | 17 | 6 | 27 | 3 | 87 | 5 | 95 | 2 | 21 | 1 | 24 |
| +30 mins. | 10 | 86 | 2 | 98 | 6 | 13 | 14 | 33 | 4 | 90 | 4 | 98 | 4 | 28 | 0 | 32 |
| +45 mins. | 9 | 101 | 3 | 113 | 7 | 13 | 13 | 33 | 3 | 90 | 5 | 98 | 7 | 28 | 1 | 36 |
| Total Volume | 35 | 359 | 8 | 402 | 18 | 62 | 44 | 124 | 11 | 368 | 17 | 396 | 14 | 102 | 2 | 118 |
| \% App. Total | 8.7 | 89.3 | 2 |  | 14.5 | 50 | 35.5 |  | 2.8 | 92.9 | 4.3 |  | 11.9 | 86.4 | 1.7 |  |
| PHF | . 875 | . 889 | . 667 | . 889 | . 643 | . 816 | . 786 | . 939 | . 688 | . 911 | . 850 | . 943 | . 500 | . 911 | . 500 | . 819 |
| Cars | 35 | 353 | 8 | 396 | 18 | 62 | 44 | 124 | 11 | 366 | 17 | 394 | 14 | 102 | 2 | 118 |
| \% Cars | 100 | 98.3 | 100 | 98.5 | 100 | 100 | 100 | 100 | 100 | 99.5 | 100 | 99.5 | 100 | 100 | 100 | 100 |
| Trucks | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| \% Trucks | 0 | 1.7 | 0 | 1.5 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |

## Accurate Counts

978-664-2565

N/S Street: Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear
File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 4
Groups Printed- Cars



## Accurate Counts

978-664-2565

N/S Street: Main Street
File Name : 16670001
E/W Street : Crescent Street
City/State : Wakefield, MA
Site Code : 16670001
Start Date : 9/9/2014
Weather : Clear

|  | Main St From North |  |  |  | Crescent St From East |  |  |  | Main St From South |  |  |  | Crescent St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM

| 05:00 PM | 7 | 81 | 2 | 90 | 1 | 13 | 10 | 24 | 3 | 90 | 5 | 98 | 2 | 21 | 1 | 24 | 236 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 9 | 86 | 1 | 96 | 3 | 12 | 11 | 26 | 4 | 78 | 0 | 82 | 4 | 28 | 0 | 32 | 236 |
| 05:30 PM | 10 | 86 | 2 | 98 | 6 | 16 | 7 | 29 | 2 | 111 | 4 | 117 | 7 | 28 | 1 | 36 | 280 |
| 05:45 PM | 9 | 100 | 3 | 112 | 1 | 12 | 4 | 17 | 3 | 79 | 5 | 87 | 1 | 21 | 0 | 22 | 238 |
| Total Volume | 35 | 353 | 8 | 396 | 11 | 53 | 32 | 96 | 12 | 358 | 14 | 384 | 14 | 98 | 2 | 114 | 990 |
| \% App. Total | 8.8 | 89.1 | 2 |  | 11.5 | 55.2 | 33.3 |  | 3.1 | 93.2 | 3.6 |  | 12.3 | 86 | 1.8 |  |  |
| PHF | . 875 | . 883 | . 667 | . 884 | . 458 | . 828 | . 727 | . 828 | . 750 | . 806 | . 700 | . 821 | . 500 | . 875 | . 500 | . 792 | . 884 |



## Accurate Counts

978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
File Name : 16670001
Site Code : 16670001
City/State : Wakefield, MA
Start Date : 9/9/2014
Page No : 6

|  | Main St From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

|  | 05:00 PM |  |  |  | 04:00 PM |  |  |  | 04:15 PM |  |  |  | 04:45 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 7 | 81 | 2 | 90 | 1 | 19 | 11 | 31 | 1 | 101 | 3 | 105 | 1 | 25 | 0 | 26 |
| +15 mins. | 9 | 86 | 1 | 96 | 4 | 17 | 6 | 27 | 3 | 86 | 5 | 94 | 2 | 21 | 1 | 24 |
| +30 mins. | 10 | 86 | 2 | 98 | 6 | 13 | 14 | 33 | 4 | 89 | 4 | 97 | 4 | 28 | 0 | 32 |
| +45 mins. | 9 | 100 | 3 | 112 | 7 | 13 | 13 | 33 | 3 | 90 | 5 | 98 | 7 | 28 | 1 | 36 |
| Total Volume | 35 | 353 | 8 | 396 | 18 | 62 | 44 | 124 | 11 | 366 | 17 | 394 | 14 | 102 | 2 | 118 |
| \% App. Total | 8.8 | 89.1 | 2 |  | 14.5 | 50 | 35.5 |  | 2.8 | 92.9 | 4.3 |  | 11.9 | 86.4 | 1.7 |  |
| PHF | . 875 | . 883 | . 667 | . 884 | . 643 | . 816 | . 786 | . 939 | . 688 | . 906 | . 850 | . 938 | . 500 | . 911 | . 500 | . 819 |



## Accurate Counts

978-664-2565

N/S Street: Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Weather : Clear
Page No : 7
Groups Printed- Trucks

|  | Main St <br> From North |  |  | Crescent St From East |  |  | Main St <br> From South |  |  | Crescent St <br> From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:15 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:30 PM | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 04:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| Total | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 6 |


| 05:00 PM | 0 | 2 | 0 | 0 | 0 . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |


| Grand Total | 0 | 10 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Apprch $\%$ | 0 | 100 | 0 | 0 | 0 | 100 | 0 | 100 | 0 | 0 | 0 |
| Total $\%$ | 0 | 71.4 | 0 | 0 | 0 | 7.1 | 0 | 21.4 | 0 | 0 | 0 |

## Accurate Counts

978-664-2565

N/S Street : Main Street
File Name : 16670001
E/W Street : Crescent Street
Site Code : 16670001
City/State : Wakefield, MA
Start Date : 9/9/2014
Page No : 8

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour for Entire Intersection Begins at 04:30 PM

| 04:30 PM | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:45 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 05:00 PM | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 05:15 PM | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| Total Volume | 0 | 8 | 0 | 8 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 12 |
| \% App. Total | 0 | 100 | 0 |  | 0 | 0 | 100 |  | 0 | 100 | 0 |  | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 667 | . 000 | . 667 | . 000 | . 000 | . 250 | . 250 | . 000 | . 750 | . 000 | . 750 | . 000 | . 000 | . 000 | . 000 | . 750 |



## Accurate Counts

978-664-2565
N/S Street : Main Street
E/W Street: Crescent Street
City/State : Wakefield, MA
Weather: Clear

File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 9

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | . $T$ | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

|  | 04:30 PM |  |  |  | 04:15 PM |  |  |  | 04:30 PM |  |  |  | 04:00 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | $0$ | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 3 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 8 | 0 | 8 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 |
| \% App. Total | 0 | 100 | 0 |  | 0 | 0 | 100 |  | 0 | 100 | 0 |  | 0 | 0 | 0 |  |
| PHF | . 000 | . 667 | . 000 | . 667 | . 000 | . 000 | . 250 | . 250 | . 000 | . 750 | . 000 | . 750 | . 000 | . 000 | . 000 | . 000 |



## Accurate Counts

978-664-2565

N/S Strect : Main Street
E/W Street : Crescent Street
File Name : 16670001 City/State : Wakefield, MA

Site Code : 16670001
Start Date : 9/9/2014
Page No : 10
Groups Printed- Bikes Peds


| 05:00 PM | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 14 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 4 | 3 | 7 |
| 05:30 PM | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 8 | 3 | 11 |
| 05:45 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| Total | 0 | 1 | 0 | 9 | 0 | 0 | 0 | 22 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 2 | 33 | 6 | 39 |



## Accurate Counts

## 978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670001
Site Code : 16670001
Start Date : 9/9/2014
Page No : 11

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App: Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:00 PM

| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:15 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 2 | 4 |
| 04:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| Total Volume | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 0 | 4 | 4 | 8 |
| \% App. Total | 0 | 100 | 0 |  | 0 | 100 | 0 |  | 0 | 100 | 0 |  | 0 | 0 | 100 |  |  |
| PHF | . 000 | . 250 | 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 500 | . 000 | . 500 | . 000 | . 000 | . 500 | . 500 | . 500 |



## Accurate Counts

978-664-2565

N/S Street : Main Street
E/W Street : Crescent Street
City/State : Wakefield, MA
Weather : Clear

File Name : I667000I
Site Code : 16670001
Start Date : 9/9/2014
Page No : 12

|  | Main St <br> From North |  |  |  | Crescent St <br> From East |  |  |  | Main St <br> From South |  |  |  | Crescent St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Toind | Left | Thru | Right | App. Total | Left | Thru | Right | App. | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

|  | 04:00 PM |  |  |  | 04:00 PM |  |  |  | 04:30 PM |  |  |  | 04:00 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 2 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 1 | 1 |
| Total Volume | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 3 | 0 | 0 | 4 | 4 |
| \% App. Total | 0 | 100 | 0 |  | 0 | 100 | 0 |  | 0 | 100 | 0 |  | 0 | 0 | 100 |  |
| PHF | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 375 | . 000 | . 375 | . 000 | . 000 | . 500 | . 500 |



## Accurate Counts

978-664-2565
N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 1

| Groups Printed-Cars - Trucks |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Crescent St From North |  |  | $\begin{gathered} \text { Otis St } \\ \text { From East } \end{gathered}$ |  |  | Crescent St <br> From South |  |  | Center St <br> From West |  |  |  |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 4 | 8 | 3 | 13 | 29 | 8 | 6 | 14 | 2 | 1 | 8 | 3 | 99 |
| 07:15 AM | 2 | 14 | 3 | 16 | 37 | 11 | 7 | 23 | 3 | 0 | 12 | 4 | 132 |
| 07:30 AM | 3 | 16 | 5 | 21 | 55 | 13 | 8 | 22 | 5 | 2 | 14 | 5 | 169 |
| 07:45 AM | 5 | 13 | 3 | 8 | 45 | 6 | 11 | 25 | 3 | 0 | 9 | 3 | 131 |
| Total | 14 | 51 | 14 | 58 | 166 | 38 | 32 | 84 | 13 | 3 | 43 | 15 | 531 |


| 08:00 AM | 3 | 17 | 3 | 6 | 47 | 5 | 9 | 23 | 2 | 0 | 12 | 2 | 129 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 1 | 8 | 0 | 15 | 32 | 4 | 8 | 29 | 1 | 0 | 14 | 0 | 112 |
| 08:30 AM | 6 | 11 | 3 | 7 | 48 | 12 | 4 | 29 | 4 | 4 | 7 | 2 | 137 |
| 08:45 AM | 1 | 21 | 2 | 6 | 33 | 9 | 1 | 19 | 4 | 4 | 9 | 8 | 117 |
| Total | 11 | 57 | 8 | 34 | 160 | 30 | 22 | 100 | 11 | 8 | 42 | 12 | 495 |


| Grand Total | 25 | 108 | 22 | 92 | 326 | 68 | 54 | 184 | 24 | 11 | 85 | 27 | 1026 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 16.1 | 69.7 | 14.2 | 18.9 | 67.1 | 14 | 20.6 | 70.2 | 9.2 | 8.9 | 69.1 | 22 |  |
| Total \% | 2.4 | 10.5 | 2.1 | 9 | 31.8 | 6.6 | 5.3 | 17.9 | 2.3 | 1.1 | 8.3 | 2.6 |  |
| Cars | 25 | 108 | 22 | 92 | 326 | 68 | 53 | 182 | 23 | 10 | 85 | 26 | 1020 |
| \% Cars | 100 | 100 | 100 | 100 | 100 | 100 | 98.1 | 98.9 | 95.8 | 90.9 | 100 | 96.3 | 99.4 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 6 |
| \% Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 1.9 | 1.1 | 4.2 | 9.1 | 0 | 3.7 | 0.6 |

## Accurate Counts <br> 978-664-2565

N/S Street : Crescent Street
E/W Street: Otis Street / Center Street
File Name : 16670002
City/State : Wakefield, MA
Site Code : 16670002
Weather : Clear
Start Date : 9/9/2014
Page No : 2

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Toinl | Left | Thru | Right | App. Total | Left | Thru | Right |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Entire Intersection Begins at 07:15 AM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 07:15 AM | 2 | 14 | 3 | 19 | 16 | 37 | 11 | 64 | 7 | 23 | 3 | 33 | 0 | 12 | 4 | 16 | 132 |
| 07:30 AM | 3 | 16 | 5 | 24 | 21 | 55 | 13 | 89 | 8 | 22 | 5 | 35 | 2 | 14 | 5 | 21 | 169 |
| 07:45 AM | 5 | 13 | 3 | 21 | 8 | 45 | 6 | 59 | 11 | 25 | 3 | 39 | 0 | - 9 | 3 | 12 | 131 |
| 08:00 AM | 3 | 17 | 3 | 23 | 6 | 47 | 5 | 58 | 9 | 23 | 2 | 34 | 0 | 12 | 2 | 14 | 129 |
| Total Volume | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 35 | 93 | 13 | 141 | 2 | 47 | 14 | 63 | 561 |
| \% App. Total | 14.9 | 69 | 16.1 |  | 18.9 | 68.1 | 13 |  | 24.8 | 66 | 9.2 |  | 3.2 | 74.6 | 22.2 |  |  |
| PHF | . 650 | . 882 | . 700 | . 906 | . 607 | . 836 | . 673 | . 758 | . 795 | . 930 | . 650 | . 904 | . 250 | . 839 | . 700 | 750 | 0 |
| Cars | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 34 | 92 | 12 | 138 | 2 | 47 | 13 | . 62 | 557 |
| \% Cars | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97.1 | 98.9 | 92.3 | 97.9 | 100 | 100 | 92.9 | 98.4 | 99.3 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 1 | . |
| \% Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.9 | 1.1 | 7.7 | 2.1 | 0 | 0 | 7.1 | 1.6 | 0.7 |


|  |  |  |
| :---: | :---: | :---: |
|  | Peak Hour Data |  |
|  |  |  |

## Accurate Counts <br> 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 3

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:15 AM |  |  |  | 07:15 AM |  |  |  | 07:45 AM |  |  |  | 07:15 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 2 | 14 | 3 | 19 | 16 | 37 | 11 | 64 | 11 | 25 | 3 | 39 | 0 | 12 | 4 | 16 |
| +15 mins. | 3 | 16 | 5 | 24 | 21 | 55 | 13 | 89 | 9 | 23 | 2 | 34 | 2 | 14 | 5 | 21 |
| +30 mins. | 5 | 13 | 3 | 21 | 8 | 45 | 6 | 59 | 8 | 29 | 1 | 38 | 0 | 9 | 3 | 12 |
| +45 mins. | 3 | 17 | 3 | 23 | 6 | 47 | 5 | 58 | 4 | 29 | 4 | 37 | 0 | 12 | 2 | 14 |
| Total Volume | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 32 | 106 | 10 | 148 | 2 | 47 | 14 | 63 |
| \% App. Total | 14.9 | 69 | 16.1 |  | 18.9 | 68.1 | 13 |  | 21.6 | 71.6 | 6.8 |  | 3.2 | 74.6 | 22.2 |  |
| PHF | . 650 | . 882 | . 700 | . 906 | . 607 | . 836 | . 673 | . 758 | . 727 | . 914 | . 625 | . 949 | . 250 | . 839 | . 700 | . 750 |
| Cars | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 31 | 105 | 9 | 145 | 2 | 47 | 13 | 62 |
| \% Cars | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 96.9 | 99.1 | 90 | 98 | 100 | 100 | 92.9 | 98.4 |
| Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | . 1 | 1 | 3 | 0 | 0 | 1 | 1 |
| \% Trucks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.1 | 0.9 | 10 | 2 | 0 | 0 | 7.1 | 1.6 |



## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 4

|  | Crescent St From North |  |  | Otis St <br> From East |  |  | Crescent St From South |  |  | Center St From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 4 | 8 | 3 | 13 | 29 | 8 | 6 | 14 | 2 | 1 | 8 | 3 | 99 |
| 07:15 AM | 2 | 14 | 3 | 16 | 37 | 11 | 7 | 23 | 3 | 0 | 12 | 4 | 132 |
| 07:30 AM | 3 | 16 | 5 | 21 | 55 | 13 | 8 | 21 | 5 | 2 | 14 | 4 | 167 |
| 07:45 AM | 5 | 13 | 3 | 8 | 45 | 6 | 10 | 25 | 3 | 0 | 9 | 3 | 130 |
| Total | 14 | 51 | 14 | 58 | 166 | 38 | 31 | 83 | 13 | 3 | 43 | 14 | 528 |


| 08:00 AM | 3 | 17 | 3 | 6 | 47 | 5 | 9 | 23 | 1 | 0 | 12 | 2 | 128 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 1 | 8 | 0 | 15 | 32 | 4 | 8 | 29 | 1 | 0 | 14 | 0 | 112 |
| 08:30 AM | 6 | 11 | 3 | 7 | 48 | 12 | 4 | 28 | 4 | 3 | 7 | 2 | 135 |
| 08:45 AM | 1 | 21 | 2 | 6 | 33 | 9 | 1 | 19 | 4 | 4 | 9 | 8 | 117 |
| Total | 11 | 57 | 8 | 34 | 160 | 30 | 22 | 99 | 10 | 7 | 42 | 12 | 492 |


| Grand Total | 25 | 108 | 22 | 92 | 326 | 68 | 53 | 182 | 23 | 10 | 85 | 26 | 1020 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 16.1 | 69.7 | 14.2 | 18.9 | 67.1 | 14 | 20.5 | 70.5 | 8.9 | 8.3 | 70.2 | 21.5 |  |
| Total \% | 2.5 | 10.6 | 2.2 | 9 | 32 | 6.7 | 5.2 | 17.8 | 2.3 | 1 | 8.3 | 2.5 |  |

## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 5

|  | Crescent St From North |  |  |  | Otis St From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

| 07:15 AM | 2 | 14 | 3 | 19 | 16 | 37 | 11 | 64 | 7 | 23 | 3 | 33 | 0 | 12 | 4 | 16 | 132 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:30 AM | 3 | 16 | 5 | 24 | 21 | 55 | 13 | 89 | 8 | 21 | 5 | 34 | 2 | 14 | 4 | 20 | 167 |
| 07:45 AM | 5 | 13 | 3 | 21 | 8 | 45 | 6 | 59 | 10 | 25 | 3 | 38 | 0 | 9 | 3 | 12 | 130 |
| 08:00 AM | 3 | 17 | 3 | 23 | 6 | 47 | 5 | 58 | 9 | 23 | 1 | 33 | 0 | 12 | 2 | 14 | 128 |
| Total Volume | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 34 | 92 | 12 | 138 | 2 | 47 | 13 | 62 | 557 |
| \% App. Total | 14.9 | 69 | 16.1 |  | 18.9 | 68.1 | 13 |  | 24.6 | 66.7 | 8.7 |  | 3.2 | 75.8 | 21 |  |  |
| PHF | . 650 | . 882 | . 700 | . 906 | . 607 | . 836 | . 673 | . 758 | . 850 | . 920 | . 600 | . 908 | . 250 | . 839 | . 813 | . 775 | . 834 |



## Accurate Counts <br> 978-664-2565

N/S Street : Crescent Street
File Name : 16670002
E/W Street : Otis Street / Center Street
Site Code : 16670002
Start Date : 9/9/2014
City/State : Wakefield, MA
Weather : Clear
Page No : 6

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St Fiom South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:15 AM |  |  |  | 07:15 AM |  |  |  | 07:45 AM |  |  |  | 07:15 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| to mins. | 2 | 14 | 3 | 19 | 16 | 37 | 11 | 64 | 10 | 25 | 3 | 38 | 0 | 12 | 4 | 16 |
| +15 mins. | 3 | 16 | 5 | 24 | 21 | 55 | 13 | 89 | 9 | 23 | 1 | 33 | 2 | 14 | 4 | 20 |
| +30 mins. | 5 | 13 | 3 | 21 | 8 | 45 | 6 | 59 | 8 | 29 | 1 | 38 | 0 | 9 | 3 | 12 |
| +45 mins. | 3 | 17 | 3 | 23 | 6 | 47 | 5 | 58 | 4 | 28 | 4 | 36 | 0 | 12 | 2 | 14 |
| Total Volume | 13 | 60 | 14 | 87 | 51 | 184 | 35 | 270 | 31 | 105 | 9 | 145 | 2 | 47 | 13 | 62 |
| \% App. Total | 14.9 | 69 | 16.1 |  | 18.9 | 68.1 | 13 |  | 21.4 | 72.4 | 6.2 |  | 3.2 | 75.8 | 21 |  |
| PHF | . 650 | . 882 | . 700 | . 906 | . 607 | . 836 | . 673 | . 758 | . 775 | . 905 | . 563 | . 954 | . 250 | . 839 | . 813 | . 775 |



## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear
File Name: 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 7

Groups Printed- Trucks

|  | Crescent St From North |  |  | Otis St <br> From East |  |  | Crescent St From South |  |  | Center St From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thril | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 |


| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2 |
| 08:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |


| Grand Total | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 0 | 1 |
| ---: | :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Apprch \% | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 50 | 25 | 50 | 0 | 50 |
| Total \% |  |  |  |  |  |  |  |  |  |  |  |  |

## Accurate Counts

978-664-2565

N/S Street : Crescent Street
File Name : 16670002
E/W Street : Otis Street / Center Street
Site Code : 16670002
City/State : Wakefield, MA
Start Date : 9/9/2014
Weather : Clear

|  | Crescent St <br> From North |  |  |  | Otis St From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:15 AM

| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 08:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 1 | 4 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 33.3 | 33.3 | 33.3 |  | 0 | 0 | 100 |  |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 250 | . 250 | . 250 | . 750 | . 000 | . 000 | . 250 | . 250 | . 500 |



## Accurate Counts

978-664-2565

N/S Street : Crescent Street
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 9
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

|  | Crescent St <br> From North |  |  |  | Otis St From East |  |  |  | Crescent St From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  | 07:00 AM |  |  |  | 07:00 AM |  |  |  | 07:15 AM |  |  |  | 07:00 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 0 | 0 | 1 | 1 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 33.3 | 33.3 | 33.3 |  | 0 | 0 | 100 |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 250 | . 250 | . 250 | . 750 | . 000 | . 000 | . 250 | . 250 |



## Accurate Counts

## 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 10

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St From West |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Exclu roua | Inclu. Total | Int. Total |
| 07:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:15 AM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 07:30 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 |
| 07:45 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 5 |
| Total | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 6 | 4 | 10 |


| 08:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 08:15 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 6 | 0 | 6 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 08:45 AM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| Total | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 10 | 1 | 11 |


| Grand Total | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 3 | 3 | 2 | 0 | 4 | 0 | 0 | 0 | 2 | 16 | 5 | 21 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Approh \% | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 60 | 40 | 0 |  | 0 | 0 | 0 |  |  |  |  |
| Total \% | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 60 | 40 | 0 |  | 0 | 0 | 0 |  | 76.2 | 23.8 |  |

## Accurate Counts

978-664-2565

N/S Street : Crescent Street
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 11
E/W Street: Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

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

|  |  |  |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07:00 AM | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |  |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 0 |
| 07:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 07:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 75 | 25 | 0 |  | 0 | 0 | 0 |  |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 375 | . 250 | . 000 | . 500 | . 000 | . 000 | . 000 | . 000 | . 500 |



## Accurate Counts <br> 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
City/State : Wakefield, MA
Weather : Clear
Site Code : 16670002
Start Date : 9/9/2014
Page No : 12

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thrı | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |


|  | 07:00 AM |  |  |  | 07:00 AM |  |  |  | 07:00 AM |  |  |  | 07:00 AM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 4 | 0 | 0 | 0 | 0 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 75 | 25 | 0 |  | 0 | 0 | 0 |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 375 | . 250 | . 000 | . 500 | . 000 | . 000 | . 000 | . 000 |



## Accurate Counts

978-664-2565
N/S Street: Crescent Street
E/W Street: Otis Street / Center Street
City/State: Wakefield, MA
Weather: Clear

File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 1

|  | Crescent St From North |  |  | Otis St <br> From East |  |  | Crescent St From South |  |  | Center St <br> From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 04:00 PM | 5 | 22 | 4 | 1 | 11 | 8 | 0 | 17 | 3 | 4 | 19 | 6 | 100 |
| 04:15 PM | 8 | 19 | 2 | 6 | 13 | 5 | 1 | 18 | 4 | 1 | 19 | 4 | 100 |
| 04:30 PM | 10 | 20 | 3 | 6 | 12 | 8 | 1 | 18 | 2 | 2 | 24 | 5 | 111 |
| 04:45 PM | 5 | 28 | 2 | 1 | 19 | 5 | 4 | 25 | 10 | 0 | 19 | 5 | 123 |
| Total | 28 | 89 | 11 | 14 | 55 | 26 | 6 | 78 | 19 | 7 | 81 | 20 | 434 |


| 05:00 PM | 7 | 22 | 2 | 7 | 15 | 2 | 1 | 16 | 4 | 2 | 27 | 8 | 113 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 1 | 22 | 3 | 2 | 10 | 4 | 5 | 13 | 2 | 5 | 27 | 10 | 104 |
| 05:30 PM | 7 | 28 | 2 | 1 | 13 | 3 | 4 | 10 | 4 | 3 | 28 | 4 | 107 |
| 05:45 PM | 10 | 21 | 4 | 3 | 15 | 3 | 5 | 9 | 3 | 2 | 14 | 5 | 94 |
| Total | 25 | 93 | 11 | 13 | 53 | 12 | 15 | 48 | 13 | 12 | 96 | 27 | 418 |


| Grand Total | 53 | 182 | 22 | 27 | 108 | 38 | 21 | 126 | 32 | 19 | 177 | 47 | 852 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 20.6 | 70.8 | 8.6 | 15.6 | 62.4 | 22 | 11.7 | 70.4 | 17.9 | 7.8 | 72.8 | 19.3 |  |
| Total \% | 6.2 | 21.4 | 2.6 | 3.2 | 12.7 | 4.5 | 2.5 | 14.8 | 3.8 | 2.2 | 20.8 | 5.5 |  |
| Cars | 51 | 181 | 22 | 27 | 108 | 38 | 21 | 125 | 32 | 19 | 176 | 47 | 847 |
| \% Cars | 96.2 | 99.5 | 100 | 100 | 100 | 100 | 100 | 99.2 | 100 | 100 | 99.4 | 100 | 99.4 |
| Trucks | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5 |
| \% Trucks | 3.8 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0 | 0 | 0.6 | 0 | 0.6 |

## Accurate Counts 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
City/State : Wakefield, MA
Site Code : 16670002
Start Date : 9/9/2014
Page No : 2

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> Fiom South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

| 04:30 PM | 10 | 20 | 3 | 33 | 6 | 12 | 8 | 26 | 1 | 18 | 2 | 21 | 2 | 24 | 5 | 31 | 111 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:45 PM | 5 | 28 | 2 | 35 | 1 | 19 | 5 | 25 | 4 | 25 | 10 | 39 | 0 | 19 | 5 | 24 | 123 |
| 05:00 PM | 7 | 22 | 2 | 31 | 7 | 15 | 2 | 24 | 1 | 16 | 4 | 21 | 2 | 7 | 8 | 37 | 123 |
| 05:15 PM | 1 | 22 | 3 | 26 | 2 | 10 | 4 | 16 | 5 | 13 | 2 | 20 | 5 | 27 | 10 | 42 | 104 |
| Total Volume | 23 | 92 | 10 | 125 | 16 | 56 | 19 | 91 | 11 | 72 | 18 | 101 | 5 | 27 | 10 | $\underline{42}$ | 104 |
| \% App. Total | 18.4 | 73.6 | 8 |  | 17.6 | 61.5 | 20.9 |  | 10.9 | 71.3 | 17.8 |  | 6.7 | 72.4 | 20.9 | 134 | 4 |
| PHF | . 575 | . 821 | . 833 | . 893 | . 571 | . 737 | . 594 | . 875 | . 550 | . 720 | . 450 | . 647 | 450 | 898 | 700 | 798 |  |
| Cars | 22 | 91 | 10 | 123 | 16 | 56 | 19 | 91 |  |  |  |  |  |  |  | , | 917 |
| \% Cars | 95.7 | 98.9 | 100 | 98.4 | 100 | 100 |  |  |  |  | 18 | 100 | 9 | 97 | 28 | 134 | 448 |
| Trucks |  |  |  |  | 10 | 100 | 100 | 100 | 100 | 98.6 | 100 | 99.0 | 100 | 100 | 100 | 100 | 99.3 |
| Trucks | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| \% Trucks | 4.3 | 1.1 | 0 | 1.6 | 0 | 0 | 0 | 0 | 0 | 1.4 | 0 | 1.0 | 0 | 0 | 0 | 0 | 0.7 |


|  |  |  |
| :---: | :---: | :---: |
|  | Peak Hour Data <br> North <br> Peak Hour Begins at 04:30 PM <br> Cars <br> Trucks |  |
|  |  |  |

## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 3
City/State : Wakefield, MA
Weather : Clear

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> Fiom South |  |  |  | Center St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

|  |  |  |  |  | 04:15 PM |  |  |  | 04:15 PM |  |  |  | 04:45 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2 | 35 | $6$ | 13 | 5 | 24 | 1 | 18 | 4 | 23 | 0 | 19 | 5 | 24 |
| +0 mins. |  | 28 | 2 | 31 | 6 | 12 | 8 | 26 | 1 | 18 | 2 | 21 | 2 | 27 | 8 | 37 |
| +15 mins. | 7 | 22 | 2 | 31 | 6 |  | 8 | 26 |  |  |  |  | 5 | 27 | 10 | 42 |
| +30 mins. | 1 | 22 | 3 | 26 | 1 | 19 | 5 | 25 | 4 | 25 | 10 | 39 | 5 3 |  | 1 | 35 |
| +45 mins. | 7 | 28 | 2 | 37 | 7 | 15 | 2 | 24 | 1 | 16 | 4 |  | 3 | 28 |  |  |
| Total Volume | 20 | 100 | 9 | 129 | 20 | 59 | 20 | 99 | 7 | 77 | 20 | 104 | 10 | 101 | 27 | 138 |
| \% App. Total | 15.5 | 77.5 | 7 |  | 20.2 | 59.6 | 20.2 |  | 6.7 | 74 | 19.2 |  | 7.2 | 73.2 | 19.6 |  |
| PHF | . 714 | . 893 | . 750 | . 872 | . 714 | . 776 | . 625 | . 952 | . 438 | . 770 | . 500 | . 667 | . 500 | . 902 | . 675 | . 821 |
|  |  | 100 | 9 | 128 | 20 | 59 | 20 | 99 | 7 | 76 | 20 | 103 | 10 | 100 | 27 | 137 |
| Cars | 19 | 100 |  |  |  |  | 100 | 100 | 100 | 98.7 | 100 | 99 | 100 | 99 | 100 | 99.3 |
| \% Cars | 95 | 100 | 100 | 99.2 |  |  |  |  |  |  | 10 |  | 0 | 1 | 0 | 1 |
| Trucks | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0.7 |
| \% Trucks | 5 | 0 | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 1.3 | 0 | 1 | 0 | 1 | 0 | 0.7 |

## Accurate Counts

## 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002 Site Code : 16670002 Start Date : 9/9/2014
Page No : 4




## Accurate Counts

978-664-2565
N/S Street: Crescent Street
E/W Street: Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 5

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St From South |  |  |  | Center St From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

|  |  |  |  |  |  |  |  |  |  |  |  | 21 | 2 | 24 | 5 | 31 | 110 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:30 PM | 10 | 19 | 3 | 32 | 6 | 12 | 8 | 26 | 1 | 18 | 2 | 21 | 2 | 24 | 5 | 31 | 110 |
| 04:45 PM | 4 | 28 | 2 | 34 | 1 | 19 | 5 | 25 | 4 | 25 | 10 | 39 | 0 | 19 | 5 | 4 | 122 |
| 05:00 PM | 7 | 22 | 2 | 31 | 7 | 15 | 2 | 24 | 1 | 15 | 4 | 20 | 2 | 27 | 8 | 37 | 112 |
| 05:15 PM | 1 | 22 | 3 | 26 | 2 | 10 | 4 | 16 | 5 | 13 | 2 | 20 | 5 | 27 | 10 | 42 | 104 |
| Total Volume | 22 | 91 | 10 | 123 | 16 | 56 | 19 | 91 | 11 | 71 | 18 | 100 | 9 | 97 | 28 | 134 | 448 |
| \% App. Total | 17.9 | 74 | 8.1 |  | 17.6 | 61.5 | 20.9 |  | 11 | 71 | 18 |  | 6.7 | 72.4 | 20.9 |  |  |
| PHF | . 550 | . 813 | . 833 | . 904 | . 571 | . 737 | . 594 | . 875 | . 550 | . 710 | . 450 | . 641 | . 450 | . 898 | . 700 | . 798 | . 918 |



## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 6

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour for Each Approach Begins at:

|  | 05:00 PM |  |  |  | 04:15 PM |  |  |  | 04:00 PM |  |  |  | 04:45 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 7 | 22 | 2 | 31 | 6 | 13 | 5 | 24 | 0 | 17 | 3 | 20 | 0 | 19 | 5 | 24 |
| +15 mins. | 1 | 22 | 3 | 26 | 6 | 12 | 8 | 26 | 1 | 18 | 4 | 23 | 2 | 17 | 8 | 37 |
| +30 mins. | 7 | 28 | 2 | 37 | 1 | 19 | 5 | 25 | 1 | 18 | 2 | 21 | 2 | 27 | 8 | 37 |
| +45 mins. | 10 | 21 | 4 | 35 | 7 | 15 | 2 | 24 | 4 | 25 | 10 | 31 | 5 3 | 27 | 10 4 | 42 |
| Total Volume | 25 | 93 | 11 | 129 | 20 | 59 | 20 | 99 | 6 | 78 | 19 | 103 | 10 |  | 27 | 137 |
| \% App. Total | 19.4 | 72.1 | 8.5 |  | 20.2 | 59.6 | 20.2 |  | 5.8 | 75.7 | 18.4 |  | 7.3 | 73 | 19.7 | 137 |
| PHF | . 625 | . 830 | . 688 | . 872 | . 714 | . 776 | . 625 | . 952 | . 375 | . 780 | . 475 | . 660 | . 500 | 926 | 675 | 815 |



## Accurate Counts

978-664-2565


Weather : Clear

| Groups Printed- Trucks |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Crescent St From North |  |  | Otis St <br> From East |  |  | Crescent StFrom South |  |  | Center St From West |  |  |  |
| Start Time | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Int. Total |
| 04:00 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:45 PM | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |


| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2 |


| rand Total | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 66.7 | 33.3 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 100 | 0 |  |
| Total \% | 40 | 20 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 0 |  |

## Accurate Counts 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
City/State : Wakefield, MA
Weather : Clear
Site Code : 16670002
Start Date : 9/9/2014
Page No : 8

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour for Entire Intersection Begins at 04:00 PM

| 04:00 PM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  | 0 | 0 | 0 | 0 | 0 | 1 |
| 04:30 PM | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 |
| 04:45 PM | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |  |  |  |  |  |  | 0 | 0 | 1 |
| Total Volume | 2 | 1 | 0 | 3 | 0 |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| \% App. Total | 66.7 | 33.3 | 0 | 3 | 0 |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| PHF | . 500 | . 250 | . 000 | 750 | 000 |  |  |  | 0 | 0 | 0 |  | 0 | 0 | 0 |  |  |
|  |  |  |  | . 70 | . 00 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 000 | . 750 |



## Accurate Counts <br> 978-664-2565

N/S Street: Crescent Street
E/W Street: Otis Street / Center Street
City/State : Wakefield, MA
Weather : Clear

File Name : 16670002 Site Code : 16670002
Start Date : 9/9/2014
Page No : 9
Weather : Clear

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

|  | 04:00 PM |  |  |  | 04:00 PM |  |  |  | 04:15 PM |  |  |  | 04:45 PM |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 04.00 M | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| Total Volume | 2 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| \% App. Total | 66.7 | 33.3 | 0 |  | 0 | 0 | 0 |  | 0 | 100 | 0 |  | 0 | 100 | 0 |  |
| PHF | . 500 | . 250 | . 000 | . 750 | . 000 | . 000 | . 000 | . 000 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 |



## Accurate Counts

978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
City/State : Wakefield, MA
File Name : 16670002
Site Code : 16670002
Start Date : 9/9/2014
Page No : 10

|  | Crescent St <br> From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St From South |  |  |  | Center St From West |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Left | Thru | Right | Peds | Exclu. Total | Lnclu. Total | Int. Total |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 04:15 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 04:30 PM | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| 04:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 1 | 7 |


| 05:00 PM | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 3 | 4 |
| 05:30 PM | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 05:45 PM | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 | 1 | 8 |
| Total | 0 | 0 | 0 | 7 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 4 | 14 | 4 | 18 |


| Grand Total | 0 | 0 | 0 | 11 | 0 | 2 | 0 | 2 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 4 | 20 | 5 | 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Apprch \% | 0 | 0 | 0 |  | 0 | 100 | 0 |  | 50 | 50 | 0 |  | 0 | 100 | 0 |  |  |  |  |
| Total \% | 0 | 0 | 0 |  | 0 | 40 | 0 |  | 20 | 20 | 0 |  | 0 | 20 | 0 |  | 80 | 20 |  |

## Accurate Counts

978-664-2565

N/S Street : Crescent Street
File Name : 16670002
E/W Street : Otis Street / Center Street
Site Code : 16670002
City/State : Wakefield, MA
Start Date : 9/9/2014
Weather : Clear

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St From South |  |  |  | Center St <br> From West |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 05:00 PM

|  |  |  |  |  |  |  |  |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |  |  |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 4 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 100 | 0 |  | 100 | 0 | 0 |  | 0 | 100 | 0 |  |  |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | . 250 | . 000 | . 250 | . 250 | . 000 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 333 |



## Accurate Counts 978-664-2565

N/S Street : Crescent Street
E/W Street : Otis Street / Center Street
File Name : 16670002
City/State : Wakefield, MA
Weather : Clear
Site Code : 16670002
Start Date : 9/9/2014
Page No : 12

|  | Crescent St From North |  |  |  | Otis St <br> From East |  |  |  | Crescent St <br> From South |  |  |  | Center St <br> From West |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Each Approach Begins at: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 04:00 PM |  |  |  | 04:30 PM |  |  |  | 04:00 PM |  |  |  |  |  |  |  |
| +0 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |  | 0 | 0 | 0 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |  | 0 |  |
| Total Volume | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| \% App. Total | 0 | 0 | 0 |  | 0 | 100 | 0 |  |  | 100 |  |  | 0 | 1 | 0 | 1 |
| PHF | . 000 | . 000 | . 000 | . 000 | . 000 | 250 | 000 | 250 |  |  |  |  |  | - | 0 |  |
|  |  |  |  |  |  |  | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 | . 000 | . 250 |


|  |  |  |
| :---: | :---: | :---: |
|  | Peak Hour Data <br> Bikes Peds |  |
|  | In - Peak Hour: 04:00 PM Crescent.St |  |

## MassDOT Traffic Adjustment Data

Tighe\&Bond

## MassDOT Traffic Volumes

 Wakefield, Massachusetts| YEAR | JAN | FE |  | APR | 133627 | 139,409 | 139,226 | 144,407 | 137,966 | 136,050 | 129,551 | 131,296 | 131,965 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2006 | 119,403 | 120,940 | 129,021 | $\frac{122,679}{584 \%}$ | $\frac{133,627}{3.46 \%}$ | 0.73\% | 0.11\% | -0.49\% | -1.01\% | 0.59\% | -1.01\% | -7.03\% | 0.24\% |
|  | 3,30\% | -0.11\% | -0.92\% | 5.84\% | $\frac{3.46 \%}{138,252}$ | 140,420 | 139,381 | 143,695 | 136,569 | 136,857 | 128,238 | 122,071 | 132,276 |
| 2007 | 123,340 | 120,805 | 127,836 | 129,848 | 138,252 | -3.66\% | -1.63\% | -3.57\% | 136,569 | 136857 | -3.86\% | 2.41\% | -2.82\% |
|  | -2.93\% | -0.92\% | -3.15\% | 0.62\% | $\frac{-4.25 \%}{132381}$ | $\frac{-3.66 \%}{135,275}$ | -1.63\% | 138,566 | -- | -- | 123,284 | 125,007 | 128,551 |
| 2008 | 119,730 | 119,692 | 123,803 | 130,658 | 132,381 | $\frac{135,275}{1.48 \%}$ | 137,111 | 2.33\% | -- | -- | 8.61\% | 8.34\% | 3.60\% |
|  | 6.35\% | 5.96\% | -1.06\% | $\frac{1.60 \%}{132743}$ | 1.14\% | $\frac{1.48 \%}{137.271}$ | 138,667 | 141,798 | 135,415 | 132,381 | 133,893 | 135,433 | 133,179 |
| 2009 | 127,331 | 126,821 | 122,496 | 132,743 | 133,896 | $\frac{137,271}{1.12 \%}$ | 1.28\% | -0.95\% | -1.32\% | 1.42\% | --- | -- | 0.01\% |
| 2010 | -- | -5.94\% | 2.74\% | -0.45\% | $\frac{-0.02 \%}{133.864}$ | 138,813 | 140,441 | 140,445 | 133,628 | 134,256 | -- | -- | 133,192 |
|  | -- | 119,285 | 125,852 | 132,146 | 133,864 | -2.39\% | -2.01\% | -4.60\% | -2,05\% | -m | -- | -- | -2.23\% |
|  | -- | -0.75\% | 0.27\% | -3.46\% | -1.68\% | 135,495 | 137,618 | 133,986 | 130,888 | -* | -- | -- | 130,220 |
| 2011 | -- | 118,385 | 126,197 | $\frac{127,575}{080 \%}$ | $\frac{131,618}{1.45 \%}$ | 0.33\% | -1.25\% | 3.56\% | -0.67\% | -- | -- | -* | 3.53\% |
|  | -- | -- | -0.24\% | 0.80\% | 133.531 | 135,937 | 135,893 | 138,753 | 130,009 | 129,123 | 138,804 | 147,874 | 134,813 |
| 2012 | 138,535 | -- | 125,892 | 128,596 | 133,531 | 1.04\% | 3.05\% | 3.49\% | 4.15\% | 6.85\% | 0.15\% | 0.36\% | 2.71\% |
|  | 9.55\% | -- | -2.30\% | 2.40\% | $\frac{1.06 \%}{134946}$ | 1.04\% | 140,040 | 143,601 | 135,408 | 137,965 | 139,011 | 148,401 | 138,471 |
| 2013 | 151,768 | 121,939 | 122,999 | 131,685 | 134,946 |  |  |  |  |  |  |  |  |
| Seasonal Adj. ${ }^{\text {b }}$ | 2.45\% | 9.43\% | 5.83\% | 2.58\% | -0.88\% | -3.39\% | -4.12\% | -5.56\% | -0.61\% | -0.34\% | $0.82 \%$ | $\begin{gathered} -1.34 \% \\ 1.41 \% \end{gathered}$ | $\begin{aligned} & 0.00 \% \\ & 0.72 \% \end{aligned}$ |
| Annual Growth ${ }^{\text {c }}$ | 3.82\% | -0.05\% | -0.66\% | 1.05\% | 0.17\% | -0.19\% | 0.10 | -0.03\% |  |  |  | 1.41\% | 0.72\% |




| ION 4423 - |  | FEB |  |  |  | JUN | JUL. | AUG | SEP | OCT | NOV | DEC | AADT ${ }^{\text {a }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| YEAR | JAN | FEB | MAR | APR |  |  | 145,369 | - | 134,124 | 141,169 | 134,906 | 131,141. | 133,042 |
| 2006 | 124,133 | 125,760 | 115,201 | 129,980 | 136,872 | 144,809 | 145,369 | -- | -1.50\% | 141,169 | -0.53\% | -7.10\% | -4.38\% |
|  | -8.77\% | -11.00\% | 11.62\% | -- | -- | -- | -- | 148,603 | -132,116 | -- | 134,191 | 121,835 | 127,216 |
| 2007 | 113,249 | 111,931 | 128,584 | -- | -- | -- | -- | 148,603 | 132,116 | -- | -3.97\% | 0,30\% | 5.75\% |
|  | --- | 12.44\% | 0.47\% | 136155 | 138109 | 140.904 | 142.617 | $\frac{-2.87 \%}{144,334}$ | 137,056 | -- | 128,865 | 122,197 | 134,528 |
| 2008 | -- | 125,857 | 129,184 | $\frac{136,155}{0,64 \%}$ | $\frac{138,109}{0.58 \%}$ | $\frac{140,904}{1.45 \%}$ | $\frac{142,617}{1.36 \%}$ | $\frac{144,334}{0.71 \%}$ | 0.85\% | -- | -0.24\% | 3.27\% | 0.01\% |
|  | - | -1.36\% | -0.21\% | 0.64\% | 0.58\% | $\frac{1,45 \%}{145,032}$ | $\frac{1.36 \%}{146,525}$ | 146,382 | 139,398 | 137,861 | 128,235 | 130,311 | 134,543 |
| 2010 | 112,043 | 122,469 | 128,653 | 137,894 | 139,709 | -2.40\% | -2.12\% | -4.46\% | -2.05\% | -2.60\% | 1,65\% | -2,22\% | -1.69\% |
|  | 1.68\% | -3.36\% | 1.92\% | -3.57\% | $\frac{-1.59 \%}{137487}$ | -2.41,548 | 143,419 | 139.856 | 136,542 | 134,272 | 130,357 | 127,420 | 132,274 |
| 2011 | 113,929 | 118,359 | 131,128 | 132,969 | 137,487 | -0,14\% | -1.61\% | 4.73\% | -0.87\% | 1.33\% | 1.24\% | -2.19\% | 1.97\% |
|  | 7.60\% | -- | 0.10\% | 0.76\% | 1.08\% | $\frac{-0.14 \%}{141.354}$ | $\frac{-1.61 \%}{141.117}$ | 146,470 | 135,352 | 136,058 | 131,974 | 124,624 | 134,886 |
| 2012 | 122,589 | -- | 131,255 | 133,980 | 138,971 |  | $\frac{141.11}{2.23 \%}$ | 1.10\% | 3.24\% | 4.66\% | -4.62\% | -0.54\% | -0.12\% |
|  | 2.09\% | -- | -2,59\% | 1.96\% | 0.66\% | 142,379 | 144,266 | 148,083 | 139,732 | 142,401 | 125,881 | 123,954 | 134,725 |
| 2013 | 125,157 | 120,515 | 127,850 | 136,600 | 139,885 | 142,379 | 144,266 | 140,083 | 139,732 |  |  |  |  |
| Seasonal Adj, ${ }^{\text {b }}$ | 12.04\% | 9.85\% | 4.41\% | -0.44\% | -3.25\% | -6.08\% | -6.87\% | -8.65\% | -2.42\% | -3.22\% | $1.84 \%$ $-1.08 \%$ | $5.64 \%$ $-1.41 \%$ | $0.00 \%$ $0.26 \%$ |
| Annual Growth ${ }^{\text {c }}$ | 0.42\% | -0.47\% | 1.88\% | 0.43\% | 0.24\% | -0.34\% | -0.22\% | -0.16\% | 0.57\% | 0.70\% | -1.08\% | -1.41\% | 0.26\% |

Source: MassDOT Transportation Management System.
${ }^{2}$ Average Annual Dally Tratife.
${ }^{\text {b }}$ Seasonal adjustment to yearly average.
${ }^{\text {c }}$ Compounded Annual Growth Rate.

## Capacity Analysis Methodology

## CAPACITY ANALYSIS METHODOLOGY

A primary result of capacity analysis is the assignment of levels of service to traffic facilities under various traffic flow conditions. The capacity analysis methodology is based on the concepts and procedures in the Highway Capacity Manual (HCM). ${ }^{1}$ The concept of level of service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facllity. They are given letter designations from $A$ to $F$, with LOS A representing the best operating conditions and LOS $F$ the worst. Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year. A description of the operating condition under each level of service is provided below:

- LOS A describes conditions with little to no delay to motorists.
- LOS B represents a desirable level with relatively low delay to motorists.
- LOS C describes conditions with average delays to motorists.
- LOS D describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.
- LOS E represents operating conditions with high delay values. This level is considered by many agencies to be the limit of acceptable delay.
- LOS $F$ is considered to be unacceptable to most drivers with high delay values that often occur, when arrival flow rates exceed the capacity of the intersection.


## Signalized Intersections

Levels of service for signalized intersections are also calculated using the operational analysis methodology of the HCM. The methodology for signalized intersections assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on average control delay. Control delay is used to establish the operating characteristics for an intersection or an approach to an intersection. Volume-to-capacity ( $\mathrm{v} / \mathrm{c}$ ) ratios are also used to help signify the utilization of a lane group's capacity at an intersection. A v/c ratio of $\geq 1.00$ represents conditions when the traffic signal cycle capacity is fully utilized and indicates a capacity failure. The level-of-service criteria for signalized intersections are shown in Table A-1.

## Unsignalized Intersections

Levels of service for unsignalized intersections are calculated using the operational analysis methodology of the HCM. The procedure accounts for lane configuration on both the minor and major street approaches, conflicting traffic stream volumes, and the type of intersection

[^7]control (STOP, YIELD, or all-way STOP control). The definition of level of service for unsignalized intersections is a function of average control delay. Control delay at an unsignalized intersection is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position.

Volume-to-capacity ( $\mathrm{V} / \mathrm{c}$ ) ratios are also used to help signify the utilization of a movement's capacity at an intersection. A $v / \mathrm{c}$ ratio of $\geq 1.00$ represents conditions when the movement is fully utilized and indicates a capacity failure. The capacity of the movements is based on the distribution of gaps in the major street traffic stream, the selection of gaps to complete the desired movement, and the follow-up headways for each driver in the queue. When an unsignalized intersection is located within 0.25 miles of a signalized intersection, traffic flows may not be random and some platoon structure may exist, thereby affecting the minor street operations. The level-of-service criteria for unsignalized intersections are shown in Table A-1.

TABLE A-1
Level-of-Service Criteria for Intersections

|  | Signalized <br> Level of <br> Service | Intersection Criteria <br> Average Control Delay <br> (Seconds per Vehicle) | Unsignalized <br> Intersection Criteria <br> Average Control Delay <br> (Seconds per Vehicle) |
| :---: | :---: | :---: | :---: |

Source: HCM2010: Highway Capacity Manual. Washington, D.C.; Transportation Research Board, 2010. Pages 18-6 and 19-2.

For signalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to the entire intersection. For unsignalized intersections, this delay criterion may be applied in assigning level-of-service designations to individual lane groups on the minor street approaches or to the left turns from the major street approaches.

## Analysis Worksheets: Existing


Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 73.1\%
ICU Level of Service D
Analysis Period (min) 15

| Intersection |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh |  |  |  |  |  |  |  |  |  |
|  | 12.6 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 5 | 40 | 0 | 22 | 110 | 39 | 2 | 241 | 5 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, \# | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, $\%$ | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 80 | 80 | 80 | 95 | 95 | 95 | 87 | 87 | 87 |
| Heavy Vehicles, $\%$ | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 |
| Mvmt Flow | 6 | 50 | 0 | 23 | 116 | 41 | 2 | 277 | 6 |


| Major/Minor | Minor2 |  |  | Minor1 |  |  | Major1 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1240 | 1164 | 804 | 1186 | 1172 | 280 | 815 | 0 | 0 |
| Stage 1 | 877 | 877 | - | 284 | 284 | . | 815 |  |  |
| Stage 2 | 363 | 287 | - | 902 | 888 | - |  |  |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.14 | 6.5 | 6.2 | 4.1 |  |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | . | 6.14 | 5.5 | 6.2 | 4.1 | - |  |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.14 | 5.5 | - | - | - |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.536 | 4 | 3.3 | 2.2 | - |  |
| Pot Cap-1 Maneuver | 153 | 196 | 386 | 164 | 194 | 764 | 821 | - |  |
| Stage 1 | 346 | 369 | - | 719 | 680 | 764 | 82 | - |  |
| Stage 2 | 660 | 678 | - | 330 | 365 | - | - | - |  |
| Platoon blocked, \% |  |  |  |  |  |  | - |  |  |
| Mov Cap-1 Maneuver | 69 | 185 | 386 | 124 | 183 | 764 | 821 |  |  |
| Mov Cap-2 Maneuver | 69 | 185 | - | 124 | 183 | . | 82 | - |  |
| Stage 1 | 345 | 349 | - | 717 | 678 | - | - | . |  |
| Stage 2 | 516 | 676 | - | 268 | 346 | - | - | - |  |


| Approach | EB | WB | NB |
| :--- | ---: | ---: | :--- |
| HCM Control Delay, s | 40.6 | 81.7 | 0.1 |
| HCM LOS | E | F |  |


| Minor Lane/Major Mumt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 821 | - | - | 156 | 206 | 1291 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.361 | 0.874 | 0.028 | - | - |
| HCM Control Delay (s) | 9.4 | 0 | - | 40.6 | 81.7 | 7.9 | 0 | - |
| HCM Lane LOS | A | A | - | $E$ | F | A | A | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | 1.5 | 6.8 | 0.1 | - | - |

Intersection

Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 30 | 651 | 17 |
| Conficiting Peds, \#hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 3 | 0 |
| Mvmt Flow | 37 | 794 | 21 |
|  |  |  |  |
| Major/Minor | Major2 |  |  |
| Conflictiting Flow All | 283 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hddy | 2.2 | - | - |
| Pot Cap-1 Maneuver | 1291 | - | - |
| $\quad$ Stage 1 | - | - | - |
| $\quad$ Stage 2 | - | - | - |
| Platoon blocked, \% | 1291 | - | - |
| Mov Cap-1 Maneuver | - | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| $\quad$ Stage 1 | - | - | - |

Approach SB

HCM Control Delay, s
SB

HCMLOS

Minor Lane/Major Mumt

| 2014 XAM.syn | Synchro 8 Report |
| :--- | ---: |
| Tighe \& Bond, Inc. | Page 3 |


| Lane Group | EBL | $\xrightarrow[\text { EBT }]{\rightarrow}$ | EBR | WBL | $\leftarrow$ WBT | WBR | 4 NBL | NBT | NBR | SBL | $\downarrow$ SBT | ¢ SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ¢ |  |  | ${ }_{4}$ |  |  | $\uparrow$ |  |  | ${ }^{4}$ |  |
| Volume (vph) | 2 | 47 | 14 | 51 | 184 | 35 | 35 | 93 | 13 | 13 | 60 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (\%) |  | 8\% |  |  | -4\% |  |  | 0\% |  |  | 0\% |  |
| Lane Utill. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fit |  | 0.969 |  |  | 0.982 |  |  | 0.988 |  |  | 0.978 |  |
| Flt Protected |  | 0.999 |  |  | 0.991 |  |  | 0.988 |  |  | 0.992 |  |
| Satd. Flow (prot) | 0 | 1766 | 0 | 0 | 1886 | 0 | 0 | 1843 | 0 | 0 | 1820 | 0 |
| FIt Permitted |  | 0.999 |  |  | 0.991 |  |  | 0.988 |  |  | 0.992 |  |
| Satd. Flow (perm) | 0 | 1766 | 0 | 0 | 1886 | 0 | 0 | 1843 | 0 | 0 | 1820 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 247 |  |  | 269 |  |  | 326 |  |  | 285 |  |
| Travel Time (s) |  | 5.6 |  |  | 6.1 |  |  | 7.4 |  |  | 6.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.88 | 0.88 | 0.88 | 0.65 | 0.65 | 0.65 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 0\% | 4\% | 1\% | 0\% |
| Adj. Flow (vph) | 3 | 59 | 18 | 58 | 209 | 40 | 54 | 143 | 20 | 15 | 67 | 16 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 79 | 0 | 0 | 307 | 0 | 0 | 217 | 0 | 0 | 98 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(f) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offset(ff) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(fi) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.05 | 1.05 | 1.05 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | , | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| Area Type: OtherControl Type: Unsignalized |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intersection Capacity Utilization 40.4\% |  |  |  | ICU Level of Service A |  |  |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |  |  |


| Intersection |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 9.8 | EBT | EBR | WBL |  | WBT | WBR | NBL |  | NBT | NBR |
| Movement | EBL |  |  |  |  |  |  |  |  |  |  |
| Vol, veh/h | 2 | 47 | 14 |  | 51 | 184 | 35 |  | 35 | 93 | 13 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop |  | Stop | Stop | Stop |  | Free | Free | Free |
| RT Channelized | - | - | None |  | - |  | None |  |  |  | None |
| Storage Length | - |  |  |  | - |  |  |  |  |  |  |
| Veh in Median Storage, \# |  | 0 |  |  | - | 0 | - |  |  | 0 |  |
| Grade, \% |  | 8 |  |  | - | -4 | - |  |  | 0 | $\bigcirc$ |
| Peak Hour Factor | 80 | 80 | 80 |  | 88 | 88 | 88 |  | 65 | 65 | 65 |
| Heavy Vehicles, \% | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 1 | 0 |
| Mumt Flow | 2 | 59 | 18 |  | 58 | 209 | 40 |  | 54 | 143 | 20 |
| Major/Minor | Minor2 |  |  |  | Minor1 |  |  |  | Major1 |  |  |
| Conflicting Flow All | 489 | 375 | 75 |  | 404 | 373 | 153 |  | 83 | 0 | 0 |
| Stage 1 | 104 | 104 | - |  | 261 | 261 | - |  |  |  |  |
| Stage 2 | 385 | 271 | ; |  | 143 | 112 | $5{ }^{\circ}$ |  |  |  |  |
| Critical Hdwy | 8.7 | 8.1 | 7 |  | 6.3 | 5.7 | 5.8 |  | 4.1 |  |  |
| Critical Hdwy Stg 1 | 7.7 | 7.1 | - |  | 5.3 | 4.7 | - |  | - | - |  |
| Critical Hdwy Stg 2 | 7.7 | 7.1 | $\cdots$ |  | 5.3 | 4.7 | $\cdots$ |  |  | - |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 |  | 3.5 | 4 | 3.3 |  | 2.2 | - |  |
| Pot Cap-1 Maneuver | 396 | 473 | 976 |  | 613 | 609 | 914 |  | 1527 | - |  |
| Stage 1 | 866 | 776 | - |  | 793 | 737 | - |  |  | - |  |
| Stage 2 | 541 | 611 | - |  | 893 | 827 | - |  | - |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 263 | 450 | 976 |  | 522 | 579 | 914 |  | 1527 |  |  |
| Mov Cap-2 Maneuver | 263 | 450 | - |  | 522 | 579 |  |  |  |  |  |
| Stage 1 | 832 | 767 | - |  | 762 | 708 | - |  |  |  |  |
| Stage 2 | 350 | 587 | - |  | 801 | 818 | - |  | - |  |  |
| Approach | EB |  |  |  | WB |  |  |  | NB |  |  |
| HCM Control Delay, s | 13.6 |  |  |  | 17.3 |  |  |  | 1.8 |  |  |
| HCM LOS | B |  |  |  | C |  |  |  |  |  |  |
| Minor Lane/Major Mumt | NBL | NBT | NBR | EBLn 1 | WBLn1 | SBL | SBT | SBR |  |  |  |
| Capacity (veh/h) | 1527 | - | - | 498 | 595 | 1404 | - |  |  |  |  |
| HCM Lane V/C Ratio | 0.035 | - | - | 0.158 | 0.516 | 0.01 | - | - |  |  |  |
| HCM Control Delay (s) | 7.4 | 0 |  | 13.6 | 17.3 | 7.6 | 0 |  |  |  |  |
| HCM Lane LOS | A | A | - | B | C | A | A | - |  |  |  |
| HCM 95th \%tile Q(veh) | 0.1 | - | - | 0.6 | 3 | 0 | - | - |  |  |  |


| Intersection |  |  |  |
| :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |
| Movement | SBL | SBT | SBR |
| Vol, veh/h | 13 | 60 | 14 |
| Confilicting Peds, \#hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 4 | 1 | 0 |
| Mumt Flow | 15 | 67 | 16 |
| Major/Minor | Major2 |  |  |
| Conflicting Flow All | 163 | 0 | 0 |
| Stage 1 | . | . | . |
| Stage 2 | - | - | . |
| Critical Hdwy | 4.14 | - | - |
| Critical Hdwy Stg 1 |  | - | - |
| Critical Hdwy Stg 2 |  | - | - |
| Follow-up Hdwy | 2.236 | - | - |
| Pot Cap-1 Maneuver | 1404 | - | - |
| Stage 1 | - | - |  |
| Stage 2 | - | - |  |
| Platoon blocked, \% |  | - | - |
| Mov Cap-1 Maneuver | 1404 | - |  |
| Mov Cap-2 Maneuver |  | - | - |
| Stage 1 |  | - |  |
| Stage 2 | - | - |  |
| Approach | SB |  |  |
| HCM Control Delay, s HCMLOS | 1.1 |  |  |
| Minor Lane/Major Mumt |  |  |  |


| 1: Main Street \& Cr Lanes, Volumes, T | $\begin{aligned} & \text { cent } \\ & \text { ngs } \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  |  | W Exi | ting <br> PM |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\Rightarrow$ | $\rightarrow$ | 7 | 6 | $\leftarrow$ | 4 | 4 | $\dagger$ | $p$ | $\checkmark$ | $\downarrow$ | $\checkmark$ |
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | ¢ |  |  | 4 |  |  | 4 |  |  | ${ }_{\text {A }}$ |  |
| Volume (vph) | 14 | 98 | 2 | 11 | 53 | 33 | 12 | 359 | 14 | 35 | 359 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Utill. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped Bike Factor |  |  |  |  |  |  |  |  |  |  |  |  |
| Fit |  | 0.997 |  |  | 0.954 |  |  | 0.995 |  |  | 0.997 |  |
| Flt Protected |  | 0.994 |  |  | 0.994 |  |  | 0.998 |  |  | 0.996 |  |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1784 | 0 | 0 | 1887 | 0 | 0 | 1854 | 0 |
| Flt Permitted |  | 0.994 |  |  | 0.994 |  |  | 0.998 |  |  | 0.996 |  |
| Sald. Flow (perm) | 0 | 1883 | 0 | 0 | 1784 | 0 | 0 | 1887 | 0 | 0 | 1854 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (f) |  | 98 |  |  | 451 |  |  | 228 |  |  | 154 |  |
| Travel Time (s) |  | 2.2 |  |  | 10.3 |  |  | 5.2 |  |  | 3.5 |  |
| Confl. Bikes (\#hr) |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.89 | 0.89 | 0.89 |
| Heavy Vehioles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 3\% | 0\% | 0\% | 0\% | 0\% | 2\% | 0\% |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 147 | 0 | 0 | 115 | 0 | 0 | 470 | , | 0 | 451 | 0 |
| Enter Blocked intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Widhth(t) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offset(fi) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| Area Type: OtherControl Type: Unsignalized |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intersection Capacity Utiliza | n 50.0\% |  |  |  | Leve | fervic |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |  |  |


| 2014 XPM.syn | Synchro 8 Report |
| :--- | ---: |
| Tighe \& Bond, Inc. | Page 1 |


| Intersection |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, slveh | 8.8 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Movement |  | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT |
| Vol, veh/h | 14 | 98 | 2 | 11 | 53 | 33 | NBR |  |  |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 359 | 14 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, \# | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 84 | 84 | 84 | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Mvmt Flow | 18 | 126 | 3 | 13 | 63 | 39 | 15 | 438 | 17 |


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1014 | 971 | 408 | 1027 | 967 | 446 | 412 | 0 | 0 |
| Stage 1 | 487 | 487 | - | 476 | 476 | - |  |  |  |
| Stage 2 | 527 | 484 | - | 551 | 491 |  | - |  |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.23 | 4.1 |  |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | . | . |  |  |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - |  |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.327 | 2.2 |  |  |
| Pot Cap-1 Maneuver | 219 | 255 | 648 | 215 | 256 | 610 | 1158 | - |  |
| Stage 1 | 566 | 554 | - | 574 | 560 |  |  |  |  |
| Stage 2 | 538 | 555 | - | 522 | 552 | - | - | - |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 156 | 239 | 648 | 120 | 240 | 610 | 1158 | - |  |
| Mov Cap-2 Maneuver | 156 | 239 | - | 120 | 240 | - |  |  |  |
| Stage 1 | 556 | 529 | - | 564 | 550 | - | - | - |  |
| Stage 2 | 438 | 546 | - | 379 | 527 | - | - | - |  |
| Approach | EB |  |  | WB |  |  | NB |  |  |
| HCM Control Delay, s | 45.7 |  |  | 28.7 |  |  | 0.3 |  |  |
| HCMLOS | E |  |  | D |  |  |  |  |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 1158 | - | - | 227 | 265 | 1116 | - | - |
| HCM Lane V/C Ratio | 0.013 | - | - | 0.644 | 0.436 | 0.035 | - | - |
| HCM Control Delay (s) | 8.1 | 0 | - | 45.7 | 28.7 | 8.3 | 0 | - |
| HCM Lane LOS | A | A | - | E | D | A | A | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | 3.9 | 2.1 | 0.1 | - | - |

Intersection
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 35 | 359 | 8 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 0 | 2 | 0 |
| Mvmt Flow | 39 | 403 | 9 |


| Major/Minor | Major2 |  |  |
| :--- | ---: | :--- | :--- |
| Conficting Flow All | 455 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| $\quad$ Stage 2 | - | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.2 | - | - |
| Pot Cap-1 Maneuver | 1116 | - | - |
| $\quad$ Stage 1 | - | - | - |
| $\quad$ Stage 2 | - | - | - |
| Platoon blocked, \% | 1116 | - | - |
| Mov Cap-1 Maneuver | - | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| $\quad$ Stage 1 | - | - | - |
| $\quad$ Stage 2 |  |  |  |
| Approach |  |  |  |
| HCM Control Delay, s |  |  |  |
| HCM LOS |  |  |  |
| Minor Lane/Major Mvmt |  |  |  |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Lanes, Volumes, Timings |  |  |  |  |  |  |  |  |  |  |  |  |  |

Intersection Summary
Area Type: Other

Control Type: Unsignalized
Intersection Capacity Utilization 26.8\%
ICU Level of Service A


## 2: Crescent Street \& Centre Street/Otis Street



Minor Lane/Major Mvmt

## Trip-Generation Calculations

## Institute of Transportation Engineers (ITE) <br> Land Use Code (LUC) 221 - Low-Rise Apartment

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 23

```
Average Weekday Dailly
    T = 6.59* (X)
    T=6.59* 23
    T=151.57
    T=152 vehicle trips
        with 50% ( 76 vpd) entering and 50% ( 76 vpd) exiting.
Weekday Morning Peak Hour of Adjacent Street Traffic
LnT = 0.82 Ln (X) + 0.23
LnT=0.82Ln 23 +0.23
LnT=2.80
    T = 16.46
    T=16 vehicle trips
        with 21% ( 3 vph) entering and 79% ( }13\mathrm{ vph) exiting.
Weekday Evening Peak Hour of Adjacent Street Traffic
LnT = 0.88 Ln (X) + 0.16
LnT=0.88 Ln 23 +0.16
LnT}=2.9
    T=18.53
    T = 19 vehicle trips
        with 65% ( 12 vph) entering and 35% ( 7 vph) exiting.
```


## Institute of Transportation Engineers (ITE) Land Use Code (LUC) 710-General Office Building

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Floor Area Independent Variable (X): $\quad 25.737$

## Average Weekday Daily

$\operatorname{Ln} T=0.76 \operatorname{Ln}(X)+3.68$
$\operatorname{Ln} T=0.77 \operatorname{Ln} 25.737+3.68$
$\operatorname{LnT}=6.15$
$T=467.98$
$T=468$ vehicle trips with $50 \%(234 \quad$ vph) entering and $50 \%$ ( 234 vph) exiting.

Weekday Morning Peak Hour of Generator
$\operatorname{LnT}=0.80 \operatorname{Ln}(X)+1.57$
$\operatorname{Ln} T=0.80 \operatorname{Ln} \quad 25.737+1.57$
$\operatorname{LnT}=4.17$
$T=64.61$
$T=65$ vehicle trips with $88 \%$ ( $57 \quad v p h$ ) entering and $12 \%(\quad 8 \quad v p h)$ exiting.

## Weekday Evening Peak Hour of Generator

$T=1.12 *(X)+78.45$
$\mathrm{T}=1.12 * \quad 25.737+78.45$
$T=107.28$
$T=107$ vehicle trips with $17 \%(18 \quad v p h)$ entering and $83 \%(\quad 89 \quad v p h)$ exiting.

## Institute of Transportation Engineers (ITE) Land Use Code (LUC) 254 - Assisted Living

Average Vehicle Trips Ends vs: Occupied Beds Independent Variable (X): 137

```
Average Weekday Daily
    \(T=2.74\) * (X)
    \(T=2.74\) * 137
    \(T=375.38\)
    \(T=376\) vehicle trips
        with \(50 \%\) ( \(188 \quad v p d\) ) entering and \(50 \%\) ( 188 vpd) exiting.
Weekday Morning Peak Hour of Adjacent Street Traffic
    \(T=0.18 *(X)\)
    \(T=0.18^{*} \quad 137\)
    \(T=24.66\)
    \(T=25\) vehicle trips
        with \(68 \%(17 \mathrm{vph})\) entering and \(32 \%\) ( 8 vph\()\) exiting.
Weekday Evening Peak Hour of Adjacent Street Traffic
    \(T=0.29^{*}(X)\)
    \(T=0.29^{*} \quad 137\)
    \(T=39.73\)
    \(T=40\) vehicle trips
        with \(50 \%\) ( 20 vph ) entering and \(50 \%\) ( 20 vph ) exiting.
```


## Institute of Transportation Engineers (ITE) Land Use Code (LUC) 220 - Apartment

## Average Vehicle Trips Ends vs: Dwelling Units

 Independent Variable (X): 150Average Weekday Daily
$\mathrm{T}=6.06$ * (X) +123.56
$\mathrm{T}=6.06$ * $\quad 150+123.56$
$T=1032.56$
$\mathrm{T}=1,032$ vehicle trips
with $50 \%$ ( 516 vpd ) entering and $50 \%$ ( 516 vpd ) exiting.
Weekday Morning Peak Hour of adjacent Street Traffic
$\mathrm{T}=0.49$ * $(\mathrm{X})+3.73$
$\mathrm{T}=0.49$ * $150+3.73$
$\mathrm{T}=77.23$
$\mathrm{T}=77$ vehicle trips

$$
\text { with } 20 \% \text { ( } 15 \quad \mathrm{vph} \text { ) entering and } 80 \% \text { ( } 62 \mathrm{vph} \text { ) exiting. }
$$

## Weekday Evening Peak Hour of Adjacent Street Traffic

$\mathrm{T}=0.55$ * $(\mathrm{X})+17.65$
$\mathrm{T}=0.55$ * $150+17.65$
$T=100.15$
$\mathrm{T}=100$ vehicle trips
with $65 \%$ ( 65 vph ) entering and $35 \%$ ( 35 vph ) exiting.

Analysis Worksheets: No-Build and Build

|  | $\stackrel{7}{\text { EBL }}$ | $\overrightarrow{\text { EBT }}$ | EBR | WBL | $\leftarrow$ WBT | WBR | 4 NBL | $\dagger$ <br> NBT | NBR | SBL | $\downarrow$ SBT | d SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Group |  | A |  |  | ${ }_{\text {¢ }}$ |  |  | 4 |  |  | $\stackrel{4}{4}$ |  |
| Volume (vph) | 5 | 42 | 0 | 23 | 117 | 41 | 2 | 256 | 5 | 32 | 691 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Utill Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | . 00 |
| Fit |  |  |  |  | 0.969 |  |  | 0.997 |  |  | 0.997 |  |
| Flt Protected |  | 0.995 |  |  | 0.994 |  |  |  |  |  | 0.998 | 0 |
| Sald. Flow (prot) | 0 | 1890 | 0 | 0 | 1821 | 0 | 0 | 1806 | 0 | 0 | 1839 | 0 |
| Flt Permitted |  | 0.995 |  |  | 0.994 |  |  |  |  |  | 0.998 |  |
| Satd. Flow (perm) | 0 | 1890 | 0 | 0 | 1821 | 0 | 0 | 1806 | 0 | 0 | 1839 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 98 |  |  | 451 |  |  | 228 |  |  | 154 |  |
| Travel Time (s) |  | 2.2 |  |  | 10.3 |  |  | 5.2 |  |  | 3.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.95 | 0.95 | 0.95 | 0.87 | 0.8 | 0.87 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 4\% | 0\% | 0\% | 0\% | 5\% | 0\% | 0\% | 3\% |  |
| Adj. Flow (vph) | 6 | 53 | 0 | 24 | 123 | 43 | 2 | 294 | 6 | 39 | 843 | 22 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  | 0 | 302 | 0 | 0 | 904 | 0 |
| Lane Group Flow (vph) | 0 | 58 | No | No | 190 | No | No | No | No | No | No | No |
| Enter Blocked Intersection | No | No | No. | No | No | $\stackrel{\text { No }}{\text { Right }}$ | No | Left | Right |  | Left | Right |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | 0 | Righ |
| Median Width(ft) <br> Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(fi) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  |  | 15 |  | 9 | 15 |  | 9 | 15 |  |  |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| Area Type: Oiher |  |  |  |  |  |  |  |  |  |  |  |  |
| Control Type: Unsignalized | on 77.0\% |  |  | ICU Level of Service D |  |  |  |  |  |  |  |  |

Analysis Period (min) 15


| Major/Minor | Minor2 |  |  | Minor1 |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1317 | 1237 | 854 | 1260 | 1245 | 297 | 865 | 0 | 0 |
| Stage 1 | 932 | 932 | - | 302 | 302 | . |  |  |  |
| Stage 2 | 385 | 305 | - | 958 | 943 |  |  |  |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.14 | 6.5 | 6.2 | 4.1 |  |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | . | 6.14 | 5.5 | . | . |  |  |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.14 | 5.5 |  |  |  |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.536 | 4 | 3.3 | 2.2 |  |  |
| Pot Cap-1 Maneuver | 136 | 177 | 361 | 146 | 176 | 747 | 787 |  |  |
| Stage 1 | 322 | 348 | . | 703 | 668 |  |  |  |  |
| Stage 2 | 642 | 666 | - | 307 | 344 | - | - |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 48 | 166 | 361 | 105 | 165 | 747 | 787 |  |  |
| Mov Cap-2 Maneuver | 48 | 166 | . | 105 | 165 |  | 78 |  |  |
| Stage 1 | 321 | 327 | - | 701 | 666 | - |  |  |  |
| Stage 2 | 492 | 664 | - | 243 | 324 | - |  | - |  |
| Approach | EB |  |  | WB |  |  | NB |  |  |
| HCM Control Delay, s | 52.5 |  |  | 128.4 |  |  | 0.1 |  |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 787 | - | - | 132 | 184 | 1273 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.445 | 1.035 | 0.031 | - | - |
| HCM Control Delay (s) | 9.6 | 0 | - | 52.5 | 128.4 | 7.9 | 0 | - |
| HCM Lane LOS | A | A | - | F | F | A | A | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | 2 | 8.9 | 0.1 | - | - |

$\qquad$
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 32 | 691 | 18 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 3 | 0 |
| Mvmt Flow | 39 | 843 | 22 |
|  |  |  |  |
| Major/Minor | Major2 |  |  |
| Conflicting Flow All | 300 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.2 | - | - |
| Pot Cap-1 Maneuver | 1273 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, \% | - | - |  |
| Mov Cap-1 Maneuver | - | - |  |
| Mov Cap-2 Maneuver | 1273 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |


| Approach | SB |
| :--- | :--- |
| HCM Control Delay, s | 0.3 |
| HCM LOS |  |

Minor Lane/Major Mvmt


| Intersection |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 10.6 |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR |  | WBL | WBT | WBR |  | NBL | NBT | NBR |
| Vol, veh/h | 2 | 50 | 15 |  | 54 | 195 | 37 |  | 37 | 99 | 14 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop |  | Stop | Stop | Stop |  | Free | Free | ree |
| RT Channelized | - | - | None |  | - | - | None |  |  |  | None |
| Storage Length | - | $\bar{\square}$ | - |  |  |  |  |  |  |  |  |
| Veh in Median Storage, \# | - | 0 | - |  |  | 0 | - |  | - | 0 |  |
| Grade, \% | $\bigcirc$ | 8 | $\square$ |  | - | -4 | 88 |  | 65 | 0 | 65 |
| Peak Hour Factor | 80 | 80 | 80 |  | 88 | 88 | 88 |  | 65 | 65 | 65 |
| Heavy Vehicles, \% | 0 | 0 | 0 |  | 0 | 0 | 0 |  | 0 | 1 | 0 |
| Mvmt Flow | 2 | 62 | 19 |  | 61 | 222 | 42 |  | 57 | 152 | 22 |
| Major/Minor | Minor2 |  |  |  | Minor1 |  |  |  | Major1 |  |  |
| Conflicting Flow All | 521 | 400 | 80 |  | 429 | 397 | 163 |  | 89 | 0 | 0 |
| Stage 1 | 112 | 112 | - |  | 277 | 277 | - |  | - |  | - |
| Stage 2 | 409 | 288 | $\overline{7}$ |  | 152 | 120 | 5 |  | 1 |  |  |
| Critical Hdwy | 8.7 | 8.1 | 7 |  | 6.3 | 5.7 | 5.8 |  | 4.1 |  |  |
| Critical Hdwy Stg 1 | 7.7 | 7.1 | - |  | 5.3 | 4.7 | - |  |  |  |  |
| Critical Hdwy Stg 2 | 7.7 | 7.1 | - |  | 5.3 | 4.7 | 33 |  | 22 |  |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 968 |  | 3.5 594 | 4 594 | 3.3 903 |  | 2.2 1519 |  | - |
| Pot Cap-1 Maneuver | 372 | 453 | 968 |  | 594 | 594 | 903 |  | 1519 |  | - |
| Stage 1 | 854 | 767 | - |  | 780 | 728 |  |  |  |  |  |
| Stage 2 | 520 | 596 | - |  | 885 | 822 | - |  |  |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 236 | 429 | 968 |  | 497 | 562 | 903 |  | 1519 |  |  |
| Mov Cap-2 Maneuver | 236 | 429 | - |  | 497 | 562 | - |  |  |  |  |
| Stage 1 | 818 | 758 | - |  | 747 | 697 | - |  |  |  |  |
| Stage 2 | 324 | 571 | - |  | 787 | 812 | - |  |  |  |  |
| Approach | EB |  |  |  | WB |  |  |  | NB |  |  |
| HCM Control Delay, s | 14.1 |  |  |  | 19 |  |  |  | 1.8 |  |  |
| HCMLOS | B |  |  |  | C |  |  |  |  |  |  |
| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |  |  |  |
| Capacity (veh/h) | 1519 | - | - | 477 | 576 | 1391 | - | - |  |  |  |
| HCM Lane VIC Ratio | 0.037 | - | - | 0.176 | 0.564 | 0.011 | - | - |  |  |  |
| HCM Control Delay (s) | 7.5 | 0 | - | 14.1 | 19 | 7.6 | 0 | - |  |  |  |
| HCM Lane LOS | A | A | - | B | C | A | A | - |  |  |  |
| HCM 95th \%file Q(veh) | 0.1 | - | - | 0.6 | 3.5 | 0 | - | - |  |  |  |



HCMLOS

Minor Lane/Major Mumt

1: Main Street \& Crescent Street

| Lane Group | EBL | $\xrightarrow[\text { EBT }]{\rightarrow}$ | EBR | WBL | $\leftarrow$ WBT | $\begin{gathered} + \\ \text { WBR } \end{gathered}$ | NBL | $\uparrow$ NBT | NBR | SBL | $\downarrow$ SBT | ¢ SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ¢ |  |  | 4 |  |  | ${ }^{4}$ |  |  | 4 |  |
| Volume (vph) | 15 | 104 | 2 | 12 | 56 | 35 | 13 | 381 | 15 | 37 | 381 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Utill. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 00 |
| Fit |  | 0.997 |  |  | 0.954 |  |  | 0.995 |  |  | 997 |  |
| Flt Protecled |  | 0.994 |  |  | 0.994 |  |  | 0.998 |  |  | 0.99 |  |
| Satd. Flow (prot) | 0 | 1883 | 0 | 0 | 1783 | 0 | 0 | 1887 | 0 | 0 | 185 | 0 |
| Flt Permitted |  | 0.994 |  |  | 0.994 |  |  | 0.998 |  |  | 0.996 |  |
| Satd. Flow (perm) | 0 | 1883 | 0 | 0 | 1783 | 0 | 0 | 1887 | 0 | 0 | 1854 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 98 |  |  | 451 |  |  | 228 |  |  | 154 |  |
| Travel Time (s) |  | 2.2 |  |  | 10.3 |  |  | 5.2 |  |  | 3.5 |  |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 3\% | 0\% | 0\% | \% | 0\% | 2\% | \% |
| Adj. Flow (vph) | 19 | 133 | 3 | 14 | 67 | 42 | 16 | 465 | 18 | 42 | 428 | 9 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  | 499 | 0 | 0 | 479 | 0 |
| Lane Group Flow (vph) | 0 | 155 | 0 | No | 123 |  | No | No | No | No | No | No |
| Enter Blocked Intersection | No | No | No | No | No |  | No |  |  | Left | Left | Right |
| Lane Alignment Median Width(ft) | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | 0 |  |
| Link Offsel(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Widith(fi) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane | 100 | 100 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  |  |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |

Intersection Summary
Area Type: Other
Control Type: Unsignalized Intersection Capacity Utilization 52.3\%

ICU Level of Service A
Analysis Period (min) 15

| Intersection |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 15 | 104 | 2 | 12 | 56 | 35 | 13 | 381 | 15 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | S | Stop | None | Freo | Free | None |
| Storage Length | - | - | - | . | . | - |  | - |  |
| Veh in Median Storage, \# | - | 0 | - | - | 0 | - | - | 0 |  |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 84 | 84 | 84 | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Mvmt Flow | 19 | 133 | 3 | 14 | 67 | 42 | 16 | 465 | 18 |


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1076 | 1031 | 433 | 1089 | 1025 | 474 | 437 | 0 | 0 |
| Stage 1 | 516 | 516 | - | 505 | 505 | . |  | - |  |
| Stage 2 | 560 | 515 | - | 584 | 520 | - |  | - |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.23 | 4.1 | . |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.1 | 5.5 | 6.23 | 4.1 | - | - |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.1 | 5.5 | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.327 | 2.2 | - | - |
| Pot Cap-1 Maneuver | 199 | 235 | 627 | 195 | 237 | 588 | 1134 | . | - |
| Stage 1 | 546 | 538 | - | 553 | 544 | - | - | . | . |
| Stage 2 | 516 | 538 | - | 501 | 535 | - | - | - | - |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 135 | 219 | 627 | 95 | 221 | 588 | 1134 | - | - |
| Mov Cap-2 Maneuver | 135 | 219 | - | 95 | 221 | - | - | - | - |
| Stage 1 | 536 | 511 | - | 542 | 534 |  | - | - | - |
| Stage 2 | 412 | 528 | - | 350 | 508 | - | - | - | - |


| Approach | EB | WB | NB |
| :--- | ---: | ---: | :--- |
| HCM Control Delay, s | 62.6 | 36.2 | 0.3 |
| HCM LOS | F | E |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 1134 | - | - | 205 | 234 | 1090 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.757 | 0.524 | 0.038 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 62.6 | 36.2 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | F | E | A | A | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | 5.1 | 2.8 | 0.1 | - | - |


| 1: Main Street \& Crescent Street | 2020No-Build <br> Weekday PM <br> HCM 2010 TWSC |
| :--- | ---: |

Intersection
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 37 | 381 | 8 |
| Conficting Peds, \#hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 0 | 2 | 0 |
| Mvmt Flow | 42 | 428 | 9 |


| Major/Minor | Major2 |  |  |
| :--- | ---: | :--- | :--- |
| Conflicting Flow All | 483 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.2 | - | - |
| Pot Cap-1 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 |  | - | - |
| Platoon blocked, \% | 1090 | - | - |
| Mov Cap-1 Maneuver | - | - | - |
| Mov Cap-2 Maneuver | - | - | - |

Approach SB
HCM Control Delay, s 0.7

HCM LOS

Minor LanelMajor Mvmt

| Lane Group | EBL | $\overrightarrow{\text { EBT }}$ | EBR | WBL | $\leftarrow$ WBT | WBR | NBL | ¢ NBT | NBR | ¢ SBL | $\downarrow$ SBT | $\stackrel{\text { d }}{\text { SBR }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ${ }^{4}$ |  |  | ${ }_{4}$ |  |  | $\dagger$ |  |  | 4 |  |
| Volume (vph) | 10 | 103 | 30 | 17 | 59 | 20 | 12 | 76 | 19 | 24 | 98 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (\%) |  | 8\% |  |  | -4\% |  |  | 0\% |  |  | 0\% |  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fit |  | 0.971 |  |  | 0.972 |  |  | 0.976 |  |  | 0.989 |  |
| Flt Protected |  | 0.997 |  |  | 0.991 |  |  | 0.995 |  |  | 0.991 |  |
| Satd. Flow (prot) | 0 | 1766 | 0 | 0 | 1867 | 0 | 0 | 1832 | 0 | 0 | 1835 | 0 |
| Flt Permitted |  | 0.997 |  |  | 0.991 |  |  | 0.995 |  |  | 0.991 |  |
| Satd. Flow (perm) | 0 | 1766 | 0 | 0 | 1867 | 0 | 0 | 1832 | 0 | 0 | 1835 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance ( t ) |  | 247 |  |  | 269 |  |  | 326 |  |  | 285 |  |
| Travel Time (s) |  | 5.6 |  |  | 6.1 |  |  | 7.4 |  |  | 6.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.88 | 0.88 | 0.88 | 0.65 | 0.65 | 0.65 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 0\% | 4\% | 1\% | 0\% |
| Adj. Flow (vph) | 13 | 129 | 38 | 19 | 67 | 23 | 18 | 117 | 29 | 27 | 110 | 12 |
| Shared Lane Trafic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 179 | 0 | 0 | 109 | 0 | 0 | 164 | 0 | 0 | 149 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width( t ) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(f) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.05 | 1.05 | 1.05 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.7\%
ICU Level of Service A
Analysis Period (min) 15

| 2: Crescent Street \& Centre Street/Otis Street | 2020No-Build <br> WCM 2010 TWSC |
| :--- | ---: |

HCM 2010 TWSC


2: Crescent Street \& Centre Street/Otis Street

| Intersection |  |  |  |
| :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |
| Movement | SBL | SBT | SBR |
| Vol, veh/h | 24 | 98 | 11 |
| Conflicting Peds, \#hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - |  |
| Veh in Median Storage, \# | - | 0 |  |
| Grade, \% |  | 0 |  |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 4 | 1 | 0 |
| Mvmt Flow | 27 | 110 | 12 |
| Major/Minor | Major2 |  |  |
| Conflicting Flow All | 146 | 0 | 0 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.14 | - |  |
| Critical Hdwy Stg 1 |  | - |  |
| Critical Hdwy Stg 2 |  | - |  |
| Follow-up Hdwy | 2.236 | - |  |
| Pot Cap-1 Maneuver | 1424 | - |  |
| Stage 1 | - | - | - |
| Stage 2 | - | - |  |
| Platoon blocked, \% |  | - |  |
| Mov Cap-1 Maneuver | 1424 | - |  |
| Mov Cap-2 Maneuver |  | - |  |
| Stage 1 |  | - |  |
| Stage 2 | - | - | - |
| Approach | SB |  |  |
| HCM Control Delay, s HCM LOS | 1.4 |  |  |

Minor Lane/Major Mvmt

| Lane Group | EBL | $\overrightarrow{\text { EBT }}$ | EBR | WBL |  | $\begin{gathered} 4 \\ \text { WBR } \end{gathered}$ | 4 | $\uparrow$ NBT | NBR |  | $\downarrow$ SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ¢ |  |  | 4 |  |  | $\dagger$ |  |  | 4 |  |
| Volume (vph) | 5 | 32 | 0 | 23 | 109 | 41 | 2 | 256 | 9 | 30 | 691 | 18 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fit |  |  |  |  | 0.968 |  |  | 0.996 |  |  | 0.997 |  |
| Flt Protected |  | 0.994 |  |  | 0.993 |  |  |  |  |  | 0.998 |  |
| Satd. Flow (prot) | 0 | 1889 | 0 | 0 | 1817 | 0 | 0 | 1806 | 0 | 0 | 1839 | 0 |
| Flt Permitted |  | 0.994 |  |  | 0.993 |  |  |  |  |  | 0.998 |  |
| Satd. Flow (perm) | 0 | 1889 | 0 | 0 | 1817 | 0 | 0 | 1806 | 0 | 0 | 30 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | - 150 |  |
| Link Distance (ft) |  | 98 |  |  | 451 |  |  | 228 |  |  | 154 |  |
| Travel Time (s) |  | 2.2 |  |  | 10.3 |  |  | 5.2 |  |  | 3.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.95 | 0.95 | 0.95 | 0.87 | 0.87 | 0.87 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 4\% | 0\% | 0\% | 0\% | 5\% | 0\% | 0\% | 3\% | 0\% |
| Adj. Flow (vph) | 6 | 40 | 0 | 24 | 115 | 43 | 2 | 294 | 10 | 37 | 843 | 22 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  |  |  |  | 902 | 0 |
| Lane Group Flow (vph) | , | 46 | 0 | 0 | 182 | 0 | 0 | 306 | 0 | 0 | 902 | No |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Widith(f) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(fi) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  |  |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| Area Type: Other |  |  |  |  |  |  |  |  |  |  |  |  |
| Control Type: Unsignalized |  |  |  |  |  |  |  |  |  |  |  |  |
| Intersection Capacity Utilization 75.9\% ICU Level of Service D |  |  |  |  |  |  |  |  |  |  |  |  |
| Analysis Period (min) 15 |  |  |  |  |  |  |  |  |  |  |  |  |

1: Main Street \& Crescent Street

| Intersection |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 5 | 32 | 0 | 23 | 109 | 41 | 2 | 256 | 9 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | . | - | None |
| Storage Length | - | - | . | - |  | - |  |  |  |
| Veh in Median Storage, \# | - | 0 | - | - | 0 | - | - | 0 |  |
| Grade, \% |  | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 80 | 80 | 80 | 95 | 95 | 95 | 87 | 87 | 87 |
| Heavy Vehicles, \% | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 |
| Mvmt Flow | 6 | 40 | 0 | 24 | 115 | 43 | 2 | 294 | 10 |


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1310 | 1236 | 854 | 1251 | 1242 | 299 | 865 | 0 | 0 |
| Stage 1 | 927 | 927 | - | 304 | 304 | - |  | . |  |
| Stage 2 | 383 | 309 | - | 947 | 938 | - |  |  |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.14 | 6.5 | 6.2 | 4.1 | - |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 | - | 6.14 | 5.5 | - |  | - |  |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | - | 6.14 | 5.5 | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.536 | 4 | 3.3 | 2.2 | - | - |
| Pot Cap-1 Maneuver | 137 | 178 | 361 | 148 | 176 | 745 | 787 | - | - |
| Stage 1 | 324 | 350 | - | 701 | 667 | - | . | - | - |
| Stage 2 | 644 | 663 | - | 311 | 346 | - | - | - | - |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 55 | 168 | 361 | 116 | 166 | 745 | 787 | - | - |
| Mov Cap-2 Maneuver | 55 | 168 | . | 116 | 166 | - | - | - | - |
| Stage 1 | 323 | 330 |  | 699 | 665 | - | - | - | - |
| Stage 2 | 501 | 661 | - | 258 | 327 | - | . | . |  |


| Approach | EB | WB | NB |
| :--- | ---: | ---: | ---: |
| HCM Control Delay, s | 46.8 | 105.5 | 0.1 |
| HCM LOS | E | F |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 787 | - | - | 131 | 190 | 1267 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | - | 0.353 | 0.958 | 0.029 | - | - |
| HCM Control Delay (s) | 9.6 | 0 | - | 46.8 | 105.5 | 7.9 | 0 | - |
| HCM Lane LOS | A | A | - | E | F | A | A | - |
| HCM 95th \%tle Q(veh) | 0 | - | - | 1.4 | 7.8 | 0.1 | - | - |

Intersection
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 30 | 691 | 18 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 3 | 0 |
| Mvmt Flow | 37 | 843 | 22 |


| Major/Minor | Major2 |  |  |
| :--- | ---: | :--- | :--- |
| Conflicting Flow All | 305 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.2 | - | - |
| Pot Cap-1 Maneuver | 1267 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, \% |  | - | - |
| Mov Cap-1 Maneuver | 1267 | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

Approach
SB
HCM Control Delay, s 0.3
HCM LOS

Minor Lane/Major Mvmt
2020 BAM + .syn $\quad$ Synchro 8 Report

Tighe \& Bond, Inc.

2: Crescent Street \& Centre Street/Otis Street

| Lane Group | \% EBL | $\rightarrow$ EBT | EBR | WBL | $\leftarrow$ WBT | WBR | 4 NBL | 4 NBT | N NBR | ¢ SBL | $\downarrow$ SBT | $\downarrow$ SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \$ |  |  | A |  |  | ¢ |  |  | * |  |
| Volume (vph) | 1 | 50 | 15 | 54 | 195 | 29 | 37 | 73 | 14 | 14 | 60 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (\%) |  | 8\% |  |  | -4\% |  |  | 0\% |  |  | 0\% |  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Fit |  | 0.969 |  |  | 0.986 |  |  | 0.984 |  |  | 0.978 |  |
| Flt Protected |  | 0.999 |  |  | 0.990 |  |  | 0.985 |  |  | 0.992 |  |
| Satd. Flow (prot) | 0 | 1766 | 0 | 0 | 1892 | 0 | 0 | 1831 | 0 | 0 | 1819 | 0 |
| Flt Permitted |  | 0.999 |  |  | 0.990 |  |  | 0.985 |  |  | 0.992 |  |
| Satd. Flow (perm) | 0 | 1766 | 0 | 0 | 1892 | 0 | 0 | 1831 | 0 | 0 | 1819 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 247 |  |  | 269 |  |  | 326 |  |  | 285 |  |
| Travel Time (s) |  | 5.6 |  |  | 6.1 |  |  | 7.4 |  |  | 6.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.88 | 0.88 | 0.88 | 0.65 | 0.65 | 0.65 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 0\% | 4\% | 1\% | 0\% |
| Adj. Flow (vph) | 1 | 63 | 19 | 61 | 222 | 33 | 57 | 112 | 22 | 16 | 67 | 16 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 82 | 0 | 0 | 316 | 0 | 0 | 191 | 0 | 0 | 99 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offset(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.05 | 1.05 | 1.05 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |

Intersection Summary
Area Type:
Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.1\%
ICU Level of Service A
Analysis Period (min) 15


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 471 | 355 | 75 | 384 | 352 | 123 | 83 | 0 | 0 |
| Stage 1 | 107 | 107 | . | 237 | 237 |  | - |  |  |
| Stage 2 | 364 | 248 |  | 147 | 115 |  | - | - |  |
| Critical Hdwy | 8.7 | 8.1 | 7 | 6.3 | 5.7 | 5.8 | 4.1 |  |  |
| Critical Hdwy Stg 1 | 7.7 | 7.1 | - | 5.3 | 4.7 | - | - |  |  |
| Critical Hdwy Stg 2 | 7.7 | 7.1 | - | 5.3 | 4.7 |  | $\cdots$ |  |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 | 2.2 | - |  |
| Pot Cap-1 Maneuver | 411 | 490 | 976 | 629 | 623 | 946 | 1527 | - |  |
| Stage 1 | 861 | 773 | - | 812 | 751 | - | - | - |  |
| Stage 2 | 561 | 631 | - | 889 | 825 | - | - |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 271 | 465 | 976 | 532 | 591 | 946 | 1527 |  |  |
| Mov Cap-2 Maneuver | 271 | 465 | - | 532 | 591 | - |  |  |  |
| Stage 1 | 827 | 764 |  | 780 | 721 | - |  |  |  |
| Stage 2 | 360 | 606 |  | 791 | 815 | - | - | - |  |
| Approach | EB |  |  | WB |  |  | NB |  |  |
| HCM Control Delay, s | 13.2 |  |  | 17.4 |  |  | 2.2 |  |  |
| HCMLOS | B |  |  | C |  |  |  |  |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veah/h) | 1527 | - | - | 521 | 602 | 1438 | - | - |
| HCM Lane V/C Ratio | 0.037 | - | - | 0.158 | 0.525 | 0.011 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 13.2 | 17.4 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | $B$ | C | A | A | - |
| HCM 95th \%tile Q(veh) | 0.1 | - | - | 0.6 | 3.1 | 0 | - | - |

Intersection
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 14 | 60 | 14 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 4 | 1 | 0 |
| Mvmt Flow | 16 | 67 | 16 |


| Major/Minor | Major2 |  |  |
| :--- | ---: | :--- | :--- |
| Conflicting Flow All | 134 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.14 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.236 | - | - |
| Pot Cap-1 Maneuver | 1438 | - | - |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, \% | 1438 | - | - |
| Mov Cap-1 Maneuver | - | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 |  |  |  |
|  | SB |  |  |

HCM LOS

Minor Lane/Major Mvmt

| Lane Group | EBL | $\overrightarrow{\text { EBT }}$ | EBR | WBL | $\leftarrow$ WBT | WBR | NBL | $\dagger$ NBT | NBR | SBL | $\downarrow$ SBT | $\stackrel{\downarrow}{\text { SBR }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | 4 |  |  | 4 |  |  | ¢ |  |  | 4 |  |
| Volume (vph) | 15 | 93 | 2 | 13 | 34 | 29 | 13 | 381 | 19 | 41 | 381 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt |  | 0.997 |  |  | 0.947 |  |  | 0.994 |  |  | 0.997 |  |
| Fll Protected |  | 0.993 |  |  | 0.992 |  |  | 0.998 |  |  | 0.995 |  |
| Sald. Flow (prot) | 0 | 1881 | 0 | 0 | 1764 | 0 | 0 | 1885 | 0 | 0 | 1852 | 0 |
| Fll Permitted |  | 0.993 |  |  | 0.992 |  |  | 0.998 |  |  | 0.995 |  |
| Satd. Flow (perm) | 0 | 1881 | 0 | 0 | 1764 | 0 | 0 | 1885 | 0 | 0 | 1852 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 98 |  |  | 451 |  |  | 228 |  |  | 154 |  |
| Travel Time (s) |  | 2.2 |  |  | 10.3 |  |  | 5.2 |  |  | 3.5 |  |
| Peak Hour Factor | 0.78 | 0.78 | 0.78 | 0.84 | 0.84 | 0.84 | 0.82 | 0.82 | 0.82 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 3\% | 0\% | 0\% | 0\% | 0\% | 2\% | 0\% |
| Adj. Flow (vph) | 19 | 119 | 3 | 15 | 40 | 35 | 16 | 465 | 23 | 46 | 428 | 9 |
| Shared Lane Trafic (\%) 40 |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 141 | 0 | 0 | 90 | 0 | 0 | 504 | 0 | 0 | 483 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Widith( t ) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offsetffit |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |

Intersection Summary
Area Type: Other

Control Type: Unsignalized Intersection Capacity Utilization 53.0\% ICU Level of Service A

| Intersection |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 9 |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 15 | 93 | 2 | 13 | 34 | 29 | 13 | 381 | 19 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - |  | - |
| Veh in Median Storage, \# | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 84 | 84 | 84 | 82 | 82 | 82 |
| Heavy Vehicles, \% | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Mumt Flow | 19 | 119 | 3 | 15 | 40 | 35 | 16 | 465 | 23 |


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1070 | 1045 | 433 | 1094 | 1037 | 476 | 437 | 0 | 0 |
| Stage 1 | 525 | 525 | - | 508 | 508 | . | - | - |  |
| Stage 2 | 545 | 520 | - | 586 | 529 | - | $\stackrel{-}{7}$ |  |  |
| Critical Hdwy | 7.1 | 6.5 | 6.2 | 7.1 | 6.5 | 6.23 | 4.1 | - |  |
| Critical Hdwy Stg 1 | 6.1 | 5.5 |  | 6.1 | 5.5 |  | - | - |  |
| Critical Hdwy Stg 2 | 6.1 | 5.5 | $\cdot$ | 6.1 | 5.5 | - | - | - | - |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.327 | 2.2 | - |  |
| Pot Cap-1 Maneuver | 201 | 231 | 627 | 193 | 233 | 587 | 1134 | - | - |
| Stage 1 | 540 | 533 | - | 551 | 542 | - | - |  |  |
| Stage 2 | 526 | 535 | - | 500 | 530 | - | - |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 153 | 214 | 627 | 102 | 216 | 587 | 1134 |  |  |
| Mov Cap-2 Maneuver | 153 | 214 | - | 102 | 216 | - |  |  |  |
| Stage 1 | 530 | 503 | - | 541 | 532 |  |  |  |  |
| Stage 2 | 449 | 525 | - | 359 | 500 | - | - | - | - |
| Approach | EB |  |  | WB |  |  | NB |  |  |
| HCM Control Delay, s | 54.2 |  |  | 31 |  |  | 0.3 |  |  |
| HCMLOS | F |  |  | D |  |  |  |  |  |


| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 1134 | - | - | 205 | 227 | 1086 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.688 | 0.399 | 0.042 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 54.2 | 31 | 8.5 | 0 | - |
| HCM Lane LOS | A | A | - | F | D | A | A | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | 4.3 | 1.8 | 0.1 | - | - |


| Intersection |  |  |  |
| :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |
| Movement | SBL | SBT | SBR |
| Vol, veh/h | 41 | 381 | 8 |
| Conflicting Peds, \#hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - |  | None |
| Storage Length | - | - |  |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% |  | 0 |  |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 0 | 2 | 0 |
| Mumt Flow | 46 | 428 | 9 |
| Major/Minor | Major2 |  |  |
| Conflicting Flow All | 488 | 0 | 0 |
| Stage 1 | - | - | - |
| Stage 2 |  | - | - |
| Critical Hdwy | 4.1 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 |  | - | - |
| Follow-up Hdwy | 2.2 | - | - |
| Pot Cap-1 Maneuver | 1086 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, \% |  | - | - |
| Mov Cap-1 Maneuver | 1086 | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

Approach SB
HCM Control Delay, s 0.8
HCMLOS

Minor Lane/Major Mvmt

| 2: Crescent Street \& Centre Street/Otis Street | 2020 Build |
| :--- | ---: |
| Lanes, Volumes, Timings | Weekday PM |


| Lane Group | EBL | $\begin{aligned} & \overrightarrow{\text { EBT }} \end{aligned}$ | EBR | WBL | $\leftarrow$ WBT | WBR | 4 NBL | $\uparrow$ NBT | NBR | SBL | $\downarrow$ SBT | $\stackrel{\downarrow}{\text { SBR }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | * |  |  | ¢ |  |  | ${ }_{4}$ |  |  | ${ }_{4}$ |  |
| Volume (vph) | 10 | 103 | 30 | 17 | 59 | 20 | 12 | 69 | 19 | 16 | 60 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Grade (\%) |  | 8\% |  |  | -4\% |  |  | 0\% |  |  | 0\% |  |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt |  | 0.971 |  |  | 0.972 |  |  | 0.974 |  |  | 0.987 |  |
| Flt Protected |  | 0.997 |  |  | 0.991 |  |  | 0.994 |  |  | 0.991 |  |
| Satd. Flow (prot) | 0 | 1766 | 0 | 0 | 1867 | 0 | 0 | 1827 | 0 | 0 | 1831 | 0 |
| Flt Permitted |  | 0.997 |  |  | 0.991 |  |  | 0.994 |  |  | 0.991 |  |
| Satd. Flow (perm) | 0 | 1766 | 0 | 0 | 1867 | 0 | 0 | 1827 | 0 | 0 | 1831 | 0 |
| Link Speed (mph) |  | 30 |  |  | 30 |  |  | 30 |  |  | 30 |  |
| Link Distance (ft) |  | 247 |  |  | 269 |  |  | 326 |  |  | 285 |  |
| Travel Time (s) |  | 5.6 |  |  | 6.1 |  |  | 7.4 |  |  | 6.5 |  |
| Peak Hour Factor | 0.80 | 0.80 | 0.80 | 0.88 | 0.88 | 0.88 | 0.65 | 0.65 | 0.65 | 0.89 | 0.89 | 0.89 |
| Heavy Vehicles (\%) | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 0\% | 1\% | 0\% | 4\% | 1\% | 0\% |
| Adj. Flow (vph) | 13 | 129 | 38 | 19 | 67 | 23 | 18 | 106 | 29 | 18 | 67 | 9 |
| Shared Lane Traffic (\%) |  |  |  |  |  |  |  |  |  |  |  |  |
| Lane Group Flow (vph) | 0 | 179 | 0 | 0 | 109 | 0 | 0 | 153 | 0 | 0 | 94 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(fi) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Link Offsel(ft) |  | 0 |  |  | 0 |  |  | 0 |  |  | 0 |  |
| Crosswalk Width(ft) |  | 16 |  |  | 16 |  |  | 16 |  |  | 16 |  |
| Two way Left Turn Lane |  |  |  |  |  |  |  |  |  |  |  |  |
| Headway Factor | 1.05 | 1.05 | 1.05 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 |  | 9 | 15 |  | , | 15 |  | 9 | 15 |  | 9 |
| Sign Control |  | Stop |  |  | Stop |  |  | Free |  |  | Free |  |

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.5\% ICU Level of Service A
Analysis Period (min) 15

| Intersection |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR |
| Vol, veh/h | 10 | 103 | 30 | 17 | 59 | 20 | 12 | 69 | 19 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free |
| RT Channelized | . |  | None |  |  | None | - |  | None |
| Storage Length | - |  | - |  |  |  |  |  |  |
| Veh in Median Storage, \# |  | 0 |  |  | -4 |  |  | 0 |  |
| Grade, \% |  | 8 |  |  | -4 |  |  | 65 |  |
| Peak Hour Factor | 80 | 80 | 80 | 88 | 88 | 88 | 65 | 1 | 65 |
| Heavy Vehicles, \% |  | 0 | 0 | 0 | 0 | 0 | ${ }^{0}$ | 106 | - |
| Mumt Flow | 12 | 129 | 38 | 19 | 67 | 23 | 18 | 106 | 29 |


| Major/Minor | Minor2 |  | Minor1 |  |  | Major1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Confilicting Flow All | 311 | 280 | 72 | 349 | 270 | 121 | 76 | 0 | 0 |
| Slage 1 | 108 | 108 |  | 158 | 158 |  | - | - |  |
| Stage 2 | 203 | 172 |  | 191 | 112 | $\stackrel{-}{-}$ | $\stackrel{-}{1}$ | - |  |
| Critical Hdwy | 8.7 | 8.1 | 7 | 6.3 | 5.7 | 5.8 | 4.1 | - |  |
| Critical Hdwy Stg 1 | 7.7 | 7.1 | - | 5.3 | 4.7 |  | - | - |  |
| Critioal Hdwy Stg 2 | 7.7 | 7.1 | $\cdots$ | 5.3 | 4.7 | $\cdots$ | ${ }^{\circ}$ | - |  |
| Follow-up Hdwy | 3.5 | 4 | 3.3 | 3.5 | 4 | 3.3 | 2.2 |  |  |
| Pot Cap-1 Maneuver | 562 | 558 | 980 | 659 | 679 | 948 | 1536 | - |  |
| Stage 1 | 860 | 772 |  | 879 | 798 |  |  |  |  |
| Stage 2 | 734 | 704 | - | 851 | 827 |  |  |  |  |
| Platoon blocked, \% |  |  |  |  |  |  |  |  |  |
| Mov Cap-1 Maneuver | 496 | 544 | 980 | 508 | 661 | 948 | 1536 |  |  |
| Mov Cap-2 Maneuver | 496 | 544 |  | 508 | 661 |  |  |  |  |
| Stage 1 | 849 | 762 |  | 868 | 788 |  |  | - |  |
| Stage 2 | 647 | 695 |  | 671 | 816 |  | - | - |  |
| Approach | EB |  |  | WB |  |  | NB |  |  |
| HCM Control Delay, s | 13.6 |  |  | 11.5 |  |  | 0.9 |  |  |
| HCM LOS | B |  |  | B |  |  |  |  |  |


| Minor Lane/Major Mymt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| Capacity (veh/h) | 1536 | - | - | 596 | 667 | 1437 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.3 | 0.164 | 0.013 | - | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 13.6 | 11.5 | 7.5 | 0 | - |
| HCM Lane LOS | A | A | - | $B$ | $B$ | A | A | - |
| HCM 95th \%flie Q(veh) | 0 | - | - | 1.3 | 0.6 | 0 | - | - |


| 2: Crescent Street \& Centre Street/Otis Street | 2020 Build |
| :--- | ---: |
| HCM 2010 TWSC | Weekday PM |

Intersection
Int Delay, s/veh

| Movement | SBL | SBT | SBR |
| :--- | ---: | ---: | ---: |
| Vol, veh/h | 16 | 60 | 8 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 |
| Sign Control | Free | Free | Free |
| RT Channelized | - | - | None |
| Storage Length | - | - | - |
| Veh in Median Storage, \# | - | 0 | - |
| Grade, \% | - | 0 | - |
| Peak Hour Factor | 89 | 89 | 89 |
| Heavy Vehicles, \% | 4 | 1 | 0 |
| Mvmt Flow | 18 | 67 | 9 |


| Major/Minor | Major2 |  |  |
| :--- | ---: | :--- | :--- |
| Conflicting Flow All | 135 | 0 | 0 |
| $\quad$ Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | 4.14 | - | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | 2.236 | - | - |
| Pot Cap-1 Maneuver | 1437 | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, \% |  | - | - |
| Mov Cap-1 Maneuver | 1437 | - | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

Approach SB

HCM Control Delay, s 1.4
HCM LOS

Minor Lane/Major Mvmt


[^0]:    ${ }^{a}$ In vehicles per day.
    ${ }^{\mathrm{b}}$ In vehicles per hour.
    ${ }^{\text {c }}$ Percent of average daily traffic occurring during the peak hour.
    ${ }^{d} \mathrm{NB}=$ northbound, $\mathrm{SB}=$ southbound.

[^1]:    1 MassDOT - Highway Division, Transportation Data Management System. "Station 4121 - Wakefield, Interstate 95/Route 128 north of Main Street (Lynnfield)." "Station 4137 - Wakefield, Interstate 95/ Route 128 north of North Avenue." "Station 4423 - Wakefield, Interstate 95/Route 128 north of Route 129." Massachusetts Department of Transportation.

[^2]:    2 HCM2010: Highway Capacity Manual. Washington, D.C.: Transportation Research Board, 2010.

[^3]:    3 Ibid. 1

[^4]:    4 Trip Generation Manual, $9^{\text {th }}$ ed. Washington, DC: Institute of Transportation Engineers, 2012.

[^5]:    ${ }^{5}$ Access Management Manual. Washington, DC: Transportation Research Board, 2003.

[^6]:    a Volume-to-capacity ratio.
    ${ }^{\mathrm{b}}$ Average control delay in seconds per vehicle.
    ${ }^{\text {c }}$ Level of service.

[^7]:    1 HCM2010: Highway Capacity Manual. Washington, D.C.: Transportation Research Board, 2010.

