## JARVIS STREET <br> MAIN STREET TO CLINTON STREET CITY OF BINGHAMTON ROAD SAFETY ASSESSMENT



BINGHAMTON METROPOLITAN TRANSPORTATION STUDY
OCTOBER 2019

## ROAD SAFETY ASSESSMENT

## OVERVIEW

Road Safety Audits or Road Safety Assessments (RSA's) are a generally accepted proactive, low-cost tool to identify safety issues of transportation facilities. The Federal Highway Administration (FHWA) encourages states and local municipalities to use RSA's. A Safety Assessment is simply a formal performance examination of an existing or planned transportation facility by an independent, qualified multidisciplinary team. An assessment team considers the safety of all users, qualitatively estimates and reports on safety issues, and suggests opportunities for safety improvements.

Conducting RSA's on roadways with a higher than usual crash history is included in the Binghamton Metropolitan Transportation Study (BMTS) 2019-2020 Unified Planning Work Plan. Due to its accident rate, BMTS staff has identified Jarvis Street a candidate for a RSA.

## BACKGROUND

Jarvis Street in the City of Binghamton is designated as a collector on the Federal Aid Functional Class System. It serves as a primary connector between the city's Westside and First Ward neighborhoods.

There are numerous driveways, many unused, within this section of Jarvis Street, particularly between Main and Thorpe Streets. The corridor contains two signalized intersections and three t-intersections with stop signs controlling the minor streets. The roadway passes under an active east-west rail line between Charlotte and Clinton Streets. The railroad overpass is elevated approximately 11 feet above Jarvis Street and is support by large reinforced concrete pillars on either side and in the middle of the street's travel way as well as large retaining walls on either side of the street right-of-way.

The decision to conduct a road safety assessment at this location was made in response to the following items:

1. A significant number of crashes have occurred along the corridor.
2. It serves as a primary connector between the Westside and First Ward neighborhoods.

## ROAD SAFETY ASSESSMENT PROCESS

To familiarize everyone involved with the process and purpose of a Road Safety Assessment a brief meeting to explain the purpose and process to the participants was held onsite just prior to beginning the road safety assessment.

The RSA Team was composed of the following individuals:
Daniel Correll, Retired Binghamton Police Department
William Lescault, Binghamton Police Department
David Petryszyn, Binghamton Police Department

Ray Standish, City of Binghamton Engineer
Bernice St. Clair, City of Binghamton Department of Public Works
Cyndi Paddick, BMTS
Ashley Seyfried, BMTS
Scott Reigle, BMTS
Leigh McCullen, BMTS
The safety assessment was conducted on October 15, 2019. The resulting report was prepared by BMTS staff and circulated to the City of Binghamton before being finalized.

## STUDY AREA CHARACTERISTICS, OPERATIONS AND SAFETY ISSUES

The study area involves an approximately quarter mile section of Jarvis Street between Main and Clinton Streets. The corridor contains two signalized intersections, at Main and Clinton Streets, and three t -intersections with stop signs controlling the minor streets. The segment of Main Street near Jarvis has an AADT of approximately 16,700 and Clinton Street's AADT is approximately 10,000. Jarvis Street has an AADT of 6,189 . Jarvis Street is posted at 30 mph and the average speed of vehicles is 28 mph is during the AM peak and 26 mph during the PM peak hours.

The land use pattern along the quarter mile section of Jarvis Street between Main Street and Clinton Street consists of mixed development with commercial, residential and some vacant/underutilized parcels. Clinton and Main Streets are primarily commercial and serve as primary bus routes, connecting Binghamton to Johnson City and Endicott. There is very limited on-street parking in the study area (See Attachment A) with most parking needs being met off-street.

Sidewalks are located throughout the study area, which accommodates a significant amount of pedestrian traffic. A crossing guard is posted during school hours at the intersection of Main Street and Jarvis Street. NYSDOT recently installed several mid-block pedestrian crossings delineated with rectangular rapid flashing beacons (RRFB). In addition, the city of Binghamton has received approval for funding to upgrade the intersection of Main and Jarvis Streets with new pedestrian signals and other amenities to improve safety. The RSA team decided not to include recommendations for the Main and Jarvis intersection since improvements are already planned.


## INTERSECTION OF JARVIS STREET AND CLINTON STREET



## SAFETY CONCERNS

The geometry of the intersection may contribute to vehicular safety impacts. Pedestrian signals are not up to current standards.

## OBSERVATIONS

Jarvis and Clinton Streets do not intersect at right angles. The intersection angles, coupled with visual obstructions, impedes the sight distance of drivers. Vehicles traveling east bound on Clinton are currently allowed to turn right on red to travel south bound on Jarvis. To make this turn on red, vehicles must pull out past the stop bar on Clinton Street to see on-coming vehicles traveling south bound on Jarvis.

The right most travel lanes for south, east and west bound traffic are signed as "Right Turn Only" lanes. Right turns during a red light are permitted at each approach. The travel lane configurations limit the turning radius and maneuverability of large trucks through the intersection.

The gasoline station located at the southwest corner of Clinton and Jarvis, has a curb cut that is larger than the City of Binghamton's standard width (maximum $30^{\prime}$ ) and does not have the sidewalk extending through it. Vehicles that appear to be unlicensed are parked in the clear site triangle at the northwest corner of Clinton and Jarvis Streets.

## RISK ANALYSIS

During the three- year period that was analyzed there were numerous accidents, including four left turns and ten rear end accidents. Changes to pavement markings and signage could reduce risks. This area also has several pedestrian generators but lacks complete pedestrian accommodations at this intersection.

## SUGGESTIONS

- Install "No Right Turn on Red" sign for east bound Clinton Street making right turns onto south bound Jarvis Street.

- Move the intersection stop bar for east bound Clinton Street traffic further back from the intersection and make it perpendicular to the curb line.
- Update pedestrian signal heads with countdown timers
- Bring gas station driveway along Jarvis Street into compliance by reducing its width to meet City standards. Continue concrete sidewalk through the driveway apron.


## PRIORITY FOR CONSIDERATION

High, due to traffic safety issues and the high number of crashes that were observed during the threeyear period analyzed for this assessment.

## JARVIS STREET RAILROAD UNDERPASS

## SAFETY CONCERNS

Basic traffic safety features and signage are missing at the railroad underpass.

## OBSERVATIONS

The railroad underpass is in severe disrepair. Some elements, such as the structural columns and retaining walls which are crumbling, are the responsibility of the railroad owner to maintain. A structural analysis of the structural features of the overpass fall beyond the scope of this assessment. Other issues, such as curbs and street signage, fall within the jurisdiction of the City and are discussed below.

Large sections of the curb are either missing, have been paved over with asphalt, or are crumbing. Sections of the sidewalk have been paved over with asphalt and are generally in disrepair. Lighting is inadequate. Required regulatory signage of the bridge and object markers for the bridge columns are missing or inadequate. Sections of iron fencing intended to separate the sidewalk from the travel lanes are missing or in disrepair.

## RISK ANALYSIS

The lack of proper signage, object markers, curbing and lighting increase the chance of vehicular bridge strikes. Sidewalks are not ADA (Americans with Disabilities Act) compliant which reduce adequate access for pedestrians.


## SUGGESTIONS

- Install MUTCD compliant object markers at the north bound and south bound approaches of the bridge underpass (see Attachment B)
- Install MUTCD compliant 'Keep Right' signage at south bound approach of bridge underpass consistent with the north bound approach signage (see Attachment B and image to the right).
- Install proper MUTCD compliant signage and object markers at raised island located just north of the bridge underpass.
- Replace / repair curbs
- Replace / repair sidewalks to bring them into ADA compliance
- Replace / replace iron fencing
- Update the underpass lighting


## PRIORITY FOR CONSIDERATION

Installation of MUTCD compliant object markers and signage are high
 priorities. Repair of curbs and sidewalks and lighting should be a high to medium priority, whereas the fencing should be considered lower in priority.


## INTERSECTION OF CHARLOTTE STREET AND JARVIS STREET

## SAFETY CONCERNS

Site distance for vehicles exiting Charlotte Street is limited. There is not a pedestrian crosswalk or vehicular stop bar at the intersection to protect pedestrians from vehicles approaching the stop sign on Charlotte Street.

## OBSERVATIONS

Vehicles attempting to turn onto Jarvis Street from Charlotte Street must pull well past the stop sign to see vehicles traveling along Jarvis Street, particularly looking northbound. Given the lack of a stop bar and cross walk, not all vehicles are fulling stopping to first observe whether pedestrians are crossing Charlotte Street prior to pulling past the stop sign in order to see oncoming traffic.

## RISK ANALYSIS



The lack of adequate sight distance poses a risk to vehicles turning from Charlotte Street as well as those traveling along Jarvis Street. Pedestrians are also impacted because vehicles turning from Charlotte Street may not be stopping to observe pedestrians attempting to cross Charlotte Street.

During the three-year crash analysis period that was reviewed there were two left turn crashes at this intersection and one pedestrian involved crash.

## SUGGESTIONS

- Paint a ladder style crosswalk across Charlotte Street at the intersection with Jarvis Street.
- Paint a vehicular stop bar along Charlotte Street in advance of the crosswalk.

PRIORITY CONSIDERATION
High


INTERSECTION OF JARVIS STREET AND THORPE STREET

## SAFETY CONCERNS

Pedestrian and bicycle safety is of primary concern due to lack of crosswalks and conflicts with vehicles due to private driveway configurations.

## OBSERVATIONS

There are no crosswalks at the intersection of Thorpe and Jarvis Streets. There is a driveway entrance for a fast food restaurant (Wendy's) just opposite this intersection, which likely compels pedestrians to cross midblock. The driveway for Popeye's, just south of this intersection, does not meet several City standards, including width requirements and materials, and does not include adequate pavements markings.

## RISK ANALYSIS

Pedestrian and bicycle safety are of primary concern due to lack of crosswalks and conflicts with vehicles due to private driveway configurations.

## SUGGESTIONS

- Paint a ladder style crosswalk across Thorpe Street at the intersection with Jarvis Street.
- Paint a ladder style crosswalk across Jarvis Street, just north of the Thorpe Street intersection.
- Install ADA compliant curb ramps connecting the above suggested crosswalk across Jarvis Street to connect to the sidewalks on either side of Jarvis Street.
- A "Private Driveway" sign should be installed at the Wendy's parking lot entrance and pavement marking in the parking lot should be repainted to better direct traffic (the City should work with the property owner to address these suggestions).
- The driveway into Popeye's (see picture to the right) should be brought into compliance with City standards, including reducing its width, installing a concrete apron and curb returns and continuing concrete sidewalks through it; pavement markings should be added in the driveway to
 adequately direct traffic onsite.


## PRIORITY FOR CONSIDERATION

Pedestrian accommodations are a high priority. Correcting driveway deficiencies are a medium priority.

## INTERSECTION OF BALCOM STREET AND JARVIS STREET

## SAFETY CONCERNS

Lack of ADA compliant curb ramps and crosswalks.

## OBSERVATIONS

The curb ramps at Balcom Street are not ADA compliant and there is not a painted crosswalk.

## RISK ANALYSIS

Pedestrian safety is of primary concern due to lack of crosswalks and ADA compliant curb ramps.

## SUGGESTIONS

- Install ADA compliant curb ramps.
- Paint a ladder crosswalk across Balcom Street.


## PRIORITY FOR CONSIDERATION

High

## CORRIDOR WIDE

## OBSERVATIONS

There are many unused, redundant or unnecessarily wide driveways along the entire length of Jarvis Street. While the travel way of Jarvis Street is relatively wide, ranging between 36-42 feet, the roadway lacks pavement markings or designated bicycle lanes. Curbs and sidewalks are in general disrepair along the length of the corridor. No parking signs are missing in locations throughout the corridor where parking is not permit.

## SUGGESTIONS

- Remove unnecessary curb cuts and replace with curb and gutters to City standards.
- Bring private driveways into compliance with City standards, including reducing widths, replacing asphalt aprons with concrete, and continuing concrete sidewalks through driveways.
- Repair / replace deteriorated curbs and sidewalks to City standards (and ADA standards for sidewalks).
- Paint bicycle lanes with appropriate bicycle symbols.
- Install no parking signs where parking is prohibited by city ordinance (see Attachment B for no parking locations).


## PRIORITY FOR CONSIDERATION

Medium to low.

## OVERALL OBSERVATIONS AND RECOMMENDATIONS

The section of Jarvis Street is the major connector between the city's Westside and First Ward neighborhoods. Clinton Street and Main Street, which are connected by Jarvis, have many pedestrian generators. Therefore, Jarvis should be serving as a primary connection for pedestrian and bicycles as well as for automobiles. However, the physical characteristics and deteriorated conditions of facilities within the right-of-way may be a deterrent to pedestrian and bicycle activity.

Accidents were reviewed at all the intersections and evaluated for potential patterns and potential contributing factors to the crashes. The intersections of Jarvis Street with Clinton and Main Streets have the highest volumes of traffic and the highest number of crashes. However, neither intersection exhibited a pattern of conditions at the intersection that could be contributing to the crashes.

Several relatively low-cost improvements were identified that have the potential to increase pedestrian and bicycle safety and improve the walkability and rideability of the area and contribute to the concept of developing complete streets throughout the City of Binghamton. For example, pavement markings need to be upgraded for crosswalks and bicycle lanes throughout the corridor and all curbs ramps should be ADA compliant. Other recommendations, such as replacing deteriorated curbs and bringing driveways into compliance with City standards would improve the overall physical conditions and appearance of the corridor.

## CONCLUSIONS

This roadway assessment has been prepared to assist the City of Binghamton in identifying opportunities to improve safety within the area studied. The Road Safety Assessment is based on information that was available at the time of the field review. The suggestions in the report are for the consideration by the City. They are not intended to serve as design or operational recommendations.

The report does not preclude the identification of additional issues pertaining to safety by the City, or the emergence of new issues over time.

It is recommended that the City of Binghamton review the report, document their responses, and track the implementation of safety improvements prompted by this assessment.

## ATTACHMENTS

## No Parking Zones



## Section 2B. 28 DO NOT PASS Sign (R4-1)

Option:
01 The Do Not Pass (R4-1) sign (see Figure 2B-10) may be used in addition to pavement markings
(see Section 3B.02) to emphasize the restriction on passing. The Do Not Pass sign may be used at the beginning of, and at intervals within, a zone through which sight distance is restricted or where other conditions make overtaking and passing inappropriate.
02 If signing is needed on the left-hand side of the roadway for additional emphasis, NO PASSING ZONE
(W14-3) signs may be used (see Section 2C.45).
Support:
03 Standards for determining the location and extent of no-passing zone pavement markings are set forth in Section 3B. 02 .

Figure 2B-10. Passing, Keep Right, and Slow Traffic Signs


R4-1


R4-7a


R4-2


R4-7b


R4-3


R4-7c


R4-5


R4-8


R4-7


R4-8a


R4-8b


R4-8c


R4-9


R4-10

SLOW VEHICLES WITH 5 OR MORE FOLLOWING VEHICLES MUST USE TURN-OUT


R4-13


R4-14


R4-16


R4-17


R4-18

## ATTACHMENT B

## Section 2B. 29 PASS WITH CARE Sign (R4-2)

Guidance:
$01 \quad$ The PASS WITH CARE (R4-2) sign (see Figure 2B-10) should be installed at the downstream end of a no-passing zone if a DO NOT PASS sign has been installed at the upstream end of the zone.

## Section 2B. 30 KEEP RIGHT EXCEPT TO PASS Sign (R4-16) and SLOWER TRAFFIC KEEP RIGHT Sign (R4-3)

Option:
01 The KEEP RIGHT EXCEPT TO PASS (R4-16) sign (see Figure 2B-10) may be used on multi-lane roadways to direct drivers to stay in the right-hand lane except when they are passing another vehicle.
Guidance:
02 If used, the KEEP RIGHT EXCEPT TO PASS sign should be installed just beyond the beginning of a multi-lane roadway and at selected locations along multi-lane roadways for additional emphasis.
Option:
03 The SLOWER TRAFFIC KEEP RIGHT (R4-3) sign (see Figure 2B-10) may be used on multi-lane roadways to reduce unnecessary lane changing.
Guidance:
04 If used, the SLOWER TRAFFIC KEEP RIGHT sign should be installed just beyond the beginning of a multi-lane pavement, and at selected locations where there is a tendency on the part of some road users to drive in the left-hand lane (or lanes) below the normal speed of traffic. This sign should not be used on the approach to an interchange or through an interchange area.

## Section 2B. 31 TRUCKS USE RIGHT LANE Sign (R4-5)

Guidance:
01 If an extra lane has been provided for trucks and other slow-moving traffic, a SLOWER TRAFFIC KEEP RIGHT (R4-3) sign (see Figure 2B-10), TRUCKS USE RIGHT LANE (R4-5) sign (see Figure 2B-10), or other appropriate sign should be installed at the beginning of the lane.
Option:
02 The SLOWER TRAFFIC KEEP RIGHT sign may be used as a supplement or as an alternative to the TRUCKS USE RIGHT LANE sign. Both signs may be used on multi-lane roadways to improve capacity and reduce lane changing.
03 The TRUCKS USE RIGHT LANE (R4-5) sign may be used on multi-lane roadways to reduce unnecessary lane changing.
Guidance:
04 If an extra lane has been provided for trucks and other slow-moving traffic, a Lane Ends sign (see Section 2C.42) should be installed in advance of the point where the extra lane ends. Appropriate pavement markings should be installed at both the upstream and downstream ends of the extra lane (see Section 3B. 09 and Figure 3B-13).
Support:
05 Section 2D. 51 contains information regarding advance information signs for extra lanes that have been provided for trucks and other slow-moving traffic.

## Section 2B. 32 Keep Right and Keep Left Signs (R4-7, R4-8)

Option:
01 The Keep Right (R4-7) sign (see Figure 2B-10) may be used at locations where it is necessary for traffic to pass only to the right-hand side of a roadway feature or obstruction. The Keep Left (R4-8) sign (see Figure 2B-10) may be used at locations where it is necessary for traffic to pass only to the left-hand side of a roadway feature or obstruction.
Guidance:
02 At locations where it is not readily apparent that traffic is required to keep to the right, a Keep Right sign should be used.
03 If used, the Keep Right sign should be installed as close as practical to approach ends of raised medians, parkways, islands, and underpass piers. The sign should be mounted on the face of or just in front of a pier or other obstruction separating opposite directions of traffic in the center of the highway such that traffic will have to pass to the right-hand side of the sign.

## Standard:

04 The Keep Right sign shall not be installed on the right-hand side of the roadway in a position where traffic must pass to the left-hand side of the sign.
Option:
The Keep Right sign may be omitted at intermediate ends of divisional islands and medians.
Word message KEEP RIGHT (LEFT) with an arrow (R4-7a or R4-7b) signs (see Figure 2B-10) may be used instead of the R4-7 or R4-8 symbol signs.
07 Where the obstruction obscures the Keep Right sign, the minimum placement height may be increased for better sign visibility.
08 A narrow Keep Right (R4-7c) sign (see Figure 2B-10) may be installed on the approach end of a median island that is less than 4 feet wide at the point where the sign is to be located.

## Standard:

09 A narrow Keep Right (R4-7c) sign shall not be installed on median island that has a width of 4 feet or more at the point where the sign is to be located.

## Section 2B. 33 STAY IN LANE Sign (R4-9)

Option:
01 A STAY IN LANE (R4-9) sign (see Figure 2B-10) may be used on multi-lane highways to direct road users to stay in their lane until conditions permit shifting to another lane.

## Guidance:

02 If a STAY IN LANE sign is used, it should be accompanied by a double solid white lane line(s) to prohibit lane changing.

## Section 2B. 34 RUNAWAY VEHICLES ONLY Sign (R4-10)

Guidance:
01 A RUNAWAY VEHICLES ONLY (R4-10) sign (see Figure 2B-10) should be installed near a truck escape (or runaway truck) ramp entrance to discourage other road users from entering the ramp.

## Section 2B. 35 Slow Vehicle Turn-Out Signs (R4-12, R4-13, and R4-14)

Support:
01 On two-lane highways in areas where traffic volumes and/or vertical or horizontal curvature make passing difficult, turn-out areas are sometimes provided for the purpose of giving a group of faster vehicles an opportunity to pass a slow-moving vehicle.
Option:
02 A SLOW VEHICLES WITH XX OR MORE FOLLOWING VEHICLES MUST USE TURN-OUT (R4-12) sign (see Figure 2B-10) may be installed in advance of a turn-out area to inform drivers who are driving so slow that they have accumulated a specific number of vehicles behind them that they are required by the traffic laws of that State to use the turn-out to allow the vehicles following them to pass.
Support:
The specific number of vehicles displayed on the R4-12 sign provides law enforcement personnel with the information they need to enforce this regulation.
Option:
If an R4-12 sign has been installed in advance of a turn-out area, a SLOW VEHICLES MUST USE TURN-OUT AHEAD (R4-13) sign (see Figure 2B-10) may also be installed downstream from the R4-12 sign, but upstream from the turn-out area, to remind slow drivers that they are required to use a turn-out that is a short distance ahead.
Standard:
05 If an R4-12 sign has been installed in advance of a turn-out area, a SLOW VEHICLES MUST TURN OUT (with arrow) (R4-14) sign (see Figure 2B-10) shall be installed at the entry point of the turn-out area. Support:

Section 2D. 52 contains information regarding advance information signs for slow vehicle turn-out areas.

## of the near edge of the traveled way, should

 be 4 feet .$06 \quad$ When used to mark obstructions more than 8 feet from the shoulder or curb, the clearance from the ground to the bottom of the object marker should be at least 4 feet.
07 Object markers should not present a vertical or horizontal clearance obstacle for pedestrians. Option:
08 When object markers or markings are applied to an obstruction that by its nature requires a lower or higher mounting, the vertical mounting height may vary according to need.
Support:
09 Section 9B. 26 contains information regarding the use of object markers on shared-use paths.

## Section 2C. 64 Object Markers for Obstructions

## Within the Roadway

## Standard:

01 Obstructions within the roadway shall be marked with a Type 1 or Type 3 object marker. In addition to markers on the face of the obstruction, warning of approach to the obstruction shall be given by appropriate pavement markings (see Section 3B.10). Option:
02 To provide additional emphasis, a Type 1 or Type 3 object marker may be installed at or near the approach end of a median island.
03 To provide additional emphasis, large surfaces such as bridge piers may be painted with diagonal stripes, 12 inches or greater in width, similar in design to the Type 3 object marker.
Standard:
04 The alternating black and retroreflective yellow stripes (OM3-L, OM3-R) shall be sloped down at an angle of 45 degrees toward the side on which traffic is to pass the obstruction. If traffic can pass to either side of the obstruction, the alternating black and retroreflective yellow stripes (OM3-C) shall form chevrons that point upwards. Option:
05 Appropriate signs (see Sections 2B. 32 and 2C.25)

directing traffic to one or both sides of the obstruction may be used instead of the object marker.

## Section 2C. 65 Object Markers for Obstructions Adjacent to the Roadway

Support:
01 Obstructions not actually within the roadway are sometimes so close to the edge of the road that they need a marker. These include underpass piers, bridge abutments, handrails, ends of traffic barriers, utility poles, and culvert headwalls. In other cases there might not be a physical object involved, but other roadside conditions exist, such as narrow shoulders, drop-offs, gores, small islands, and abrupt changes in the roadway alignment, that might make it undesirable for a road user to leave the roadway, and therefore would create a need for a marker.

## Standard:

02 If a Type 2 or Type $\mathbf{3}$ object marker is used to mark an obstruction adjacent to the roadway, the edge of the object marker that is closest to the road user shall be installed in line with the closest edge of the obstruction.

## TRAFFIC DATA

| Start | 16-Sep-19 |  |  | Tue |  | Wed |  | Thu |  | Fri |  | Sat |  | Sun |  | Week Average |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | NB |  | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB | NB | SB |
| 12:00 AM |  | * | * | 18 | 20 | 26 | 26 | 18 | 15 | * | * | * | * | * | * | 21 | 20 |
| 01:00 |  | * | * | 5 | 9 | 7 | 8 | 10 | 13 | * | * | * | * | * | * | 7 | 10 |
| 02:00 |  | * | * | 1 | 6 | 6 | 8 | 1 | 5 | * | * | * | * | * | * | 3 | 6 |
| 03:00 |  | * | * | 6 | 4 | 11 | 13 | 11 | 9 | * | * |  | * | * | * | 9 | 9 |
| 04:00 |  | * | * | 18 | 11 | 13 | 6 | 10 | 19 | * | * | * | * | * | * | 14 | 12 |
| 05:00 |  | * | * | 24 | 14 | 26 | 13 | 34 | 9 | * | * | * | * | * | * | 28 | 12 |
| 06:00 |  | * | * | 44 | 32 | 34 | 41 | 35 | 38 | * | * | * | * | * | * | 38 | 37 |
| 07:00 |  | * | * | 115 | 115 | 122 | 130 | 118 | 135 | * | * |  | * | * | * | 118 | 127 |
| 08:00 |  | * | * | 135 | 106 | 138 | 86 | 125 | 106 | * | * | * | * | * | * | 133 | 99 |
| 09:00 |  | * | * | 95 | 106 | 108 | 120 | 111 | 114 | * | * | * | * | * | * | 105 | 113 |
| 10:00 |  | * | * | 106 | 120 | 95 | 118 | 124 | 130 | * | * | * | * | * | * | 108 | 123 |
| 11:00 |  | * | * | 123 | 116 | 140 | 138 | 132 | 135 | * | * | * | * | * | * | 132 | 130 |
| 12:00 PM |  | * | * | 145 | 155 | 147 | 161 | 169 | 144 | * | * | * | * | * | * | 154 | 153 |
| 01:00 |  | * | * | 155 | 147 | 127 | 170 | 128 | 141 | * | * | * | * | * | * | 137 | 153 |
| 02:00 |  | * | * | 172 | 175 | 184 | 156 | 170 | 159 | * | * | * | * | * | * | 175 | 163 |
| 03:00 |  | * | * | 168 | 175 | 172 | 167 | 153 | 160 | * | * | * | * | * | * | 164 | 167 |
| 04:00 |  | * | * | 162 | 149 | 139 | 161 | 186 | 185 | * | * | * | * | * | * | 162 | 165 |
| 05:00 |  | * | * | 159 | 142 | 144 | 163 | 188 | 166 | * | * | * | * | * | * | 164 | 157 |
| 06:00 |  | * | * | 124 | 131 | 140 | 137 | 144 | 134 | * | * | * | * | * | * | 136 | 134 |
| 07:00 |  | * | * | 125 | 116 | 119 | 106 | 125 | 121 | * | * | * | * | * | * | 123 | 114 |
| 08:00 |  | * | * | 64 | 73 | 85 | 56 | 108 | 77 | * | * | * | * | * | * | 86 | 69 |
| 09:00 |  | * | * | 54 | 53 | 56 | 56 | 65 | 59 | * | * | * | * | * | * | 58 | 56 |
| 10:00 |  | * | * | 45 | 30 | 42 | 31 | 50 | 42 | * | * | * | * | * | * | 46 | 34 |
| 11:00 |  | * | * | 30 | 28 | 31 | 27 | 34 | 30 | * | * | * | * | * | * | 32 | 28 |
| Lane |  | 0 | 0 | 2093 | 2033 | 2112 | 2098 | 2249 | 2146 | 0 | 0 | 0 | 0 | 0 | 0 | 2153 | 2091 |
| Day |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AM Peak |  | - | - | 08:00 | 10:00 | 11:00 | 11:00 | 11:00 | 07:00 | - | - | - | - | - | - | 08:00 | 11:00 |
| Vol. |  | - | - | 135 | 120 | 140 | 138 | 132 | 135 | - | - | - | - | - | - | 133 | 130 |
| PM Peak |  | - | - | 14:00 | 14:00 | 14:00 | 13:00 | 17:00 | 16:00 | - | - | - | - | - | - | 14:00 | 15:00 |
| Vol. |  | - | - | 172 | 175 | 184 | 170 | 188 | 185 | - | - | - | - | - | - | 175 | 167 |


| Comb. Total | 0 | 4126 | 4210 | 4395 | 0 | 0 | 0 | 4244 |
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| ADT | ADT 6,189 | AADT 6,189 |  |  |  |  |  |  |


| Start | 1 | 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 61 | 66 | 71 | 76 |  | Pace | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 999 | Total | Speed | in Pace |
| 09/17/19 | 0 | 2 | 3 | 8 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 25-34 | 13 |
| 01:00 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 26-35 | 4 |
| 02:00 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 19-28 | 1 |
| 03:00 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 21-30 | 6 |
| 04:00 | 0 | 0 | 5 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 21-30 | 17 |
| 05:00 | 0 | 1 | 5 | 14 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 21-30 | 19 |
| 06:00 | 0 | 0 | 6 | 22 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44 | 26-35 | 38 |
| 07:00 | 0 | 2 | 17 | 75 | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 26-35 | 95 |
| 08:00 | 0 | 6 | 18 | 81 | 28 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 26-35 | 109 |
| 09:00 | 0 | 13 | 29 | 46 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 21-30 | 75 |
| 10:00 | 1 | 3 | 31 | 58 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 21-30 | 89 |
| 11:00 | 0 | 2 | 21 | 74 | 23 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 123 | 25-34 | 97 |
| 12 PM | 0 | 5 | 38 | 76 | 25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 145 | 21-30 | 114 |
| 13:00 | 1 | 4 | 36 | 82 | 30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 21-30 | 118 |
| 14:00 | 0 | 8 | 43 | 97 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 172 | 21-30 | 140 |
| 15:00 | 3 | 5 | 34 | 98 | 27 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 168 | 21-30 | 132 |
| 16:00 | 0 | 4 | 25 | 92 | 40 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 162 | 26-35 | 132 |
| 17:00 | 0 | 5 | 18 | 92 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159 | 26-35 | 136 |
| 18:00 | 0 | 4 | 22 | 82 | 14 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 124 | 21-30 | 104 |
| 19:00 | 0 | 7 | 29 | 71 | 17 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 21-30 | 100 |
| 20:00 | 0 | 4 | 15 | 38 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 | 21-30 | 53 |
| 21:00 | 0 | 2 | 8 | 39 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 21-30 | 47 |
| 22:00 | 1 | 1 | 9 | 24 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 21-30 | 33 |
| 23:00 | 0 | 2 | 2 | 19 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 26-35 | 26 |
| Total | 6 | 80 | 416 | 1207 | 364 | 19 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2093 |  |  |
| Percent | 0.3\% | 3.8\% | 19.9\% | 57.7\% | 17.4\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
| AM Peak | 10:00 | 09:00 | 10:00 | 08:00 | 08:00 | 11:00 |  |  |  |  |  |  |  |  | 08:00 |  |  |
| Vol. | 1 | 13 | 31 | 81 | 28 | 3 |  |  |  |  |  |  |  |  | 135 |  |  |
| PM Peak | 15:00 | 14:00 | 14:00 | 15:00 | 17:00 | 13:00 |  | 18:00 |  |  |  |  |  |  | 14:00 |  |  |
| Vol. | 3 | 8 | 43 | 98 | 44 | 2 |  | 1 |  |  |  |  |  |  | 172 |  |  |


| Start | 1 | 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 61 | 66 | 71 | 76 |  | Pace | Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Time | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 999 | Total | Speed | in Pace |
| 09/18/19 | 0 | 1 | 3 | 17 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 24-33 | 21 |
| 01:00 | 0 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 24-33 | 6 |
| 02:00 | 0 | 0 | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 26-35 | 5 |
| 03:00 | 0 | 1 | 3 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 21-30 | 8 |
| 04:00 | 0 | 1 | 1 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 26-35 | 11 |
| 05:00 | 0 | 1 | 2 | 17 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 26-35 | 23 |
| 06:00 | 0 | 0 | 5 | 22 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 25-34 | 29 |
| 07:00 | 0 | 2 | 16 | 79 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 122 | 26-35 | 104 |
| 08:00 | 1 | 4 | 33 | 78 | 20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 138 | 21-30 | 111 |
| 09:00 | 0 | 3 | 19 | 68 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 108 | 21-30 | 87 |
| 10:00 | 0 | 2 | 26 | 51 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95 | 21-30 | 77 |
| 11:00 | 0 | 7 | 35 | 79 | 17 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 140 | 21-30 | 114 |
| 12 PM | 2 | 11 | 34 | 82 | 17 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 21-30 | 116 |
| 13:00 | 0 | 9 | 28 | 60 | 27 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127 | 21-30 | 88 |
| 14:00 | 0 | 6 | 46 | 113 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 184 | 21-30 | 159 |
| 15:00 | 0 | 6 | 44 | 96 | 24 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 172 | 21-30 | 140 |
| 16:00 | 0 | 6 | 21 | 83 | 28 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 139 | 26-35 | 111 |
| 17:00 | 1 | 5 | 29 | 79 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 24-33 | 109 |
| 18:00 | 0 | 9 | 22 | 74 | 28 | 5 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 140 | 26-35 | 102 |
| 19:00 | 0 | 6 | 27 | 66 | 19 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119 | 21-30 | 93 |
| 20:00 | 0 | 1 | 12 | 52 | 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 85 | 26-35 | 70 |
| 21:00 | 0 | 3 | 13 | 27 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 23-32 | 40 |
| 22:00 | 0 | 0 | 10 | 27 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 21-30 | 37 |
| 23:00 | 0 | 0 | 4 | 23 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 21-30 | 27 |
| Total | 4 | 85 | 434 | 1211 | 351 | 25 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2112 |  |  |
| Percent | 0.2\% | 4.0\% | 20.5\% | 57.3\% | 16.6\% | 1.2\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
| AM Peak | 08:00 | 11:00 | 11:00 | 07:00 | 07:00 | 08:00 |  |  |  |  |  |  |  |  | 11:00 |  |  |
| Vol. | 1 | 7 | 35 | 79 | 25 | 2 |  |  |  |  |  |  |  |  | 140 |  |  |
| PM Peak | 12:00 | 12:00 | 14:00 | 14:00 | 17:00 | 18:00 | 18:00 |  | 18:00 |  |  |  |  |  | 14:00 |  |  |
| Vol. | 2 | 11 | 46 | 113 | 30 | 5 | 1 |  | 1 |  |  |  |  |  | 184 |  |  |



| SB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start | 1 | 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 61 | 66 | 71 | 76 |  | Pace | Number |
| Time | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 999 | Total | Speed | in Pace |
| 09/17/19 | 0 | 1 | 3 | 12 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 21-30 | 15 |
| 01:00 | 0 | 0 | 2 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 24-33 | 7 |
| 02:00 | 0 | 1 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 19-28 | 5 |
| 03:00 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 19-28 | 4 |
| 04:00 | 0 | 0 | 1 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 24-33 | 10 |
| 05:00 | 0 | 0 | 1 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 26-35 | 13 |
| 06:00 | 0 | 1 | 6 | 18 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 | 24-33 | 25 |
| 07:00 | 4 | 12 | 29 | 55 | 12 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 115 | 21-30 | 84 |
| 08:00 | 0 | 6 | 33 | 47 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 21-30 | 80 |
| 09:00 | 0 | 12 | 34 | 55 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 21-30 | 89 |
| 10:00 | 6 | 18 | 34 | 51 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 21-30 | 85 |
| 11:00 | 0 | 12 | 39 | 53 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 21-30 | 92 |
| 12 PM | 2 | 10 | 71 | 51 | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 155 | 21-30 | 122 |
| 13:00 | 0 | 15 | 49 | 59 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | 21-30 | 108 |
| 14:00 | 6 | 29 | 60 | 63 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 175 | 21-30 | 123 |
| 15:00 | 5 | 33 | 72 | 55 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 175 | 21-30 | 127 |
| 16:00 | 0 | 19 | 43 | 67 | 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 149 | 21-30 | 110 |
| 17:00 | 1 | 5 | 47 | 64 | 24 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 | 21-30 | 111 |
| 18:00 | 3 | 16 | 42 | 55 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 131 | 21-30 | 97 |
| 19:00 | 1 | 16 | 41 | 50 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 21-30 | 91 |
| 20:00 | 0 | 9 | 22 | 34 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 21-30 | 56 |
| 21:00 | 1 | 4 | 12 | 32 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 21-30 | 44 |
| 22:00 | 0 | 6 | 6 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 21-30 | 21 |
| 23:00 | 1 | 1 | 8 | 8 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 25-34 | 18 |
| Total | 30 | 226 | 661 | 871 | 226 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2033 |  |  |
| Percent | 1.5\% | 11.1\% | 32.5\% | 42.8\% | 11.1\% | 0.9\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
| AM Peak | 10:00 | 10:00 | 11:00 | 07:00 | 08:00 | 08:00 |  |  |  |  |  |  |  |  | 10:00 |  |  |
| Vol. | 6 | 18 | 39 | 55 | 16 | 4 |  |  |  |  |  |  |  |  | 120 |  |  |
| PM Peak | 14:00 | 15:00 | 15:00 | 16:00 | 17:00 | 14:00 |  |  |  |  |  |  |  |  | 14:00 |  |  |
| Vol. | 6 | 33 | 72 | 67 | 24 | 2 |  |  |  |  |  |  |  |  | 175 |  |  |


| SB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Start | 1 | 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 61 | 66 | 71 | 76 |  | Pace | Number |
| Time | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 999 | Total | Speed | in Pace |
| 09/18/19 | 0 | 0 | 9 | 11 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 21-30 | 20 |
| 01:00 | 0 | 0 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21-30 | 7 |
| 02:00 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 21-30 | 8 |
| 03:00 | 0 | 0 | 5 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 21-30 | 8 |
| 04:00 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 21-30 | 4 |
| 05:00 | 0 | 0 | 2 | 7 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 25-34 | 11 |
| 06:00 | 0 | 0 | 4 | 24 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 26-35 | 37 |
| 07:00 | 4 | 16 | 38 | 55 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | 21-30 | 93 |
| 08:00 | 4 | 2 | 22 | 46 | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86 | 21-30 | 68 |
| 09:00 | 0 | 6 | 43 | 53 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 21-30 | 96 |
| 10:00 | 1 | 9 | 33 | 59 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 | 21-30 | 92 |
| 11:00 | 0 | 11 | 40 | 74 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 138 | 21-30 | 114 |
| 12 PM | 4 | 8 | 68 | 62 | 14 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 161 | 21-30 | 130 |
| 13:00 | 5 | 26 | 65 | 58 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 170 | 21-30 | 123 |
| 14:00 | 3 | 19 | 50 | 67 | 13 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 156 | 21-30 | 117 |
| 15:00 | 2 | 17 | 76 | 59 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 167 | 21-30 | 135 |
| 16:00 | 2 | 15 | 60 | 63 | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 161 | 21-30 | 123 |
| 17:00 | 1 | 21 | 47 | 76 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 163 | 21-30 | 123 |
| 18:00 | 3 | 12 | 49 | 57 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137 | 21-30 | 106 |
| 19:00 | 0 | 9 | 39 | 48 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 21-30 | 87 |
| 20:00 | 0 | 5 | 20 | 25 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 21-30 | 45 |
| 21:00 | 0 | 4 | 17 | 31 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 21-30 | 48 |
| 22:00 | 0 | 3 | 11 | 13 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 21-30 | 24 |
| 23:00 | 0 | 2 | 9 | 12 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 21-30 | 21 |
| Total | 29 | 185 | 715 | 914 | 232 | 22 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2098 |  |  |
| Percent | 1.4\% | 8.8\% | 34.1\% | 43.6\% | 11.1\% | 1.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
| AM Peak | 07:00 | 07:00 | 09:00 | 11:00 | 09:00 | 08:00 |  |  |  |  |  |  |  |  | 11:00 |  |  |
| Vol. | 4 | 16 | 43 | 74 | 18 | 2 |  |  |  |  |  |  |  |  | 138 |  |  |
| PM Peak | 13:00 | 13:00 | 15:00 | 17:00 | 16:00 | 12:00 | 12:00 |  |  |  |  |  |  |  | 13:00 |  |  |
| Vol. | 5 | 26 | 76 | 76 | 20 | 4 | 1 |  |  |  |  |  |  |  | 170 |  |  |


| SB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Start | 1 | 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 61 | 66 | 71 | 76 |  | Pace | Number |
| Time | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 999 | Total | Speed | in Pace |
| 09/19/19 | 0 | 0 | 2 | 5 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 26-35 | 13 |
| 01:00 | 0 | 0 | 3 | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 21-30 | 11 |
| 02:00 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 26-35 | 5 |
| 03:00 | 0 | 1 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 21-30 | 8 |
| 04:00 | 0 | 0 | 3 | 10 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 26-35 | 16 |
| 05:00 | 0 | 0 | 3 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 21-30 | 8 |
| 06:00 | 0 | 0 | 5 | 26 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 21-30 | 31 |
| 07:00 | 9 | 16 | 50 | 37 | 21 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 21-30 | 87 |
| 08:00 | 2 | 8 | 25 | 50 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 106 | 21-30 | 75 |
| 09:00 | 2 | 11 | 30 | 53 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 21-30 | 83 |
| 10:00 | 1 | 8 | 45 | 65 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 130 | 21-30 | 110 |
| 11:00 | 0 | 23 | 38 | 51 | 21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 | 21-30 | 89 |
| 12 PM | 1 | 8 | 50 | 69 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 144 | 21-30 | 119 |
| 13:00 | 3 | 8 | 52 | 64 | 12 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 141 | 21-30 | 116 |
| 14:00 | 1 | 27 | 66 | 56 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159 | 21-30 | 122 |
| 15:00 | 2 | 12 | 61 | 68 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 160 | 21-30 | 129 |
| 16:00 | 4 | 25 | 69 | 66 | 20 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 185 | 21-30 | 135 |
| 17:00 | 4 | 25 | 57 | 63 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 166 | 21-30 | 120 |
| 18:00 | 1 | 11 | 48 | 50 | 22 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 | 21-30 | 98 |
| 19:00 | 2 | 12 | 42 | 52 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 121 | 21-30 | 94 |
| 20:00 | 1 | 2 | 31 | 31 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | 21-30 | 62 |
| 21:00 | 0 | 0 | 15 | 38 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 | 21-30 | 53 |
| 22:00 | 0 | 2 | 13 | 16 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 21-30 | 29 |
| 23:00 | 0 | 4 | 10 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 21-30 | 23 |
| Total | 33 | 203 | 721 | 903 | 263 | 20 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2146 |  |  |
| Percent | 1.5\% | 9.5\% | 33.6\% | 42.1\% | 12.3\% | 0.9\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
| AM Peak | 07:00 | 11:00 | 07:00 | 10:00 | 07:00 | 09:00 | 07:00 |  |  |  |  |  |  |  | 07:00 |  |  |
| Vol. | 9 | 23 | 50 | 65 | 21 | 3 | 1 |  |  |  |  |  |  |  | 135 |  |  |
| PM Peak | 16:00 | 14:00 | 16:00 | 12:00 | 18:00 | 18:00 | 13:00 |  |  |  |  |  |  |  | 16:00 |  |  |
| Vol. | 4 | 27 | 69 | 69 | 22 | 2 | 1 |  |  |  |  |  |  |  | 185 |  |  |
| Total | $92$ | $614$ | $2097$ | $2688$ | $721$ | $61$ | 4 |  |  |  | $0$ | $0$ | 0 | 0 | 6277 |  |  |
| Percent | 1.5\% | 9.8\% | 33.4\% | 42.8\% | 11.5\% | 1.0\% | 0.1\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% | 0.0\% |  |  |  |
|  |  |  | h Perce |  | 20 MPH |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | h Perce |  | 25 MPH |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | h Perce |  | 29 MPH |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | h Perce |  | 33 MPH |  |  |  |  |  |  |  |  |  |  |  |  |
| Stats |  | 10 MP | Pace Sp | d | 1-30 MPH |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | mer in P |  | 4785 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | cent in P |  | 76.2\% |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Num | of Vehi | > 55 M |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Perc | of Vehi | > 55 |  | 0.0\% |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Mean S | d(Averag |  | 26 MPH |  |  |  |  |  |  |  |  |  |  |  |  |

## ADDENDUM

## CITY OF BINGHAMTON

DATE: $\quad$ October 29, 2019
TO: Jared Kraham, Chairperson, Traffic Board
FROM: Joseph T. Zikuski-Chief of Police

## SUBJECT: Jarvis Street - Road Safety Assment

COPIES: Traffic Board Members, First District Councilpersons Giovanni Scaringi, Third District Councilperson Dani Cronce, File

A Road Safety Assessment was conducted for Jarvis Street, between Main Street and Clinton Street, on October 15, 2019 by Leigh McCullen, Senior Transportation Planner, BMTS, and Binghamton's DPW, Engineer and Police Traffic Offices. The assessment was a walk-through of that area seeking input from each of the above mentioned agencies to identify and evaluate possible roadway safety deficiencies and to suggest improvements. The request was based on reports of approximately fifty motor vehicle incidents between March, 2016 and August 2019.

The immediate crashes of concern for this street are lines of sight issues, turning incidents, pedestrian crossings and rear ending incidents. Upon completion of the walk-through, BMTS will evaluate the input for a future recommendation.

As part of the walk-through, several former parking zones and/or prohibited zones were found along Jarvis Street that may or may not be relevant to the assessment. Some were from former businesses or residences along Jarvis Street that were razed, and parking regulations required, but they were never updated upon their removal. These updates will be processed into the study by BMTS.

The Traffic Division therefore recommends that the Traffic Code be amended as follows:

## DELETE:

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Section 23 - No Parking Anytime Zones -
    Jarvis Street - Both Sides - From Charlotte Street to \(\mathbf{7 5}\) feet north of the Erie Rail
            Tracks.
    Jarvis Street - East Side - From Thorpe Street to 20 feet north.
    Jarvis Street - East Side - From Clinton Street to 85 feet south.
    Jarvis Street - East Side - From Clinton Street to 120 feet south.
    Jarvis Street - East Side - From Clinton Street to 23 feet north.
    Jarvis Street - West Side - From Clinton Street to 150 feet south.
    Jarvis Street - West Side - From Clinton Street to 400 feet south.
Section 26 - One Hour Parking -8:00AM to 6:00PM, Except Sundays
    Jarvis Street - East Side - From 100 feet south of Clinton Street to 144 feet south.
INSERT:
Section 23 - No Parking Anytime Zones -
    Jarvis Street - East Side - From Clinton Street to Thorpe Street.
    Jarvis Street -East Side - From Main Street to Balcom Avenue.
    Jarvis Street - West Side - From Clinton Street to Charlotte Street
    Jarvis Street - West Side - From Charlotte Street to 40 feet south.
    Jarvis Street - West Side - From 182 feet south of Charlotte Street to Main Street.
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Joseph T. Zikuski
Chief of Police

William Yeager
Assistant Chief


- main St.


