# Traffic Impact Study

## Proposed Residential Subdivision with Commercial

Towncentre Dr, Belleville

ASURZA ENGINEERS

March 18, 2024
Project No 2317-23

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March 18, 2024

Mr. George Taylor, Planner
Ministry of Transportation, Ontario
1355 John Counter Blvd
Kingston, ON
K7L 5A3

**Reference:** Towncentre Dr – Residential Subdivision with Commercial
Belleville, ON
Traffic Impact Study Report
Project Nº 2317-23

Dear Mr. Taylor,

Asurza Engineers Ltd. is pleased to submit the enclosed Traffic Impact Study in support of the proposed residential subdivision with commercial to be located in proximity to Highway 62 in northern Belleville. The study was prepared on behalf of the proponent as part of the documentation required by the City of Belleville and The Ministry of Transportation Ontario.

Should you have any questions regarding to this report, please do not hesitate to contact the undersigned.


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## Project Team Member List

| | |
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# Executive Summary

Asurza Engineers Ltd. was retained to undertake a traffic impact study in order to review, assess, and determine any traffic impact the proposed development may generate on the adjacent roads and intersections.

The subject site is located adjacent to Highway 62 in Northern Belleville, bounded between a recent subdivision on the west and surrounded by an established commercial area. Currently a vacant land of approx. 8 hectares, the development is planned to include single family attached & detached houses, low-rise multifamily housing, and a low-rise residential building with ground-floor commercial space.

It should be noted that the proposed land uses in this report are as defined in the Trip Generation Manual, a publication by the Institute of Transportation Engineers (not the city's zoning by-law).

Traffic movement counts undertaken on May 10, 2022, were provided by MTO for the intersections of Hwy 62 at Farnham Rd, Roy Blvd, and Maitland Dr. A growth rate of 1.5% was used to project the counts to 2024. A video-based count was performed by Asurza Engineers on January 18, 2024, to gain data for Sidney St / Kempton Ave. In addition, the traffic signal timings at Hwy 62 / Farnham Rd and Hwy 62 / Maitland Dr were provided by MTO.

An intersection capacity analysis was undertaken for all relevant scenarios within the Synchro 11 software, based on the Highway Capacity Manual (HCM) methodology.

For the existing conditions (2024), results show that the intersections are currently operating with acceptable control delays during peak hours. Almost all movements have an LOS "C" or better, and all movements are showing v/c ratios well below 0.85.

In order to establish base conditions for the comparison and evaluation of future scenarios, a 1.5% growth rate was used to project the traffic volumes throughout the study years.

Also, to maintain accuracy in the analysis, the ongoing build-out of the nearby "Settler's Ridge East Phase 2" subdivision should be accounted for. As of the date of this report, the subdivision has finished its Phase 1 build-out; therefore, the new trips resulting from Phase 2 (36 single detached and 31 townhome units) have been estimated and distributed to the Sidney St / Kempton Ave intersection.

The results show that, without the proposed development, delays will moderately increase over time as expected. Throughout the study years, all movements will continue to operate with acceptable levels of service.

The estimation of trips generated by the proposed development were derived from the Trip Generation Manual, 11$^{th}$ Edition. The proposed development is estimated to generate 112 and 137 new trips during the AM and PM peak hours, respectively. The vast majority of new trips generated are assumed to be entering/exiting the development using Hwy 62 / Roy Blvd and are distributed according to the existing traffic patterns.

The future total traffic volumes are obtained by adding the background traffic volumes to the total new traffic volumes generated by the proposed development.

The results show that, including the proposed development, the delays and LOS for all movements remain basically the same as the background scenario. The most critical movements are expected to be the westbound-left and southbound-thru movements at Highway 62 / Maitland Dr, which both show LOS "D" by 2032 regardless of the proposed development. Also, the v/c ratio for all movements will remain well below 0.85 throughout the study years.

From the traffic point of view, it is concluded that the proposed residential development can occur without any impacts to traffic operations.

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# 1 Introduction

## 1.1 Overview

Asurza Engineers Ltd. was retained by the proponent to undertake a traffic impact study for the proposed residential subdivision near Highway 62 in Belleville, Ontario. Since the development is located within the jurisdiction of the Ministry of Transportation, Ontario (MTO), the report was prepared for the review and approval by the City and the MTO to permit the proposed development.

## 1.2 Objectives

The purpose of this study is to determine any traffic impact the proposed development may generate on the adjacent roadways and adjacent intersections, as well as to identify the required improvements to maintain acceptable operational levels on the roadways within the study area.

The general scope of this study includes the following key elements:

- Establish baseline traffic conditions for the study area.
- Estimate the traffic growth for future planning horizons.
- Estimate the traffic generated by the proposed development.
- Estimate the total future traffic and identify impacts within the study area.
- Provide recommendations to address any deficiencies, if identified.

To achieve these objectives, the traffic study makes use of accepted methodologies and procedures including informational reports, publications from recognized institutions, recommended best practice manuals and MTO general guidelines for preparation of traffic impact studies.

# 2 Existing Conditions

## 2.1 Study Area

According to the 2021 census, Belleville has a population of approximately 55,071 permanent residents and is located approximately 170 km east of Toronto, Ontario.

The study area is located in the northern end of the city's urban boundaries, past Highway 401 and in proximity to Highway 62. See ***Exhibit 1***.

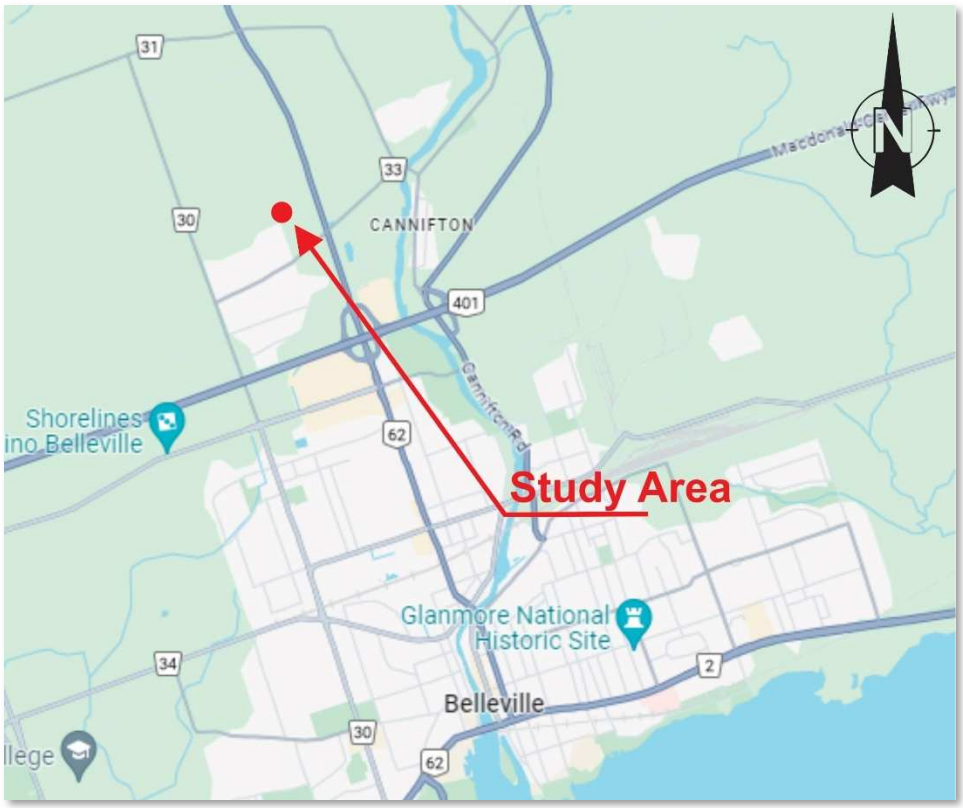



***Exhibit 1:*** *Study Area.*

## 2.2 The Site

The subject site is located between an established commercial area and a recently built-out residential subdivision on the west. Both will serve as the entry points for vehicles arriving to/leaving from the site via Hwy 62 and Sidney St (Regional Rd 30). See ***Exhibit 2***.


***Exhibit 2:*** *The Site.*

The site is currently a vacant land of approximately 8 hectares. At its completion, the development is planned to include single family attached and detached houses, low-rise multifamily housing, and a low-rise residential building with ground-floor commercial space. See *Appendix A – Preliminary Concept Plan and Draft Plan of Subdivision* for further details.

## 2.3 Existing Roadway Network

The following roads are part of the study area:

**Highway 62,** known locally as North Front Street, is a five lane north-south arterial roadway (two lanes in each direction, and a central two-way left turn lane). Within the study area, Hwy 62 presents a rural cross section, utilizing granular shoulders, ditches, and culverts for water drainage. Hwy 62 provides driveway access to various commercial land uses near the subject site. From the north, Hwy 62 has a posted speed limit of 80 km/h, before transitioning to 70 km/h approx. 750 metres south of Farnham Rd, and to 60 km/h approx. 200 metres north of Maitland Dr.

**Maitland Drive** is a two lane (one lane in each direction) east-west roadway, providing access to residences and also serving an industrial park. This road intersects with Hwy 62 to form a 4-leg intersection controlled by traffic signals. Within the study area, Maitland Dr presents a rural cross section, and a posted speed of 50 km/h has been identified.

**Farnham Road** is a two lane (one lane in each direction) roadway. Within the study area, this road shows a rural cross section, intersecting with Hwy 62 to form a 4-leg intersection controlled by traffic signals. Posted speeds of 60 km/h and 50 km/h have been noted on west leg and the east leg of the intersection, respectively.

**Roy Boulevard** is a short dead-end road acting as a driveway for a few businesses and car dealerships. No posted speed was identified for Roy Blvd; therefore, 50 km/h is adopted in accordance with the Ontario Highway Traffic Act.

**Sidney Street North** is a two lane (one lane in each direction) roadway that provides vehicles with an alternative north/south travel route parallel to Hwy 62. Within the study area, Sidney St N presents a rural cross section, and a posted speed of 60 km/h has been identified. Kempton Ave intersects Sidney St N to form a “T”-type intersection with a stop sign on Kempton Ave.

**Kempton Avenue** is a two lane (one lane in each direction) short local road, providing residents with access to their driveways, as well as access to other roads within the subdivision. No posted speed was identified for Kempton Ave; therefore, 50 km/h is adopted.

## 2.4 Traffic Data

Traffic movement counts undertaken on May 10, 2022, were provided by MTO for the intersections of Hwy 62 at Farnham Rd, Roy Blvd, and Maitland Dr. A growth rate of 1.5% was used to project the counts to 2024. A video-based count was performed by Asurza Engineers on January 18, 2024, to gain data for Sidney St / Kempton Ave. See *Appendix B – Traffic Data*.

In addition, the traffic signal timings at Hwy 62 / Farnham Rd and Hwy 62 / Maitland Dr were provided by MTO. See *Appendix C – Existing Signal Timings.*

The existing lane configuration at the subject intersections are shown in ***Exhibit 3***, and the existing 2024 traffic volumes for the AM and PM peak hours are shown in ***Exhibits 4 and 5***.

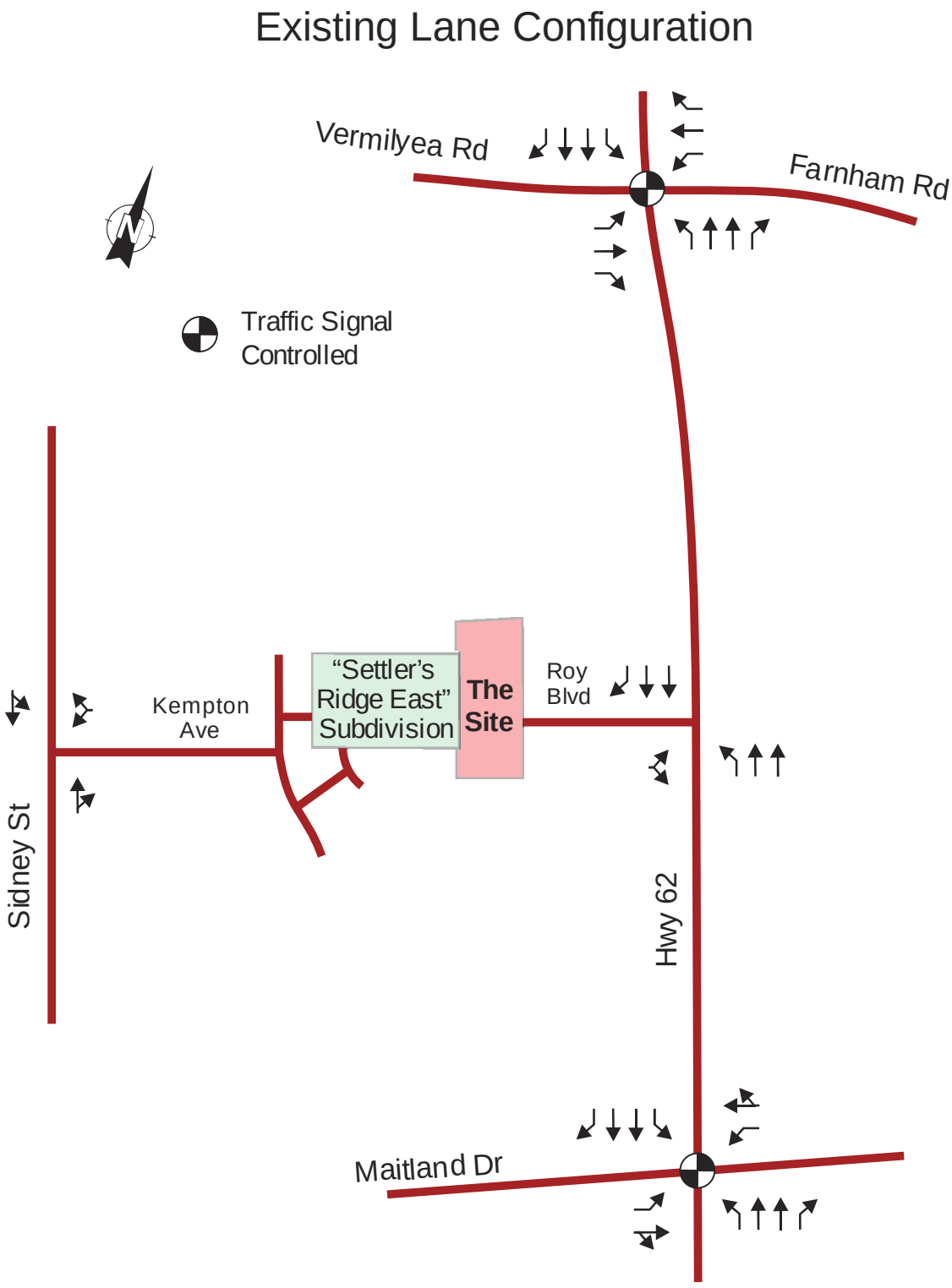



***Exhibit 3:*** *Existing Lane Configuration at Intersections.*

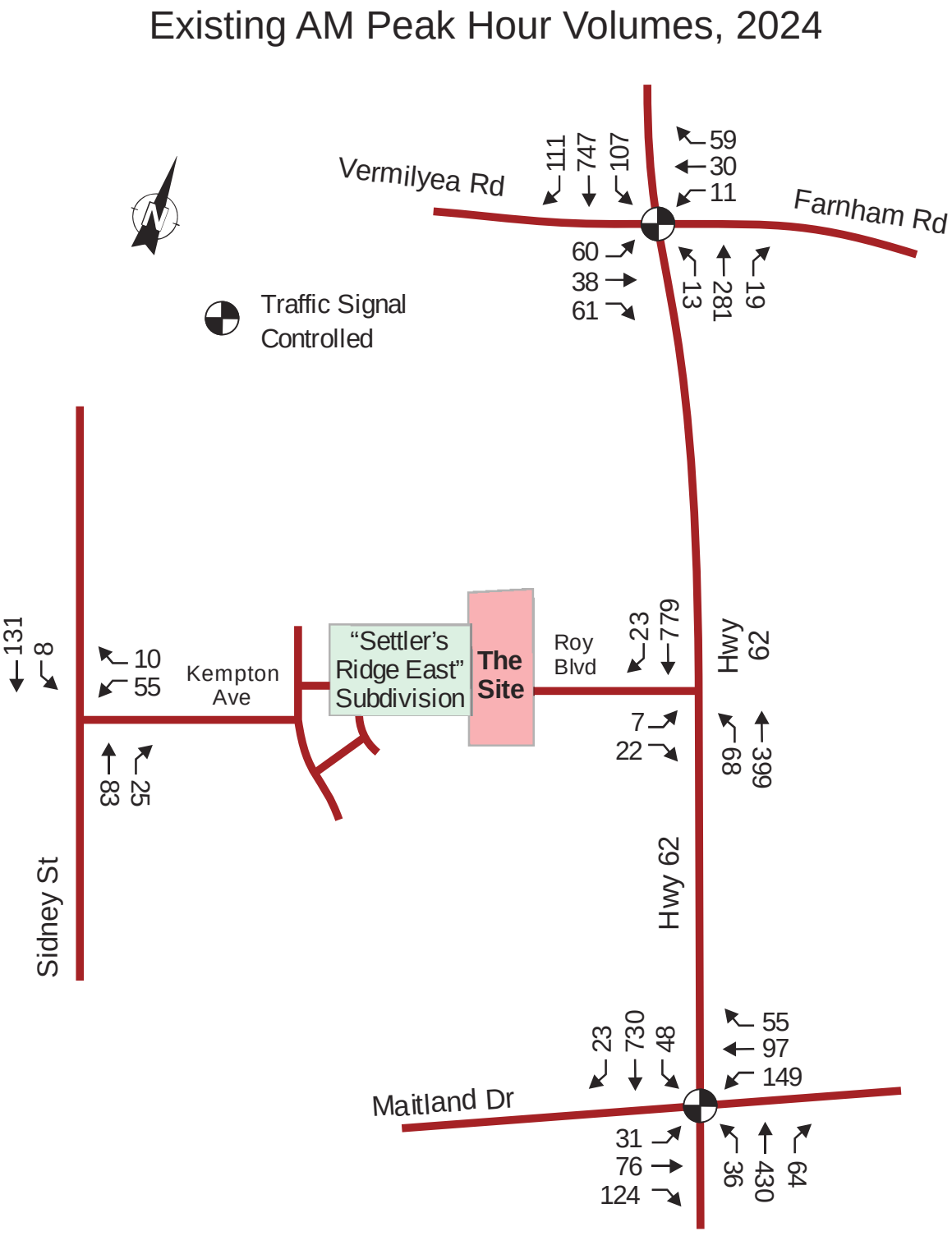



***Exhibit 4:*** *Existing AM Peak Hour Volumes, 2024.*

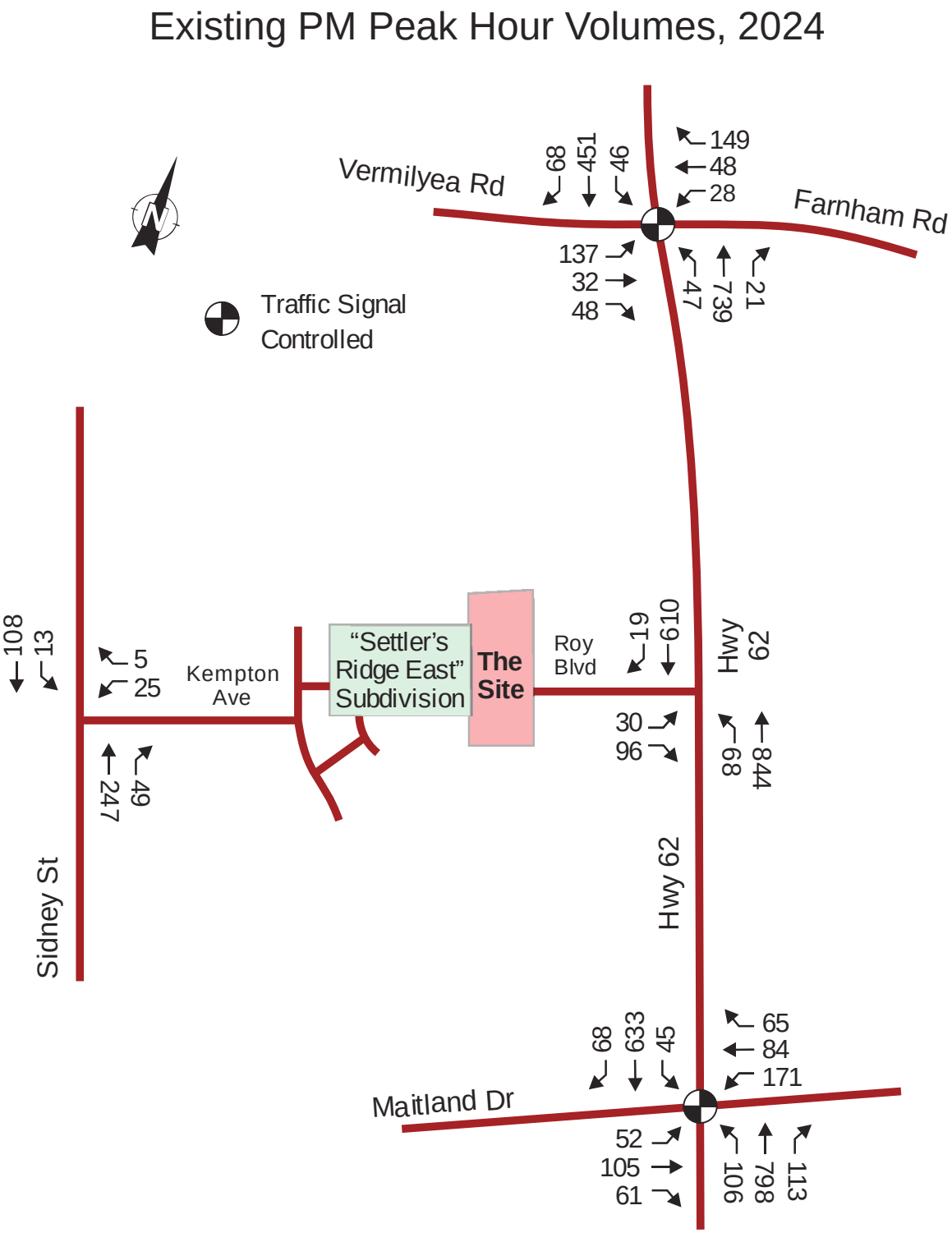



***Exhibit 5:*** *Existing PM Peak Hour Volumes, 2024.*

## 2.5 Existing Traffic Operations

Intersection level of service (LOS) is a recognized method of qualifying the efficiency of traffic flow at intersections. The assigned LOS is determined on the delay caused by the control system experienced by individual vehicles executing the various movements. The delay is related to the number of vehicles desiring to make a particular movement, compared to the estimated capacity for that movement.

***Table 1*** shows the LOS criteria for intersections, ranging from 'A' to 'F,' where 'A' represents ideal traffic and 'F' represents extreme congestion.

| LOS | Signalized Control Delay (sec/veh) | Unsignalized Control Delay (sec/veh) |
|---|---|---|
| A | 0 - 10 | 0 - 10 |
| B | > 10 - 20 | > 10 - 15 |
| C | > 20 - 35 | > 15 - 25 |
| D | > 35 - 55 | > 25 - 35 |
| E | > 55 - 80 | > 35 - 50 |
| F | > 80 | > 50 |

***Table 1:*** *Level of Service Definition.*

The intersection analysis, based on the Highway Capacity Manual (HCM), considers the following:

- The volume to capacity (v/c) ratio for the intersection and for each movement.
- The average delay in seconds for each movement and overall delay of the intersection.
- The 95$^{th}$ percentile queue length for each movement.
- The level of service for each movement and overall level of service of the intersection.

The existing operations for the subject intersections were evaluated in the Synchro 11 software using the existing traffic volumes for the AM and PM peak hours, and the results are summarized below in ***Table 2***.

| | | Intersection Capacity, Existing Volumes, 2024 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | V/C | Delay (s) | $Q_{95}$ (m) | LOS | V/C | Delay (s) | $Q_{95}$ (m) | LOS |
| Highway 62 / Farnham Rd / Vermilyea Rd / (signalized) | EB-L | 0.15 | 26.4 | 20.9 | C | 0.32 | 29.0 | 42.5 | C |
| | EB-T | 0.07 | 24.8 | 14.2 | C | 0.06 | 24.6 | 12.6 | C |
| | EB-R | 0.11 | 2.9 | 5.4 | A | 0.09 | 1.5 | 2.4 | A |
| | WB-L | 0.03 | 24.5 | 6.3 | C | 0.07 | 25.1 | 11.6 | C |
| | WB-T | 0.05 | 24.6 | 12.0 | C | 0.08 | 24.9 | 16.8 | C |
| | WB-R | 0.12 | 2.8 | 5.0 | A | 0.25 | 5.0 | 14.4 | A |
| | NB-L | 0.05 | 6.5 | 2.0 | A | 0.11 | 5.5 | 3.4 | A |
| | NB-T | 0.25 | 11.0 | 11.0 | B | 0.58 | 12.3 | 21.7 | B |
| | NB-R | 0.04 | 0.1 | 0.0 | A | 0.04 | 0.1 | 0.0 | A |
| | SB-L | 0.21 | 13.4 | 21.6 | B | 0.15 | 13.0 | 11.0 | B |
| | SB-T | 0.50 | 29.0 | 96.4 | C | 0.37 | 25.1 | 55.2 | C |
| | SB-R | 0.19 | 4.7 | 11.8 | A | 0.12 | 3.6 | 6.9 | A |
| | Overall | 0.60 | 20.0 | - | B | 0.58 | 16.0 | - | B |
| Highway 62 / Roy Blvd (stop control) | EB-LR | 0.07 | 13.5 | 1.8 | B | 0.25 | 13.8 | 7.9 | B |
| | NB-L | 0.10 | 10.2 | 2.6 | B | 0.08 | 9.3 | 2.1 | B |
| | NB-T | 0.13 | 0.0 | 0.0 | A | 0.27 | 0.0 | 0.0 | A |
| | SB-T | 0.33 | 0.0 | 0.0 | A | 0.26 | 0.0 | 0.0 | A |
| | SB-R | 0.18 | 0.0 | 0.0 | A | 0.14 | 0.0 | 0.0 | A |
| Highway 62 / Maitland Dr (signalized) | EB-L | 0.08 | 25.1 | 12.6 | C | 0.14 | 25.9 | 18.6 | C |
| | EB-TR | 0.35 | 18.3 | 42.4 | B | 0.29 | 23.2 | 42.3 | C |
| | WB-L | 0.45 | 32.9 | 49.3 | C | 0.47 | 33.0 | 55.2 | C |
| | WB-TR | 0.28 | 22.8 | 39.1 | C | 0.27 | 20.9 | 36.6 | C |
| | NB-L | 0.11 | 12.6 | 9.0 | B | 0.30 | 14.4 | 21.3 | B |
| | NB-T | 0.33 | 22.0 | 51.5 | C | 0.56 | 25.6 | 101.3 | C |
| | NB-R | 0.10 | 3.0 | 6.2 | A | 0.17 | 5.9 | 13.9 | A |
| | SB-L | 0.11 | 23.0 | 19.0 | C | 0.18 | 22.2 | 18.5 | C |
| | SB-T | 0.49 | 41.6 | 120.1 | D | 0.49 | 40.8 | 99.1 | D |
| | SB-R | 0.03 | 8.7 | 2.5 | A | 0.06 | 11.2 | 8.7 | B |
| | Overall | 0.49 | 29.3 | - | C | 0.56 | 28.1 | - | C |
| Sidney St / Kempton Ave (stop control) | WB-LR | 0.10 | 10.4 | 2.6 | B | 0.06 | 11.5 | 1.4 | B |
| | NB-TR | 0.07 | 0.0 | 0.0 | A | 0.19 | 0.0 | 0.0 | A |
| | SB-TL | 0.01 | 0.5 | 0.2 | A | 0.01 | 0.9 | 0.3 | A |

***Table 2:*** *Intersection Capacity, Existing Volumes, 2024.*

Results show that movements at intersections are currently operating well, with acceptable control delays during peak hours. All movements show LOS "C" or better, except the southbound thru at the Hwy 62/Maitland Dr which shows LOS "D". All resulting v/c ratios are well below 0.85.

# 3 Background Traffic Volumes and Operations

## 3.1 Background Traffic Volumes

In order to establish base conditions for the comparison and evaluation of future scenarios, it is necessary to review the results of traffic operations over time. To maintain a conservative estimate of future traffic, a growth rate of 1.5% per year will be implemented for the purposes of this study.

The rate used is based on historical AADT data for Highway 62 found in the MTO publication titled, "Provincial Highways Traffic Volumes 1988-2016." The background traffic volumes were estimated by applying the growth rate to the existing traffic volumes. See *Appendix D – Traffic Volume Projections*.

For this study, the horizon years for analysis are 2027 and 2032, which are expected to coincide with the full build-out out of the proposed development, and five years after the full build-out, respectively.

Also, to maintain accuracy in the analysis, the ongoing build-out of the nearby "Settler's Ridge East Phase 2" subdivision should be accounted for. As of the date of this report, the subdivision has finished its Phase 1 build-out; therefore, the new trips resulting from Phase 2 (36 single detached units and 31 townhome units) have been estimated and distributed to the Sidney St / Kempton Ave intersection.

The following ***Exhibits 6 to 9*** show the projected traffic volumes for the morning and afternoon peak hours for the horizon years 2027 and 2032.

# Background AM Peak Hour Volumes, 2027

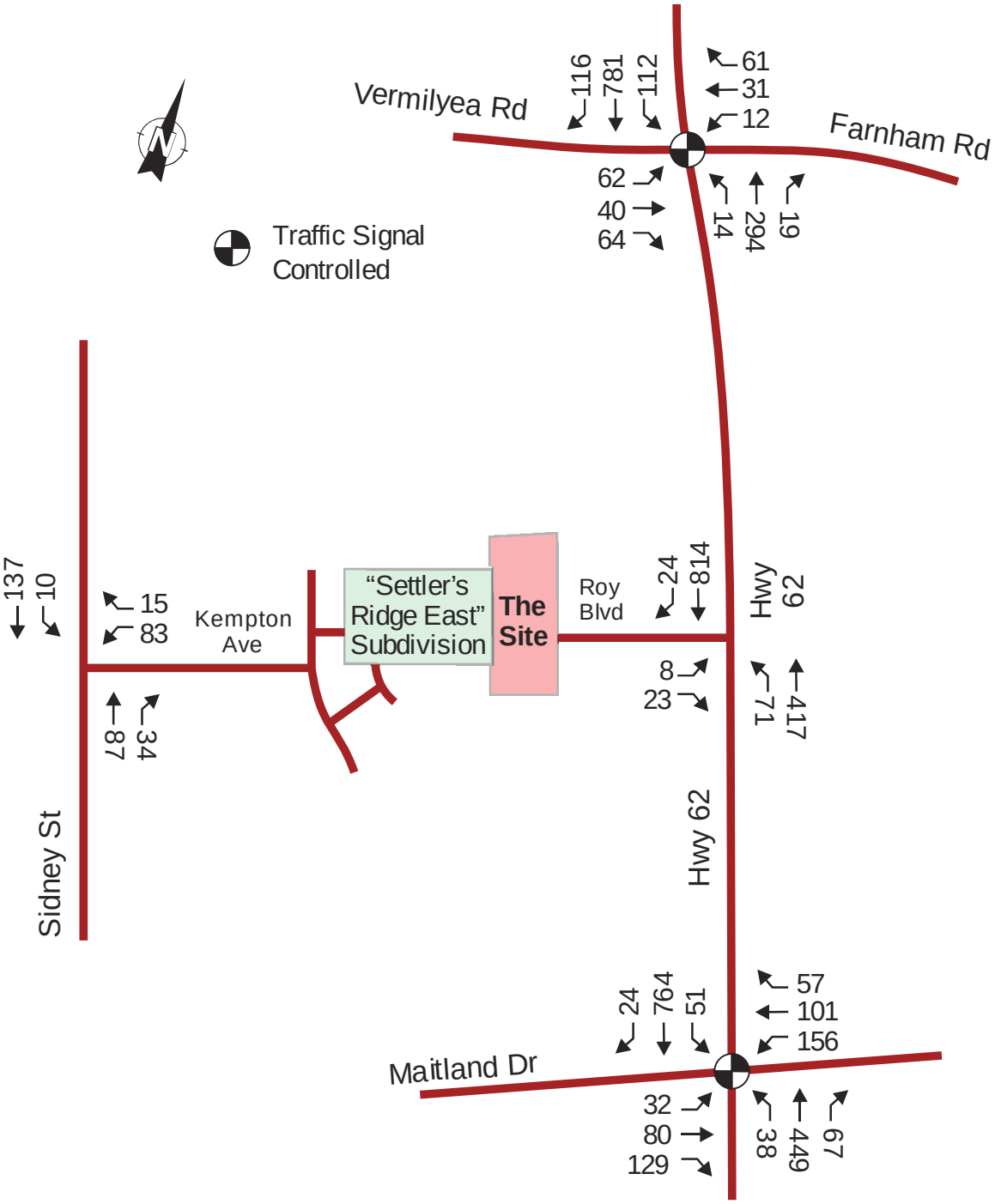



***Exhibit 6:*** *Background AM Peak Hour Volumes, 2027.*

# Background PM Peak Hour Volumes, 2027

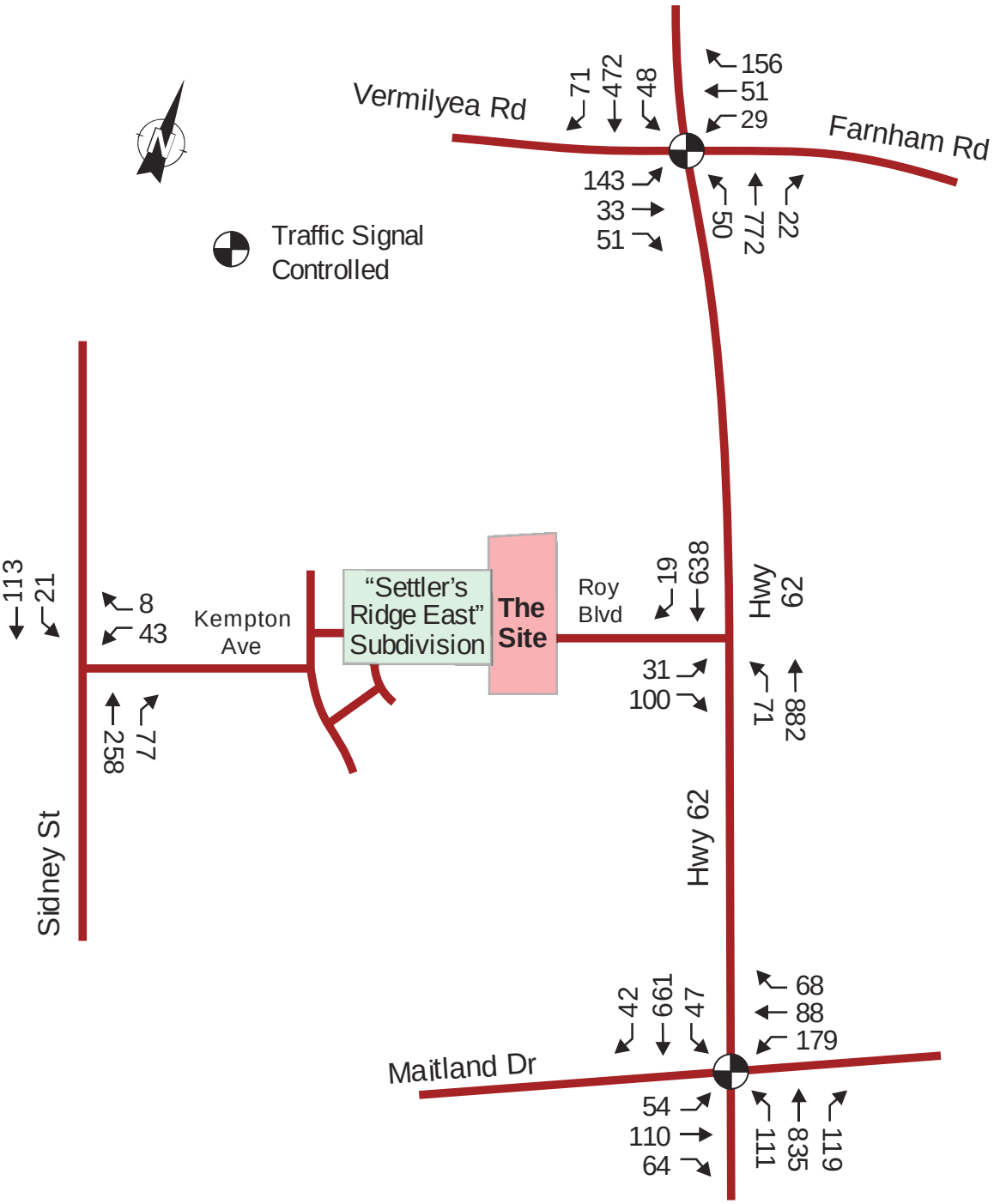



***Exhibit 7:*** *Background PM Peak Hour Volumes, 2027.*

# Background AM Peak Hour Volumes, 2032

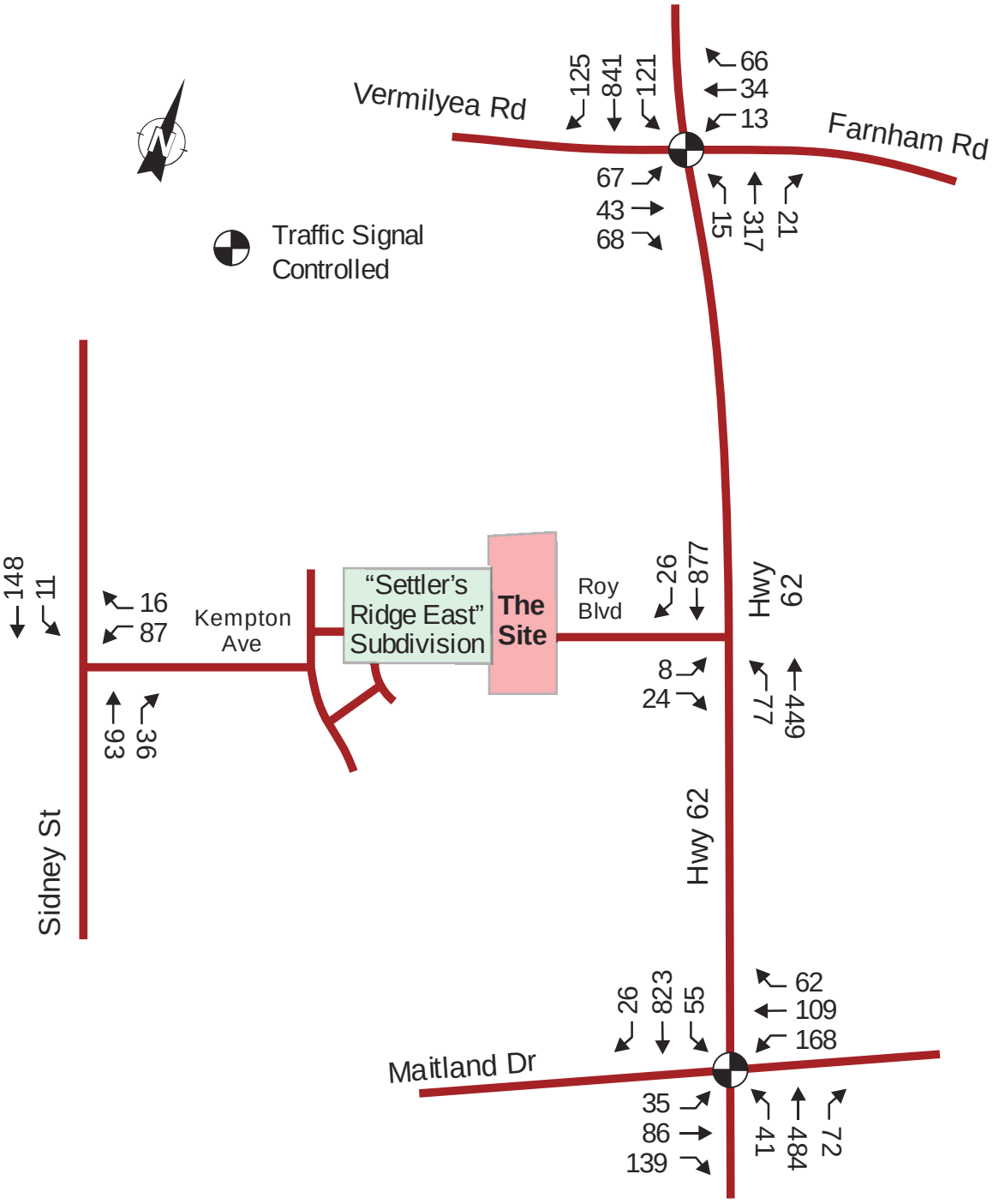



***Exhibit 8:*** *Background AM Peak Hour Volumes, 2032.*

# Background PM Peak Hour Volumes, 2032

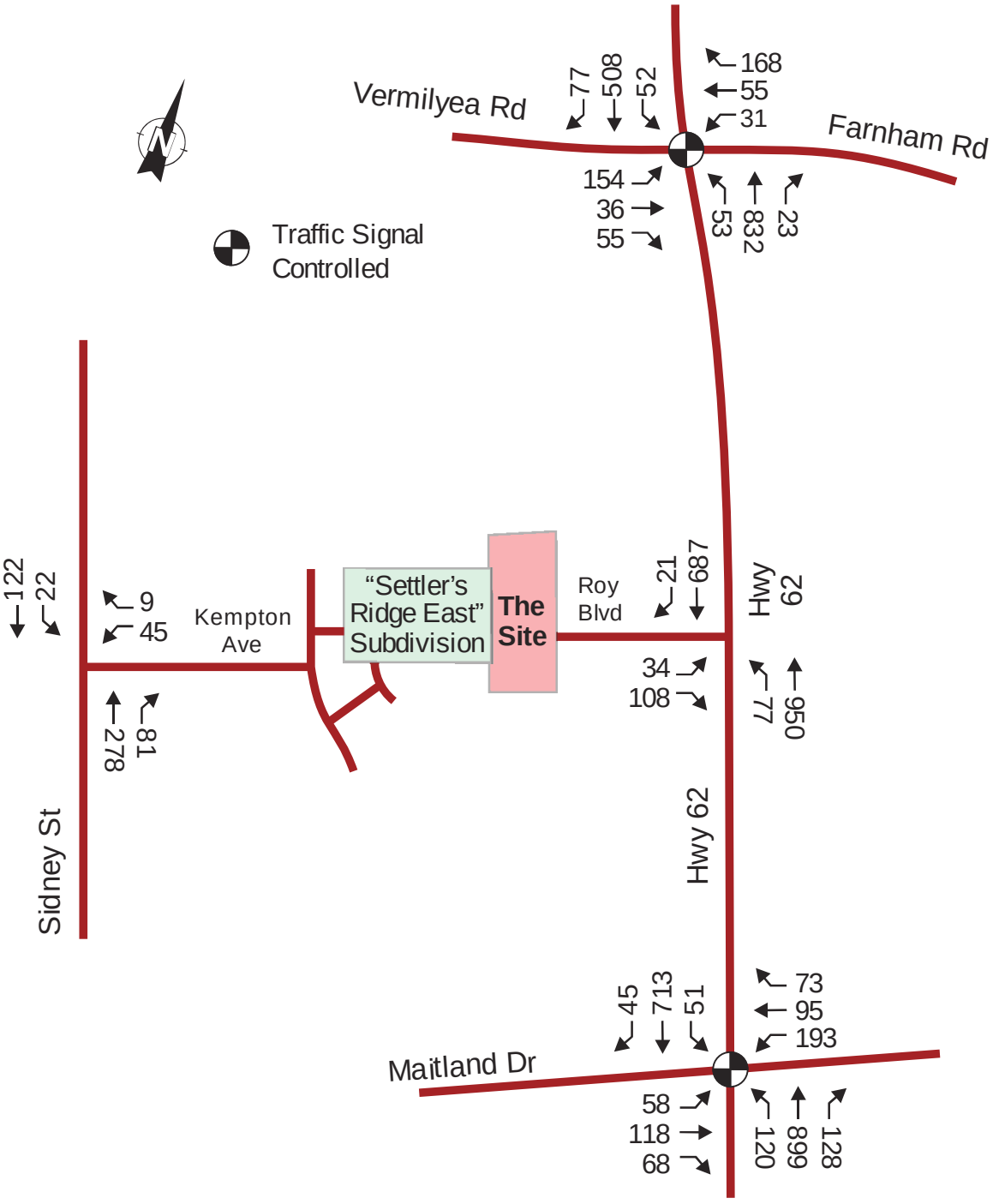



***Exhibit 9:*** *Background PM Peak Hour Volumes, 2032.*

## 3.2 Background Traffic Operations

The summary of results for the background traffic operations in 2027 and 2032 are shown in the following ***Tables 3 and 4***.

| | | Intersection Capacity, Background Volumes, 2027 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | V/C | Delay (s) | $Q_{95}$ (m) | LOS | V/C | Delay (s) | $Q_{95}$ (m) | LOS |
| Highway 62 / Farnham Rd / Vermilyea Rd / (signalized) | EB-L | 0.16 | 26.4 | 21.4 | C | 0.33 | 29.3 | 44.0 | C |
| | EB-T | 0.07 | 24.9 | 14.8 | C | 0.06 | 24.6 | 12.8 | C |
| | EB-R | 0.12 | 3.4 | 6.4 | A | 0.09 | 1.8 | 3.2 | A |
| | WB-L | 0.03 | 24.5 | 6.4 | C | 0.08 | 25.1 | 12.1 | C |
| | WB-T | 0.06 | 25.6 | 12.3 | C | 0.08 | 25.0 | 17.7 | C |
| | WB-R | 0.12 | 2.9 | 5.4 | A | 0.26 | 5.0 | 14.7 | A |
| | NB-L | 0.05 | 6.6 | 1.9 | A | 0.12 | 5.5 | 3.4 | A |
| | NB-T | 0.26 | 11.0 | 11.5 | B | 0.61 | 12.2 | 22.5 | B |
| | NB-R | 0.04 | 0.1 | 0.0 | A | 0.04 | 0.1 | 0.0 | A |
| | SB-L | 0.22 | 13.5 | 22.6 | B | 0.17 | 13.2 | 11.3 | B |
| | SB-T | 0.62 | 29.7 | 101.8 | C | 0.39 | 25.3 | 57.9 | C |
| | SB-R | 0.19 | 4.6 | 12.0 | A | 0.13 | 3.9 | 7.5 | A |
| | Overall | 0.62 | 20.3 | - | C | 0.61 | 16.0 | - | B |
| Highway 62 / Roy Blvd (stop control) | EB-LR | 0.08 | 14.0 | 2.0 | B | 0.27 | 14.3 | 8.7 | B |
| | NB-L | 0.10 | 10.5 | 2.8 | B | 0.09 | 9.5 | 2.3 | B |
| | NB-T | 0.13 | 0.0 | 0.0 | A | 0.28 | 0.0 | 0.0 | A |
| | SB-T | 0.35 | 0.0 | 0.0 | A | 0.27 | 0.0 | 0.0 | A |
| | SB-R | 0.19 | 0.0 | 0.0 | A | 0.15 | 0.0 | 0.0 | A |
| Highway 62 / Maitland Dr (signalized) | EB-L | 0.09 | 25.2 | 12.9 | C | 0.14 | 26.1 | 19.2 | C |
| | EB-TR | 0.36 | 19.0 | 44.9 | B | 0.30 | 23.7 | 44.9 | C |
| | WB-L | 0.48 | 34.0 | 52.3 | C | 0.51 | 34.1 | 58.3 | C |
| | WB-TR | 0.29 | 23.3 | 41.1 | C | 0.28 | 21.3 | 38.6 | C |
| | NB-L | 0.12 | 12.7 | 9.4 | B | 0.33 | 14.8 | 22.4 | B |
| | NB-T | 0.35 | 22.3 | 54.3 | C | 0.59 | 26.2 | 107.4 | C |
| | NB-R | 0.11 | 3.4 | 6.7 | A | 0.17 | 6.4 | 15.1 | A |
| | SB-L | 0.12 | 22.7 | 19.5 | C | 0.20 | 22.4 | 18.9 | C |
| | SB-T | 0.52 | 41.9 | 125.0 | D | 0.51 | 41.3 | 103.2 | D |
| | SB-R | 0.03 | 8.6 | 2.4 | A | 0.07 | 11.9 | 9.3 | B |
| | Overall | 0.52 | 29.7 | - | C | 0.59 | 28.6 | - | C |
| Sidney St / Kempton Ave (stop control) | WB-LR | 0.14 | 10.7 | 4.0 | B | 0.10 | 12.2 | 2.7 | B |
| | NB-TR | 0.08 | 0.0 | 0.0 | A | 0.21 | 0.0 | 0.0 | A |
| | SB-TL | 0.01 | 0.6 | 0.2 | A | 0.02 | 1.4 | 0.5 | A |

***Table 3:*** *Intersection Capacity, Background Volumes, 2027.*

| | | Intersection Capacity, Background Volumes, 2032 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | V/C | Delay (s) | $Q_{95}$ (m) | LOS | V/C | Delay (s) | $Q_{95}$ (m) | LOS |
| Highway 62 / Farnham Rd / Vermilyea Rd / (signalized) | EB-L | 0.17 | 26.7 | 22.9 | C | 0.36 | 29.8 | 47.4 | C |
| | EB-T | 0.08 | 25.0 | 15.8 | C | 0.06 | 24.7 | 13.6 | C |
| | EB-R | 0.13 | 4.0 | 7.3 | A | 0.10 | 2.4 | 4.2 | A |
| | WB-L | 0.04 | 24.5 | 6.8 | C | 0.08 | 25.2 | 12.6 | C |
| | WB-T | 0.06 | 24.7 | 13.1 | C | 0.09 | 25.1 | 18.8 | C |
| | WB-R | 0.13 | 3.7 | 6.8 | A | 0.28 | 4.9 | 15.1 | A |
| | NB-L | 0.06 | 6.5 | 2.0 | A | 0.13 | 5.5 | 3.4 | A |
| | NB-T | 0.28 | 11.1 | 12.2 | B | 0.66 | 12.7 | 24.0 | B |
| | NB-R | 0.04 | 0.1 | 0.0 | A | 0.04 | 0.1 | 0.0 | A |
| | SB-L | 0.25 | 13.8 | 24.3 | B | 0.20 | 13.6 | 12.1 | B |
| | SB-T | 0.67 | 30.9 | 111.8 | C | 0.42 | 25.8 | 62.7 | C |
| | SB-R | 0.21 | 5.3 | 13.4 | A | 0.14 | 4.6 | 8.9 | A |
| | Overall | 0.67 | 21.0 | - | C | 0.66 | 16.5 | - | B |
| Highway 62 / Roy Blvd (stop control) | EB-LR | 0.09 | 14.7 | 2.2 | B | 0.31 | 15.4 | 10.4 | C |
| | NB-L | 0.12 | 10.9 | 3.3 | B | 0.10 | 9.8 | 2.7 | A |
| | NB-T | 0.14 | 0.0 | 0.0 | A | 0.30 | 0.0 | 0.0 | A |
| | SB-T | 0.37 | 0.0 | 0.0 | A | 0.29 | 0.0 | 0.0 | A |
| | SB-R | 0.20 | 0.0 | 0.0 | A | 0.16 | 0.0 | 0.0 | A |
| Highway 62 / Maitland Dr (signalized) | EB-L | 0.10 | 25.4 | 13.6 | C | 0.16 | 26.3 | 20.4 | C |
| | EB-TR | 0.39 | 19.9 | 49.2 | B | 0.32 | 24.2 | 47.9 | C |
| | WB-L | 0.54 | 36.4 | 57.3 | D | 0.56 | 36.1 | 63.8 | D |
| | WB-TR | 0.31 | 24.0 | 44.4 | C | 0.30 | 22.2 | 41.5 | C |
| | NB-L | 0.15 | 13.0 | 10.0 | B | 0.38 | 15.7 | 23.7 | B |
| | NB-T | 0.37 | 22.8 | 59.2 | C | 0.63 | 27.3 | 118.4 | C |
| | NB-R | 0.11 | 4.0 | 7.8 | A | 0.19 | 7.1 | 17.2 | A |
| | SB-L | 0.14 | 22.2 | 20.1 | C | 0.23 | 23.0 | 20.0 | C |
| | SB-T | 0.59 | 44.7 | 134.1 | D | 0.55 | 42.2 | 111.2 | D |
| | SB-R | 0.04 | 9.0 | 2.2 | A | 0.07 | 12.2 | 10.4 | B |
| | Overall | 0.59 | 31.3 | - | C | 0.63 | 29.6 | - | C |
| Sidney St / Kempton Ave (stop control) | WB-LR | 0.16 | 11.0 | 4.4 | B | 0.11 | 12.6 | 3.0 | B |
| | NB-TR | 0.08 | 0.0 | 0.0 | A | 0.23 | 0.0 | 0.0 | A |
| | SB-TL | 0.01 | 0.6 | 0.2 | A | 0.02 | 1.4 | 0.5 | A |

***Table 4:*** *Intersection Capacity, Background Volumes, 2032.*

The results show that, without the proposed development, delays will moderately increase over time as expected. Throughout the study years, all movements will continue to operate with acceptable levels of service.

# 4 Proposed Development Traffic Forecasting

## 4.1 Traffic Impact Study Methodology

The traffic impact analysis was completed in accordance with the methodologies published by the Transportation Research Board (TRB) and the Transportation Impact Analysis for Site Developments published by the Institute of Transportation Engineers (ITE).

Additionally, the MTO provides general guidelines for preparation of traffic Impact studies; these guidelines were also consulted in order to comply with the requirements for this study.

The estimation of trips generated by the proposed development were derived from the Trip Generation Manual, 11$^{th}$ Edition, published by ITE.

## 4.2 Site Trip Generation

The land uses which most closely describe the proposed development are the following:

- Single-Family Detached Housing – ITE Code 210
- Single-Family Attached Housing – ITE Code 215
- Multifamily Housing (Low Rise) – ITE Code 220
- Low-Rise Residential w/ Ground Floor Commercial – ITE Code 230

The ITE trip generation rates and directional distributions for the above land uses are shown in ***Table 5***. As per the ITE methodology, the fitted equations are used in place of the average rates where they are applicable.

| TRIP GENERATION RATES BY LAND USE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ITE Code | ITE Land Use | Unit of Measure | AM Peak Hr. of Adj. Street | | | PM Peak Hr. of Adj. Street | | |
| | | | Rate | In | Out | Rate | In | Out |
| 210 | Single-Family Detached Housing | Dwelling Units | Ln(T) = 0.91x + 0.12 | 25% | 75% | Ln(T) = 0.94x + 0.27 | 63% | 37% |
| 215 | Single-Family Attached Housing | Dwelling Units | T = 0.52x - 5.70 | 25% | 75% | T = 0.60x - 3.93 | 59% | 41% |
| 220 | Multifamily Housing (Low Rise) | Dwelling Units | T = 0.31x + 22.9 | 24% | 76% | T = 0.43x + 20.6 | 63% | 37% |
| 230 | Low-Rise Residential w/ Ground-Floor Commercial | Dwelling Units | 0.44 | 23% | 77% | 0.36 | 71% | 29% |

***Table 5:*** *ITE Trip Rates and Dir. Distributions per Land Use.*

The estimated trips generated by the proposed development are shown in ***Table 6***.

| ESTIMATED NUMBER OF TRIPS BY LAND USE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ITE Code | ITE Land Use | Total Units | AM Peak Hr. of Adj. Street | | | PM Peak Hr. of Adj. Street | | |
| | | | Trips | In | Out | Trips | In | Out |
| 210 | Single-Family Detached Housing | 50 | 40 | 10 | 30 | 52 | 33 | 19 |
| 215 | Single-Family Attached Housing | 26 | 8 | 2 | 6 | 12 | 7 | 5 |
| 220 | Multifamily Housing (Low Rise) | 106 | 55 | 13 | 42 | 66 | 42 | 24 |
| 230 | Low-Rise Residential w/ Ground-Floor Commercial | 20 | 9 | 2 | 7 | 7 | 5 | 2 |
| NEW TRIPS GENERATED | | | 112 | 27 | 85 | 137 | 87 | 50 |

***Table 6:*** *Estimation of Trips Generated by the Proposed Development.*

According to the Trip Generation Manual, the descriptions for each land use are as follows:

A Single-Family Detached Housing site includes any single-family detached home on an individual lot.

A Single-Family Attached Housing site includes any single-family housing unit that shares a wall with an adjoining dwelling unit.

Low-Rise Multifamily Housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels).

Low-Rise Residential with Ground-Floor Commercial includes any mixed-use multifamily housing building with two or three floors of residential living space and commercial space open to the public on the ground level.

The proposed development is estimated to generate an additional 112 and 137 new trips during the AM and PM peak hours, respectively.

## 4.3 Trip Distribution/Assignment

The vast majority of new trips generated are expected to be entering/exiting the development using Hwy 62 / Roy Blvd. For the purposes of this analysis, 95% of the new trips are assumed to enter/exit the development at that intersection, while the remaining 5% is assigned to Sidney St / Kempton Ave intersection.

From here, the new trips are distributed proportional to the existing travel patterns, for which the proportions of trips are shown in ***Exhibits 10 and 11***.

***Exhibits 12 and 13*** show the new trips generated by the proposed development for the morning and afternoon peak hours, distributed according to the noted proportions.

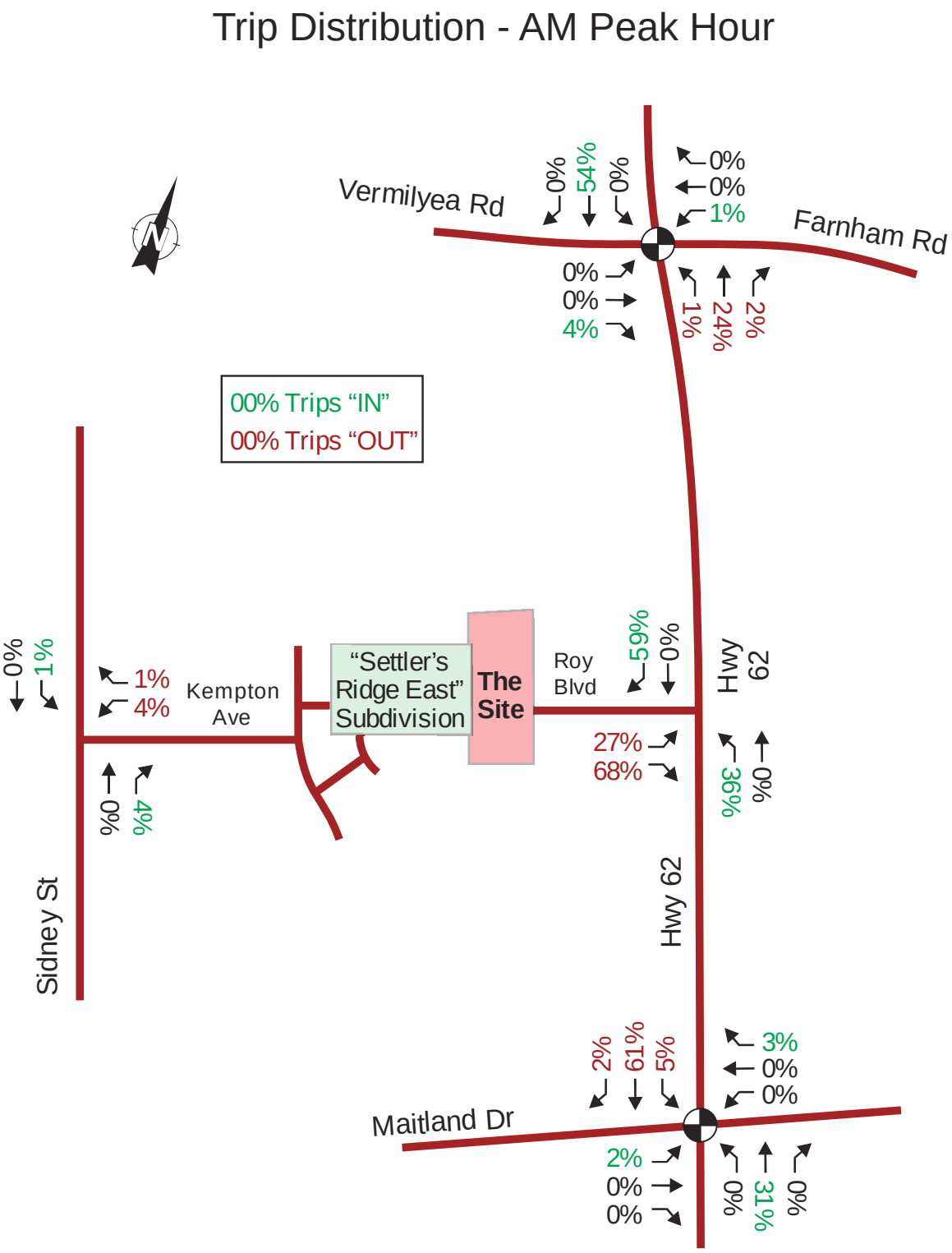



***Exhibit 10:*** *Trip Distribution, AM Peak Hour.*

# Trip Distribution - PM Peak Hour

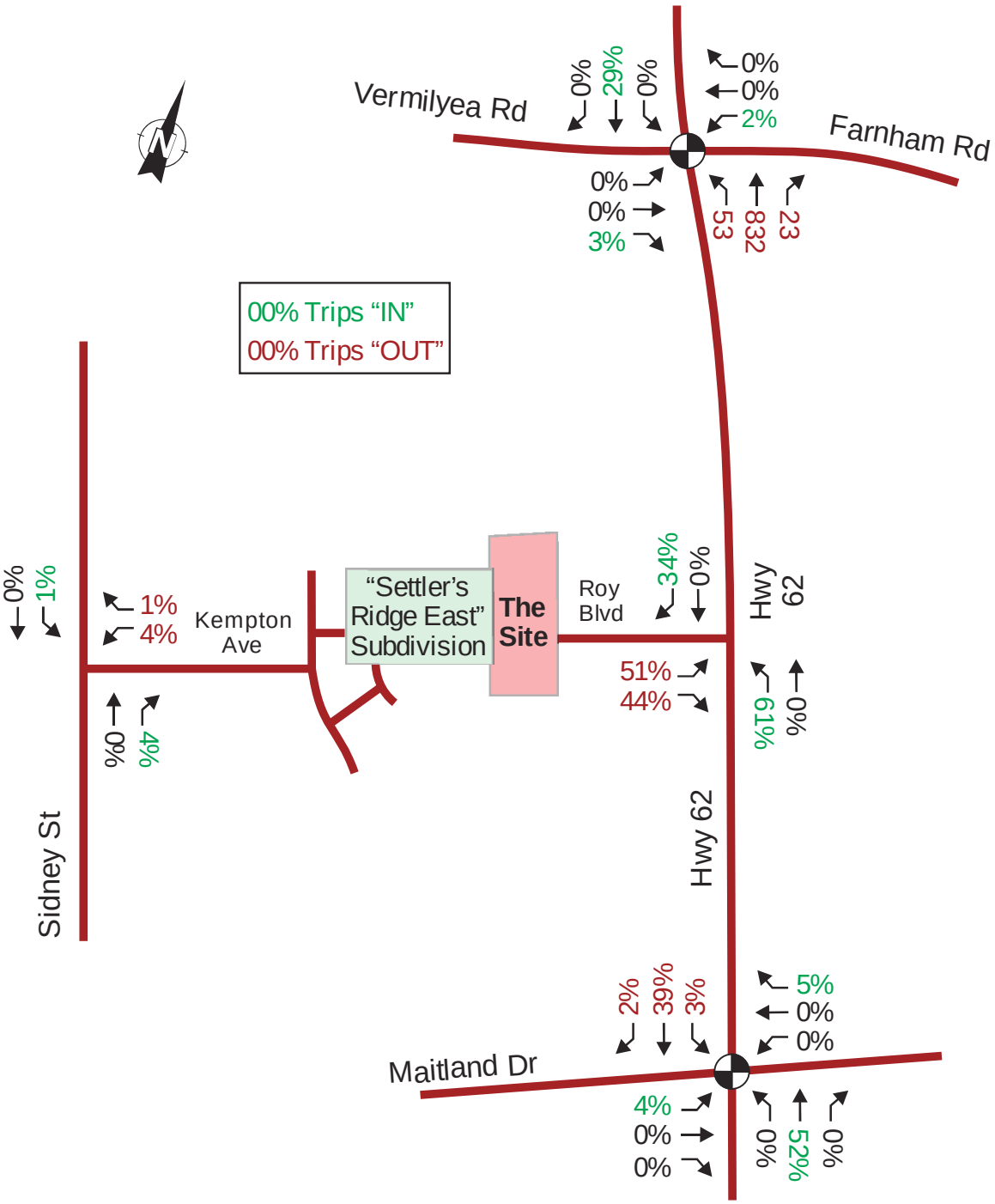



***Exhibit 11:*** *Trip Distribution, PM Peak Hour.*

# New Trips Generated, AM Peak Hour, 2027

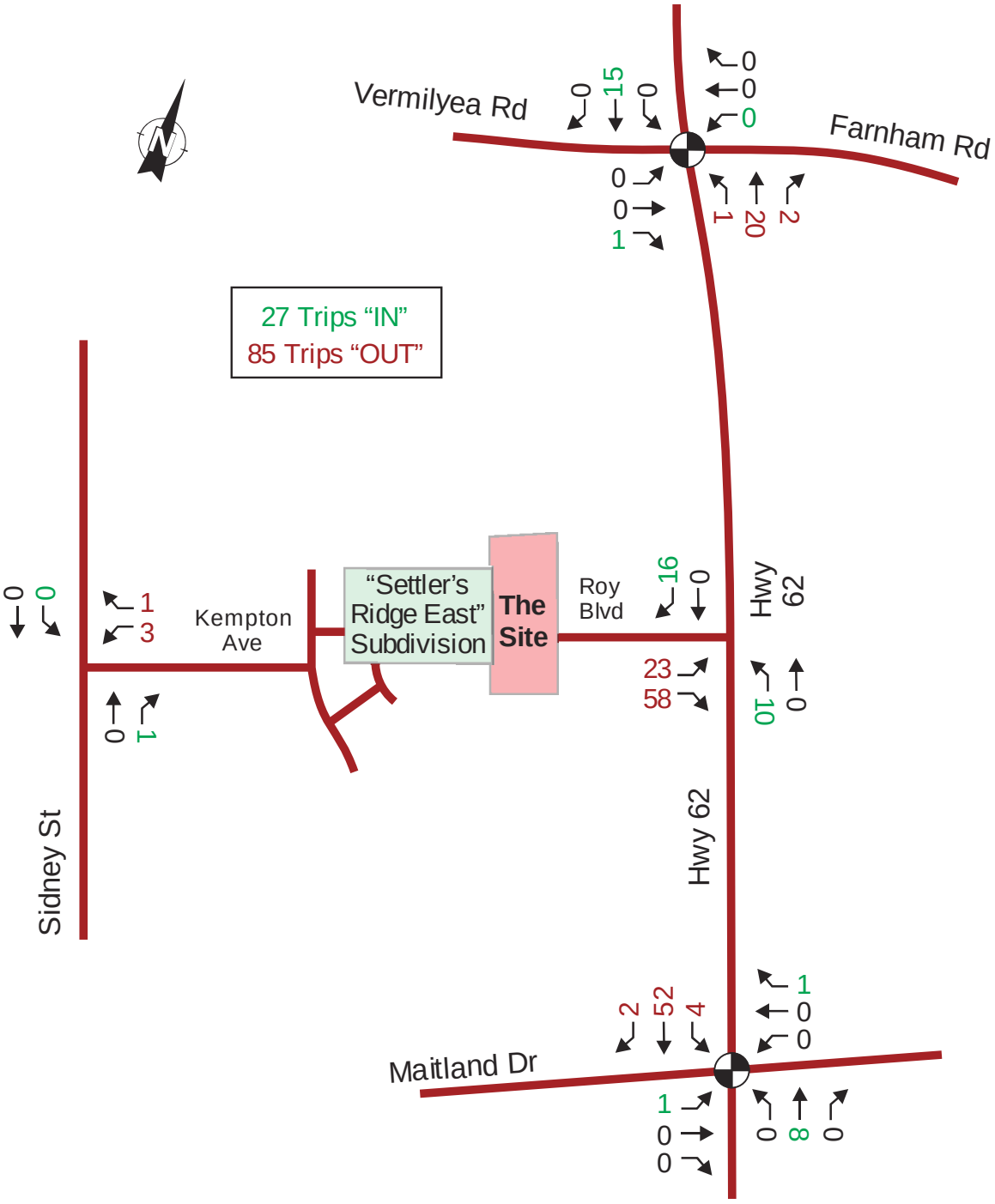



***Exhibit 12:*** *New Trips Generated, AM Peak Hour, 2027.*

# New Trips Generated, PM Peak Hour, 2027

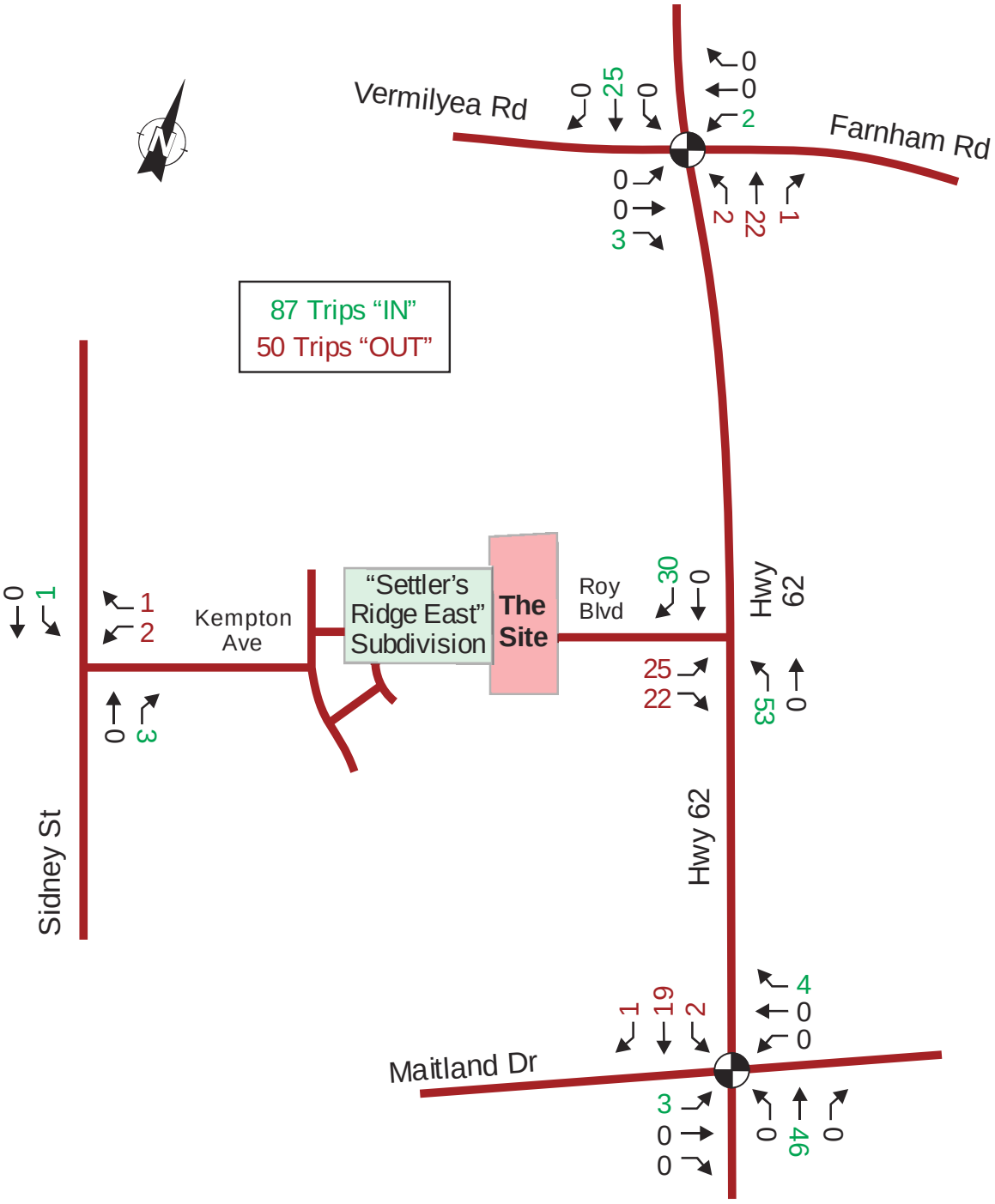



***Exhibit 13:*** *New Trips Generated, PM Peak Hour, 2027.*

# 5 Future Traffic Volumes and Operations

## 5.1 Future Total Traffic Volumes

The future total traffic volumes are obtained by adding the background traffic volumes to the total new traffic volumes generated by the proposed development.

The total traffic volumes for the horizon years 2027 and 2032 are shown in ***Exhibits 14 to 17***.

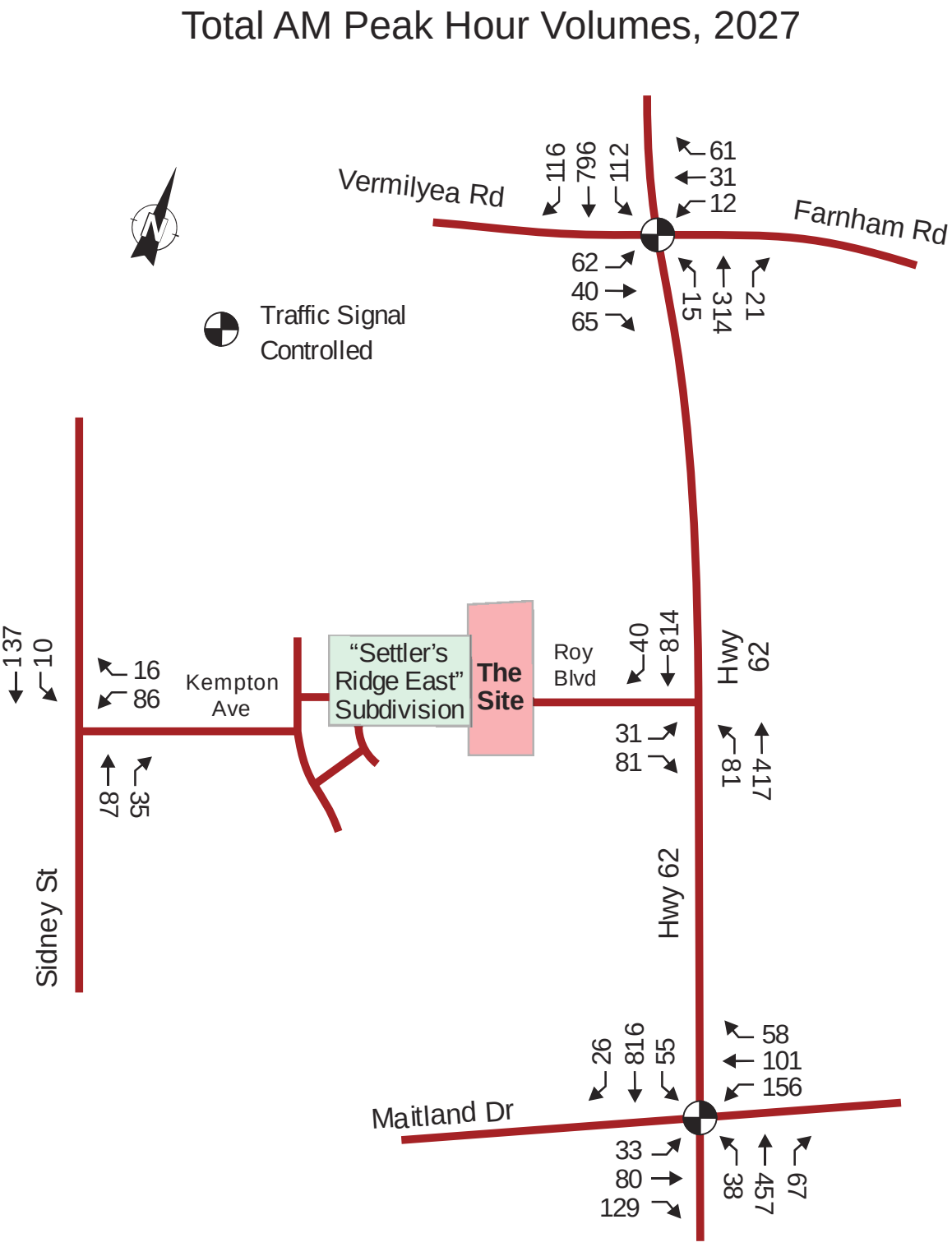



***Exhibit 14:*** *Total AM Peak Hour Volumes, 2027.*

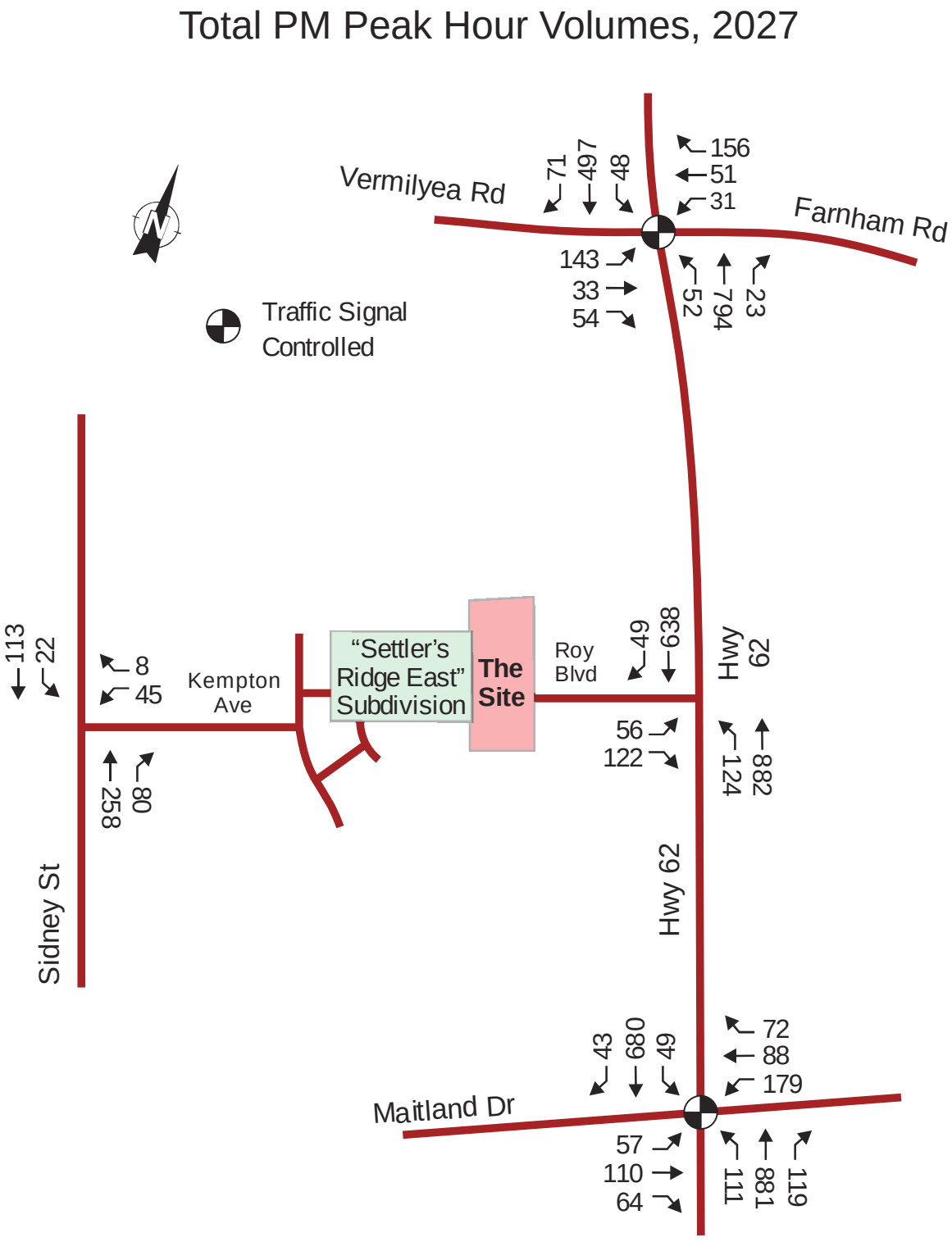



***Exhibit 15:*** *Total PM Peak Hour Volumes, 2027.*

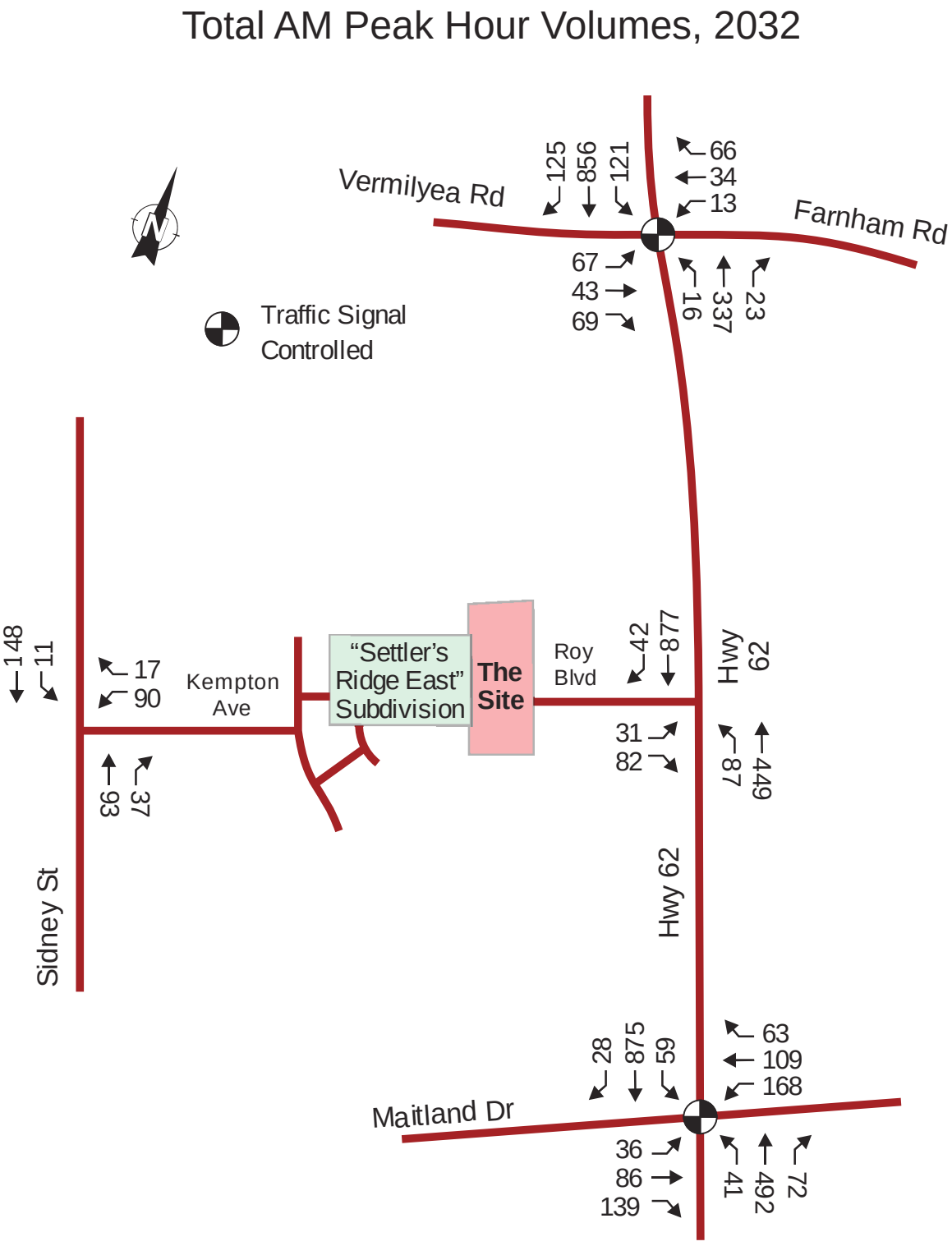



***Exhibit 16:*** *Total AM Peak Hour Volumes, 2032.*

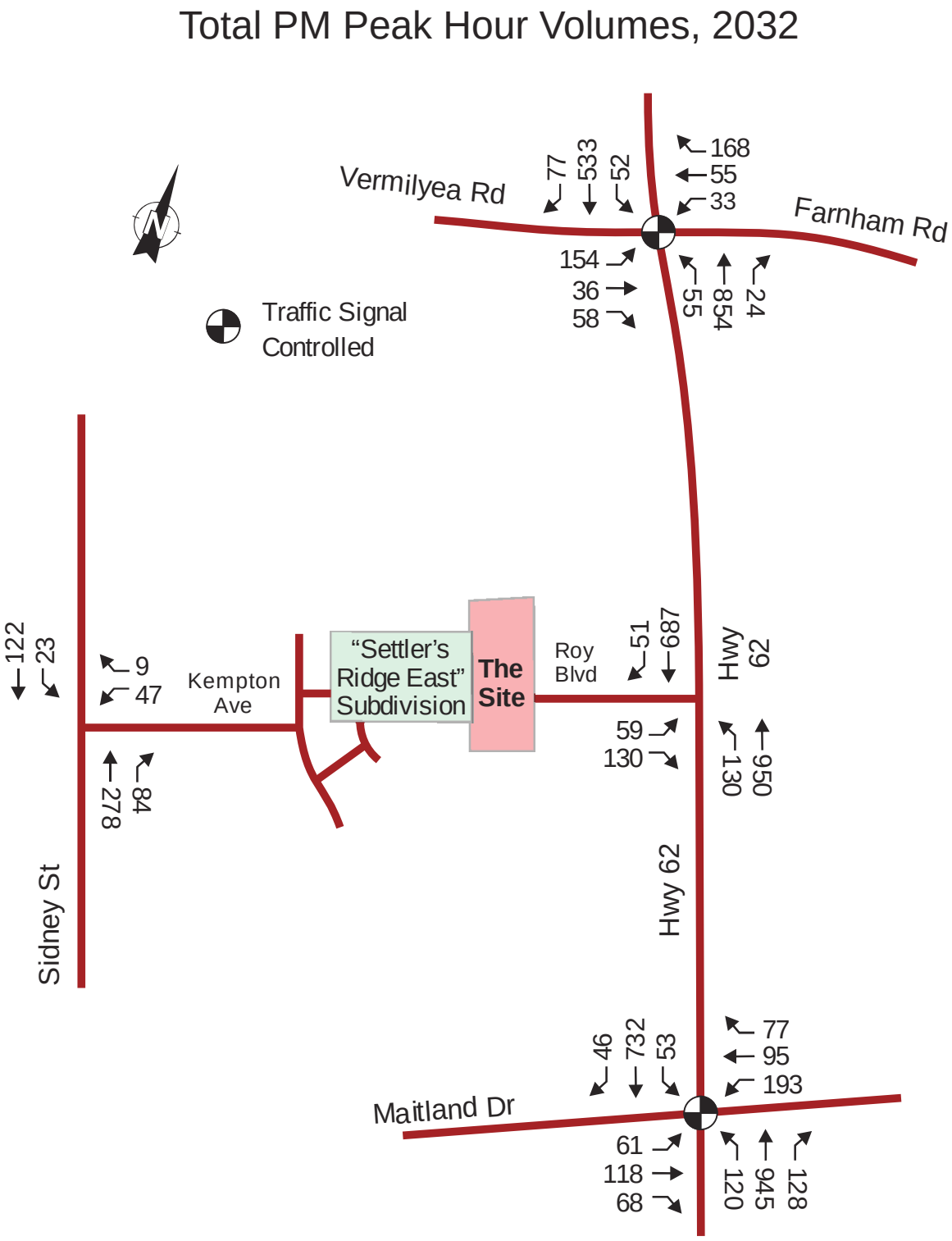



***Exhibit 17:*** *Total AM Peak Hour Volumes, 2032.*

## 5.2 Future Total Traffic Operations

"General Guidelines for the Preparation of Traffic Impact Studies – Feb 2021," an MTO publication, indicates that at signalized intersections, movements with a v/c ratio greater than 0.85 are deemed to be "critical" in terms of operations and shall be evaluated for possible improvements.

***Tables 7 and 8*** show a summary of the capacity analysis results including the total volumes (background traffic + new trips) for the horizon years 2027 and 2032.

The results show that, including the proposed development, the delays and LOS for all movements remain basically the same as the background scenarios. The most critical movements are expected to be the westbound-left and southbound-thru movements at Highway 62 / Maitland Dr, both showing LOS "D" by 2032 regardless of the proposed development.

Also, the v/c ratio for all movements will remain well below 0.85 throughout the study years.

| | | Intersection Capacity, Total Volumes, 2027 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | V/C | Delay (s) | $Q_{95}$ (m) | LOS | V/C | Delay (s) | $Q_{95}$ (m) | LOS |
| Highway 62 / Farnham Rd / Vermilyea Rd / (signalized) | EB-L | 0.16 | 26.4 | 21.4 | C | 0.33 | 29.3 | 44.0 | C |
| | EB-T | 0.07 | 24.9 | 14.8 | C | 0.06 | 24.6 | 12.8 | C |
| | EB-R | 0.12 | 3.5 | 6.5 | A | 0.10 | 2.2 | 3.9 | A |
| | WB-L | 0.03 | 24.5 | 6.4 | C | 0.08 | 25.2 | 12.6 | C |
| | WB-T | 0.06 | 24.6 | 12.3 | C | 0.08 | 25.0 | 17.7 | C |
| | WB-R | 0.12 | 2.9 | 5.4 | A | 0.26 | 5.0 | 14.7 | A |
| | NB-L | 0.06 | 6.8 | 2.2 | A | 0.13 | 5.7 | 3.6 | A |
| | NB-T | 0.28 | 11.7 | 13.3 | B | 0.63 | 12.7 | 24.5 | B |
| | NB-R | 0.04 | 0.1 | 0.0 | A | 0.04 | 0.1 | 0.0 | A |
| | SB-L | 0.23 | 13.6 | 22.3 | B | 0.17 | 13.2 | 11.3 | B |
| | SB-T | 0.64 | 29.9 | 104.3 | C | 0.41 | 25.6 | 61.2 | C |
| | SB-R | 0.19 | 4.6 | 12.0 | A | 0.13 | 3.9 | 7.5 | A |
| | Overall | 0.64 | 20.5 | - | C | 0.63 | 16.4 | - | B |
| Highway 62 / Roy Blvd (stop control) | EB-LR | 0.29 | 16.9 | 9.4 | C | 0.42 | 18.3 | 16.4 | C |
| | NB-L | 0.12 | 10.6 | 3.3 | B | 0.16 | 10.0 | 4.5 | A |
| | NB-T | 0.13 | 0.0 | 0.0 | A | 0.28 | 0.0 | 0.0 | A |
| | SB-T | 0.35 | 0.0 | 0.0 | A | 0.27 | 0.0 | 0.0 | A |
| | SB-R | 0.20 | 0.0 | 0.0 | A | 0.17 | 0.0 | 0.0 | A |
| Highway 62 / Maitland Dr (signalized) | EB-L | 0.09 | 25.2 | 13.1 | C | 0.15 | 26.2 | 19.9 | C |
| | EB-TR | 0.36 | 19.0 | 44.9 | D | 0.30 | 23.7 | 44.9 | C |
| | WB-L | 0.48 | 34.0 | 52.3 | C | 0.51 | 34.1 | 58.3 | C |
| | WB-TR | 0.29 | 23.2 | 41.1 | C | 0.29 | 21.3 | 39.0 | C |
| | NB-L | 0.13 | 12.8 | 9.4 | B | 0.34 | 15.0 | 22.4 | B |
| | NB-T | 0.35 | 22.5 | 55.6 | C | 0.62 | 27.0 | 115.2 | C |
| | NB-R | 0.11 | 3.5 | 6.8 | A | 0.18 | 7.0 | 16.1 | A |
| | SB-L | 0.14 | 22.0 | 20.3 | C | 0.22 | 22.6 | 19.5 | C |
| | SB-T | 0.55 | 41.5 | 131.4 | D | 0.53 | 41.2 | 106.1 | D |
| | SB-R | 0.04 | 8.3 | 2.5 | A | 0.07 | 11.6 | 9.6 | B |
| | Overall | 0.55 | 29.8 | - | C | 0.62 | 28.9 | - | C |
| Sidney St / Kempton Ave (stop control) | WB-LR | 0.15 | 10.8 | 4.2 | B | 0.11 | 12.3 | 2.8 | B |
| | NB-TR | 0.08 | 0.0 | 0.0 | A | 0.22 | 0.0 | 0.0 | A |
| | SB-TL | 0.01 | 0.6 | 0.2 | A | 0.02 | 1.5 | 0.5 | A |

***Table 7:*** *Intersection Capacity, Total Volumes, 2027.*

| | | Intersection Capacity, Total Volumes, 2032 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | | | PM Peak Hour | | | |
| | | V/C | Delay (s) | $Q_{95}$ (m) | LOS | V/C | Delay (s) | $Q_{95}$ (m) | LOS |
| Highway 62 / Farnham Rd / Vermilyea Rd / (signalized) | EB-L | 0.17 | 26.7 | 22.9 | C | 0.36 | 29.8 | 47.4 | C |
| | EB-T | 0.08 | 25.0 | 15.8 | C | 0.06 | 24.7 | 13.6 | C |
| | EB-R | 0.13 | 4.1 | 7.3 | A | 0.11 | 2.6 | 4.8 | A |
| | WB-L | 0.04 | 24.5 | 6.8 | C | 0.09 | 25.3 | 13.1 | C |
| | WB-T | 0.06 | 24.7 | 13.1 | C | 0.09 | 25.1 | 18.8 | C |
| | WB-R | 0.13 | 3.7 | 6.8 | A | 0.28 | 4.9 | 15.1 | A |
| | NB-L | 0.06 | 6.8 | 2.2 | A | 0.14 | 5.7 | 3.6 | A |
| | NB-T | 0.30 | 11.8 | 14.1 | B | 0.68 | 13.1 | 26.2 | B |
| | NB-R | 0.04 | 0.1 | 0.0 | A | 0.04 | 0.1 | 0.0 | A |
| | SB-L | 0.25 | 13.9 | 24.3 | B | 0.20 | 13.7 | 12.1 | B |
| | SB-T | 0.68 | 31.2 | 114.1 | C | 0.44 | 26.1 | 66.0 | C |
| | SB-R | 0.21 | 5.5 | 13.8 | A | 0.14 | 4.6 | 8.9 | A |
| | Overall | 0.68 | 21.3 | - | C | 0.68 | 16.8 | - | B |
| Highway 62 / Roy Blvd (stop control) | EB-LR | 0.31 | 18.2 | 10.5 | C | 0.47 | 20.5 | 19.7 | C |
| | NB-L | 0.14 | 11.1 | 3.9 | B | 0.17 | 10.3 | 5.0 | B |
| | NB-T | 0.14 | 0.0 | 0.0 | A | 0.30 | 0.0 | 0.0 | A |
| | SB-T | 0.37 | 0.0 | 0.0 | A | 0.29 | 0.0 | 0.0 | A |
| | SB-R | 0.21 | 0.0 | 0.0 | A | 0.18 | 0.0 | 0.0 | A |
| Highway 62 / Maitland Dr (signalized) | EB-L | 0.10 | 25.4 | 14.0 | C | 0.17 | 26.5 | 21.2 | C |
| | EB-TR | 0.39 | 19.9 | 49.2 | B | 0.32 | 24.2 | 47.9 | C |
| | WB-L | 0.54 | 36.4 | 57.3 | D | 0.56 | 36.1 | 63.8 | D |
| | WB-TR | 0.31 | 23.9 | 44.5 | C | 0.31 | 22.0 | 42.3 | C |
| | NB-L | 0.16 | 13.2 | 10.0 | B | 0.39 | 15.9 | 23.7 | B |
| | NB-T | 0.38 | 22.9 | 60.4 | C | 0.66 | 28.2 | 126.6 | C |
| | NB-R | 0.11 | 4.0 | 7.8 | A | 0.19 | 7.7 | 18.0 | A |
| | SB-L | 0.15 | 21.6 | 20.5 | C | 0.26 | 23.0 | 20.8 | C |
| | SB-T | 0.62 | 44.5 | 140.4 | D | 0.57 | 42.1 | 113.8 | D |
| | SB-R | 0.04 | 8.5 | 2.7 | A | 0.07 | 12.0 | 10.4 | B |
| | Overall | 0.62 | 31.5 | - | C | 0.66 | 30.0 | - | C |
| Sidney St / Kempton Ave (stop control) | WB-LR | 0.16 | 11.0 | 4.6 | B | 0.12 | 12.7 | 3.1 | B |
| | NB-TR | 0.08 | 0.0 | 0.0 | A | 0.23 | 0.0 | 0.0 | A |
| | SB-TL | 0.01 | 0.6 | 0.2 | A | 0.02 | 1.4 | 0.5 | A |

***Table 8:*** *Intersection Capacity, Total Volumes, 2032.*

# 6 Auxiliary Lane Review

The need for auxiliary lanes (right turn taper and left turn lane) on Hwy 62 and Sidney St was reviewed for the intersections with Roy Blvd and Kempton Ave, respectively.

The Ministry of Transportation Ontario Design Supplement for the TAC Manual was consulted to evaluate the need for left turn lanes. The methodology for two-lane highways is based on the volumes advancing with the left turns, the proportion of left turns, and the volumes opposing the left turns.

The existing two-way left turn lane serves left-turning vehicles entering Roy Blvd from Hwy 62, so a review is not needed for this movement. For left-turning vehicles entering Kempton Ave from Sidney St, the results show that a left turn lane is not warranted (see *Appendix J* for further details).

According to the TAC Manual, a right turn volume warrant of 60 vehicles per hour is often used as indicator that a more detailed capacity analysis of the intersection and geometric options for accommodating right turning traffic is required.

The right-turning volumes entering Roy Blvd from Hwy 62 are not expected to reach the criteria, with 51 veh/h during the 2032 PM peak hour for the total traffic volumes scenario.

It is observed that the right-turning volumes from Sidney St into Kempton Ave are expected to reach 77 veh/h during the 2027 PM peak hour for the background traffic volumes scenario. By reviewing the capacity of the shared northbound thru/right movement, it is noticed that although the right turn volumes are slightly over 60 vehicles per hour, the capacity is at the best thus it is determined that a right turn taper is not currently warranted.

# 7 Conclusions/Recommendations

As discussed throughout the report, a residential subdivision with a small commercial area is proposed adjacent to Highway 62 in Northern Belleville, bounded between a recent subdivision on the west and an established commercial area on the east.

Traffic movement counts were provided by MTO for the intersections of Hwy 62 at Farnham Rd, Roy Blvd, and Maitland Dr. A video-based count was performed by Asurza Engineers to gain data for Sidney St / Kempton Ave.

For the existing conditions (2024), results show that the intersections are currently operating with acceptable control delays during peak hours. Almost all movements have a LOS “C” or better, and all movements are showing v/c ratios well below 0.85.

In order to establish base conditions for the comparison and evaluation of future scenarios, a 1.5% growth rate was used to project the traffic volumes throughout the study years.

The results show that, without the proposed development, delays will moderately increase over time as expected. Throughout the study years, all movements will continue to operate with acceptable levels of service.

The estimation of trips generated by the proposed development were derived from the Trip Generation Manual, 11$^{th}$ Edition, published by ITE. The proposed development is estimated to generate 112 and 137 new trips during the AM and PM peak hours, respectively.

The future total traffic volumes are obtained by adding the background traffic volumes to the total new traffic volumes generated by the proposed development.

The results show that, including the proposed development, the delays and LOS for all movements remain basically the same as the background scenario. The most critical movements are expected to be the westbound-left and southbound-thru movements at Highway 62 / Maitland Dr, which both show LOS “D” by 2032 regardless of the proposed development. Also, the v/c ratio for all movements will remain well below 0.85 throughout the study years.

It was also determined that auxiliary lanes (right turn taper or left turn lanes) are not currently warranted at the unsignalized intersections Hwy 62/Roy Blvd. and Sidney St/Kempton Ave. Results on the turning movement operations show that there is enough capacity to manage additional traffic volumes.

Therefore, from the traffic point of view, it is concluded that the proposed residential development can occur without any improvements to the existing geometric and traffic control conditions.

# Appendix A

Preliminary Concept Plan and

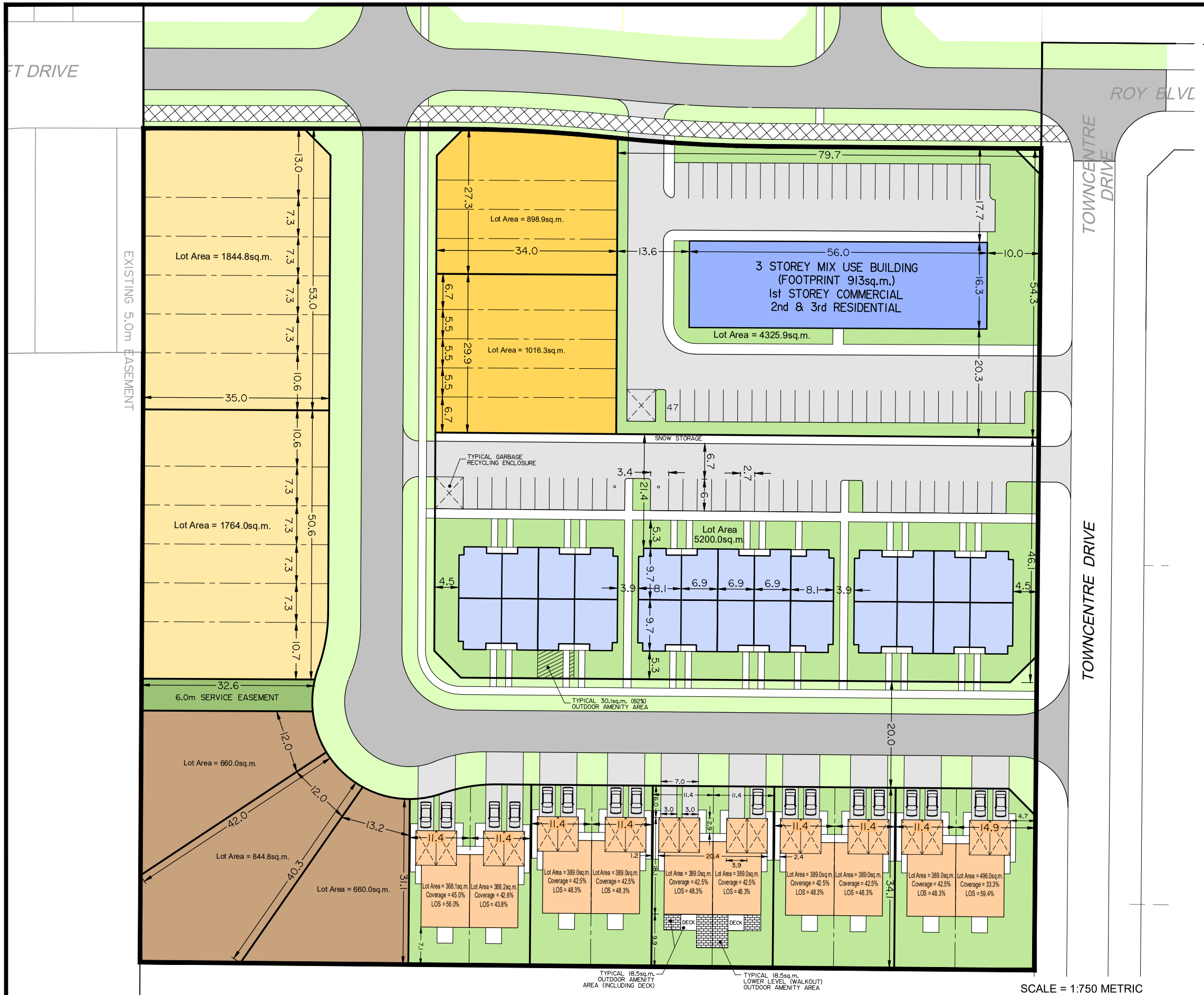
Draft Plan of Subdivision

# TOWNCENTRE PLACE - CONCEPT

PART 5, REGISTERED PLAN 21R-25429,
PART OF PART 9,
REGISTERED PLAN 21R-11926
PART OF LOT 3, CONCESSION 3

(FORMERLY THURLOW TOWNSHIP)
CITY OF BELLEVILLE
COUNTY OF HASTINGS

| LAND USE | PROPOSED CONCEPT |
|---|---|
| 7.3m (MIN.) BUNGALOW TOWNHOUSE | 12 |
| 5.5m (MIN.) 2 STOREY TOWNHOUSE | 9 |
| 12.0m (MIN.) TWO-UNIT DWELLING | 6 |
| 11.4m (MIN.) SEMI-DETACHED DWELLING WITH A.D.U. | 20 |
| 6.9m (MIN.) BACK-TO-BACK TOWNHOUSES | 26 |
| 3 STOREY MIX USE BUILDING | 20 |
| 6.0m SERVICE EASEMENT | |
| 20.0m ROAD MUNICIPAL ROAD ALLOWANCE | |
| SITE TOTAL | 93 |




SCALE = 1:750 METRIC

DATE: MARCH 6, 2024

0 5 10 20 30 40 50 75


PLANNING CONSULTANT INC
211 Dundas Street East, Suite 202,
Belleville, Ontario

CONCESSION 3

LOT 2

LOT 3

EXISTING TRANS--CANADA PIPELINE EASEMENT

EXISTING INTERPROVINCIAL PIPELINE EASEMENT

N 68°20'10" E 182.995

40 (693.1m²) 46.6 | 41 (504.3m²) 31.9 32.5 | 42 (509.7m²) 35.0 | 43 (579.2m²) 36.0 | 44 (466.4m²) 36.8 | 45 (510.5m²) 37.6 | BLOCK 63 PARKLAND (751.9m²) | 46 (1006.0m²) 37.1 | 47 (1027.2m²) 57.6 | 48 (597.7m²) 38.1 | 49 (554.8m²) 35.6 | 50 (539.0m²) 40.1 | BLOCK 51 (1389.0m²) 74.380 | BLOCK 52 (1403.7m²) | BLOCK 53 (1418.3m²) 65.256 | BLOCK 54 (1582.3m²) 36.9 | BLOCK 55 (1581.3m²) 81.209 | BLOCK 56 (1592.7m²) 35.8 | BLOCK 57 (1357.7m²) 39.0 | BLOCK 58 (1277.2m²) 36.7 | BLOCK 59 (1340.2m²) 38.2 | BLOCK 60 (1312.6m²) | BLOCK 61 (1125.4m²) 31.6 | BLOCK 62 (1360.7m²) 36.7

39 (818.3m²) 34.8 12.3 12.3

5.0m DRAINAGE EASEMENT

R=18.3 | R=30.5 | 16.3 | 12.8 | 13.7 | R=30.5 | R=18.3 | 18.6 | 13.7 | 12.8

1.8 | 3.2 | 5.0 (TYPICAL DRAINAGE EASEMENT)

20.0

BLOCK 67 0.3m RESERVE

BLOCK 68 0.3m RESERVE

12.8 | 12.8 | 12.8 | 15.6 | 15.6

20 (517.9m²) 34.0 | 19 (435.2m²) 34.0 | 18 (435.2m²) 34.0 | 17 (435.2m²) 34.0 | 16 (517.9m²) 34.0

21 (424.6m²) 12.2 | 22 (424.6m²) 12.2 | 23 (424.6m²) 12.2 | 24 (424.6m²) 12.2 | 25 (476.2m²) 13.7 | 26 (424.6m²) 12.2 | 27 (424.6m²) 12.2 | 28 (424.6m²) 12.2 | 29 (424.6m²) 12.2 | 30 (525.5m²) 15.0

15 (490.7m²) 14.1 | 14 (476.8m²) 13.7 | 13 (476.8m²) 13.7 | 12 (424.6m²) 12.2 | 11 (424.6m²) 12.2 | 10 (476.8m²) 13.7 | 9 (476.8m²) 13.7 | 8 (424.6m²) 12.2 | 7 (515.0m²) 14.8 | 6 (518.5m²) 14.9 | 5 (476.8m²) 13.7 | 4 (424.6m²) 12.2 | 3 (424.6m²) 12.2 | 2 (476.8m²) 13.7 | 1 (599.4m²) 18.0

all lots 34.8

5.0m DRAINAGE EASEMENT

PART 5, 21R--25429

PART 1, 21R--26264

STREET 'A'

STREET 'A'

N 18°19'40" W 95.339

N 18°00'15" W 130.725

N 18°00'15" W 74.000

N 18°00'15" W 104.350

N 18°49'15" W 74.380

N 18°49'15" W 65.256

N 18°49'15" W 81.209

N 17°53'30" E

N 71°21'05" E 2.134

N 71°40'40" E 2.586

N 62°53'30" W 7.071

N 72°11'47" E 25.206

N 71°52'40" E 20.000

N18°23'00"W

N 72°06'50" E 168.880

168.88

20.0

5.0m DRAINAGE EASEMENT

PART 19, PLAN 21R-11926

PART 1, PLAN 21R-20382

PART 1, 21R--26147

PARTS 1 & 2, 21R--26147

NOTE: BLOCKS 54, 55 & 56 INCLUDE AND UNOPENED MUNICIPAL ROAD ALLOWANCE. THE APPLICANT HAS APPLIED TO THE CITY OF BELLEVILLE TO CLOSE AND CONVEY THESE LANDS FOR THE SUBDIVISION.

BLOCK 64 0.3m RESERVE

BLOCK 65 0.3m RESERVE

BLOCK 66 0.3m RESERVE

RAYCROFT DRIVE (EXTENSION)

RAYCROFT DRIVE

ROY BLVD.

TOWNCENTRE DRIVE

SETTLER'S RIDGE SUBDIVISION EAST

FUTURE RESIDENTIAL

EXISTING RESIDENTIAL

EXISTING COMMERCIAL

EXISTING COMMERCIAL

FUTURE DEVELOPMENT

# DRAFT PLAN OF SUBDIVISION

## SETTLERS RIDGE EAST

PART 5, REGISTERED PLAN 21R-25429,
PART 1, REGISTERED PLAN 21R-26264,
PART 9, REGISTERED PLAN 21R-11926,
PART 1, REGISTERED PLAN 21R-20382
PARTS 1&2, REGISTERED PLAN 21R-26147
PART OF LOT 3, CONCESSION 3

GEOGRAPHIC TOWNSHIP OF THURLOW,
NOW IN THE
**CITY OF BELLEVILLE,**
COUNTY OF HASTINGS

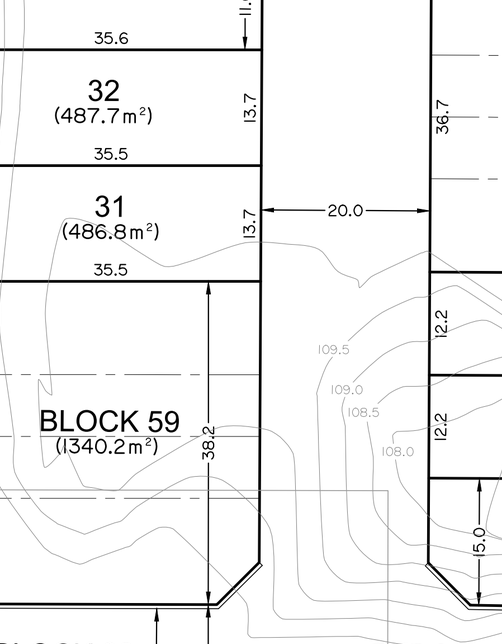
SCALE 1:500

0 5 10 20 30 40 50m

| No. | REVISION | DATE | APPR'D |
|---|---|---|---|
| 1 | 1st SUBMISSION TO THE CITY OF BELLEVILLE | XX | R.F.A. |

DRAWN BY: LB | CHECKED BY: R.F.A. | DATE: 02/29/24

## KEY MAP




## LAND USE SCHEDULE

| LAND USE | AREA(m²) | AREA% | UNITS |
|---|---|---|---|
| LOTS 1, 2, 5, 6, 9, 10, 13-15, 31-34, 41-43 & 46 -13.7m (476.8m²) MIN. - SINGLE-DETACHED LOTS | 9530.3 | 16.4 | 18 |
| LOTS 3, 4, 7, 8, 11, 12, 16-30, 35-40, 44 & 47-50 -12.2m (424.6m²) MIN. - SINGLE-DETACHED LOTS | 15851.4 | 27.2 | 32 |
| BLOCKS 51-56 - 5.2m (209.4m²) MIN. - FREEHOLD 2 STOREY TOWNHOUSE UNITS | 8967.3 | 15.4 | 36 |
| BLOCKS 57-62 - 7.3m (254.6m²) MIN. - FREEHOLD BUNGALOW TOWNHOUSE UNITS | 7773.8 | 13.4 | 23 |
| BLOCK 63 - PARKLAND | 751.9 | 1.3 | |
| BLOCKS 64-68 - 0.3m RESERVES | 0.0 | 0.0 | |
| 20.0m MUNICIPAL ROAD ALLOWANCE - STREETS 'A' AND RAYCROFT DRIVE EXTENSION (LENGTH = 366.6m) | 15288.9 | 26.3 | |
| SITE TOTAL | 58163.6m² | 100.0% | 109 |

## METRIC NOTE:

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

## CONTOURS NOTE:

CONTOURS PREPARED USING DATA OBTAINED BY OTHERS. CONTOURS DRAWN AT INTERVALS OF 0.5m.

## ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17)OF THE PLANNING ACT.

(a) SEE SURVEYORS CERTIFICATE.
(b) AS SHOWN ON DRAFT PLAN.
(c) AS SHOWN ON DRAFT PLAN.
(d) SEE LAND USE SUMMARY
(e) SEE DRAFT PLAN
(f) AS SHOWN ON DRAFT PLAN.
(g) AS SHOWN ON DRAFT PLAN.
(h) MUNICIPAL WATER AND SANITARY SEWER
(i) SHALLOW LOAM OVER BEDROCK.
(j) AS SHOWN ON DRAFT PLAN.
(k) GARBAGE COLLECTION, FIRE PROTECTION, ROAD MAINTENANCE, SCHOOL BUSES, ETC.
(l) AS SHOWN ON DRAFT PLAN.

## PLAN COPYRIGHT



## SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN.

KEITH WATSON, ONTARIO LAND SURVEYOR. DATE

WATSON LAND SURVEYORS LTD.
218 CHURCH STREET, BELLEVILLE, ONTARIO
(613) 962-9521

FEBRUARY 29, 2024

JOB No. 691-DP

RFA PLANNING CONSULTANT INC
211 Dundas Street East, Suite 202,
Belleville, Ontario, K8N 1E2

# Appendix B

Traffic Data

Ontario

# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

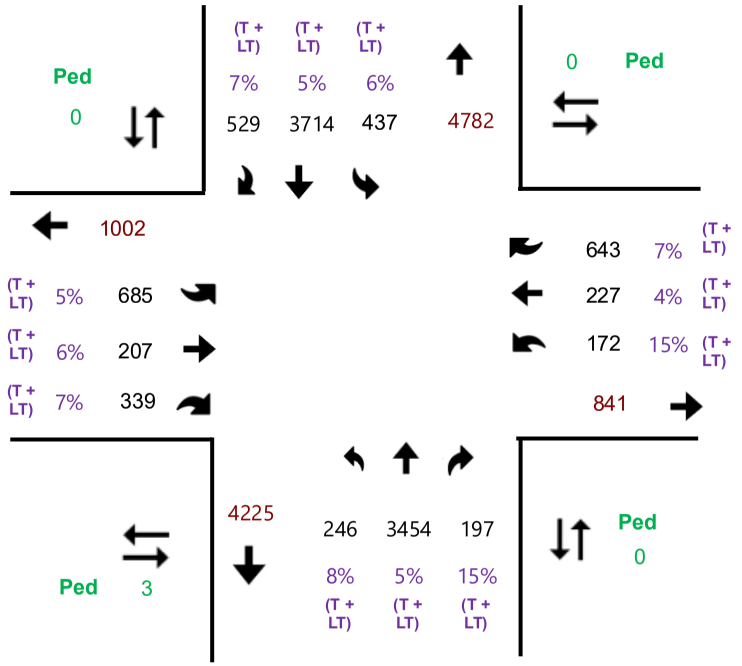
**Description:** HWY 62 @ FARNHAM RD_VERMILYEA RD

**Region** EAST **Hwy #:** HWY 62

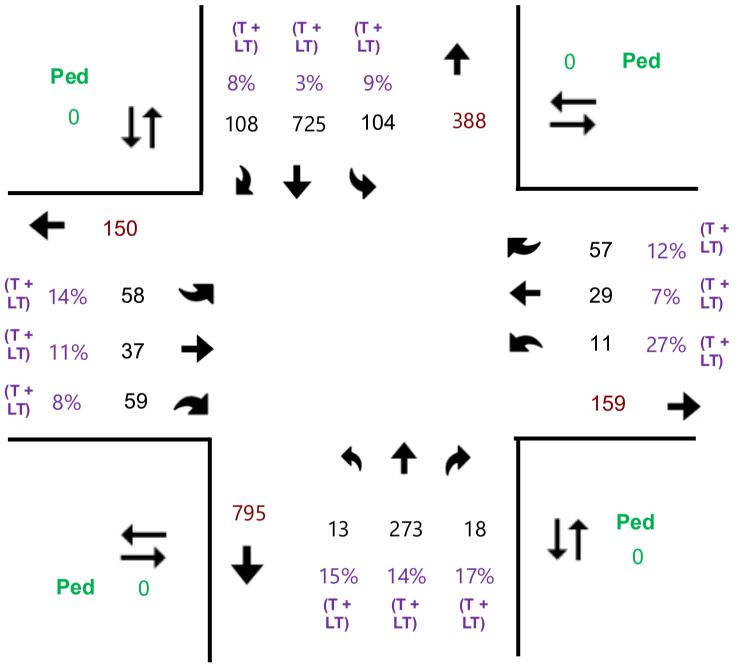
**LHRS_Offset:** 33690_0304 **Int. Type:** Cross

**Count Date:** Tuesday, 10 May, 2022

**Full Study** Tue, 10 May, 2022 07:00 AM - 06:00 PM




**AM Period** Tue, 10 May, 2022 07:15 AM - 08:15 AM

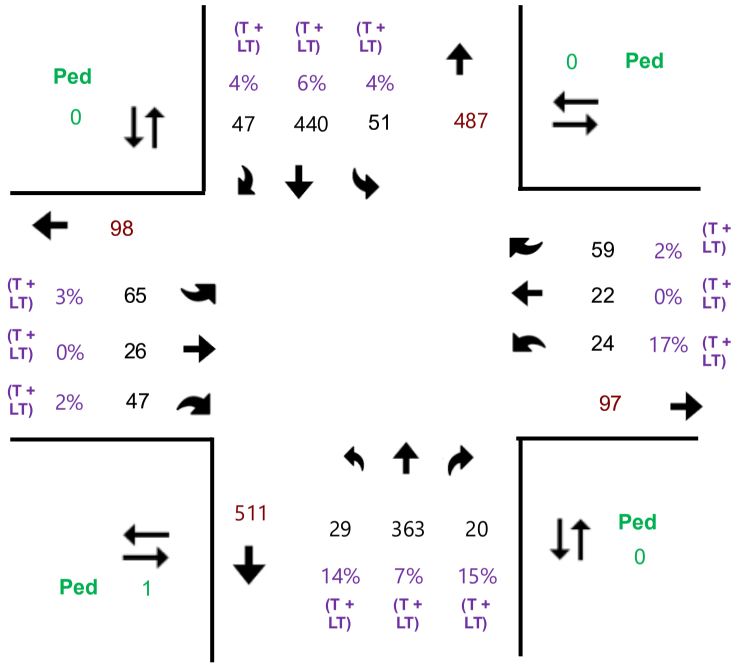


Ontario

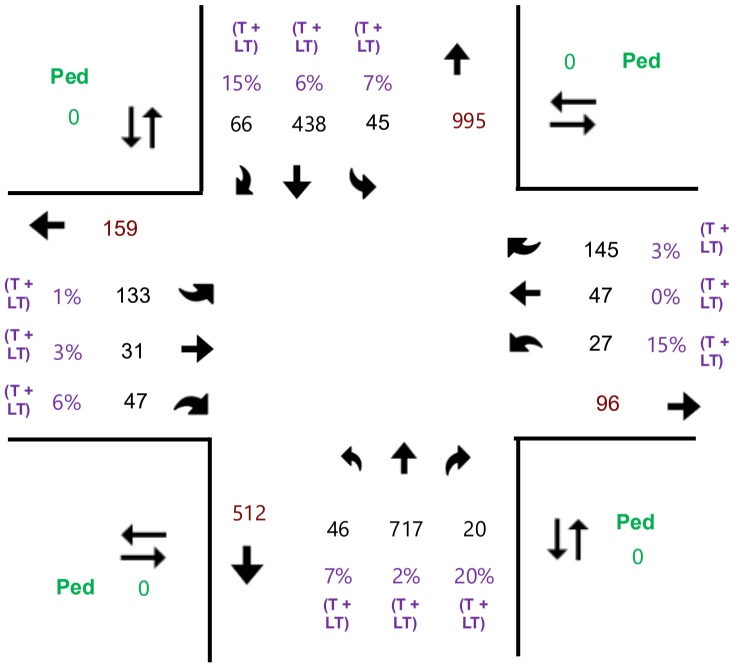
# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

**Description:** HWY 62 @ FARNHAM RD_VERMILYEA RD
**Region** EAST
**Hwy #:** HWY 62
**LHRS_Offset:** 33690_0304
**Int. Type:** Cross
**Count Date:** Tuesday, 10 May, 2022

**MD Period** Tue, 10 May, 2022 12:30 PM - 01:30 PM




**PM Period** Tue, 10 May, 2022 04:15 PM - 05:15 PM

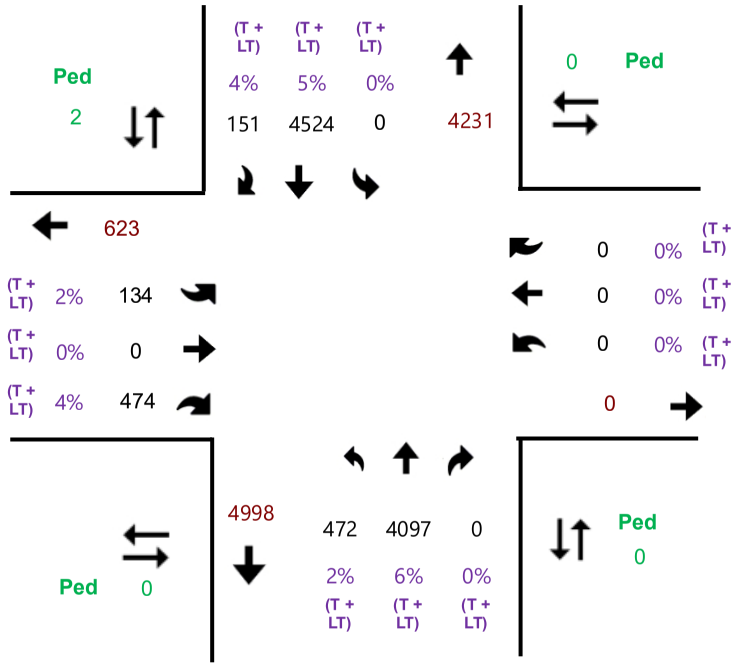


Ontario

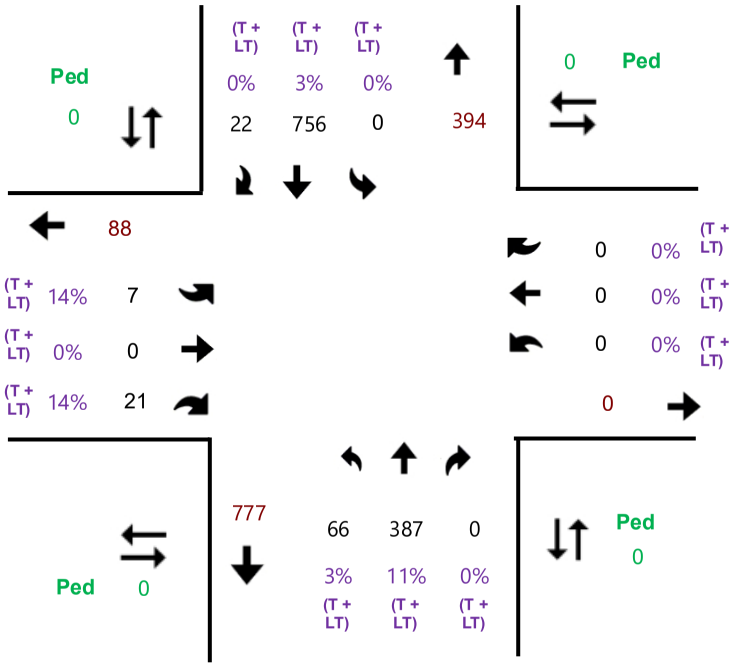
# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

**Description:** HWY 62 @ ROY BLVD
**Region** EAST
**Hwy #:** HWY 62
**LHRS_Offset:** 33690_0155
**Int. Type:** T-Intersection
**Count Date:** Tuesday, 10 May, 2022

**Full Study** Tue, 10 May, 2022 07:00 AM - 06:00 PM




**AM Period** Tue, 10 May, 2022 07:30 AM - 08:30 AM

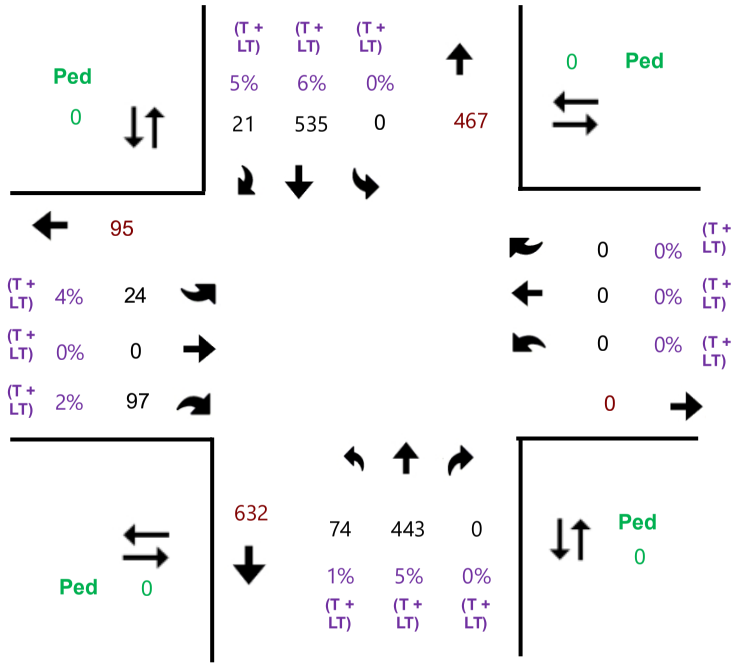


Ontario

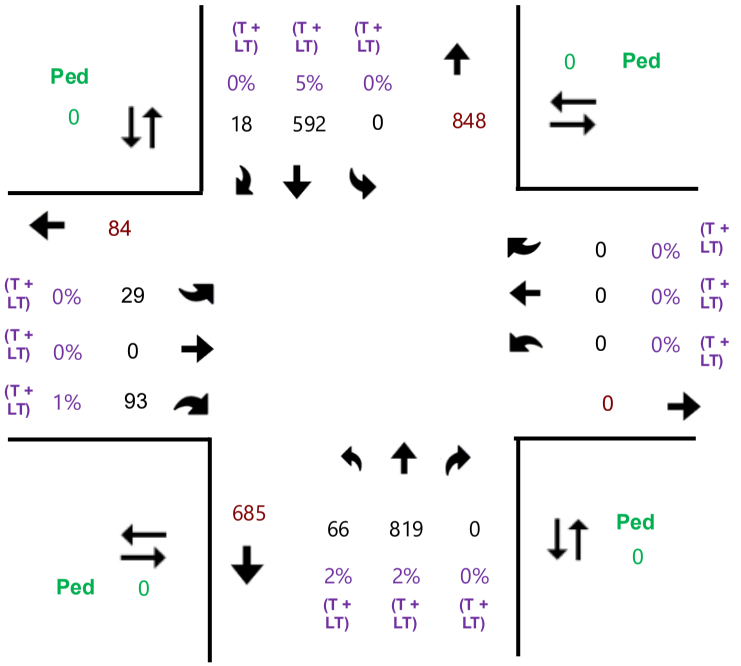
# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

**Description:** HWY 62 @ ROY BLVD
**Region** EAST
**Hwy #:** HWY 62
**LHRS_Offset:** 33690_0155
**Int. Type:** T-Intersection
**Count Date:** Tuesday, 10 May, 2022

**MD Period** Tue, 10 May, 2022 12:00 PM - 01:00 PM




**PM Period** Tue, 10 May, 2022 04:30 PM - 05:30 PM

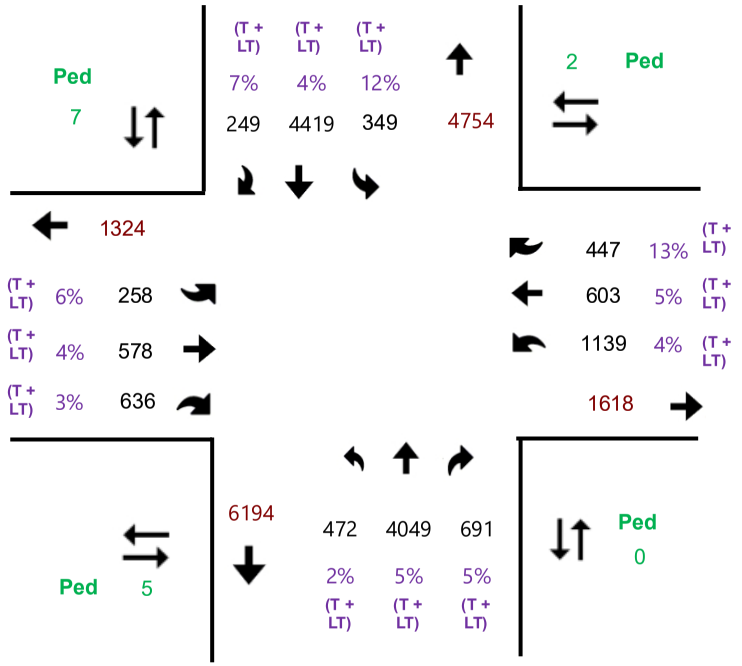


Ontario

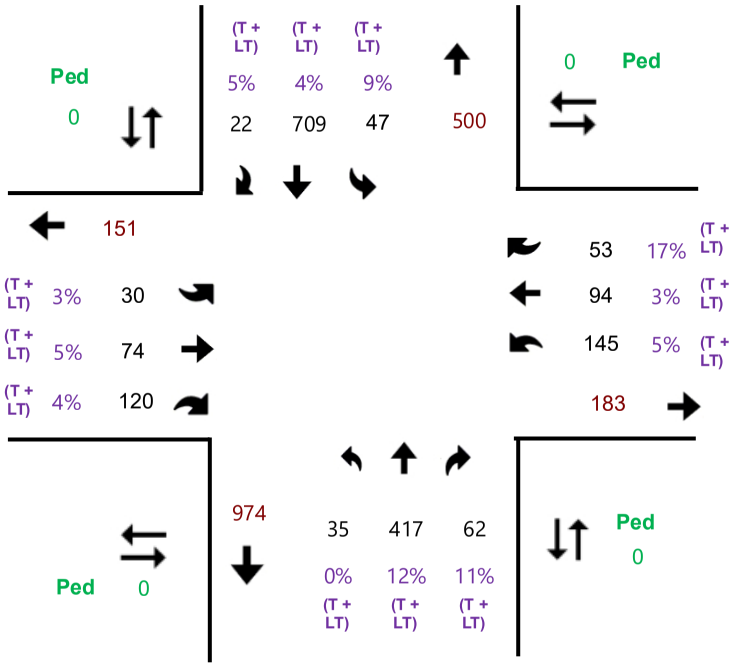
# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

**Description:** HWY 62 @ MAITLAND DR
**Region** EAST
**Hwy #:** HWY 62
**LHRS_Offset:** 33690_0104
**Int. Type:** Cross
**Count Date:** Tuesday, 10 May, 2022

**Full Study** Tue, 10 May, 2022 07:00 AM - 06:00 PM




**AM Period** Tue, 10 May, 2022 07:30 AM - 08:30 AM

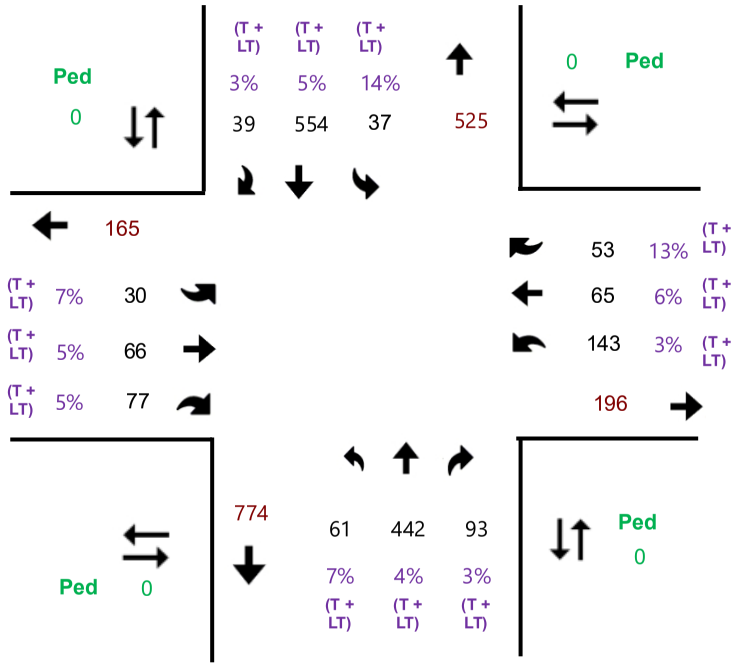


Ontario

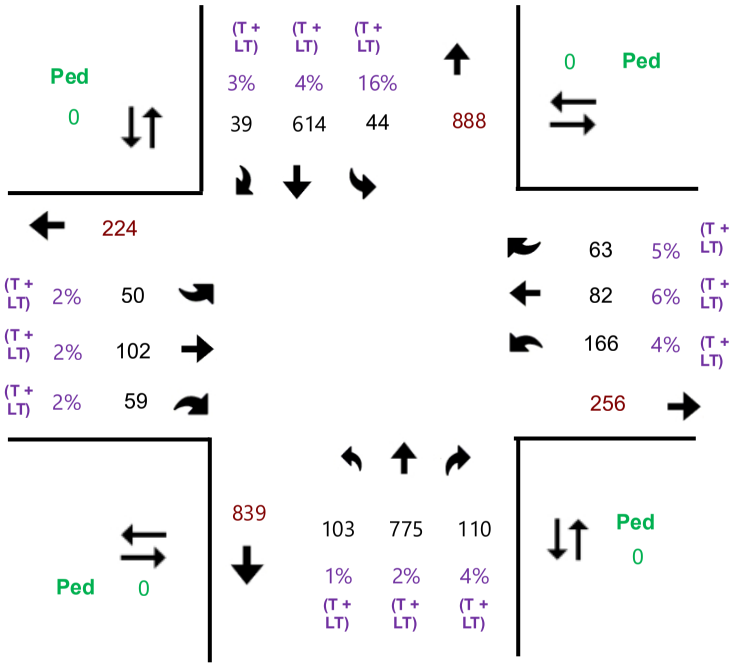
# TES - Traffic Engineering System
## Turning Movement Total Count and Peak Summary Report

**Description:** HWY 62 @ MAITLAND DR
**Region** EAST
**Hwy #:** HWY 62
**LHRS_Offset:** 33690_0104
**Int. Type:** Cross
**Count Date:** Tuesday, 10 May, 2022

**MD Period** Tue, 10 May, 2022 12:00 PM - 01:00 PM




**PM Period** Tue, 10 May, 2022 04:15 PM - 05:15 PM



## Turning Movement Count (Morning)

**Intersection Location:** Sidney St / Kempton Ave
**City:** Belleville
**N/S Street:** Sidney St
**E/W Street:** Kempton Ave
**Period Time:** 6:30 am to 9:30 am
**Date:** 18-Jan-24
**Controled:** Stop
**Project:** 2317-23

| Movement / Time Period | EBL | | EBT | | EBR | | NBL | | NBT | | NBR | | WBL | | WBT | | WBR | | SBL | | SBT | | SBR | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks |
| 6:30 - 6:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 16 | 0 | 0 | 0 |
| 6:45 - 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 |
| 7:00 - 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 21 | 0 | 0 | 0 |
| 7:15 - 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 4 | 0 | 7 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 24 | 2 | 0 | 0 |
| 7:30 - 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 1 | 1 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 40 | 3 | 0 | 0 |
| 7:45 - 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 1 | 1 | 0 | 11 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 32 | 0 | 0 | 0 |
| 8:00 - 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 1 | 5 | 0 | 15 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 32 | 0 | 0 | 0 |
| 8:15 - 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 10 | 0 | 17 | 0 | 0 | 0 | 3 | 0 | 4 | 0 | 28 | 0 | 0 | 0 |
| 8:30 - 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 2 | 8 | 1 | 12 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 38 | 1 | 0 | 0 |
| 8:45 - 9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 28 | 1 | 0 | 0 |
| 9:00 - 9:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 4 | 0 | 11 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 39 | 0 | 0 | 0 |
| 9:15 - 9:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 8 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 24 | 1 | 0 | 0 |
| Peak Hour Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 4 | 24 | 1 | 55 | 0 | 0 | 0 | 10 | 0 | 7 | 1 | 130 | 1 | 0 | 0 |
| Percentage Cars & Trucks | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 95.2% | 4.8% | 96.0% | 4.0% | 100.0% | 0.0% | #DIV/0! | #DIV/0! | 100.0% | 0.0% | 87.5% | 12.5% | 99.2% | 0.8% | #DIV/0! | #DIV/0! |

| Total Vehicles | 0 | 0 | 0 | 0 | 83 | 25 | 55 | 0 | 10 | 8 | 131 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

## Turning Movement Count (Afternoon)

**Intersection Location:** Sidney St / Kempton Ave
**City:** Belleville
**N/S Street:** Sidney St
**E/W Street:** Kempton Ave
**Period Time:** 4:15 pm to 5:15 pm
**Date:** 18-Jan-24
**Controled:** Stop
**Project:** 2317-23

| Movement / Time Period | EBL | | EBT | | EBR | | NBL | | NBT | | NBR | | WBL | | WBT | | WBR | | SBL | | SBT | | SBR | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks | Cars | Trucks |
| 3:00 - 3:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 4 | 0 | 8 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 17 | 0 | 0 | 0 |
| 3:15 - 3:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 11 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 27 | 0 | 0 | 0 |
| 3:30 - 3:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 9 | 1 | 6 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 22 | 1 | 0 | 0 |
| 3:45 - 4:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 10 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 27 | 1 | 0 | 0 |
| 4:00 - 4:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 13 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 27 | 0 | 0 | 0 |
| 4:15 - 4:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 12 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 22 | 1 | 0 | 0 |
| 4:30 - 4:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 68 | 0 | 10 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 37 | 1 | 0 | 0 |
| 4:45 - 5:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 0 | 14 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 20 | 0 | 0 | 0 |
| 5:00 - 5:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 0 | 8 | 0 | 7 | 0 | 0 | 0 | 2 | 0 | 4 | 0 | 19 | 0 | 0 | 0 |
| 5:15 - 5:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 14 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 22 | 0 | 0 | 0 |
| 5:30 - 5:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 9 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 19 | 0 | 0 | 0 |
| 5:45 - 6:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 2 | 8 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 17 | 0 | 0 | 0 |
| Peak Hour Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 247 | 0 | 49 | 0 | 25 | 0 | 0 | 0 | 5 | 0 | 13 | 0 | 106 | 2 | 0 | 0 |
| Percentage Cars & Trucks | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | 100.0% | 0.0% | 100.0% | 0.0% | 100.0% | 0.0% | #DIV/0! | #DIV/0! | 100.0% | 0.0% | 100.0% | 0.0% | 98.1% | 1.9% | #DIV/0! | #DIV/0! |

| Total Vehicles | 0 | 0 | 0 | 0 | 247 | 49 | 25 | 0 | 5 | 13 | 108 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Appendix C

Existing Signal Timings

# ACTUATED INTERVAL TIMING AND FAZE FUNCTIONS

| | | PHASE 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Ped Walk | - | 7 | - | 7 | - | 7 | - | 7 |
| 1 | Ped FDW | - | 31 | - | 36 | - | 31 | - | 36 |
| 2 | Min Green | 7 | 20 | | 15 | 7 | 20 | | 15 |
| 3 | Type 3 Discon | - | | - | | - | | - | |
| 4 | Added per Veh | - | | - | | - | | - | |
| 5 | Veh Extension | 3.0 | 4.5 | | 3.0 | 3.0 | 4.5 | | 3.0 |
| 6 | Max Gap | 3.0 | 4.5 | | 3.0 | 3.0 | 4.5 | | 3.0 |
| 7 | Min Gap | 3.0 | 4.5 | | 3.0 | 3.0 | 4.5 | | 3.0 |
| 8 | Max Limit | 15 | 50 | | 45 | 15 | 50 | | 45 |
| 9 | Max Limit 2 | - | | - | | - | | - | |
| A | Adv/Dly Walk | - | | - | | - | | - | |
| B | PE Min Ped FDW | - | | - | | - | | - | |
| C | Cond Serv Check | - | | - | | - | | - | |
| D | Reduce Every | - | | - | | - | | - | |
| E | Yellow Change | 3.0 | 5.9 | | 5.0 | 3.0 | 5.9 | | 5.0 |
| F | Red Clear | 2.0 | 1.4 | | 2.2 | 2.0 | 1.4 | | 2.2 |

**PHASE BANK # 1 < C + O + F = 1 >**

| | | 9 | A | B | C | D | | E |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | RR-1 Delay | |
| 1 | Phase 1 | - | | | | | RR-1 Clear | |
| 2 | Phase 2 | - | | | | | EV-A Delay | |
| 3 | Phase 3 | - | | | | | EV-A Clear | |
| 4 | Phase 4 | - | | | | | EV-B Delay | |
| 5 | Phase 5 | - | | | | | EV-B Clear | |
| 6 | Phase 6 | - | | | | | EV-C Delay | |
| 7 | Phase 7 | - | | | | | EV-C Clear | |
| 8 | Phase 8 | - | | | | | EV-D Delay | |
| | | | | | | | EV-D Clear | |
| | | | | | | | RR-2 Delay | |
| | | | | | | | RR-2 Clear | |
| | | | | | | | View EV Dela | |
| | | | | | | | View EV Clea | |
| | | | | | | | View RR Dela | |
| | | | | | | | View RR Clea | |

MAX INT, ALT WALK, ALT FLH, ALT INT, ALT EXT

D/W

ALL RED START
( F/1 + C +O ) = **5.0**

RED REVERT
( F/1 + O + F ) = **5.0**

| | | COLUMN F PHASES 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Permit | X | X | | X | X | X | | X |
| 1 | Red Lock | | | | | | | | |
| 2 | Yellow Lock | | | | | | | | |
| 3 | Min Recall | | X | | | | X | | |
| 4 | Ped Recall | | | | | | | | |
| 5 | View Set Peds | | | | | | | | |
| 6 | Rest in Walk | | | | | | | | |
| 7 | Red Rest | | | | | | | | |
| 8 | Dual Entry | | X | | X | | X | | X |
| 9 | Max Recall | | | | | | | | |
| A | Soft Recall | | | | | | | | |
| B | Max 2 | | | | | | | | |
| C | Cond. Service | | | | | | | | |
| D | Man Ctrl Calls | | | | | | | | |
| E | Yellow Start | | X | | | | X | | |
| F | First Phases | | | | X | | | | X |

**< C + O + F = 1 >**


*BI Tran Systems, Inc.*
510 Bercut Dr., Sacramento, Calif. 95814
916/441-0260


*Traffic Signal Program* **233** *Ontario*
*Timing Sheet #2*

**Date:** 25-Mar-13

**LOCATION**

Hwy: 62

At: Farnhma/Vermilyea Rd

| | | | A | B | C |
|---|---|---|---|---|---|
| | PREEMPT | | RR1-2 | SP | EMER |
| | MINIMUMS | | SPEV1 | EV2 | VEH |
| A | WLK (DFLT) | | 4.0 | 4.0 | 4.0 |
| B | FD WALK | | | | |
| C | INITAL | | | | |

< C + O + F = 1 >

**Column E Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Exclusive | | | | | | | | |
| 1 | RR-1 Clear | | | | | | | | |
| 2 | RR-2 Clear | | | | | | | | |
| 3 | RR-2 Ltd Srv | | | | | | | | |
| 4 | Prot/Perm | | | | | | | | |
| 5 | Flash to PE | | | | | | | | |
| 6 | Flash Entry | | | | | | | | |
| 7 | Disable Yellow | | | | | | | | |
| 8 | Disable Ovp Yel | | | | | | | | |
| 9 | Ovp Yellow FLH | | | | | | | | |
| A | EV-A Phases | | | | | | | | |
| B | EV-B Phases | | | | | | | | |
| C | EV-C Phases | | | | | | | | |
| D | EV-D Phases | | | | | | | | |
| E | Extra 1 | X | | X | | X | | | |
| F | IC Select | | X | | | | | | |

**< C + O + E = 125 >**

**Column F Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| 1 | Ext. Permit 1 Phases | | | | | | | | |
| 2 | Ext. Permit 2 Phases | | | | | | | | |
| 3 | Exclusive Ped Assign | | | | | | | | |
| 4 | Preempt Non-Lock | | | | | | | | |
| 5 | Ped for 2P Output | | X | | | | | | |
| 6 | Ped for 6P Output | | | | | | X | | |
| 7 | Ped for 4P Output | | | | X | | | | |
| 8 | Ped for 8P Output | | | | | | | | X |
| 9 | Yellow Flashes Phases | | | | | | | | |
| A | Low Priority A Phases | | | | | | | | |
| B | Low Priority B Phases | | | | | | | | |
| C | Low Priority C Phases | | | | | | | | |
| D | Low Priority D Phases | | | | | | | | |
| E | Restricted Phases | | | | | | | | |
| F | Extra 2 Config. Bits | | | | | | | | |

**Column F Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Fast Green Flash Phase | | | | | | | | |
| 1 | Green Flash Phases | | | | | | | | |
| 2 | Flashing Walk Phases | | | | | | | | |
| 3 | Guaranteed Passage | | | | | | | | |
| 4 | Simultaneous Gap Term | | X | | X | | X | | X |
| 5 | Sequential Timing | | | | | | | | |
| 6 | Advance Walk Phases | | | | | | | | |
| 7 | Delay Walk Phases | | | | | | | | |
| 8 | External Recall | | | | | | | | |
| 9 | Start-up Overlap Green | | | | | | | | |
| A | Max Extension | | | | | | | | |
| B | Inhibit Ped Reservice | | | | | | | | |
| C | Semi-Actuated | | | | | | | | |
| D | Start-up Overlap Yellow | | | | | | | | |
| E | Start-up Vehicle Calls | X | X | | X | X | X | | X |
| F | Start-up Ped Calls | | X | | X | | X | | X |

**SPECIALS < C + O + F = 2 >**

MANUAL PLAN
**< C/0 + A + 1 >**

MANUAL OFFSET
**< C/0 + B + 1 >**

**MANUAL SELECTION**

MANUAL PLAN
0 = Automatic (Master)
9 = Control Plan 1 - 9
14 (E) = Free ( Isolated )
15 (F) = Software Flash

MANUAL OFFSET
0 = Automatic (Master)
1 = Offset A
2 = Offset B
3 = Offset C

**FLASH TO PREEMPT**
1 = EVA
2 = EVB
3 = EVC
4 = EVD
5 = RR1
6 = RR2
7 = SE1
8 = SE2

**EXTRA 1**
1 = TBC TYPE 1
2 = NEMA EXT. COORD.
3 = DAYLIGHT SAVINGS
4 =
5 = EXPANDED STATUS REPORTING
6 = INTERNATIONAL PED
7 = CLEAR OUTPUTS DURING FLASH
8 = SPLIT RING

**EXTRA 2**
1 = AWR ON DURING PHASE INITAL
2 = LMU INSTALLED

**IC SELECT**
2 = 2 WAY MODEM
3 = 7 WIRE SLAVE
4 = FLASH / FREE
5 = SIMPLEX MASTER
7 = 7 WIRE MASTER
8 = OFFSET INTURP

# ACTUATED INTERVAL TIMING AND FAZE FUNCTIONS

| | | PHASE 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Ped Walk | - | 7 | - | 7 | - | 7 | - | 7 |
| 1 | Ped FDW | - | 26 | - | 34 | - | 26 | - | 34 |
| 2 | Min Green | 7 | 20 | - | 10 | 7 | 20 | - | 10 |
| 3 | Type 3 Discon | - | | - | | - | | - | |
| 4 | Added per Veh | - | | - | | - | | - | |
| 5 | Veh Extension | 3.0 | 3.6 | | 3.0 | 3.0 | 3.6 | | 3.0 |
| 6 | Max Gap | 3.0 | 3.6 | | 3.0 | 3.0 | 3.6 | | 3.0 |
| 7 | Min Gap | 3.0 | 3.6 | | 3.0 | 3.0 | 3.6 | | 3.0 |
| 8 | Max Limit | 15 | 50 | - | 45 | 15 | 50 | - | 45 |
| 9 | Max Limit 2 | - | | - | - | - | | - | |
| A | Adv/Dly Walk | - | | - | - | - | | - | |
| B | PE Min Ped FDW | - | | - | - | - | | - | |
| C | Cond Serv Check | - | | - | - | - | | - | |
| D | Reduce Every | - | | - | - | - | | - | |
| E | Yellow Change | 3.0 | 5.0 | - | 4.5 | 3.0 | 5.0 | - | 4.5 |
| F | Red Clear | 2.0 | 1.7 | - | 2.5 | 2.0 | 1.7 | - | 2.5 |

**PHASE BANK # 1 < C + O + F = 1 >**

| | | 9 | A | B | C | D | | E |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | RR-1 Delay | |
| 1 | Phase 1 | - | | | | | RR-1 Clear | |
| 2 | Phase 2 | - | | | | | EV-A Delay | |
| 3 | Phase 3 | - | | | | | EV-A Clear | |
| 4 | Phase 4 | - | | | | | EV-B Delay | |
| 5 | Phase 5 | - | | | | | EV-B Clear | |
| 6 | Phase 6 | - | | | | | EV-C Delay | |
| 7 | Phase 7 | - | | | | | EV-C Clear | |
| 8 | Phase 8 | - | | | | | EV-D Delay | |
| | | | | | | | EV-D Clear | |
| | | MAX INT | ALT WALK | ALT FLH | ALT INT | ALT EXT | RR-2 Delay | |
| | | | | D/W | | | RR-2 Clear | |
| | | | | | | | View EV Dela | |
| | | | | | | | View EV Clea | |
| | | | | | | | View RR Dela | |
| | | | | | | | View RR Clea | |

ALL RED START
( F/1 + C +O ) = **5.0**

RED REVERT
( F/1 + O + F ) = **5.0**

| | | COLUMN F PHASES 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Permit | X | X | | X | X | X | | X |
| 1 | Red Lock | | | | | | | | |
| 2 | Yellow Lock | | | | | | | | |
| 3 | Min Recall | | X | | | | X | | |
| 4 | Ped Recall | | | | | | | | |
| 5 | View Set Peds | | | | | | | | |
| 6 | Rest in Walk | | | | | | | | |
| 7 | Red Rest | | | | | | | | |
| 8 | Dual Entry | | X | | X | | X | | X |
| 9 | Max Recall | | | | | | | | |
| A | Soft Recall | | | | | | | | |
| B | Max 2 | | | | | | | | |
| C | Cond. Service | | | | | | | | |
| D | Man Ctrl Calls | | | | | | | | |
| E | Yellow Start | | X | | | | X | | |
| F | First Phases | | | | X | | | | X |

**< C + O + F = 1 >**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916/441-0260


*Traffic Signal Program* **233** *Ontario*
*Timing Sheet #2*

**Date:** 14-Jun-13

**LOCATION**
Hwy: 62
At: Maitland Dr

| | | PREEMPT MINIMUMS | A RR1-2 SPEV1 | B SP EV2 | C EMER VEH |
|---|---|---|---|---|---|
| A | WLK (DFLT) | | 4.0 | 4.0 | 4.0 |
| B | FD WALK | | | | |
| C | INITAL | | | | |

< C + O + F = 1 >

**Column E Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Exclusive | | | | | | | | |
| 1 | RR-1 Clear | | | | | | | | |
| 2 | RR-2 Clear | | | | | | | | |
| 3 | RR-2 Ltd Srv | | | | | | | | |
| 4 | Prot/Perm | | | | | | | | |
| 5 | Flash to PE | | | | | | | | |
| 6 | Flash Entry | | | | | | | | |
| 7 | Disable Yellow | | | | | | | | |
| 8 | Disable Ovp Yel | | | | | | | | |
| 9 | Ovp Yellow FLH | | | | | | | | |
| A | EV-A Phases | | | | | | | | |
| B | EV-B Phases | | | | | | | | |
| C | EV-C Phases | | | | | | | | |
| D | EV-D Phases | | | | | | | | |
| E | Extra 1 | X | | X | | X | | | |
| F | IC Select | | X | | | | | | |

**Column F Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| 1 | Ext. Permit 1 Phases | | | | | | | | |
| 2 | Ext. Permit 2 Phases | | | | | | | | |
| 3 | Exclusive Ped Assign | | | | | | | | |
| 4 | Preempt Non-Lock | | | | | | | | |
| 5 | Ped for 2P Output | | X | | | | | | |
| 6 | Ped for 6P Output | | | | | | X | | |
| 7 | Ped for 4P Output | | | | X | | | | |
| 8 | Ped for 8P Output | | | | | | | | X |
| 9 | Yellow Flashes Phases | | | | | | | | |
| A | Low Priority A Phases | | | | | | | | |
| B | Low Priority B Phases | | | | | | | | |
| C | Low Priority C Phases | | | | | | | | |
| D | Low Priority D Phases | | | | | | | | |
| E | Restricted Phases | | | | | | | | |
| F | Extra 2 Config. Bits | | | | | | | | |

**< C + O + E = 125 >**

**Column F Phases / Bits**

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | Fast Green Flash Phase | | | | | | | | |
| 1 | Green Flash Phases | | | | | | | | |
| 2 | Flashing Walk Phases | | | | | | | | |
| 3 | Guaranteed Passage | | | | | | | | |
| 4 | Simultaneous Gap Term | | X | | X | | X | | X |
| 5 | Sequential Timing | | | | | | | | |
| 6 | Advance Walk Phases | | | | | | | | |
| 7 | Delay Walk Phases | | | | | | | | |
| 8 | External Recall | | | | | | | | |
| 9 | Start-up Overlap Green | | | | | | | | |
| A | Max Extension | | | | | | | | |
| B | Inhibit Ped Reservice | | | | | | | | |
| C | Semi-Actuated | | | | | | | | |
| D | Start-up Overlap Yellow | | | | | | | | |
| E | Start-up Vehicle Calls | X | X | | X | X | X | | X |
| F | Start-up Ped Calls | | X | | X | | X | | X |

**SPECIALS < C + O + F = 2 >**

MANUAL PLAN
**< C/0 + A + 1 >**

MANUAL OFFSET
**< C/0 + B + 1 >**

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MANUAL PLAN
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4 = EVD
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8 = SE2

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4 =
5 = EXPANDED STATUS REPORTING
6 = INTERNATIONAL PED
7 = CLEAR OUTPUTS DURING FLASH
8 = SPLIT RING

**EXTRA 2**
1 = AWR ON DURING PHASE INITAL
2 = LMU INSTALLED

**IC SELECT**
2 = 2 WAY MODEM
3 = 7 WIRE SLAVE
4 = FLASH / FREE
5 = SIMPLEX MASTER
7 = 7 WIRE MASTER
8 = OFFSET INTURP

# Appendix D

Traffic Volume Projections

| Hwy 62 / Farnham Rd | | | Eastbound | | | Northbound | | | Westbound | | | Southbound | | | Volume Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| | 2022 | AM | 58 | 37 | 59 | 13 | 273 | 18 | 11 | 29 | 57 | 104 | 725 | 108 | Registered Volumes |
| | | PM | 133 | 31 | 47 | 46 | 717 | 20 | 27 | 47 | 145 | 45 | 438 | 66 | |
| **Annual Growth Factor 1.50%** | | | | | | | | | | | | | | | |
| | 2024 | AM | 60 | 38 | 61 | 13 | 281 | 19 | 11 | 30 | 59 | 107 | 747 | 111 | Existing Volumes 2024 |
| | | PM | 137 | 32 | 48 | 47 | 739 | 21 | 28 | 48 | 149 | 46 | 451 | 68 | |
| | 2027 | AM | 62 | 40 | 64 | 14 | 294 | 19 | 12 | 31 | 61 | 112 | 781 | 116 | Background Volumes 2027 |
| | | PM | 143 | 33 | 51 | 50 | 772 | 22 | 29 | 51 | 156 | 48 | 472 | 71 | |
| | 2032 | AM | 67 | 43 | 68 | 15 | 317 | 21 | 13 | 34 | 66 | 121 | 841 | 125 | Background Volumes 2032 |
| | | PM | 154 | 36 | 55 | 53 | 832 | 23 | 31 | 55 | 168 | 52 | 508 | 77 | |
| | 2027 | AM | 0 | 0 | 1 | 1 | 19 | 2 | 0 | 0 | 0 | 0 | 14 | 0 | Subject Site Generated Trips |
| | | PM | 0 | 0 | 2 | 1 | 23 | 0 | 2 | 0 | 0 | 0 | 24 | 0 | |
| | 2027 | AM | 62 | 40 | 65 | 15 | 313 | 21 | 12 | 31 | 61 | 112 | 795 | 116 | Total Volumes 2027 |
| | | PM | 143 | 33 | 53 | 51 | 795 | 22 | 31 | 51 | 156 | 48 | 496 | 71 | |
| | 2032 | AM | 67 | 43 | 69 | 16 | 336 | 23 | 13 | 34 | 66 | 121 | 855 | 125 | Total Volumes 2032 |
| | | PM | 154 | 36 | 57 | 54 | 855 | 23 | 33 | 55 | 168 | 52 | 532 | 77 | |

| Hwy 62 / Roy Blvd | | | Eastbound | | | Northbound | | | Westbound | | | Southbound | | | Volume Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| | 2022 | AM | 7 | 0 | 21 | 66 | 387 | 0 | 0 | 0 | 0 | 0 | 756 | 22 | Registered Volumes |
| | | PM | 29 | 0 | 93 | 66 | 819 | 0 | 0 | 0 | 0 | 0 | 592 | 18 | |
| **Annual Growth Factor 1.50%** | | | | | | | | | | | | | | | |
| | 2024 | AM | 7 | 0 | 22 | 68 | 399 | 0 | 0 | 0 | 0 | 0 | 779 | 23 | Existing Volumes 2024 |
| | | PM | 30 | 0 | 96 | 68 | 844 | 0 | 0 | 0 | 0 | 0 | 610 | 19 | |
| | 2027 | AM | 8 | 0 | 23 | 71 | 417 | 0 | 0 | 0 | 0 | 0 | 814 | 24 | Background Volumes 2027 |
| | | PM | 31 | 0 | 100 | 71 | 882 | 0 | 0 | 0 | 0 | 0 | 638 | 19 | |
| | 2032 | AM | 8 | 0 | 24 | 77 | 449 | 0 | 0 | 0 | 0 | 0 | 877 | 26 | Background Volumes 2032 |
| | | PM | 34 | 0 | 108 | 77 | 950 | 0 | 0 | 0 | 0 | 0 | 687 | 21 | |
| | 2027 | AM | 22 | 0 | 55 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | Subject Site Generated Trips |
| | | PM | 24 | 0 | 21 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | |
| | 2027 | AM | 30 | 0 | 78 | 81 | 417 | 0 | 0 | 0 | 0 | 0 | 814 | 39 | Total Volumes 2027 |
| | | PM | 55 | 0 | 121 | 121 | 882 | 0 | 0 | 0 | 0 | 0 | 638 | 47 | |
| | 2032 | AM | 30 | 0 | 79 | 87 | 449 | 0 | 0 | 0 | 0 | 0 | 877 | 41 | Total Volumes 2032 |
| | | PM | 58 | 0 | 129 | 127 | 950 | 0 | 0 | 0 | 0 | 0 | 687 | 49 | |

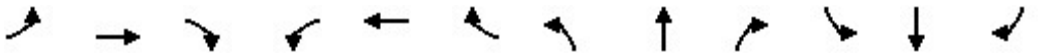
| Hwy 62 / Maitland Blvd | | | Eastbound | | | Northbound | | | Westbound | | | Southbound | | | Volume Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| | 2022 | AM | 30 | 74 | 120 | 35 | 417 | 62 | 145 | 94 | 53 | 47 | 709 | 22 | Registered Volumes |
| | | PM | 50 | 102 | 59 | 103 | 775 | 110 | 166 | 82 | 63 | 44 | 614 | 39 | |
| **Annual Growth Factor 1.50%** | | | | | | | | | | | | | | | |
| | 2024 | AM | 31 | 76 | 124 | 36 | 430 | 64 | 149 | 97 | 55 | 48 | 730 | 23 | Existing Volumes 2024 |
| | | PM | 52 | 105 | 61 | 106 | 798 | 113 | 171 | 84 | 65 | 45 | 633 | 40 | |
| | 2027 | AM | 32 | 80 | 129 | 38 | 449 | 67 | 156 | 101 | 57 | 51 | 764 | 24 | Background Volumes 2027 |
| | | PM | 54 | 110 | 64 | 111 | 835 | 119 | 179 | 88 | 68 | 47 | 661 | 42 | |
| | 2032 | AM | 35 | 86 | 139 | 41 | 484 | 72 | 168 | 109 | 62 | 55 | 823 | 26 | Background Volumes 2032 |
| | | PM | 58 | 118 | 68 | 120 | 899 | 128 | 193 | 95 | 73 | 51 | 713 | 45 | |
| | 2027 | AM | 1 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 4 | 49 | 2 | Subject Site Generated Trips |
| | | PM | 3 | 0 | 0 | 0 | 43 | 0 | 0 | 0 | 4 | 1 | 19 | 1 | |
| | 2027 | AM | 33 | 80 | 129 | 38 | 457 | 67 | 156 | 101 | 58 | 55 | 813 | 26 | Total Volumes 2027 |
| | | PM | 57 | 110 | 64 | 111 | 878 | 119 | 179 | 88 | 72 | 48 | 680 | 43 | |
| | 2032 | AM | 36 | 86 | 139 | 41 | 492 | 72 | 168 | 109 | 63 | 59 | 872 | 28 | Total Volumes 2032 |
| | | PM | 61 | 118 | 68 | 120 | 942 | 128 | 193 | 95 | 77 | 52 | 732 | 46 | |

| Sidney St / Kempton Ave | | | Eastbound | | | Northbound | | | Westbound | | | Southbound | | | Volume Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LT | TH | RT | LT | TH | RT | LT | TH | RT | LT | TH | RT | |
| | 2024 | AM | 0 | 0 | 0 | 0 | 83 | 25 | 55 | 0 | 10 | 8 | 131 | 0 | Registered Volumes |
| | | PM | 0 | 0 | 0 | 0 | 247 | 49 | 25 | 0 | 5 | 13 | 108 | 0 | |
| **Annual Growth Factor 1.50%** | | | | | | | | | | | | | | | |
| | 2024 | AM | 0 | 0 | 0 | 0 | 83 | 25 | 55 | 0 | 10 | 8 | 131 | 0 | Existing Volumes 2024 |
| | | PM | 0 | 0 | 0 | 0 | 247 | 49 | 25 | 0 | 5 | 13 | 108 | 0 | |
| | | AM | 0 | 0 | 0 | 0 | 0 | 8 | 25 | 0 | 5 | 2 | 0 | 0 | Settler's Ridge East P2 Generated Trips |
| | | PM | 0 | 0 | 0 | 0 | 0 | 26 | 17 | 0 | 3 | 7 | 0 | 0 | |
| | 2027 | AM | 0 | 0 | 0 | 0 | 87 | 34 | 83 | 0 | 15 | 10 | 137 | 0 | Background Volumes 2027 |
| | | PM | 0 | 0 | 0 | 0 | 258 | 77 | 43 | 0 | 8 | 21 | 113 | 0 | |
| | 2032 | AM | 0 | 0 | 0 | 0 | 93 | 36 | 87 | 0 | 16 | 11 | 148 | 0 | Background Volumes 2032 |
| | | PM | 0 | 0 | 0 | 0 | 278 | 81 | 45 | 0 | 9 | 22 | 122 | 0 | |
| | 2027 | AM | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 0 | 0 | Subject Site Generated Trips |
| | | PM | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 1 | 0 | 0 | |
| | 2027 | AM | 0 | 0 | 0 | 0 | 87 | 35 | 86 | 0 | 16 | 10 | 137 | 0 | Total Volumes 2027 |
| | | PM | 0 | 0 | 0 | 0 | 258 | 80 | 45 | 0 | 8 | 22 | 113 | 0 | |
| | 2032 | AM | 0 | 0 | 0 | 0 | 93 | 37 | 90 | 0 | 17 | 11 | 148 | 0 | Total Volumes 2032 |
| | | PM | 0 | 0 | 0 | 0 | 278 | 84 | 47 | 0 | 9 | 23 | 122 | 0 | |

# Appendix E

Synchro Reports,

Existing Volumes 2024

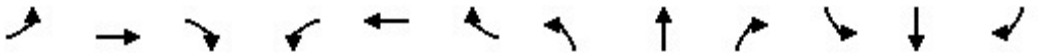


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 76 | 124 | 149 | 97 | 55 | 36 | 430 | 64 | 48 | 730 | 23 |
| Future Volume (vph) | 31 | 76 | 124 | 149 | 97 | 55 | 36 | 430 | 64 | 48 | 730 | 23 |
| Satd. Flow (prot) | 1752 | 1651 | 0 | 1719 | 1661 | 0 | 1805 | 3223 | 1455 | 1656 | 3471 | 1538 |
| Flt Permitted | 0.648 | | | 0.574 | | | 0.277 | | | 0.435 | | |
| Satd. Flow (perm) | 1195 | 1651 | 0 | 1039 | 1661 | 0 | 526 | 3223 | 1455 | 758 | 3471 | 1538 |
| Satd. Flow (RTOR) | | 81 | | | 29 | | | | 89 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 5% | 4% | 5% | 3% | 17% | 0% | 12% | 11% | 9% | 4% | 5% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 34 | 218 | 0 | 162 | 165 | 0 | 39 | 467 | 70 | 52 | 793 | 25 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 55.7 | 48.2 | 48.2 | 57.3 | 50.9 | 50.9 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.51 | 0.44 | 0.44 | 0.52 | 0.46 | 0.46 |
| v/c Ratio | 0.08 | 0.35 | | 0.45 | 0.28 | | 0.11 | 0.33 | 0.10 | 0.11 | 0.49 | 0.03 |
| Control Delay | 25.1 | 18.3 | | 32.9 | 22.8 | | 12.6 | 22.0 | 3.0 | 23.0 | 41.6 | 8.7 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.1 | 18.3 | | 32.9 | 22.8 | | 12.6 | 22.0 | 3.0 | 23.0 | 41.6 | 8.7 |
| LOS | C | B | | C | C | | B | C | A | C | D | A |
| Approach Delay | | 19.2 | | | 27.8 | | | 19.0 | | | 39.6 | |
| Approach LOS | | B | | | C | | | B | | | D | |
| Queue Length 50th (m) | 5.2 | 21.9 | | 28.1 | 21.8 | | 3.9 | 36.9 | 0.0 | 10.9 | 99.3 | 0.3 |
| Queue Length 95th (m) | 12.6 | 42.4 | | 49.3 | 39.1 | | 9.0 | 51.5 | 6.2 | m19.0 | 120.1 | m2.5 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 412 | 623 | | 358 | 592 | | 393 | 1411 | 686 | 485 | 1605 | 759 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.08 | 0.35 | | 0.45 | 0.28 | | 0.10 | 0.33 | 0.10 | 0.11 | 0.49 | 0.03 |

| Intersection Summary | | |
|---|---|---|
| Cycle Length: 110 | | |
| Actuated Cycle Length: 110 | | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | |
| Natural Cycle: 75 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/c Ratio: 0.49 | | |
| Intersection Signal Delay: 29.3 | Intersection LOS: C | |
| Intersection Capacity Utilization 67.4% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 38 | 61 | 11 | 30 | 59 | 13 | 281 | 19 | 107 | 747 | 111 |
| Future Volume (vph) | 60 | 38 | 61 | 11 | 30 | 59 | 13 | 281 | 19 | 107 | 747 | 111 |
| Satd. Flow (prot) | 1583 | 1712 | 1495 | 1421 | 1776 | 1442 | 1570 | 3167 | 1380 | 1656 | 3505 | 1495 |
| Flt Permitted | 0.736 | | | 0.730 | | | 0.235 | | | 0.566 | | |
| Satd. Flow (perm) | 1227 | 1712 | 1495 | 1092 | 1776 | 1442 | 388 | 3167 | 1380 | 987 | 3505 | 1495 |
| Satd. Flow (RTOR) | | | 92 | | | 92 | | | 91 | | | 121 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 14% | 11% | 8% | 27% | 7% | 12% | 15% | 14% | 17% | 9% | 3% | 8% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 65 | 41 | 66 | 12 | 33 | 64 | 14 | 305 | 21 | 116 | 812 | 121 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.15 | 0.07 | 0.11 | 0.03 | 0.05 | 0.12 | 0.05 | 0.25 | 0.04 | 0.21 | 0.60 | 0.19 |
| Control Delay | 26.4 | 24.8 | 2.9 | 24.5 | 24.6 | 2.8 | 6.5 | 11.0 | 0.1 | 13.4 | 29.0 | 4.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 24.8 | 2.9 | 24.5 | 24.6 | 2.8 | 6.5 | 11.0 | 0.1 | 13.4 | 29.0 | 4.7 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 17.0 | | | 11.8 | | | 10.2 | | | 24.5 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Queue Length 50th (m) | 10.1 | 6.2 | 0.0 | 1.8 | 5.0 | 0.0 | 0.6 | 8.0 | 0.0 | 12.2 | 75.7 | 0.0 |
| Queue Length 95th (m) | 20.9 | 14.2 | 5.4 | 6.3 | 12.0 | 5.0 | m2.0 | 11.1 | 0.0 | 21.6 | 96.4 | 11.8 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 421 | 588 | 574 | 375 | 610 | 555 | 301 | 1229 | 591 | 554 | 1360 | 654 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.07 | 0.11 | 0.03 | 0.05 | 0.12 | 0.05 | 0.25 | 0.04 | 0.21 | 0.60 | 0.19 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.60 | |
| Intersection Signal Delay: 20.0 | Intersection LOS: B |
| Intersection Capacity Utilization 63.7% | ICU Level of Service B |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 7 | 22 | 68 | 399 | 779 | 23 |
| Future Volume (Veh/h) | 7 | 22 | 68 | 399 | 779 | 23 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 8 | 24 | 74 | 434 | 847 | 25 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1224 | 436 | 872 | | | |
| vC1, stage 1 conf vol | 860 | | | | | |
| vC2, stage 2 conf vol | 365 | | | | | |
| vCu, unblocked vol | 1224 | 436 | 872 | | | |
| tC, single (s) | 7.1 | 7.2 | 4.2 | | | |
| tC, 2 stage (s) | 6.1 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 97 | 96 | 90 | | | |
| cM capacity (veh/h) | 312 | 536 | 763 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 32 | 74 | 217 | 217 | 565 | 307 |
| Volume Left | 8 | 74 | 0 | 0 | 0 | 0 |
| Volume Right | 24 | 0 | 0 | 0 | 0 | 25 |
| cSH | 455 | 763 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.07 | 0.10 | 0.13 | 0.13 | 0.33 | 0.18 |
| Queue Length 95th (m) | 1.8 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 13.5 | 10.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | B | | | | |
| Approach Delay (s) | 13.5 | 1.5 | | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 39.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 57 | 10 | 86 | 26 | 8 | 135 |
| Future Volume (Veh/h) | 57 | 10 | 86 | 26 | 8 | 135 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 62 | 11 | 93 | 28 | 9 | 147 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 272 | 107 | | | 121 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 272 | 107 | | | 121 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.3 | |
| p0 queue free % | 91 | 99 | | | 99 | |
| cM capacity (veh/h) | 717 | 953 | | | 1407 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 73 | 121 | 156 |
| Volume Left | 62 | 0 | 9 |
| Volume Right | 11 | 28 | 0 |
| cSH | 745 | 1700 | 1407 |
| Volume to Capacity | 0.10 | 0.07 | 0.01 |
| Queue Length 95th (m) | 2.6 | 0.0 | 0.2 |
| Control Delay (s) | 10.4 | 0.0 | 0.5 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.4 | 0.0 | 0.5 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 24.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 105 | 61 | 171 | 84 | 65 | 106 | 798 | 113 | 45 | 633 | 40 |
| Future Volume (vph) | 52 | 105 | 61 | 171 | 84 | 65 | 106 | 798 | 113 | 45 | 633 | 40 |
| Satd. Flow (prot) | 1770 | 1760 | 0 | 1736 | 1681 | 0 | 1787 | 3539 | 1553 | 1556 | 3471 | 1568 |
| Flt Permitted | 0.652 | | | 0.627 | | | 0.288 | | | 0.238 | | |
| Satd. Flow (perm) | 1215 | 1760 | 0 | 1145 | 1681 | 0 | 542 | 3539 | 1553 | 390 | 3471 | 1568 |
| Satd. Flow (RTOR) | | 29 | | | 39 | | | | 106 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 6% | 5% | 1% | 2% | 4% | 16% | 4% | 3% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 57 | 180 | 0 | 186 | 162 | 0 | 115 | 867 | 123 | 49 | 688 | 43 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 57.2 | 48.1 | 48.1 | 53.8 | 44.6 | 44.6 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.52 | 0.44 | 0.44 | 0.49 | 0.41 | 0.41 |
| v/c Ratio | 0.14 | 0.29 | | 0.47 | 0.27 | | 0.30 | 0.56 | 0.17 | 0.18 | 0.49 | 0.06 |
| Control Delay | 25.9 | 23.2 | | 33.0 | 20.9 | | 14.4 | 25.6 | 5.9 | 22.2 | 40.8 | 11.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.9 | 23.2 | | 33.0 | 20.9 | | 14.4 | 25.6 | 5.9 | 22.2 | 40.8 | 11.2 |
| LOS | C | C | | C | C | | B | C | A | C | D | B |
| Approach Delay | | 23.9 | | | 27.3 | | | 22.2 | | | 38.0 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 8.8 | 24.2 | | 32.6 | 19.5 | | 12.0 | 77.7 | 2.2 | 8.5 | 79.1 | 1.4 |
| Queue Length 95th (m) | 18.6 | 42.3 | | 55.2 | 36.6 | | 21.3 | 101.3 | 13.9 | 18.5 | 99.1 | 8.7 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 419 | 626 | | 395 | 606 | | 398 | 1548 | 739 | 305 | 1406 | 688 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.29 | | 0.47 | 0.27 | | 0.29 | 0.56 | 0.17 | 0.16 | 0.49 | 0.06 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.56 | |
| Intersection Signal Delay: 28.1 | Intersection LOS: C |
| Intersection Capacity Utilization 68.0% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Maitland Dr & Hwy 62

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 137 | 32 | 48 | 28 | 48 | 149 | 47 | 739 | 21 | 46 | 451 | 68 |
| Future Volume (vph) | 137 | 32 | 48 | 28 | 48 | 149 | 47 | 739 | 21 | 46 | 451 | 68 |
| Satd. Flow (prot) | 1787 | 1845 | 1524 | 1570 | 1900 | 1568 | 1687 | 3539 | 1346 | 1687 | 3406 | 1404 |
| Flt Permitted | 0.723 | | | 0.734 | | | 0.429 | | | 0.239 | | |
| Satd. Flow (perm) | 1360 | 1845 | 1524 | 1213 | 1900 | 1568 | 762 | 3539 | 1346 | 424 | 3406 | 1404 |
| Satd. Flow (RTOR) | | | 92 | | | 162 | | | 91 | | | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 1% | 3% | 6% | 15% | 0% | 3% | 7% | 2% | 20% | 7% | 6% | 15% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 149 | 35 | 52 | 30 | 52 | 162 | 51 | 803 | 23 | 50 | 490 | 74 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.32 | 0.06 | 0.09 | 0.07 | 0.08 | 0.25 | 0.11 | 0.58 | 0.04 | 0.15 | 0.37 | 0.12 |
| Control Delay | 29.0 | 24.6 | 1.5 | 25.1 | 24.9 | 5.0 | 5.5 | 12.3 | 0.1 | 13.0 | 25.1 | 3.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.0 | 24.6 | 1.5 | 25.1 | 24.9 | 5.0 | 5.5 | 12.3 | 0.1 | 13.0 | 25.1 | 3.6 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 22.3 | | | 11.7 | | | 11.6 | | | 21.5 | |
| Approach LOS | | C | | | B | | | B | | | C | |
| Queue Length 50th (m) | 24.6 | 5.2 | 0.0 | 4.5 | 7.9 | 0.0 | 1.9 | 17.8 | 0.0 | 5.1 | 41.0 | 0.0 |
| Queue Length 95th (m) | 42.5 | 12.6 | 2.4 | 11.6 | 16.8 | 14.4 | m3.4 | 21.7 | m0.0 | 11.0 | 55.2 | 6.9 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 467 | 634 | 584 | 416 | 652 | 645 | 465 | 1373 | 578 | 326 | 1322 | 600 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.32 | 0.06 | 0.09 | 0.07 | 0.08 | 0.25 | 0.11 | 0.58 | 0.04 | 0.15 | 0.37 | 0.12 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.58 | |
| Intersection Signal Delay: 16.0 | Intersection LOS: B |
| Intersection Capacity Utilization 63.5% | ICU Level of Service B |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 30 | 96 | 68 | 844 | 610 | 19 |
| Future Volume (Veh/h) | 30 | 96 | 68 | 844 | 610 | 19 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 33 | 104 | 74 | 917 | 663 | 21 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1280 | 342 | 684 | | | |
| vC1, stage 1 conf vol | 674 | | | | | |
| vC2, stage 2 conf vol | 606 | | | | | |
| vCu, unblocked vol | 1280 | 342 | 684 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 91 | 84 | 92 | | | |
| cM capacity (veh/h) | 355 | 657 | 905 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 137 | 74 | 458 | 458 | 442 | 242 |
| Volume Left | 33 | 74 | 0 | 0 | 0 | 0 |
| Volume Right | 104 | 0 | 0 | 0 | 0 | 21 |
| cSH | 545 | 905 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.25 | 0.08 | 0.27 | 0.27 | 0.26 | 0.14 |
| Queue Length 95th (m) | 7.9 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 13.8 | 9.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.8 | 0.7 | | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.4 | | |
| Intersection Capacity Utilization | 38.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 26 | 5 | 254 | 50 | 13 | 111 |
| Future Volume (Veh/h) | 26 | 5 | 254 | 50 | 13 | 111 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 28 | 5 | 276 | 54 | 14 | 121 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 452 | 303 | | | 330 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 452 | 303 | | | 330 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 95 | 99 | | | 99 | |
| cM capacity (veh/h) | 563 | 741 | | | 1241 | |

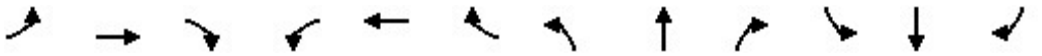
| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 33 | 330 | 135 |
| Volume Left | 28 | 0 | 14 |
| Volume Right | 5 | 54 | 0 |
| cSH | 584 | 1700 | 1241 |
| Volume to Capacity | 0.06 | 0.19 | 0.01 |
| Queue Length 95th (m) | 1.4 | 0.0 | 0.3 |
| Control Delay (s) | 11.5 | 0.0 | 0.9 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.5 | 0.0 | 0.9 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.0 | | |
| Intersection Capacity Utilization | 26.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Appendix F

Synchro Reports

Background Volumes 2027

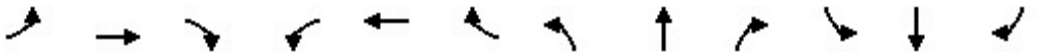


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 80 | 129 | 156 | 101 | 57 | 38 | 449 | 67 | 51 | 764 | 24 |
| Future Volume (vph) | 32 | 80 | 129 | 156 | 101 | 57 | 38 | 449 | 67 | 51 | 764 | 24 |
| Satd. Flow (prot) | 1752 | 1651 | 0 | 1719 | 1664 | 0 | 1805 | 3223 | 1455 | 1656 | 3471 | 1538 |
| Flt Permitted | 0.638 | | | 0.562 | | | 0.259 | | | 0.420 | | |
| Satd. Flow (perm) | 1177 | 1651 | 0 | 1017 | 1664 | 0 | 492 | 3223 | 1455 | 732 | 3471 | 1538 |
| Satd. Flow (RTOR) | | 80 | | | 28 | | | | 89 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 5% | 4% | 5% | 3% | 17% | 0% | 12% | 11% | 9% | 4% | 5% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 35 | 227 | 0 | 170 | 172 | 0 | 41 | 488 | 73 | 55 | 830 | 26 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 55.6 | 48.1 | 48.1 | 57.4 | 50.9 | 50.9 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.51 | 0.44 | 0.44 | 0.52 | 0.46 | 0.46 |
| v/c Ratio | 0.09 | 0.36 | | 0.48 | 0.29 | | 0.12 | 0.35 | 0.11 | 0.12 | 0.52 | 0.03 |
| Control Delay | 25.2 | 19.0 | | 34.0 | 23.3 | | 12.7 | 22.3 | 3.4 | 22.7 | 41.9 | 8.6 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 19.0 | | 34.0 | 23.3 | | 12.7 | 22.3 | 3.4 | 22.7 | 41.9 | 8.6 |
| LOS | C | B | | C | C | | B | C | A | C | D | A |
| Approach Delay | | 19.8 | | | 28.6 | | | 19.3 | | | 39.8 | |
| Approach LOS | | B | | | C | | | B | | | D | |
| Queue Length 50th (m) | 5.3 | 23.8 | | 30.0 | 23.1 | | 4.1 | 38.9 | 0.0 | 11.6 | 104.0 | 0.3 |
| Queue Length 95th (m) | 12.9 | 44.9 | | 52.3 | 41.1 | | 9.4 | 54.3 | 6.7 | m19.5 | 125.0 | m2.4 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 406 | 622 | | 351 | 593 | | 377 | 1408 | 685 | 473 | 1604 | 758 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.36 | | 0.48 | 0.29 | | 0.11 | 0.35 | 0.11 | 0.12 | 0.52 | 0.03 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.52 | |
| Intersection Signal Delay: 29.7 | Intersection LOS: C |
| Intersection Capacity Utilization 69.1% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 62 | 40 | 64 | 12 | 31 | 61 | 14 | 294 | 19 | 112 | 781 | 116 |
| Future Volume (vph) | 62 | 40 | 64 | 12 | 31 | 61 | 14 | 294 | 19 | 112 | 781 | 116 |
| Satd. Flow (prot) | 1583 | 1712 | 1495 | 1421 | 1776 | 1442 | 1570 | 3167 | 1380 | 1656 | 3505 | 1495 |
| Flt Permitted | 0.735 | | | 0.729 | | | 0.217 | | | 0.558 | | |
| Satd. Flow (perm) | 1225 | 1712 | 1495 | 1091 | 1776 | 1442 | 359 | 3167 | 1380 | 973 | 3505 | 1495 |
| Satd. Flow (RTOR) | | | 92 | | | 92 | | | 91 | | | 126 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 14% | 11% | 8% | 27% | 7% | 12% | 15% | 14% | 17% | 9% | 3% | 8% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 67 | 43 | 70 | 13 | 34 | 66 | 15 | 320 | 21 | 122 | 849 | 126 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.16 | 0.07 | 0.12 | 0.03 | 0.06 | 0.12 | 0.05 | 0.26 | 0.04 | 0.22 | 0.62 | 0.19 |
| Control Delay | 26.4 | 24.9 | 3.4 | 24.5 | 24.6 | 2.9 | 6.6 | 11.0 | 0.1 | 13.5 | 29.7 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 24.9 | 3.4 | 24.5 | 24.6 | 2.9 | 6.6 | 11.0 | 0.1 | 13.5 | 29.7 | 4.6 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 17.1 | | | 11.9 | | | 10.2 | | | 25.0 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Queue Length 50th (m) | 10.4 | 6.5 | 0.0 | 2.0 | 5.1 | 0.0 | 0.7 | 8.2 | 0.0 | 12.9 | 80.3 | 0.0 |
| Queue Length 95th (m) | 21.4 | 14.8 | 6.4 | 6.4 | 12.3 | 5.4 | m1.9 | 11.5 | 0.0 | 22.6 | 101.8 | 12.0 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 420 | 588 | 574 | 374 | 610 | 555 | 289 | 1229 | 591 | 548 | 1360 | 657 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.07 | 0.12 | 0.03 | 0.06 | 0.12 | 0.05 | 0.26 | 0.04 | 0.22 | 0.62 | 0.19 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.62 | |
| Intersection Signal Delay: 20.3 | Intersection LOS: C |
| Intersection Capacity Utilization 64.7% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 8 | 23 | 71 | 417 | 814 | 24 |
| Future Volume (Veh/h) | 8 | 23 | 71 | 417 | 814 | 24 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 25 | 77 | 453 | 885 | 26 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1278 | 456 | 911 | | | |
| vC1, stage 1 conf vol | 898 | | | | | |
| vC2, stage 2 conf vol | 380 | | | | | |
| vCu, unblocked vol | 1278 | 456 | 911 | | | |
| tC, single (s) | 7.1 | 7.2 | 4.2 | | | |
| tC, 2 stage (s) | 6.1 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 97 | 95 | 90 | | | |
| cM capacity (veh/h) | 297 | 520 | 737 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 34 | 77 | 226 | 226 | 590 | 321 |
| Volume Left | 9 | 77 | 0 | 0 | 0 | 0 |
| Volume Right | 25 | 0 | 0 | 0 | 0 | 26 |
| cSH | 434 | 737 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.08 | 0.10 | 0.13 | 0.13 | 0.35 | 0.19 |
| Queue Length 95th (m) | 2.0 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 14.0 | 10.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | B | | | | |
| Approach Delay (s) | 14.0 | 1.5 | | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 40.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 83 | 15 | 87 | 34 | 10 | 137 |
| Future Volume (Veh/h) | 83 | 15 | 87 | 34 | 10 | 137 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 90 | 16 | 95 | 37 | 11 | 149 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 284 | 114 | | | 132 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 284 | 114 | | | 132 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.3 | |
| p0 queue free % | 87 | 98 | | | 99 | |
| cM capacity (veh/h) | 704 | 945 | | | 1394 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 106 | 132 | 160 |
| Volume Left | 90 | 0 | 11 |
| Volume Right | 16 | 37 | 0 |
| cSH | 733 | 1700 | 1394 |
| Volume to Capacity | 0.14 | 0.08 | 0.01 |
| Queue Length 95th (m) | 4.0 | 0.0 | 0.2 |
| Control Delay (s) | 10.7 | 0.0 | 0.6 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.7 | 0.0 | 0.6 |
| Approach LOS | B | | |

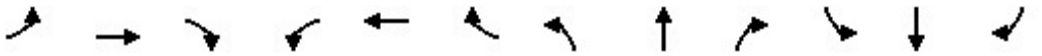
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.1 | | |
| Intersection Capacity Utilization | 27.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 54 | 110 | 64 | 179 | 88 | 68 | 111 | 835 | 119 | 47 | 661 | 42 |
| Future Volume (vph) | 54 | 110 | 64 | 179 | 88 | 68 | 111 | 835 | 119 | 47 | 661 | 42 |
| Satd. Flow (prot) | 1770 | 1760 | 0 | 1736 | 1683 | 0 | 1787 | 3539 | 1553 | 1556 | 3471 | 1568 |
| Flt Permitted | 0.641 | | | 0.613 | | | 0.272 | | | 0.219 | | |
| Satd. Flow (perm) | 1194 | 1760 | 0 | 1120 | 1683 | 0 | 512 | 3539 | 1553 | 359 | 3471 | 1568 |
| Satd. Flow (RTOR) | | 29 | | | 39 | | | | 106 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 6% | 5% | 1% | 2% | 4% | 16% | 4% | 3% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 59 | 190 | 0 | 195 | 170 | 0 | 121 | 908 | 129 | 51 | 718 | 46 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 57.2 | 48.1 | 48.1 | 53.8 | 44.5 | 44.5 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.52 | 0.44 | 0.44 | 0.49 | 0.40 | 0.40 |
| v/c Ratio | 0.14 | 0.30 | | 0.51 | 0.28 | | 0.33 | 0.59 | 0.17 | 0.20 | 0.51 | 0.07 |
| Control Delay | 26.1 | 23.7 | | 34.1 | 21.3 | | 14.8 | 26.2 | 6.4 | 22.4 | 41.3 | 11.9 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.1 | 23.7 | | 34.1 | 21.3 | | 14.8 | 26.2 | 6.4 | 22.4 | 41.3 | 11.9 |
| LOS | C | C | | C | C | | B | C | A | C | D | B |
| Approach Delay | | 24.3 | | | 28.2 | | | 22.8 | | | 38.5 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 9.1 | 26.0 | | 34.7 | 20.8 | | 12.7 | 82.6 | 3.0 | 8.8 | 82.8 | 1.6 |
| Queue Length 95th (m) | 19.2 | 44.9 | | 58.3 | 38.6 | | 22.4 | 107.4 | 15.1 | 18.9 | 103.2 | 9.3 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 412 | 626 | | 386 | 606 | | 384 | 1547 | 738 | 292 | 1403 | 687 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.14 | 0.30 | | 0.51 | 0.28 | | 0.32 | 0.59 | 0.17 | 0.17 | 0.51 | 0.07 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.59 | |
| Intersection Signal Delay: 28.6 | Intersection LOS: C |
| Intersection Capacity Utilization 69.9% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 33 | 51 | 29 | 51 | 156 | 50 | 772 | 22 | 48 | 472 | 71 |
| Future Volume (vph) | 143 | 33 | 51 | 29 | 51 | 156 | 50 | 772 | 22 | 48 | 472 | 71 |
| Satd. Flow (prot) | 1787 | 1845 | 1524 | 1570 | 1900 | 1568 | 1687 | 3539 | 1346 | 1687 | 3406 | 1404 |
| Flt Permitted | 0.721 | | | 0.734 | | | 0.413 | | | 0.221 | | |
| Satd. Flow (perm) | 1356 | 1845 | 1524 | 1213 | 1900 | 1568 | 733 | 3539 | 1346 | 392 | 3406 | 1404 |
| Satd. Flow (RTOR) | | | 92 | | | 170 | | | 91 | | | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 1% | 3% | 6% | 15% | 0% | 3% | 7% | 2% | 20% | 7% | 6% | 15% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 155 | 36 | 55 | 32 | 55 | 170 | 54 | 839 | 24 | 52 | 513 | 77 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.33 | 0.06 | 0.09 | 0.08 | 0.08 | 0.26 | 0.12 | 0.61 | 0.04 | 0.17 | 0.39 | 0.13 |
| Control Delay | 29.3 | 24.6 | 1.8 | 25.1 | 25.0 | 5.0 | 5.5 | 12.2 | 0.1 | 13.2 | 25.3 | 3.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.3 | 24.6 | 1.8 | 25.1 | 25.0 | 5.0 | 5.5 | 12.2 | 0.1 | 13.2 | 25.3 | 3.9 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 22.5 | | | 11.8 | | | 11.5 | | | 21.8 | |
| Approach LOS | | C | | | B | | | B | | | C | |
| Queue Length 50th (m) | 25.8 | 5.4 | 0.0 | 4.8 | 8.3 | 0.0 | 1.9 | 18.6 | 0.0 | 5.3 | 43.3 | 0.0 |
| Queue Length 95th (m) | 44.0 | 12.8 | 3.2 | 12.1 | 17.7 | 14.7 | m3.4 | 22.5 | m0.0 | 11.3 | 57.9 | 7.5 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 465 | 634 | 584 | 416 | 652 | 650 | 453 | 1373 | 578 | 313 | 1322 | 600 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.06 | 0.09 | 0.08 | 0.08 | 0.26 | 0.12 | 0.61 | 0.04 | 0.17 | 0.39 | 0.13 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.61 | |
| Intersection Signal Delay: 16.0 | Intersection LOS: B |
| Intersection Capacity Utilization 64.4% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 100 | 71 | 882 | 638 | 19 |
| Future Volume (Veh/h) | 31 | 100 | 71 | 882 | 638 | 19 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 109 | 77 | 959 | 693 | 21 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1337 | 357 | 714 | | | |
| vC1, stage 1 conf vol | 704 | | | | | |
| vC2, stage 2 conf vol | 634 | | | | | |
| vCu, unblocked vol | 1337 | 357 | 714 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 90 | 83 | 91 | | | |
| cM capacity (veh/h) | 340 | 642 | 882 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 143 | 77 | 480 | 480 | 462 | 252 |
| Volume Left | 34 | 77 | 0 | 0 | 0 | 0 |
| Volume Right | 109 | 0 | 0 | 0 | 0 | 21 |
| cSH | 530 | 882 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.27 | 0.09 | 0.28 | 0.28 | 0.27 | 0.15 |
| Queue Length 95th (m) | 8.7 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 14.3 | 9.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 14.3 | 0.7 | | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.5 | | |
| Intersection Capacity Utilization | 40.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 43 | 8 | 258 | 77 | 21 | 113 |
| Future Volume (Veh/h) | 43 | 8 | 258 | 77 | 21 | 113 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 47 | 9 | 280 | 84 | 23 | 123 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 491 | 322 | | | 364 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 491 | 322 | | | 364 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 91 | 99 | | | 98 | |
| cM capacity (veh/h) | 530 | 724 | | | 1206 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 56 | 364 | 146 |
| Volume Left | 47 | 0 | 23 |
| Volume Right | 9 | 84 | 0 |
| cSH | 554 | 1700 | 1206 |
| Volume to Capacity | 0.10 | 0.21 | 0.02 |
| Queue Length 95th (m) | 2.7 | 0.0 | 0.5 |
| Control Delay (s) | 12.2 | 0.0 | 1.4 |
| Lane LOS | B | | A |
| Approach Delay (s) | 12.2 | 0.0 | 1.4 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 33.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Appendix G

Synchro Reports

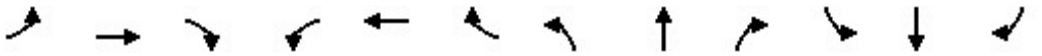
Background Volumes 2032

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 86 | 139 | 168 | 109 | 62 | 41 | 484 | 72 | 55 | 823 | 26 |
| Future Volume (vph) | 35 | 86 | 139 | 168 | 109 | 62 | 41 | 484 | 72 | 55 | 823 | 26 |
| Satd. Flow (prot) | 1752 | 1651 | 0 | 1719 | 1663 | 0 | 1805 | 3223 | 1455 | 1656 | 3471 | 1538 |
| Flt Permitted | 0.620 | | | 0.539 | | | 0.216 | | | 0.407 | | |
| Satd. Flow (perm) | 1144 | 1651 | 0 | 975 | 1663 | 0 | 410 | 3223 | 1455 | 709 | 3471 | 1538 |
| Satd. Flow (RTOR) | | 81 | | | 28 | | | | 89 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 5% | 4% | 5% | 3% | 17% | 0% | 12% | 11% | 9% | 4% | 5% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 38 | 244 | 0 | 183 | 185 | 0 | 45 | 526 | 78 | 60 | 895 | 28 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 55.6 | 48.0 | 48.0 | 56.4 | 48.4 | 48.4 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.51 | 0.44 | 0.44 | 0.51 | 0.44 | 0.44 |
| v/c Ratio | 0.10 | 0.39 | | 0.54 | 0.31 | | 0.15 | 0.37 | 0.11 | 0.14 | 0.59 | 0.04 |
| Control Delay | 25.4 | 19.9 | | 36.4 | 24.0 | | 13.0 | 22.8 | 4.0 | 22.2 | 44.7 | 9.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.4 | 19.9 | | 36.4 | 24.0 | | 13.0 | 22.8 | 4.0 | 22.2 | 44.7 | 9.0 |
| LOS | C | B | | D | C | | B | C | A | C | D | A |
| Approach Delay | | 20.7 | | | 30.1 | | | 19.8 | | | 42.3 | |
| Approach LOS | | C | | | C | | | B | | | D | |
| Queue Length 50th (m) | 5.8 | 26.8 | | 33.1 | 25.5 | | 4.5 | 42.5 | 0.0 | 12.7 | 112.3 | 0.4 |
| Queue Length 95th (m) | 13.6 | 49.2 | | 57.3 | 44.4 | | 10.0 | 59.2 | 7.8 | m20.1 | 134.1 | m2.2 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 395 | 623 | | 336 | 592 | | 341 | 1405 | 684 | 460 | 1527 | 726 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.39 | | 0.54 | 0.31 | | 0.13 | 0.37 | 0.11 | 0.13 | 0.59 | 0.04 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.59 | |
| Intersection Signal Delay: 31.3 | Intersection LOS: C |
| Intersection Capacity Utilization 72.4% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 67 | 43 | 68 | 13 | 34 | 66 | 15 | 317 | 21 | 121 | 841 | 125 |
| Future Volume (vph) | 67 | 43 | 68 | 13 | 34 | 66 | 15 | 317 | 21 | 121 | 841 | 125 |
| Satd. Flow (prot) | 1583 | 1712 | 1495 | 1421 | 1776 | 1442 | 1570 | 3167 | 1380 | 1656 | 3505 | 1495 |
| Flt Permitted | 0.733 | | | 0.726 | | | 0.186 | | | 0.541 | | |
| Satd. Flow (perm) | 1222 | 1712 | 1495 | 1086 | 1776 | 1442 | 307 | 3167 | 1380 | 943 | 3505 | 1495 |
| Satd. Flow (RTOR) | | | 92 | | | 92 | | | 91 | | | 129 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 14% | 11% | 8% | 27% | 7% | 12% | 15% | 14% | 17% | 9% | 3% | 8% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 73 | 47 | 74 | 14 | 37 | 72 | 16 | 345 | 23 | 132 | 914 | 136 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.17 | 0.08 | 0.13 | 0.04 | 0.06 | 0.13 | 0.06 | 0.28 | 0.04 | 0.25 | 0.67 | 0.21 |
| Control Delay | 26.7 | 25.0 | 4.0 | 24.5 | 24.7 | 3.7 | 6.5 | 11.1 | 0.1 | 13.8 | 30.9 | 5.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.7 | 25.0 | 4.0 | 24.5 | 24.7 | 3.7 | 6.5 | 11.1 | 0.1 | 13.8 | 30.9 | 5.3 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 17.6 | | | 12.4 | | | 10.3 | | | 26.0 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Queue Length 50th (m) | 11.4 | 7.1 | 0.0 | 2.1 | 5.6 | 0.0 | 0.7 | 8.8 | 0.0 | 14.0 | 88.6 | 1.0 |
| Queue Length 95th (m) | 22.9 | 15.8 | 7.3 | 6.8 | 13.1 | 6.8 | m2.0 | 12.2 | 0.0 | 24.3 | 111.8 | 13.4 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 419 | 588 | 574 | 373 | 610 | 555 | 268 | 1229 | 591 | 536 | 1360 | 659 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.08 | 0.13 | 0.04 | 0.06 | 0.13 | 0.06 | 0.28 | 0.04 | 0.25 | 0.67 | 0.21 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.67 | |
| Intersection Signal Delay: 21.0 | Intersection LOS: C |
| Intersection Capacity Utilization 66.3% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 8 | 24 | 77 | 449 | 877 | 26 |
| Future Volume (Veh/h) | 8 | 24 | 77 | 449 | 877 | 26 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 26 | 84 | 488 | 953 | 28 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1379 | 490 | 981 | | | |
| vC1, stage 1 conf vol | 967 | | | | | |
| vC2, stage 2 conf vol | 412 | | | | | |
| vCu, unblocked vol | 1379 | 490 | 981 | | | |
| tC, single (s) | 7.1 | 7.2 | 4.2 | | | |
| tC, 2 stage (s) | 6.1 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 97 | 95 | 88 | | | |
| cM capacity (veh/h) | 271 | 493 | 693 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 35 | 84 | 244 | 244 | 635 | 346 |
| Volume Left | 9 | 84 | 0 | 0 | 0 | 0 |
| Volume Right | 26 | 0 | 0 | 0 | 0 | 28 |
| cSH | 407 | 693 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.09 | 0.12 | 0.14 | 0.14 | 0.37 | 0.20 |
| Queue Length 95th (m) | 2.2 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 14.7 | 10.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | B | B | | | | |
| Approach Delay (s) | 14.7 | 1.6 | | | 0.0 | |
| Approach LOS | B | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.9 | | |
| Intersection Capacity Utilization | 42.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 87 | 16 | 93 | 36 | 11 | 148 |
| Future Volume (Veh/h) | 87 | 16 | 93 | 36 | 11 | 148 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 95 | 17 | 101 | 39 | 12 | 161 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 306 | 120 | | | 140 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 306 | 120 | | | 140 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.3 | |
| p0 queue free % | 86 | 98 | | | 99 | |
| cM capacity (veh/h) | 685 | 936 | | | 1384 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 112 | 140 | 173 |
| Volume Left | 95 | 0 | 12 |
| Volume Right | 17 | 39 | 0 |
| cSH | 714 | 1700 | 1384 |
| Volume to Capacity | 0.16 | 0.08 | 0.01 |
| Queue Length 95th (m) | 4.4 | 0.0 | 0.2 |
| Control Delay (s) | 11.0 | 0.0 | 0.6 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.0 | 0.0 | 0.6 |
| Approach LOS | B | | |

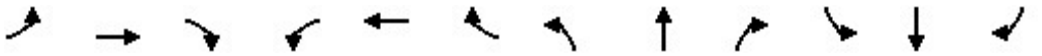
| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 3.1 | |
| Intersection Capacity Utilization | | 29.3% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 58 | 118 | 68 | 193 | 95 | 73 | 120 | 899 | 128 | 51 | 713 | 45 |
| Future Volume (vph) | 58 | 118 | 68 | 193 | 95 | 73 | 120 | 899 | 128 | 51 | 713 | 45 |
| Satd. Flow (prot) | 1770 | 1760 | 0 | 1736 | 1683 | 0 | 1787 | 3539 | 1553 | 1556 | 3471 | 1568 |
| Flt Permitted | 0.624 | | | 0.596 | | | 0.243 | | | 0.188 | | |
| Satd. Flow (perm) | 1162 | 1760 | 0 | 1089 | 1683 | 0 | 457 | 3539 | 1553 | 308 | 3471 | 1568 |
| Satd. Flow (RTOR) | | 29 | | | 38 | | | | 106 | | | 89 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 6% | 5% | 1% | 2% | 4% | 16% | 4% | 3% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 63 | 202 | 0 | 210 | 182 | 0 | 130 | 977 | 139 | 55 | 775 | 49 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 57.2 | 48.0 | 48.0 | 53.8 | 44.4 | 44.4 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.52 | 0.44 | 0.44 | 0.49 | 0.40 | 0.40 |
| v/c Ratio | 0.16 | 0.32 | | 0.56 | 0.30 | | 0.38 | 0.63 | 0.19 | 0.23 | 0.55 | 0.07 |
| Control Delay | 26.3 | 24.2 | | 36.1 | 22.2 | | 15.7 | 27.3 | 7.1 | 23.0 | 42.2 | 12.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.3 | 24.2 | | 36.1 | 22.2 | | 15.7 | 27.3 | 7.1 | 23.0 | 42.2 | 12.2 |
| LOS | C | C | | D | C | | B | C | A | C | D | B |
| Approach Delay | | 24.7 | | | 29.6 | | | 23.8 | | | 39.3 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 9.8 | 28.2 | | 38.2 | 23.2 | | 13.7 | 91.5 | 4.3 | 9.6 | 90.2 | 1.9 |
| Queue Length 95th (m) | 20.4 | 47.9 | | 63.8 | 41.5 | | 23.7 | 118.4 | 17.2 | 20.0 | 111.2 | 10.4 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 401 | 626 | | 376 | 606 | | 360 | 1543 | 737 | 270 | 1399 | 685 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.32 | | 0.56 | 0.30 | | 0.36 | 0.63 | 0.19 | 0.20 | 0.55 | 0.07 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 75 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.63 | |
| Intersection Signal Delay: 29.6 | Intersection LOS: C |
| Intersection Capacity Utilization 73.2% | ICU Level of Service D |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 36 | 55 | 31 | 55 | 168 | 53 | 832 | 23 | 52 | 508 | 77 |
| Future Volume (vph) | 154 | 36 | 55 | 31 | 55 | 168 | 53 | 832 | 23 | 52 | 508 | 77 |
| Satd. Flow (prot) | 1787 | 1845 | 1524 | 1570 | 1900 | 1568 | 1687 | 3539 | 1346 | 1687 | 3406 | 1404 |
| Flt Permitted | 0.718 | | | 0.732 | | | 0.387 | | | 0.191 | | |
| Satd. Flow (perm) | 1351 | 1845 | 1524 | 1209 | 1900 | 1568 | 687 | 3539 | 1346 | 339 | 3406 | 1404 |
| Satd. Flow (RTOR) | | | 92 | | | 183 | | | 91 | | | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 1% | 3% | 6% | 15% | 0% | 3% | 7% | 2% | 20% | 7% | 6% | 15% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 167 | 39 | 60 | 34 | 60 | 183 | 58 | 904 | 25 | 57 | 552 | 84 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.36 | 0.06 | 0.10 | 0.08 | 0.09 | 0.28 | 0.13 | 0.66 | 0.04 | 0.20 | 0.42 | 0.14 |
| Control Delay | 29.8 | 24.7 | 2.4 | 25.2 | 25.1 | 4.9 | 5.5 | 12.7 | 0.1 | 13.6 | 25.8 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 24.7 | 2.4 | 25.2 | 25.1 | 4.9 | 5.5 | 12.7 | 0.1 | 13.6 | 25.8 | 4.6 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 22.9 | | | 11.8 | | | 12.0 | | | 22.2 | |
| Approach LOS | | C | | | B | | | B | | | C | |
| Queue Length 50th (m) | 28.1 | 5.9 | 0.0 | 5.2 | 9.1 | 0.0 | 2.0 | 20.1 | 0.0 | 5.8 | 47.3 | 0.0 |
| Queue Length 95th (m) | 47.4 | 13.6 | 4.2 | 12.6 | 18.8 | 15.1 | m3.4 | 24.0 | m0.0 | 12.1 | 62.7 | 8.9 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 464 | 634 | 584 | 415 | 652 | 658 | 434 | 1373 | 578 | 292 | 1322 | 600 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.06 | 0.10 | 0.08 | 0.09 | 0.28 | 0.13 | 0.66 | 0.04 | 0.20 | 0.42 | 0.14 |

| Intersection Summary | |
|---|---|
| Cycle Length: 110 | |
| Actuated Cycle Length: 110 | |
| Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | |
| Natural Cycle: 65 | |
| Control Type: Pretimed | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 16.5 | Intersection LOS: B |
| Intersection Capacity Utilization 66.1% | ICU Level of Service C |
| Analysis Period (min) 15 | |
| m Volume for 95th percentile queue is metered by upstream signal. | |

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 34 | 108 | 77 | 950 | 687 | 21 |
| Future Volume (Veh/h) | 34 | 108 | 77 | 950 | 687 | 21 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 37 | 117 | 84 | 1033 | 747 | 23 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1443 | 385 | 770 | | | |
| vC1, stage 1 conf vol | 758 | | | | | |
| vC2, stage 2 conf vol | 684 | | | | | |
| vCu, unblocked vol | 1443 | 385 | 770 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 88 | 81 | 90 | | | |
| cM capacity (veh/h) | 313 | 616 | 840 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 154 | 84 | 516 | 516 | 498 | 272 |
| Volume Left | 37 | 84 | 0 | 0 | 0 | 0 |
| Volume Right | 117 | 0 | 0 | 0 | 0 | 23 |
| cSH | 500 | 840 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.31 | 0.10 | 0.30 | 0.30 | 0.29 | 0.16 |
| Queue Length 95th (m) | 10.4 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 15.4 | 9.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 15.4 | 0.7 | | | 0.0 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 42.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 45 | 9 | 278 | 81 | 22 | 122 |
| Future Volume (Veh/h) | 45 | 9 | 278 | 81 | 22 | 122 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 49 | 10 | 302 | 88 | 24 | 133 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 527 | 346 | | | 390 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 527 | 346 | | | 390 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 90 | 99 | | | 98 | |
| cM capacity (veh/h) | 505 | 702 | | | 1180 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 59 | 390 | 157 |
| Volume Left | 49 | 0 | 24 |
| Volume Right | 10 | 88 | 0 |
| cSH | 530 | 1700 | 1180 |
| Volume to Capacity | 0.11 | 0.23 | 0.02 |
| Queue Length 95th (m) | 3.0 | 0.0 | 0.5 |
| Control Delay (s) | 12.6 | 0.0 | 1.4 |
| Lane LOS | B | | A |
| Approach Delay (s) | 12.6 | 0.0 | 1.4 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 35.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Appendix H

Synchro Reports

Total Volumes 2027

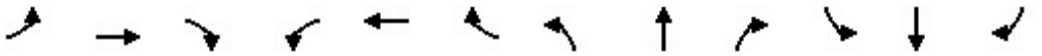
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 33 | 80 | 129 | 156 | 101 | 58 | 38 | 457 | 67 | 55 | 816 | 26 |
| Future Volume (vph) | 33 | 80 | 129 | 156 | 101 | 58 | 38 | 457 | 67 | 55 | 816 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 60.0 | | 0.0 | 60.0 | | 0.0 | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 65.0 | | | 0.0 | | | 0.0 | | |
| Satd. Flow (prot) | 1752 | 1651 | 0 | 1719 | 1661 | 0 | 1805 | 3223 | 1455 | 1656 | 3471 | 1538 |
| Flt Permitted | 0.637 | | | 0.562 | | | 0.233 | | | 0.413 | | |
| Satd. Flow (perm) | 1175 | 1651 | 0 | 1017 | 1661 | 0 | 443 | 3223 | 1455 | 720 | 3471 | 1538 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 80 | | | 29 | | | | 89 | | | 89 |
| Link Speed (k/h) | | 50 | | | 50 | | | 60 | | | 60 | |
| Link Distance (m) | | 927.0 | | | 367.9 | | | 238.3 | | | 786.0 | |
| Travel Time (s) | | 66.7 | | | 26.5 | | | 14.3 | | | 47.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 5% | 4% | 5% | 3% | 17% | 0% | 12% | 11% | 9% | 4% | 5% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 36 | 227 | 0 | 170 | 173 | 0 | 41 | 497 | 73 | 60 | 887 | 28 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 55.5 | 48.0 | 48.0 | 57.5 | 50.9 | 50.9 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.50 | 0.44 | 0.44 | 0.52 | 0.46 | 0.46 |
| v/c Ratio | 0.09 | 0.36 | | 0.48 | 0.29 | | 0.13 | 0.35 | 0.11 | 0.14 | 0.55 | 0.04 |
| Control Delay | 25.2 | 19.0 | | 34.0 | 23.2 | | 12.8 | 22.5 | 3.5 | 22.0 | 41.5 | 8.3 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.2 | 19.0 | | 34.0 | 23.2 | | 12.8 | 22.5 | 3.5 | 22.0 | 41.5 | 8.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOS | C | B | | C | C | | B | C | A | C | D | A |
| Approach Delay | | 19.8 | | | 28.6 | | | 19.5 | | | 39.3 | |
| Approach LOS | | B | | | C | | | B | | | D | |
| Queue Length 50th (m) | 5.4 | 23.8 | | 30.0 | 23.2 | | 4.1 | 39.8 | 0.0 | 12.3 | 109.7 | 0.4 |
| Queue Length 95th (m) | 13.1 | 44.9 | | 52.3 | 41.1 | | 9.4 | 55.6 | 6.8 | m20.3 | 131.4 | m2.5 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 405 | 622 | | 351 | 592 | | 356 | 1405 | 684 | 468 | 1604 | 758 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.09 | 0.36 | | 0.48 | 0.29 | | 0.12 | 0.35 | 0.11 | 0.13 | 0.55 | 0.04 |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 70.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 62 | 40 | 65 | 12 | 31 | 61 | 15 | 314 | 21 | 112 | 796 | 116 |
| Future Volume (vph) | 62 | 40 | 65 | 12 | 31 | 61 | 15 | 314 | 21 | 112 | 796 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 80.0 | | | 100.0 | | | 7.5 | | | 100.0 | | |
| Satd. Flow (prot) | 1583 | 1712 | 1495 | 1421 | 1776 | 1442 | 1570 | 3167 | 1380 | 1656 | 3505 | 1495 |
| Flt Permitted | 0.735 | | | 0.729 | | | 0.209 | | | 0.545 | | |
| Satd. Flow (perm) | 1225 | 1712 | 1495 | 1091 | 1776 | 1442 | 345 | 3167 | 1380 | 950 | 3505 | 1495 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 92 | | | 92 | | | 91 | | | 126 |
| Link Speed (k/h) | | 50 | | | 50 | | | 80 | | | 50 | |
| Link Distance (m) | | 249.3 | | | 317.7 | | | 872.4 | | | 250.2 | |
| Travel Time (s) | | 17.9 | | | 22.9 | | | 39.3 | | | 18.0 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 14% | 11% | 8% | 27% | 7% | 12% | 15% | 14% | 17% | 9% | 3% | 8% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 67 | 43 | 71 | 13 | 34 | 66 | 16 | 341 | 23 | 122 | 865 | 126 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.16 | 0.07 | 0.12 | 0.03 | 0.06 | 0.12 | 0.06 | 0.28 | 0.04 | 0.23 | 0.64 | 0.19 |
| Control Delay | 26.4 | 24.9 | 3.5 | 24.5 | 24.6 | 2.9 | 6.8 | 11.7 | 0.1 | 13.6 | 29.9 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.4 | 24.9 | 3.5 | 24.5 | 24.6 | 2.9 | 6.8 | 11.7 | 0.1 | 13.6 | 29.9 | 4.6 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 17.1 | | | 11.9 | | | 10.8 | | | 25.3 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Queue Length 50th (m) | 10.4 | 6.5 | 0.0 | 2.0 | 5.1 | 0.0 | 0.7 | 9.7 | 0.0 | 12.9 | 82.4 | 0.0 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Queue Length 95th (m) | 21.4 | 14.8 | 6.5 | 6.4 | 12.3 | 5.4 | m2.2 | 13.3 | 0.0 | 22.6 | 104.3 | 12.0 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 420 | 588 | 574 | 374 | 610 | 555 | 283 | 1229 | 591 | 539 | 1360 | 657 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.16 | 0.07 | 0.12 | 0.03 | 0.06 | 0.12 | 0.06 | 0.28 | 0.04 | 0.23 | 0.64 | 0.19 |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 20.5 Intersection LOS: C
Intersection Capacity Utilization 65.1% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 81 | 81 | 417 | 814 | 40 |
| Future Volume (Veh/h) | 31 | 81 | 81 | 417 | 814 | 40 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 88 | 88 | 453 | 885 | 43 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1309 | 464 | 928 | | | |
| vC1, stage 1 conf vol | 906 | | | | | |
| vC2, stage 2 conf vol | 402 | | | | | |
| vCu, unblocked vol | 1309 | 464 | 928 | | | |
| tC, single (s) | 7.1 | 7.2 | 4.2 | | | |
| tC, 2 stage (s) | 6.1 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 88 | 83 | 88 | | | |
| cM capacity (veh/h) | 290 | 514 | 726 | | | |

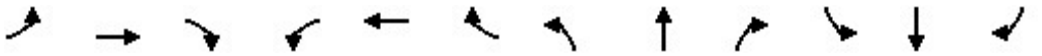
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 122 | 88 | 226 | 226 | 590 | 338 |
| Volume Left | 34 | 88 | 0 | 0 | 0 | 0 |
| Volume Right | 88 | 0 | 0 | 0 | 0 | 43 |
| cSH | 423 | 726 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.29 | 0.12 | 0.13 | 0.13 | 0.35 | 0.20 |
| Queue Length 95th (m) | 9.4 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 16.9 | 10.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 16.9 | 1.7 | | | 0.0 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.9 | | |
| Intersection Capacity Utilization | 45.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 86 | 16 | 87 | 35 | 10 | 137 |
| Future Volume (Veh/h) | 86 | 16 | 87 | 35 | 10 | 137 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 93 | 17 | 95 | 38 | 11 | 149 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 285 | 114 | | | 133 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 285 | 114 | | | 133 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.3 | |
| p0 queue free % | 87 | 98 | | | 99 | |
| cM capacity (veh/h) | 704 | 944 | | | 1392 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 110 | 133 | 160 |
| Volume Left | 93 | 0 | 11 |
| Volume Right | 17 | 38 | 0 |
| cSH | 733 | 1700 | 1392 |
| Volume to Capacity | 0.15 | 0.08 | 0.01 |
| Queue Length 95th (m) | 4.2 | 0.0 | 0.2 |
| Control Delay (s) | 10.8 | 0.0 | 0.6 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.8 | 0.0 | 0.6 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 3.2 | |
| Intersection Capacity Utilization | | 27.8% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

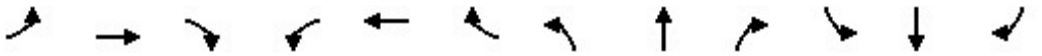


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 110 | 64 | 179 | 88 | 72 | 111 | 881 | 119 | 49 | 680 | 43 |
| Future Volume (vph) | 57 | 110 | 64 | 179 | 88 | 72 | 111 | 881 | 119 | 49 | 680 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 60.0 | | 0.0 | 60.0 | | 0.0 | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 65.0 | | | 0.0 | | | 0.0 | | |
| Satd. Flow (prot) | 1770 | 1760 | 0 | 1736 | 1679 | 0 | 1787 | 3539 | 1553 | 1556 | 3471 | 1568 |
| Flt Permitted | 0.635 | | | 0.613 | | | 0.262 | | | 0.196 | | |
| Satd. Flow (perm) | 1183 | 1760 | 0 | 1120 | 1679 | 0 | 493 | 3539 | 1553 | 321 | 3471 | 1568 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 29 | | | 41 | | | | 100 | | | 89 |
| Link Speed (k/h) | | 50 | | | 50 | | | 60 | | | 60 | |
| Link Distance (m) | | 927.0 | | | 367.9 | | | 238.3 | | | 786.0 | |
| Travel Time (s) | | 66.7 | | | 26.5 | | | 14.3 | | | 47.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 6% | 5% | 1% | 2% | 4% | 16% | 4% | 3% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 62 | 190 | 0 | 195 | 174 | 0 | 121 | 958 | 129 | 53 | 739 | 47 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 57.2 | 48.0 | 48.0 | 53.8 | 44.5 | 44.5 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.52 | 0.44 | 0.44 | 0.49 | 0.40 | 0.40 |
| v/c Ratio | 0.15 | 0.30 | | 0.51 | 0.29 | | 0.34 | 0.62 | 0.18 | 0.22 | 0.53 | 0.07 |
| Control Delay | 26.2 | 23.7 | | 34.1 | 21.3 | | 15.0 | 27.0 | 7.0 | 22.6 | 41.2 | 11.6 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.2 | 23.7 | | 34.1 | 21.3 | | 15.0 | 27.0 | 7.0 | 22.6 | 41.2 | 11.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOS | C | C | | C | C | | B | C | A | C | D | B |
| Approach Delay | | 24.3 | | | 28.1 | | | 23.6 | | | 38.4 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 9.6 | 26.0 | | 34.7 | 21.2 | | 12.7 | 89.0 | 3.8 | 9.1 | 85.2 | 1.7 |
| Queue Length 95th (m) | 19.9 | 44.9 | | 58.3 | 39.0 | | 22.4 | 115.2 | 16.1 | 19.5 | 106.1 | 9.6 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 408 | 626 | | 386 | 606 | | 376 | 1545 | 734 | 276 | 1403 | 687 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.15 | 0.30 | | 0.51 | 0.29 | | 0.32 | 0.62 | 0.18 | 0.19 | 0.53 | 0.07 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 110 | | | |
| Actuated Cycle Length: 110 | | | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.62 | | | |
| Intersection Signal Delay: 28.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 71.2% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 33 | 54 | 31 | 51 | 156 | 52 | 794 | 23 | 48 | 497 | 71 |
| Future Volume (vph) | 143 | 33 | 54 | 31 | 51 | 156 | 52 | 794 | 23 | 48 | 497 | 71 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 80.0 | | | 100.0 | | | 7.5 | | | 100.0 | | |
| Satd. Flow (prot) | 1787 | 1845 | 1524 | 1570 | 1900 | 1568 | 1687 | 3539 | 1346 | 1687 | 3406 | 1404 |
| Flt Permitted | 0.721 | | | 0.734 | | | 0.395 | | | 0.210 | | |
| Satd. Flow (perm) | 1356 | 1845 | 1524 | 1213 | 1900 | 1568 | 701 | 3539 | 1346 | 373 | 3406 | 1404 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 92 | | | 170 | | | 91 | | | 91 |
| Link Speed (k/h) | | 50 | | | 50 | | | 80 | | | 50 | |
| Link Distance (m) | | 249.3 | | | 317.7 | | | 872.4 | | | 250.2 | |
| Travel Time (s) | | 17.9 | | | 22.9 | | | 39.3 | | | 18.0 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 1% | 3% | 6% | 15% | 0% | 3% | 7% | 2% | 20% | 7% | 6% | 15% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 155 | 36 | 59 | 34 | 55 | 170 | 57 | 863 | 25 | 52 | 540 | 77 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.33 | 0.06 | 0.10 | 0.08 | 0.08 | 0.26 | 0.13 | 0.63 | 0.04 | 0.17 | 0.41 | 0.13 |
| Control Delay | 29.3 | 24.6 | 2.2 | 25.2 | 25.0 | 5.0 | 5.7 | 12.7 | 0.1 | 13.2 | 25.6 | 3.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.3 | 24.6 | 2.2 | 25.2 | 25.0 | 5.0 | 5.7 | 12.7 | 0.1 | 13.2 | 25.6 | 3.9 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 22.2 | | | 11.9 | | | 12.0 | | | 22.2 | |
| Approach LOS | | C | | | B | | | B | | | C | |
| Queue Length 50th (m) | 25.8 | 5.4 | 0.0 | 5.2 | 8.3 | 0.0 | 2.1 | 20.4 | 0.0 | 5.3 | 46.0 | 0.0 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Queue Length 95th (m) | 44.0 | 12.8 | 3.9 | 12.6 | 17.7 | 14.7 | m3.6 | 24.5 | m0.0 | 11.3 | 61.2 | 7.5 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 465 | 634 | 584 | 416 | 652 | 650 | 440 | 1373 | 578 | 305 | 1322 | 600 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.33 | 0.06 | 0.10 | 0.08 | 0.08 | 0.26 | 0.13 | 0.63 | 0.04 | 0.17 | 0.41 | 0.13 |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 16.4 Intersection LOS: B
Intersection Capacity Utilization 65.0% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 56 | 122 | 124 | 882 | 638 | 49 |
| Future Volume (Veh/h) | 56 | 122 | 124 | 882 | 638 | 49 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 61 | 133 | 135 | 959 | 693 | 53 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1469 | 373 | 746 | | | |
| vC1, stage 1 conf vol | 720 | | | | | |
| vC2, stage 2 conf vol | 750 | | | | | |
| vCu, unblocked vol | 1469 | 373 | 746 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 79 | 79 | 84 | | | |
| cM capacity (veh/h) | 293 | 627 | 858 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 194 | 135 | 480 | 480 | 462 | 284 |
| Volume Left | 61 | 135 | 0 | 0 | 0 | 0 |
| Volume Right | 133 | 0 | 0 | 0 | 0 | 53 |
| cSH | 461 | 858 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.42 | 0.16 | 0.28 | 0.28 | 0.27 | 0.17 |
| Queue Length 95th (m) | 16.4 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 18.3 | 10.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | A | | | | |
| Approach Delay (s) | 18.3 | 1.2 | | | 0.0 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 46.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 45 | 8 | 258 | 80 | 22 | 113 |
| Future Volume (Veh/h) | 45 | 8 | 258 | 80 | 22 | 113 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 49 | 9 | 280 | 87 | 24 | 123 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 494 | 324 | | | 367 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 494 | 324 | | | 367 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 91 | 99 | | | 98 | |
| cM capacity (veh/h) | 527 | 722 | | | 1203 | |

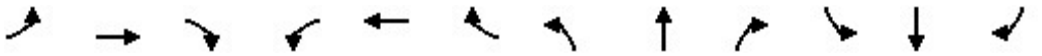
| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 58 | 367 | 147 |
| Volume Left | 49 | 0 | 24 |
| Volume Right | 9 | 87 | 0 |
| cSH | 550 | 1700 | 1203 |
| Volume to Capacity | 0.11 | 0.22 | 0.02 |
| Queue Length 95th (m) | 2.8 | 0.0 | 0.5 |
| Control Delay (s) | 12.3 | 0.0 | 1.5 |
| Lane LOS | B | | A |
| Approach Delay (s) | 12.3 | 0.0 | 1.5 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 34.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Appendix I

Synchro Reports

Total Volumes 2032



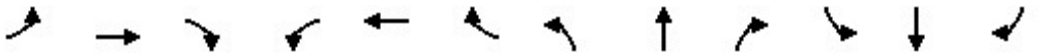
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 86 | 139 | 168 | 109 | 63 | 41 | 492 | 72 | 59 | 875 | 28 |
| Future Volume (vph) | 36 | 86 | 139 | 168 | 109 | 63 | 41 | 492 | 72 | 59 | 875 | 28 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 60.0 | | 0.0 | 60.0 | | 0.0 | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 65.0 | | | 0.0 | | | 0.0 | | |
| Satd. Flow (prot) | 1752 | 1651 | 0 | 1719 | 1661 | 0 | 1805 | 3223 | 1455 | 1656 | 3471 | 1538 |
| Flt Permitted | 0.618 | | | 0.539 | | | 0.193 | | | 0.399 | | |
| Satd. Flow (perm) | 1140 | 1651 | 0 | 975 | 1661 | 0 | 367 | 3223 | 1455 | 696 | 3471 | 1538 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 81 | | | 29 | | | | 89 | | | 89 |
| Link Speed (k/h) | | 50 | | | 50 | | | 60 | | | 60 | |
| Link Distance (m) | | 927.0 | | | 367.9 | | | 238.3 | | | 786.0 | |
| Travel Time (s) | | 66.7 | | | 26.5 | | | 14.3 | | | 47.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 3% | 5% | 4% | 5% | 3% | 17% | 0% | 12% | 11% | 9% | 4% | 5% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 39 | 244 | 0 | 183 | 186 | 0 | 45 | 535 | 78 | 64 | 951 | 30 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 55.4 | 47.8 | 47.8 | 56.6 | 48.4 | 48.4 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.50 | 0.43 | 0.43 | 0.51 | 0.44 | 0.44 |
| v/c Ratio | 0.10 | 0.39 | | 0.54 | 0.31 | | 0.16 | 0.38 | 0.11 | 0.15 | 0.62 | 0.04 |
| Control Delay | 25.4 | 19.9 | | 36.4 | 23.9 | | 13.2 | 22.9 | 4.0 | 21.6 | 44.5 | 8.5 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 25.4 | 19.9 | | 36.4 | 23.9 | | 13.2 | 22.9 | 4.0 | 21.6 | 44.5 | 8.5 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOS | C | B | | D | C | | B | C | A | C | D | A |
| Approach Delay | | 20.7 | | | 30.1 | | | 20.0 | | | 42.1 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 5.9 | 26.8 | | 33.1 | 25.5 | | 4.5 | 43.6 | 0.0 | 13.2 | 118.3 | 0.4 |
| Queue Length 95th (m) | 14.0 | 49.2 | | 57.3 | 44.5 | | 10.0 | 60.4 | 7.8 | m20.5 | 140.4 | m2.7 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 393 | 623 | | 336 | 592 | | 322 | 1401 | 682 | 454 | 1527 | 726 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.10 | 0.39 | | 0.54 | 0.31 | | 0.14 | 0.38 | 0.11 | 0.14 | 0.62 | 0.04 |

## Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 31.5 Intersection LOS: C
Intersection Capacity Utilization 73.8% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 67 | 43 | 69 | 13 | 34 | 66 | 16 | 337 | 23 | 121 | 856 | 125 |
| Future Volume (vph) | 67 | 43 | 69 | 13 | 34 | 66 | 16 | 337 | 23 | 121 | 856 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 80.0 | | | 100.0 | | | 7.5 | | | 100.0 | | |
| Satd. Flow (prot) | 1583 | 1712 | 1495 | 1421 | 1776 | 1442 | 1570 | 3167 | 1380 | 1656 | 3505 | 1495 |
| Flt Permitted | 0.733 | | | 0.726 | | | 0.179 | | | 0.524 | | |
| Satd. Flow (perm) | 1222 | 1712 | 1495 | 1086 | 1776 | 1442 | 296 | 3167 | 1380 | 913 | 3505 | 1495 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 92 | | | 92 | | | 91 | | | 126 |
| Link Speed (k/h) | | 50 | | | 50 | | | 80 | | | 50 | |
| Link Distance (m) | | 249.3 | | | 317.7 | | | 872.4 | | | 250.2 | |
| Travel Time (s) | | 17.9 | | | 22.9 | | | 39.3 | | | 18.0 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 14% | 11% | 8% | 27% | 7% | 12% | 15% | 14% | 17% | 9% | 3% | 8% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 73 | 47 | 75 | 14 | 37 | 72 | 17 | 366 | 25 | 132 | 930 | 136 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.17 | 0.08 | 0.13 | 0.04 | 0.06 | 0.13 | 0.06 | 0.30 | 0.04 | 0.25 | 0.68 | 0.21 |
| Control Delay | 26.7 | 25.0 | 4.1 | 24.5 | 24.7 | 3.7 | 6.8 | 11.8 | 0.1 | 13.9 | 31.2 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.7 | 25.0 | 4.1 | 24.5 | 24.7 | 3.7 | 6.8 | 11.8 | 0.1 | 13.9 | 31.2 | 5.5 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 17.6 | | | 12.4 | | | 10.9 | | | 26.4 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Queue Length 50th (m) | 11.4 | 7.1 | 0.0 | 2.1 | 5.6 | 0.0 | 0.8 | 10.3 | 0.0 | 14.0 | 90.8 | 1.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Queue Length 95th (m) | 22.9 | 15.8 | 7.3 | 6.8 | 13.1 | 6.8 | m2.2 | 14.1 | 0.0 | 24.3 | 114.1 | 13.8 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 419 | 588 | 574 | 373 | 610 | 555 | 263 | 1229 | 591 | 524 | 1360 | 657 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.08 | 0.13 | 0.04 | 0.06 | 0.13 | 0.06 | 0.30 | 0.04 | 0.25 | 0.68 | 0.21 |

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 21.3 Intersection LOS: C
Intersection Capacity Utilization 66.7% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 82 | 87 | 449 | 877 | 42 |
| Future Volume (Veh/h) | 31 | 82 | 87 | 449 | 877 | 42 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 89 | 95 | 488 | 953 | 46 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1410 | 500 | 999 | | | |
| vC1, stage 1 conf vol | 976 | | | | | |
| vC2, stage 2 conf vol | 434 | | | | | |
| vCu, unblocked vol | 1410 | 500 | 999 | | | |
| tC, single (s) | 7.1 | 7.2 | 4.2 | | | |
| tC, 2 stage (s) | 6.1 | | | | | |
| tF (s) | 3.6 | 3.4 | 2.2 | | | |
| p0 queue free % | 87 | 82 | 86 | | | |
| cM capacity (veh/h) | 265 | 486 | 683 | | | |

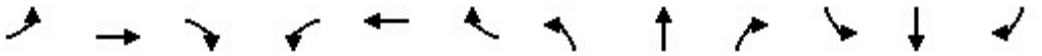
| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 123 | 95 | 244 | 244 | 635 | 364 |
| Volume Left | 34 | 95 | 0 | 0 | 0 | 0 |
| Volume Right | 89 | 0 | 0 | 0 | 0 | 46 |
| cSH | 395 | 683 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.31 | 0.14 | 0.14 | 0.14 | 0.37 | 0.21 |
| Queue Length 95th (m) | 10.5 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 18.2 | 11.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 18.2 | 1.8 | | | 0.0 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.9 | | |
| Intersection Capacity Utilization | 47.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 17 | 93 | 37 | 11 | 148 |
| Future Volume (Veh/h) | 90 | 17 | 93 | 37 | 11 | 148 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 98 | 18 | 101 | 40 | 12 | 161 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 306 | 121 | | | 141 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 306 | 121 | | | 141 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.2 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.3 | |
| p0 queue free % | 86 | 98 | | | 99 | |
| cM capacity (veh/h) | 684 | 936 | | | 1383 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 116 | 141 | 173 |
| Volume Left | 98 | 0 | 12 |
| Volume Right | 18 | 40 | 0 |
| cSH | 714 | 1700 | 1383 |
| Volume to Capacity | 0.16 | 0.08 | 0.01 |
| Queue Length 95th (m) | 4.6 | 0.0 | 0.2 |
| Control Delay (s) | 11.0 | 0.0 | 0.6 |
| Lane LOS | B | | A |
| Approach Delay (s) | 11.0 | 0.0 | 0.6 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.2 | | |
| Intersection Capacity Utilization | 29.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

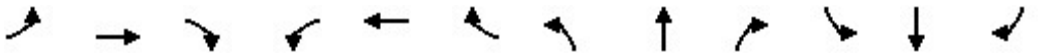


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 61 | 118 | 68 | 193 | 95 | 77 | 120 | 942 | 128 | 53 | 732 | 46 |
| Future Volume (vph) | 61 | 118 | 68 | 193 | 95 | 77 | 120 | 942 | 128 | 53 | 732 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 60.0 | | 0.0 | 60.0 | | 0.0 | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 100.0 | | | 65.0 | | | 0.0 | | | 0.0 | | |
| Satd. Flow (prot) | 1770 | 1760 | 0 | 1736 | 1679 | 0 | 1787 | 3539 | 1553 | 1556 | 3471 | 1568 |
| Flt Permitted | 0.617 | | | 0.596 | | | 0.233 | | | 0.168 | | |
| Satd. Flow (perm) | 1149 | 1760 | 0 | 1089 | 1679 | 0 | 438 | 3539 | 1553 | 275 | 3471 | 1568 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 29 | | | 41 | | | | 101 | | | 89 |
| Link Speed (k/h) | | 50 | | | 50 | | | 60 | | | 60 | |
| Link Distance (m) | | 927.0 | | | 367.9 | | | 238.3 | | | 786.0 | |
| Travel Time (s) | | 66.7 | | | 26.5 | | | 14.3 | | | 47.2 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 2% | 2% | 2% | 4% | 6% | 5% | 1% | 2% | 4% | 16% | 4% | 3% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 66 | 202 | 0 | 210 | 187 | 0 | 130 | 1024 | 139 | 58 | 796 | 50 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | Yes | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | | Perm | NA | | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | 2 | | 2 | 6 | | 6 |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | | 10.0 | 10.0 | | 7.0 | 20.0 | 20.0 | 7.0 | 20.0 | 20.0 |
| Minimum Split (s) | 29.0 | 29.0 | | 29.0 | 29.0 | | 12.0 | 31.0 | 31.0 | 12.0 | 31.0 | 31.0 |
| Total Split (s) | 45.0 | 45.0 | | 45.0 | 45.0 | | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | | 40.9% | 40.9% | | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 3.0 | 5.0 | 5.0 | 3.0 | 5.0 | 5.0 |
| All-Red Time (s) | 2.5 | 2.5 | | 2.5 | 2.5 | | 2.0 | 1.7 | 1.7 | 2.0 | 1.7 | 1.7 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 5.0 | 6.7 | 6.7 | 5.0 | 6.7 | 6.7 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | Max | Max | | Max | Max | | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 57.1 | 47.9 | 47.9 | 53.9 | 44.4 | 44.4 |
| Actuated g/C Ratio | 0.35 | 0.35 | | 0.35 | 0.35 | | 0.52 | 0.44 | 0.44 | 0.49 | 0.40 | 0.40 |
| v/c Ratio | 0.17 | 0.32 | | 0.56 | 0.31 | | 0.39 | 0.66 | 0.19 | 0.26 | 0.57 | 0.07 |
| Control Delay | 26.5 | 24.2 | | 36.1 | 22.0 | | 15.9 | 28.2 | 7.7 | 23.0 | 42.1 | 12.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 26.5 | 24.2 | | 36.1 | 22.0 | | 15.9 | 28.2 | 7.7 | 23.0 | 42.1 | 12.0 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOS | C | C | | D | C | | B | C | A | C | D | B |
| Approach Delay | | 24.8 | | | 29.5 | | | 24.7 | | | 39.2 | |
| Approach LOS | | C | | | C | | | C | | | D | |
| Queue Length 50th (m) | 10.3 | 28.2 | | 38.2 | 23.5 | | 13.7 | 97.8 | 5.0 | 10.0 | 92.6 | 1.9 |
| Queue Length 95th (m) | 21.2 | 47.9 | | 63.8 | 42.3 | | 23.7 | 126.6 | 18.0 | 20.8 | 113.8 | 10.4 |
| Internal Link Dist (m) | | 903.0 | | | 343.9 | | | 214.3 | | | 762.0 | |
| Turn Bay Length (m) | 60.0 | | | 60.0 | | | 45.0 | | 50.0 | 45.0 | | 50.0 |
| Base Capacity (vph) | 396 | 626 | | 376 | 606 | | 351 | 1540 | 733 | 256 | 1399 | 685 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.17 | 0.32 | | 0.56 | 0.31 | | 0.37 | 0.66 | 0.19 | 0.23 | 0.57 | 0.07 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 110 | | | |
| Actuated Cycle Length: 110 | | | |
| Offset: 79.2 (72%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green | | | |
| Natural Cycle: 75 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.66 | | | |
| Intersection Signal Delay: 30.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 74.3% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 1: Maitland Dr & Hwy 62



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 36 | 58 | 33 | 55 | 168 | 55 | 854 | 24 | 52 | 533 | 77 |
| Future Volume (vph) | 154 | 36 | 58 | 33 | 55 | 168 | 55 | 854 | 24 | 52 | 533 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 |
| Taper Length (m) | 80.0 | | | 100.0 | | | 7.5 | | | 100.0 | | |
| Satd. Flow (prot) | 1787 | 1845 | 1524 | 1570 | 1900 | 1568 | 1687 | 3539 | 1346 | 1687 | 3406 | 1404 |
| Flt Permitted | 0.718 | | | 0.732 | | | 0.369 | | | 0.180 | | |
| Satd. Flow (perm) | 1351 | 1845 | 1524 | 1209 | 1900 | 1568 | 655 | 3539 | 1346 | 320 | 3406 | 1404 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 92 | | | 183 | | | 91 | | | 91 |
| Link Speed (k/h) | | 50 | | | 50 | | | 80 | | | 50 | |
| Link Distance (m) | | 249.3 | | | 317.7 | | | 872.4 | | | 250.2 | |
| Travel Time (s) | | 17.9 | | | 22.9 | | | 39.3 | | | 18.0 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 1% | 3% | 6% | 15% | 0% | 3% | 7% | 2% | 20% | 7% | 6% | 15% |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 167 | 39 | 63 | 36 | 60 | 183 | 60 | 928 | 26 | 57 | 579 | 84 |
| 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(m) | | 3.6 | | | 3.6 | | | 3.6 | | | 3.6 | |
| Link Offset(m) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Crosswalk Width(m) | | 4.8 | | | 4.8 | | | 4.8 | | | 4.8 | |
| Two way Left Turn Lane | | | | | | | | Yes | | | | |
| 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 (k/h) | 25 | | 15 | 25 | | 15 | 25 | | 15 | 25 | | 15 |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |
| Minimum Split (s) | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 22.2 | 12.0 | 27.3 | 27.3 | 12.0 | 27.3 | 27.3 |
| Total Split (s) | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 15.0 | 50.0 | 50.0 | 15.0 | 50.0 | 50.0 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 13.6% | 45.5% | 45.5% | 13.6% | 45.5% | 45.5% |
| Yellow Time (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 3.0 | 5.9 | 5.9 | 3.0 | 5.9 | 5.9 |
| All-Red Time (s) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.0 | 1.4 | 1.4 | 2.0 | 1.4 | 1.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 5.0 | 7.3 | 7.3 | 5.0 | 7.3 | 7.3 |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Act Effct Green (s) | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 37.8 | 55.0 | 42.7 | 42.7 | 55.0 | 42.7 | 42.7 |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.50 | 0.39 | 0.39 | 0.50 | 0.39 | 0.39 |
| v/c Ratio | 0.36 | 0.06 | 0.11 | 0.09 | 0.09 | 0.28 | 0.14 | 0.68 | 0.04 | 0.20 | 0.44 | 0.14 |
| Control Delay | 29.8 | 24.7 | 2.6 | 25.3 | 25.1 | 4.9 | 5.7 | 13.1 | 0.1 | 13.7 | 26.1 | 4.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 29.8 | 24.7 | 2.6 | 25.3 | 25.1 | 4.9 | 5.7 | 13.1 | 0.1 | 13.7 | 26.1 | 4.6 |
| LOS | C | C | A | C | C | A | A | B | A | B | C | A |
| Approach Delay | | 22.7 | | | 11.9 | | | 12.4 | | | 22.6 | |
| Approach LOS | | C | | | B | | | B | | | C | |
| Queue Length 50th (m) | 28.1 | 5.9 | 0.0 | 5.5 | 9.1 | 0.0 | 2.1 | 21.9 | 0.0 | 5.8 | 50.0 | 0.0 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Queue Length 95th (m) | 47.4 | 13.6 | 4.8 | 13.1 | 18.8 | 15.1 | m3.6 | 26.2 | m0.0 | 12.1 | 66.0 | 8.9 |
| Internal Link Dist (m) | | 225.3 | | | 293.7 | | | 848.4 | | | 226.2 | |
| Turn Bay Length (m) | 90.0 | | 90.0 | 130.0 | | 60.0 | 100.0 | | 100.0 | 60.0 | | 60.0 |
| Base Capacity (vph) | 464 | 634 | 584 | 415 | 652 | 658 | 421 | 1373 | 578 | 284 | 1322 | 600 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.36 | 0.06 | 0.11 | 0.09 | 0.09 | 0.28 | 0.14 | 0.68 | 0.04 | 0.20 | 0.44 | 0.14 |

**Intersection Summary**

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 45 (41%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 16.8 Intersection LOS: B
Intersection Capacity Utilization 66.7% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Hwy 62 & Vermilyea Rd/Farnham Rd

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 130 | 130 | 950 | 687 | 51 |
| Future Volume (Veh/h) | 59 | 130 | 130 | 950 | 687 | 51 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 64 | 141 | 141 | 1033 | 747 | 55 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | TWLTL | TWLTL | |
| Median storage veh) | | | | 2 | 2 | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1573 | 401 | 802 | | | |
| vC1, stage 1 conf vol | 774 | | | | | |
| vC2, stage 2 conf vol | 798 | | | | | |
| vCu, unblocked vol | 1573 | 401 | 802 | | | |
| tC, single (s) | 6.8 | 6.9 | 4.1 | | | |
| tC, 2 stage (s) | 5.8 | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 76 | 77 | 83 | | | |
| cM capacity (veh/h) | 270 | 602 | 817 | | | |

| Direction, Lane # | EB 1 | NB 1 | NB 2 | NB 3 | SB 1 | SB 2 |
|---|---|---|---|---|---|---|
| Volume Total | 205 | 141 | 516 | 516 | 498 | 304 |
| Volume Left | 64 | 141 | 0 | 0 | 0 | 0 |
| Volume Right | 141 | 0 | 0 | 0 | 0 | 55 |
| cSH | 435 | 817 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.47 | 0.17 | 0.30 | 0.30 | 0.29 | 0.18 |
| Queue Length 95th (m) | 19.7 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Control Delay (s) | 20.5 | 10.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | C | B | | | | |
| Approach Delay (s) | 20.5 | 1.2 | | | 0.0 | |
| Approach LOS | C | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.6 | | |
| Intersection Capacity Utilization | 49.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 47 | 9 | 278 | 84 | 23 | 122 |
| Future Volume (Veh/h) | 47 | 9 | 278 | 84 | 23 | 122 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 51 | 10 | 302 | 91 | 25 | 133 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 530 | 348 | | | 393 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 530 | 348 | | | 393 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 90 | 99 | | | 98 | |
| cM capacity (veh/h) | 502 | 700 | | | 1177 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 61 | 393 | 158 |
| Volume Left | 51 | 0 | 25 |
| Volume Right | 10 | 91 | 0 |
| cSH | 526 | 1700 | 1177 |
| Volume to Capacity | 0.12 | 0.23 | 0.02 |
| Queue Length 95th (m) | 3.1 | 0.0 | 0.5 |
| Control Delay (s) | 12.7 | 0.0 | 1.4 |
| Lane LOS | B | | A |
| Approach Delay (s) | 12.7 | 0.0 | 1.4 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 36.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Appendix J

Left Turn Lane Warrant Assessment

# Left Turn Warrant for Sidney St at Kempton Ave

Total Volumes,
Peak Hours 2032

| | AM | PM |
|---|---|---|
| $V_O$ | 130 | 362 |
| $V_A$ | 159 | 145 |
| $V_L$ | 11 | 23 |
| $V_{\%L}$ | 5%(6.9%) | 15%(15.9%) |
| | | |