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- Streetscapes & Public Amenities
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## Proposed Light Industrial Development 2-20 Leikin Drive and 99 Bill Leathem Drive Transportation Impact Assessment

**Proposed Light Industrial Development  
2-20 Leikin Drive and 99 Bill Leathem Drive  
Transportation Impact Assessment**

Prepared By:

**NOVATECH**  
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October 2024

Novatech File: 124123  
Ref: R-2024-105

October 25, 2024

City of Ottawa  
Planning, Development, and Building Services Department  
110 Laurier Ave. W., 4<sup>th</sup> Floor  
Ottawa, Ontario K1P 1J1

**Attention: Mr. Mike Giampa**  
**Senior Engineer, Infrastructure Applications**

Dear Mr. Giampa:

**Reference: 2-20 Leikin Drive and 99 Bill Leathem Drive**  
**Transportation Impact Assessment**  
**Novatech File No. 124123**

---

We are pleased to submit the following Transportation Impact Assessment (TIA), in support of a Site Plan Control application at the properties listed above, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa's *Revised Transportation Impact Assessment Guidelines* (June 2023).

If you have any questions or comments regarding this report, please feel free to contact Jennifer Luong, or the undersigned.

Yours truly,

**NOVATECH**

Joshua Audia, P.Eng.  
Project Engineer | Transportation



## Certification Form for Transportation Impact Assessment (TIA) Study Program Manager

### TIA Plan Reports

On April 14, 2022, the Province's Bill 109 received Royal Assent providing legislative direction to implement the More Homes for Everyone Act, 2022 aiming to increase the supply of a range of housing options to make housing more affordable. Revisions have been made to the TIA guidelines to comply with Bill 109 and streamline the process for applicants and staff.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that they meet the four criteria listed below.

### Certification

- I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines (Update Effective July 2023);
- I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and

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**Revision Date: June, 2023**

## Transportation Impact Assessment Guidelines

I am either a licensed or registered<sup>1</sup> professional in good standing, whose field of expertise [check  appropriate field(s)]:

is either transportation engineering

or transportation planning.

Dated at  this  day of , 20.

(City)

Name:

Professional Title:

*Jennifer Luong*

Signature of Individual certifier that they meet the above four criteria

### Office Contact Information (Please Print)

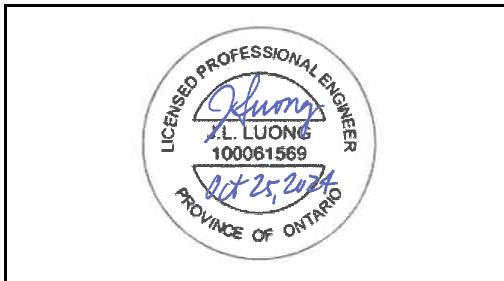
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E-Mail Address:

### Stamp



<sup>1</sup> License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

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## EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control application for the property located at 2-20 Leikin Drive and 99 Bill Leathem Drive. The subject site is approximately 30.58 hectares in area, and is located within the South Merivale Business Park. The entirety of the subject site is currently vacant.

The South Merivale Business Park report was prepared by Novatech in 1991, and considered the traffic impacts of full development within the park, including the subject lands. At that time, it was anticipated that a public road connection between Longfields Drive and Leikin Drive would be required to serve a number of smaller blocks within the business park. The parcels at 2 Leikin Drive, 20 Leikin Drive, and 99 Bill Leathem Drive are all separated by a road allowance, part of which would form the extension of Paragon Avenue. This application seeks to amalgamate the three addressed parcels and the road allowance into one property.

The proposed development consists of a new prestige office and light industrial building with a gross floor area (GFA) of approximately 3,130,920 ft<sup>2</sup>. The facility will include approximately 59 loading docks, 482 trailer parking spaces, and 980 vehicle parking spaces, all of which will be provided at-grade. If required, the site can accommodate another 205 vehicle parking spaces, for a total of 1,185 spaces. The proposed development will include full-movement accesses for employee vehicles and visitors at Leikin Drive and Paragon Avenue, and will form a new east leg at the existing Longfields Drive/Bill Leathem Drive roundabout. The proposed development will include separate accesses for trucks, with an access to Leikin Drive and egress to Longfields Drive. The development will be constructed in a single phase, with a buildout year of 2026.

The subject site is designated as 'Mixed Industrial' on Schedule B6 of the City of Ottawa's *Official Plan*. The implemented zoning for the property is 'Light Industrial' (IL9[2707]), and the site does not fall within the boundaries of any Community Design Plan or Secondary Areas.

The study area for this report includes the boundary roadways Longfields Drive, Bill Leathem Drive, Leikin Drive, Merivale Road, and Paragon Avenue, as well as the following intersections.

- Woodroffe Avenue/Fallowfield Road;
- Woodroffe Avenue/Longfields Drive;
- Longfields Drive/Bill Leathem Drive;
- Leikin Drive/Bill Leathem Drive;
- Leikin Drive/RCMP Access;
- Leikin Drive/Beckstead Road;
- Merivale Road/Fallowfield Road;
- Merivale Road/Leikin Drive;
- Merivale Road/Beckstead Road;
- Merivale Road/Prince of Wales Drive.

The selected time periods for the analysis are the weekday hours of 7:00am-8:00am and 5:00pm-6:00pm. These hours represent the 'worst case' combination of site-generated traffic and adjacent roadway traffic, as the shift changes for the proposed development are anticipated to occur at 6:30am-7:30am (i.e. before or during the start of the AM peak hour) and 5:30pm-6:30pm (i.e. after the PM peak hour). Analysis has been completed for the buildout year 2026 and horizon year 2031.

The conclusions and recommendations of the TIA can be summarized as follows:

### Site-Generated Traffic

- The proposed development is estimated to generate 478 employee person trips and 16 truck trips from 7:00am-8:00am, and 638 employee person trips and 27 truck trips from 5:00pm-6:00pm.

### Access Design

- The proposed truck egress to Longfields Drive and full-movement accesses to Leikin Drive and Paragon Avenue will be stop-controlled. The proposed connection to the existing roundabout at Longfields Drive/Bill Leathem Drive will be yield-controlled, consistent with the existing approaches.
- Except for the following, the design of the proposed accesses generally meet the relevant provisions of the City's *Private Approach By-Law* (PABL) and *Zoning By-Law* (ZBL), and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.
  - Section 25(1)(e) of the PABL identifies that access widths in excess of 7.5m (for one-way accesses) or 9.0m (for two-way accesses) may be permitted for transport loading areas. The proposed access widths of 12.2m (the east approach to Longfields Drive/Bill Leathem Drive), 14.0m (the truck egress to Longfields Drive), and 15.5m (the truck access to Leikin Drive) are requested to be approved under Section 25(1)(e).
- The stopping sight distance requirement of 105m and desired intersection sight distances of 130m for drivers looking left and 150m for drivers looking right is anticipated to be met at all proposed accesses.

### Development Design and Parking

- Pedestrian walkways are proposed throughout the employee parking lots and connect to walkways along the south and west sides of the building. These walkways will provide connectivity between the development and all parking areas. Additionally, walkways are proposed between the guardhouses and building entrances at the northwest and southeast corners. Pedestrian connections to the existing network are proposed at the Longfields Drive/Bill Leathem Drive roundabout, sidewalk on the east side of Paragon Avenue, and proposed sidewalk along the subject site's frontage to Leikin Drive.
- On-site traffic calming measures are proposed, including maximum on-site speed signage, and frequent speed bumps along the main drive aisles (either at sections where no stop signage is proposed, or on either side of any proposed pedestrian crossings). Adequate lighting will be provided throughout the associate parking spaces.
- Bicycle parking is proposed in two designated areas on the south side of the building, adjacent to the primary east-west drive aisle serving the development.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. Entrances to the proposed building are not within 400m walking distance of any OC Transpo bus stop, but are within 600m walking distance of stops #0729, #0730, #3518, and #3519. These stops are served by the existing routes 73, 80, 199, and 278.
- A review of the City's *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* has been conducted. All relevant required TDM-supportive design and infrastructure measures in the TDM checklist are met.

- Garbage collection will occur in the secured area of the site near the southeast corner of the building (i.e. garbage trucks will enter and exit the truck access to Leikin Drive).
- The proposed development includes two on-site fire access routes. The fire route through the secured area includes the truck access to Leikin Drive, along the primary drive aisles to the north and east of the proposed building, and the truck egress to Longfields Drive. The fire route through the employee parking area includes the employee access to Leikin Drive, along the primary east-west drive aisle in front of the southern side of the building, and the proposed eastern approach to the Longfields Drive/Bill Leathem Drive roundabout.
- All parking and loading requirements will be met by the proposed development.

### Boundary Streets

- The results of the segment Multi-Modal Level of Service (MMLOS) analysis can be summarized as follows:
  - No boundary streets meet the target pedestrian level of service (PLOS);
  - Merivale Road, Longfields Drive, Bill Leathem Drive and Leikin Drive do not meet the target bicycle level of service (BLOS), while Paragon Avenue does not have a target;
  - All boundary transit routes achieve a transit level of service (TLOS) D;
  - All boundary streets meet the target truck level of service (TkLOS).
- Merivale Road includes paved shoulders, but no dedicated pedestrian facilities. A PLOS D is the best-possible score, and could be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 2.0m. However, the existing paved shoulders are appropriate given the rural context.
- Longfields Drive includes paved shoulders, but no dedicated pedestrian facilities. The target PLOS C can be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 0.5m. However, the existing paved shoulders are appropriate given the rural context.
- Bill Leathem Drive includes a 2.0m-wide sidewalk on the south side of the roadway. The target PLOS C is met by the existing sidewalk. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Bill Leathem Drive.
- Leikin Drive does not include sidewalks on either side of the roadway north of Beckstead Road. The target PLOS C can be achieved by providing sidewalks with a minimum width of 2.0m and minimum boulevard width of 0.5m. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Leikin Drive.
- Paragon Avenue includes a 2.0m-wide sidewalk on the east side of the roadway. The target PLOS C is met by the existing sidewalk. As Paragon Avenue is a dead-end local roadway, sidewalks on the one side of Paragon Avenue is acceptable per typical City cross-sections.
- Merivale Road and Longfields Drive include paved shoulders in both directions. The roadways cannot achieve the target BLOS C without the implementation of off-road facilities, such as a multi-use pathway. However, the existing paved shoulders are appropriate given the rural context.

- Bill Leathem Drive does not include any dedicated cycling facilities. The target BLOS C can be achieved by implementing bike lanes with a minimum width of 1.2m in each direction. The existing roadway width of Bill Leathem Drive can accommodate bike lanes in each direction, and this is identified for the City's consideration.
- Leikin Drive includes curbside bike lanes. The target BLOS C can be achieved by implementing physically separated bikeways, and is identified for the City's consideration.

*Transportation Demand Management*

- The proponent has agreed to consider the following TDM measures.
  - Designate an internal coordinator, or contract with an external coordinator;
  - Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
  - Display local area maps with walking/cycling access routes and key destinations at major entrances;
  - Display relevant transit schedules and route maps at entrances;
  - Provide online links to OC Transpo and STO information;
  - Provide real-time arrival information display at entrances;
  - Provide a dedicated ridematching portal at OttawaRideMatch.com;
  - Provide a multimodal travel option information package to new/relocating employees and students;
  - Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes;
  - Provide on-site amenities/services to minimize midday or mid-commute errands.

*Intersection MMLOS*

- The results of the intersection MMLOS analysis can be summarized as follows:
  - No study area intersections meet the target PLOS;
  - Merivale Road/Prince of Wales Drive meets the target BLOS, and Woodroffe Avenue/ Fallowfield Road, Woodroffe Avenue/Longfields Drive, Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not;
  - Woodroffe Avenue/Fallowfield Road and Woodroffe Avenue/Longfields Drive do not meet the target TLOS;
  - Woodroffe Avenue/Fallowfield Road, Woodroffe Avenue/Longfields Drive, and Merivale Road/Prince of Wales Drive meet the target TkLOS, while Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not.
- There is generally limited opportunity in improving the PLOS at each study area intersection without reducing the number of travel lanes or restricting turning movements, and there is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles. The north approach of the Woodroffe Avenue/Longfields Drive intersection meets the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks.
- For the intersections that do not meet the target BLOS, protected intersection designs would generally be required to achieve the target BLOS and are identified for the City's consideration, given the high operating speeds and traffic volumes within the study area.

- Woodroffe Avenue is identified in the 2031 Rapid Transit and Transit Priority (RTTP) Network Concept as a Transit Priority Corridor with Isolated Measures. Transit signal priority and queue jump lanes between Fallowfield Road and Chapman Mills Drive will be implemented, but this is not anticipated prior to the horizon year 2031. These measures if implemented would be expected to improve delays for transit vehicles on Woodroffe Avenue.
- No modifications to the curb radii are recommended at intersections which do not meet the target TkLOS.

*Existing/Background Traffic Conditions*

- The following movements have been identified as over-capacity in existing and/or background conditions:
  - Woodroffe Avenue/Fallowfield Road
    - Northbound left turn, southbound through, eastbound left turn, and eastbound right turn during the PM hour.
  - Woodroffe Avenue/Longfields Drive
    - Northbound through during the AM hour.
  - Leikin Drive/Bill Leathem Drive
    - Eastbound through/right turn during the AM hour.
  - Merivale Road/Fallowfield Road
    - Northbound through/right turn and eastbound left turn during the AM hour;
    - Southbound through and westbound through/right turn during the PM hour.
  - Merivale Road/Prince of Wales Drive
    - Eastbound right turn during the PM hour.
- At Woodroffe Avenue/Fallowfield Road, it appears that dual eastbound right turn lanes could be accommodated within the existing right-of-way of Fallowfield Road. If dual eastbound right turn lanes at the Woodroffe Avenue/Fallowfield Road intersection are implemented, no reduction in eastbound right turning volumes is required.
- At Merivale Road/Fallowfield Road, dual eastbound left turn lanes is identified as an improvement, as there are over 600 eastbound left turns during the 7:00am-8:00am hour. An additional receiving lane on Merivale Road and fully protected phase for eastbound and westbound left turns would also be required. It appears that property acquisition would be required to accommodate dual eastbound left turn lanes. An Environmental Assessment (EA) has been completed for the widening of Fallowfield Road from two lanes to four, between Woodroffe Avenue and Prince of Wales Drive. However, this is not anticipated to be implemented by the horizon year 2031.
- Outside of the road modifications identified above, signal timing adjustments were identified for Woodroffe Avenue/Fallowfield Road, Woodroffe Avenue/Longfields Drive, Merivale Road/Fallowfield Road, and Merivale Road/Prince of Wales Drive.

*Total Traffic Conditions*

- In total traffic conditions, operations within the study area during the AM and PM hours of analysis are generally similar to future background conditions.
- During the AM hour, queueing for the westbound left turn movement at Merivale Road/Fallowfield Road is 75m which exceeds the 30m storage length, extending approximately to

Ashdale Avenue. The implementation of dual eastbound left turn lanes at this intersection would provide an opportunity to provide dual westbound left turn lanes as well. Increasing the storage length of the single westbound left turn lane is limited by the Ashdale Avenue intersection. For this reason, an extension of the westbound left turn lane is not recommended at this time and should be considered when Fallowfield Road is widened to four lanes or as part of any future widening for dual eastbound left turn lanes. As this is an arterial-arterial intersection, improvements for the intersection would be eligible for development charges (DC) funding.

- The 2031 AM advancing and opposing volumes at the employee access to Leikin Drive fall on the threshold between requiring no left turn lane and a left turn lane with 15m of storage. No left turn lane has been recommended as the left turn volumes are low. Leikin Drive has a three-lane cross-section and a left turn lane could be accommodated with linepainting if required in the future.
- No modifications to any study area roadways or intersections are required to accommodate the addition of site-generated traffic volumes, and no roadway modifications are required at the proposed site access locations (including auxiliary turn lanes).
- The proposed development is recommended from a transportation perspective.

## 1.0 SCREENING

### 1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control application for the property located at 2-20 Leikin Drive and 99 Bill Leathem Drive. The subject site is approximately 30.58 hectares in area, and is located within the South Merivale Business Park. The entirety of the subject site is currently vacant.

The subject site is surrounded by the following:

- Greenbelt lands and Fallowfield Road to the north,
- Office and light industrial uses, Paragon Avenue, Leikin Drive, and Bill Leathem Drive to the south,
- Vacant lands, Leikin Drive, and Merivale Road the east, and
- Greenbelt lands and Longfields Drive to the west.

An aerial of the vicinity around the subject site is provided in **Figure 1**.

The South Merivale Business Park report was prepared by Novatech in 1991, and considered the traffic impacts of full development within the park, including the subject lands. At that time, it was anticipated that a public road connection between Longfields Drive and Leikin Drive would be required to serve a number of smaller blocks within the business park. The parcels at 2 Leikin Drive, 20 Leikin Drive, and 99 Bill Leathem Drive are all separated by a road allowance, part of which would form the extension of Paragon Avenue. This application seeks to amalgamate the three addressed parcels and the road allowance into one property.

### 1.2 Proposed Development

The proposed development consists of a new prestige office and light industrial building with a gross floor area (GFA) of approximately 3,130,920 ft<sup>2</sup>. The facility will include approximately 59 loading docks, 482 trailer parking spaces, and 980 vehicle parking spaces, all of which will be provided at-grade. If required, the site can accommodate another 205 vehicle parking spaces, for a total of 1,185 spaces. The proposed development will include full-movement accesses for employee vehicles and visitors at Leikin Drive and Paragon Avenue, and will form a new east leg at the existing Longfields Drive/Bill Leathem Drive roundabout. The proposed development will include separate accesses for trucks, with an access to Leikin Drive and egress to Longfields Drive. The development will be constructed in a single phase, with a buildout year of 2026.

The subject site is designated as 'Mixed Industrial' on Schedule B6 of the City of Ottawa's *Official Plan*. The implemented zoning for the property is 'Light Industrial' (IL9[2707]), and the site does not fall within the boundaries of any Community Design Plan or Secondary Areas.

A copy of the preliminary site plan is included in **Appendix A**.

Figure 1: View of the Subject Site



### 1.3 Screening Form

The City's *TIA Guidelines* identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form, which is included in **Appendix B**. The trigger results are as follows.

- Trip Generation Trigger – The development is anticipated to generate over 60 peak hour person trips; further assessment is **required** based on this trigger.
- Location Triggers – The development does not propose a new connection to a designated Rapid Transit or Transit Priority (RTTP) corridor or a Crosstown Bikeway, and is not located within a Hub, Protected Major Transit Station Area (PMTSA), or Design Priority Area (DPA); further assessment is **not required** based on this trigger.
- Safety Triggers – The development meets multiple safety triggers; further assessment is **required** based on this trigger.



## 2.0 SCOPING

### 2.1 Existing Conditions

#### 2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

**Fallowfield Road** is an arterial roadway that generally runs on an east-west alignment between Strandherd Drive and Prince of Wales Drive. West of Strandherd Drive, Fallowfield Road has a dog-leg bend and continues as an arterial to Dwyer Hill Road. Within the study area, Fallowfield Road has a posted speed limit of 80 km/h and generally has a two-lane undivided rural cross-section, widening to a four-lane divided cross-section approaching the intersection with Woodroffe Avenue. East of Woodroffe Avenue, the roadway includes paved shoulders in both directions. West of Woodroffe Avenue, the roadway includes an asphalt pathway on the north side, a concrete sidewalk on the south side, and bike lanes on both sides. Fallowfield Road is a truck route, allowing full loads.

**Woodroffe Avenue** is an arterial roadway that generally runs on a north-south alignment between Carling Avenue and Strandherd Drive. Within the study area, Woodroffe Avenue has a posted speed limit of 80 km/h and generally has a four-lane divided cross-section that is urban on the west side and rural on the east side. North of Fallowfield Road, the cross-section of Woodroffe Avenue is fully rural. Bike lanes or paved shoulders are provided in both directions, an asphalt pathway is provided on the east side, and a concrete sidewalk is provided on the west side (south of Fallowfield Road only). Woodroffe Avenue is a truck route, allowing full loads.

**Merivale Road** is an arterial roadway that generally runs on a north-south alignment between Island Park Drive and Prince of Wales Drive. Merivale Road is considered to intersect Prince of Wales Drive on an east-west alignment. Within the study area, Merivale Road has a posted speed limit of 80 km/h and generally has a two-lane undivided rural cross-section. Paved shoulders are provided in both directions. Merivale Road is a truck route, allowing full loads. Along the subject site's frontage to Merivale Road, the existing right-of-way (ROW) is approximately 23.5m. Schedule C16 of the City's *Official Plan* identifies a ROW protection of 37.5m for this section of Merivale Road. A widening will be required as part of this application.

**Prince of Wales Drive** is an arterial roadway that generally runs on a north-south alignment between Preston Street and Fourth Line Road. East of Preston Street, the roadway continues as Queen Elizabeth Driveway. Within the study area, Prince of Wales Drive has a posted speed limit of 80 km/h and generally has a two-lane undivided rural cross-section. Paved shoulders are provided in both directions. Prince of Wales Drive is a truck route, allowing full loads.

**Longfields Drive** is a major collector roadway that generally runs on an east-west alignment between Prince of Wales Drive and Strandherd Drive. South of Strandherd Drive, Longfields Drive continues on a north-south alignment as an arterial roadway. Within the study area, Longfields Drive has a posted speed limit of 70 km/h east of Woodroffe Avenue and 60 km/h west of Woodroffe Avenue. East of Woodroffe Avenue, Longfields Drive generally has a two-lane undivided rural cross-section. West of Woodroffe Avenue, Longfields Drive has a generally two-lane divided urban cross-section. Bike lanes are provided in both directions west of Woodroffe Avenue and paved shoulders are provided in both directions east of Woodroffe Avenue. Longfields Drive is not a designated truck route. Along the subject site's frontage to Longfields Drive, the existing ROW is 26.0m. Schedule C16 of the City's *Official Plan* does not identify a ROW protection for Longfields Drive east of Woodroffe Avenue. A widening is not required as part of this application.

**Bill Leathem Drive** is a major collector roadway that generally runs on a north-south alignment between Longfields Drive and Leikin Drive. Within the study area, Bill Leathem Drive has an unposted regulatory speed limit of 50 km/h, and generally has a two-lane undivided urban cross-section. A concrete sidewalk is provided on the west side of the roadway. Bill Leathem Drive is not a designated truck route. Along the subject site's frontage to Bill Leathem Drive, the existing ROW is approximately 20.0m. Schedule C16 of the City's *Official Plan* identifies a ROW protection of 26m for Bill Leathem Drive. A widening will be required as part of this application.

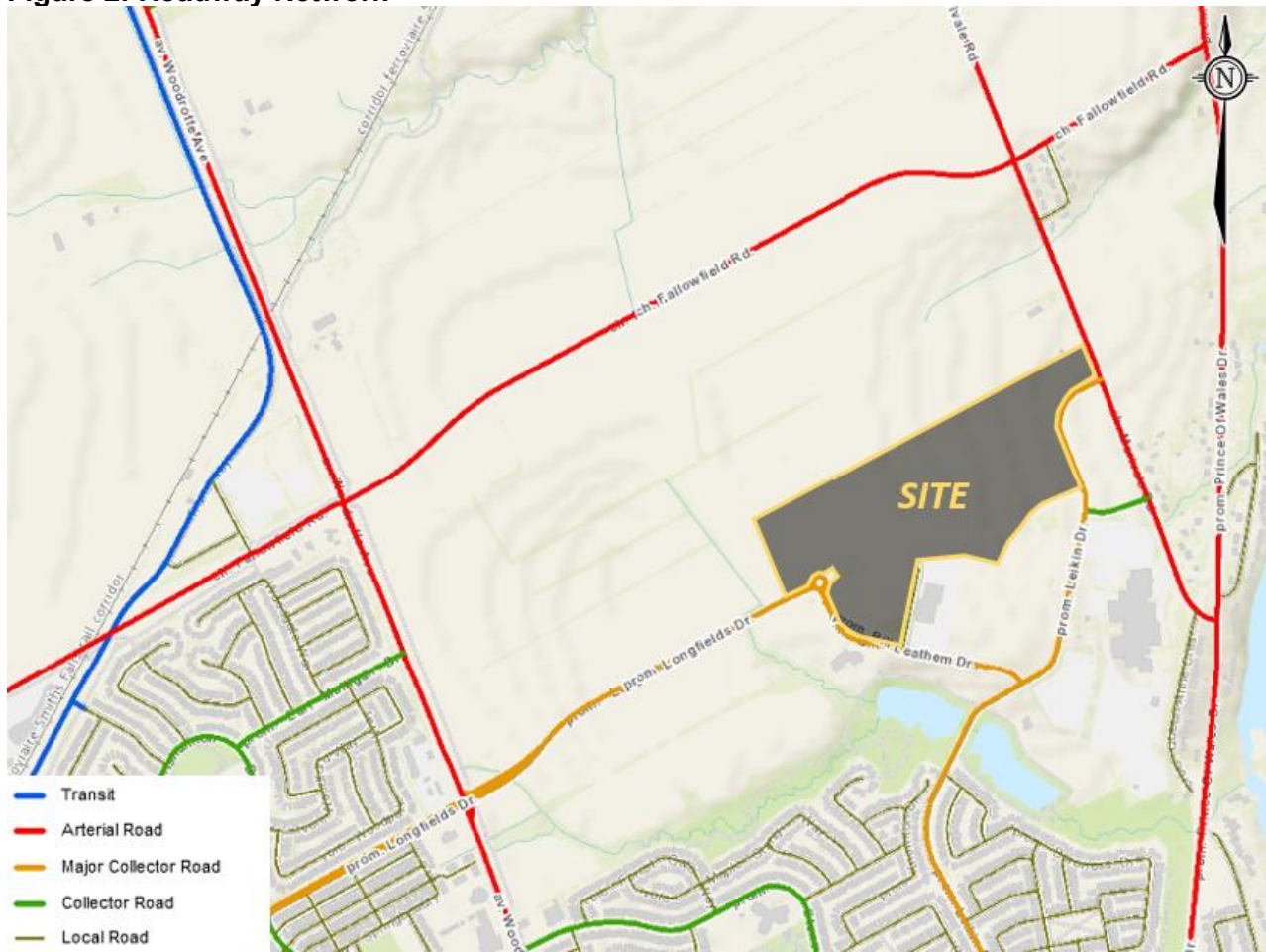
**Leikin Drive** is a major collector roadway that generally runs on an northeast-southwest alignment between Crestway Drive and Merivale Road. South of Crestway Drive, the roadway continues as Cresthaven Drive. Within the study area, Leikin Drive has a posted speed limit of 60 km/h, and generally has a three-lane undivided urban cross-section. Bike lanes are provided in each direction, and a concrete sidewalk is provided on the south/east side of Leikin Drive, south of Beckstead Road. Leikin Drive is not a designated truck route. Schedule C16 of the City's *Official Plan* identifies a ROW protection of 26m. A widening is not required as part of this application.

**Beckstead Road** is a collector roadway that generally runs on an east-west alignment between Merivale Road and Leikin Drive. Beckstead Road has an unposted regulatory speed limit of 50 km/h, and has a two-lane undivided urban cross-section. A sidewalk is provided on the south side of the roadway. Beckstead Road is not a designated truck route.

**Paragon Avenue** is a local roadway that generally runs on a north-south alignment, north of Bill Leathem Drive. Paragon Avenue has an unposted regulatory speed limit of 50 km/h, and generally has a two-lane undivided urban cross-section. A sidewalk is provided on the east side of the roadway. Paragon Avenue is not a designated truck route. Along the subject site's frontage to Paragon Avenue, the existing ROW is approximately 20.0m. Schedule C16 of the City's *Official Plan* does not identify a ROW protection for Paragon Avenue. A widening is not required as part of this application.

The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Figure 2: Roadway Network



### 2.1.2 Intersections

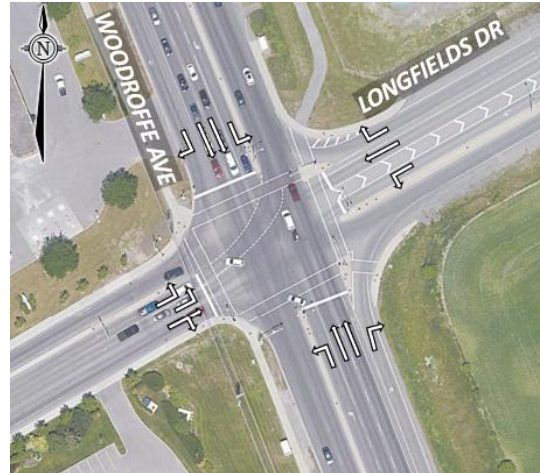
#### Woodroffe Avenue/Fallowfield Road

- Signalized four-legged intersection
- North Approach (Woodroffe Avenue): one left turn lane, two through lanes, one pocket bike lane, and one right turn lane
- South Approach (Woodroffe Avenue): two left turn lanes, two through lanes, one pocket bike lane, and one channelized right turn lane
- East Approach (Fallowfield Road): two left turn lanes, one through lane, and one shared through/right turn lane
- West Approach (Fallowfield Road): two left turn lanes, two through lanes, one pocket bike lane, and one channelized right turn lane
- Standard crosswalks on all approaches



Woodroffe Avenue/Longfields Drive

- Signalized four-legged intersection
- North Approach (Woodroffe Avenue): one left turn lane, two through lanes, one pocket bike lane, and one right turn lane
- South Approach (Woodroffe Avenue): one left turn lane, two through lanes, one pocket bike lane, and one channelized right turn lane
- East Approach (Longfields Drive): one slotted left turn lane, one through lane, one pocket bike lane, and one channelized right turn lane
- West Approach (Longfields Drive): two left turn lanes, one shared through/right turn lane and one curbside bike lane
- Standard crosswalks on all approaches



Longfields Drive/Bill Leathem Drive

- Single-lane roundabout
- South, east, and west approaches constructed
- East approach currently closed
- Zebra-striped crosswalks on south and west approaches



Leikin Drive/Bill Leathem Drive

- Unsignalized four-legged intersection
- All-way stop-controlled
- North Approach (Bill Leathem Drive): one shared left turn/through/right turn lane
- South Approach (RCMP Trades/Delivery Access): one shared left turn/through/right turn lane
- East Approach (Leikin Drive): one left turn lane, one shared through/right turn lane, and one curbside bike lane
- West Approach (Leikin Drive): one left turn lane, one shared through/right turn lane, and one curbside bike lane



Leikin Drive/RCMP Access

- Signalized three-legged intersection
- North Approach (Leikin Drive): one left turn lane, one through lane, and one curbside bike lane
- South Approach (Leikin Drive): one through lane, one pocket bike lane, and one right turn lane
- East Approach (RCMP Access): one left turn lane and one right turn lane
- Standard crosswalks on north and east approaches



Leikin Drive/Beckstead Road

- Unsignalized three-legged intersection
- Side-street stop-controlled, with free flow on Leikin Drive
- North Approach (Leikin Drive): one left turn lane, one through lane, and one curbside bike lane
- South Approach (Leikin Drive): one shared through/right turn lane and one curbside bike lane
- East Approach (Beckstead Road): one shared left turn/right turn lane



Merivale Road/Fallowfield Road

- Signalized four-legged intersection
- North Approach (Merivale Road): one left turn lane, one through lane, and one right turn lane
- South Approach (Merivale Road): one left turn lane and one shared through/right turn lane
- East Approach (Fallowfield Road): one left turn lane and one through/right turn lane
- West Approach (Fallowfield Road): one left turn lane, one through lane, one pocket bike lane, and one right turn lane



Merivale Road/Leikin Drive

- Signalized three-legged intersection
- North Approach (Merivale Road): one through lane and one right turn lane
- South Approach (Merivale Road): one left turn lane and one through lane
- West Approach (Leikin Drive): one left turn lane and one right turn lane
- Standard crosswalks on all approaches



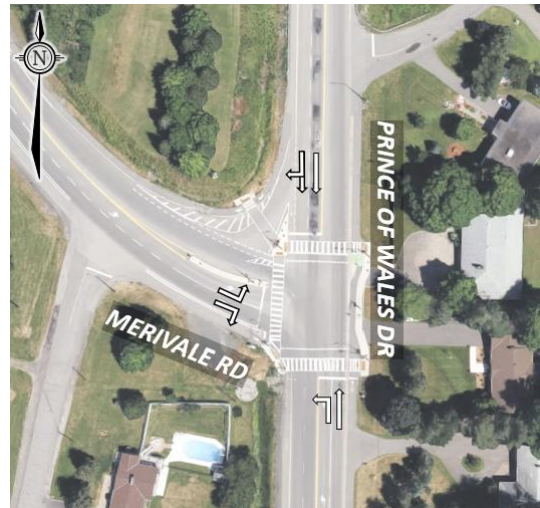
Merivale Road/Beckstead Road

- Unsignalized three-legged intersection
- Side-street stop-controlled, with free flow on Merivale Road
- North Approach (Merivale Road): one shared through/right turn lane
- South Approach (Merivale Road): one left turn lane and one through lane
- West Approach (Beckstead Road): one shared left turn/right turn lane
- Standard crosswalk on west approach



Merivale Road/Prince of Wales Drive

- Signalized three-legged intersection
- North Approach (Prince of Wales Drive): two through lanes, one pocket bike lane, and one right turn channel
- South Approach (Prince of Wales Drive): one left turn lane, one through lane, and one bike lane
- West Approach (Merivale Road): one left turn lane, one right turn lane, and one bike lane
- Zebra-striped crosswalks on all approaches
- Crossrides on north and south approaches



### 2.1.3 Driveways

In accordance with the *TIA Guidelines*, a review of the existing adjacent driveways along the boundary roads are provided as follows:

#### Longfields Drive, north side

- Multiple field driveways to 2925 Fallowfield Road.

#### Longfields Drive, south side

- Multiple field driveways to lands south of Longfields Drive.

#### Leikin Drive, east side

- One signalized driveway to the RCMP Headquarters at 73 Leikin Drive;
- Two unsignalized driveways to the RCMP Headquarters at 73 Leikin Drive;
- One field driveway to 11 Beckstead Road.

#### Leikin Drive, west side

- One field driveway to 50 Leikin Drive;
- One driveway (under construction) to the Canada Post development at 88 Leikin Drive.

#### Paragon Avenue, east side

- Three driveways to commercial uses at 61 Bill Leathem Drive.

#### Paragon Avenue, west side

- No driveways.

### 2.1.4 Pedestrian and Cycling Facilities

Within the study area, a sidewalk is generally provided on one side of Fallowfield Road (west of Woodroffe Avenue), Woodroffe Avenue, Bill Leathem Drive, Leikin Drive (south of Beckstead Road), and Paragon Avenue. Paved shoulders or bike lanes are generally provided in both directions on Fallowfield Road, Woodroffe Avenue, Longfields Drive, Leikin Drive, Merivale Road, and Prince of Wales Drive. A multi-use pathway is provided on the east side of Woodroffe Avenue. This pathway connects to the Greenbelt Western Pathway north of the study area.

Within the study area, Woodroffe Avenue is identified in the Crosstown Bikeway Network. The Southwest Transitway (west of the study area) and the section of Fallowfield Road between the Transitway and Woodroffe Avenue are also identified in the Crosstown Bikeway Network.

The pedestrian and cycling network of the greater area surrounding the subject site is illustrated in **Figure 3**.

### 2.1.5 Area Traffic Management

Within the study area, there are no Area Traffic Management (ATM) studies that are in progress, and no study area roadways include any traffic calming or traffic management features.

### 2.1.6 Transit

The locations of OC Transpo bus stops in the vicinity of the subject site are described in **Table 1**, and are shown in **Figure 4**. A summary of the various routes which serve the study area is included in **Table 2**. Detailed route information and an excerpt from the OC Transpo System Map are included in **Appendix C**.

Figure 3: Pedestrian and Cycling Network



Table 1: OC Transpo Transit Stops

Stop	Location	Routes Served
#0418	East side of Leikin Drive, north of RCMP Access	80, 199, 680
#0419	West side of Leikin Drive, south of RCMP Access	73, 80, 680
#0729	North side of Bill Leathem Drive, east of Paragon Avenue	73, 278, 676
#0730	South side of Bill Leathem Drive, east of Paragon Avenue	73, 278, 676
#3518	East side of Leikin Drive, south of Beckstead Road	80, 199, 680
#3519	West side of Leikin Drive, south of Beckstead Road	80, 199, 680
#3520	South side of Leikin Drive, west of Merivale Road	80, 199, 680
#3521	North side of Leikin Drive, west of Merivale Road	80, 199, 680



**Table 2: OC Transpo Route Information**

Route	From ↔ To	Frequency
73	Leikin ↔ Tunney's Pasture	Peak period service, Monday to Friday; 30-minute headways
80	Barrhaven Centre ↔ Tunney's Pasture	All day service, seven days a week; 30-minute headways
199	Leikin ↔ Hurdman	Peak period service, Monday to Friday; 30- or 60-minute headways
278	Riverside South ↔ Tunney's Pasture	Peak period service, Monday to Friday; 20- to 30-minute headways
676	Riverview ↔ Mother Teresa H.S.	Service at select times on school days only
680	Riverside South ↔ Merivale H.S.	Service at select times on school days only

Future Transit ('New Ways to Bus')

OC Transpo's future transit network (referred to as 'New Ways to Bus') will include changes to bus service within the study area. These changes could be in effect by buildout of the proposed development.

Route 73 will extend to Limebank Station and select buses will serve the stops on Leikin Drive east of Bill Leathem Drive. Additionally, Route 73 will be improved to include all-day service, rather than peak-period/peak-direction service. No changes to Route 80 are proposed within the study area. Routes 199 and 278 will be removed.

**Figure 4: OC Transpo Bus Stop Locations**



### 2.1.7 Existing Traffic Volumes

Weekday traffic counts completed by the City of Ottawa were used to determine the existing pedestrian, cyclist, and vehicular traffic volumes at the following study area intersections. These counts were completed on the dates listed below:

- Woodroffe Avenue/Fallowfield Road September 26, 2023
- Woodroffe Avenue/Longfields Drive January 18, 2024
- Leikin Drive/Bill Leathem Drive June 12, 2019
- Leikin Drive/RCMP Access January 14, 2020
- Merivale Road/Fallowfield Road March 2, 2017
- Merivale Road/Leikin Drive November 21, 2018
- Merivale Road/Prince of Wales Drive June 13, 2018

It is acknowledged that some counts were conducted during colder months, and traffic data collected at those intersections may not reflect peak pedestrian and cyclist volumes.

Traffic data at Merivale Road/Beckstead Road has been taken from the TIA prepared in support of the development at 50 Leikin Drive (described further in Section 2.2.2). Traffic volumes at Leikin Drive/Beckstead Road have been estimated based on the count data collected at Merivale Road/Leikin Drive and Merivale Road/Beckstead Road.

Based on the traffic count data listed above, the average annual daily traffic (AADT) of the boundary streets has been estimated as follows:

- Merivale Road (north of Leikin Drive): 9,800 vehicles per day (vpd);
- Longfields Drive (east of Woodroffe Avenue): 4,430 vpd;
- Leikin Drive (west of Merivale Road): 4,130 vpd.

The eight-hour weekday traffic counts from the City of Ottawa includes the hours of 7:00am-10:00am, 11:30am-1:30pm, and 3:00pm-6:00pm. The peak hours of each study area intersection are the following:

- Woodroffe Avenue/Fallowfield Road 7:45am-8:45am 4:15pm-5:15pm
- Woodroffe Avenue/Longfields Drive 8:00am-9:00am 4:30pm-5:30pm
- Leikin Drive/Bill Leathem Drive 7:15am-8:15am 4:00pm-5:00pm
- Leikin Drive/RCMP Access 7:00am-8:00am 4:00pm-5:00pm
- Merivale Road/Fallowfield Road 7:00am-8:00am 4:00pm-5:00pm
- Merivale Road/Leikin Drive 7:00am-8:00am 4:00pm-5:00pm
- Merivale Road/Prince of Wales Drive 7:00am-8:00am 4:45pm-5:45pm

The peak hours of site-generated traffic are anticipated to be 6:30am-7:30am and 5:30pm-6:30pm (as discussed in Section 2.5.1), which falls partially outside of the hours counted. For the purposes of this report, the traffic volumes observed at 7:00am-8:00am and 5:00pm-6:00pm has been considered, as this is expected to represent the ‘worst case’ combination of site-generated traffic and adjacent street traffic. Volumes on the adjacent streets at the proposed hours of analysis are generally 80% to 95% of the peak hour traffic volumes observed.

All traffic count data previously discussed are included in **Appendix D**. Vehicle traffic volumes within the study area at 7:00am-8:00am and 5:00pm-6:00pm are shown in **Figure 5**. Pedestrian and cyclist volumes within the study area are shown in **Figure 6**.

**Figure 5: Existing Vehicular Traffic Volumes (7:00am-8:00am and 5:00pm-6:00pm)**

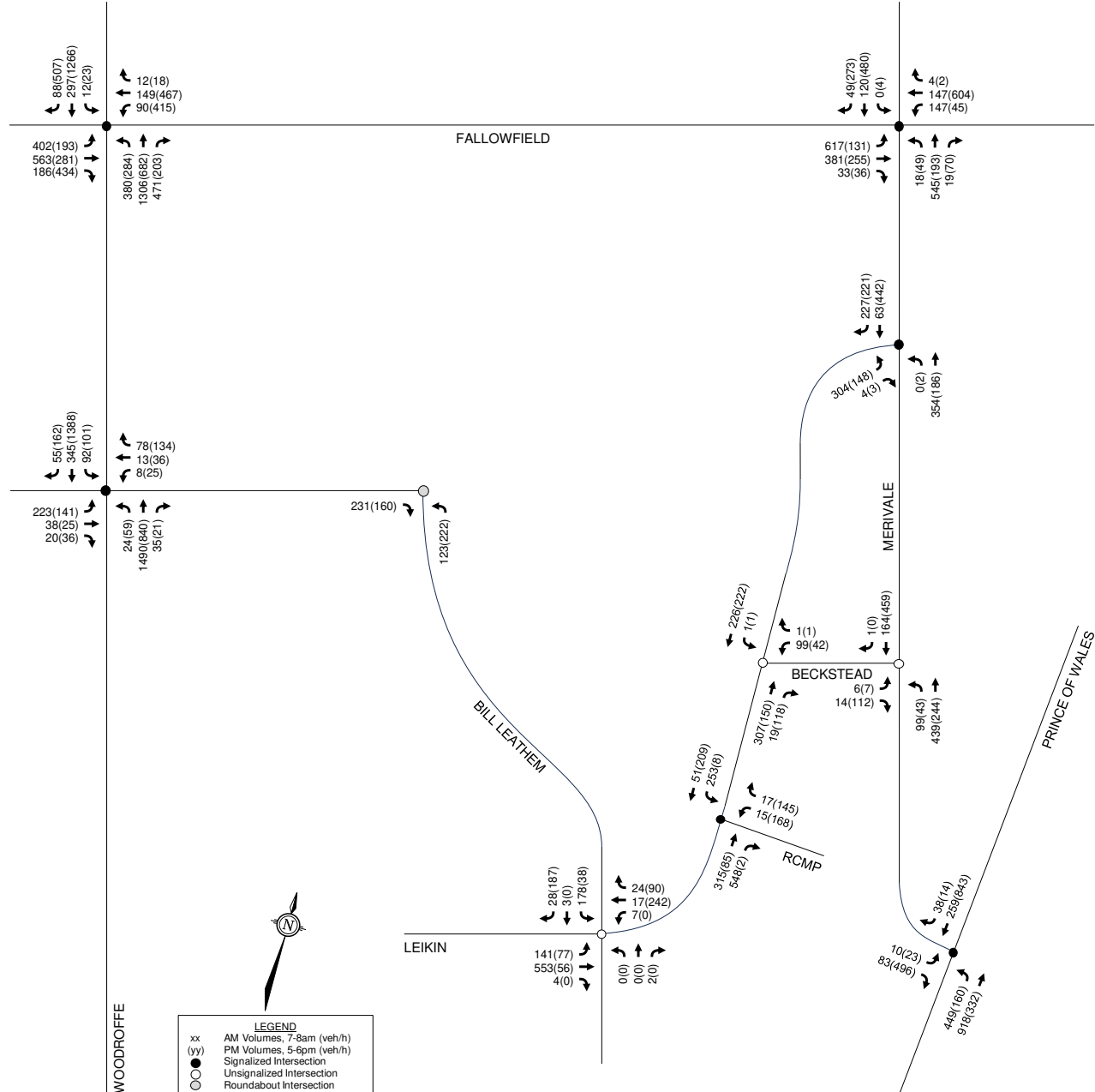
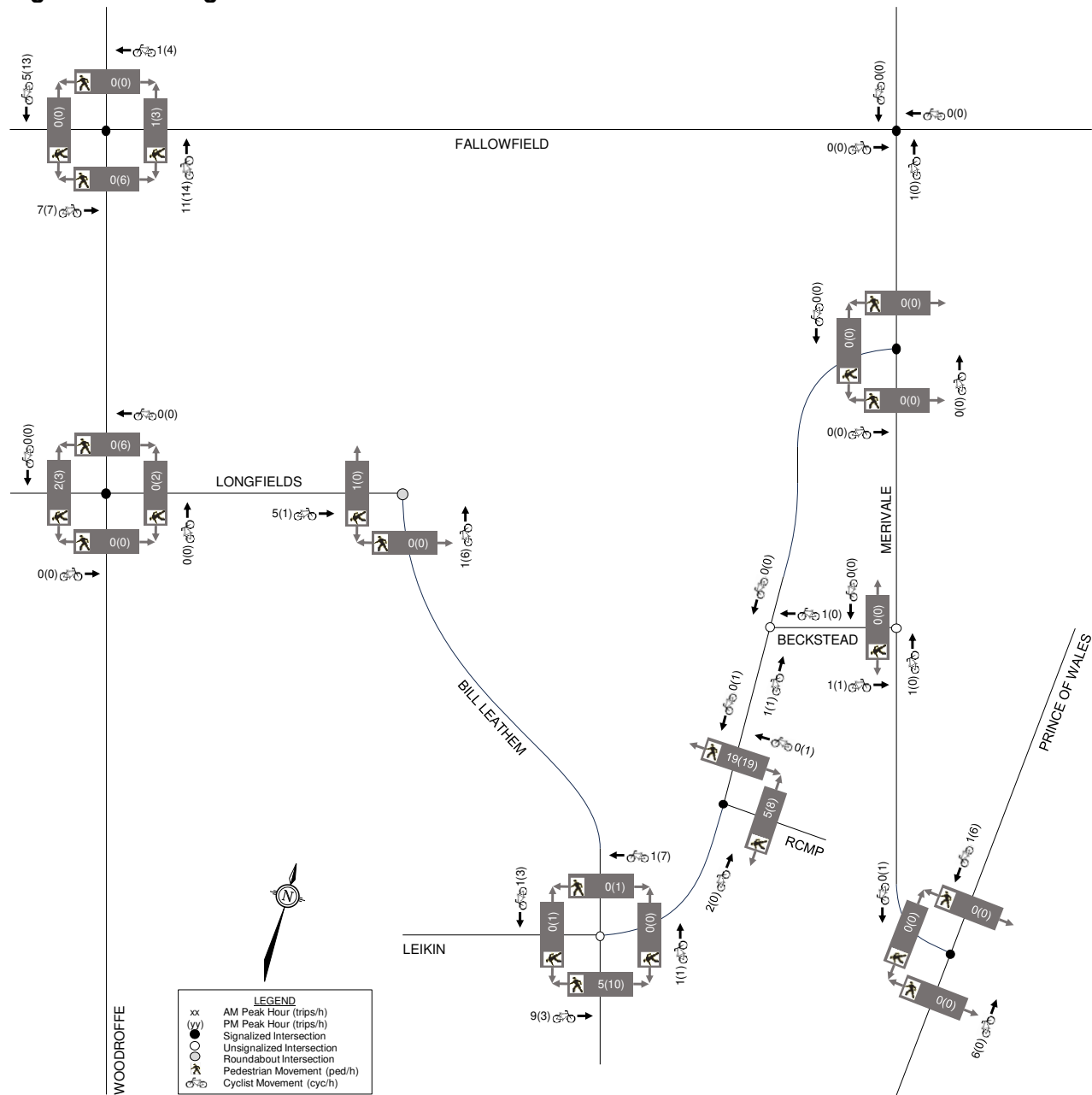


Figure 6: Existing Active Traffic Volumes



2.1.8 Collision Records

Historical collision data from the last five years available was obtained from the City’s Public Works and Service Department for the study area intersections and midblock segments. Copies of the collision summary reports are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns, which are defined in the *TIA Guidelines* as ‘more than six collisions in five years’ for any one movement. The number of collisions at each intersection from January 1, 2017 to December 31, 2021 is summarized in **Table 3**.

**Table 3: Reported Collisions**

Intersection or Segment	Impact Types						Total
	Approach	Angle	Rear End	Sideswipe	Turning Movement	SMV <sup>(1)</sup> /Other	
Woodroffe Avenue/ Fallowfield Road	-	5	58	8	7	6	<b>84</b>
Woodroffe Avenue/ Longfields Drive	-	4	18	5	8	5	<b>40</b>
Longfields Drive/ Bill Leathem Drive	-	-	-	-	-	-	<b>0</b>
Leikin Drive/ Bill Leathem Drive	-	3	-	-	-	1	<b>4</b>
Leikin Drive/ RCMP Access	-	1	-	-	1	-	<b>2</b>
Leikin Drive/ Beckstead Road	-	-	-	-	-	-	<b>0</b>
Merivale Road/ Fallowfield Road	-	8	19	1	5	1	<b>34</b>
Merivale Road/ Leikin Drive	-	1	-	-	-	1	<b>2</b>
Merivale Road/ Beckstead Road	-	-	1	-	-	-	<b>1</b>
Merivale Road/ Prince of Wales Drive	2	2	18	3	5	5	<b>35</b>
Woodroffe Avenue btwn Fallowfield Rd & Longfields Dr	-	3	26	4	8	4	<b>45</b>
Fallowfield Road btwn Woodroffe Ave & Merivale Rd	1	-	3	3	-	12 <sup>(2)</sup>	<b>19</b>
Longfields Drive btwn Woodroffe Ave & Bill Leathem Dr	2	-	-	-	-	-	<b>2</b>
Bill Leathem Drive btwn Longfields Dr & Leikin Dr	-	-	-	-	-	1	<b>1</b>
Leikin Drive btwn Bill Leathem Dr & RCMP Access	-	-	-	-	-	1	<b>1</b>
Leikin Drive btwn RCMP Access & Merivale Rd	-	-	1	-	-	-	<b>1</b>
Merivale Road btwn Fallowfield Rd & Leikin Dr	-	-	1	-	1	-	<b>2</b>
Merivale Road btwn Leikin Dr & Beckstead Rd	-	-	1	-	-	-	<b>1</b>
Merivale Road btwn Beckstead Rd & Prince of Wales Dr	-	-	-	-	-	-	<b>0</b>

1. SMV = Single Motor Vehicle
2. Includes one fatal collision

Woodroffe Avenue/Fallowfield Road

A total of 84 collisions were reported at this intersection over the last five years, including five angle impacts, 58 rear-end impacts, eight sideswipe impacts, seven turning movement impacts, and six single vehicle/other impacts. Ten collisions resulted in non-fatal injuries. Poor driving conditions were present in 44 out of 84 collisions (52%). No collisions involved pedestrians, and one turning movement impact involved a cyclist.

Of the 58 rear-end impacts, 17 involved northbound vehicles, 22 involved southbound vehicles, 12 involved eastbound vehicles, and seven involved westbound vehicles. High traffic volumes and operating speeds in all directions at this intersection are likely factors in the frequency of these collisions.

Of the eight sideswipe impacts, five involved northbound vehicles and three involved southbound vehicles. Neither approach meets the threshold of a collision pattern for this type of collision.

Of the seven turning movement impacts, two involved a northbound vehicle turning left, one involved an eastbound vehicle making a U-turn, one involved an eastbound vehicle turning right, two involved a westbound vehicle turning left, and one involved a westbound vehicle turning right (which impacted a westbound through cyclist). No approaches meet the threshold of a collision pattern for this type.

*Woodroffe Avenue/Longfields Drive*

A total of 40 collisions were reported at this intersection over the last five years, including four angle impacts, 18 rear-end impacts, five sideswipe impacts, eight turning movement impacts, and five single vehicle/other impacts. Twelve collisions resulted in non-fatal injuries. Poor driving conditions were present in 20 out of 40 collisions (50%). No collisions involved pedestrians, and two angle impacts involved cyclists.

All four angle impacts involved eastbound right turning vehicles. One impact involved a northbound cyclist travelling through and one impact involved a southbound cyclist travelling through.

Of the 18 rear-end impacts, ten involved northbound vehicles, six involved southbound vehicles, one involved eastbound vehicles, and one involved westbound vehicles. High traffic volumes and operating speeds on Woodroffe Avenue are likely factors in the frequency of these collisions.

Of the eight turning movement impacts, one involved a northbound vehicle making a U-turn, two involved a northbound vehicle turning left, and five involved a southbound vehicle turning left. No approaches meet the threshold of a collision pattern for this type.

*Longfields Drive/Bill Leathem Drive*

No collisions were reported at this location over the last five years.

*Leikin Drive/Bill Leathem Drive*

A total of four collisions were reported at this intersection over the last five years, including three angle impacts and one single vehicle/other impact. One collision resulted in non-fatal injuries. Poor driving conditions were present in three out of four collisions (75%). No collisions involved pedestrians or cyclists.

*Leikin Drive/RCMP Access*

A total of two collisions were reported at this intersection over the last five years, including one angle impact and one turning movement impact. Neither collisions resulted in injuries. Poor driving conditions were not present in either collision. No collisions involved pedestrians or cyclists.

*Leikin Drive/Beckstead Road*

No collisions were reported at this location over the last five years.

*Merivale Road/Fallowfield Road*

A total of 34 collisions were reported at this intersection over the last five years, including eight angle impacts, 19 rear-end impacts, one sideswipe impact, five turning movement impacts, and one single vehicle/other impact. Eleven collisions resulted in non-fatal injuries. Poor driving conditions were present in 16 out of 34 collisions (47%). No collisions involved pedestrians or cyclists.

Of the eight angle impacts, one involved a northbound vehicle and an eastbound vehicle, one involved a northbound vehicle and a westbound vehicle, five involved a southbound vehicle and an eastbound vehicle, and one involved a southbound vehicle and a westbound vehicle. No approaches meet the threshold of a collision pattern for this type.

Of the 19 rear-end impacts, four involved northbound vehicles, six involved southbound vehicles, two involved eastbound vehicles, and seven involved westbound vehicles. High traffic volumes and operating speeds on Fallowfield Road are likely factors in the frequency of these collisions. On the westbound approach, the unsignalized intersection of Fallowfield Road/Ashdale Avenue is closely upstream of Merivale Road, and no auxiliary lane is provided for westbound left turns onto Ashdale Avenue.

*Merivale Road/Leikin Drive*

A total of two collisions were reported at this intersection over the last five years, including one angle impact and one single vehicle/other impact. Both collisions resulted in non-fatal injuries. Poor driving conditions were present in one of the two collisions (50%). Neither collisions involved pedestrians or cyclists.

*Merivale Road/Beckstead Road*

One collision was reported at this intersection over the last five years. This collision was a rear-end impact, result in non-fatal injuries, and occurred in poor driving conditions. The collision did not involve pedestrians or cyclists.

*Merivale Road/Prince of Wales Drive*

A total of 35 collisions were reported at this intersection over the last five years, including two approaching impacts, two angle impacts, 18 rear-end impacts, three sideswipe impacts, five turning movement impacts, and five single vehicle/other impacts. Ten collisions resulted in non-fatal injuries. Poor driving conditions were present in 15 out of 35 collisions (43%). No collisions involved pedestrians or cyclists.

Of the 18 rear-end impacts, four involved northbound vehicles, six involved southbound vehicles, and eight involved eastbound vehicles. High traffic volumes and potential obscured sightlines on Merivale Road approaching Prince of Wales Drive are likely factors in the frequency of these collisions. On the eastbound approach, the unsignalized intersection of Merivale Road/Queen Anne Crescent is closely upstream of Prince of Wales Drive, where no auxiliary lane is provided for eastbound right turns onto Queen Anne Crescent.

*Woodroffe Avenue between Fallowfield Road and Longfields Drive*

A total of 45 collisions were reported on this segment over the last five years, including three angle impacts, 26 rear-end impacts, four sideswipe impacts, eight turning movement impacts, and four single vehicle/other impacts. Eleven collisions resulted in non-fatal injuries. Poor driving conditions were present in 16 out of 34 collisions (47%). No collisions involved pedestrians or cyclists. Of the 45 collisions on this segment of Woodroffe Avenue, 22 were reported at Woodroffe Avenue/Earl Mulligan Drive, 19 were reported between Fallowfield Road and Earl Mulligan Drive, and four were reported between Earl Mulligan Drive and Longfields Drive.

Of the 26 rear-end impacts, seven involved northbound vehicles, 18 involved southbound vehicles, and one involved eastbound vehicles. The majority of rear-end impacts on this segment occur at the intersection of Woodroffe Avenue/Earl Mulligan Drive. High traffic volumes and operating speeds on Woodroffe Avenue are likely factors in the frequency of these collisions.

Of the eight turning movement impacts, seven involved a northbound vehicle turning left and one involved a southbound vehicle turning right. Four of these collisions occurred at the median break serving the Petro-Canada gas station at the southwest corner of Woodroffe Avenue/Fallowfield Road, three occurred at Woodroffe Avenue/Earl Mulligan Drive, and one occurred at the median break serving a retail plaza north of Longfields Drive. The threshold of a collision pattern for this type is not met at any midblock location.

*Fallowfield Road between Woodroffe Avenue and Merivale Road*

A total of 19 collisions were reported on this segment over the last five years, including one approaching impact, three rear-end impacts, three sideswipe impacts, and 12 single vehicle/other impacts. Four collisions resulted in non-fatal injuries, and one collision resulted in a fatality. Poor driving conditions were present in 15 out of 19 collisions (79%). No collisions involved pedestrians or cyclists.

Of the 12 single vehicle impacts, six involved an eastbound vehicle running off the road and six involved a westbound vehicle running off the road. One of the eastbound impacts resulted in a fatality. As 10 of the 12 collisions occurred in poor driving conditions, it is anticipated that the rural nature of this segment may be a factor in the frequency of these collisions.

*Longfields Drive between Woodroffe Avenue and Bill Leathem Drive*

A total of two collisions were reported on this segment over the last five years, both of which were approaching impacts. Both collisions resulted in non-fatal injuries. Poor driving conditions were present in one of the two collisions (50%). Neither collision involved pedestrians or cyclists.

*Bill Leathem Drive between Longfields Drive and Leikin Drive*

One collision was reported on this segment over the last five years. This collision was a single vehicle/other impact, did not result in injury, and occurred in poor driving conditions. The collision did not involve pedestrians or cyclists.

*Leikin Drive between Bill Leathem Drive and RCMP Access*

One collision was reported on this segment over the last five years. This collision was a single vehicle/other impact, did not result in injury, and occurred in poor driving conditions. The collision did not involve pedestrians or cyclists.

*Leikin Drive between RCMP Access and Merivale Road*

One collision was reported on this segment over the last five years. This collision was a rear-end impact, did not result in injury, and occurred in poor driving conditions. The collision did not involve pedestrians or cyclists.

*Merivale Road between Fallowfield Road and Leikin Drive*

A total of two collisions were reported on this segment over the last five years, including one rear-end impact and one turning movement impact. One collision resulted in non-fatal injuries. Poor driving conditions were present in one of the two collisions (50%). Neither collision involved pedestrians or cyclists.



### Merivale Road between Leikin Drive and Beckstead Road

One collision was reported on this segment over the last five years. This collision was a rear-end impact, did not result in injury, and occurred in fair driving conditions. The collision did not involve pedestrians or cyclists.

### Merivale Road between Beckstead Road and Prince of Wales Drive

No collisions were reported on this segment over the last five years.

## **2.2 Planned Conditions**

### **2.2.1 Planned Transportation Projects**

The City's *2013 Transportation Master Plan (TMP)* identifies a future widening of Prince of Wales Drive between Merivale Road and Hunt Club Road from two lanes to four. This widening is part of the City's 2031 Affordable Road Network, and identified as a Phase 3 (2026-2031) project. The 2031 Road Network Concept includes further widening of Prince of Wales Drive between Strandherd Drive and Fisher Avenue.

The *2013 TMP* also identifies future widenings of Fallowfield Road from two lanes to four, between Greenbank Road and Strandherd Drive, and between Woodroffe Avenue and Prince of Wales Drive. This widening is part of the City's 2031 Road Network Concept, and will not be implemented prior to 2031.

Within the study area, the *2013 TMP* identifies no Rapid Transit and Transit Priority (RTTP) projects within its 2031 Affordable RTTP Network. In the 2031 RTTP Network Concept, Woodroffe Avenue is identified as a Transit Priority Corridor with Isolated Measures. This includes the implementation of transit signal priority and queue jump lanes between Fallowfield Road and Chapman Mills Drive.

Approved by City Council in April 2023, the City's *TMP – Part 1* includes a list of upcoming active transportation projects, and supersedes the City's *2013 Ottawa Cycling Plan* and *2013 Ottawa Pedestrian Plan*. The *TMP – Part 1* identifies no active transportation projects within the study area.

### **2.2.2 Other Area Developments**

In proximity of the proposed development, the Salvation Army Barrhaven Church and Community Centre has recently been constructed at 102 Bill Leathem Drive. Traffic generated by this use is likely not reflected in the traffic counts listed in Section 2.1.7. However, the Transportation Brief prepared by Parsons in April 2016 identified minimal traffic volumes during the weekday peak hours (i.e. less than ten two-way vehicle trips per hour).

A Canada Post light industrial facility is under construction at 88 Leikin Drive (formerly 50 Leikin Drive). The development includes a 218,000 ft<sup>2</sup> building, with 361 employee parking spaces, 39 five-tonne truck parking spaces, and 80 trailer parking spaces. Two accesses to each of Leikin Drive and Bill Leathem Drive are proposed. A TIA was prepared by CGH in September 2023.

## **2.3 Study Area and Time Periods**

The study area for this report includes the boundary roadways Longfields Drive, Bill Leathem Drive, Leikin Drive, Merivale Road, and Paragon Avenue, as well as the following intersections.

- Woodroffe Avenue/Fallowfield Road;
- Woodroffe Avenue/Longfields Drive;
- Longfields Drive/Bill Leathem Drive;
- Leikin Drive/Bill Leathem Drive;
- Leikin Drive/RCMP Access;
- Leikin Drive/Beckstead Road;
- Merivale Road/Fallowfield Road;
- Merivale Road/Leikin Drive;
- Merivale Road/Beckstead Road;
- Merivale Road/Prince of Wales Drive.

As outlined in Section 2.1.7, the selected time periods for the analysis are the weekday hours of 7:00am-8:00am and 5:00pm-6:00pm. These hours represent the 'worst case' combination of site-generated traffic and adjacent roadway traffic, as the shift changes for the proposed development are anticipated to occur at 6:30am-7:30am (i.e. before or during the start of the AM peak hour) and 5:30pm-6:30pm (i.e. after the PM peak hour). Analysis has been completed for the buildout year 2026 and horizon year 2031.

## 2.4 Access Design

The proposed development will include the following site accesses:

- Truck access to Leikin Drive and truck egress to Longfields Drive;
- Full-movement accesses to Leikin Drive and Paragon Avenue;
- New east approach to the existing roundabout at Longfields Drive/Bill Leathem Drive, creating a three-legged roundabout.

The proposed truck egress to Longfields Drive and full-movement accesses to Leikin Drive and Paragon Avenue will be stop-controlled. The proposed connection to the existing roundabout at Longfields Drive/Bill Leathem Drive will be yield-controlled, consistent with the existing approaches. The design of the proposed accesses has been evaluated using the relevant provisions of the City's *Private Approach By-Law (PABL)* and *Zoning By-Law (ZBL)*, and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.

Section 25(1)(a) of the PABL identifies a maximum number of private approaches to a given frontage, based on the length of the frontage. A minimum frontage of 35m is required to provide multiple two-way private approaches or multiple one-way private approaches. The subject site's frontage to Leikin Drive exceeds this length, and therefore the proposed two-way accesses permissible. As every other proposed access is to an exclusive frontage or connects to the existing Longfields Drive/Bill Leathem Drive roundabout, all accesses are compliant with this requirement.

Sections 25(1)(c) and 25(1)(d) of the PABL identifies maximum width requirements of 9.0m for any two-way private approach and 7.5m for any one-way private approaches, as measured at the street line. Section 25(1)(e) of the PABL identifies that private approaches in excess of these requirements may be permitted for off-street bus loading areas, transport loading areas, and stations operated by the Ottawa Fire Department. The proposed access widths are approximately 7.5m (the two-way accesses to Leikin Drive and Paragon Avenue), 12.2m (the east approach to Longfields Drive/Bill Leathem Drive), 14.0m (the truck egress to Longfields Drive), and 15.5m (the truck access to Leikin Drive). For the accesses exceeding 9.0m in width, it is requested that they be approved under Section 25(1)(e).

Section 25(1)(k) of the PABL identifies that all one-way private approaches shall be designated with suitable signage to indicate the direction of traffic to satisfaction of the General Manager. This will be provided by the proponent.

Section 25(1)(m)(i) of the PABL is applicable for properties that abut or are within 46m of an arterial or major collector roadway. This section identifies a minimum separation requirement of 60m between a two-way private approach and any other private approach to the same property, when the property has a total of 300 parking spaces or more and is an industrial development. The proposed accesses to Leikin Drive are approximately 50m apart, which is 10m short of the requirement. The proposed locations of these accesses provide the best sight distances as outlined below, and are expected to result in safe and efficient operating conditions. Section 25(1)(m)(i) of the PABL also identifies a minimum separation requirement of 60m between the nearest edge of a private approach and the nearest street line. The proposed accesses to Leikin Drive and Paragon Avenue meet this requirement. The proposed truck egress to Longfields Drive is approximately 70m from the Bill Leathem Drive ROW, which meets the requirement.

Section 25(1)(p) of the PABL identifies a minimum separation requirement of 3m between a private approach and the nearest property line, as measured at the street line. The proposed two-way access to Leikin Drive is approximately 37m from the property line to 50 Leikin Drive, meeting this requirement. All other proposed accesses are further from their respective nearest property lines, and therefore this requirement is met by all accesses.

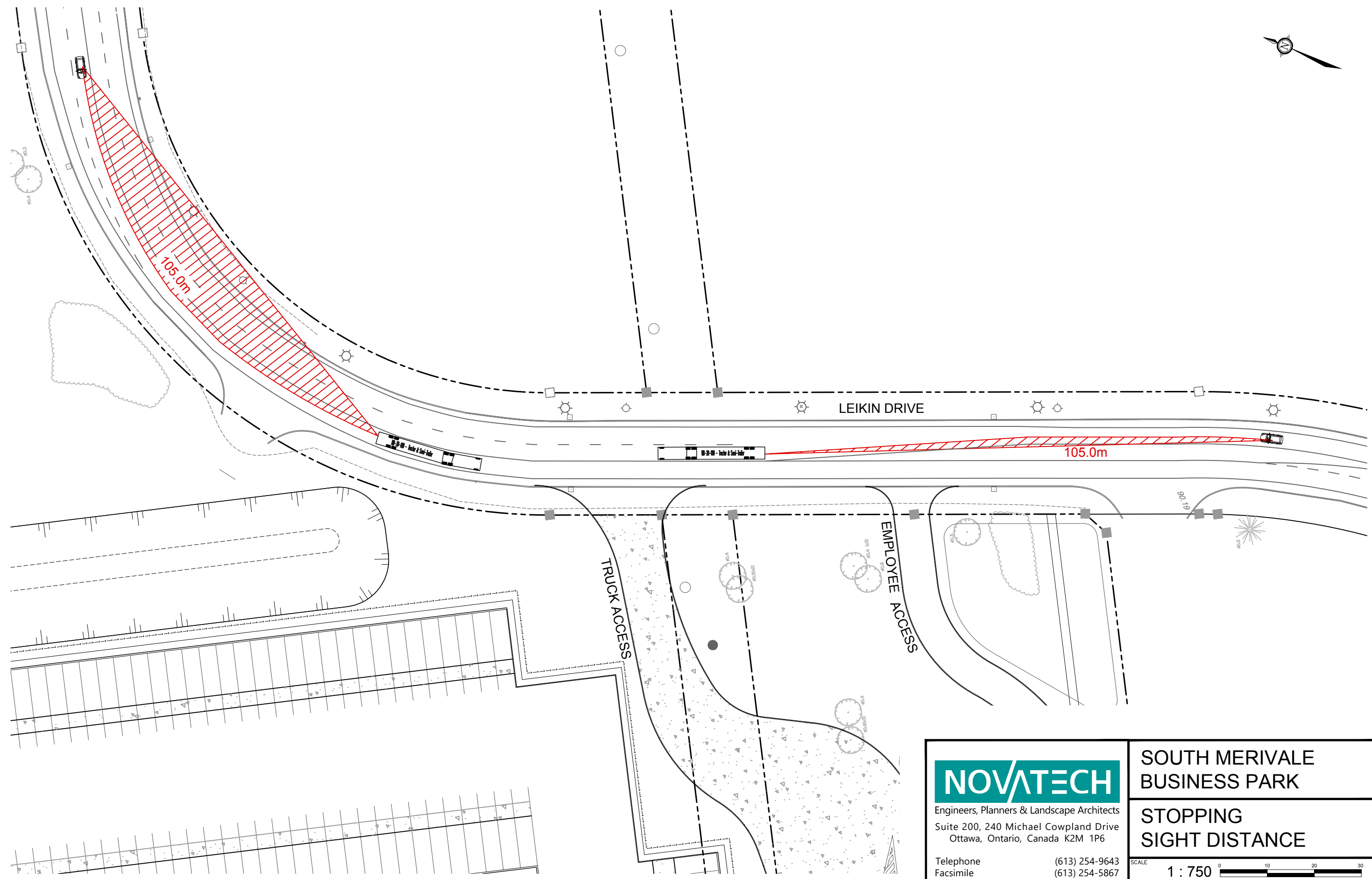
In accordance with Section 25(1)(u) of the PABL any private approach serving a parking area with more than 50 parking spaces shall not have a grade exceeding 2% to 6% for the first 9m inside the property line. This requirement is met at all proposed accesses.

TAC's *Geometric Design Guide* outlines minimum clear throat lengths for accesses, based on the land use, size of development, and class of roadway. For light industrial uses that are greater than 10,000 m<sup>2</sup> in size and include accesses to collector roadways (including major collectors), the minimum clear throat length required is 15m. This requirement is met at each proposed access, as clear throat lengths of approximately 50m or greater are provided.

A review of stopping sight distance (SSD) and intersection sight distance (ISD) requirements have been conducted at the proposed driveways to Leikin Drive, which include a truck access and a two-way full-movement employee access. The other proposed accesses to Longfields Drive, Paragon Avenue, or the Longfields Drive/Bill Leathem Drive roundabout are anticipated to have clear sightlines in all directions. For the purposes of this review, a design speed of 70 km/h has been considered (i.e. 10 km/h greater than the posted speed limit of 60 km/h). Therefore, the required SSD at both driveways to Leikin Drive and the desired ISD at the employee access to Leikin Drive can be summarized as follows:

- Required SSD: 105m;
- Desired ISD, looking right to turn left: 150m for left turns and 130m for right turns;
- Desired ISD, looking left to turn right: 130m.

The SSD requirement of 105m is met in both directions on Leikin Drive at both accesses. Figures illustrating the required SSD for the truck access and employee access to Leikin Drive are included in **Figure 7** and **Figure 8**, respectively. The desired ISDs of 130m for drivers looking left to turn right and 150m for drivers looking right to turn left is met for outbound vehicles at both accesses to Leikin Drive. An illustration of the ISDs at the proposed accesses are included in **Figure 9** and **Figure 10**.



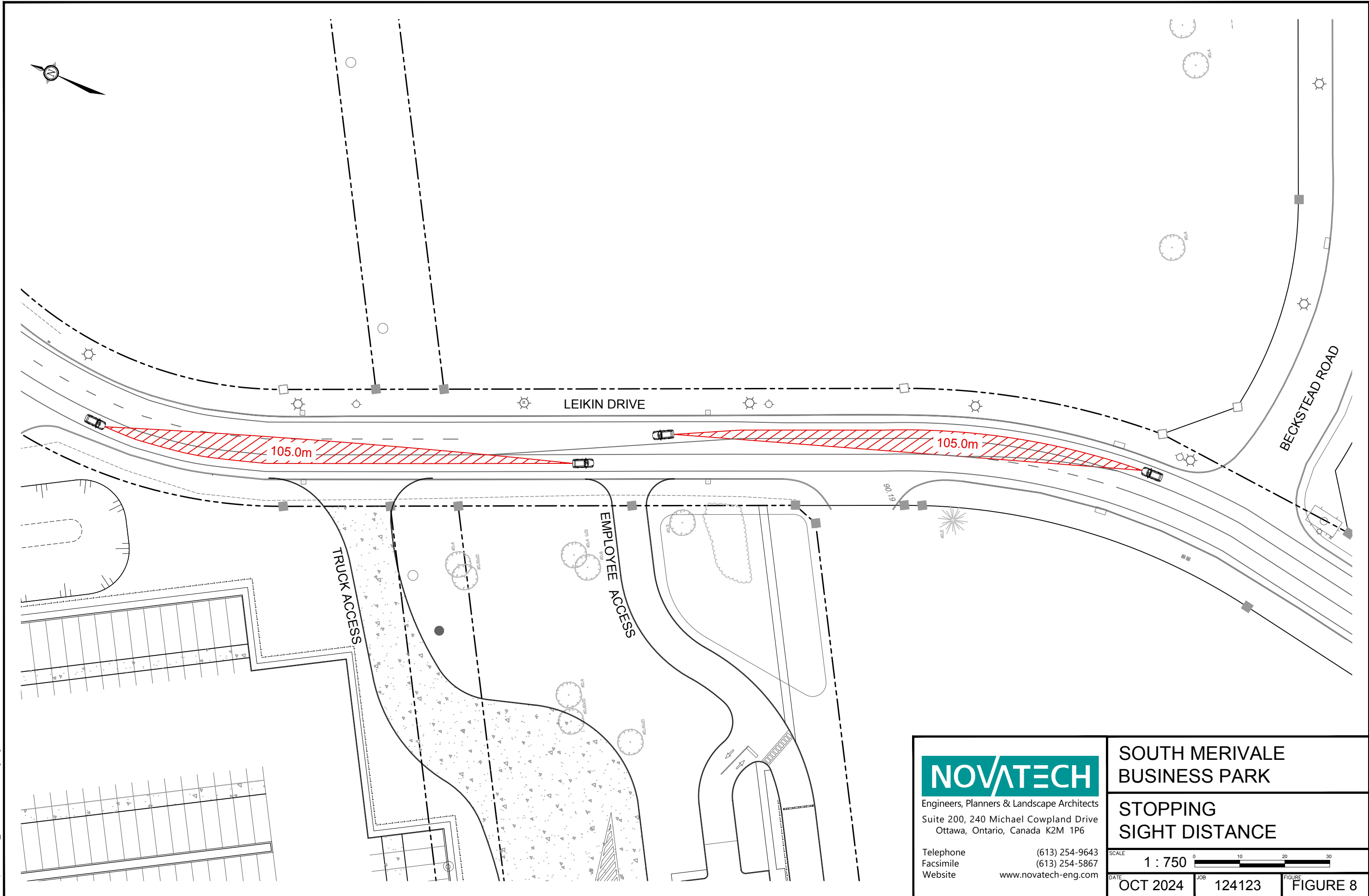
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<b>SOUTH MERIVALE BUSINESS PARK</b>		
<b>STOPPING SIGHT DISTANCE</b>		
SCALE	1 : 750	
DATE	JOB	FIGURE
OCT 2024	124123	FIGURE 7

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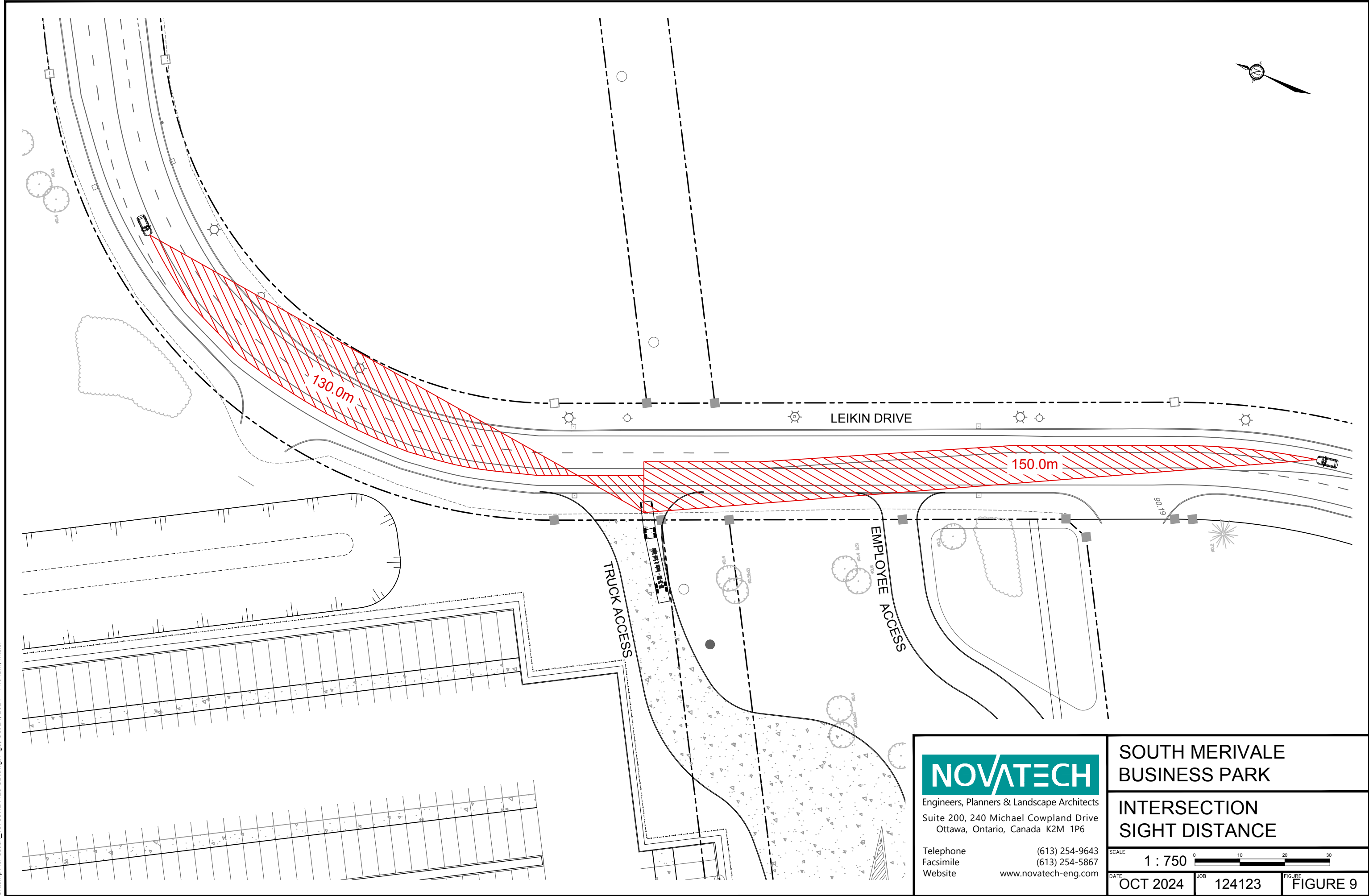
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**SOUTH MERIVALE  
BUSINESS PARK**

**STOPPING  
SIGHT DISTANCE**

SCALE 1 : 750

DATE OCT 2024 JOB 124123 FIGURE FIGURE 8



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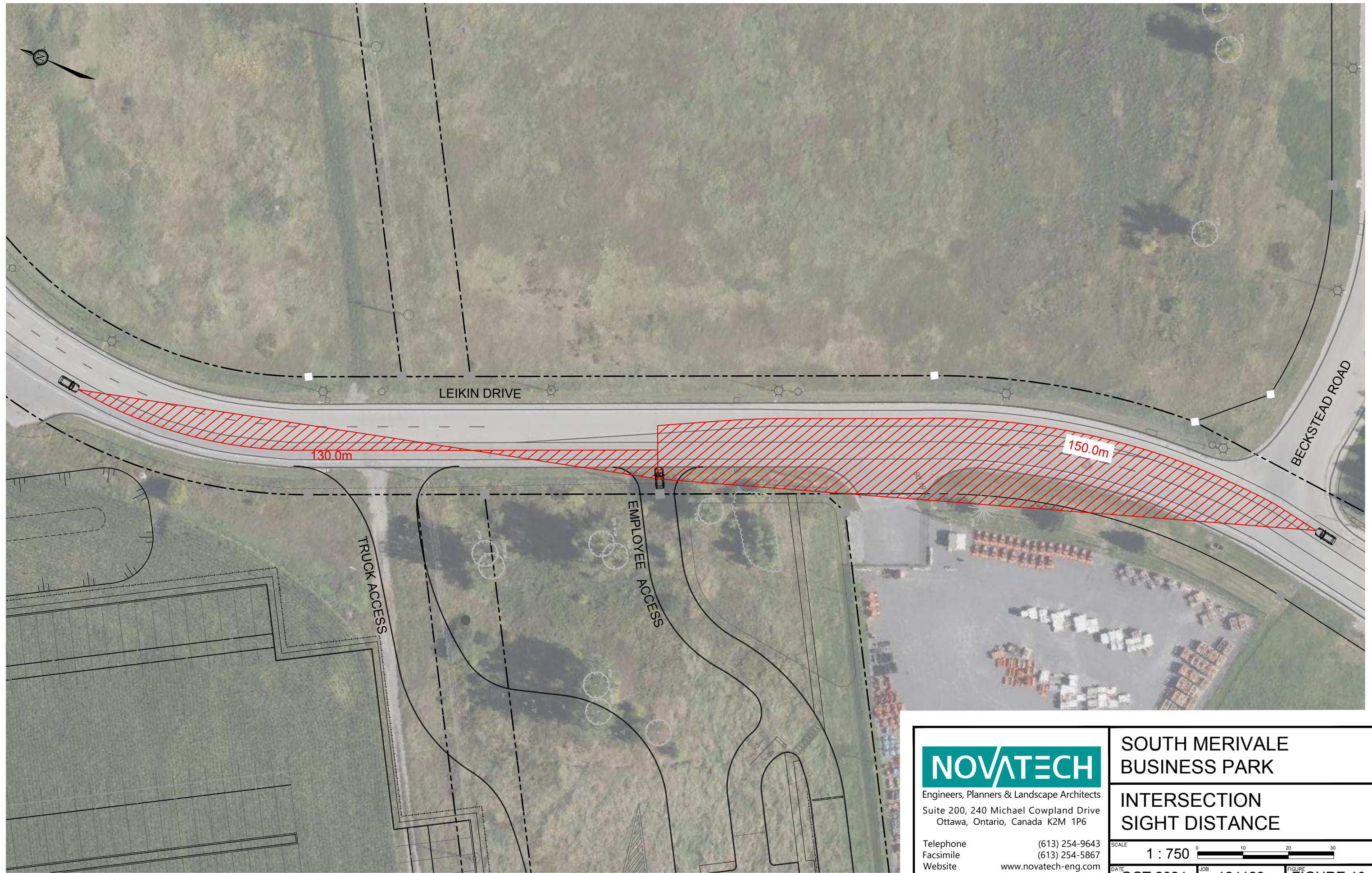
**SOUTH MERIVALE  
 BUSINESS PARK**

**INTERSECTION  
 SIGHT DISTANCE**

SCALE 1 : 750

DATE	JOB	FIGURE
OCT 2024	124123	FIGURE 9

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**SOUTH MERIVALE  
BUSINESS PARK**

**INTERSECTION  
SIGHT DISTANCE**

SCALE 1 : 750

DATE OCT 2024 JOB 124123 FIGURE FIGURE 10

## 2.5 Development-Generated Travel Demand

### 2.5.1 Trip Generation

The proposed development will include a single building, with a total GFA of approximately 3,130,920 ft<sup>2</sup>. The proponent has provided trip generation values for a typical development of this size and nature, which is described below and included in **Appendix F**.

The site is anticipated to operate 24 hours per day, with day/night shifts that occur outside of the peak periods of adjacent road traffic. The peak hours of generator are anticipated to occur at 6:30am-7:30am and 5:30pm-6:30pm. These hours fall partially outside of the typical traffic count periods of 7:00am-10:00am, 11:30am-1:30pm, and 3:00pm-6:00pm.

For the purposes of this TIA, the peak hour trip generation estimates include the 7:00am-8:00am hour and the 5:00pm-6:00pm hour, and these estimates have been added to the existing observed traffic volumes on the area roadways at that time. The estimated number of person trips generated by the proposed development during the AM and PM peak hours are shown in **Table 4**.

**Table 4: Proposed Development – Site-Generated Vehicle Trips**

Land Use	AM Hour (7:00am-8:00am), vph <sup>(1)</sup>			PM Hour (5:00pm-6:00pm), vph <sup>(1)</sup>		
	IN	OUT	TOT	IN	OUT	TOT
Employee Trips	332	50	382	267	243	510
Truck Trips	9	7	16	13	14	27
<b>Total Trips</b>	<b>341</b>	<b>57</b>	<b>398</b>	<b>280</b>	<b>257</b>	<b>537</b>

1. vph: vehicle trips per hour

From the previous table, the proposed development is estimated to generate 398 vehicle trips during the AM peak hour, and 537 vehicle trips during the PM peak hour.

For the purposes of this review, it has been assumed that the modal shares of the site-generated employee trips will include 80% auto driver, 10% auto passenger, 5% transit, 5% cyclist, and 0% pedestrian. This is consistent with the mode shares identified in the *2020 TRANS Trip Generation Manual*, for employment generators in the South Nepean district. A breakdown of these trips by mode share is shown in **Table 5**.

**Table 5: Proposed Development – Employee Trips by Mode Share**

Travel Mode	Mode Share	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
		IN	OUT	TOT	IN	OUT	TOT
Auto Driver	80%	332	50	382	267	243	510
Auto Passenger	10%	42	6	48	33	31	64
Transit	5%	21	3	24	17	15	32
Cyclist	5%	20	4	24	17	15	32
Pedestrian	0%	-	-	-	-	-	-
<b>Employee Person Trips</b>		<b>415</b>	<b>63</b>	<b>478</b>	<b>334</b>	<b>304</b>	<b>638</b>

From the previous tables, the proposed development is estimated to generate 478 employee person trips and 16 truck trips from 7:00am-8:00am, and 638 employee person trips and 27 truck trips from 5:00pm-6:00pm.



## 2.5.2 Trip Distribution

The distribution of trips generated by the proposed development is assumed to be different for employee trips and truck trips. The distribution of employee trips has been estimated based on logical trip routing, the major roadway network, and population centres in the Ottawa area. It is understood that truck trips will be to/from Highway 417 with origins and destinations east of Ottawa. The distribution of truck trips has been estimated to be evenly split between the north (Hunt Club Road) and west (Highway 416). Therefore, the site trip distributions can be summarized as follows.

### Employee Trip Distribution

- 10% to/from the north via Woodroffe Avenue;
- 20% to/from the north via Merivale Road;
- 10% to/from the south via Woodroffe Avenue;
- 10% to/from the south via Leikin Drive;
- 10% to/from the south via Prince of Wales Drive;
- 25% to/from the east via Fallowfield Road;
- 10% to/from the west via Fallowfield Road;
- 5% to/from the west via Longfields Drive.

### Truck Trip Distribution

- 50% to/from the east via Prince of Wales Drive and Hunt Club Road;
- 50% to/from the west via Fallowfield Road and Highway 416.

## 2.5.3 Trip Assignment

Employee trips have been assigned to the following accesses:

### East Leg of Longfields Drive/Bill Leathem Drive Roundabout

- 100% of trips to/from the north via Woodroffe Avenue;
- 100% of trips to/from the south via Woodroffe Avenue;
- 100% of trips to/from the west via Fallowfield Road;
- 100% of trips to/from the west via Longfields Drive.

### Paragon Avenue Access

- 100% of trips to/from the south via Leikin Drive.

### Leikin Drive Access

- 100% of trips to/from the north via Merivale Road;
- 100% of trips to/from the south via Prince of Wales Drive;
- 100% of trips to/from the east via Fallowfield Road.

For truck trips, all arrivals must enter the site via the truck access to Leikin Drive and all departures can exit the site via the truck access to Leikin Drive or truck egress to Longfields Drive.

Based on the above, the distribution of site-generated traffic volumes to the study area intersections are shown in **Figure 11** and **Figure 12**.

Figure 11: Site-Generated Employee Volumes (7:00am-8:00am and 5:00pm-6:00pm)

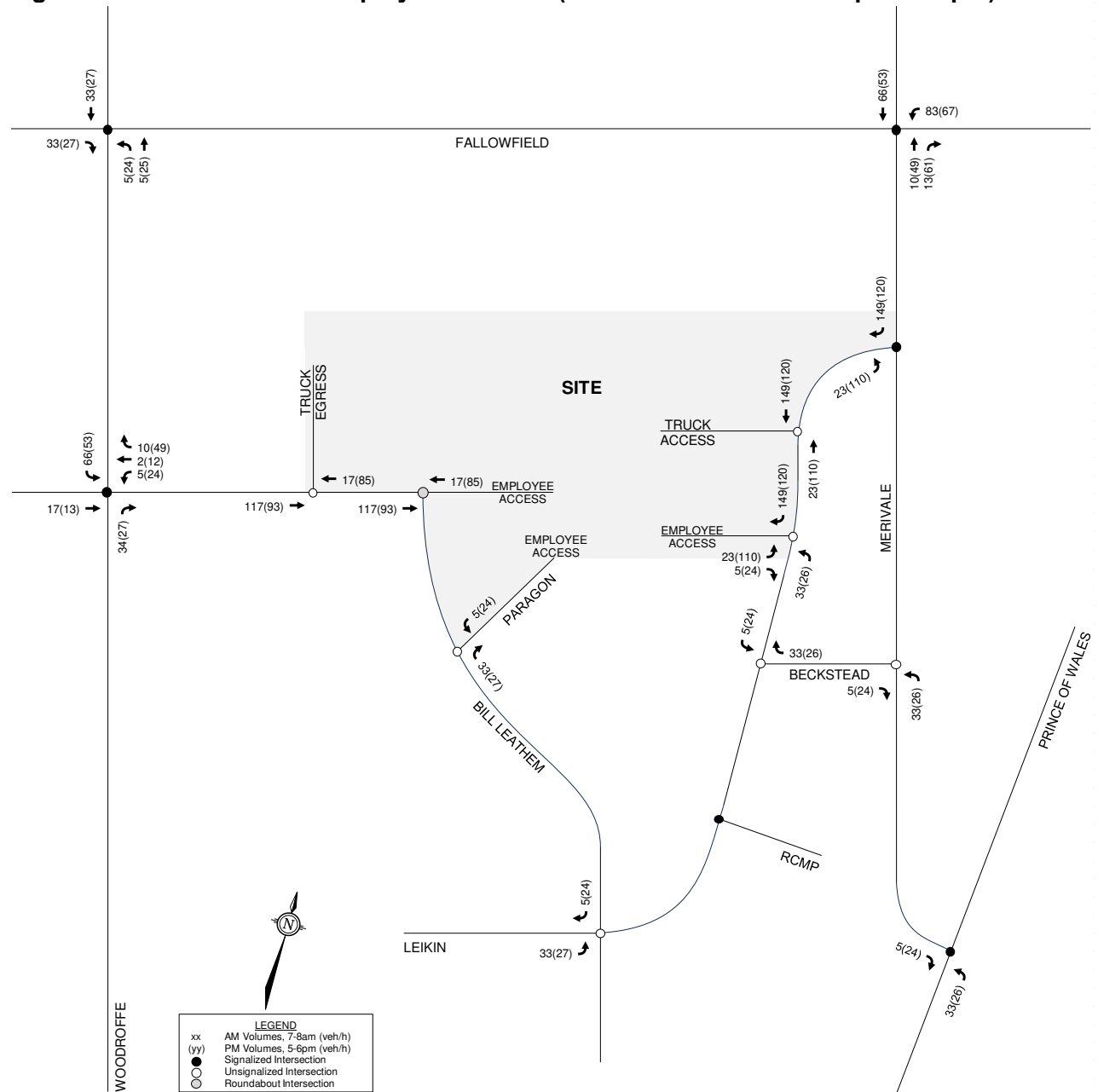
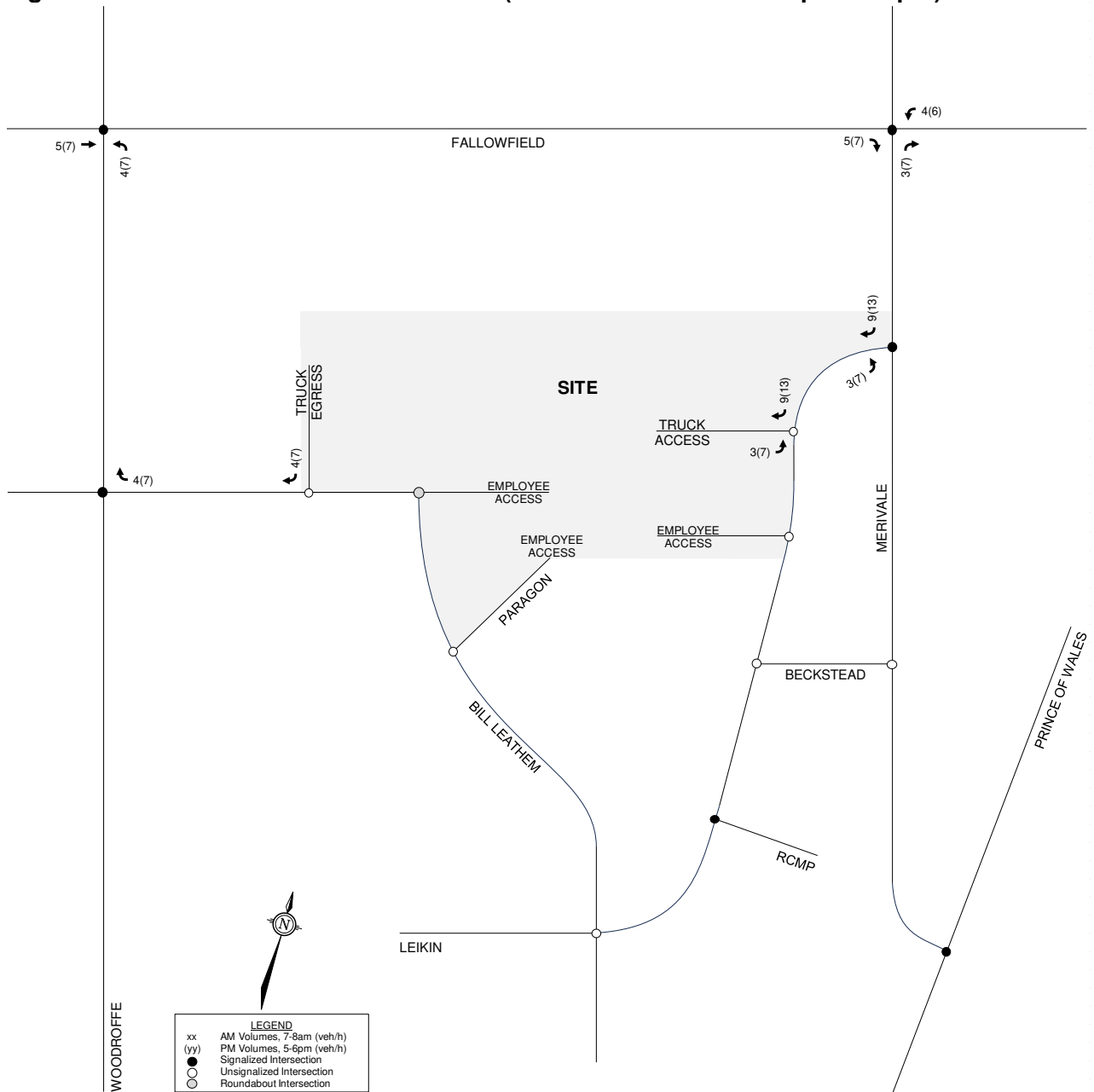


Figure 12: Site-Generated Truck Volumes (7:00am-8:00am and 5:00pm-6:00pm)



## 2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the *TIA Guidelines*. The applicable exemptions for this site are shown in **Table 6**.

**Table 6: TIA Exemptions**

Module	Element	Exemption Criteria	Status
4.1 Development Design	4.1.2 Circulation and Access	<ul style="list-style-type: none"> <li>Required for site plan control and zoning by-law amendment applications</li> </ul>	Not Exempt
	4.1.3 New Street Networks	<ul style="list-style-type: none"> <li>Required for draft plan of subdivision applications</li> </ul>	Exempt
4.2 Parking	<i>All elements</i>	<ul style="list-style-type: none"> <li>Required for site plan control and zoning by-law amendment applications</li> </ul>	Not Exempt
4.6 Neighbourhood Traffic Calming	<i>All elements</i>	<ul style="list-style-type: none"> <li>If all of the following criteria are met:               <ol style="list-style-type: none"> <li>Access is provided to a collector or local roadway</li> <li>Application is for zoning by-law amendment or draft plan of subdivision</li> <li>Proposed development generated more than 75 vehicle trips</li> <li>Site trip infiltration is expected, and site-generated traffic will increase peak hour volumes by 50% or more along the route between the site and an arterial roadway</li> <li>The subject street segment is adjacent to two or more of the following significant sensitive land uses:                   <ul style="list-style-type: none"> <li>School (within 250m walking distance)</li> <li>Park</li> <li>Retirement/older adult facility</li> <li>Licensed child care centre</li> <li>Community centre</li> <li>50+% of adjacent properties along the route(s) are occupied by residential lands and at least ten dwellings are occupied</li> </ul> </li> </ol> </li> </ul>	Exempt
4.7 Transit	4.7.1 Transit Route Capacity	<ul style="list-style-type: none"> <li>Required when proposed development generates more than 75 transit trips</li> </ul>	Exempt
	4.7.2 Transit Priority Requirements	<ul style="list-style-type: none"> <li>Required when proposed development generates more than 75 vehicle trips</li> </ul>	Not Exempt
4.8 Network Concept	<i>All elements</i>	<ul style="list-style-type: none"> <li>Required when proposed development generates more than 200 person trips during the peak hour in excess of the equivalent volume permitted by established zoning</li> </ul>	Exempt
4.9 Intersection Design	<i>All elements</i>	<ul style="list-style-type: none"> <li>Required when proposed development generates more than 75 vehicle trips</li> </ul>	Not Exempt

Based on the foregoing, the following modules will be included in the TIA report:

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets
- Module 4.4: Access Design
- Module 4.5: Transportation Demand Management
- Module 4.7: Transit
- Module 4.9: Intersection Design

### 3.0 BACKGROUND NETWORK TRAVEL DEMAND

#### 3.1 General Background Growth Rate

A review of the City's *Strategic Long-Range Model* (comparing snapshots of the 2011 and 2031 AM peak hour traffic volumes) and *Intersection Traffic Growth Rate (2000-2016)* figures have been conducted. These resources are included in **Appendix G**.

On the arterial roadways within the study area, the snapshots identify growth rates of approximately -0.8% to +1.5% per annum in the peak direction. The intersection traffic figures identify annual growth rates at the following study area intersections:

- Woodroffe Avenue/Fallowfield Road
  - +2.0% to +4.0% during the AM peak period;
  - +2.0% to +4.0% during the PM peak period.
- Woodroffe Avenue/Longfields Drive
  - +2.0% to +4.0% during the AM peak period;
  - +4.0% to +8.0% during the PM peak period.
- Merivale Road/Fallowfield Road
  - +0.2% to +2% during the AM peak period;
  - +4.0% to +8.0% during the PM peak period.
- Merivale Road/Leikin Drive
  - -2.0% to -0.2% during the AM peak period;
  - -0.2% to +0.2% during the PM peak period.
- Merivale Road/Prince of Wales Drive
  - +2.0% to +4.0% during the AM peak period;
  - +2.0% to +4.0% during the PM peak period.

Based on the above, a background growth rate of 1.5% has been applied to the arterial roadway traffic within the study area.

#### 3.2 Other Area Developments

The following other area developments are in proximity of the subject site and are under construction, approved, or are in the approval process. Relevant excerpts of the TIA studies in support of these developments are included in **Appendix H**, and a summary is included below.

### 88 Leikin Drive (Canada Post)

A TIA was prepared by CGH in September 2023 in support of this development (formerly considered 50 Leikin Drive). The TIA projected that the development will generate 166 two-way vehicle trips during the AM peak hour and 155 two-way vehicle trip during the PM peak hour. The anticipated buildout year is 2026. While this TIA is considering the 7:00am-8:00am and 5:00pm-6:00pm hours, the peak hour traffic volumes generated by the new Canada Post facility have conservatively been added directly to the 2026 and 2031 background traffic volumes.

### 102 Bill Leathem Drive (Salvation Army Barrhaven Church and Community Centre)

A Transportation Brief was prepared by Parsons in April 2016 in support of this development. The brief identified minimal traffic volumes generated by this development during the weekday peak hours (i.e. fewer than ten two-way vehicle trips per hour), and these trips were not distributed to the roadway network. Therefore, no adjustment has been made to account for trips generated by this development.

## 3.3 Future Traffic Conditions

The figures below present the following future traffic conditions:

- Other area development-generated volumes in 2026/2031 are shown in **Figure 13**;
- Background traffic volumes in 2026 are shown in **Figure 14**;
- Background traffic volumes in 2031 are shown in **Figure 15**;
- Total traffic volumes in 2026 are shown in **Figure 16**;
- Total traffic volumes in 2031 are shown in **Figure 17**.

## 3.4 Demand Rationalization

A review of the existing and background intersection operations has been conducted to determine if and when traffic volumes exceed capacity within the study area, using Synchro 11 software. The intersection parameters used in the analysis are consistent with the *TIA Guidelines* (Saturated Flow Rate: 1,800 vphpl, Peak Hour Factor: 0.9 in existing conditions and 1.0 in future conditions). Per Exhibit 22 of the *Multi-Modal Level of Service (MMLOS) Guidelines*, the following target vehicular levels of service (Auto LOS) apply to the study area intersections:

- Auto LOS E for intersections within 600m of a rapid transit station (applies to Woodroffe Avenue/Fallowfield Road), which includes a maximum vehicle-to-capacity (v/c) ratio of 1.00 for signalized intersections;
- Auto LOS D for intersections within the General Urban Area, General Rural Area, or Urban Employment Area (applies to all other study area intersections), which includes a maximum v/c ratio of 0.90 for signalized intersections or maximum approach delay of 35 seconds for unsignalized intersections.

Signal timing plans for the study area intersections are included in **Appendix I**.

### 3.4.1 Existing Traffic Operations

Intersection capacity analysis has been conducted for the existing traffic conditions. The results are summarized in **Table 7** and **Table 8** for the AM and PM hours of analysis (7:00am-8:00am and 5:00pm-6:00pm). Detailed Synchro reports are included in **Appendix J**.

Figure 13: 2026/2031 Other Area Development-Generated Traffic Volumes (Peak Hours)

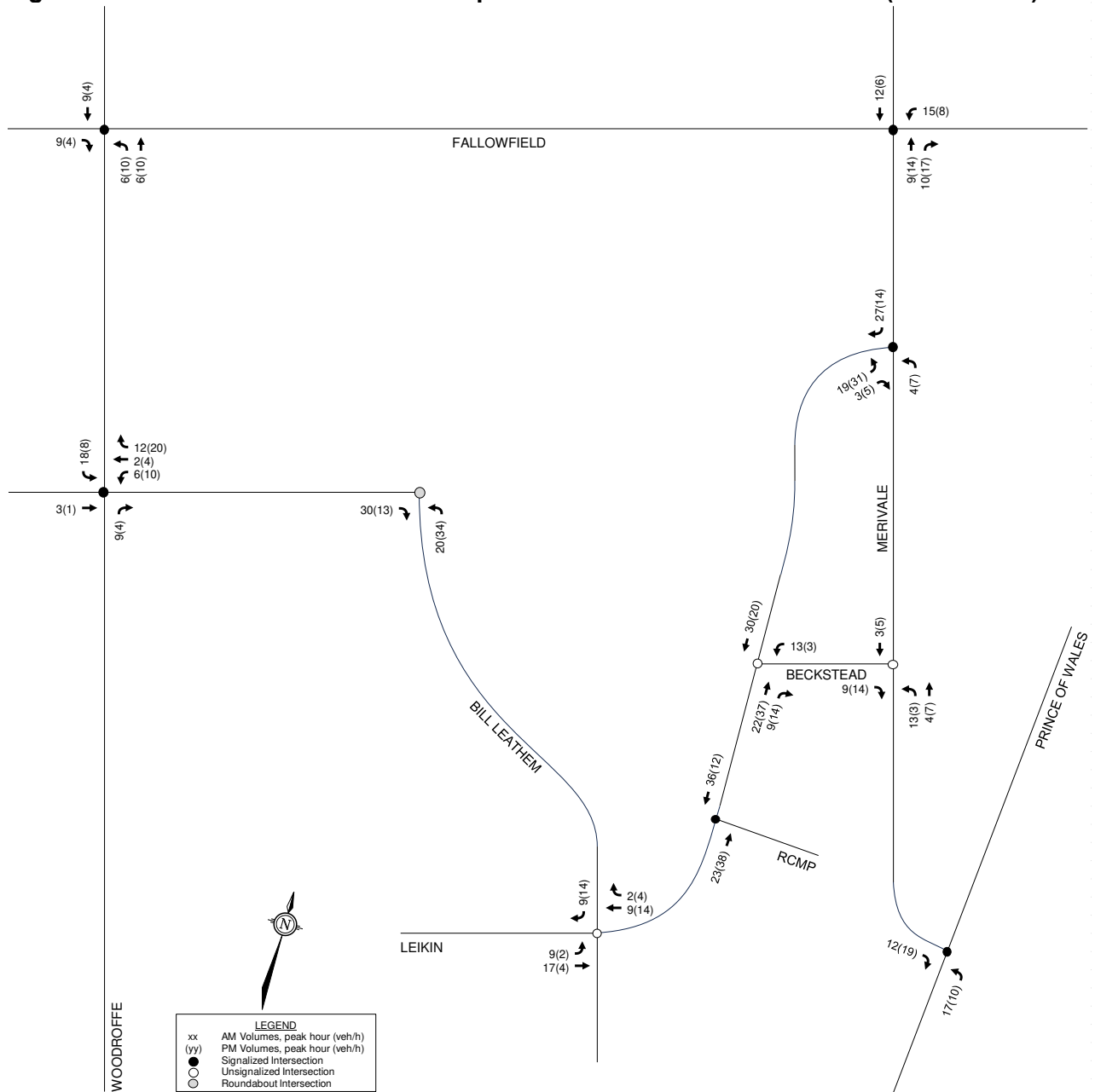


Figure 14: 2026 Background Traffic Volumes (7:00am-8:00am and 5:00pm-6:00pm)

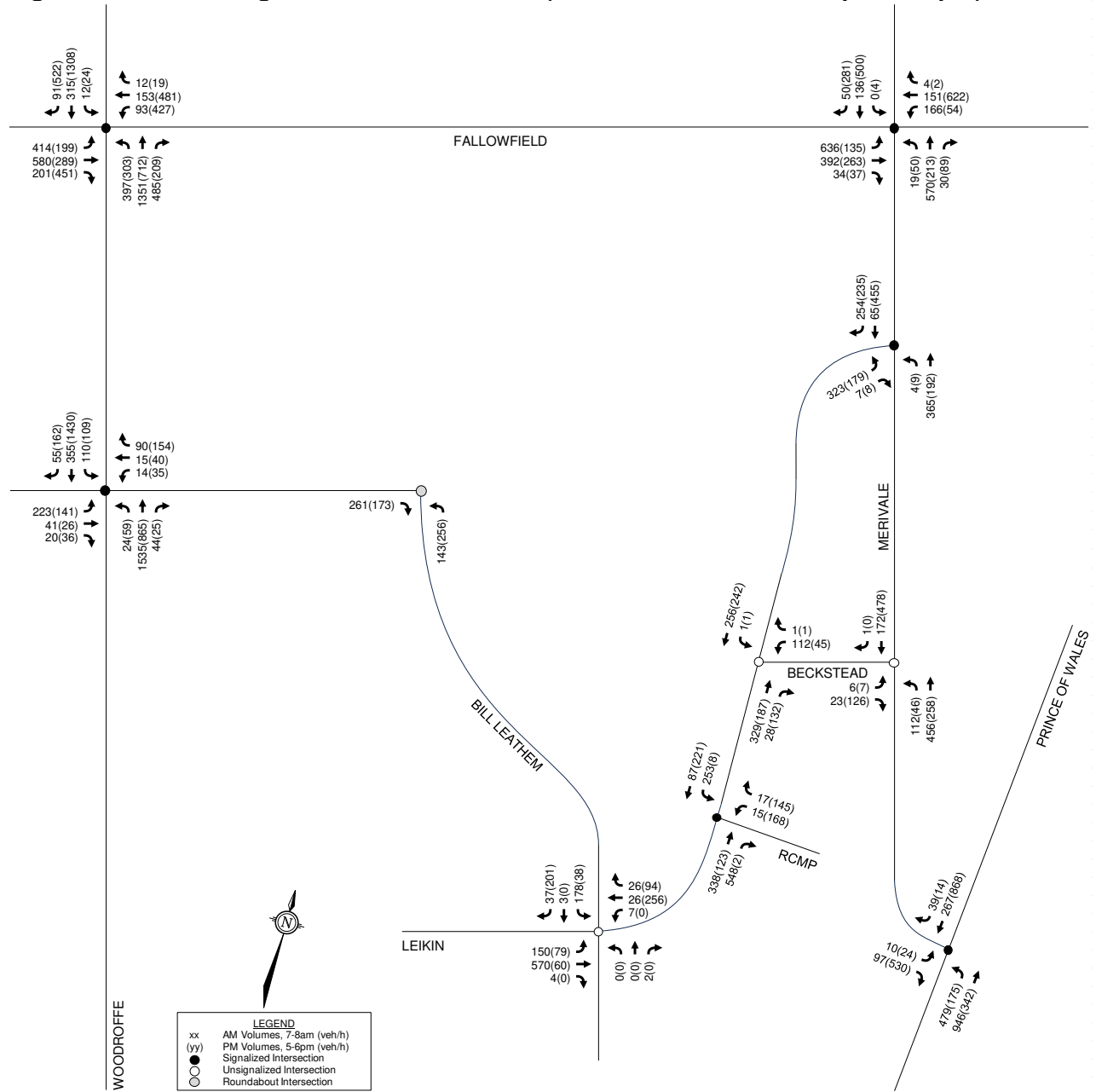




Figure 15: 2031 Background Traffic Volumes (7:00am-8:00am and 5:00pm-6:00pm)

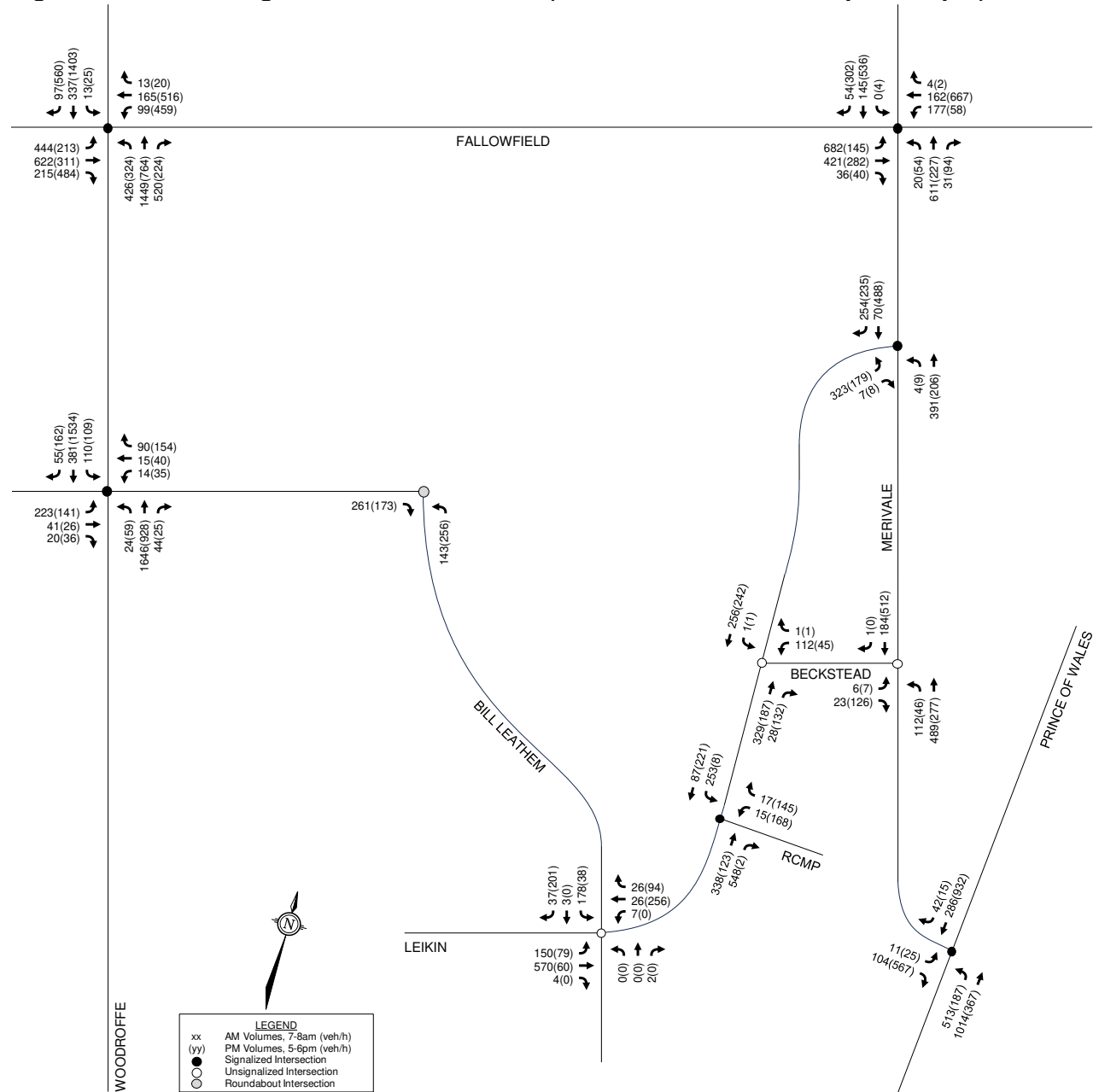


Figure 16: 2026 Total Traffic Volumes (7:00am-8:00am and 5:00pm-6:00pm)

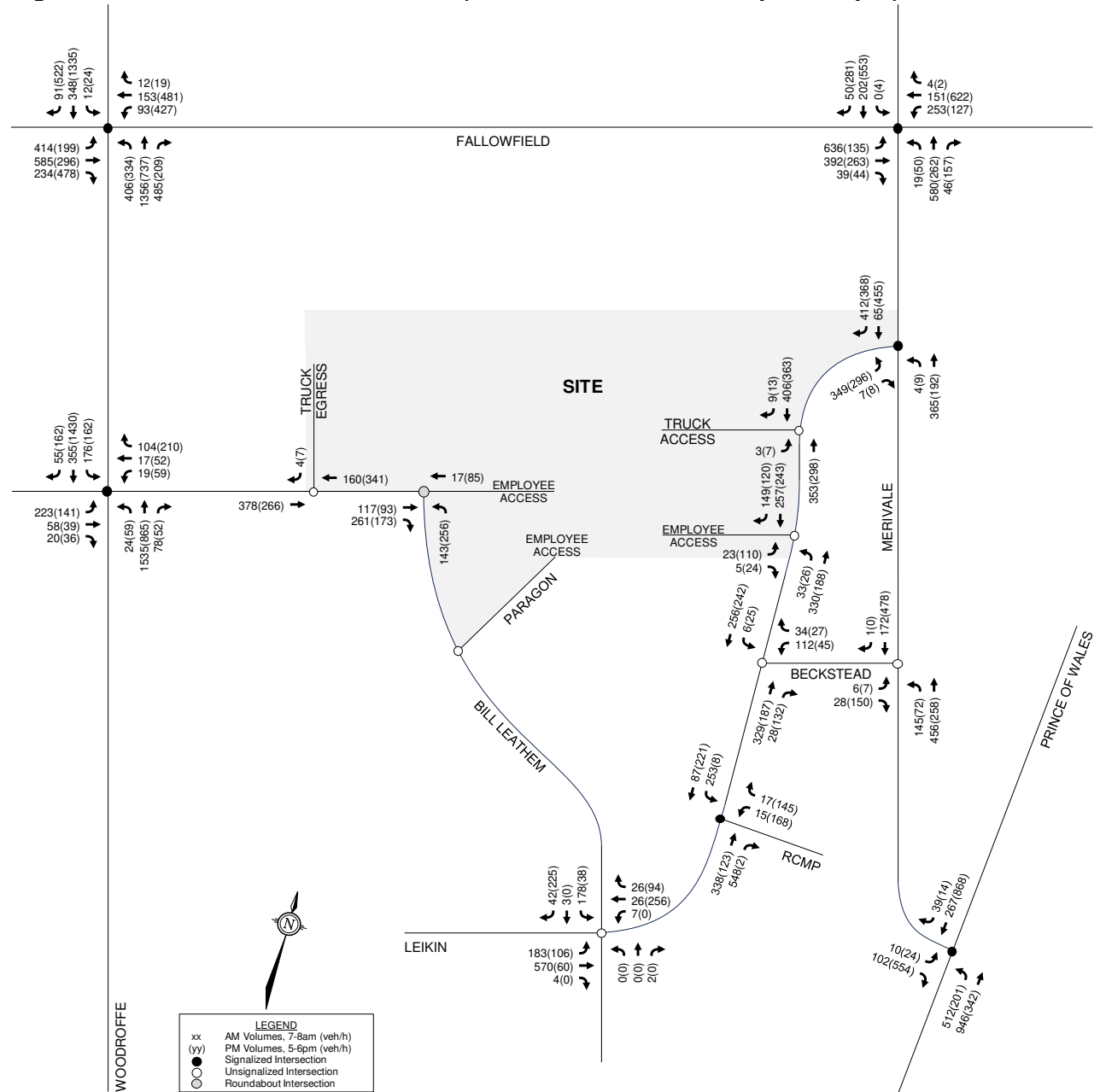
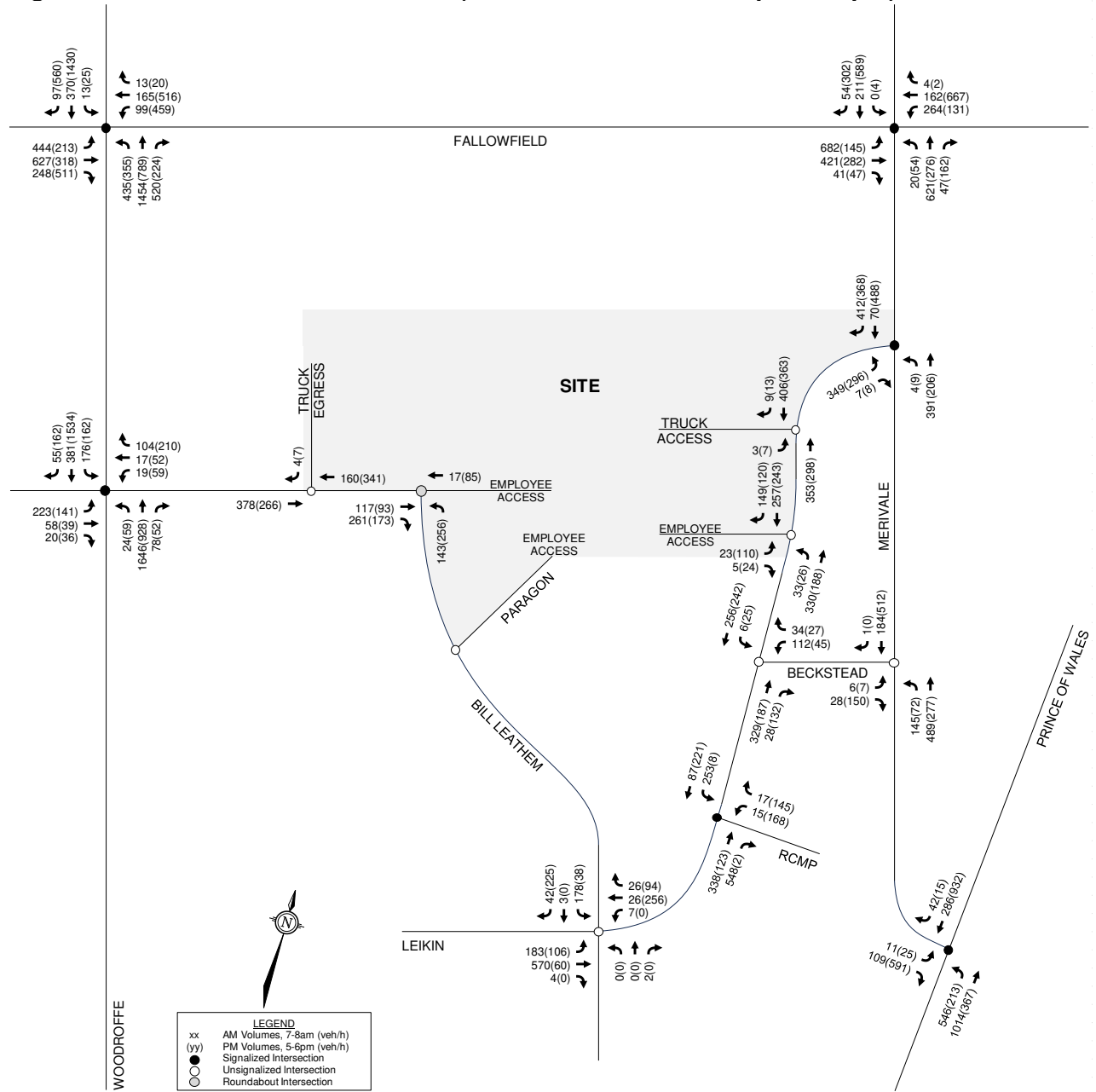


Figure 17: 2031 Total Traffic Volumes (7:00am-8:00am and 5:00pm-6:00pm)



**Table 7: Existing Intersection Analysis**

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Woodroffe Avenue/ Fallowfield Road <sup>(1)</sup>	0.86	D	EBL	1.28	F	NBL
				1.07	F	SBT
				1.09	F	EBL
				1.17	F	EBR
Woodroffe Avenue/ Longfields Drive <sup>(1)</sup>	0.99	E	NBT	0.87	D	SBT
Leikin Drive/ Bill Leatham Drive <sup>(2)</sup>	39 sec	E	EBT/R	13 sec	B	WBT/R
Leikin Drive/ RCMP Access <sup>(1)</sup>	0.58	A	NBR	0.64	B	WBL
Leikin Drive/ Beckstead Road <sup>(2)</sup>	15 sec	B	WBL/R	12 sec	B	WBL/R
Merivale Road/ Fallowfield Road <sup>(1)</sup>	0.93	E	NBT/R	0.91	E	SBT
	1.12	F	EBL	1.00	E	WBT/R
Merivale Road/ Leikin Drive <sup>(1)</sup>	0.80	C	EBL	0.57	A	EBL
Merivale Road/ Beckstead Road <sup>(2)</sup>	12 sec	B	EBL/R	14 sec	B	EBL/R
Merivale Road/ Prince of Wales Drive <sup>(1)</sup>	0.77	C	NBT	1.20	F	EBR

- 1. Signalized intersection
- 2. Unsignalized intersection

**Table 8: Existing Traffic – Critical Queues**

Intersection	Mvmt	Storage/ Spacing (1)	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Woodroffe Ave/ Fallowfield Rd	NBL	50m/150m	0.56 [A]	29	46	1.28 [F]	~63	#94
	NBT	400m	0.84 [D]	156	#275	0.50 [A]	92	114
	SBT	500m	0.45 [A]	42	57	1.07 [F]	~252	#294
	EBL	100m	0.86 [D]	62	#83	1.09 [F]	~38	#65
	EBR	150m	0.40 [A]	0	13	1.17 [F]	~135	#203
	WBL	100m	0.51 [A]	14	23	0.86 [D]	71	90
Woodroffe Ave/ Longfields Dr	NBT	390m	0.99 [E]	188	#307	0.56 [A]	64	116
	SBL	85m	0.61 [B]	8	#43	0.37 [A]	8	22
	SBT	400m	0.21 [A]	23	45	0.87 [D]	137	#259
Merivale Rd/ Fallowfield Rd	NBT/R	150m	0.93 [E]	138	186	0.46 [A]	55	78
	SBT	1.2 km	0.24 [A]	24	39	0.91 [E]	142	187
	EBL	110m	1.12 [F]	~165	#286	0.81 [D]	29	#67
	WBL	30m	0.51 [A]	21	38	0.11 [A]	7	15
	WBT/R	560m	0.45 [A]	34	60	1.00 [E]	~207	#293
Merivale Rd/ Prince of Wales Dr	NBT	1.0 km	0.77 [C]	107	#235	0.31 [A]	29	42
	EBR	35m	0.20 [A]	0	9	1.20 [F]	~94	#156

- 1: Indicates the storage length for auxiliary lanes or the spacing to the nearest upstream intersection for through lanes
- #: Volume for the 95<sup>th</sup> percentile cycle exceeds capacity
- ~: Approach is above capacity, queue is theoretically infinite

From the previous tables, there are multiple movements within the study area that operate with a failing level of service during the AM and PM hours of analysis, or have maximum (i.e. 95<sup>th</sup>-percentile) queue lengths that exceed the storage length or spacing provided. A discussion of each intersection with identified issues, as well as a discussion on rationalized travel demands, is included below. Detailed Synchro reports of any alternate scenarios with adjusted signal timings, roadway modifications, and rationalized demands are included in **Appendix J**.

Woodroffe Avenue/Fallowfield Road

During the 5:00pm-6:00pm hour, the northbound left turn, southbound through, eastbound left turn, and eastbound right turn movements operate at an Auto LOS F.

The maximum queue length of the northbound left turn movement is 94m, which extends beyond the median break serving the gas station/commercial access that serves 3320-3350 Fallowfield Road. Closing the median break would be required to mitigate this issue.

A scenario with adjusted signal timings has been completed for the 5:00pm-6:00pm hour. In this scenario, the following signal timing adjustments are summarized:

- Northbound left: maximum split of 19.8 sec increased to 21.0 sec;
- Northbound through: maximum split of 74.8 sec decreased to 68.0 sec;
- Southbound left: maximum split of 16.8 sec decreased to 13.0 sec;
- Southbound through: maximum split of 71.8 sec decreased to 61.0 sec;
- Eastbound left: maximum split of 16.8 sec increased to 24.0 sec;
- Eastbound through: maximum split of 39.8 sec increased to 41.0 sec;
- Westbound left: maximum split of 36.8 sec decreased to 27.0 sec;
- Westbound through: maximum split of 59.8 sec decreased to 44.0 sec;
- Overall cycle length: free length (168.2 sec maximum) changed to 150 sec.

In addition to the timing adjustment, a permitted plus overlapping eastbound right turn phase has been implemented (i.e. during the northbound left turn phase). With the above adjustments, the following critical movements improve as follows:

- Northbound left turn: v/c ratio of 1.28 improves to 0.99 (Auto LOS E);
- Southbound through: v/c ratio of 1.07 worsens to 1.09 (Auto LOS F);
- Eastbound left turn: v/c ratio of 1.09 improves to 0.65 (Auto LOS B);
- Eastbound right turn: v/c ratio of 1.17 improves to 1.06 (Auto LOS F).

It appears that dual eastbound right turn lanes could be accommodated within the existing ROW of Fallowfield Road. If dual eastbound right turn lanes at the Woodroffe Avenue/Fallowfield Road intersection are implemented, no reduction in eastbound right turning volumes is required.

Without the implementation of dual eastbound right turn lanes, achieving the target Auto LOS E for the remaining over-capacity movements requires the following volume reductions during the 5:00pm-6:00pm hour:

- Southbound through: reduction of approximately 100 vehicles;
- Eastbound right turn: reduction of approximately 30 vehicles.

Woodroffe Avenue/Longfields Drive

During the 7:00am-8:00am hour, the northbound through movement operates at an Auto LOS E.

A scenario with adjusted signal timings has been completed for the 7:00am-8:00am hour. In this scenario, the following signal timing adjustments are summarized.

- Northbound/southbound left: maximum split of 13.0 sec unchanged;
- Northbound/southbound through: maximum split of 55.0 sec increased to 79.0 sec;
- Eastbound/westbound left: maximum split of 24.0 sec decreased to 20.0 sec;
- Eastbound/westbound through: maximum split of 38.0 sec unchanged;
- Overall cycle length: cycle length of 130 sec increased to 150 sec.

With these adjustments, the northbound through movement improves to the target Auto LOS D, and all other movements achieve an Auto LOS D or better.

Bill Leathem Drive/Leikin Drive

During the 7:00am-8:00am hour, the eastbound through/right turn movement operates at an Auto LOS E, as it has a delay of 39.3 seconds. To achieve the target Auto LOS D (equating to a delay of 35 seconds), a reduction of approximately 20 eastbound through vehicles are required.

Merivale Road/Fallowfield Road

During the 7:00am-8:00am hour, the northbound through/right turn movement operates at an Auto LOS E and the eastbound left turn movement operates at an Auto LOS F. During the 5:00pm-6:00pm hour, the southbound through movement operates at an Auto LOS E and the westbound through/right turn movement operates at an Auto LOS F.

In the morning, the maximum queue length of the northbound through/right turn movement is 186m, extending through the upstream intersection with Boycrest Street. Boycrest Street is a local roadway which connects to Ashdale Avenue and serves ten residences. The maximum queue length of the eastbound left turn movements is 286m, which greatly exceeds the 110m of storage length provided. The maximum queue length of the westbound left turn movement is 38m, which exceeds the 30m of storage length that is provided.

Scenarios with adjusted signal timings have been completed for the 7:00am-8:00am and 5:00pm-6:00pm hours. For these scenarios, the following signal timing adjustments are summarized:

7:00am-8:00am Timing Adjustments

- Northbound left turn: maximum split of 12.0 sec unchanged;
- Northbound through: maximum split of 69.0 sec decreased to 62.0 sec;
- Southbound through: maximum split of 57.0 sec decreased to 50.0 sec;
- Eastbound left: maximum split of 37.0 sec increased to 61.0 sec;
- Eastbound through: maximum split of 56.0 sec increased to 65.0 sec;
- Westbound left: maximum split of 16.0 sec increased to 23.0 sec;
- Westbound through: maximum split of 35.0 sec decreased to 27.0 sec;
- Overall cycle length: cycle length of 141 sec increased to 150 sec.

5:00pm-6:00pm Timing Adjustments

- Northbound left turn: maximum split of 12.0 sec unchanged;
- Northbound through: maximum split of 77.0 sec decreased to 66.0 sec;
- Southbound through: maximum split of 65.0 sec decreased to 54.0 sec;
- Eastbound left: maximum split of 21.0 sec decreased to 15.0 sec;
- Eastbound through: maximum split of 62.0 sec increased to 72.0 sec;
- Westbound left: maximum split of 21.0 sec decreased to 12.0 sec;
- Westbound through: maximum split of 62.0 sec increased to 69.0 sec;
- Overall cycle length: cycle length of 160 sec decreased to 150 sec.

Based on the adjusted timings for the 7:00am-8:00am hour, the critical movements both operate at an Auto LOS E. The v/c ratio of the northbound through/right turn movement changes from 0.93 to 0.98, and the v/c ratio of the eastbound left turn movement improves from 1.12 to 0.97.

Dual eastbound left turn lanes is identified as an improvement at this intersection, as there are over 600 eastbound left turns during the 7:00am-8:00am hour. An additional receiving lane on Merivale Road and fully protected phase for eastbound and westbound left turns would also be required. With this modification, the eastbound left turn movement improves to the target Auto LOS D. It appears that property acquisition would be required to accommodate dual eastbound left turn lanes. An Environmental Assessment (EA) has been completed for the widening of Fallowfield Road from two lanes to four, between Woodroffe Avenue and Prince of Wales Drive. However, this is not anticipated to be implemented by the horizon year 2031.

Without the implementation of dual eastbound left turn lanes, achieving the target Auto LOS D for the over-capacity movements requires the following volume reductions during the 7:00am-8:00am hour:

- Northbound through: reduction of approximately 130 vehicles;
- Eastbound left turn: reduction of approximately 40 vehicles.

Based on the adjusted timings for the 5:00pm-6:00pm hour, the westbound through/right turn movement improves to an Auto LOS D (with the v/c ratio improving from 1.00 to 0.89) and the southbound through movement remains at an Auto LOS E (with the v/c ratio changing from 0.91 to 0.96). Achieving the target Auto LOS D of the southbound through movement requires a reduction of approximately 80 southbound through vehicles during the 5:00pm-6:00pm hour.

Merivale Road/Prince of Wales Drive

During the 5:00pm-6:00pm hour, the eastbound right turn movement operates at an Auto LOS F.

The maximum queue length of the eastbound right turn movement is 156m, which extends through the upstream intersection with Queen Anne Crescent. Queen Anne Crescent is a dead-end local roadway with a single entrance and serves 12 residences.

A scenario with adjusted signal timings has been completed for the 5:00pm-6:00pm hour. In this scenario, the following signal timing adjustments are summarized.

- Northbound left/eastbound right: maximum split of 14.0 sec increased to 26.0 sec;
- Northbound through: maximum split of 89.0 sec decreased to 74.0 sec;
- Southbound through: maximum split of 75.0 sec decreased to 48.0 sec;
- Eastbound left/right: maximum split of 26.0 sec increased to 41.0 sec;
- Advance bike phase: five-second advance phase is unchanged;
- Overall cycle length: cycle length of 120 sec is unchanged.

With these adjustments, the eastbound right turn movement improves to the target Auto LOS D, while all other movements achieve an Auto LOS C or better.

### 3.4.2 2026 Background Traffic Operations

Intersection capacity analysis has been conducted for the 2026 background traffic conditions. The results are summarized in **Table 9** and **Table 10** for the AM and PM hours of analysis (7:00am-8:00am and 5:00pm-6:00pm). Detailed Synchro reports are included in **Appendix K**.

**Table 9: 2026 Background Intersection Analysis**

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Woodroffe Avenue/ Fallowfield Road <sup>(1)</sup>	0.83	D	EBL	1.22	F	NBL
				1.01	F	EBL
				1.09	F	EBR
Woodroffe Avenue/ Longfields Drive <sup>(1)</sup>	0.91	E	NBT	0.81	D	SBT
Leikin Drive/ Bill Leathem Drive <sup>(2)</sup>	29 sec	D	EBT/R	12 sec	B	WBT/R
Leikin Drive/ RCMP Access <sup>(1)</sup>	0.54	A	NBR	0.60	A	WBL
Leikin Drive/ Beckstead Road <sup>(2)</sup>	15 sec	B	WBL/R	12 sec	B	WBL/R
Merivale Road/ Fallowfield Road <sup>(1)</sup>	0.92	E	NBT/R	0.90	D	SBT
			EBL			WBT/R
Merivale Road/ Leikin Drive <sup>(1)</sup>	0.78	C	EBL	0.59	A	EBL
Merivale Road/ Beckstead Road <sup>(2)</sup>	11 sec	B	EBL/R	13 sec	B	EBL/R
Merivale Road/ Prince of Wales Drive <sup>(1)</sup>	0.71	C	NBT	1.11	F	EBR

1. Signalized intersection  
 2. Unsignalized intersection



**Table 10: 2026 Background Traffic – Critical Queues**

Intersection	Mvmt	Storage/ Spacing (1)	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Woodroffe Ave/ Fallowfield Rd	NBL	50m/150m	0.53 [A]	27	43	<b>1.22 [F]</b>	~58	<b>#89</b>
	NBT	400m	0.77 [C]	136	#245	0.46 [A]	82	105
	SBT	500m	0.40 [A]	39	55	0.99 [E]	206	#262
	EBL	100m	0.83 [D]	57	74	<b>1.01 [F]</b>	~32	<b>#59</b>
	EBR	150m	0.39 [A]	0	12	<b>1.09 [F]</b>	~113	<b>#182</b>
	WBL	100m	0.48 [A]	13	22	0.83 [D]	65	83
Woodroffe Ave/ Longfields Dr	NBT	390m	<b>0.91 [E]</b>	<b>163</b>	<b>#276</b>	0.52 [A]	57	105
	SBL	85m	0.62 [B]	10	#49	0.33 [A]	8	22
	SBT	400m	0.19 [A]	21	42	0.81 [D]	119	#233
Merivale Rd/ Fallowfield Rd	NBT/R	150m	<b>0.92 [E]</b>	<b>129</b>	<b>175</b>	0.49 [A]	57	81
	SBT	1.2 km	0.25 [A]	21	40	0.90 [D]	130	172
	EBL	110m	<b>1.00 [E]</b>	~113	<b>#255</b>	0.62 [B]	19	39
	WBL	30m	0.50 [A]	20	39	0.11 [A]	7	16
	WBT/R	560m	0.41 [A]	30	56	0.90 [D]	165	#262
Merivale Rd/ Prince of Wales Dr	NBT	1.0 km	0.71 [C]	90	175	0.29 [A]	26	38
	EBR	35m	0.22 [A]	0	9	<b>1.11 [F]</b>	~76	<b>#137</b>

1: Indicates the storage length for auxiliary lanes or the spacing to the nearest upstream intersection for through lanes

#: Volume for the 95<sup>th</sup> percentile cycle exceeds capacity

~: Approach is above capacity, queue is theoretically infinite

Based on the previous tables, the 2026 background conditions generally improve compared to the existing traffic conditions. This can be attributed to differences in the peak hour factor (set to 0.90 in existing conditions and 1.0 in future conditions, per the *TIA Guidelines*).

Woodroffe Avenue/Fallowfield Road

During the 5:00pm-6:00pm hour, the northbound left turn, eastbound left turn, and eastbound right turn movements operate at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the over-capacity movements improve to the target Auto LOS E.

Woodroffe Avenue/Longfields Drive

During the 7:00am-8:00am hour, the northbound through movement operates at an Auto LOS E.

Applying the signal timing adjustments described in Section 3.4.1, the northbound through movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS C or better.

Merivale Road/Fallowfield Road

During the 7:00am-8:00am hour, the northbound through/right turn and eastbound left turn movements operate at an Auto LOS E.

Applying only the signal timing adjustments described in Section 3.4.1 (i.e. no dual eastbound left turn lanes), the eastbound left turn movement improves to the target Auto LOS D during the 7:00am-8:00am hour. Achieving the target Auto LOS D for the remaining over-capacity movement requires a reduction of approximately 120 northbound through vehicles during the 7:00am-8:00am hour.

Merivale Road/Prince of Wales Drive

During the 5:00pm-6:00pm hour, the eastbound right turn movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound right turn movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS B or better.

**3.4.3 2031 Background Traffic Operations**

Intersection capacity analysis has been conducted for the 2031 background traffic conditions. The results are summarized in **Table 11** and **Table 12** for the AM and PM hours of analysis (7:00am-8:00am and 5:00pm-6:00pm). Detailed Synchro reports are included in **Appendix K**.

**Table 11: 2031 Background Intersection Analysis**

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Woodroffe Avenue/ Fallowfield Road <sup>(1)</sup>	0.86	D	EBL	1.31	F	NBL
				1.07	F	SBT
				1.09	F	EBL
				1.17	F	EBR
Woodroffe Avenue/ Longfields Drive <sup>(1)</sup>	0.98	E	NBT	0.87	D	SBT
Leikin Drive/ Bill Leathem Drive <sup>(2)</sup>	29 sec	D	EBT/R	12 sec	B	WBT/R
Leikin Drive/ RCMP Access <sup>(1)</sup>	0.54	A	NBR	0.60	A	WBL
Leikin Drive/ Beckstead Road <sup>(2)</sup>	15 sec	B	WBL/R	12 sec	B	WBL/R
Merivale Road/ Fallowfield Road <sup>(1)</sup>	0.93	E	NBT/R	0.91	E	SBT
	1.13	F	EBL	1.00	E	WBT/R
Merivale Road/ Leikin Drive <sup>(1)</sup>	0.78	C	EBL	0.59	A	EBL
Merivale Road/ Beckstead Road <sup>(2)</sup>	11 sec	B	EBL/R	14 sec	B	EBL/R
Merivale Road/ Prince of Wales Drive <sup>(1)</sup>	0.79	C	NBT	1.23	F	EBR

- 1. Signalized intersection
- 2. Unsignalized intersection

**Table 12: 2031 Background Traffic – Critical Queues**

Intersection	Mvmt	Storage/ Spacing ( <sup>1</sup> )	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Woodroffe Ave/ Fallowfield Rd	NBL	50m/150m	0.56 [A]	29	47	1.31 [F]	~66	#96
	NBT	400m	0.84 [D]	156	#275	0.50 [A]	92	115
	SBT	500m	0.46 [A]	43	59	1.07 [F]	~250	#293
	EBL	100m	0.86 [D]	61	#81	1.09 [F]	~38	#64
	EBR	150m	0.41 [A]	0	15	1.17 [F]	~136	#204
	WBL	100m	0.51 [A]	14	23	0.86 [D]	71	90
Woodroffe Ave/ Longfields Dr	NBT	390m	0.98 [E]	186	#304	0.56 [A]	63	115
	SBL	85m	0.62 [B]	10	#49	0.33 [A]	8	22
	SBT	400m	0.20 [A]	22	45	0.87 [D]	135	#257

Intersection	Mvmt	Storage/ Spacing (1)	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Merivale Rd/ Fallowfield Rd	NBT/R	150m	<b>0.93 [E]</b>	<b>143</b>	<b>194</b>	0.50 [A]	61	87
	SBT	1.2 km	0.26 [A]	26	42	<b>0.91 [E]</b>	<b>143</b>	<b>189</b>
	EBL	110m	<b>1.13 [F]</b>	~174	#283	0.81 [D]	29	#67
	WBL	30m	0.56 [A]	24	42	0.12 [A]	8	17
	WBT/R	560m	0.45 [A]	35	60	<b>1.00 [E]</b>	~206	#291
Merivale Rd/ Prince of Wales Dr	NBT	1.0 km	0.79 [C]	105	#232	0.31 [A]	28	41
	EBR	35m	0.22 [A]	0	9	<b>1.23 [F]</b>	~100	#163

1: Indicates the storage length for auxiliary lanes or the spacing to the nearest upstream intersection for through lanes  
 #: Volume for the 95<sup>th</sup> percentile cycle exceeds capacity  
 ~: Approach is above capacity, queue is theoretically infinite

Based on the previous tables, the 2031 background conditions generally worsen compared to the 2026 background traffic conditions, due to background traffic growth on the arterial roadways, but are generally similar to existing conditions with a lower peak hour factor.

Woodroffe Avenue/Fallowfield Road

During the 5:00pm-6:00pm hour, the northbound left turn, southbound through, eastbound left turn, and eastbound right turn movements operate at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound left turn movement improves to the target Auto LOS E, and the northbound left turn, southbound through, and eastbound right turn movements remain at an Auto LOS F. Without the implementation of dual eastbound right turn lanes, achieving the target Auto LOS E for the remaining over-capacity movements requires the following volumes reductions during the 5:00pm-6:00pm hour:

- Northbound left turn: reduction of approximately 10 vehicles;
- Southbound through: reduction of approximately 110 vehicles;
- Eastbound right turn: reduction of approximately 30 vehicles.

Woodroffe Avenue/Longfields Drive

During the 7:00am-8:00am hour, the northbound through movement operates at an Auto LOS E.

Applying the signal timing adjustments described in Section 3.4.1, the northbound through movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS C or better.

Merivale Road/Fallowfield Road

During the 7:00am-8:00am hour, the northbound through/right turn movement operates at an Auto LOS E, and the eastbound left turn movement operates at an Auto LOS F. During the 5:00pm-6:00pm hour, the southbound through and westbound through/right turn movements operate at an Auto LOS E.

Applying only the signal timing adjustments described in Section 3.4.1 (i.e. no dual eastbound left turn lanes), the over-capacity movements achieve an Auto LOS E during the 7:00am-8:00am hour. During the 5:00pm-6:00pm hour, the southbound through movement remains at an Auto LOS E and the westbound through/right turn movement improves to the target Auto LOS D.

Without the implementation of dual eastbound left turn lanes, achieving the target Auto LOS D for the remaining over-capacity movements requires the following volume reductions:

- Northbound through: reduction of approximately 160 vehicles during 7:00am-8:00am hour;
- Eastbound left turn: reduction of approximately 50 vehicles during 7:00am-8:00am hour;
- Southbound through: reduction of approximately 90 vehicles during 5:00pm-6:00pm hour.

#### Merivale Road/Prince of Wales Drive

During the 5:00pm-6:00pm hour, the eastbound right turn movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound right turn movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS B or better.

## **4.0 ANALYSIS**

### **4.1 Development Design**

#### **4.1.1 Design for Sustainable Modes**

Pedestrian walkways are proposed throughout the employee parking lots and connect to walkways along the south and west sides of the building. These walkways will provide connectivity between the development and all parking areas. Additionally, walkways are proposed between the guardhouses and building entrances at the northwest and southeast corners. Pedestrian connections to the existing network are proposed at the Longfields Drive/Bill Leathem Drive roundabout, sidewalk on the east side of Paragon Avenue, and proposed sidewalk along the subject site's frontage to Leikin Drive.

On-site traffic calming measures are proposed, including maximum on-site speed signage, and frequent speed bumps along the main drive aisles (either at sections where no stop signage is proposed, or on either side of any proposed pedestrian crossings). Adequate lighting will be provided throughout the associate parking spaces.

Bicycle parking is proposed in two designated areas on the south side of the building, adjacent to the primary east-west drive aisle serving the development. The bicycle parking requirements are reviewed in Section 4.2.

OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. Entrances to the proposed building are not within 400m walking distance of any OC Transpo bus stop, but are within 600m walking distance of stops #0729, #0730, #3518, and #3519. These stops are served by the existing routes 73, 80, 199, and 278. As stated in Section 2.1.6, routes 199 and 278 will be removed in the City's future *New Ways to Bus* network.

A review of the City's *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* has been conducted. A copy of the non-residential TDM checklist is included in **Appendix L**. All relevant required TDM-supportive design and infrastructure measures in the TDM checklist are met, as well as the following 'basic' or 'better' measures.

- Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility;
- Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area;
- Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones;
- Provide on-site amenities to minimize mid-day or mid-commute errands.

#### 4.1.2 Circulation and Access

Garbage collection will occur in the secured area of the site near the southeast corner of the building (i.e. garbage trucks will enter and exit the truck access to Leikin Drive).

The design vehicle for the truck access to Leikin Drive and truck egress to Longfields Drive is larger than a garbage truck. Turning movements for a Wb-20 tractor-trailer design vehicle have been prepared at both truck accesses, with entering and exiting movements prepared at the truck access to Leikin Drive and exiting movements prepared for the truck egress to Longfields Drive. These movements are included in **Figures 18** and **19**.

A total of 59 loading docks and 482 trailer parking stalls are proposed within the secured area of the site. The proposed drive aisles within the secured area are generally 21.3m to 24.4m wide, and the proposed trailer parking spaces are typically 16.7m long. These oversized dimensions are anticipated to accommodate any size of truck and trailer on-site.

The proposed development includes two on-site fire access routes. The fire route through the secured area includes the truck access to Leikin Drive, along the primary drive aisles to the north and east of the proposed building, and the truck egress to Longfields Drive. The fire route through the employee parking area includes the employee access to Leikin Drive, along the primary east-west drive aisle in front of the southern side of the building, and the proposed eastern approach to the Longfields Drive/Bill Leathem Drive roundabout. Fire truck movements have been prepared for the proposed employee access to Leikin Drive and the proposed approach to the Longfields Drive/Bill Leathem Drive roundabout, and are included in **Figures 20** through **23**.

#### 4.2 Parking

The subject site is located within Area C on Schedules 1 and 1A of the City's *Zoning By-Law* (ZBL). Minimum vehicle parking, bicycle parking, and loading space rates for the proposed development are identified in Sections 101, 111, and 113 of the ZBL, and minimum accessible parking rates are identified in Section 3.1 of the City's *Accessibility Design Standards*.

The minimum rates and the number of proposed spaces are summarized in **Table 13**.



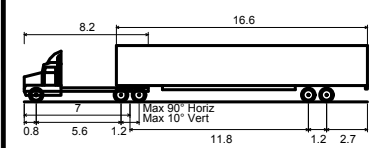
LEIKIN DRIVE

EMPLOYEE ACCESS

TRUCK ACCESS

WB-20 - Tractor & Semi-Trailer

WB-20 - Tractor & Semi-Trailer



**WB-20 - Tractor & Semi-Trailer**

Overall Length	22.700m
Overall Width	2.600m
Overall Body Height	3.730m
Min Body Ground Clearance	0.435m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	14.300m



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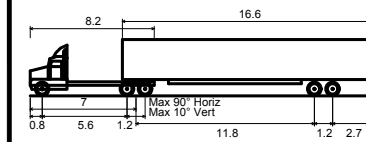
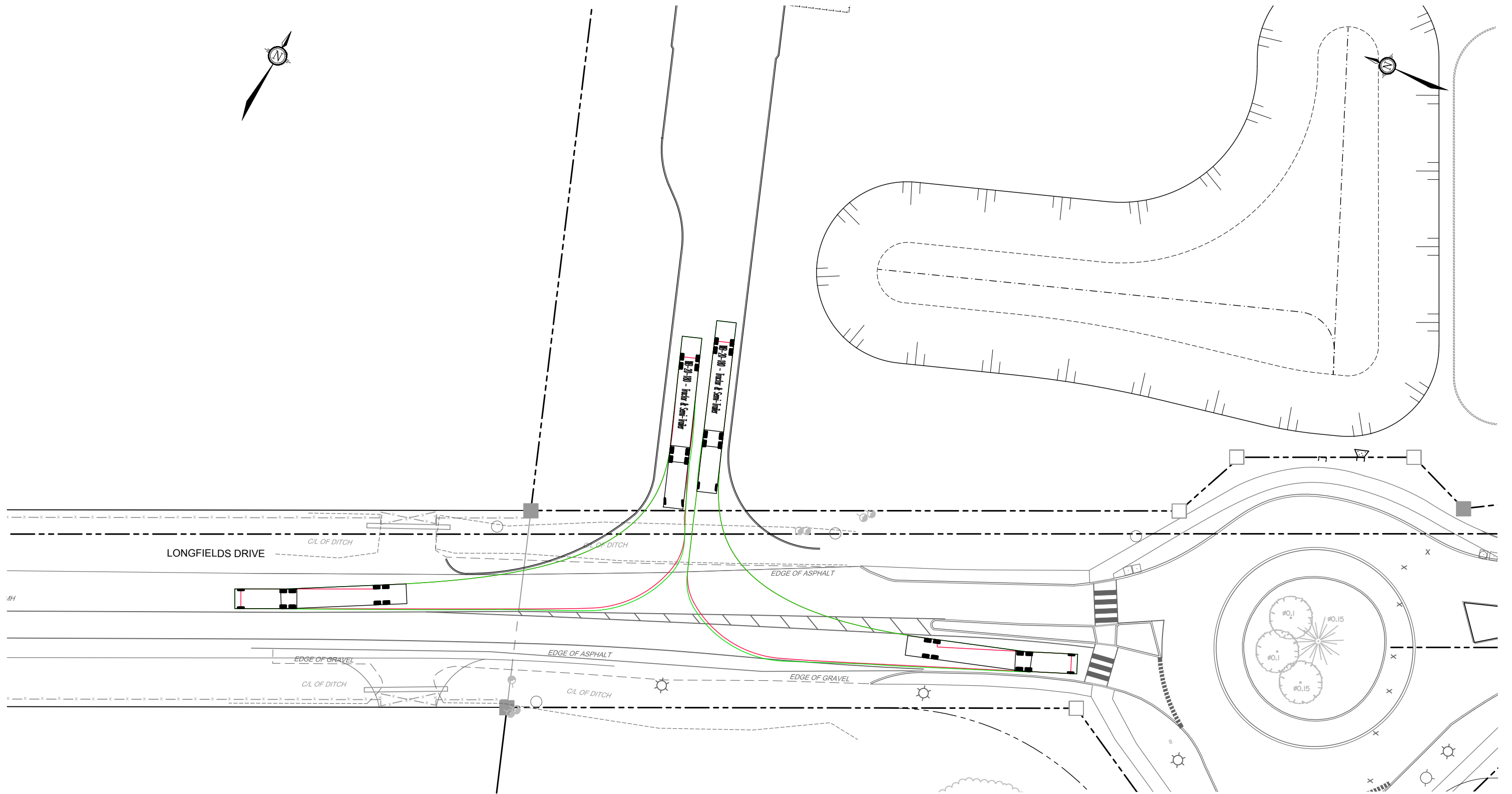
# SOUTH MERIVALE BUSINESS PARK

## TURNING MOVEMENTS (WB-20)

SCALE 1 : 500

DATE OCT 2024 JOB 124123 FIGURE FIGURE 18

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**WB-20 - Tractor & Semi-Trailer**

Overall Length	22.700m
Overall Width	2.600m
Overall Body Height	3.730m
Min Body Ground Clearance	0.435m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	14.300m

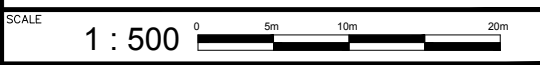


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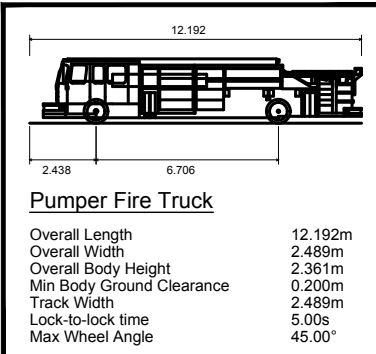
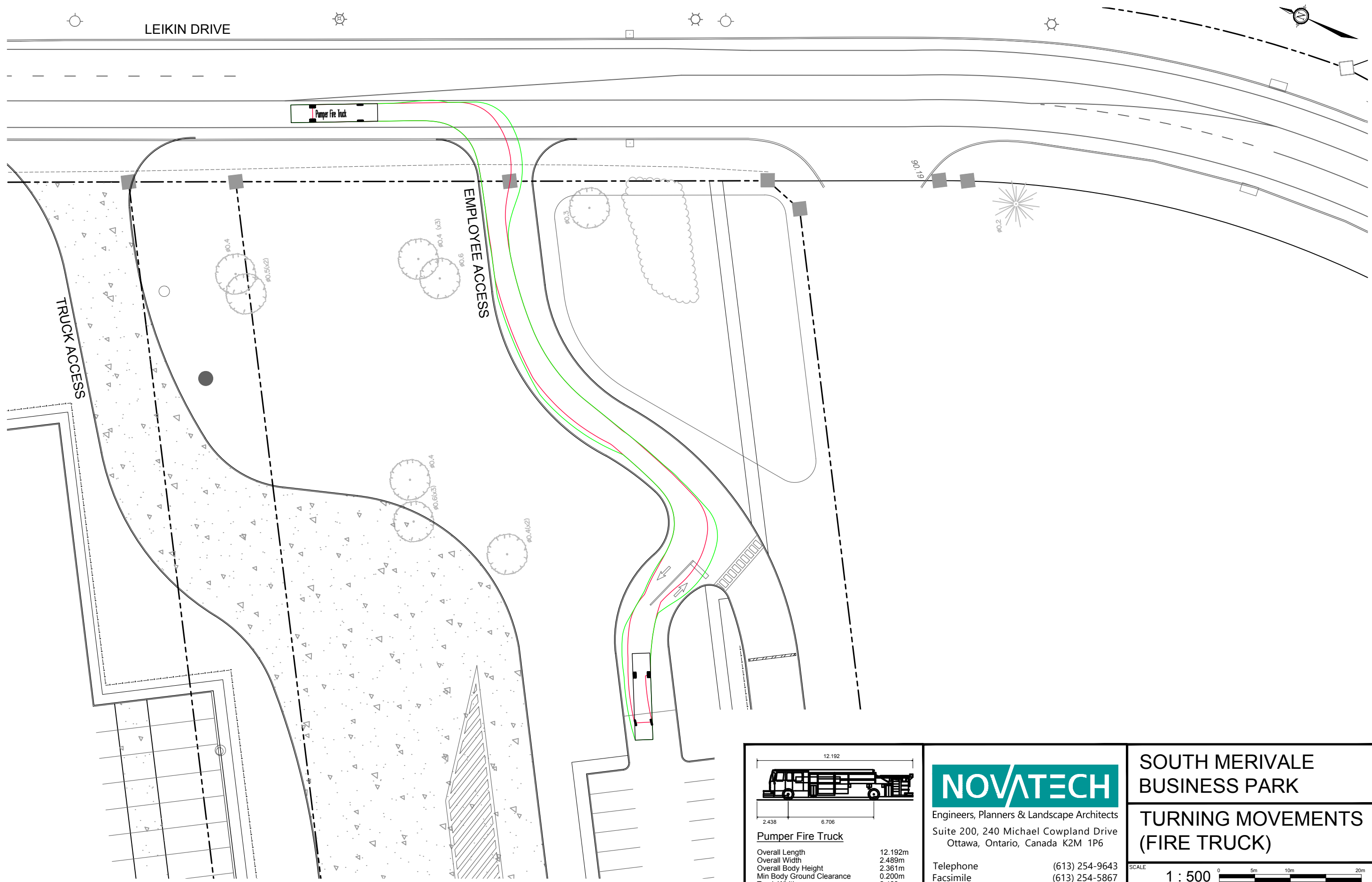
## SOUTH MERIVALE BUSINESS PARK

### TURNING MOVEMENTS (WB-20)



DATE OCT 2024 JOB 124123 FIGURE FIGURE 19

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**SOUTH MERIVALE BUSINESS PARK**

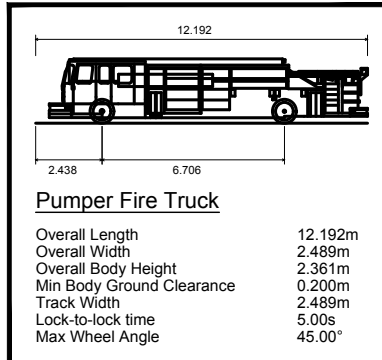
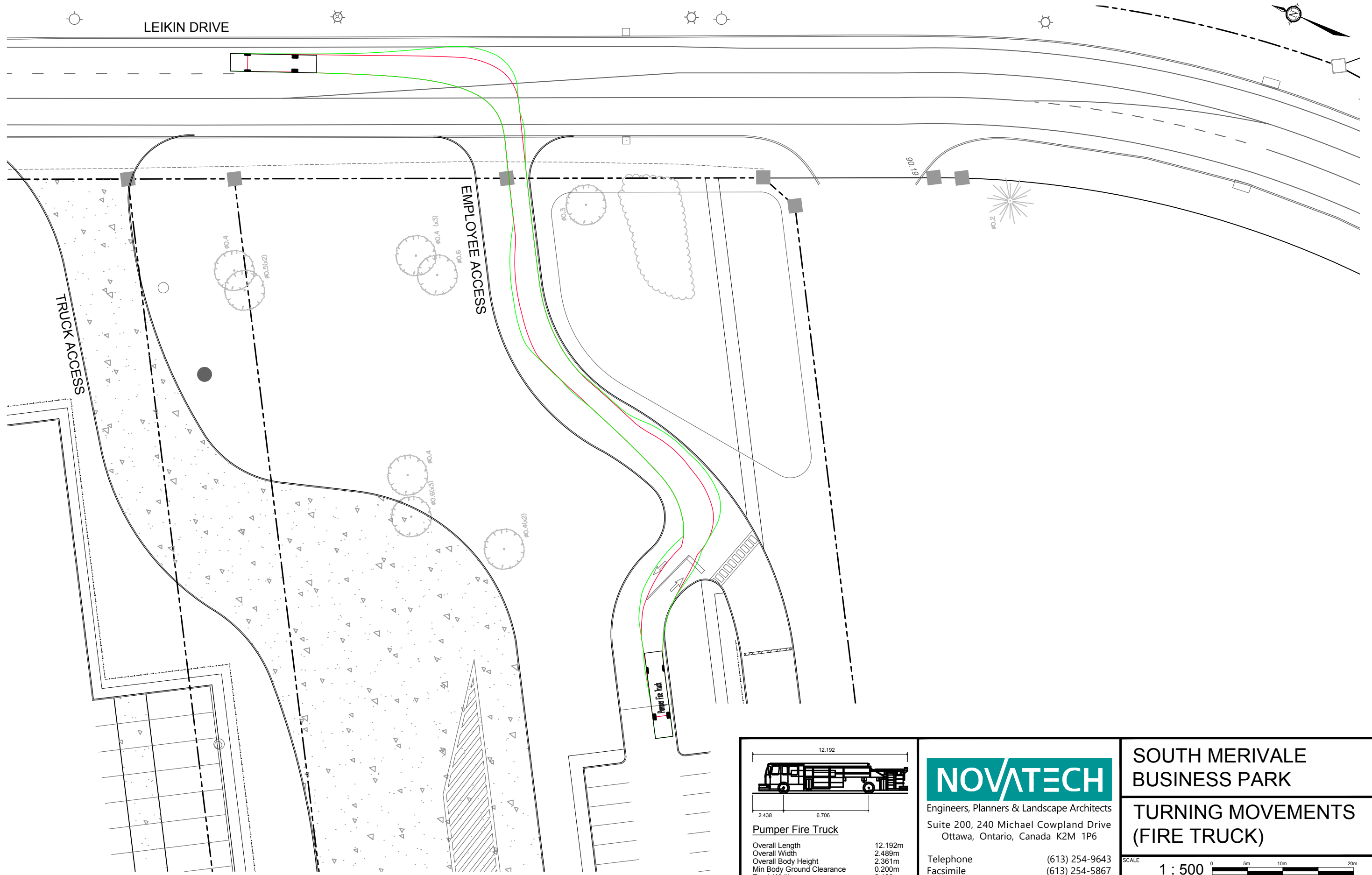
**TURNING MOVEMENTS (FIRE TRUCK)**

SCALE 1 : 500

DATE OCT 2024 JOB 124123 FIGURE FIGURE 20



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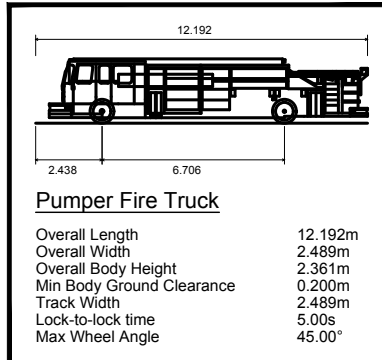
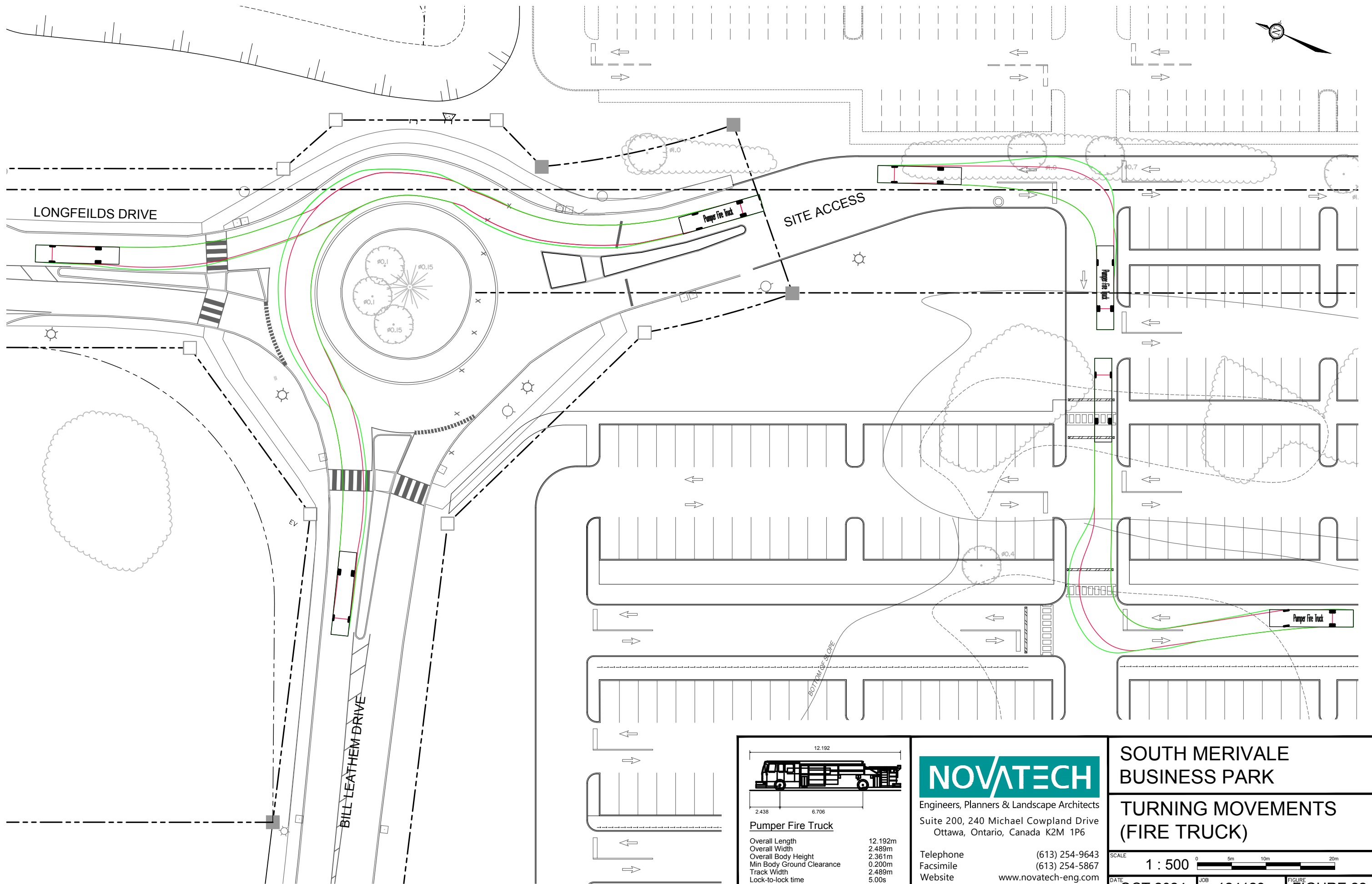
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**SOUTH MERIVALE  
 BUSINESS PARK**

**TURNING MOVEMENTS  
 (FIRE TRUCK)**

SCALE	1 : 500		
DATE	OCT 2024	JOB	124123
FIGURE	FIGURE 21		

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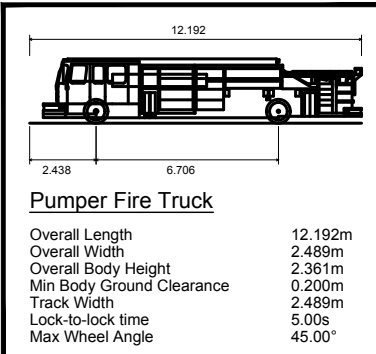
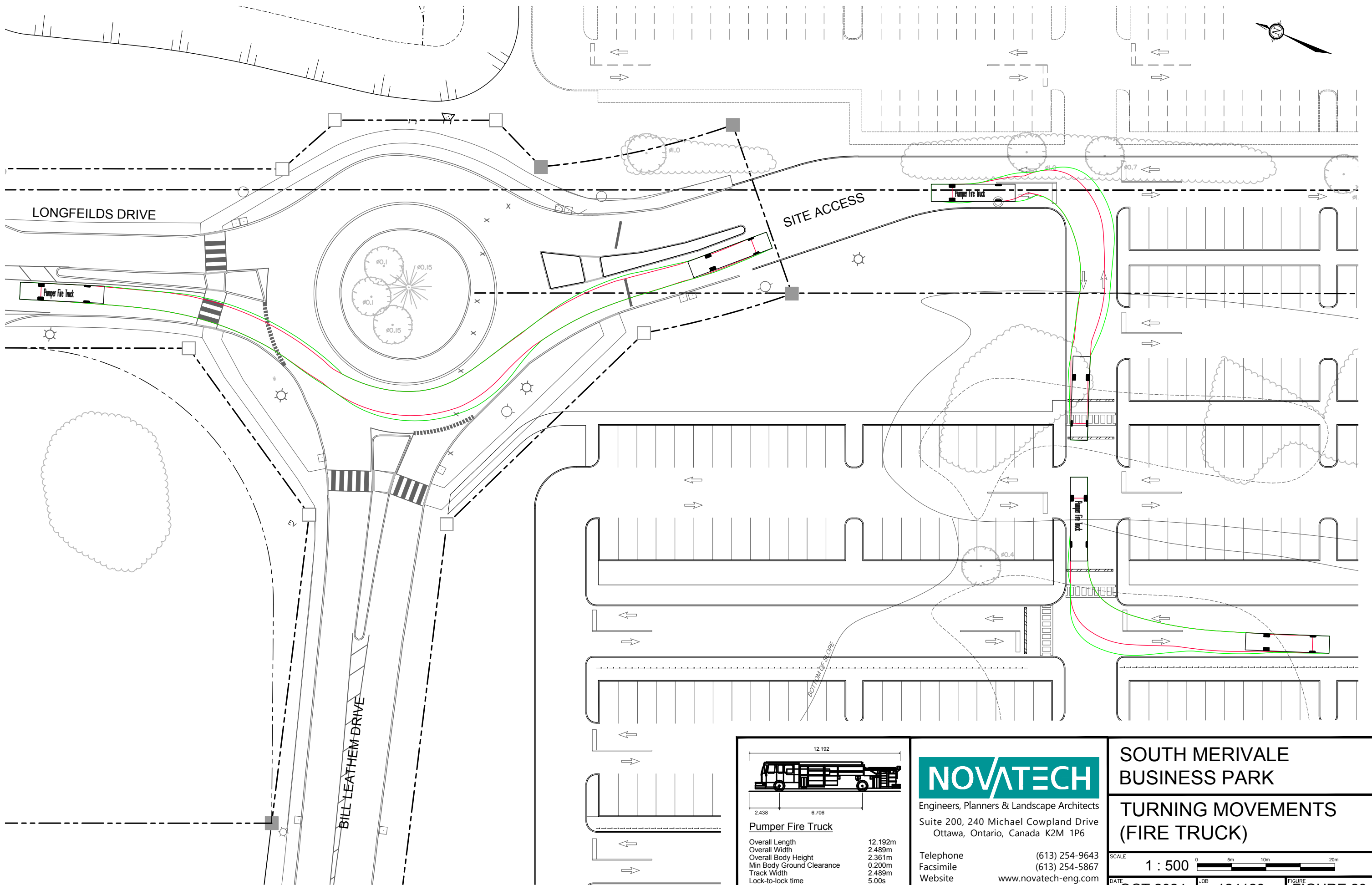
## SOUTH MERIVALE BUSINESS PARK

### TURNING MOVEMENTS (FIRE TRUCK)

SCALE 1 : 500

DATE OCT 2024 JOB 124123 FIGURE FIGURE 22

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**SOUTH MERIVALE BUSINESS PARK**

**TURNING MOVEMENTS (FIRE TRUCK)**

SCALE 1 : 500

DATE OCT 2024 JOB 124123 FIGURE FIGURE 23

**Table 13: Required and Proposed Parking**

Land Use	Rate	Unit	Required	Provided
<i>Minimum Vehicle Parking</i>				
Light Industrial	0.8 spaces per 100 m <sup>2</sup> GFA for the first 5,000 m <sup>2</sup> , then 0.4 spaces per 100 m <sup>2</sup> GFA	291,282 m <sup>2</sup>	1,185	1,185
<i>Minimum Bicycle Parking</i>				
Light Industrial	1 space per 1,000 m <sup>2</sup> GFA	291,282 m <sup>2</sup>	291	291
<i>Minimum Loading</i>				
Light Industrial	3 spaces when GFA exceeds 25,000 m <sup>2</sup>	291,282 m <sup>2</sup>	3	59
<i>Minimum Accessible Parking</i>				
-	11 spaces + 1% of total parking supply, when over 1,000 spaces are provided	1,185 spaces	23	32

As described in Section 1.2, 980 vehicle parking spaces are proposed. If required, the site can accommodate another 205 vehicle parking spaces for a total of 1,185 spaces, and therefore achieving the requirement. All parking and loading requirements will be met by the proposed development.

**4.3 Boundary Streets**

This section provides a review of the boundary streets Merivale Road, Longfields Drive, Bill Leathem Drive, Leikin Drive, and Paragon Avenue, using complete streets principles. The *MMLOS Guidelines* were used to evaluate the levels of service for each alternative mode of transportation. The boundary streets have been evaluated based on the targets for roadways within an Employment Area.

The detailed MMLOS review of the boundary streets is included in **Appendix M**. A summary of the results are provided in **Table 12**.

**Table 14: Segment MMLOS Summary**

Boundary Street	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Merivale Road	F	C	E	C	D	-	B	B
Longfields Drive	F		E		D		C	
Bill Leathem Drive	F		F		D		B	D
Leikin Drive	F		E		D		B	
Paragon Avenue	F		F		-		-	B

The results of the segment MMLOS analysis can be summarized as follows:

- No boundary streets meet the target pedestrian level of service (PLOS);
- Merivale Road, Longfields Drive, Bill Leathem Drive, and Leikin Drive do not meet the target bicycle level of service (BLOS), while Paragon Avenue does not have a target;
- All boundary transit routes achieve a transit level of service (TLOS) D;
- All boundary streets meet the target truck level of service (TkLOS).

### Pedestrian Level of Service

Merivale Road includes paved shoulders, but no dedicated pedestrian facilities. The posted speed limit is 80 km/h and traffic volumes are greater than 3,000 vpd in each direction. Based on these parameters, Exhibit 4 of the *MMLOS Guidelines* identifies that a PLOS D is the best-possible score, and could be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 2.0m. However, the existing paved shoulders are considered appropriate given the rural context.

Longfields Drive includes paved shoulders, but no dedicated pedestrian facilities. The posted speed limit is 70 km/h and traffic volumes are less than 3,000 vpd in each direction. Based on these parameters, Exhibit 4 of the *MMLOS Guidelines* identifies that the target PLOS C can be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 0.5m. However, the existing paved shoulders are considered appropriate given the rural context.

Bill Leathem Drive includes a 2.0m-wide sidewalk on the south side of the roadway. The regulatory speed limit is 50 km/h and traffic volumes are less than 3,000 vpd in each direction. Based on these parameters, Exhibit 4 of the *MMLOS Guidelines* identifies that the target PLOS C is met by the existing sidewalk. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Bill Leathem Drive.

Leikin Drive does not include sidewalks on either side of the roadway north of Beckstead Road. The posted speed limit is 60 km/h and traffic volumes are less than 3,000 vpd in each direction. Based on these parameters, Exhibit 4 of the *MMLOS Guidelines* identifies that the target PLOS C can be achieved by providing sidewalks with a minimum width of 2.0m and minimum boulevard width of 0.5m. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Leikin Drive.

Paragon Avenue includes a 2.0m-wide sidewalk on the east side of the roadway. The regulatory speed limit is 50 km/h and traffic volumes are less than 3,000 vpd in each direction. Based on these parameters, Exhibit 4 of the *MMLOS Guidelines* identifies that the target PLOS C is met by the existing sidewalk. As Paragon Avenue is a dead-end local roadway, sidewalks on the one side of Paragon Avenue is acceptable per typical City cross-sections.

### Bicycle Level of Service

Merivale Road and Longfields Drive include paved shoulders in both directions. The roadways do not achieve the target BLOS C, and cannot achieve the target BLOS C without the implementation of off-road facilities, such as a multi-use pathway. However, the existing paved shoulders are considered appropriate given the rural context.

Bill Leathem Drive does not include any dedicated cycling facilities. Exhibit 11 of the *MMLOS Guidelines* identifies that the target BLOS C can be achieved by implementing bike lanes with a minimum width of 1.2m in each direction. The existing roadway width of Bill Leathem Drive can accommodate bike lanes in each direction, and this is identified for the City's consideration.

Leikin Drive includes curbside bike lanes. Exhibit 11 of the *MMLOS Guidelines* identifies that the target BLOS C can be achieved by implementing physically separated bikeways, based on the high operating speed of Leikin Drive. Providing physically separated bikeways is identified for the City's consideration.

## 4.4 Transportation Demand Management

### 4.4.1 Context for TDM

The proposed development consists of a new prestige office and light industrial building with a gross floor area (GFA) of approximately 3,130,920 ft<sup>2</sup>. The proportion of employees by type of occupation is not known.

### 4.4.2 Need and Opportunity

The subject site is designated as 'Mixed Industrial' on Schedule B6 of the City of Ottawa's *Official Plan*. The implemented zoning for the property is 'Light Industrial' (IL9[2707]), and the site does not fall within the boundaries of any Community Design Plan or Secondary Areas.

As first discussed in Section 2.5.1, the assumed driver share of 80% for the subject application are generally consistent with the surveyed mode shares for employment generators in the South Nepean district (as outlined in the *TRANS Trip Generation Manual*). Failure to meet the assumed driver share is not anticipated.

### 4.4.3 TDM Program

A review of the *TDM Measures Checklist* has been conducted and is included in **Appendix L**. The proponent has agreed to consider the following TDM measures.

- 1.1.1: Designate an internal coordinator, or contract with an external coordinator;
- 1.2.1: Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
- 2.1.1: Display local area maps with walking/cycling access routes and key destinations at major entrances;
- 3.1.1: Display relevant transit schedules and route maps at entrances;
- 3.1.2: Provide online links to OC Transpo and STO information;
- 3.1.3: Provide real-time arrival information display at entrances;
- 4.1.1: Provide a dedicated ridematching portal at OttawaRideMatch.com;
- 7.1.1: Provide a multimodal travel option information package to new/relocating employees and students;
- 7.3.1: Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes;
- 8.5.1: Provide on-site amenities/services to minimize midday or mid-commute errands.

## 4.5 Transit

### 4.5.1 Transit Route Capacity

Per the Exemptions Review included in Section 2.6, this element is exempt from the TIA, as the proposed development is projected to generate fewer than 75 peak hour transit trips.

### 4.5.2 Transit Priority Requirements

The City’s *TIA Guidelines* identifies that this module shall assess the effect of development driveways and development-generated transit trips to the existing transit service within the study area. The site-generated traffic projections included in Section 2.5.1 estimate approximately 24 to 32 transit trips during the 7:00am-8:00am and 5:00pm-6:00pm hours. Given the relatively limited transit service within the study area, these projections are appropriate. This magnitude of site-generated transit volumes is anticipated to have a negligible impact on transit operations on routes that serve the study area.

As discussed in Section 2.2.1, Woodroffe Avenue is identified in the 2031 RTTP Network Concept as a Transit Priority Corridor with Isolated Measures. Transit signal priority and queue jump lanes between Fallowfield Road and Chapman Mills Drive will be implemented, but this is not anticipated prior to the horizon year 2031.

### 4.6 Intersection Design

#### 4.6.1 Intersection MMLOS

This section provides a review of the study area intersections, using complete streets principles. The intersection has been evaluated for PLOS, BLOS, TLOS, and TkLOS. The full intersection MMLOS analysis is included in **Appendix M**. A summary of the results is shown in **Table 15**.

**Table 15: Intersection MMLOS Summary**

Intersection	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Woodroffe Avenue/Fallowfield Road <sup>(1)</sup>	F	A	F	C	F	D	B	D
Woodroffe Avenue/Longfields Drive <sup>(2)</sup>	F	C	F		F			
Leikin Drive/RCMP Access <sup>(3)</sup>	F		E		B	-	F	
Merivale Road/Fallowfield Road <sup>(4)</sup>	F	D	E		F		E	
Merivale Road/Leikin Drive <sup>(3)</sup>	F	C	E		E		C	
Merivale Road/Prince of Wales Drive <sup>(3)</sup>	F		B		-	C	D	

1. Targets for intersections within 600m of a rapid transit station
2. Targets for intersections within the General Urban Area
3. Targets for intersections within the Employment Area
4. Targets for intersections within areas with ‘all other designations,’ as intersection is in Agricultural Resource Area

The results of the intersection MMLOS analysis can be summarized as follows:

- No study area intersections meet the target PLOS;
- Merivale Road/Prince of Wales Drive meets the target BLOS, and Woodroffe Avenue/ Fallowfield Road, Woodroffe Avenue/Longfields Drive, Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not;
- Woodroffe Avenue/Fallowfield Road and Woodroffe Avenue/Longfields Drive do not meet the target TLOS;
- Woodroffe Avenue/Fallowfield Road, Woodroffe Avenue/Longfields Drive, and Merivale Road/Prince of Wales Drive meet the target TkLOS, while Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not.

Further discussion for each intersection is included below.

Woodroffe Avenue/Fallowfield Road

The intersection does not meet the target PLOS A, BLOS C, or TLOS D.

All approaches have a cross-section with a width equivalent to ten lanes crossed or more (assuming a lane width equals 3.5m, per the *MMLOS Guidelines*). There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. No approaches meet the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks (greater than 400,000 vehicle/pedestrian conflicts over an eight-hour period). There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.

All approaches do not meet the target BLOS, based on left turn characteristics. A protected intersection design would be required to achieve the target BLOS and is identified for the City's consideration, given the high operating speeds and volumes at the intersection. The north, south, and west approaches do not meet the target BLOS, based on right turn characteristics. Exhibit 12 of the *MMLOS Guidelines* identifies that the target BLOS can be met by shortening the right turn lanes to 50m or shorter. Given the high traffic volumes at this intersection, this is not recommended. A protected intersection design as referenced above could also achieve the target BLOS based on right turns.

All approaches with transit movements do not meet the target TLOS. The City's RTTP Network Concept includes isolated transit priority measures on Woodroffe Avenue, such as transit signal priority and queue jump lanes. If implemented, these measures would be expected to improve delays for transit vehicles on Woodroffe Avenue. Fallowfield Road is not designated as a transit priority corridor.

Woodroffe Avenue/Longfields Drive

The intersection does not meet the target PLOS C, BLOS C, or TLOS D.

All approaches have a cross-section with a width equivalent to seven lanes crossed or more. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. The north approach meets the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks. There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.

All approaches do not meet the target BLOS, based on left turn characteristics. A protected intersection design would be required to achieve the target BLOS and is identified for the City's consideration, given the high operating speeds and volumes at the intersection. The north, south, and east approaches do not meet the target BLOS, based on right turn characteristics. Exhibit 12 of the *MMLOS Guidelines* identifies that the target BLOS can be met by shortening the right turn lanes to 50m or shorter. Given the high traffic volumes at this intersection, this is not recommended. A protected intersection design as referenced above could also achieve the target BLOS based on right turns.

The south and west approaches do not meet the target TLOS. The City's RTTP Network Concept includes isolated transit priority measures on Woodroffe Avenue, such as transit signal priority and queue jump lanes. If implemented, these measures would be expected to improve delays for transit vehicles on Woodroffe Avenue. Longfields Drive is not designated as a transit priority corridor.



Leikin Drive/RCMP Access

The intersection does not meet the target PLOS C, BLOS C, or TkLOS D.

The north and east approaches have a cross-section with a width equivalent to five or ten lanes crossed, respectively. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes. Neither approach meets the City's vehicle pedestrian/conflict threshold for zebra-striped crosswalks. The east approach is also a private approach to the RCMP Headquarters, so no modifications to that approach are recommended.

The north approach does not meet the target BLOS, based on left turn characteristics. A two-stage left turning facility (such as a jug-handle) or protected intersection design would be required to achieve the target BLOS. This is identified for the City's consideration. The south and east approaches do not meet the target BLOS, based on right turn characteristics. Exhibit 12 of the *MMLOS Guidelines* suggests a cycling facility that remains to the right of the northbound right turn lane would improve the BLOS of that approach to the target. The east approach is a private approach, and therefore no recommendations are identified.

The east approach does not meet the target TkLOS. This is a private approach, and the RCMP Headquarters include a separate entrance for trades and deliveries at the Leikin Drive/Bill Leathem Drive intersection. Therefore, no modifications are recommended.

Merivale Road/Fallowfield Road

The intersection does not meet the target PLOS D, BLOS C, or TkLOS D.

No approaches include crosswalks for pedestrians. If crosswalks were found to be required, it is anticipated that the intersection would continue scoring a PLOS F, based on all approaches having a cross-section equivalent to five to six lanes crossed.

All approaches do not meet the target BLOS, based on left turn characteristics. A protected intersection design would be required to achieve the target BLOS and is identified for the City's consideration, given the high operating speeds and volumes at the intersection. The west approach does not meet the target BLOS, based on right turn characteristics. Exhibit 12 of the *MMLOS Guidelines* identifies that the target BLOS can be met by shortening the right turn lanes to 50m or shorter. Given the high traffic volumes at this intersection, this is not recommended. A protected intersection design as referenced above could also achieve the target BLOS based on right turns.

The east and west approaches do not meet the target TkLOS. Paved shoulders at these corners are anticipated to assist trucks turning right from Fallowfield Road onto Merivale Road. No modifications to the curb radii are identified.

Merivale Road/Leikin Drive

The intersection does not meet the target PLOS C, BLOS C, or TkLOS B.

The north and west approaches do not meet the target PLOS. The north approach has a crossing distance equivalent to five lanes and the west approach has a crossing distance equivalent to ten lanes. There are limited opportunities to improve the PLOS without reducing the number of travel lanes or restricting turning movements.

The south approach does not meet the target BLOS, based on left turn characteristics. There is limited opportunity in improving the BLOS for this approach, as the northbound left turn lane is required.

The north and west approaches do not meet the target TkLOS, and cannot meet the target without providing multiple receiving lanes. Large turning radii are provided to accommodate trucks turning to/from Merivale Road and Leikin Drive, and therefore no modifications to the curb radii are identified.

Merivale Road/Prince of Wales Drive

The intersection does not meet the target PLOS C.

All approaches have a cross-section with a width equivalent to six lanes crossed or more. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. Zebra-striped crosswalks have been implemented at all approaches. There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.

**4.6.2 2026 Total Traffic Operations**

Intersection capacity analysis has been conducted for the 2026 total traffic conditions. The results are summarized in **Table 16** and **Table 17** for the AM and PM hours of analysis (7:00am-8:00am and 5:00pm-6:00pm). Detailed Synchro and Rodel reports are included in **Appendix N**.

**Table 16: 2026 Total Intersection Analysis**

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Woodroffe Avenue/ Fallowfield Road <sup>(1)</sup>	0.83	D	EBL	1.34	F	NBL
				1.01	F	SBT
				1.01	F	EBL
				1.13	F	EBR
Woodroffe Avenue/ Longfields Drive <sup>(1)</sup>	1.07	F	NBT	0.81	D	SBT
Leikin Drive/ Bill Leathem Drive <sup>(2)</sup>	29 sec	D	EBT/R	12 sec	B	WBT/R
Leikin Drive/ RCMP Access <sup>(1)</sup>	0.54	A	NBR	0.60	A	WBL
Leikin Drive/ Beckstead Road <sup>(2)</sup>	15 sec	B	WBL/R	12 sec	B	WBL/R
Merivale Road/ Fallowfield Road <sup>(1)</sup>	0.93	E	NBT/R	0.92	E	SBT
	1.03	F	EBL	0.94	E	WBT/R
Merivale Road/ Leikin Drive <sup>(1)</sup>	0.81	D	EBL	0.76	C	EBL
Merivale Road/ Beckstead Road <sup>(2)</sup>	11 sec	B	EBL/R	13 sec	B	EBL/R
Merivale Road/ Prince of Wales Drive <sup>(1)</sup>	0.71	C	NBT	1.16	F	EBR
Longfields Drive/ Truck Egress <sup>(2)</sup>	10 sec	A	SBR	12 sec	B	SBR
Longfields Drive/ Bill Leathem Drive/Employee Access <sup>(3)</sup>	8 sec	A	EB	6 sec	A	EB

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Leikin Drive/ Truck Access <sup>(2)</sup>	19 sec	C	EBL	17 sec	C	EBL
Leikin Drive/ Employee Access <sup>(2)</sup>	14 sec	B	EBL/R	14 sec	B	EBL/R

- 1. Signalized intersection
- 2. Unsignalized intersection
- 3. Roundabout intersection

**Table 17: 2026 Total Traffic – Critical Queues**

Intersection	Mvmt	Storage/ Spacing (1)	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Woodroffe Ave/ Fallowfield Rd	NBL	50m/150m	0.54 [A]	27	44	<b>1.34 [F]</b>	~68	#100
	NBT	400m	0.77 [C]	137	#247	0.48 [A]	86	110
	SBT	500m	0.45 [A]	44	60	<b>1.01 [F]</b>	~218	#271
	EBL	100m	0.83 [D]	57	74	<b>1.01 [F]</b>	~32	#59
	EBR	150m	0.45 [A]	0	18	<b>1.15 [F]</b>	~130	#200
	WBL	100m	0.48 [A]	13	22	0.83 [D]	65	83
Woodroffe Ave/ Longfields Dr	NBT	390m	<b>1.07 [F]</b>	~195	#276	0.54 [A]	60	105
	SBL	85m	0.58 [A]	23	#86	0.47 [A]	12	31
	SBT	400m	0.19 [A]	21	42	0.81 [D]	119	#233
Merivale Rd/ Fallowfield Rd	NBT/R	150m	<b>0.93 [E]</b>	<b>137</b>	<b>186</b>	0.64 [B]	87	120
	SBT	1.2 km	0.35 [A]	33	58	<b>0.92 [E]</b>	<b>150</b>	#206
	EBL	110m	<b>1.03 [F]</b>	~127	#255	0.71 [C]	22	#48
	WBL	30m	0.77 [C]	34	#75	0.27 [A]	20	33
	WBT/R	560m	0.41 [A]	32	56	<b>0.94 [E]</b>	~181	#262
Merivale Rd/ Prince of Wales Dr	NBT	1.0 km	0.71 [C]	90	175	0.29 [A]	26	38
	EBR	35m	0.21 [A]	0	9	<b>1.16 [F]</b>	~87	#149

- 1: Indicates the storage length for auxiliary lanes or the spacing to the nearest upstream intersection for through lanes
- #: Volume for the 95<sup>th</sup> percentile cycle exceeds capacity
- ~: Approach is above capacity, queue is theoretically infinite

Based on the previous tables, the 2026 total conditions are generally similar to the 2026 background conditions. The most significant impacts are anticipated for the following movements:

- Woodroffe Avenue/Fallowfield Road
  - Southbound through: Auto LOS E to Auto LOS F during the 5:00pm-6:00pm hour.
- Woodroffe Avenue/Longfields Drive
  - Northbound through: Auto LOS E to Auto LOS F during the 7:00am-8:00am hour.
- Merivale Road/Fallowfield Road
  - Southbound through: Auto LOS D to Auto LOS E during the 5:00pm-6:00pm hour;
  - Eastbound left turn: Auto LOS E to Auto LOS F during the 7:00am-8:00am hour.

Woodroffe Avenue/Fallowfield Road

During the 5:00pm-6:00pm hour, the northbound left turn, southbound through, eastbound left turn, and eastbound right turn movements operate at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound left turn movement improves to the target Auto LOS E, and the northbound left turn, southbound through, and eastbound right turn movements remain at an Auto LOS F. Without the implementation of dual eastbound right turn lanes, achieving the target Auto LOS E requires the following reductions:

- Northbound left turn: reduction of approximately 20 vehicles during 5:00pm-6:00pm hour;
- Southbound through: reduction of approximately 30 vehicles during 5:00pm-6:00pm hour;
- Eastbound right turn: reduction of approximately 30 vehicles during 5:00pm-6:00pm hour.

Woodroffe Avenue/Longfields Drive

During the 7:00am-8:00am hour, the northbound through movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the northbound through movement improves to the target Auto LOS E, while all other movements operate at an Auto LOS C or better. Achieving the target Auto LOS D requires a reduction of approximately 50 northbound through vehicles.

Merivale Road/Fallowfield Road

During the 7:00am-8:00am hour, the northbound through/right turn movement operates at an Auto LOS E and the eastbound left turn movement operates at an Auto LOS F. During the 5:00pm-6:00pm hour, the southbound through and westbound through/right turn movements operate at an Auto LOS E.

Applying only the signal timing adjustments described in Section 3.4.1 (i.e. no dual eastbound left turn lanes), the eastbound left turn movement improves to the target Auto LOS D during the 7:00am-8:00am hour and the westbound through/right turn movement improves to the target Auto LOS D during the 5:00pm-6:00pm hour. Achieving the target Auto LOS D for the remaining over-capacity movements requires the following volume reductions:

- Northbound through: reduction of approximately 150 vehicles during 7:00am-8:00am hour;
- Southbound through: reduction of approximately 100 vehicles during 5:00pm-6:00pm hour.

During the 7:00am-8:00am hour, queueing for the westbound left turn movement at Merivale Road/Fallowfield Road is 75m which exceeds the 30m storage length, extending approximately to Ashdale Avenue. The implementation of dual eastbound left turn lanes at this intersection would provide an opportunity to provide dual westbound left turn lanes as well. Without dual left turn lanes and based on the Transportation Association of Canada (TAC) equation of  $S = 1.5 NL / (3600/CL)$ , a storage length of 80m is required for a single westbound left turn lane to accommodate the projected background traffic. An additional 30m of storage is required to accommodate the projected site traffic. However, increasing the storage length of the westbound left turn lane is limited by the location of the Ashdale Avenue intersection. For this reason, an extension of the westbound left turn lane is not recommended at this time and should be considered when Fallowfield Road is widened to four lanes or as part of any future widening for dual eastbound left turn lanes. As this is an arterial-arterial intersection, improvements for the intersection would be eligible for development charges (DC) funding.

Merivale Road/Prince of Wales Drive

During the 5:00pm-6:00pm hour, the eastbound right turn movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound right turn movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS B or better.

**4.6.3 2031 Total Traffic Operations**

Intersection capacity analysis has been conducted for the 2031 total traffic conditions. The results are summarized in **Table 18** and **Table 19** for the AM and PM hours of analysis (7:00am-8:00am and 5:00pm-6:00pm). Detailed Synchro and Rodel reports are included in **Appendix N**.

**Table 18: 2031 Total Intersection Analysis**

Intersection	AM Hour (7:00am-8:00am)			PM Hour (5:00pm-6:00pm)		
	Max v/c or delay	LOS	Mvmt	Max v/c or delay	LOS	Mvmt
Woodroffe Avenue/ Fallowfield Road <sup>(1)</sup>	0.86	D	EBL	1.44	F	NBL
				1.09	F	SBT
				1.09	F	EBL
				1.24	F	EBR
Woodroffe Avenue/ Longfields Drive <sup>(1)</sup>	1.15	F	NBT	0.87	D	SBT
Leikin Drive/ Bill Leathem Drive <sup>(2)</sup>	29 sec	D	EBT/R	12 sec	B	WBT/R
Leikin Drive/ RCMP Access <sup>(1)</sup>	0.54	A	NBR	0.60	A	WBL
Leikin Drive/ Beckstead Road <sup>(2)</sup>	15 sec	B	WBL/R	12 sec	B	WBL/R
Merivale Road/ Fallowfield Road <sup>(1)</sup>	0.94	E	NBT/R	0.95	E	SBT
	1.16	F	EBL	1.03	F	WBT/R
Merivale Road/ Leikin Drive <sup>(1)</sup>	0.81	D	EBL	0.76	C	EBL
Merivale Road/ Beckstead Road <sup>(2)</sup>	11 sec	B	EBL/R	14 sec	B	EBL/R
Merivale Road/ Prince of Wales Drive <sup>(1)</sup>	0.82	D	NBT	1.27	F	EBR
Longfields Drive/ Truck Egress <sup>(2)</sup>	10 sec	A	SBR	12 sec	B	SBR
Longfields Drive/ Bill Leathem Drive/Employee Access <sup>(3)</sup>	8 sec	A	EB	6 sec	A	EB
Leikin Drive/ Truck Access <sup>(2)</sup>	19 sec	C	EBL	17 sec	C	EBL
Leikin Drive/ Employee Access <sup>(2)</sup>	14 sec	B	EBL/R	14 sec	B	EBL/R

- 1. Signalized intersection
- 2. Unsignalized intersection
- 3. Roundabout intersection

**Table 19: 2031 Total Traffic – Critical Queues**

Intersection	Mvmt	Storage/ Spacing (1)	AM Hour			PM Hour		
			v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)	v/c [LOS]	50 <sup>th</sup> % Queue (m)	95 <sup>th</sup> % Queue (m)
Woodroffe Ave/ Fallowfield Rd	NBL	50m/150m	0.58 [A]	30	48	<b>1.44 [F]</b>	~76	<b>#107</b>
	NBT	400m	0.84 [D]	157	#276	0.52 [A]	96	119
	SBT	500m	0.50 [A]	48	64	<b>1.09 [F]</b>	~259	<b>#302</b>
	EBL	100m	0.86 [D]	61	#81	<b>1.09 [F]</b>	~38	<b>#64</b>
	EBR	150m	0.46 [A]	0	18	<b>1.24 [F]</b>	~154	<b>#223</b>
	WBL	100m	0.51 [A]	14	23	0.86 [D]	71	90
Woodroffe Ave/ Longfields Dr	NBT	390m	<b>1.15 [F]</b>	~230	<b>#304</b>	0.58 [A]	67	115
	SBL	85m	0.58 [A]	23	#86	0.49 [A]	12	#32
	SBT	400m	0.20 [A]	22	45	0.87 [D]	135	#257
Merivale Rd/ Fallowfield Rd	NBT/R	150m	<b>0.94 [E]</b>	<b>153</b>	<b>#219</b>	0.65 [B]	92	127
	SBT	1.2 km	0.37 [A]	40	60	<b>0.95 [E]</b>	<b>164</b>	<b>#229</b>
	EBL	110m	<b>1.16 [F]</b>	~194	<b>#284</b>	0.82 [D]	30	#66
	WBL	30m	0.85 [D]	40	#83	0.29 [A]	21	34
	WBT/R	560m	0.46 [A]	37	60	<b>1.03 [F]</b>	~221	<b>#291</b>
Merivale Rd/ Prince of Wales Dr	NBT	1.0 km	0.82 [D]	105	#232	0.31 [A]	28	41
	EBR	35m	0.21 [A]	0	10	<b>1.28 [F]</b>	~111	<b>#175</b>

1: Indicates the storage length for auxiliary lanes or the spacing to the nearest upstream intersection for through lanes

#: Volume for the 95<sup>th</sup> percentile cycle exceeds capacity

~: Approach is above capacity, queue is theoretically infinite

Based on the previous tables, the 2031 total conditions are generally similar to the 2031 background conditions. The most significant impacts are anticipated for the following movements:

- Woodroffe Avenue/Longfields Drive
  - Northbound through: Auto LOS E to Auto LOS F during the 7:00am-8:00am hour.
- Merivale Road/Fallowfield Road
  - Westbound through: Auto LOS E to Auto LOS F during the 5:00pm-6:00pm hour.

Woodroffe Avenue/Fallowfield Road

During the 5:00pm-6:00pm hour, the northbound left turn, southbound through, eastbound left turn, and eastbound right turn movements operate at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound left turn movement improves beyond the target Auto LOS E, and the northbound left turn, southbound through, and eastbound right turn movements remain at an Auto LOS F. Without the implementation of dual eastbound right turn lanes, achieving the target Auto LOS E for the remaining over-capacity requires the following volume reductions:

- Northbound left turn: reduction of approximately 40 vehicles during 5:00pm-6:00pm hour;
- Southbound through: reduction of approximately 130 vehicles during 5:00pm-6:00pm hour;
- Eastbound right turn: reduction of approximately 60 vehicles during 5:00pm-6:00pm hour.

Woodroffe Avenue/Longfields Drive

During the 7:00am-8:00am hour, the northbound through movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the northbound through movement improves to an Auto LOS E, while all other movements operate at an Auto LOS C or better. Achieving the target Auto LOS D requires a reduction of approximately 160 northbound through vehicles.

Merivale Road/Fallowfield Road

During the 7:00am-8:00am hour, the northbound through/right turn movement operates at an Auto LOS E and the eastbound left turn movement operates at an Auto LOS F. During the 5:00pm-6:00pm hour, the southbound through movement operates at an Auto LOS E and the westbound through/right turn movement operates at an Auto LOS F.

Applying only the signal timing adjustments described in Section 3.4.1 (i.e. no dual eastbound left turn lanes), the eastbound left turn movement remains at an Auto LOS E and the northbound through/right turn movement remains at an Auto LOS F during the 7:00am-8:00am hour. The westbound through/right turn movement improves to the target Auto LOS D and the southbound through movement remains at an Auto LOS F during the 5:00pm-6:00pm hour. Without the implementation of dual eastbound left turn lanes, achieving the target Auto LOS D for the remaining over-capacity movements requires the following volume reductions:

- Northbound through: reduction of approximately 190 vehicles during 7:00am-8:00am hour;
- Eastbound left turn: reduction of approximately 50 vehicles during 7:00am-8:00am hour;
- Southbound through: reduction of approximately 140 vehicles during 5:00pm-6:00pm hour.

Merivale Road/Prince of Wales Drive

During the 5:00pm-6:00pm hour, the eastbound right turn movement operates at an Auto LOS F.

Applying the signal timing adjustments described in Section 3.4.1, the eastbound right turn movement improves to the target Auto LOS D, while all other movements operate at an Auto LOS C or better.

Site Access Locations

The proposed site accesses are anticipated to operate acceptably. Analysis during the AM and PM hours projects that the Longfields Drive/Bill Leathem Drive/Employee Access will operate at an Auto LOS A, the truck egress to Longfields Drive will operate at an Auto LOS A or B, the employee access to Leikin Drive will operate at an Auto LOS B, and the truck access to Leikin Drive will operate at an Auto LOS C.

A review of the Ministry of Transportation of Ontario (MTO)'s *Design Supplement to the Geometric Design Guide* has been conducted to determine if an auxiliary northbound left turn lane is warranted at the employee access to Leikin Drive. Based on the projected 2031 total traffic volumes included in **Figure 17**, the advancing and opposing volumes during the 7:00am-8:00am hour fall on the threshold between requiring no left turn lane and a left turn lane with 15m of storage. No left turn lane has been recommended, as the site-generated volumes of 26 to 33 inbound left-turning vehicles are low and equate to approximately one vehicle every two minutes. The relevant left turn lane warrant graph is included in **Appendix O**. It is noted that Leikin Drive has a three-lane cross-section, and an auxiliary northbound left turn lane could be accommodated with linepainting if required in the future.

TAC's *Geometric Design Guide* outlines that an auxiliary right turn lane shall be considered 'when the volume of decelerating or accelerating vehicles compared with the through traffic causes undue hazard.' At the proposed accesses to Leikin Drive, the magnitude of both the southbound through and right turn volumes are not significant enough to warrant auxiliary southbound right turn lanes at either access. Therefore, none have been recommended.

Based on the above, no modifications to any study area roadways or intersections are required to accommodate the addition of site-generated traffic volumes, and no roadway modifications are required at the proposed site access locations.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this Transportation Impact Assessment (TIA) can be summarized as follows:

### Site-Generated Traffic

- The proposed development is estimated to generate 478 employee person trips and 16 truck trips from 7:00am-8:00am, and 638 employee person trips and 27 truck trips from 5:00pm-6:00pm.

### Access Design

- The proposed truck egress to Longfields Drive and full-movement accesses to Leikin Drive and Paragon Avenue will be stop-controlled. The proposed connection to the existing roundabout at Longfields Drive/Bill Leathem Drive will be yield-controlled, consistent with the existing approaches.
- Except for the following, the design of the proposed accesses generally meet the relevant provisions of the City's *Private Approach By-Law* (PABL) and *Zoning By-Law* (ZBL), and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.
  - Section 25(1)(e) of the PABL identifies that access widths in excess of 7.5m (for one-way accesses) or 9.0m (for two-way accesses) may be permitted for transport loading areas. The proposed access widths of 12.2m (the east approach to Longfields Drive/Bill Leathem Drive), 14.0m (the truck egress to Longfields Drive), and 15.5m (the truck access to Leikin Drive) are requested to be approved under Section 25(1)(e).
- The stopping sight distance requirement of 105m and desired intersection sight distances of 130m for drivers looking left and 150m for drivers looking right is anticipated to be met at all proposed accesses.

### Development Design and Parking

- Pedestrian walkways are proposed throughout the employee parking lots and connect to walkways along the south and west sides of the building. These walkways will provide connectivity between the development and all parking areas. Additionally, walkways are proposed between the guardhouses and building entrances at the northwest and southeast corners. Pedestrian connections to the existing network are proposed at the Longfields Drive/Bill Leathem Drive roundabout, sidewalk on the east side of Paragon Avenue, and proposed sidewalk along the subject site's frontage to Leikin Drive.



- On-site traffic calming measures are proposed, including maximum on-site speed signage, and frequent speed bumps along the main drive aisles (either at sections where no stop signage is proposed, or on either side of any proposed pedestrian crossings). Adequate lighting will be provided throughout the associate parking spaces.
- Bicycle parking is proposed in two designated areas on the south side of the building, adjacent to the primary east-west drive aisle serving the development.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. Entrances to the proposed building are not within 400m walking distance of any OC Transpo bus stop, but are within 600m walking distance of stops #0729, #0730, #3518, and #3519. These stops are served by the existing routes 73, 80, 199, and 278.
- A review of the City's *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* has been conducted. All relevant required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- Garbage collection will occur in the secured area of the site near the southeast corner of the building (i.e. garbage trucks will enter and exit the truck access to Leikin Drive).
- The proposed development includes two on-site fire access routes. The fire route through the secured area includes the truck access to Leikin Drive, along the primary drive aisles to the north and east of the proposed building, and the truck egress to Longfields Drive. The fire route through the employee parking area includes the employee access to Leikin Drive, along the primary east-west drive aisle in front of the southern side of the building, and the proposed eastern approach to the Longfields Drive/Bill Leathem Drive roundabout.
- All parking and loading requirements will be met by the proposed development.

### Boundary Streets

- The results of the segment Multi-Modal Level of Service (MMLOS) analysis can be summarized as follows:
  - No boundary streets meet the target pedestrian level of service (PLOS);
  - Merivale Road, Longfields Drive, Bill Leathem Drive and Leikin Drive do not meet the target bicycle level of service (BLOS), while Paragon Avenue does not have a target;
  - All boundary transit routes achieve a transit level of service (TLOS) D;
  - All boundary streets meet the target truck level of service (TkLOS).
- Merivale Road includes paved shoulders, but no dedicated pedestrian facilities. A PLOS D is the best-possible score, and could be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 2.0m. However, the existing paved shoulders are appropriate given the rural context.
- Longfields Drive includes paved shoulders, but no dedicated pedestrian facilities. The target PLOS C can be achieved by providing sidewalks/multi-use pathways with a minimum width of 2.0m and minimum boulevard width of 0.5m. However, the existing paved shoulders are appropriate given the rural context.

- Bill Leathem Drive includes a 2.0m-wide sidewalk on the south side of the roadway. The target PLOS C is met by the existing sidewalk. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Bill Leathem Drive.
- Leikin Drive does not include sidewalks on either side of the roadway north of Beckstead Road. The target PLOS C can be achieved by providing sidewalks with a minimum width of 2.0m and minimum boulevard width of 0.5m. A 2.0m-wide sidewalk is proposed along the subject site's frontage to Leikin Drive.
- Paragon Avenue includes a 2.0m-wide sidewalk on the east side of the roadway. The target PLOS C is met by the existing sidewalk. As Paragon Avenue is a dead-end local roadway, sidewalks on the one side of Paragon Avenue is acceptable per typical City cross-sections.
- Merivale Road and Longfields Drive include paved shoulders in both directions. The roadways cannot achieve the target BLOS C without the implementation of off-road facilities, such as a multi-use pathway. However, the existing paved shoulders are appropriate given the rural context.
- Bill Leathem Drive does not include any dedicated cycling facilities. The target BLOS C can be achieved by implementing bike lanes with a minimum width of 1.2m in each direction. The existing roadway width of Bill Leathem Drive can accommodate bike lanes in each direction, and this is identified for the City's consideration.
- Leikin Drive includes curbside bike lanes. The target BLOS C can be achieved by implementing physically separated bikeways, and is identified for the City's consideration.

*Transportation Demand Management*

- The proponent has agreed to consider the following TDM measures.
  - Designate an internal coordinator, or contract with an external coordinator;
  - Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress;
  - Display local area maps with walking/cycling access routes and key destinations at major entrances;
  - Display relevant transit schedules and route maps at entrances;
  - Provide online links to OC Transpo and STO information;
  - Provide real-time arrival information display at entrances;
  - Provide a dedicated ridematching portal at OttawaRideMatch.com;
  - Provide a multimodal travel option information package to new/relocating employees and students;
  - Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes;
  - Provide on-site amenities/services to minimize midday or mid-commute errands.

Intersection MMLoS

- The results of the intersection MMLoS analysis can be summarized as follows:
  - No study area intersections meet the target PLOS;
  - Merivale Road/Prince of Wales Drive meets the target BLOS, and Woodroffe Avenue/ Fallowfield Road, Woodroffe Avenue/Longfields Drive, Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not;
  - Woodroffe Avenue/Fallowfield Road and Woodroffe Avenue/Longfields Drive do not meet the target TLOS;
  - Woodroffe Avenue/Fallowfield Road, Woodroffe Avenue/Longfields Drive, and Merivale Road/Prince of Wales Drive meet the target TkLOS, while Leikin Drive/RCMP Access, Merivale Road/Fallowfield Road, and Merivale Road/Leikin Drive do not.
- There is generally limited opportunity in improving the PLOS at each study area intersection without reducing the number of travel lanes or restricting turning movements, and there is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles. The north approach of the Woodroffe Avenue/Longfields Drive intersection meets the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks.
- For the intersections that do not meet the target BLOS, protected intersection designs would generally be required to achieve the target BLOS and are identified for the City's consideration, given the high operating speeds and traffic volumes within the study area.
- Woodroffe Avenue is identified in the 2031 Rapid Transit and Transit Priority (RTTP) Network Concept as a Transit Priority Corridor with Isolated Measures. Transit signal priority and queue jump lanes between Fallowfield Road and Chapman Mills Drive will be implemented, but this is not anticipated prior to the horizon year 2031. These measures if implemented would be expected to improve delays for transit vehicles on Woodroffe Avenue.
- No modifications to the curb radii are recommended at intersections which do not meet the target TkLOS.

Existing/Background Traffic Conditions

- The following movements have been identified as over-capacity in existing and/or background conditions:
  - Woodroffe Avenue/Fallowfield Road
    - Northbound left turn, southbound through, eastbound left turn, and eastbound right turn during the PM hour.
  - Woodroffe Avenue/Longfields Drive
    - Northbound through during the AM hour.
  - Leikin Drive/Bill Leathem Drive
    - Eastbound through/right turn during the AM hour.
  - Merivale Road/Fallowfield Road
    - Northbound through/right turn and eastbound left turn during the AM hour;
    - Southbound through and westbound through/right turn during the PM hour.
  - Merivale Road/Prince of Wales Drive
    - Eastbound right turn during the PM hour.

- At Woodroffe Avenue/Fallowfield Road, it appears that dual eastbound right turn lanes could be accommodated within the existing right-of-way of Fallowfield Road. If dual eastbound right turn lanes at the Woodroffe Avenue/Fallowfield Road intersection are implemented, no reduction in eastbound right turning volumes is required.
- At Merivale Road/Fallowfield Road, dual eastbound left turn lanes is identified as an improvement, as there are over 600 eastbound left turns during the 7:00am-8:00am hour. An additional receiving lane on Merivale Road and fully protected phase for eastbound and westbound left turns would also be required. It appears that property acquisition would be required to accommodate dual eastbound left turn lanes. An Environmental Assessment (EA) has been completed for the widening of Fallowfield Road from two lanes to four, between Woodroffe Avenue and Prince of Wales Drive. However, this is not anticipated to be implemented by the horizon year 2031.
- Outside of the road modifications identified above, signal timing adjustments were identified for Woodroffe Avenue/Fallowfield Road, Woodroffe Avenue/Longfields Drive, Merivale Road/Fallowfield Road, and Merivale Road/Prince of Wales Drive.

#### Total Traffic Conditions

- In total traffic conditions, operations within the study area during the AM and PM hours of analysis are generally similar to future background conditions.
- During the AM hour, queueing for the westbound left turn movement at Merivale Road/Fallowfield Road is 75m which exceeds the 30m storage length, extending approximately to Ashdale Avenue. The implementation of dual eastbound left turn lanes at this intersection would provide an opportunity to provide dual westbound left turn lanes as well. Increasing the storage length of the single westbound left turn lane is limited by the Ashdale Avenue intersection. For this reason, an extension of the westbound left turn lane is not recommended at this time and should be considered when Fallowfield Road is widened to four lanes or as part of any future widening for dual eastbound left turn lanes. As this is an arterial-arterial intersection, improvements for the intersection would be eligible for development charges (DC) funding.
- The 2031 AM advancing and opposing volumes at the employee access to Leikin Drive fall on the threshold between requiring no left turn lane and a left turn lane with 15m of storage. No left turn lane has been recommended as the left turn volumes are low. Leikin Drive has a three-lane cross-section and a left turn lane could be accommodated with linepainting if required in the future.
- No modifications to any study area roadways or intersections are required to accommodate the addition of site-generated traffic volumes, and no roadway modifications are required at the proposed site access locations (including auxiliary turn lanes).

Based on the foregoing, the proposed development is recommended from a transportation perspective.

**NOVATECH**

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## **APPENDIX A**

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Preliminary Site Plan

PARKING TOTAL		ASSOCIATE PARKING		FUTURE PARKING		BICYCLE PARKING		TRAILER PARKING		OVERHEAD DOORS	
Parking Type	Number of Stalls	Parking Type	Number of Stalls	Parking Type	Number of Stalls	Parking Type	Number of Stalls	Parking Type	Number of Stalls	OVERHEAD DOORS	PROVIDED
BICYCLE - 2'x6'	291	EV - 9'x20'	24	Regular - 9'x20'	205	BICYCLE - 2'x6'	291	TRAILER 12'x55'	204	AUGER - 9'x10'-4"	2
EV - 9'x20'	24	HANDICAP 14'x20'	32	TOTAL	205	TRAILER 12'x55'	291	TRAILER 12'x55'	278	COMPACTOR 9'x10'	1
HANDICAP 14'x20'	32	MOTORCYCLE 5'x5'	5			TOTAL	482	DOCK DOOR 9'x10'	59	DOOR IN PLACE	2
MOTORCYCLE 5'x5'	8	Regular - 9'x20'	938					Narrow Site Insulated	1	Door	1
Regular - 9'x20'	938	TRAILER 12'x55'	204								
TRAILER 12'x55'	204	TOTAL	962								
TOTAL 309	1355										

NOT INCLUDING FUTURE PARKING

**LEGEND SITE SYMBOLS**

**CIVIL (C) / LANDSCAPE (L)**

- C-CC CONCRETE CURB, SEE CIVIL
- C-ASP ASPHALT PAVING, SEE CIVIL
- C-CS CONCRETE SLAB (DOLLY PAD), SEE CIVIL
- C-SDW SIDEWALK TYPE - 1525 mm WIDE, EXPANSION JOINT @ 1525 mm o.c., SEE SPECIFICATIONS / CIVIL PLAN
- C-RMP RAMP REFER TO CIVIL PLAN
- C-CRP CONCRETE RAISED PEDESTRIAN WITH DETECTABLE TACTILE WALKING SURFACE, SEE CIVIL
- C-TI TACTILE INDICATOR SURFACE, REFER TO CIVIL DRAWINGS, SEE SPECIFICATIONS 12.2
- L-G GRASS AND OTHER LANDSCAPING, SEE LANDSCAPE
- L-FS 1.524 m H. PEDESTRIAN FENCE, TYPICAL AT VISITORS PARKING, SEE LANDSCAPE
- L-BCH BENCH, SEE LANDSCAPE
- L-BR BREEZING, SEE LANDSCAPE

**ELECTRICAL (E)**

- E-HL HEAD LAMP 11.2 m POLE, SEE ELECTRICAL
- E-PL PEDESTRIAN LIGHT 2.4 m POLE, SEE ELECTRICAL
- E-T TRANSFORMER, SEE ELECTRICAL
- E-G GENERATOR, SEE ELECTRICAL

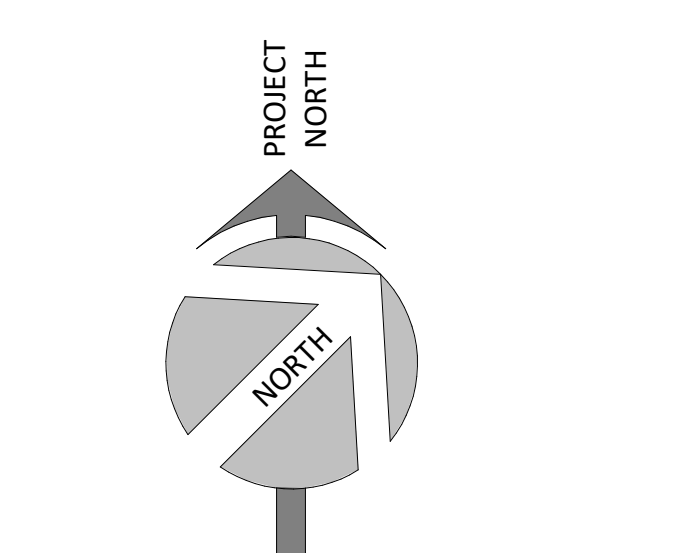
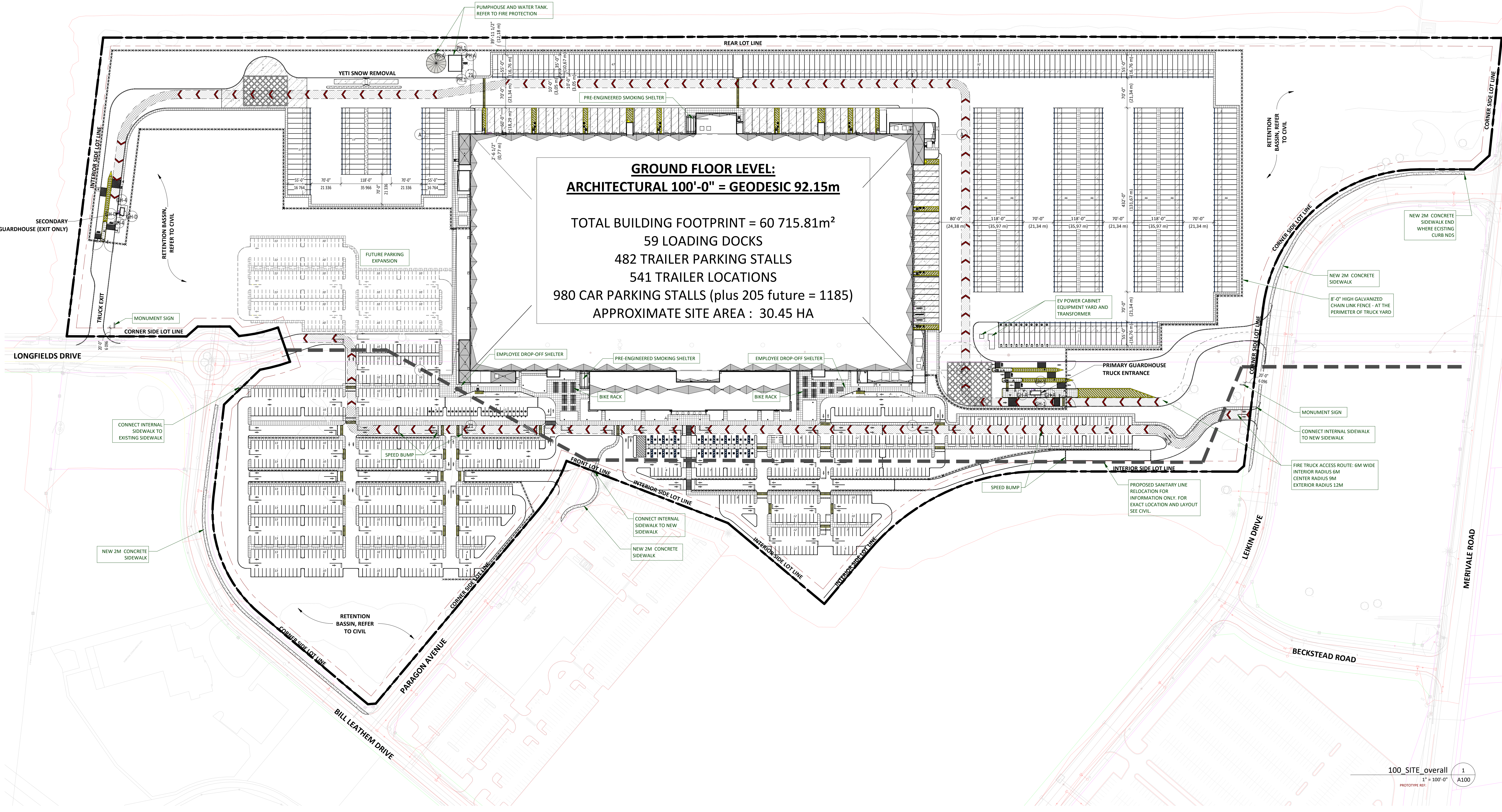
**FIRE PROTECTION (FP)**

- FP-FH FIRE HYDRANT, SEE FIRE PROTECTION PLAN
- FP-UP UPRIGHT POST INDICATOR, SEE FIRE PROTECTION PLAN
- FP-SY SHARED CONNECTION

**ARCHITECTURE (A)**

- FB 2.438 m H. GALVANIZED FENCE, TYPICAL AT TRUCK COURT AND SECURED GENERATOR, SEE DETAIL
- FLAG FLAG POLE AND LIGHTS, SEE DETAIL
- MS-X MONUMENT SIGN, SEE DETAIL
- BS-X BUILDING SIGN, SEE ELEVATIONS AND DETAIL
- BA-610 NUMBER BUILDING ADDRESS, 650 mm TALL BLACK POWDER COATED ALUMINUM - ARBIL FONT, SEE ELEVATION
- BA-914 NUMBER BUILDING ADDRESS, 950 mm TALL BLACK POWDER COATED ALUMINUM - ARBIL FONT, SEE ELEVATION

**FIRE ROUTE**



**SURVEY:**  
ALL THE INFORMATION RELATED TO THE SITE ARE ON THE PLAN PREPARED BY:  
ANNIS, O'SULLIVAN, VOLLEBEK LTD  
DRAWING: Surveyor's Certificate  
FOLI: MONTREAL  
DATE: August 9, 2024

**LOCATION:**  
THIS BUILDING IS PARALLEL TO THE SOUTHERN PROPERTY LINE. GOVERNING DIMENSIONS ARE FROM PROPERTY LINE TO STRUCTURAL GRIDLINE.

**PUBLIC UTILITY SERVICES:**  
ALL POINTS OF CONNECTION SHOWN ARE CONCEPTUAL AND MAY BE MODIFIED ACCORDING TO THE NEEDS AND REQUIREMENTS OF THE PUBLIC AUTHORITIES CONCERNED. (SEWER, AQUEDUCT, DISTRIBUTION OF NATURAL GAS AND ELECTRICITY, TELEPHONE SERVICE AND CABLE DISTRIBUTION). SITE CONDITIONS, NEEDS AND SUBCONTRACTOR COORDINATION. ANY MODIFICATION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ARCHITECT FOR EXAMINATION AND COORDINATION BEFORE EXECUTION.

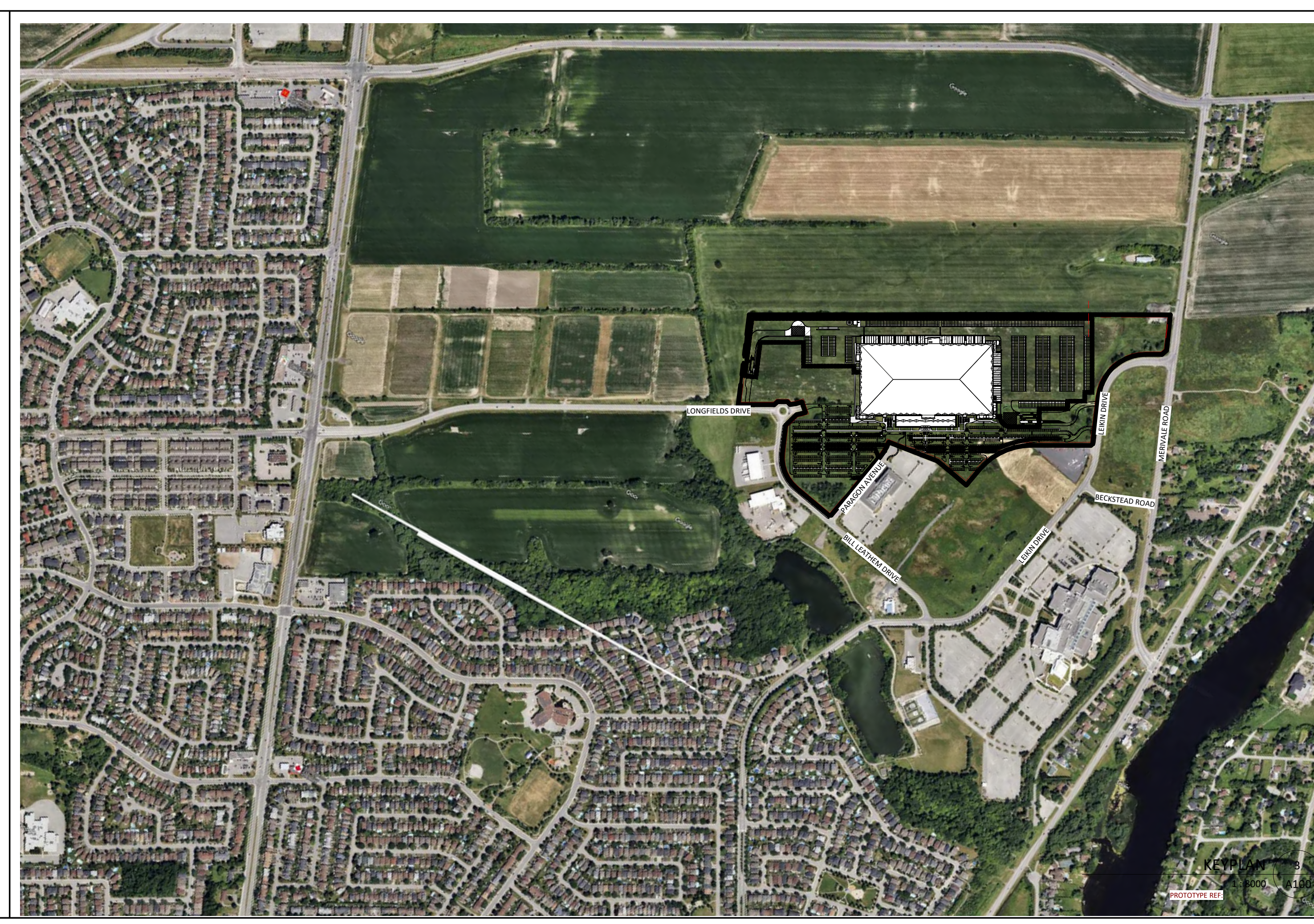
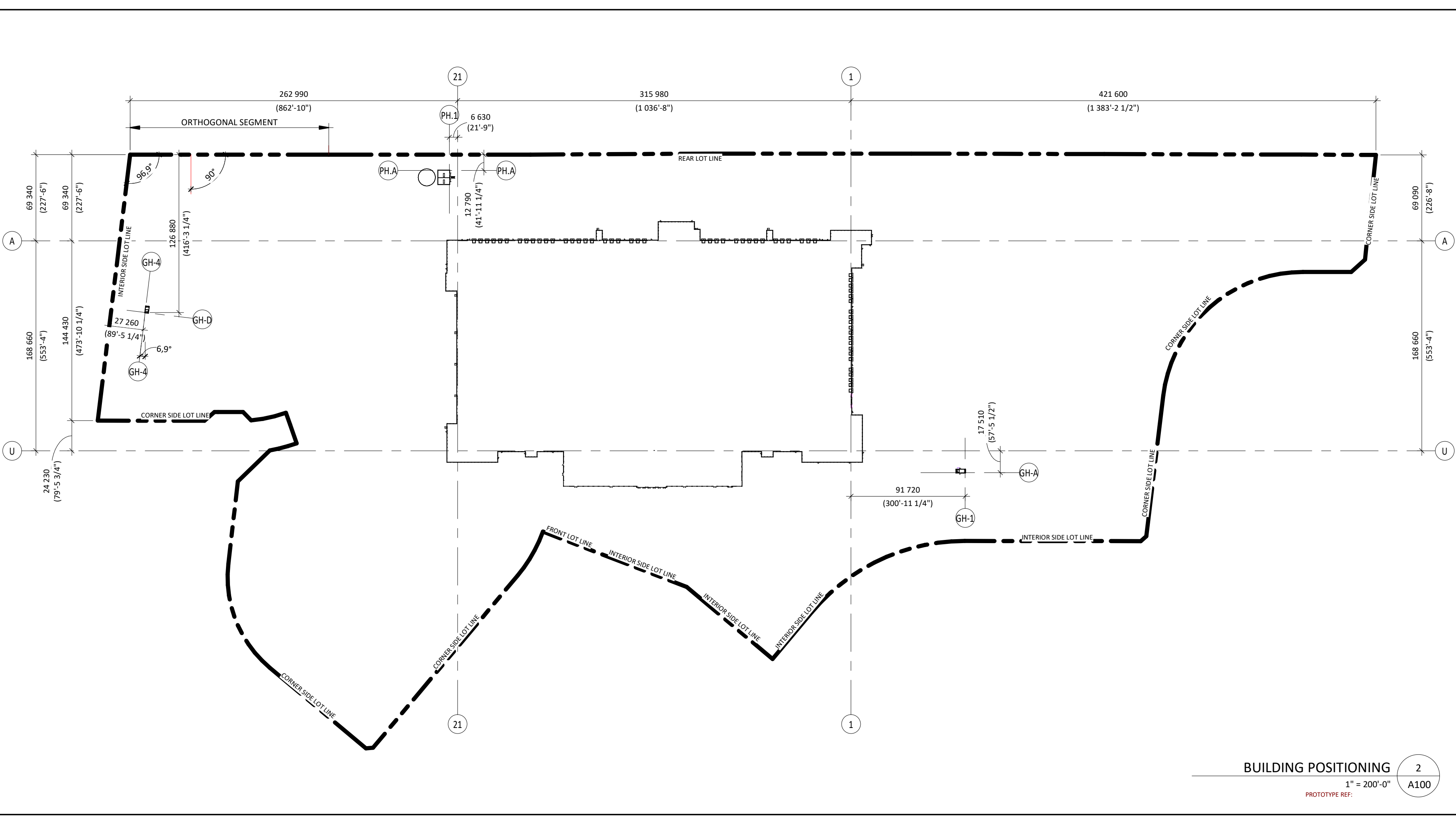
**DIMENSIONS:**  
ALL BUILDING DIMENSIONS ARE TAKEN FROM THE EXTERIOR FACE OF THE WALLS AT 1'-0" ABOVE THE GROUND FLOOR.

**FIRE PROTECTION:**  
ALL FLOOR AREAS OF THIS BUILDING WILL BE PROTECTED BY AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE AND INSURER REQUIREMENTS.

**CIVIL:**  
CONSULT CIVIL ENGINEER'S DRAWINGS FOR: SITE LEVELS, DRAINAGE SLOPES, RETENTION BASINS, MANHOLES, CATCH BASINS, AND ALL UNDERGROUND SERVICES.

**SOIL REPORT:**  
SOIL TESTING, CORE SAMPLING AND CARRYING CAPACITY. CONSULT THE SOIL REPORT PREPARED BY: REPORT NO. XX DATE: XX

**PLAN TO BE PRINTED IN COLOUR OR VIEWED IN COLOUR.**  
BECAUSE OF THE DIFFERENT SHADE TONALITY ON THE PLANS, WHEN VIEWING, THE PLANS MUST BE EITHER VIEWED ON PDF ELECTRONIC FORMAT TO SEE THE DIFFERENT COLOURS OR IF PRINTED ON PAPER COPIES MUST BE PRINTED IN COLOUR.



**ZONING PROVISIONS: LIGHT INDUSTRIAL ZONE IL9 (2707)**

**PROJECT DESCRIPTION**

PROJECT: PROJECT X  
ADDRESS: 99 Bill Leatham, 2 & 20 Leikin Drive  
DEVELOPER: BRIDGECROSS REAL ESTATE GROUP  
APPLICANT: NOVATECH ENGINEERING CONSULTANTS, 240 MICHAEL COPLAND DR, KANATA, ON K2M3P6  
PROPERTY IDENTIFICATION: (180)

ZONED PROVISIONS STANDARDS	IL9 (2707)	
	REQUIRED	PROVIDED
MINIMUM LOT AREA (m <sup>2</sup> )	3 000 m <sup>2</sup>	304 533 m <sup>2</sup>
MINIMUM LOT WIDTH (m)	50 m	366.18 m
MAXIMUM LOT COVERAGE (%)	60%	20%
FRONT YARD SETBACK (m) (SOUTH Paragon Avenue)	6 m	32.72m VAR.
REAR YARD SETBACK (m) NORTH	6 m	48.32m VAR.
CORNER SIDE YARD SETBACK (m) EST, SOUTH, WEST	6 m	57.74m VAR.
INTERIOR SIDE YARD SETBACK (m) SOUTH, WEST	7.5 m	42.35m VAR.
MAXIMUM BUILDING HEIGHT	22 m	29.2 m
MINIMUM WIDTH OF LANDSCAPED AREA, ABUTTING A STREET 3M, IN ALL OTHER CASES, NO MINIMUM.	ABUTTING A STREET 3M, IN ALL OTHER CASES, NO MINIMUM.	Variable minimum 3m provided refer to landscaping plan
MAXIMUM FLOOR SPACE INDEX (Floor Area / Lot Area)	2	0.96

**PARKING AND LOADING (SEC. 100-114)**

PERFORMANCE STANDARDS	PARKING RATE	AREA	REQUIRED	PROVIDED
MINIMUM PARKING SPACE RATES (LIGHT INDUSTRIAL)	First 5000m <sup>2</sup> 0.8 / 100 m <sup>2</sup> above 5000m <sup>2</sup> 0.4 / 100 m <sup>2</sup>	5 000 m <sup>2</sup> 285 228 m <sup>2</sup>	40 1 145	1 185 3 766 + 59
MINIMUM ACCESSIBLE PARKING SPACE RATES (Per Accessibility for Ontarians with Disabilities Act, 2005 (AODA))	500 AND OVER		5 TYPE A - 2mm x 1.2m 5 TYPE B - 2mm x 1.2m	32 TYPE B 4mm x 1.2m
MINIMUM BICYCLE PARKING SPACE RATES (LIGHT INDUSTRIAL)	1 / 1 000 m <sup>2</sup>	291 282 m <sup>2</sup>	291	291
MINIMUM LOADING SPACE RATES (LIGHT INDUSTRIAL)			2	59

**PROJECT X**  
99 Bill Leatham, 2 & 20 Leikin Drive  
OTTAWA ON

**ARCHITECTURE**

**SITE OVERALL**

DRAWN BY: Auteur CHECKED BY: Vérificateur  
SCALE: As indicated  
FOUR: 24065 **A100 RO**

## **APPENDIX B**

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TIA Screening Form



City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	2-3 Leikin and 99 Bill Leathem
Description of Location	N of Paragon, E of Longfields, W of Leikin/Merivale
Land Use Classification	Light Industrial
Development Size (units)	-
Development Size square metre (m <sup>2</sup> )	3,130,920 ft <sup>2</sup> (290,872 m <sup>2</sup> )
Number of Accesses and Locations	5 (2-Leikin, 1-Paragon, 1-Longfields, 1-roundabout)
Phase of Development	1
Buildout Year	2026

If available, please attach a sketch of the development or site plan to this form.

2. Trip Generation Trigger

Considering the Development’s Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Table notes:

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise) <sup>1</sup>	90 units
Multi-Use Family (High-Rise) <sup>1</sup>	150 units
Office <sup>2</sup>	1,400 m <sup>2</sup>
Industrial <sup>2</sup>	7,000 m <sup>2</sup>
Fast-food restaurant or coffee shop <sup>2</sup>	110 m <sup>2</sup>
Destination retail <sup>2</sup>	1,800 m <sup>2</sup>
Gas station or convenience market <sup>2</sup>	90 m <sup>2</sup>

If the proposed development size is equal to or greater than the sizes identified above, the Trip Generation Trigger is satisfied.

### 3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)? <sup>2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If any of the above questions were answered with ‘Yes,’ the Location Trigger is satisfied.

### 4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed driveway within auxiliary lanes of an intersection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the proposed driveway make use of an existing median break that serves an existing site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>2</sup> Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

## Transportation Impact Assessment Guidelines

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the development include a drive-thru facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.**

### 5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the development satisfy the Location Trigger?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the development satisfy the Safety Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).**

## **APPENDIX C**

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OC Transpo Route Maps



# 73

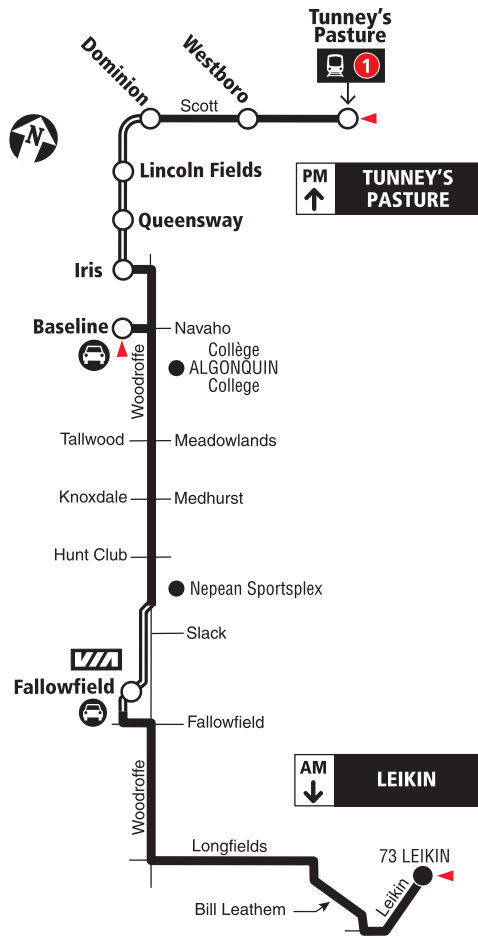
## LEIKIN TUNNEY'S PASTURE

Local

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



2022.06

	Transitway & Station
	Park & Ride / Parc-o-bus
	Timepoint / Heures de passage

2022.06

**Schedule / Horaire ..... 613-560-1000**  
**Text / Texto\* ..... 560560**  
*plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres*  
\*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service  
 Service à la clientèle ..... **613-560-5000**

Lost and Found / Objets perdus ..... **613-563-4011**

Security / Sécurité ..... **613-741-2478**

**Effective June 26, 2022**  
**En vigueur 26 juin 2022**

**INFO 613-560-5000**  
 octranspo.com

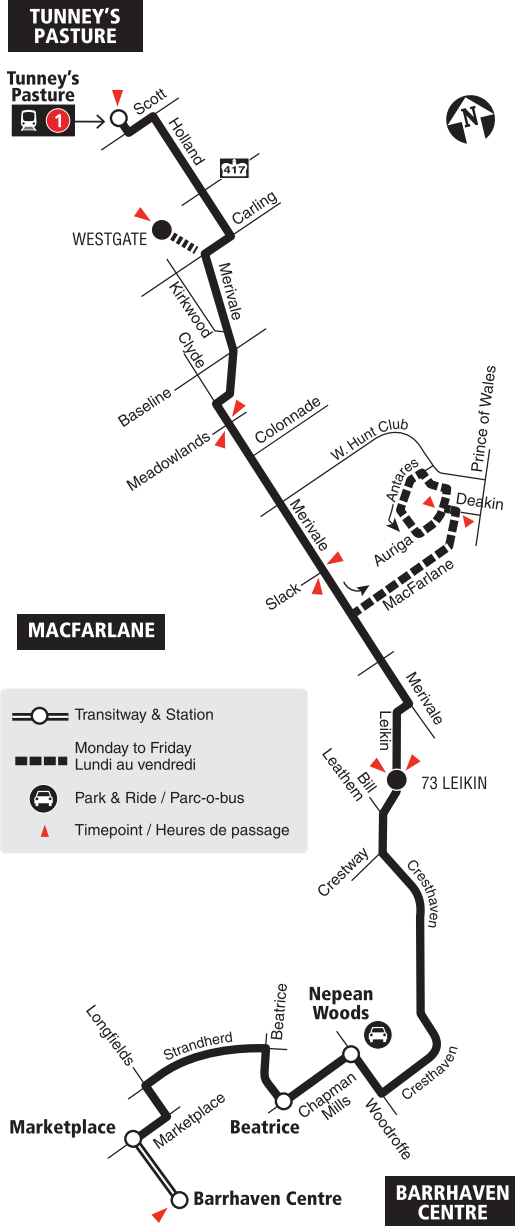


# 80

## BARRHAVEN CENTRE TUNNEY'S PASTURE

### Fréquent

7 days a week / 7 jours par semaine  
All day service  
Service toute la journée



2018.12

**Schedule / Horaire..... 613-560-1000**  
**Text / Texto ..... 560560**  
*plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres*

Customer Relations  
 Service à la clientèle ..... **613-842-3600**

Lost and Found / Objets perdus..... **613-563-4011**  
 Security / Sécurité ..... **613-741-2478**

**Effective June 24, 2018**  
**En vigueur 24 juin 2018**

**INFO 613-741-4390**  
 octranspo.com

# 199

## LEIKIN HURDMAN

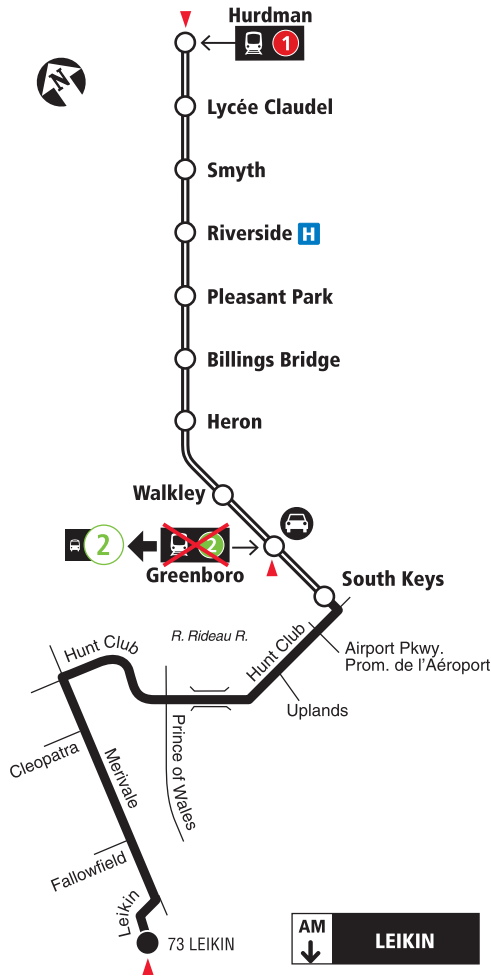
### Local

**Monday to Friday / Lundi au vendredi**

Peak periods only

Périodes de pointe seulement

**PM**  
↑  
**HURDMAN**



**AM**  
↓  
**LEIKIN**

Transitway & Station  
 Park & Ride / Parc-o-bus  
 Timepoint / Heures de passage

2020.04



**Schedule / Horaire.....613-560-1000**

**Text / Texto .....560560**

*plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres*

Customer Service

Service à la clientèle ..... **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité ..... **613-741-2478**

**Effective May 3, 2020**

**En vigueur 3 mai 2020**



**INFO 613-741-4390**  
octranspo.com

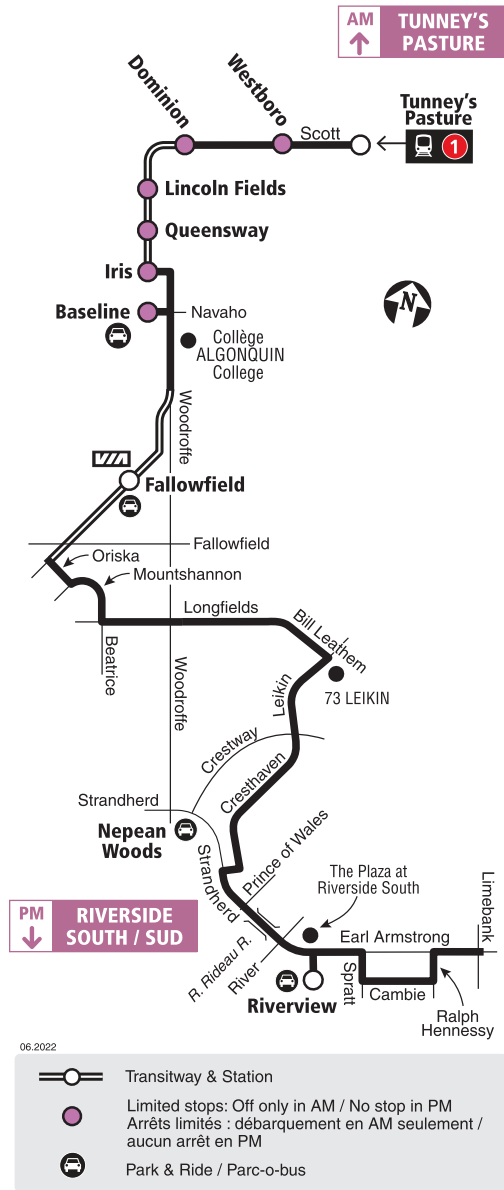


# 278 RIVERSIDE SOUTH / SUD TUNNEY'S PASTURE

## Connexion

Monday to Friday / Lundi au vendredi

Peak periods only  
Périodes de pointe seulement



2022.06

**Schedule / Horaire ..... 613-560-1000**  
**Text / Texto\* ..... 560560**  
*plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres*  
\*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

- Customer Service / Service à la clientèle ..... **613-560-5000**
- Lost and Found / Objets perdus ..... **613-563-4011**
- Security / Sécurité ..... **613-741-2478**

**Effective June 26, 2022**  
**En vigueur 26 juin 2022**



**St. Mother Teresa**

**Fallowfield**

**Longfields**

Mount Shannon  
Earl Mulligan

PM →

676

**Strandherd**

171

**Marketplace**

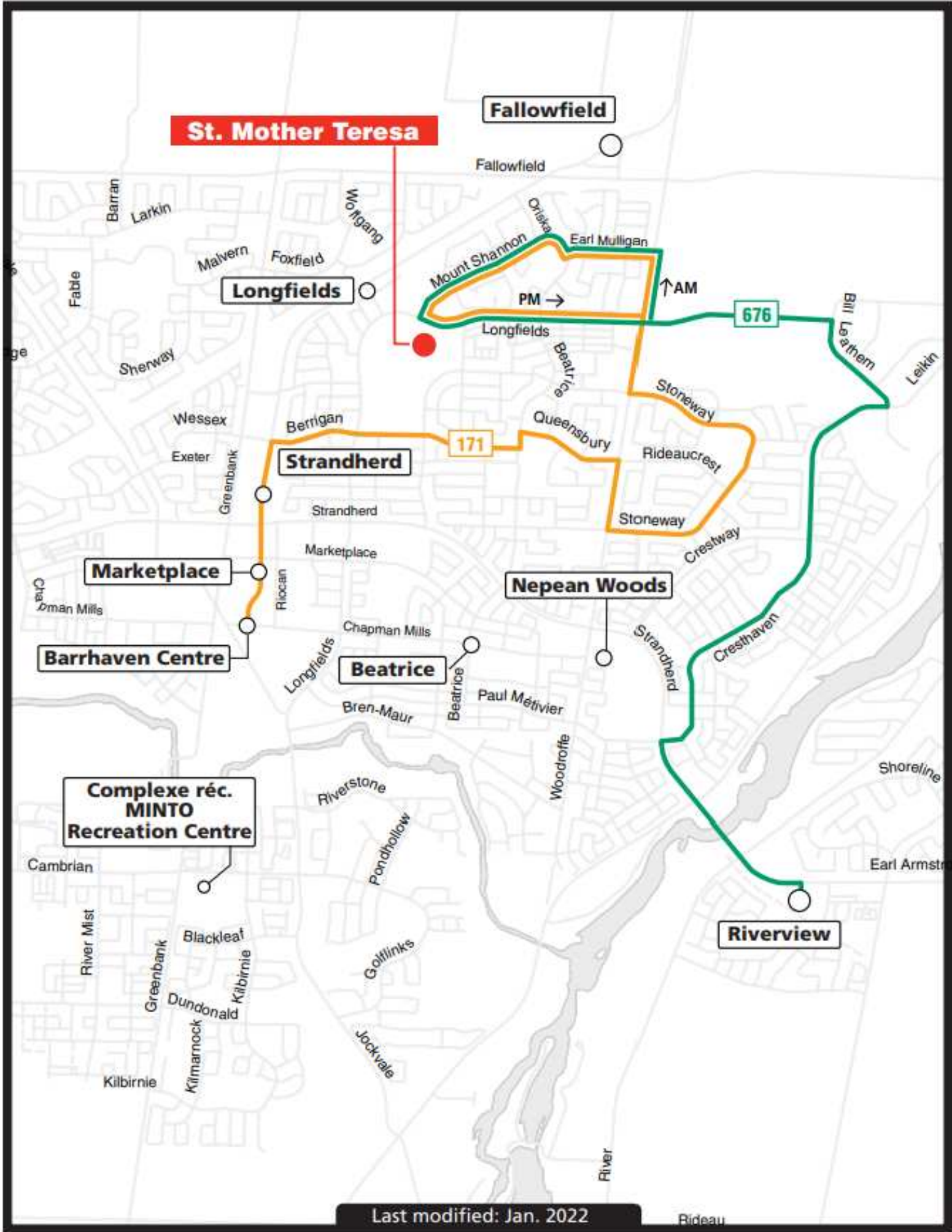
**Nepean Woods**

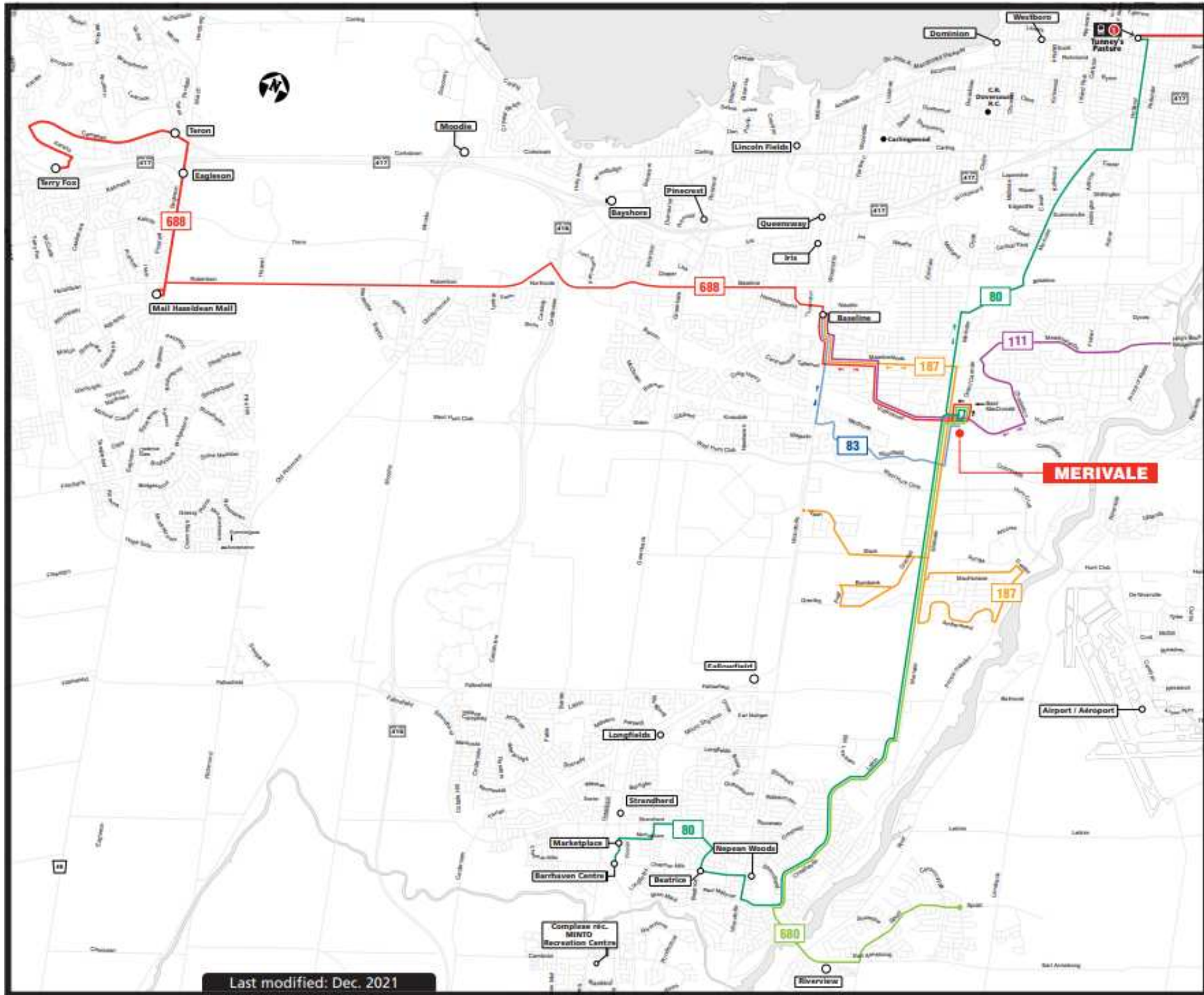
**Barrhaven Centre**

**Beatrice**

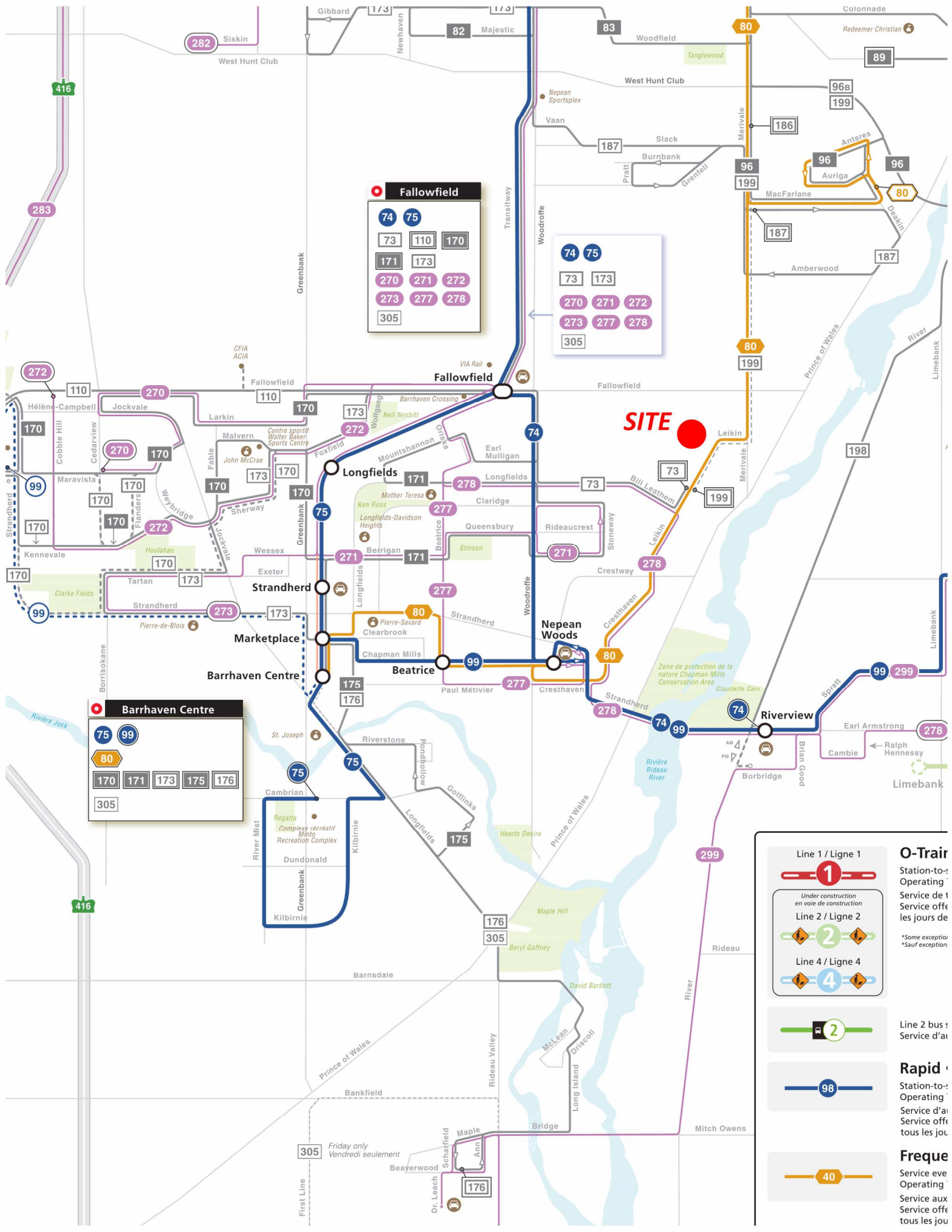
**Complexe réc.  
MINTO  
Recreation Centre**

**Riverview**





Last modified: Dec. 2021



**Fallowfield**

74	75	
73	110	170
171	173	
270	271	272
273	277	278
305		

74	75	
73	173	
270	271	272
273	277	278
305		

**Barrhaven Centre**

75	99			
80				
170	171	173	175	176
305				

**O-Train**

Station-to-Station Operating  
Service de 1  
Service offert les jours de

Line 1 / Ligne 1

Under construction en voie de construction

Line 2 / Ligne 2

Line 4 / Ligne 4

Line 2 bus  
Service de 2

**Rapid**  
Station-to-Station Operating  
Service de 4  
Service offert tous les jours

**Frequ**  
Service de 40  
Service offert tous les jours

## **APPENDIX D**

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Traffic Count Data



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

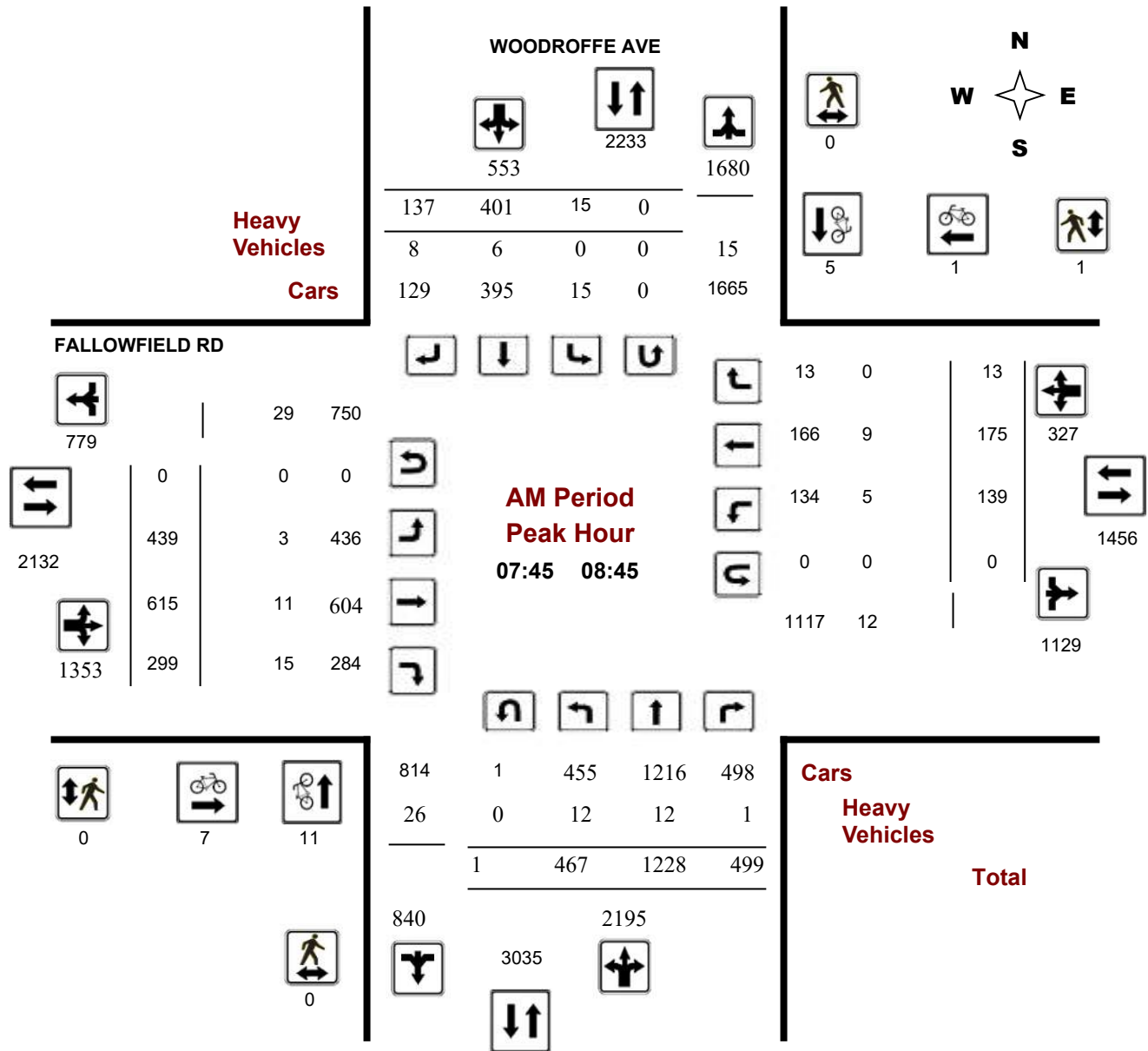
### FALLOWFIELD RD @ WOODROFFE AVE

**Survey Date:** Tuesday, September 26, 2023

**Start Time:** 07:00

**WO No:** 41206

**Device:** Miovision



## Turning Movement Count - Peak Hour Diagram

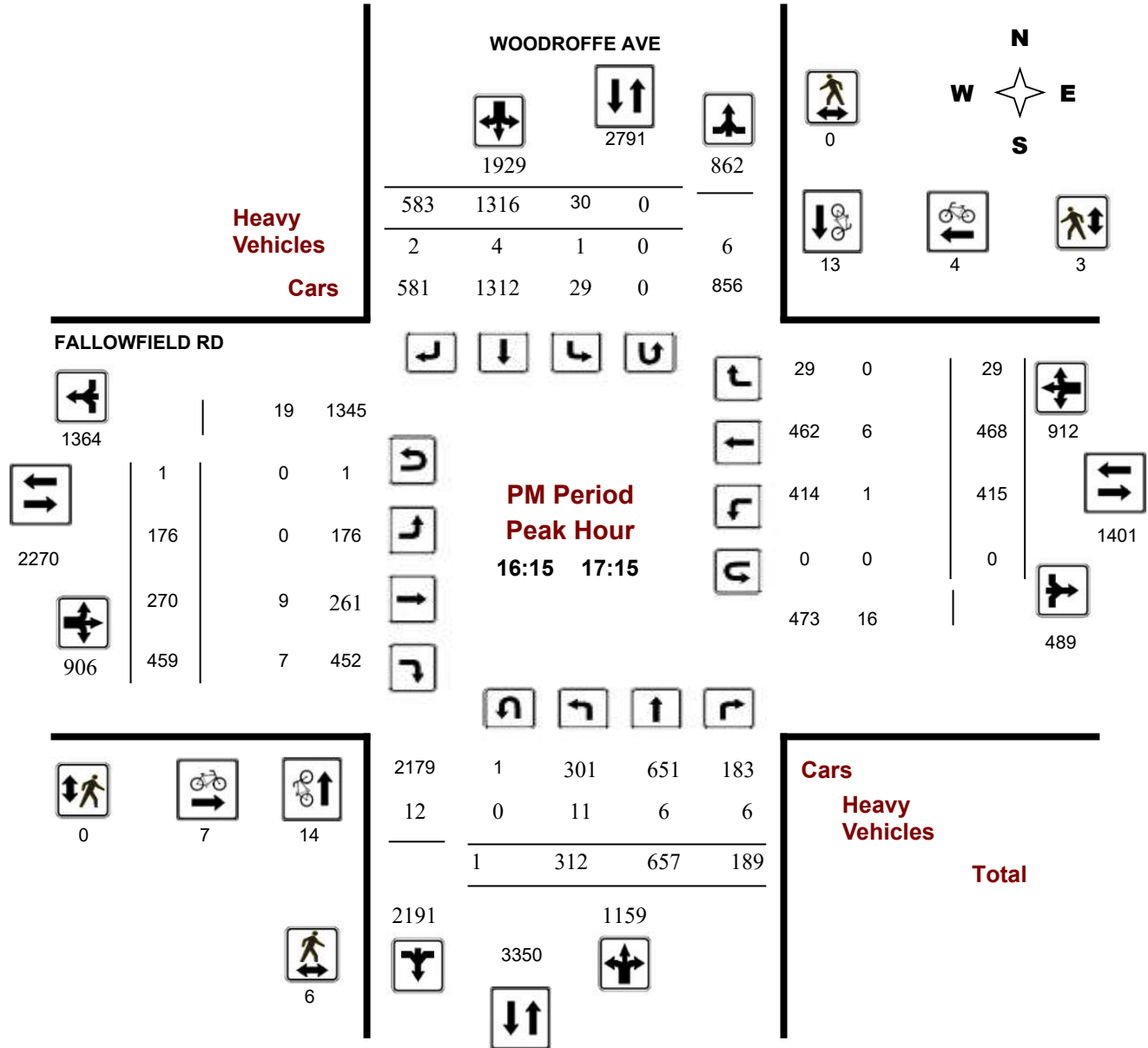
### FALLOWFIELD RD @ WOODROFFE AVE

**Survey Date:** Tuesday, September 26, 2023

**Start Time:** 07:00

**WO No:** 41206

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### FALLOWFIELD RD @ WOODROFFE AVE

**Survey Date:** Tuesday, September 26, 2023

**WO No:** 41206

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Tuesday, September 26, 2023

**Total Observed U-Turns**

**AADT Factor**

Northbound: 4      Southbound: 2  
 Eastbound: 3      Westbound: 0

1.00

**WOODROFFE AVE**

**FALLOWFIELD RD**

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	380	1306	471	2157	2554	12	297	88	397	2554	402	563	186	1151	1402	90	149	12	251	1402	3956
08:00 09:00	450	1094	478	2022	2638	18	446	152	616	2638	407	590	308	1305	1657	143	191	18	352	1657	4295
09:00 10:00	221	719	328	1268	1851	11	425	147	583	1851	222	345	212	779	1113	120	199	15	334	1113	2964
11:30 12:30	208	591	195	994	1776	19	551	212	782	1776	206	242	222	670	1184	208	278	28	514	1184	2960
12:30 13:30	196	551	190	937	1674	17	559	161	737	1674	173	234	242	649	1119	215	243	12	470	1119	2793
15:00 16:00	279	572	227	1078	2541	31	1075	357	1463	2541	184	250	345	779	1575	365	409	22	796	1575	4116
16:00 17:00	325	675	196	1196	3013	40	1259	518	1817	3013	176	284	421	881	1801	397	497	26	920	1801	4814
17:00 18:00	284	682	203	1169	2965	23	1266	507	1796	2965	193	281	434	908	1808	415	467	18	900	1808	4773
<b>Sub Total</b>	2343	6190	2288	10821	19012	171	5878	2142	8191	19012	1963	2789	2370	7122	11659	1953	2433	151	4537	11659	30671
<b>U Turns</b>	4				2		6		3			0		3		9					
<b>Total</b>	2343	6190	2288	10825	19018	171	5878	2142	8193	19018	1963	2789	2370	7125	11662	1953	2433	151	4537	11662	30680

**EQ 12Hr** 3257 8604 3180 **15047** 238 8170 2977 **11388** **26435** 2729 3877 3294 **9904** 2715 3382 210 **6306** **16210** **42645**  
 Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

**AVG 12Hr** 3257 8604 3180 **15047** 238 10703 3900 **11388** **26435** 2729 3877 3294 **9904** 2715 3382 210 **6306** **16210** **42645**  
 Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **1.00**

**AVG 24Hr** 4267 11271 4166 **19712** 312 14021 5109 **14918** **34630** 3575 5079 4315 **12974** 3557 4430 275 **8261** **21235** **55865**  
 Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

## Turning Movement Count - Study Results

### LONGFIELDS DR @ WOODROFFE AVE

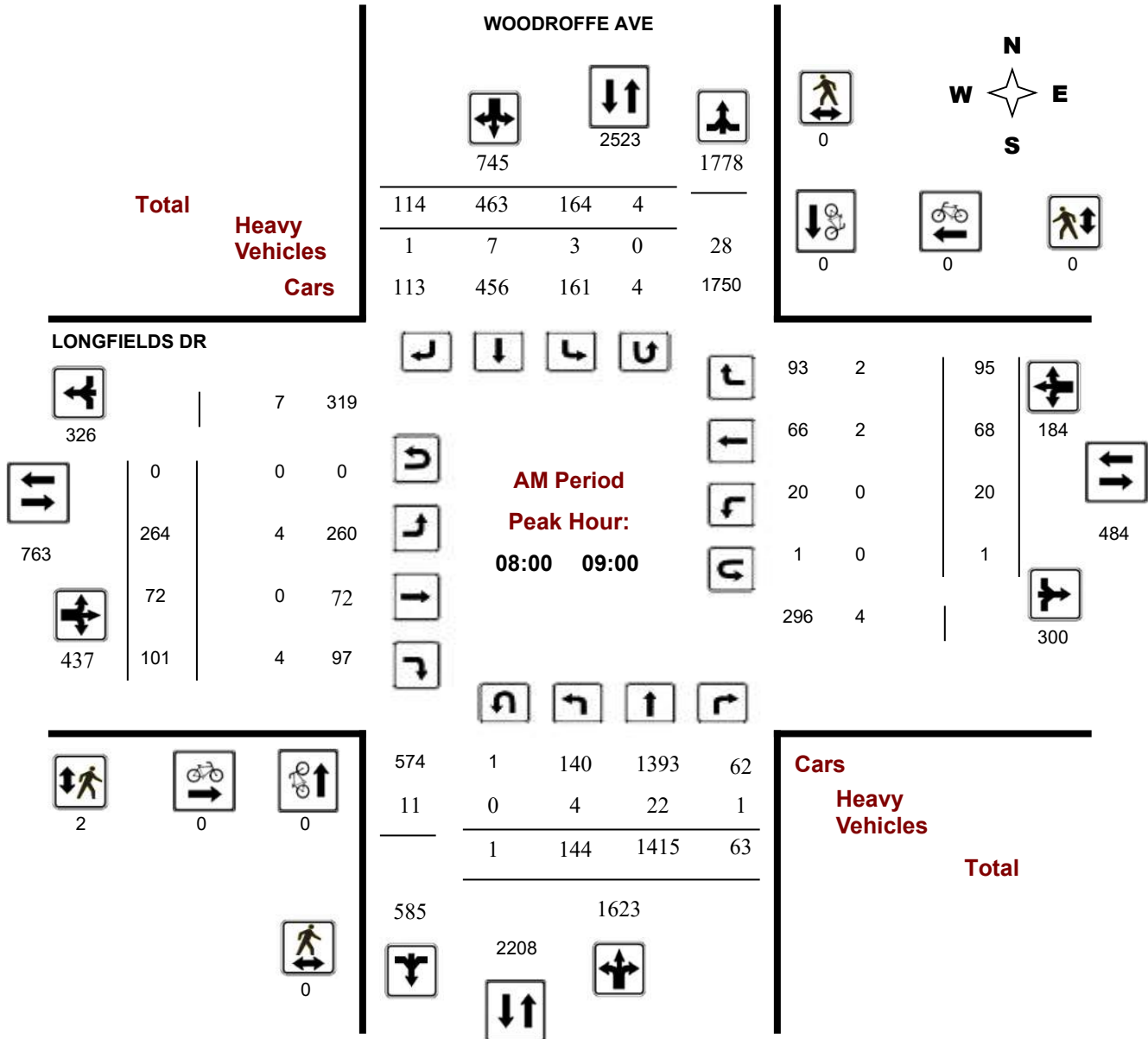
**Survey Date:** Thursday, January 18, 2024

**WO No:** 41434

**Start Time:** 07:00

**Device:** Miovision

### AM Period Peak Hour Diagram





## Turning Movement Count - Study Results

### LONGFIELDS DR @ WOODROFFE AVE

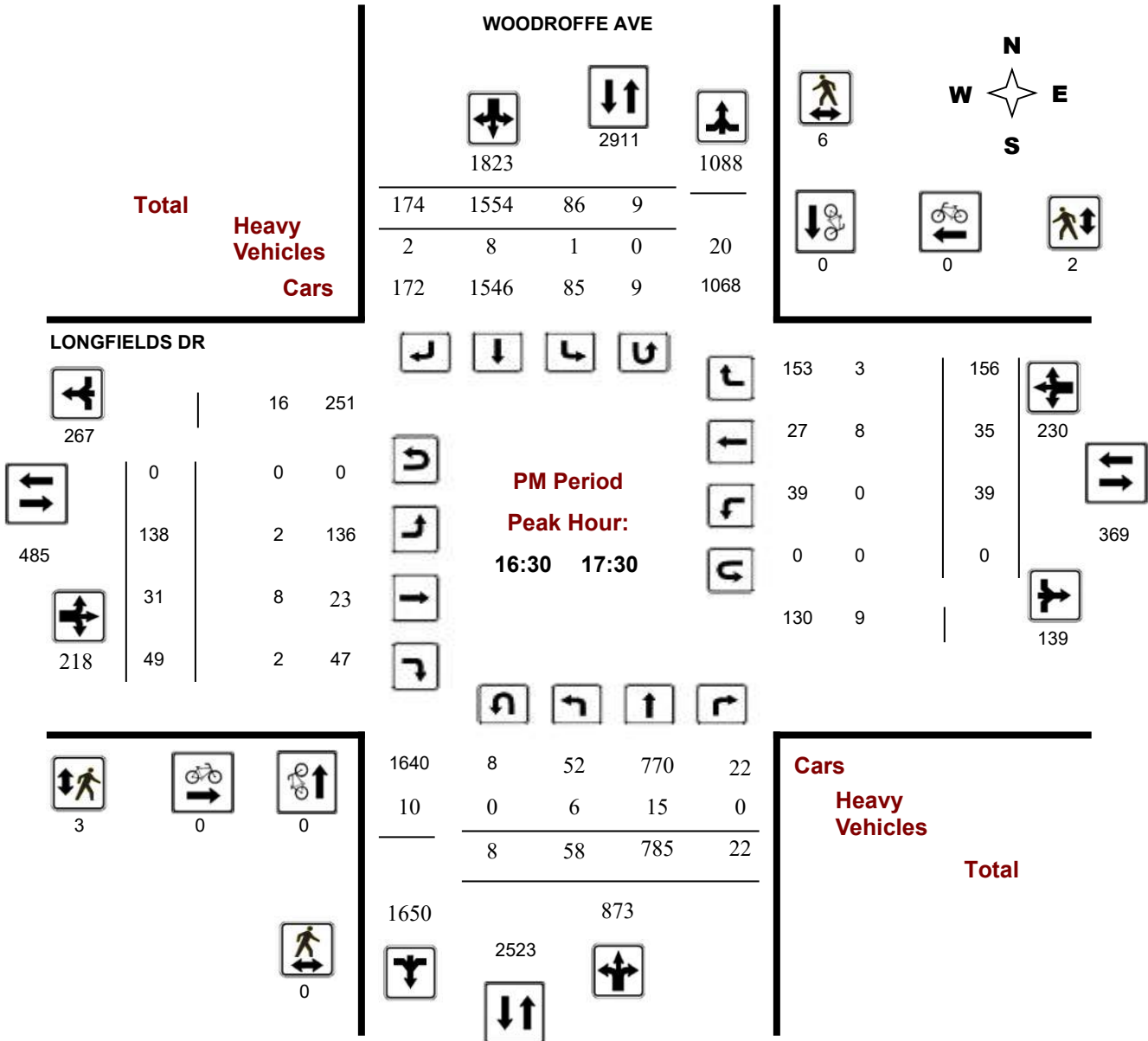
**Survey Date:** Thursday, January 18, 2024

**WO No:** 41434

**Start Time:** 07:00

**Device:** Miovision

### PM Period Peak Hour Diagram





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### LONGFIELDS DR @ WOODROFFE AVE

**Survey Date:** Thursday, January 18, 2024

**WO No:** 41434

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Thursday, January 18, 2024

**Total Observed U-Turns**

**AADT Factor**

Northbound: 29      Southbound: 44

1.00

Eastbound: 2      Westbound: 1

#### WOODROFFE AVE

#### LONGFIELDS DR

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total		
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT			
07:00 08:00	24	1490	35	1549	2041	92	345	55	492	1664	223	38	20	281	380	8	13	78	99	2421			
08:00 09:00	144	1415	63	1622	2363	164	463	114	741	1668	264	72	101	437	620	20	68	95	183	2983			
09:00 10:00	44	985	36	1065	1807	114	547	81	742	1664	205	28	49	282	353	9	18	44	71	2160			
11:30 12:30	69	716	22	807	1664	54	711	92	857	1664	118	16	42	176	301	30	21	74	125	1965			
12:30 13:30	18	716	30	764	1668	58	750	96	904	1668	99	12	23	134	209	3	11	61	75	1877			
15:00 16:00	73	730	21	824	2196	71	1124	177	1372	2196	166	52	105	323	532	29	50	130	209	2728			
16:00 17:00	66	825	24	915	2652	67	1500	170	1737	2652	107	34	54	195	423	44	41	143	228	3075			
17:00 18:00	59	840	21	920	2571	101	1388	162	1651	2571	141	25	36	202	397	25	36	134	195	2968			
<b>Sub Total</b>	497	7717	252	8466	16962	721	6828	947	8496	16962	1323	277	430	2030	3215	168	258	759	1185	20177			
<b>U Turns</b>				29				44				73				2				1			76
<b>Total</b>	497	7717	252	8495	17035	721	6828	947	8540	17035	1323	277	430	2032	3218	168	258	759	1186	20253			

**EQ 12Hr** 691 10727 350 11808 1002 9491 1316 11871 23679 1839 385 598 2824 234 359 1055 1649 4473 28152  
 Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

**AVG 12Hr** 691 10727 350 11808 1002 12433 1724 11871 23679 1839 385 598 2824 234 359 1055 1649 4473 28152  
 Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **1.00**

**AVG 24Hr** 905 14052 458 15468 1313 16287 2258 15551 31019 2409 504 783 3699 307 470 1382 2160 5860 36879  
 Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

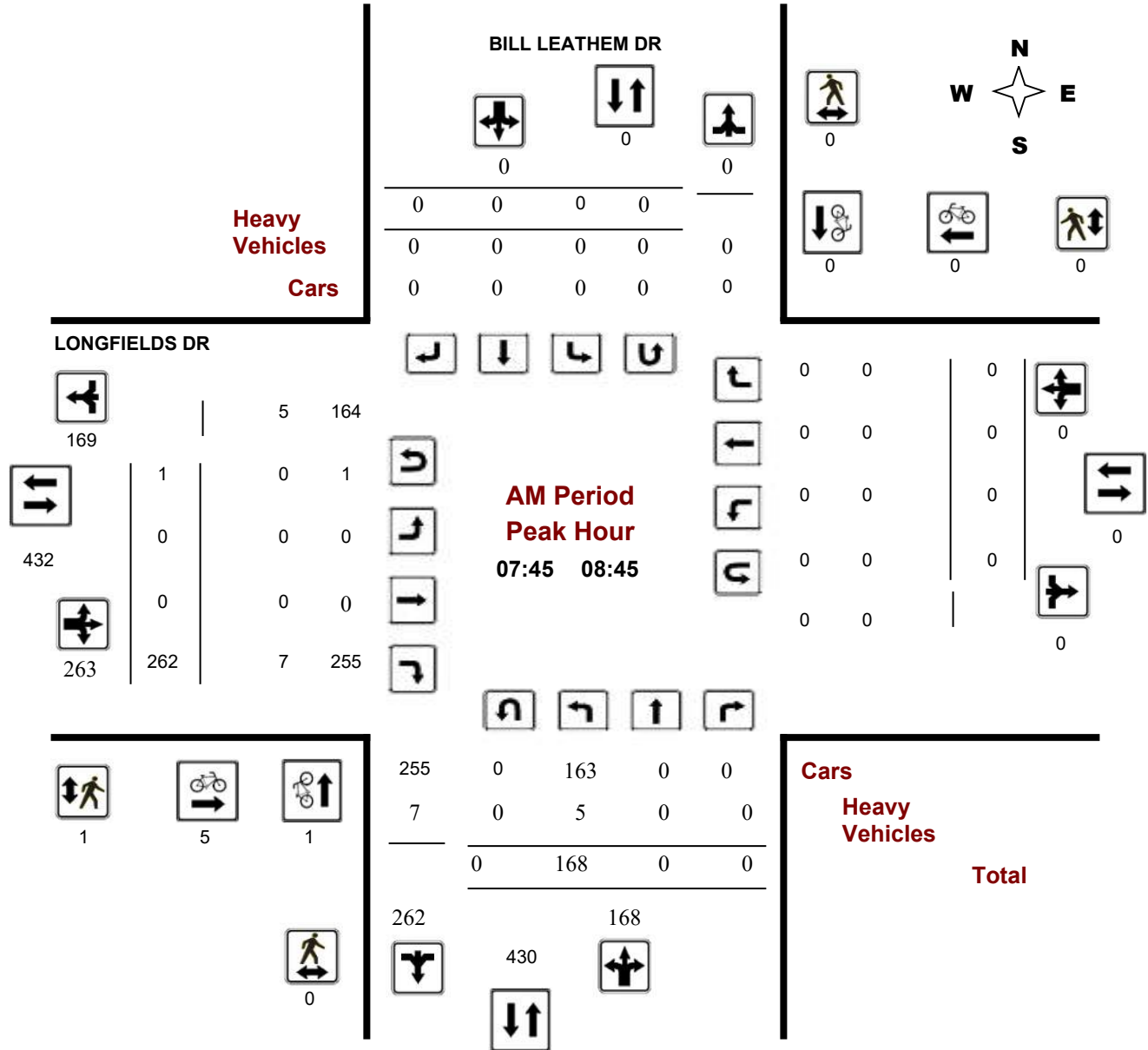
### BILL LEATHEM DR @ LONGFIELDS DR

**Survey Date:** Wednesday, June 10, 2015

**Start Time:** 07:00

**WO No:** 35082

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

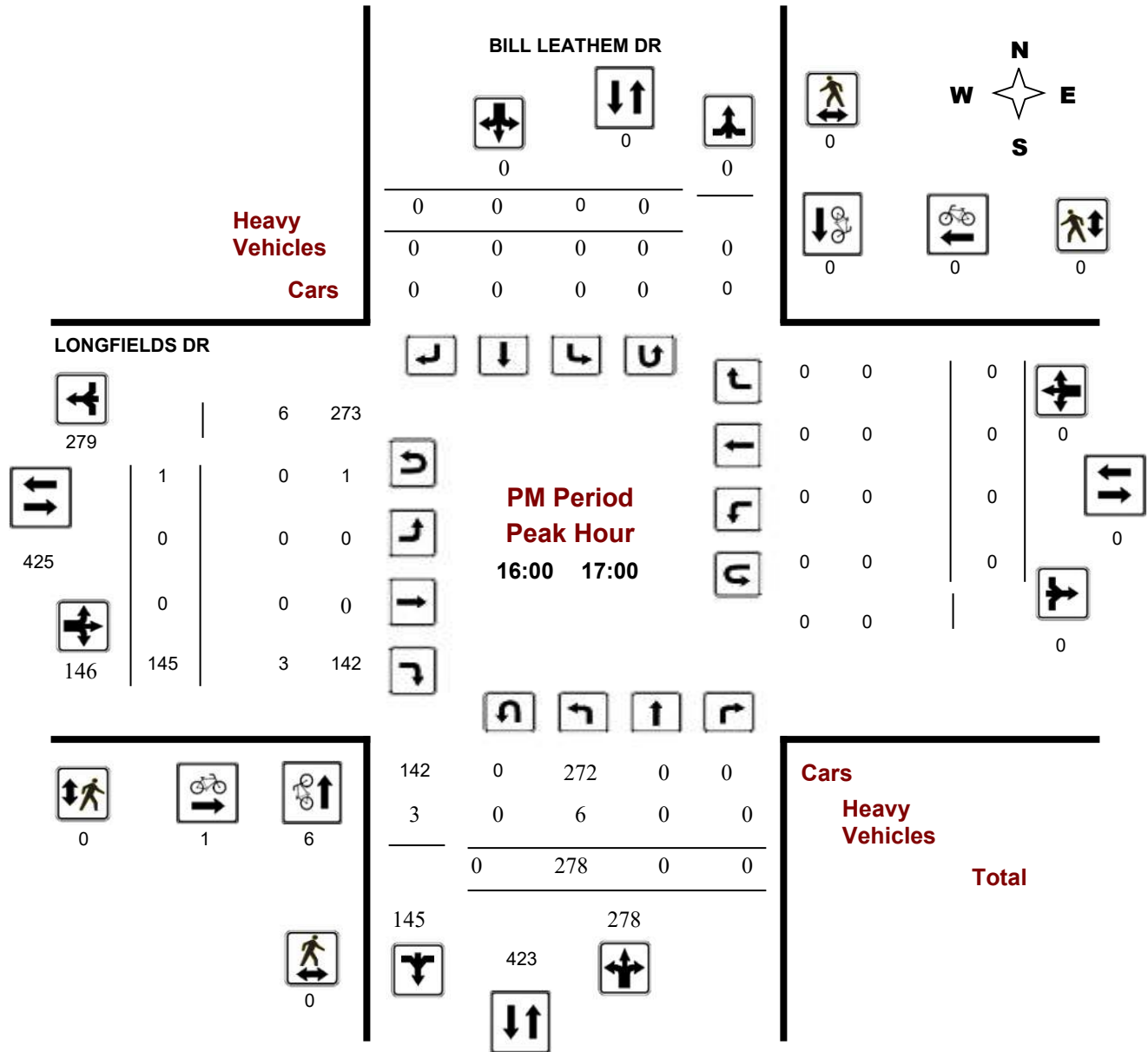
### BILL LEATHEM DR @ LONGFIELDS DR

**Survey Date:** Wednesday, June 10, 2015

**Start Time:** 07:00

**WO No:** 35082

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### BILL LEATHEM DR @ LONGFIELDS DR

**Survey Date:** Wednesday, June 10, 2015

**WO No:** 35082

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Wednesday, June 10, 2015

**Total Observed U-Turns**

**AADT Factor**

Northbound: 1      Southbound: 0  
 Eastbound: 5      Westbound: 0

1.25

**BILL LEATHEM DR**

**LONGFIELDS DR**

Period	Northbound					Southbound					Eastbound					Westbound					STR TOT	Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT		
07:00 08:00	123	0	0	123	123	0	0	0	0	123	0	0	231	231	0	0	0	0	0	231	354	
08:00 09:00	159	0	0	159	159	0	0	0	0	159	0	0	255	255	0	0	0	0	0	255	414	
09:00 10:00	89	0	0	89	89	0	0	0	0	89	0	0	141	141	0	0	0	0	0	141	230	
11:30 12:30	127	0	0	127	127	0	0	0	0	127	0	0	93	93	0	0	0	0	0	93	220	
12:30 13:30	66	0	0	66	66	0	0	0	0	66	0	0	117	117	0	0	0	0	0	117	183	
15:00 16:00	210	0	0	210	210	0	0	0	0	210	0	0	128	128	0	0	0	0	0	128	338	
16:00 17:00	278	0	0	278	278	0	0	0	0	278	0	0	145	145	0	0	0	0	0	145	423	
17:00 18:00	222	0	0	222	222	0	0	0	0	222	0	0	160	160	0	0	0	0	0	160	382	
<b>Sub Total</b>	1274	0	0	1274	1274	0	0	0	0	1274	0	0	1270	1270	0	0	0	0	0	1270	2544	
<b>U Turns</b>				1	1				0	1				5				0	0	5	6	
<b>Total</b>	1274	0	0	1275	1275	0	0	0	0	1275	0	0	1270	1275	0	0	0	0	0	1275	2550	
<b>EQ 12Hr</b>	1771	0	0	1772	1772	0	0	0	0	1772	0	0	1765	1772	0	0	0	0	0	1772	3544	
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														<b>1.39</b>								
<b>AVG 12Hr</b>	1594	0	0	1595	1595	0	0	0	0	1595	0	0	1589	1595	0	0	0	0	0	1595	3190	
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														<b>0.9</b>								
<b>AVG 24Hr</b>	2088	0	0	2089	2089	0	0	0	0	2089	0	0	2081	2089	0	0	0	0	0	2089	4178	

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

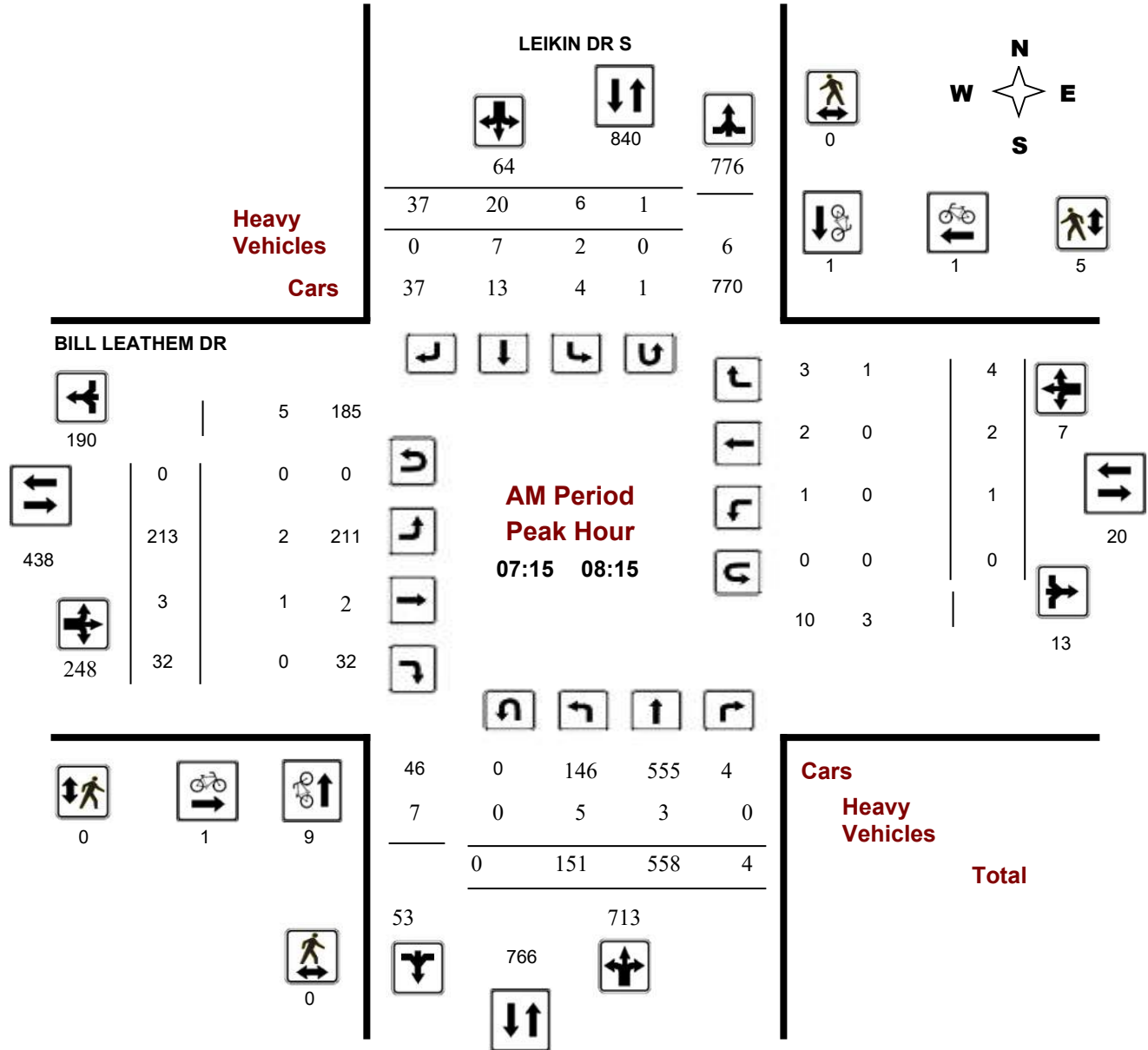
### BILL LEATHEM DR @ LEIKIN DR S

**Survey Date:** Wednesday, June 12, 2019

**Start Time:** 07:00

**WO No:** 38659

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

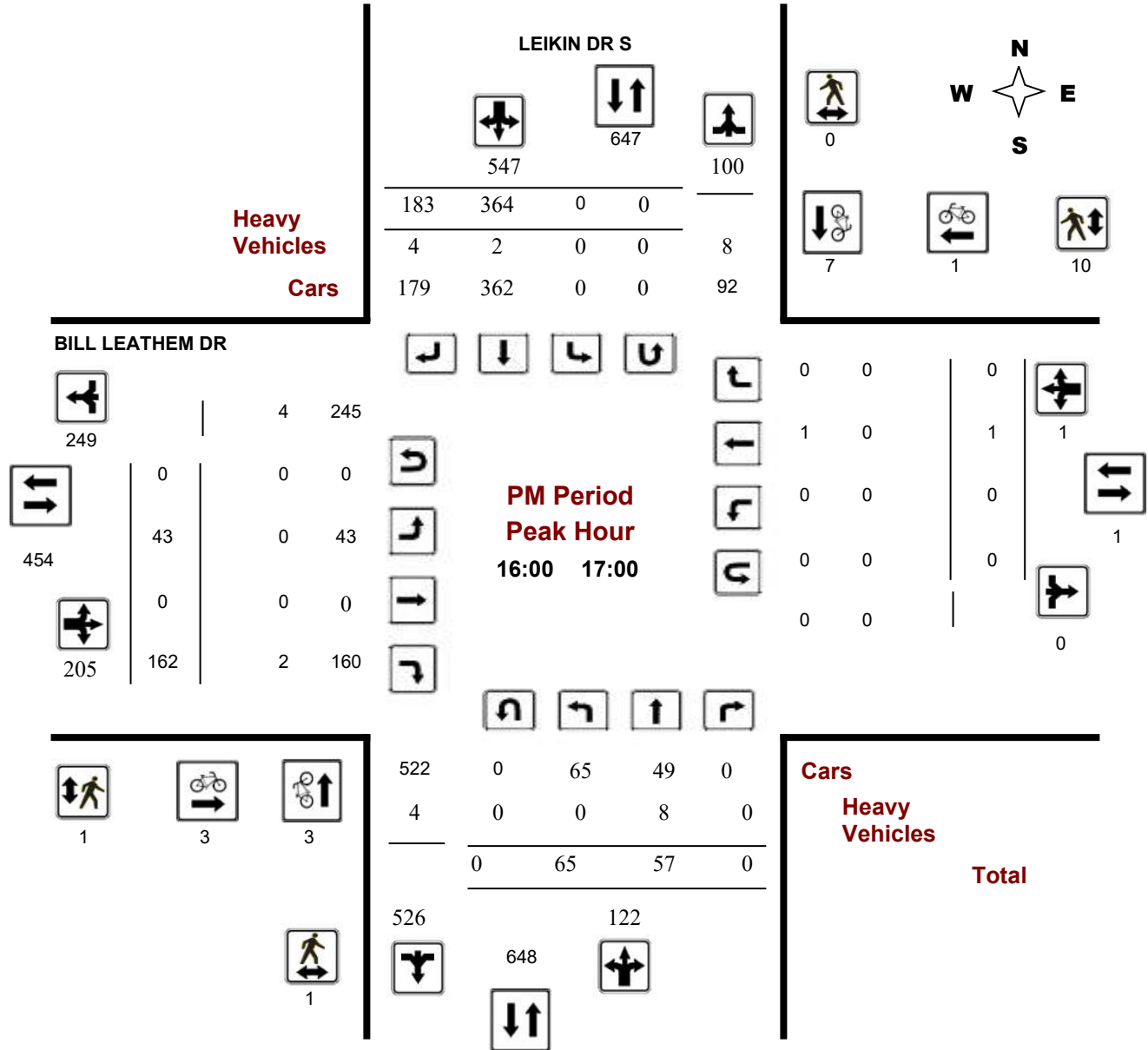
### BILL LEATHEM DR @ LEIKIN DR S

**Survey Date:** Wednesday, June 12, 2019

**Start Time:** 07:00

**WO No:** 38659

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### BILL LEATHEM DR @ LEIKIN DR S

**Survey Date:** Wednesday, June 12, 2019

**WO No:** 38659

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Wednesday, June 12, 2019

**Total Observed U-Turns**

**AADT Factor**

Northbound: 0      Southbound: 1  
 Eastbound: 1      Westbound: 0

1.25

**LEIKIN DR S**

**BILL LEATHEM DR**

Period	Northbound					Southbound					Eastbound					Westbound					STR TOT	Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT		
07:00 08:00	141	553	4	698	7	17	24	48	746	178	3	28	209	0	0	2	2	211	957			
08:00 09:00	156	372	2	530	9	32	56	97	627	165	2	54	221	2	6	7	15	236	863			
09:00 10:00	82	129	3	214	6	38	45	89	303	61	0	35	96	6	5	14	25	121	424			
11:30 12:30	46	64	1	111	10	122	61	193	304	45	3	40	88	63	23	20	106	194	498			
12:30 13:30	32	111	0	143	9	64	34	107	250	64	0	48	112	10	9	11	30	142	392			
15:00 16:00	55	44	0	99	1	187	141	329	428	32	1	107	140	94	55	28	177	317	745			
16:00 17:00	65	57	0	122	0	364	183	547	669	43	0	162	205	0	1	0	1	206	875			
17:00 18:00	77	56	0	133	0	242	90	332	465	38	0	187	225	0	0	0	0	225	690			
<b>Sub Total</b>	654	1386	10	2050	42	1066	634	1742	3792	626	9	661	1296	175	99	82	356	1652	5444			
<b>U Turns</b>				0				1	1				1				0	1	2			
<b>Total</b>	654	1386	10	2050	42	1066	634	1743	3793	626	9	661	1297	175	99	82	356	1653	5446			
<b>EQ 12Hr</b>	909	1927	14	2850	58	1482	881	2423	5272	870	13	919	1803	243	138	114	495	2298	7570			
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													<b>1.39</b>									
<b>AVG 12Hr</b>	818	1734	13	2565	53	1334	793	2180	4745	783	11	827	1623	219	124	103	445	2068	6813			
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													<b>0.9</b>									
<b>AVG 24Hr</b>	1072	2271	16	3360	69	1747	1039	2856	6216	1026	15	1083	2126	287	162	134	583	2709	8925			

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.





# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

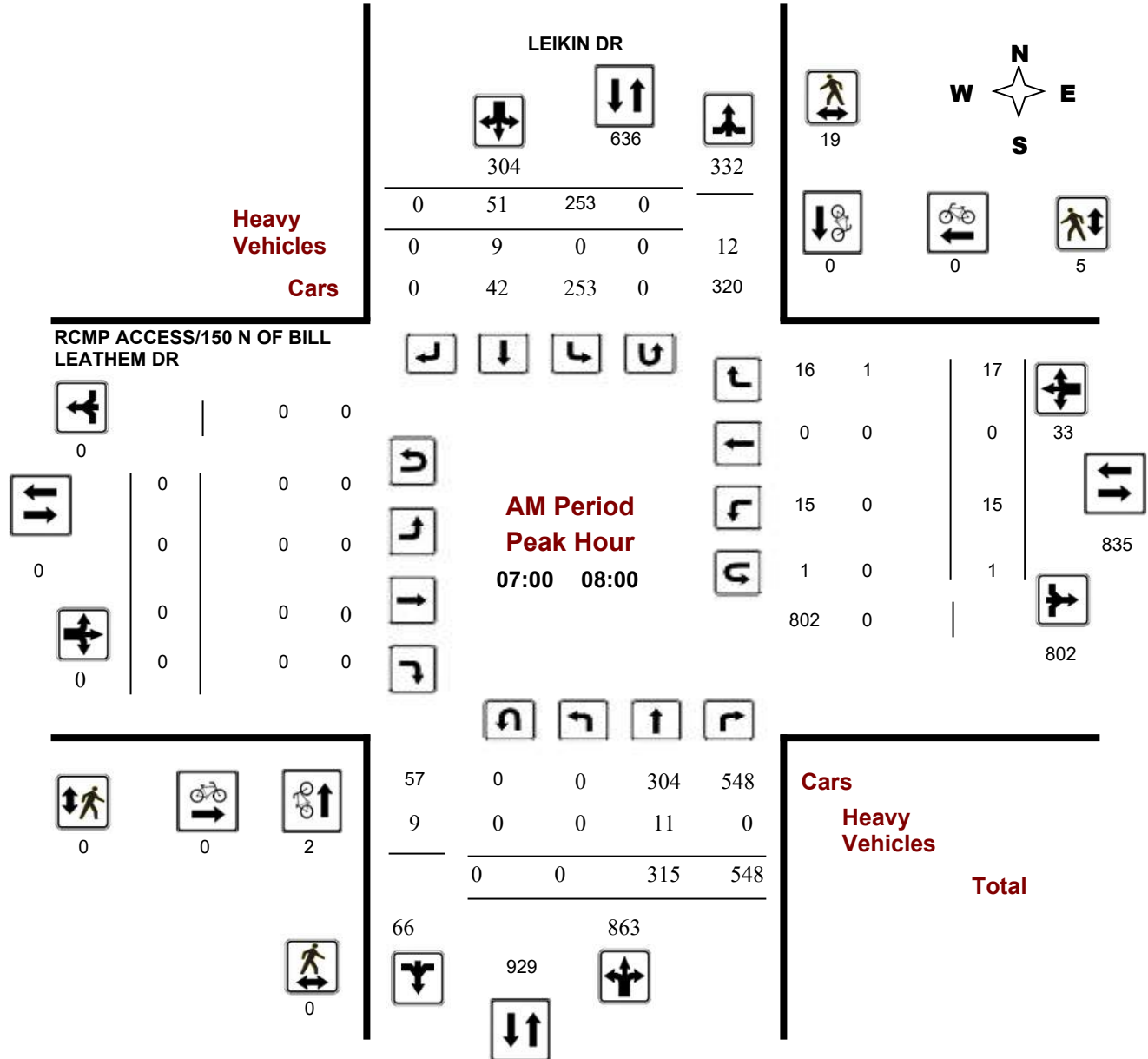
### LEIKIN DR @ RCMP ACCESS/150 N OF BILL LEATHEM DR

**Survey Date:** Tuesday, January 14, 2020

**Start Time:** 07:00

**WO No:** 39311

**Device:** Miovision



**Comments** 5470790 - TUE JAN 14, 2020 - 8HRS - LORETTA



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

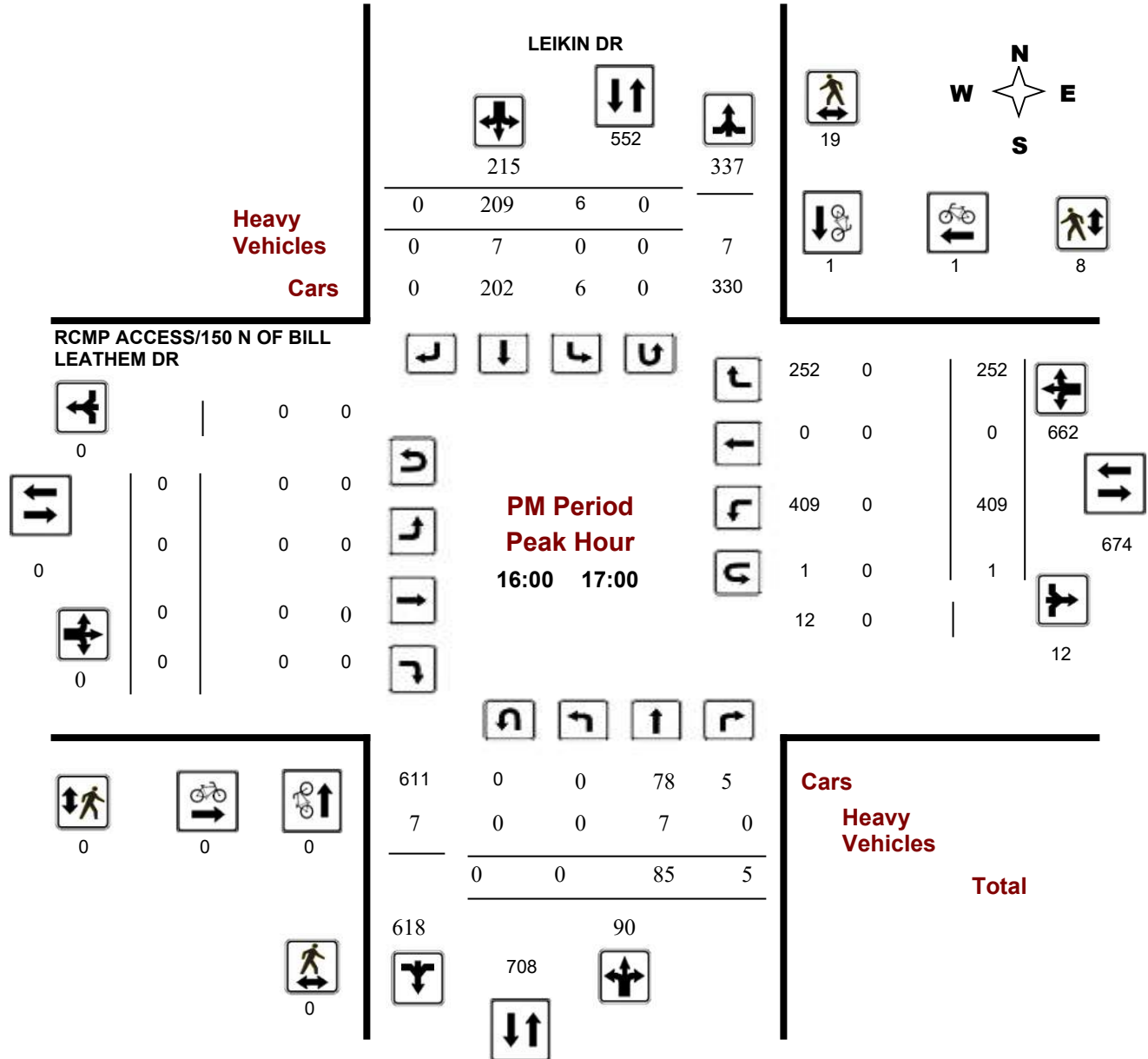
### LEIKIN DR @ RCMP ACCESS/150 N OF BILL LEATHEM DR

**Survey Date:** Tuesday, January 14, 2020

**Start Time:** 07:00

**WO No:** 39311

**Device:** Miovision



**Comments** 5470790 - TUE JAN 14, 2020 - 8HRS - LORETTA



# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### LEIKIN DR @ RCMP ACCESS/150 N OF BILL LEATHEM DR

**Survey Date:** Tuesday, January 14, 2020

**WO No:** 39311

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Tuesday, January 14, 2020

**Total Observed U-Turns**

**AADT Factor**

Northbound: 0      Southbound: 0  
 Eastbound: 0      Westbound: 6

1.10

Period	LEIKIN DR									RCMP ACCESS/150 N OF BILL LEATHEM DR									Grand Total
	Northbound			NB TOT	Southbound			SB TOT	STR TOT	Eastbound			EB TOT	Westbound			WB TOT	STR TOT	
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT			
07:00 08:00	0	315	548	863	253	51	0	304	1167	0	0	0	0	15	0	17	32	32	1199
08:00 09:00	0	203	339	542	170	63	0	233	775	0	0	0	0	12	0	15	27	27	802
09:00 10:00	0	85	84	169	80	68	0	148	317	0	0	0	0	10	0	19	29	29	346
11:30 12:30	0	59	46	105	24	52	0	76	181	0	0	0	0	51	0	40	91	91	272
12:30 13:30	0	54	80	134	31	49	0	80	214	0	0	0	0	19	0	30	49	49	263
15:00 16:00	0	106	7	113	4	101	0	105	218	0	0	0	0	259	0	251	510	510	728
16:00 17:00	0	85	5	90	6	209	0	215	305	0	0	0	0	409	0	252	661	661	966
17:00 18:00	0	85	2	87	8	209	0	217	304	0	0	0	0	168	0	145	313	313	617
<b>Sub Total</b>	0	992	1111	2103	576	802	0	1378	3481	0	0	0	0	943	0	769	1712	1712	5193
<b>U Turns</b>				0				0	0				0				6	6	6
<b>Total</b>	0	992	1111	2103	576	802	0	1378	3481	0	0	0	0	943	0	769	1718	1718	5199
<b>EQ 12Hr</b>	0	1379	1544	2923	801	1115	0	1915	4839	0	0	0	0	1311	0	1069	2388	2388	7227
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													<b>1.39</b>						
<b>AVG 12Hr</b>	0	1429	1601	3030	830	1156	0	1986	5323	0	0	0	0	1359	0	1108	2476	2627	7950
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													<b>1.1</b>						
<b>AVG 24Hr</b>	0	1873	2097	3970	1087	1514	0	2601	6571	0	0	0	0	1780	0	1452	3243	3243	9814

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

## Turning Movement Count - Peak Hour Diagram

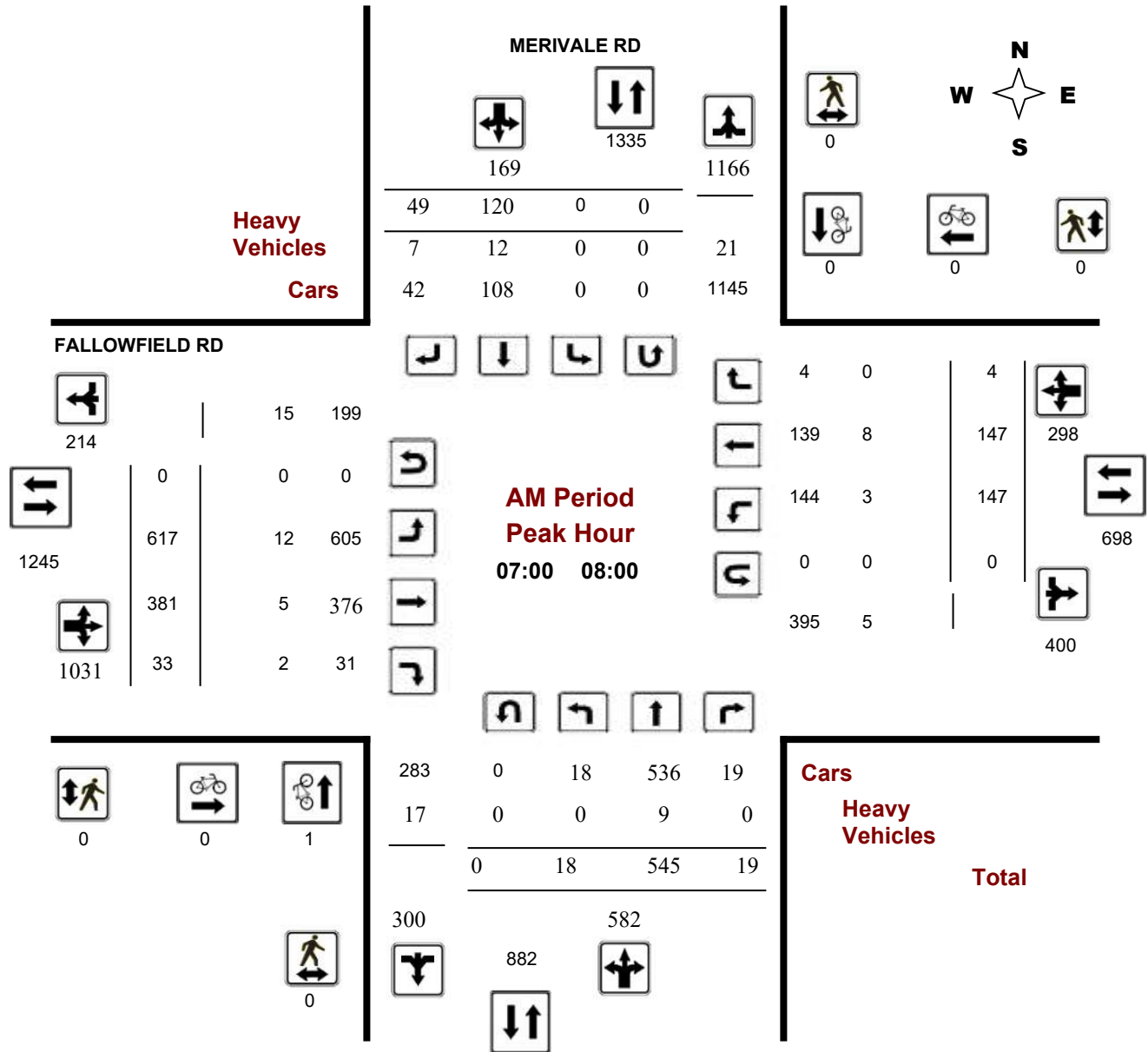
### FALLOWFIELD RD @ MERIVALE RD

**Survey Date:** Thursday, March 02, 2017

**Start Time:** 07:00

**WO No:** 36728

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

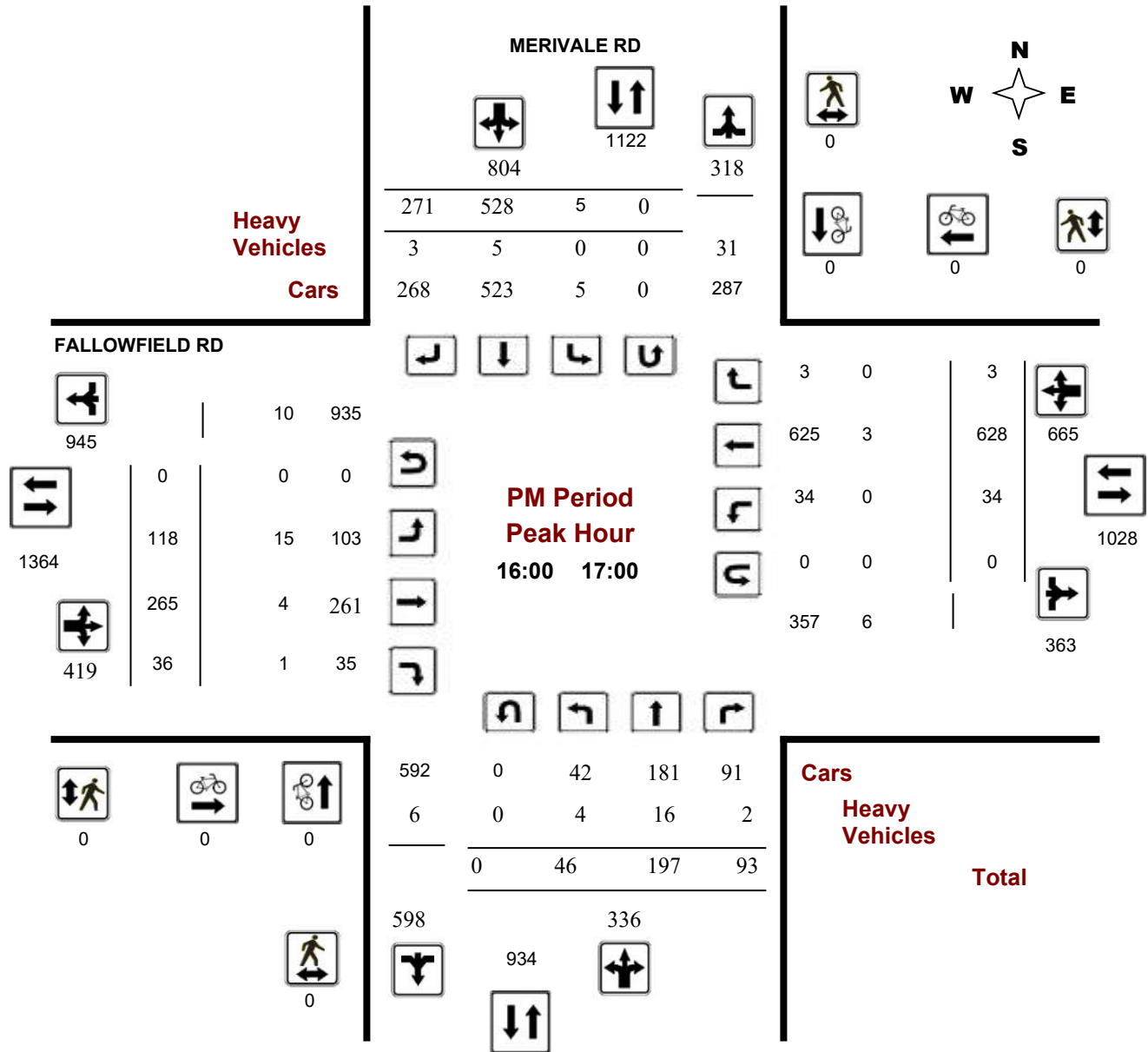
### FALLOWFIELD RD @ MERIVALE RD

**Survey Date:** Thursday, March 02, 2017

**Start Time:** 07:00

**WO No:** 36728

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### FALLOWFIELD RD @ MERIVALE RD

**Survey Date:** Thursday, March 02, 2017

**WO No:** 36728

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Thursday, March 02, 2017

**Total Observed U-Turns**  
 Northbound: 0      Southbound: 0  
 Eastbound: 0      Westbound: 0

**AADT Factor**  
 1.00

#### MERIVALE RD

#### FALLOWFIELD RD

Period	MERIVALE RD Northbound					MERIVALE RD Southbound					FALLOWFIELD RD Eastbound					FALLOWFIELD RD Westbound					Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT			
07:00 08:00	18	545	19	582	0	120	49	169	751	617	381	33	1031	147	147	4	298	1329	2080		
08:00 09:00	19	551	17	587	1	142	53	196	783	533	323	20	876	129	182	18	329	1205	1988		
09:00 10:00	18	345	17	380	4	134	62	200	580	338	364	26	728	67	158	15	240	968	1548		
11:30 12:30	21	195	43	259	4	182	118	304	563	124	258	20	402	28	237	10	275	677	1240		
12:30 13:30	22	152	32	206	4	196	106	306	512	76	140	9	225	28	231	6	265	490	1002		
15:00 16:00	51	193	121	365	4	390	240	634	999	107	224	27	358	31	547	6	584	942	1941		
16:00 17:00	46	197	93	336	5	528	271	804	1140	118	265	36	419	34	628	3	665	1084	2224		
17:00 18:00	49	193	70	312	4	480	273	757	1069	131	255	36	422	45	604	2	651	1073	2142		
<b>Sub Total</b>	244	2371	412	3027	26	2172	1172	3370	6397	2044	2210	207	4461	509	2734	64	3307	7768	14165		
<b>U Turns</b>				0				0	0				0				0	0	0		
<b>Total</b>	244	2371	412	3027	26	2172	1172	3370	6397	2044	2210	207	4461	509	2734	64	3307	7768	14165		
<b>EQ 12Hr</b>	339	3296	573	4208	36	3019	1629	4684	8892	2841	3072	288	6201	708	3800	89	4597	10798	19689		
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																<b>1.39</b>					
<b>AVG 12Hr</b>	320	3106	540	3965	34	2845	1535	4415	8892	2678	2895	271	5844	667	3582	84	4332	10798	19689		
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																<b>1</b>					
<b>AVG 24Hr</b>	419	4069	707	5195	45	3727	2011	5783	10978	3508	3793	355	7656	873	4692	110	5675	13331	24309		
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																<b>1.31</b>					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

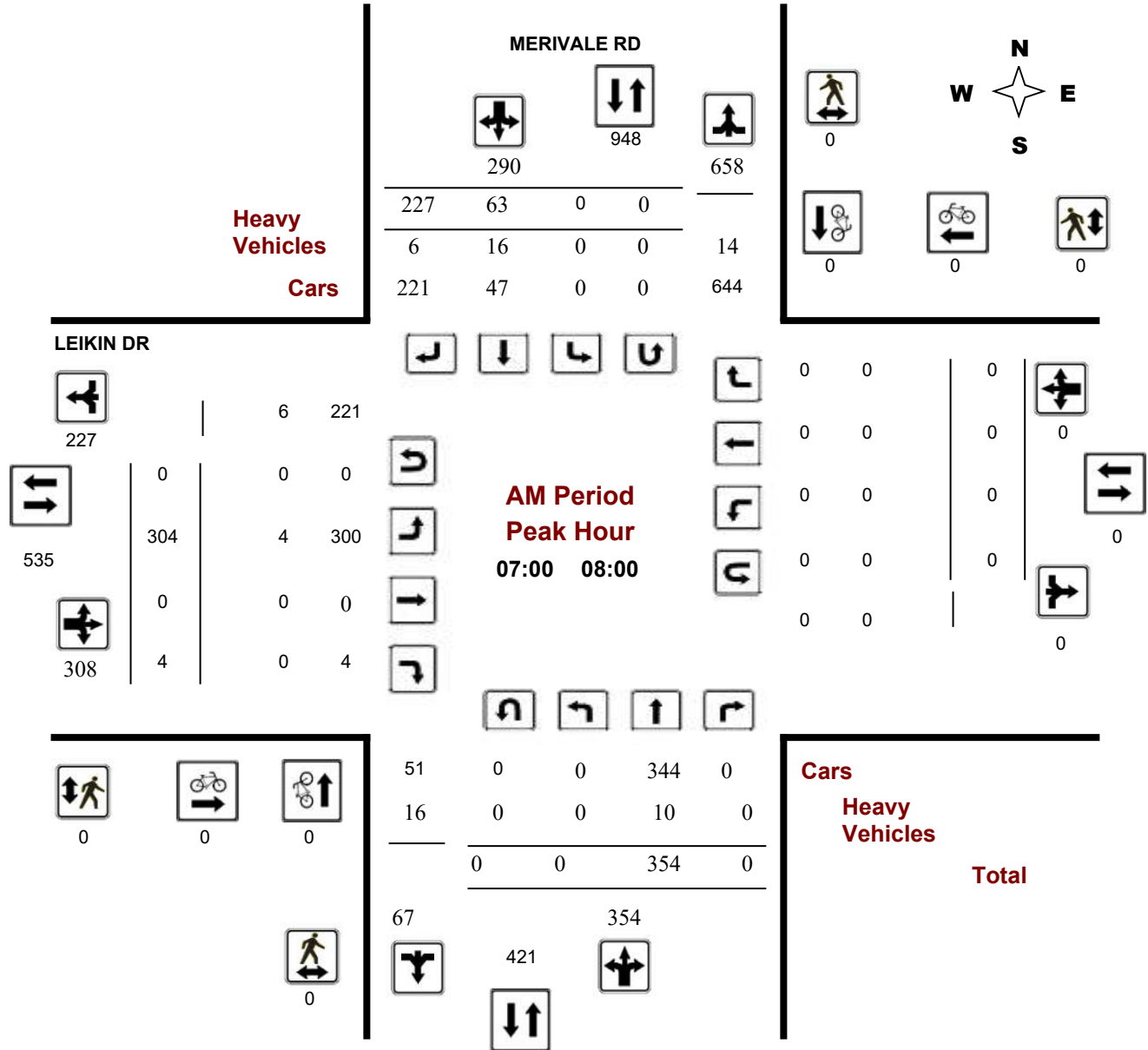
### LEIKIN DR @ MERIVALE RD

**Survey Date:** Wednesday, November 21, 2018

**Start Time:** 07:00

**WO No:** 38135

**Device:** Miovision



## Turning Movement Count - Peak Hour Diagram

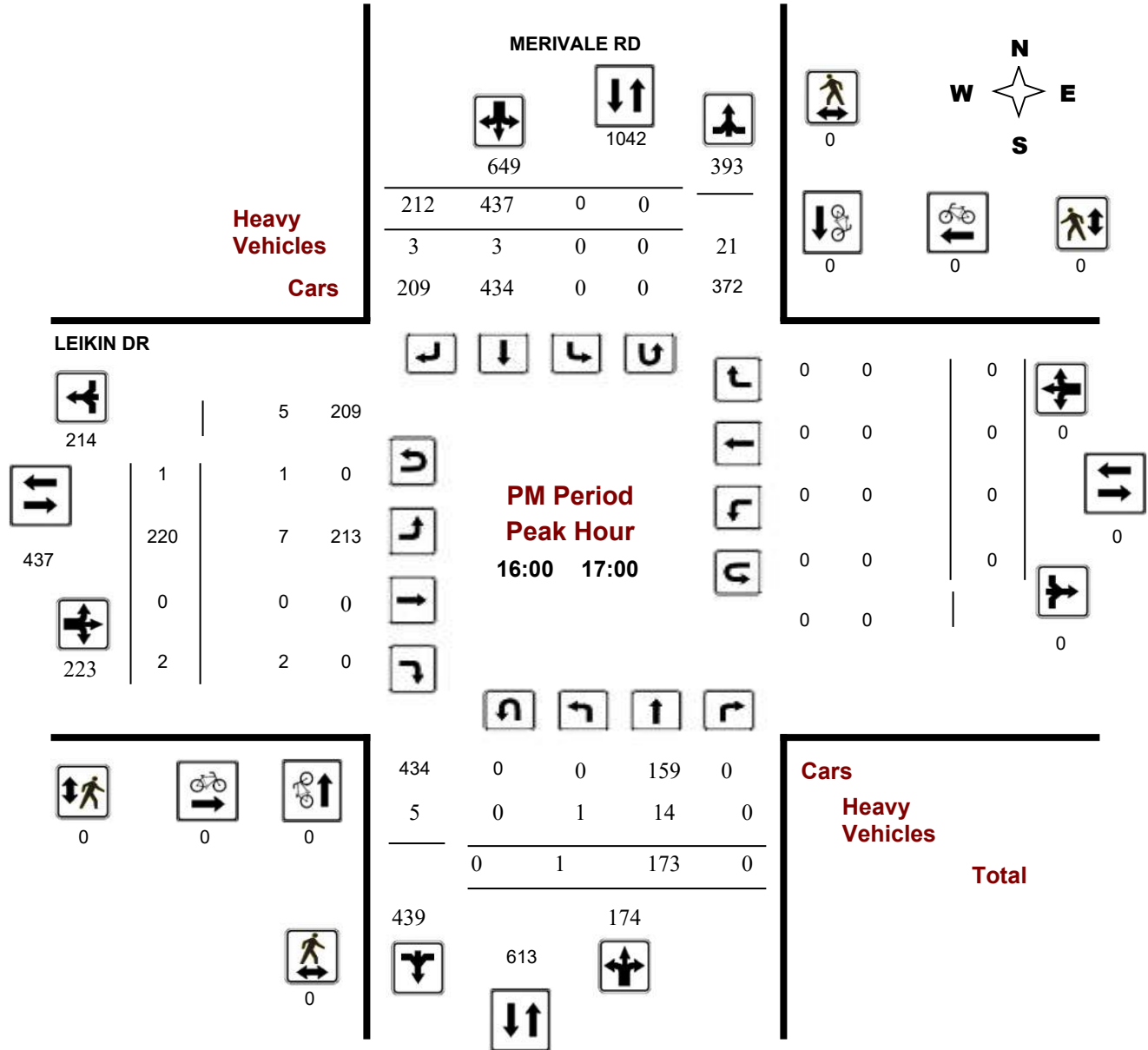
### LEIKIN DR @ MERIVALE RD

**Survey Date:** Wednesday, November 21, 2018

**WO No:** 38135

**Start Time:** 07:00

**Device:** Miovision







# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### LEIKIN DR @ MERIVALE RD

**Survey Date:** Wednesday, November 21, 2018

**WO No:** 38135

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Wednesday, November 21, 2018

**Total Observed U-Turns**  
 Northbound: 0      Southbound: 0  
 Eastbound: 4      Westbound: 0

**AADT Factor**

.90

#### MERIVALE RD

#### LEIKIN DR

Period	Northbound					Southbound					Eastbound					Westbound					STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT					
07:00 08:00	0	354	0	354	0	63	227	290	644	304	0	4	308	0	0	0	0	308	952			
08:00 09:00	10	343	0	353	0	99	202	301	654	214	0	12	226	0	0	0	0	226	880			
09:00 10:00	1	298	0	299	0	94	122	216	515	110	0	6	116	0	0	0	0	116	631			
11:30 12:30	2	173	0	175	0	177	75	252	427	101	0	4	105	0	0	0	0	105	532			
12:30 13:30	1	153	0	154	0	186	85	271	425	75	0	1	76	0	0	0	0	76	501			
15:00 16:00	0	160	0	160	0	385	113	498	658	192	0	6	198	0	0	0	0	198	856			
16:00 17:00	1	173	0	174	0	437	212	649	823	220	0	2	222	0	0	0	0	222	1045			
17:00 18:00	2	186	0	188	0	442	221	663	851	148	0	3	151	0	0	0	0	151	1002			
<b>Sub Total</b>	17	1840	0	1857	0	1883	1257	3140	4997	1364	0	38	1402	0	0	0	0	1402	6399			
<b>U Turns</b>				0				0	0				4				0	4	4			
<b>Total</b>	17	1840	0	1857	0	1883	1257	3140	4997	1364	0	38	1406	0	0	0	0	1406	6403			
<b>EQ 12Hr</b>	24	2558	0	2581	0	2617	1747	4365	6946	1896	0	53	1954	0	0	0	0	1954	8900			
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	<b>1.39</b>					
<b>AVG 12Hr</b>	20	2169	0	2189	0	2220	1482	3702	6251	1608	0	45	1658	0	0	0	0	1759	8010			
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	<b>0.9</b>					
<b>AVG 24Hr</b>	26	2842	0	2868	0	2908	1941	4850	7718	2107	0	59	2172	0	0	0	0	2172	9890			

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



# Transportation Services - Traffic Services

## Turning Movement Count - Peak Hour Diagram

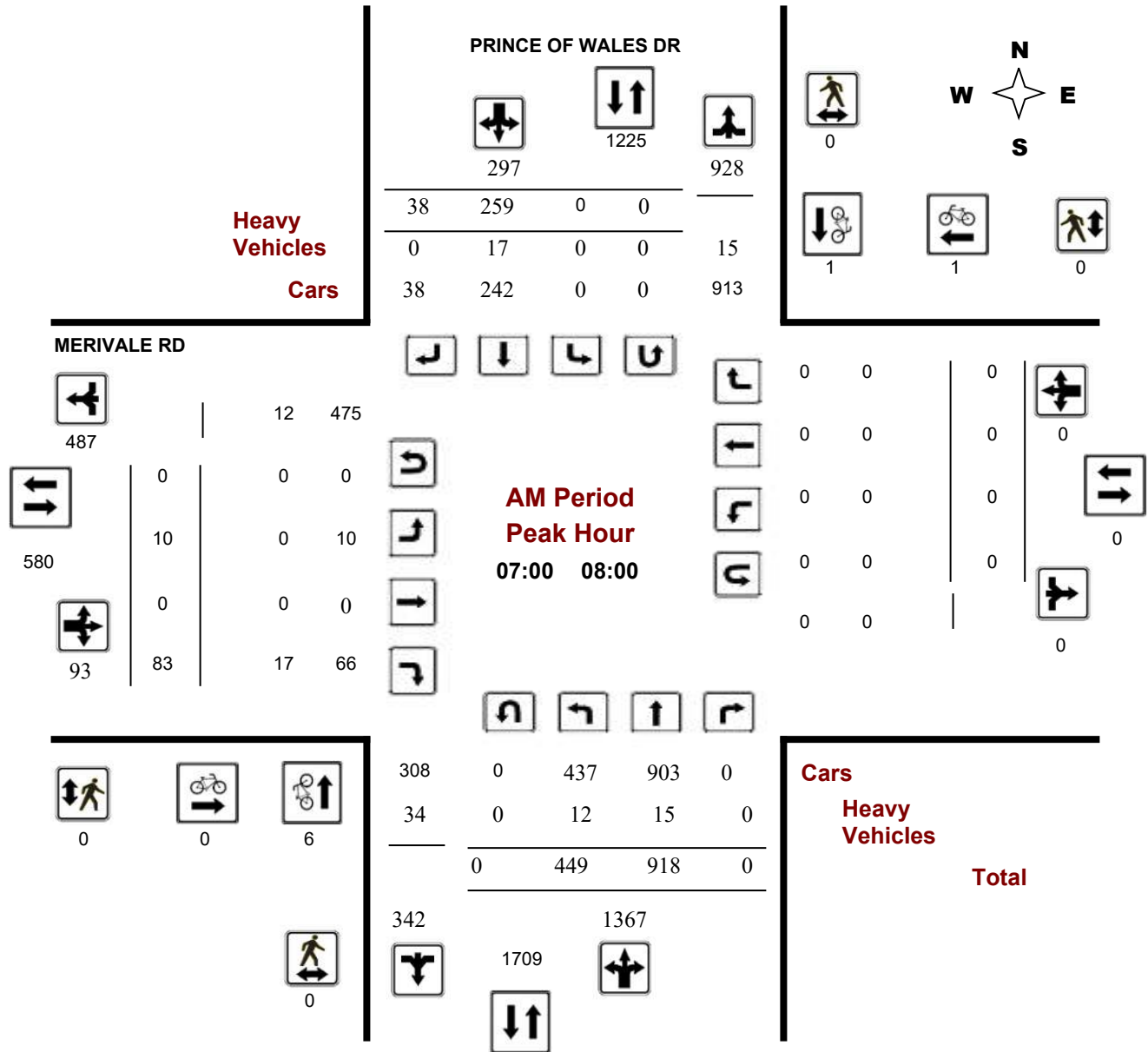
### PRINCE OF WALES DR @ MERIVALE RD

**Survey Date:** Wednesday, June 13, 2018

**Start Time:** 07:00

**WO No:** 37904

**Device:** Miovision



## Turning Movement Count - Peak Hour Diagram

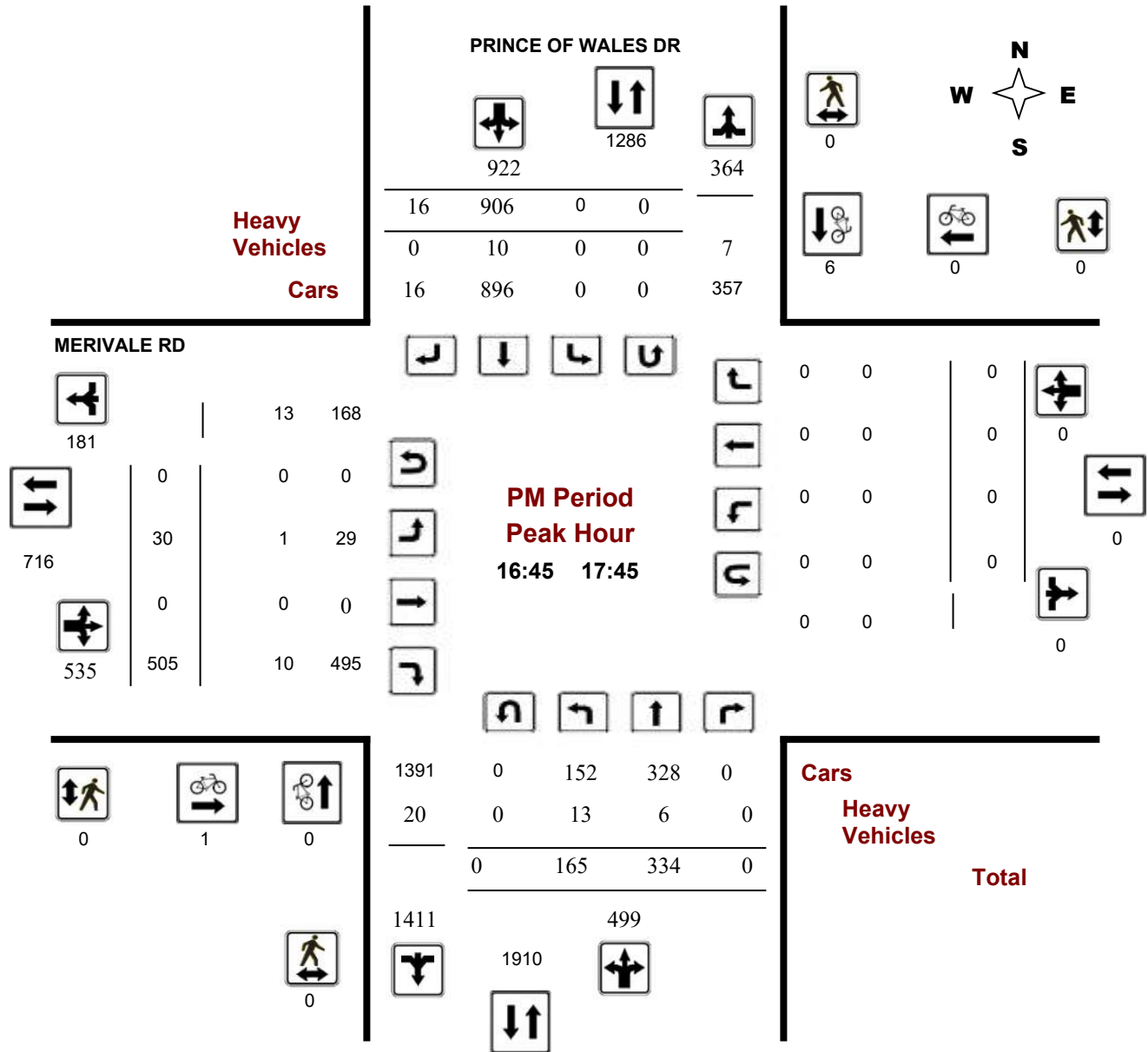
### PRINCE OF WALES DR @ MERIVALE RD

**Survey Date:** Wednesday, June 13, 2018

**Start Time:** 07:00

**WO No:** 37904

**Device:** Miovision





# Transportation Services - Traffic Services

## Turning Movement Count - Study Results

### PRINCE OF WALES DR @ MERIVALE RD

**Survey Date:** Wednesday, June 13, 2018

**WO No:** 37904

**Start Time:** 07:00

**Device:** Miovision

### Full Study Summary (8 HR Standard)

**Survey Date:** Wednesday, June 13, 2018

**Total Observed U-Turns**

**AADT Factor**

Northbound: 0      Southbound: 0

.90

Eastbound: 0      Westbound: 0

#### PRINCE OF WALES DR

#### MERIVALE RD

Period	Northbound					Southbound					Eastbound					Westbound					STR TOT	Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT		
07:00 08:00	449	918	0	1367	1664	0	259	38	297	1664	10	0	83	93	93	0	0	0	0	93	1757	
08:00 09:00	418	718	0	1136	1381	0	229	16	245	1381	10	0	93	103	103	0	0	0	0	103	1484	
09:00 10:00	295	651	0	946	1213	0	256	11	267	1213	8	0	130	138	138	0	0	0	0	138	1351	
11:30 12:30	202	344	0	546	895	0	341	8	349	895	11	0	202	213	213	0	0	0	0	213	1108	
12:30 13:30	183	373	0	556	919	0	357	6	363	919	3	0	197	200	200	0	0	0	0	200	1119	
15:00 16:00	164	337	0	501	1211	0	704	6	710	1211	58	0	446	504	504	0	0	0	0	504	1715	
16:00 17:00	183	312	0	495	1276	0	759	22	781	1276	38	0	577	615	615	0	0	0	0	615	1891	
17:00 18:00	160	332	0	492	1349	0	843	14	857	1349	23	0	496	519	519	0	0	0	0	519	1868	
<b>Sub Total</b>	2054	3985	0	6039	9908	0	3748	121	3869	9908	161	0	2224	2385	2385	0	0	0	0	2385	12293	
<b>U Turns</b>				0	0				0	0				0					0	0	0	
<b>Total</b>	2054	3985	0	6039	9908	0	3748	121	3869	9908	161	0	2224	2385	2385	0	0	0	0	2385	12293	
<b>EQ 12Hr</b>	2855	5539	0	8394	13772	0	5210	168	5378	13772	224	0	3091	3315	3315	0	0	0	0	3315	17087	
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														<b>1.39</b>								
<b>AVG 12Hr</b>	2422	4698	0	7120	12395	0	4419	143	4562	12395	190	0	2622	2812	2812	0	0	0	0	2812	15378	
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														<b>0.9</b>								
<b>AVG 24Hr</b>	3172	6155	0	9327	15303	0	5789	187	5976	15303	249	0	3435	3684	3684	0	0	0	0	3684	18987	

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

## **APPENDIX E**

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### Collision Records



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** BECKSTEAD RD @ MERIVALE RD

**Traffic Control:** Stop sign

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Aug-17, Thu,13:32	Clear	Rear end	Non-fatal injury	Wet	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	

**Location:** BILL LEATHEM DR @ LEIKIN DR S

**Traffic Control:** Stop sign

**Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Sep-29, Fri,22:50	Rain	Angle	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Dec-06, Thu,14:10	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Truck - closed	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-23, Mon,07:42	Rain	Other	P.D. only	Wet	North	Reversing	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Oct-31, Thu,07:25	Rain	Angle	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

**Location:** BILL LEATHEM DR btwn LONGFIELDS DR & PARAGON AVE

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Feb-25, Mon,11:18	Drifting Snow	SMV other	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Ran off road	0

**Location:** EARL MULLIGAN DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 22

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-05, Thu,17:26	Clear	Rear end	Non-fatal injury	Ice	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** EARL MULLIGAN DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 22

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Apr-21, Fri,18:12	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-May-20, Sat,11:08	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2017-Jul-26, Wed,08:33	Clear	Rear end	P.D. only	Dry	North	Turning left	Passenger van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Oct-17, Tue,09:47	Clear	Angle	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Oct-20, Fri,08:13	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2018-Sep-27, Thu,15:46	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-06, Sat,00:26	Clear	Rear end	Non-fatal injury	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Dec-14, Fri,11:57	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-07, Mon,17:00	Clear	Turning movement	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Apr-09, Tue,12:15	Freezing Rain	Rear end	Non-fatal injury	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-07, Wed,21:02	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** EARL MULLIGAN DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 22

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Sep-23, Mon,07:48	Rain	Sideswipe	P.D. only	Wet	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-04, Sat,03:10	Clear	SMV other	P.D. only	Dry	South	Unknown	Automobile, station wagon	Skidding/sliding	0
2020-Jan-25, Sat,06:56	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Feb-26, Wed,20:17	Snow	Angle	P.D. only	Loose snow	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Aug-27, Thu,17:18	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2020-Oct-14, Wed,11:31	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Dec-14, Mon,17:11	Clear	Rear end	P.D. only	Wet	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2021-Mar-07, Sun,21:19	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jun-19, Sat,09:26	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Unknown	Unknown	Other motor vehicle	
2021-Aug-03, Tue,12:16	Clear	Angle	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

**Location:** FALLOWFIELD RD @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
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# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-05, Thu,17:15	Clear	Rear end	P.D. only	Slush	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2017-Jan-05, Thu,18:32	Freezing Rain	Turning movement	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Municipal transit bus	Other motor vehicle	
2017-Jan-05, Thu,20:01	Freezing Rain	Rear end	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-19, Thu,16:16	Clear	Rear end	P.D. only	Wet	West	Slowing or stopping	Passenger van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-14, Tue,13:08	Snow	Rear end	P.D. only	Ice	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Apr-28, Fri,18:30	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-31, Mon,16:53	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-08, Fri,15:58	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-17, Tue,11:38	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-30, Mon,10:55	Rain	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-15, Wed,18:46	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-18, Sat,11:50	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-09, Sat,22:30	Snow	SMV other	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Skidding/sliding	0
2018-Feb-06, Tue,08:45	Clear	Rear end	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Skidding/sliding	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-31, Sat,12:50	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-10, Thu,11:28	Rain	Angle	Non-fatal injury	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-28, Mon,11:59	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-24, Wed,20:38	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2018-Nov-20, Tue,18:34	Snow	Rear end	P.D. only	Wet	West	Unknown	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-10, Thu,09:52	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
					West	Going ahead	Unknown	Other motor vehicle	
2019-Jan-25, Fri,21:57	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Aug-25, Sun,16:20	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Sep-25, Wed,08:37	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Oct-08, Tue,22:02	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-25, Mon,14:36	Clear	Angle	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Dec-27, Fri,13:13	Freezing Rain	Rear end	Non-fatal injury	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2020-Feb-25, Tue,15:56	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Mar-30, Mon,09:57	Clear	Angle	Non-fatal injury	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Oct-17, Sat,13:10	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jan-07, Thu,16:34	Clear	Rear end	P.D. only	Wet	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Jun-24, Thu,13:25	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2021-Aug-21, Sat,09:24	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Aug-27, Fri,16:05	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Oct-14, Thu,17:52	Clear	Rear end	Non-fatal injury	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-17, Tue,16:20	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-01, Wed,12:54	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Feb-10, Fri,17:02	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-02, Thu,13:40	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Apr-05, Wed,13:33	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Pole (sign, parking meter)	0
2017-Apr-18, Tue,16:22	Clear	Rear end	P.D. only	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Jul-05, Wed,15:44	Clear	Turning movement	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jul-15, Sat,22:00	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Aug-08, Tue,08:30	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Aug-30, Wed,18:48	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Sep-16, Sat,10:02	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Making "U" turn	Passenger van	Other motor vehicle	
2017-Sep-27, Wed,18:15	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Oct-03, Tue,17:42	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-29, Wed,06:04	Clear	Sideswipe	Non-fatal injury	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-02, Sat,17:11	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2017-Dec-11, Mon,18:26	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-18, Mon,08:11	Snow	Rear end	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-22, Fri,19:47	Snow	Rear end	P.D. only	Loose snow	South	Slowing or stopping	Truck - closed	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017      To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jan-11, Thu,20:06	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-02, Fri,19:52	Snow	Angle	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Feb-07, Wed,13:32	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Truck - tank	Other motor vehicle	
2018-Mar-14, Wed,16:30	Snow	Rear end	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-17, Sat,22:46	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Pole (sign, parking meter)	0
2018-Apr-01, Sun,10:20	Clear	Rear end	P.D. only	Dry	North	Turning right	Unknown	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-May-22, Tue,11:15	Rain	Rear end	P.D. only	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jun-12, Tue,16:53	Clear	Rear end	P.D. only	Dry	North	Turning right	Unknown	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jun-15, Fri,17:15	Clear	Rear end	P.D. only	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-20, Fri,16:35	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Passenger van	Other motor vehicle	
2018-Aug-12, Sun,19:32	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Aug-14, Tue,16:55	Rain	Rear end	P.D. only	Wet	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Sep-19, Wed,19:20	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-22, Sat,17:45	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-30, Sun,11:53	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Oct-01, Mon,16:55	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-13, Sat,08:40	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Oct-17, Wed,18:05	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-15, Thu,06:26	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,08:20	Snow	Other	P.D. only	Wet	North	Reversing	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-28, Wed,19:25	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-07, Fri,16:55	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-14, Fri,07:55	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Feb-03, Sun,15:20	Snow	Angle	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Feb-07, Thu,06:55	Clear	Rear end	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Mar-05, Tue,09:13	Clear	Sideswipe	P.D. only	Dry	South	Turning right	Truck - open	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Mar-07, Thu,07:15	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Apr-18, Thu,21:21	Clear	SMV other	Non-fatal injury	Wet	North	Changing lanes	Automobile, station wagon	Curb	0
2019-Apr-26, Fri,16:50	Rain	Rear end	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-May-10, Fri,11:55	Rain	Angle	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-May-13, Mon,13:35	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-May-13, Mon,14:22	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-May-15, Wed,06:42	Fog, mist, smoke, dust	Rear end	P.D. only	Dry	North	Turning right	Motorcycle	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-May-27, Mon,16:35	Clear	Other	P.D. only	Dry	South	Reversing	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	





# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jun-11, Tue,18:05	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jul-02, Tue,17:02	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jul-13, Sat,12:45	Clear	Rear end	P.D. only	Dry	South	Turning right	Passenger van	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jul-17, Wed,20:30	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-31, Wed,20:01	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Aug-14, Wed,17:20	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-21, Wed,16:00	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-22, Thu,06:40	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Oct-29, Tue,17:03	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Nov-22, Fri,18:59	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Dec-11, Wed,10:29	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Dec-20, Fri,08:25	Clear	Rear end	P.D. only	Dry	East	Stopped	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-12, Sun,11:36	Snow	Turning movement	P.D. only	Slush	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Feb-09, Sun,16:43	Clear	Sideswipe	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2020-Feb-26, Wed,15:44	Snow	Rear end	Non-fatal injury	Slush	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Apr-27, Mon,21:30	Clear	Rear end	P.D. only	Dry	South	Turning right	Unknown	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Jun-25, Thu,10:00	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2020-Aug-11, Tue,13:30	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Dec-13, Sun,12:33	Clear	Angle	Non-fatal injury	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2021-Jan-02, Sat,05:33	Snow	Rear end	P.D. only	Loose snow	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jan-26, Tue,18:20	Snow	Rear end	P.D. only	Loose snow	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2021-Apr-05, Mon,13:42	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017      To: December 31, 2021

**Location:** FALLOWFIELD RD @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 84

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2021-Jun-22, Tue,13:00	Clear	Rear end	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2021-Jul-07, Wed,15:00	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Jul-20, Tue,17:30	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2021-Aug-20, Fri,10:03	Clear	Rear end	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					South	Turning left	Passenger van	Other motor vehicle	
2021-Oct-04, Mon,15:30	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2021-Oct-04, Mon,16:48	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Truck - closed	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2021-Oct-14, Thu,14:00	Clear	Angle	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2021-Oct-17, Sun,18:08	Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2021-Oct-31, Sun,23:13	Clear	SMV other	Non-fatal injury	Wet	East	Turning left	Automobile, station wagon	Curb	0
2021-Dec-16, Thu,11:56	Clear	Turning movement	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	

**Location:** FALLOWFIELD RD btwn MERIVALE RD & WOODROFFE AVE

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
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# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** FALLOWFIELD RD btwn MERIVALE RD & WOODROFFE AVE

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Feb-04, Sat,14:20	Drifting Snow	Approaching	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Mar-19, Sun,23:32	Clear	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Ran off road	0
2017-May-13, Sat,23:10	Clear	Sideswipe	Non-fatal injury	Dry	West	Overtaking	Unknown	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2017-Dec-23, Sat,00:33	Clear	SMV other	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Pole (utility, power)	0
2018-Jan-23, Tue,01:24	Freezing Rain	SMV other	P.D. only	Ice	West	Going ahead	Automobile, station wagon	Ditch	0
2018-Feb-01, Thu,01:40	Clear	SMV other	P.D. only	Ice	West	Going ahead	Pick-up truck	Ditch	0
2018-Mar-08, Thu,18:28	Rain	SMV other	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Skidding/sliding	0
2018-May-07, Mon,22:09	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-30, Wed,18:44	Clear	SMV other	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Ran off road	0
2018-Sep-13, Thu,15:19	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-27, Wed,17:24	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-30, Sat,10:37	Freezing Rain	SMV other	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Ran off road	0
2019-Oct-26, Sat,04:19	Clear	SMV other	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Rollover	0
2019-Nov-28, Thu,00:44	Rain	SMV other	P.D. only	Wet	East	Going ahead	Pick-up truck	Ran off road	0
2019-Dec-08, Sun,22:09	Clear	SMV other	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Ran off road	0
2020-Jul-06, Mon,15:33	Clear	SMV other	Fatal injury	Dry	East	Going ahead	Automobile, station wagon	Ran off road	0
2020-Aug-10, Mon,06:43	Fog, mist, smoke, dust	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Ran off road	0



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017 To: December 31, 2021

**Location:** FALLOWFIELD RD btwn MERIVALE RD & WOODROFFE AVE

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2021-Jan-28, Thu,20:22	Clear	Rear end	P.D. only	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
2021-Dec-05, Sun,01:56	Snow	Sideswipe	P.D. only	Loose snow	East	Merging	Snow plow	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	

**Location:** LEIKIN DR @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Oct-31, Tue,14:34	Clear	Angle	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-02, Thu,09:04	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Pick-up truck	Ran off road	0

**Location:** LEIKIN DR @ RCMP ACCESS/150 N OF BILL LEATHEM DR

**Traffic Control:** Traffic signal

**Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Dec-19, Wed,14:55	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-15, Wed,07:57	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	

**Location:** LEIKIN DR btwn 150 N OF BILL LEATHEM DR & BECKSTEAD RD

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jan-05, Thu,13:50	Freezing Rain	Rear end	P.D. only	Ice	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** LEIKIN DR btwn 150 N OF BILL LEATHEM DR & BILL LEATHEM DR

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Jun-02, Tue,13:41	Rain	Other	P.D. only	Wet	South	Reversing	Truck - open	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

**Location:** LONGFIELDS DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-13, Fri,17:30	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Feb-07, Tue,16:42	Freezing Rain	SMV other	Non-fatal injury	Ice	West	Going ahead	Automobile, station wagon	Ran off road	0
2017-Feb-14, Tue,23:36	Snow	SMV other	P.D. only	Loose snow	North	Going ahead	Automobile, station wagon	Pole (sign, parking meter)	0
2017-Feb-17, Fri,11:29	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Mar-10, Fri,09:11	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-24, Fri,09:28	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-25, Sat,12:35	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jun-30, Fri,16:07	Rain	Rear end	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-27, Sun,12:02	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** LONGFIELDS DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Sep-27, Wed,15:05	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-30, Mon,11:50	Clear	Other	P.D. only	Wet	West	Reversing	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-21, Tue,16:31	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-24, Fri,16:29	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Making "U" turn	Pick-up truck	Other motor vehicle	
2017-Dec-15, Fri,19:44	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-25, Mon,13:30	Snow	SMV other	P.D. only	Packed snow	South	Turning right	Automobile, station wagon	Skidding/sliding	0
2018-Mar-06, Tue,12:31	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-09, Fri,20:18	Snow	Sideswipe	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-14, Sat,16:29	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Municipal transit bus	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2018-Sep-28, Fri,07:43	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,18:27	Snow	Turning movement	Non-fatal injury	Packed snow	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** LONGFIELDS DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Nov-30, Fri,17:06	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-10, Thu,18:21	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-26, Tue,20:54	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2019-Apr-19, Fri,14:15	Rain	Rear end	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-May-08, Wed,03:32	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Ran off road	0
2019-Jul-12, Fri,12:51	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-21, Sat,06:40	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Sep-26, Thu,08:13	Rain	Sideswipe	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2019-Nov-29, Fri,17:38	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jun-17, Wed,19:33	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2020-Jul-03, Fri,11:31	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Delivery van	Other motor vehicle	





# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017      To: December 31, 2021

**Location:** LONGFIELDS DR @ WOODROFFE AVE

**Traffic Control:** Traffic signal

**Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Aug-28, Fri,22:00	Clear	Rear end	P.D. only	Dry	South	Unknown	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Sep-04, Fri,14:45	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Bicycle	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Cyclist	
2020-Sep-15, Tue,07:20	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Pick-up truck	Other motor vehicle	
2020-Nov-18, Wed,07:20	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
					North	Stopped	Pick-up truck	Other motor vehicle	
2021-May-31, Mon,11:38	Clear	Angle	Non-fatal injury	Dry	East	Turning right	Pick-up truck	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2021-Jun-05, Sat,16:05	Clear	Sideswipe	Non-fatal injury	Dry	East	Going ahead	Motorcycle	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2021-Jul-23, Fri,19:15	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Pick-up truck	Other motor vehicle	
2021-Aug-09, Mon,09:57	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Nov-06, Sat,13:40	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	

**Location:** LONGFIELDS DR btwn WOODROFFE AVE & BILL LEATHEM DR

**Traffic Control:** No control

**Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
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# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017 To: December 31, 2021

**Location:** LONGFIELDS DR btwn WOODROFFE AVE & BILL LEATHEM DR

**Traffic Control:** No control

**Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jun-07, Thu,12:07	Clear	Approaching	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Dec-10, Thu,17:07	Clear	Approaching	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

**Location:** MERIVALE RD btwn BOYCREST ST & LEIKIN DR

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2021-Feb-14, Sun,04:10	Snow	Rear end	Non-fatal injury	Loose snow	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Snow plow	Other motor vehicle	

**Location:** MERIVALE RD btwn FALLOWFIELD RD & BOYCREST ST

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Aug-25, Sun,18:32	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

**Location:** MERIVALE RD btwn LEIKIN DR & BECKSTEAD RD

**Traffic Control:** No control

**Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Nov-30, Fri,19:00	Clear	Rear end	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Unknown	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** PRINCE OF WALES DR @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 35

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jan-20, Fri,14:50	Clear	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-06, Mon,22:55	Freezing Rain	SMV other	P.D. only	Ice	North	Turning left	Pick-up truck	Pole (utility, power)	0
2017-Apr-02, Sun,05:20	Fog, mist, smoke, dust	SMV other	P.D. only	Wet	South	Turning right	Automobile, station wagon	Ran off road	0
2017-Apr-04, Tue,14:43	Rain	Rear end	Non-fatal injury	Wet	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Apr-11, Tue,10:16	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2017-Jun-30, Fri,17:10	Rain	Rear end	P.D. only	Wet	North	Turning left	Delivery van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jul-26, Wed,12:59	Clear	SMV other	P.D. only	Dry	North	Turning left	Truck - closed	Pole (utility, power)	0
2017-Aug-25, Fri,09:51	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Truck - open	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Mar-31, Sat,15:57	Clear	Approaching	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-18, Mon,23:05	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-23, Sun,03:00	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2018-Nov-09, Fri,17:00	Snow	Sideswipe	P.D. only	Wet	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Truck - tank	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** PRINCE OF WALES DR @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 35

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Apr-11, Thu,00:00	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Apr-18, Thu,10:53	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-05, Wed,07:03	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-02, Tue,23:45	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	
2019-Sep-23, Mon,17:15	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Nov-25, Mon,21:00	Clear	Rear end	P.D. only	Dry	East	Going ahead	Delivery van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-16, Thu,05:34	Snow	SMV other	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Pole (utility, power)	0
2020-Feb-24, Mon,08:12	Clear	Rear end	P.D. only	Wet	East	Turning right	School bus	Other motor vehicle	0
					East	Turning right	Passenger van	Other motor vehicle	
2020-Mar-02, Mon,16:30	Clear	Angle	Non-fatal injury	Wet	East	Turning right	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Mar-16, Mon,12:27	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-May-28, Thu,12:46	Clear	Approaching	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jul-19, Sun,12:53	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Motorcycle	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** PRINCE OF WALES DR @ MERIVALE RD

**Traffic Control:** Traffic signal

**Total Collisions:** 35

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2020-Aug-18, Tue,16:10	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Sep-22, Tue,10:40	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2020-Sep-22, Tue,14:26	Clear	Turning movement	Non-fatal injury	Dry	South	Going ahead	Passenger van	Other motor vehicle	0
					North	Turning left	Truck - dump	Other motor vehicle	
2021-Jan-06, Wed,12:15	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2021-Jan-23, Sat,21:34	Clear	SMV other	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Ran off road	0
2021-Feb-25, Thu,09:28	Snow	Rear end	P.D. only	Loose snow	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2021-Mar-09, Tue,16:30	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Sep-17, Fri,15:27	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2021-Sep-17, Fri,21:19	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Nov-30, Tue,16:00	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2021-Dec-01, Wed,17:11	Clear	Turning movement	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** WOODROFFE AVE btwn EARL MULLIGAN DR & LONGFIELDS DR

**Traffic Control:** No control

**Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-May-02, Thu,15:50	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Oct-31, Thu,18:30	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-18, Mon,16:00	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Nov-24, Sun,09:35	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

**Location:** WOODROFFE AVE btwn FALLOWFIELD RD & EARL MULLIGAN DR

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-24, Fri,17:38	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Passenger van	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Jan-05, Fri,08:20	Clear	Rear end	P.D. only	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Jan-17, Wed,16:56	Clear	Turning movement	P.D. only	Wet	North	Turning left	Passenger van	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-17, Thu,16:58	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-18, Fri,16:30	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** WOODROFFE AVE btwn FALLOWFIELD RD & EARL MULLIGAN DR

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Oct-28, Sun,15:08	Clear	Sideswipe	P.D. only	Slush	South	Merging	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-05, Mon,16:59	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-22, Tue,08:04	Clear	Rear end	P.D. only	Packed snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Apr-13, Sat,23:00	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Pole (sign, parking meter)	0
2019-May-27, Mon,16:59	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-15, Mon,08:06	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Sep-30, Mon,17:52	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-04, Sat,03:49	Clear	SMV other	P.D. only	Wet	North	Turning left	Automobile, station wagon	Pole (sign, parking meter)	0
2020-Jul-08, Wed,11:01	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2020-Aug-31, Mon,08:59	Clear	Turning movement	P.D. only	Dry	North	Turning left	Passenger van	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	



# Transportation Services - Traffic Services

## Collision Details Report - Public Version

From: January 1, 2017

To: December 31, 2021

**Location:** WOODROFFE AVE btwn FALLOWFIELD RD & EARL MULLIGAN DR

**Traffic Control:** No control

**Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Dec-22, Tue,16:21	Clear	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2021-May-16, Sun,15:16	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2021-Jun-02, Wed,20:42	Clear	SMV other	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Pole (utility, power)	0
2021-Jul-13, Tue,13:30	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	



## **APPENDIX F**

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### Trip Generation Statistics

### Facility Trip Generation - 15 Minute Bin

Headcount			
Headcount - Day Shift	781		Local Jurisdiction Commuter Peak Periods
Headcount - Night Shift	781	AM	7:00 AM 9:00 AM
Headcount - Total	1562	PM	4:00 PM 6:00 PM

Shift Structure			
		Start	End
<b>Adjustment below accounts for mass transit and carpool users.</b>	Day Shift - Inbound Ops Employees	7:00 AM	5:30 PM
	Day Shift - Outbound Ops Employees	7:30 AM	6:00 PM
<b>Adjust as needed for jurisdiction</b>	Night Shift - Inbound Ops Employees	6:00 PM	4:30 AM
<b>Net Cars Factor:</b>	Night Shift - Outbound Ops Employees	6:30 PM	5:00 AM

### Traffic Schedule

Cars				Trucks				Total Vehicles			
Average Weekday				Average Weekday				Cars + Trucks Average Weekday			
Time	In	Out	Total	Time	In	Out	Total	In	Out	Total	
0:00	3	6	9	0:00	2	2	4	0:00	5	8	13
0:15	1	4	5	0:15	2	2	4	0:15	3	6	9
0:30	1	4	5	0:30	2	2	4	0:30	3	6	9
0:45	1	3	4	0:45	1	2	3	0:45	2	5	7
1:00	1	5	6	1:00	1	1	2	1:00	2	6	8
1:15	1	3	4	1:15	3	2	5	1:15	4	5	9
1:30	1	4	5	1:30	2	2	4	1:30	3	6	9
1:45	2	5	7	1:45	2	2	4	1:45	4	7	11
2:00	2	11	13	2:00	1	3	4	2:00	3	14	17
2:15	3	6	9	2:15	2	2	4	2:15	5	8	13
2:30	4	14	18	2:30	1	2	3	2:30	5	16	21
2:45	5	5	10	2:45	3	2	5	2:45	8	7	15
3:00	2	19	21	3:00	2	2	4	3:00	4	21	25
3:15	1	6	7	3:15	2	2	4	3:15	3	8	11
3:30	2	11	13	3:30	2	2	4	3:30	4	13	17
3:45	3	7	10	3:45	2	2	4	3:45	5	9	14
4:00	5	22	27	4:00	2	2	4	4:00	7	24	31
4:15	12	14	26	4:15	3	3	6	4:15	15	17	32
4:30	11	93	104	4:30	2	2	4	4:30	13	95	108
4:45	14	35	49	4:45	2	2	4	4:45	16	37	53
5:00	10	175	185	5:00	1	3	4	5:00	11	178	189
5:15	7	41	48	5:15	2	3	5	5:15	9	44	53
5:30	10	20	30	5:30	3	1	4	5:30	13	21	34
5:45	18	10	28	5:45	1	2	3	5:45	19	12	31
6:00	24	7	31	6:00	2	1	3	6:00	26	8	34
6:15	43	6	49	6:15	2	2	4	6:15	45	8	53
6:30	96	8	104	6:30	2	2	4	6:30	98	10	108
6:45	137	16	153	6:45	2	1	3	6:45	139	17	156
7:00	119	14	133	7:00	2	2	4	7:00	121	16	137
7:15	143	18	161	7:15	3	2	5	7:15	146	20	166
7:30	46	12	58	7:30	1	1	2	7:30	47	13	60
7:45	24	6	30	7:45	3	2	5	7:45	27	8	35
8:00	14	5	19	8:00	3	3	6	8:00	17	8	25
8:15	13	3	16	8:15	3	3	6	8:15	16	6	22
8:30	11	4	15	8:30	4	2	6	8:30	15	6	21
8:45	10	6	16	8:45	3	3	6	8:45	13	9	22
9:00	7	7	14	9:00	3	3	6	9:00	10	10	20
9:15	7	6	13	9:15	3	3	6	9:15	10	9	19
9:30	6	5	11	9:30	4	3	7	9:30	10	8	18
9:45	7	5	12	9:45	3	3	6	9:45	10	8	18
10:00	6	5	11	10:00	4	4	8	10:00	10	9	19
10:15	6	6	12	10:15	4	4	8	10:15	10	10	20
10:30	8	11	19	10:30	4	3	7	10:30	12	14	26
10:45	11	8	19	10:45	4	4	8	10:45	15	12	27
11:00	8	15	23	11:00	5	5	10	11:00	13	20	33
11:15	14	18	32	11:15	4	5	9	11:15	18	23	41
11:30	16	19	35	11:30	4	4	8	11:30	20	23	43
11:45	17	11	28	11:45	4	4	8	11:45	21	15	36

Morning Peak Hour of Generator:			
	6:30 AM	to	7:30 AM
	Enter	Exit	Total
Cars	495	56	551
Trucks	9	7	16
Total	504	63	567

Morning Peak Hour of Adjacent Street:			
	7:00 AM	to	8:00 AM
	Enter	Exit	Total
Cars	332	50	382
Trucks	9	7	16
Total	341	57	398

### Facility Trip Generation - 15 Minute Bin

Headcount			
Headcount - Day Shift	781		Local Jurisdiction Commuter Peak Periods
Headcount - Night Shift	781	AM	7:00 AM 9:00 AM
Headcount - Total	1562	PM	4:00 PM 6:00 PM

Shift Structure				
		Start	End	
Adjustment below accounts for mass transit and carpool users.	Day Shift - Inbound Ops Employees	7:00 AM	5:30 PM	*Inbound Ops Employees are Working Receiving Side of Operation
	Day Shift - Outbound Ops Employees	7:30 AM	6:00 PM	*Outbound Ops Employees are Working Shipping Side of Operation
Adjust as needed for jurisdiction	Night Shift - Inbound Ops Employees	6:00 PM	4:30 AM	
Net Cars Factor:	Night Shift - Outbound Ops Employees	6:30 PM	5:00 AM	

Cars				Trucks				Total Vehicles			
Average Weekday				Average Weekday				Cars + Trucks Average Weekday			
Time	In	Out	Total	Time	In	Out	Total	In	Out	Total	
12:00	10	12	22	12:00	3	4	7	12:00	13	16	29
12:15	10	9	19	12:15	2	3	5	12:15	12	12	24
12:30	10	17	27	12:30	3	3	6	12:30	13	20	33
12:45	11	9	20	12:45	3	3	6	12:45	14	12	26
13:00	7	11	18	13:00	3	3	6	13:00	10	14	24
13:15	5	9	14	13:15	3	4	7	13:15	8	13	21
13:30	6	9	15	13:30	4	3	7	13:30	10	12	22
13:45	6	7	13	13:45	3	3	6	13:45	9	10	19
14:00	6	11	17	14:00	4	4	8	14:00	10	15	25
14:15	5	8	13	14:15	4	3	7	14:15	9	11	20
14:30	7	12	19	14:30	5	4	9	14:30	12	16	28
14:45	9	11	20	14:45	4	3	7	14:45	13	14	27
15:00	10	23	33	15:00	3	4	7	15:00	13	27	40
15:15	9	18	27	15:15	3	5	8	15:15	12	23	35
15:30	8	20	28	15:30	5	2	7	15:30	13	22	35
15:45	9	10	19	15:45	2	4	6	15:45	11	14	25
16:00	8	25	33	16:00	3	3	6	16:00	11	28	39
16:15	10	11	21	16:15	4	3	7	16:15	14	14	28
16:30	13	24	37	16:30	3	3	6	16:30	16	27	43
16:45	16	13	29	16:45	2	4	6	16:45	18	17	35
17:00	26	28	54	17:00	4	4	8	17:00	30	32	62
17:15	48	28	76	17:15	3	4	7	17:15	51	32	83
17:30	81	130	211	17:30	3	3	6	17:30	84	133	217
17:45	112	57	169	17:45	3	3	6	17:45	115	60	175
18:00	103	226	329	18:00	2	4	6	18:00	105	230	335
18:15	110	66	176	18:15	2	3	5	18:15	112	69	181
18:30	35	31	66	18:30	2	2	4	18:30	37	33	70
18:45	13	13	26	18:45	2	2	4	18:45	15	15	30
19:00	8	12	20	19:00	2	2	4	19:00	10	14	24
19:15	6	8	14	19:15	2	1	3	19:15	8	9	17
19:30	5	6	11	19:30	2	1	3	19:30	7	7	14
19:45	5	3	8	19:45	2	1	3	19:45	7	4	11
20:00	4	4	8	20:00	2	2	4	20:00	6	6	12
20:15	4	3	7	20:15	4	2	6	20:15	8	5	13
20:30	4	4	8	20:30	2	2	4	20:30	6	6	12
20:45	5	2	7	20:45	2	2	4	20:45	7	4	11
21:00	4	4	8	21:00	2	3	5	21:00	6	7	13
21:15	4	5	9	21:15	2	2	4	21:15	6	7	13
21:30	4	8	12	21:30	2	1	3	21:30	6	9	15
21:45	8	6	14	21:45	2	2	4	21:45	10	8	18
22:00	7	11	18	22:00	1	3	4	22:00	8	14	22
22:15	12	16	28	22:15	3	2	5	22:15	15	18	33
22:30	12	11	23	22:30	1	2	3	22:30	13	13	26
22:45	8	8	16	22:45	2	2	4	22:45	10	10	20
23:00	5	10	15	23:00	3	2	5	23:00	8	12	20
23:15	4	5	9	23:15	3	2	5	23:15	7	7	14
23:30	2	10	12	23:30	2	3	5	23:30	4	13	17
23:45	3	4	7	23:45	2	2	4	23:45	5	6	11
<b>Total</b>	<b>1,730</b>	<b>1,732</b>	<b>3,462</b>	<b>Total</b>	<b>252</b>	<b>251</b>	<b>503</b>	<b>Total</b>	<b>1,982</b>	<b>1,983</b>	<b>3,965</b>

Notes:  
 Cells in Green can be edited by the user  
 Net Cars Factor should be adjusted to reflect local conditions; national data reflects an average reduction of 19%  
 Daily trip rates and 15-min distribution percentages developed from site surveys at five (5) existing facilities over two (2) to three (3) continuous weekdays.  
 The Trip Generation methodology used to develop the presented daily rates is consistent with best practices outlined by the Institute for Transportation Engineers (ITE)  
 Due to rounding 15-min trip calculations over a 24hr period; daily totals shown above may differ slightly from calculated daily trip rates

Evening Peak Hour of Adjacent Street:			
	5:00 PM	to	6:00 PM
	Enter	Exit	Total
Cars	267	243	510
Trucks	13	14	27
<b>Total</b>	<b>280</b>	<b>257</b>	<b>537</b>

Evening Peak Hour of Generator:			
	5:30 PM	to	6:30 PM
	Enter	Exit	Total
Cars	406	479	885
Trucks	10	13	23
<b>Total</b>	<b>416</b>	<b>492</b>	<b>908</b>

## Facility Trip Generation - 60 Minute Bin

Headcount					
Headcount - Day Shift	781		Local Jurisdiction Commuter Peak Periods		
Headcount - Night Shift	781		AM	7:00 AM	9:00 AM
Headcount - Total	1562		PM	4:00 PM	6:00 PM

Shift Structure					
		Start	End		
Adjustment below accounts for mass transit and carpool users.	Day Shift - Inbound Ops Employees	7:00 AM	5:30 PM	*Inbound Ops Employees are Working Receiving Side of Operation	
	Day Shift - Outbound Ops Employees	7:30 AM	6:00 PM	*Outbound Ops Employees are Working Shipping Side of Operation	
Adjust as needed for jurisdiction	Night Shift - Inbound Ops Employees	6:00 PM	4:30 AM		
Net Cars Factor:	81%	Night Shift - Outbound Ops Employees	6:30 PM	5:00 AM	

### Traffic Schedule

Cars				Trucks				Total Vehicles			
Average Weekday				Average Weekday				Cars + Trucks Average Weekday			
Time	In	Out	Total	Time	In	Out	Total	Time	In	Out	Total
0:00	6	17	23	0:00	7	8	15	0:00	13	25	38
1:00	5	17	22	1:00	8	7	15	1:00	13	24	37
2:00	14	36	50	2:00	7	9	16	2:00	21	45	66
3:00	8	43	51	3:00	8	8	16	3:00	16	51	67
4:00	42	164	206	4:00	9	9	18	4:00	51	173	224
5:00	45	246	291	5:00	7	9	16	5:00	52	255	307
6:00	300	37	337	6:00	8	6	14	6:00	308	43	351
7:00	332	50	382	7:00	9	7	16	7:00	341	57	398
8:00	48	18	66	8:00	13	11	24	8:00	61	29	90
9:00	27	23	50	9:00	13	12	25	9:00	40	35	75
10:00	31	30	61	10:00	16	15	31	10:00	47	45	92
11:00	55	63	118	11:00	17	18	35	11:00	72	81	153
12:00	41	47	88	12:00	11	13	24	12:00	52	60	112
13:00	24	36	60	13:00	13	13	26	13:00	37	49	86
14:00	27	42	69	14:00	17	14	31	14:00	44	56	100
15:00	36	71	107	15:00	13	15	28	15:00	49	86	135
16:00	47	73	120	16:00	12	13	25	16:00	59	86	145
17:00	267	243	510	17:00	13	14	27	17:00	280	257	537
18:00	261	336	597	18:00	8	11	19	18:00	269	347	616
19:00	24	29	53	19:00	8	5	13	19:00	32	34	66
20:00	17	13	30	20:00	10	8	18	20:00	27	21	48
21:00	20	23	43	21:00	8	8	16	21:00	28	31	59
22:00	39	46	85	22:00	7	9	16	22:00	46	55	101
23:00	14	29	43	23:00	10	9	19	23:00	24	38	62
Total	1,730	1,732	3,462	Total	252	251	503	Total	1,982	1,983	3,965

Morning Peak Hour of Generator: 6:30 AM to 7:30 AM			
	Enter	Exit	Total
Cars	495	56	551
Trucks	9	7	16
Total	504	63	567

Morning Peak Hour of Adjacent Street: 7:00 AM to 8:00 AM			
	Enter	Exit	Total
Cars	332	50	382
Trucks	9	7	16
Total	341	57	398

Evening Peak Hour of Adjacent Street: 5:00 PM to 6:00 PM			
	Enter	Exit	Total
Cars	267	243	510
Trucks	13	14	27
Total	280	257	537

Evening Peak Hour of Generator: 5:30 PM to 6:30 PM			
	Enter	Exit	Total
Cars	406	479	885
Trucks	10	13	23
Total	416	492	908

**Notes:**

Update 15-Min Sheet to update values in grey

Net Cars Factor should be adjusted to reflect local conditions; national data reflects an average reduction of 19%

Daily trip rates and 15-min distribution percentages developed from site surveys at five (5) existing facilities over two (2) to three (3) continuous weekdays.

The Trip Generation methodology used to develop the presented daily rates is consistent with best practices outlined by the Institute for Transportation Engineers (ITE)

Due to rounding 15-min trip calculations over a 24hr period; daily totals shown above may differ slightly from calculated daily trip rates

## **APPENDIX G**

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Strategic Long-Range Model and Intersection Traffic Growth Rates

# TRANS Regional Model

Version 2.18 - Assigned February 15, 2021

## AM Peak Hour Total Traffic Volume

### South Merivale

2011 Model

User Initials: AJ

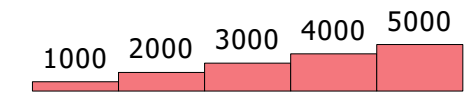
Plot Prepared: August 14, 2024

EMME Scenario: 21713

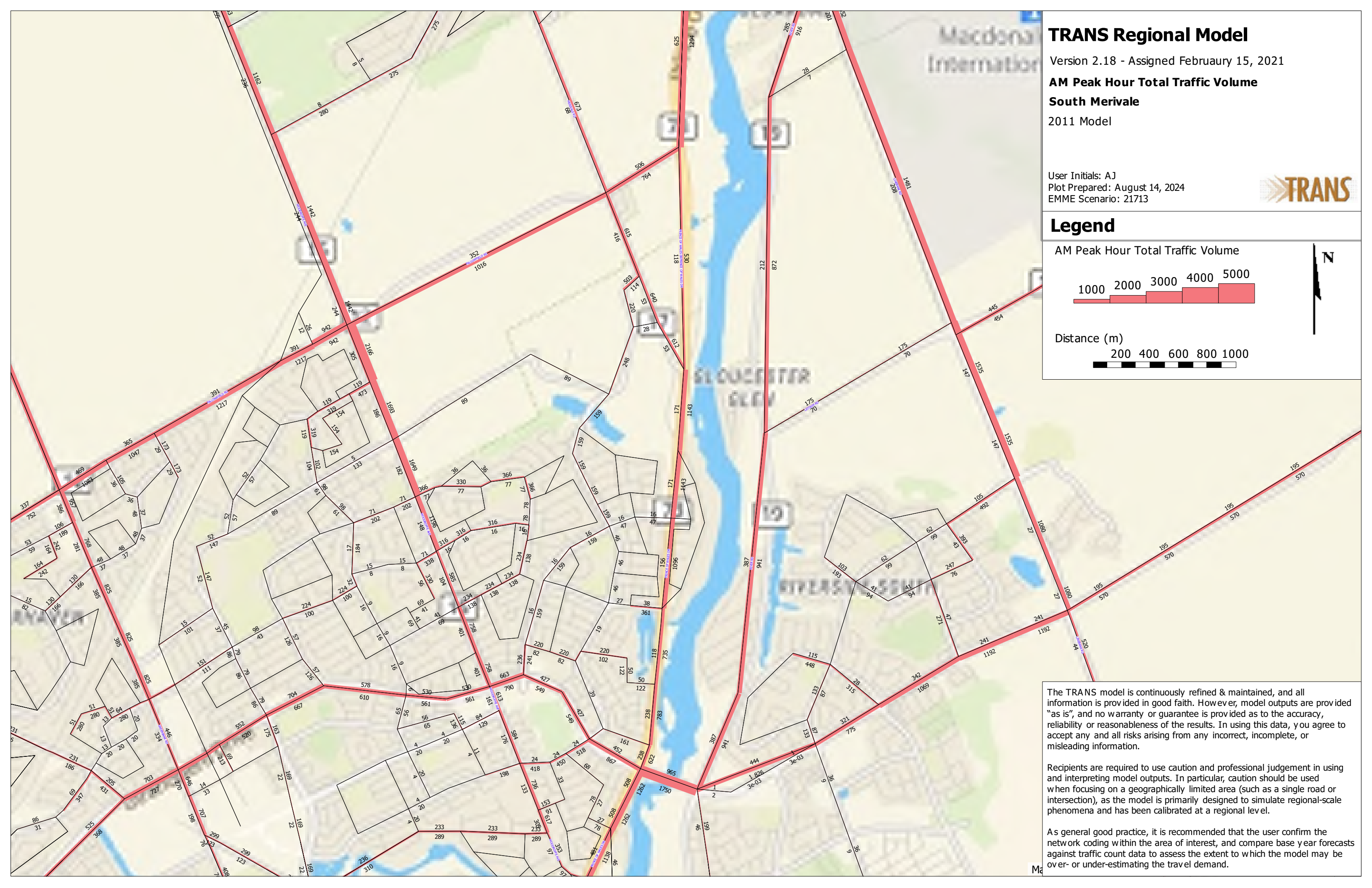
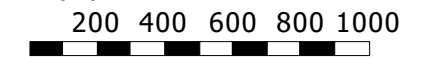


## Legend

AM Peak Hour Total Traffic Volume



Distance (m)



The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As a general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.

# TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

## AM Peak Hour Total Traffic Volume

### South Merivale

2031 Model

User Initials: AJ

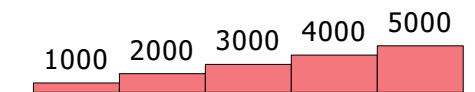
Plot Prepared: August 14, 2024

EMME Scenario: 22911

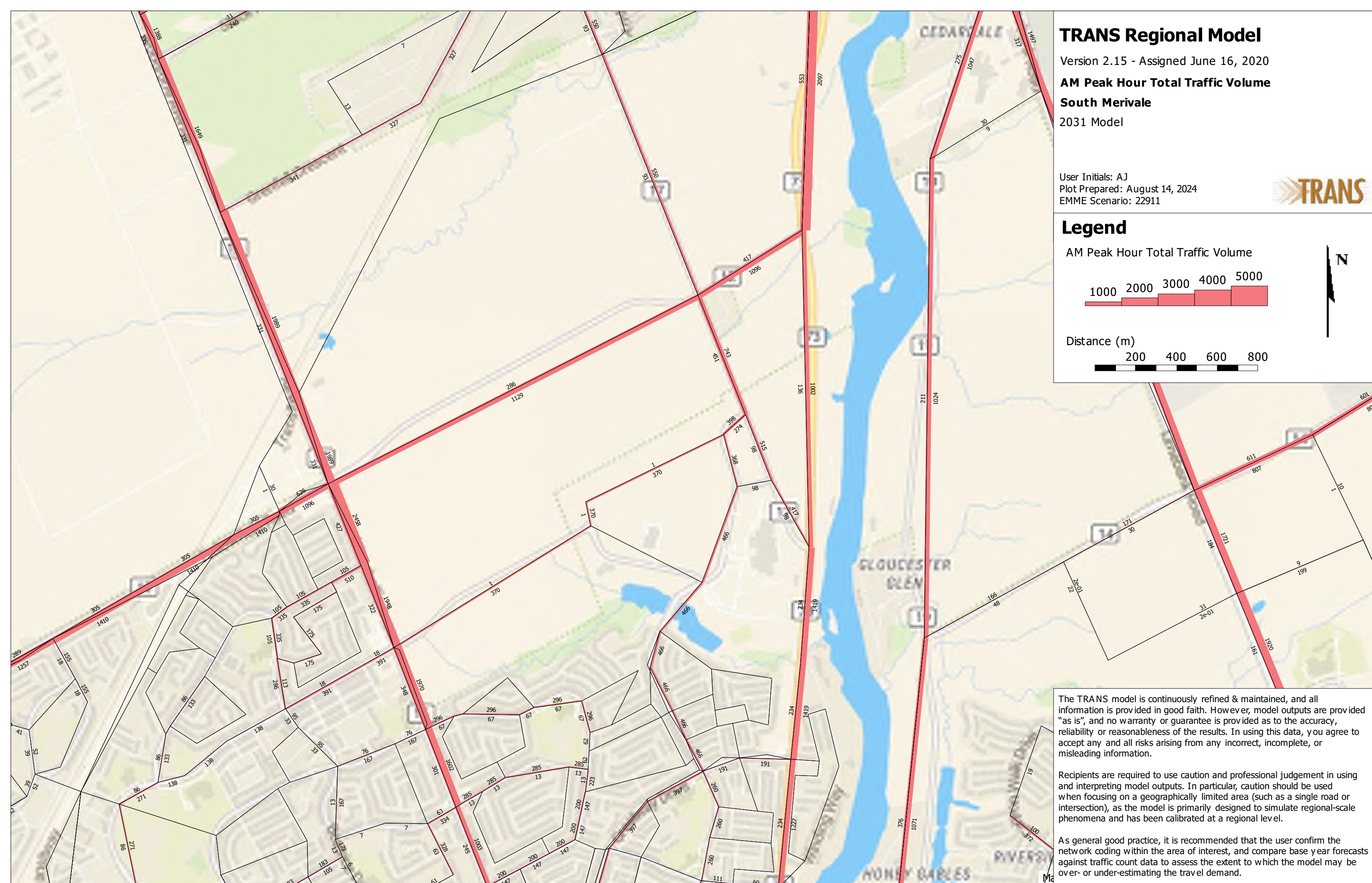


## Legend

AM Peak Hour Total Traffic Volume



Distance (m)



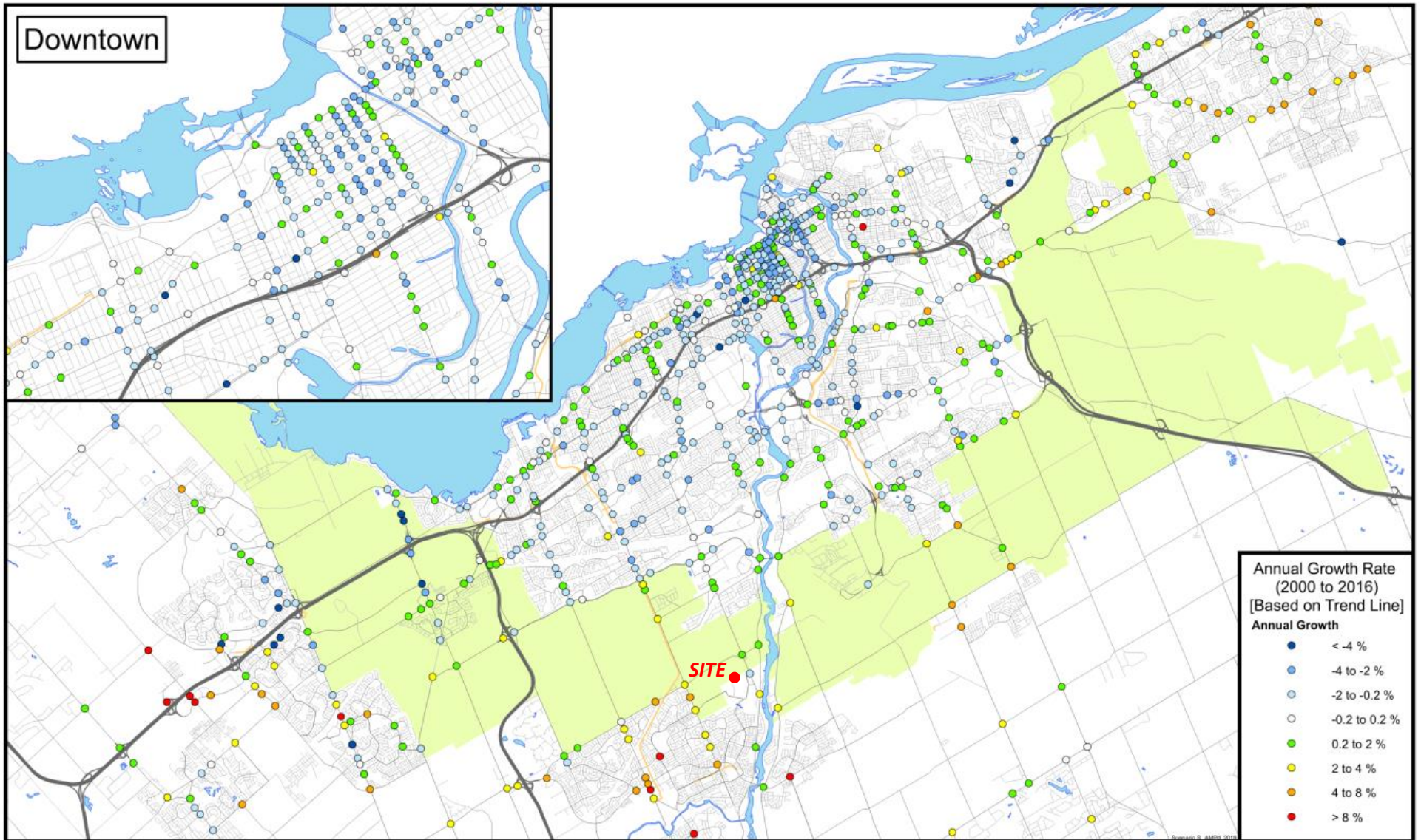
The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.

# INTERSECTION TRAFFIC GROWTH RATE, AM PEAK PERIOD

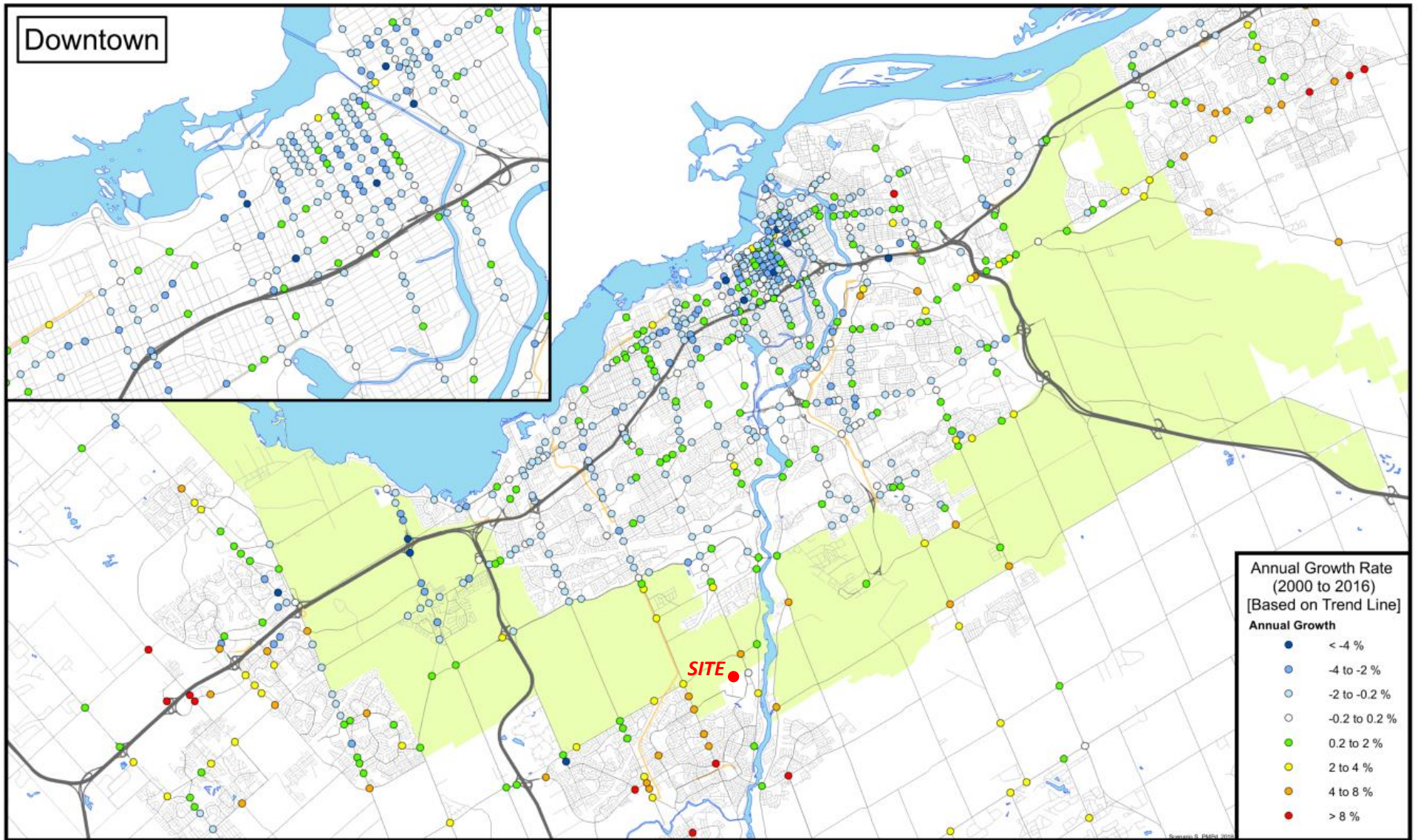
Total Vehicular Volume Entering the Intersection, 2000 to 2016





# INTERSECTION TRAFFIC GROWTH RATE, PM PEAK PERIOD

Total Vehicular Volume Entering the Intersection, 2000 to 2016



## **APPENDIX H**

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Other Area Developments

Figure 6: Existing Pedestrian Volumes

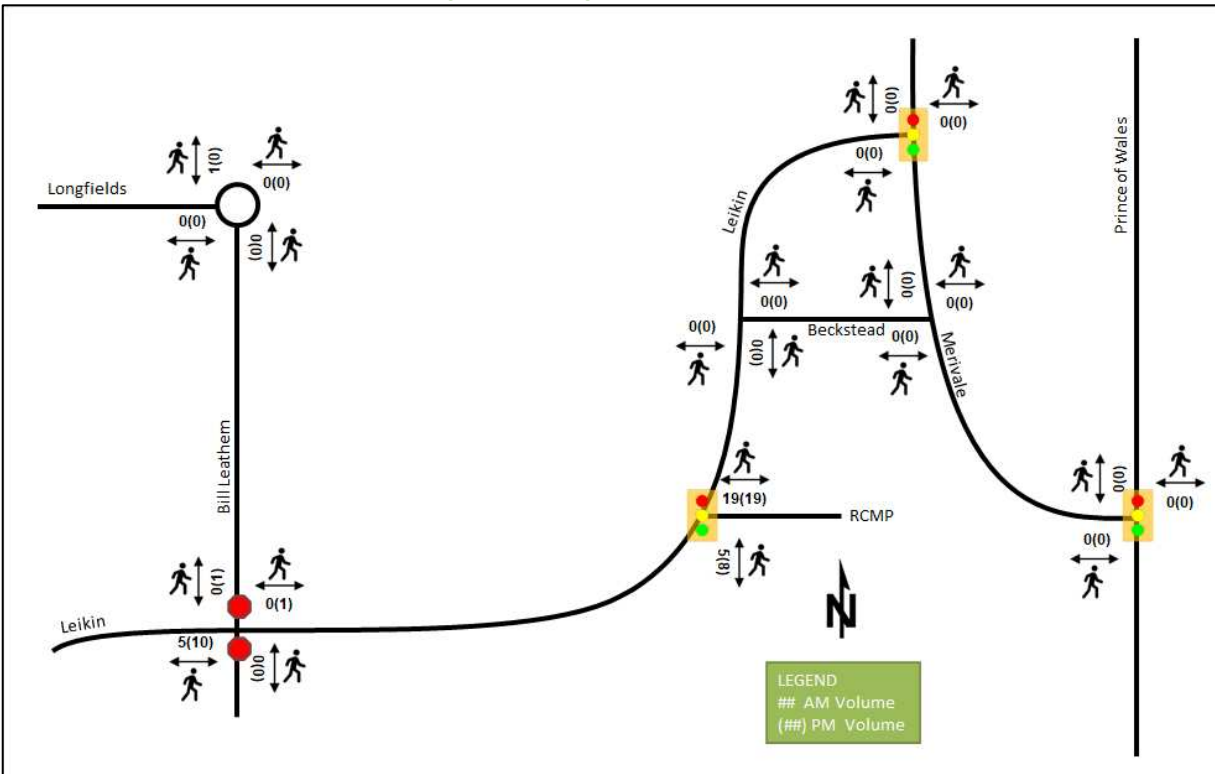
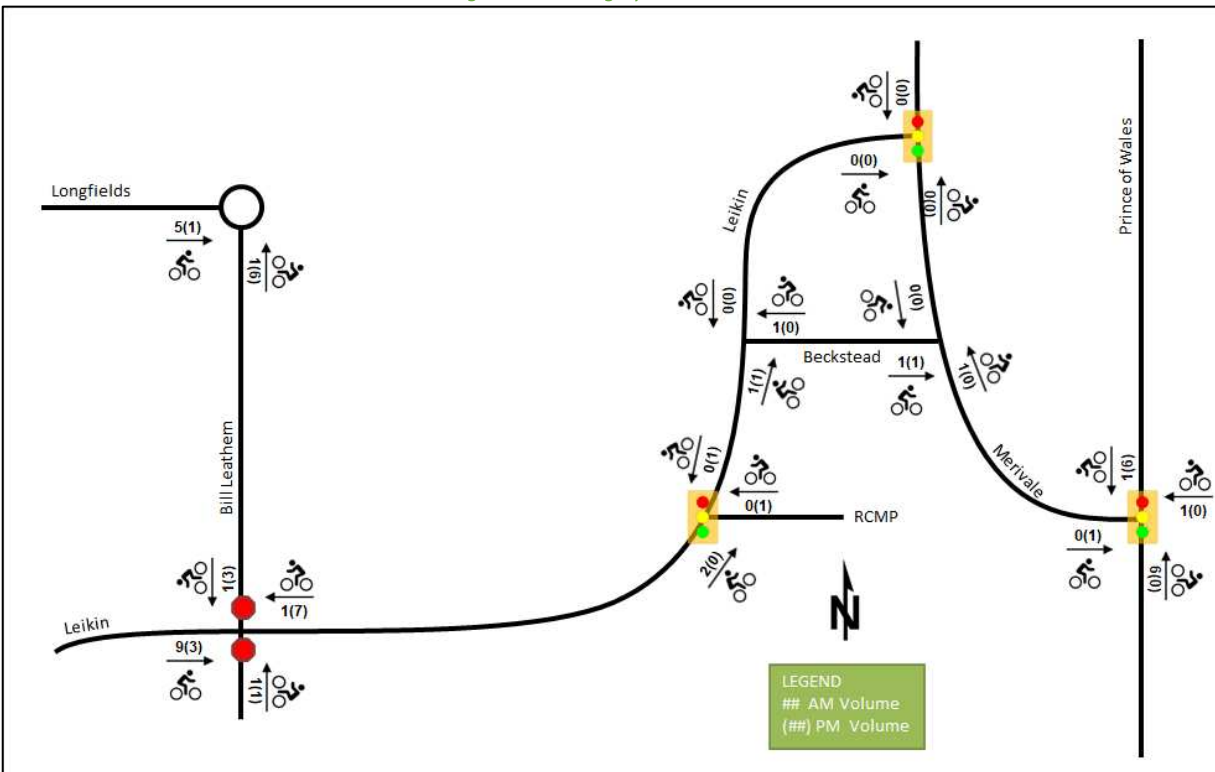


Figure 7: Existing Cyclist Volumes



intersection for site access. Detailed turning movement count data is included in Appendix B and the Synchro worksheets are provided in Appendix C.

Figure 10: Existing Traffic Counts

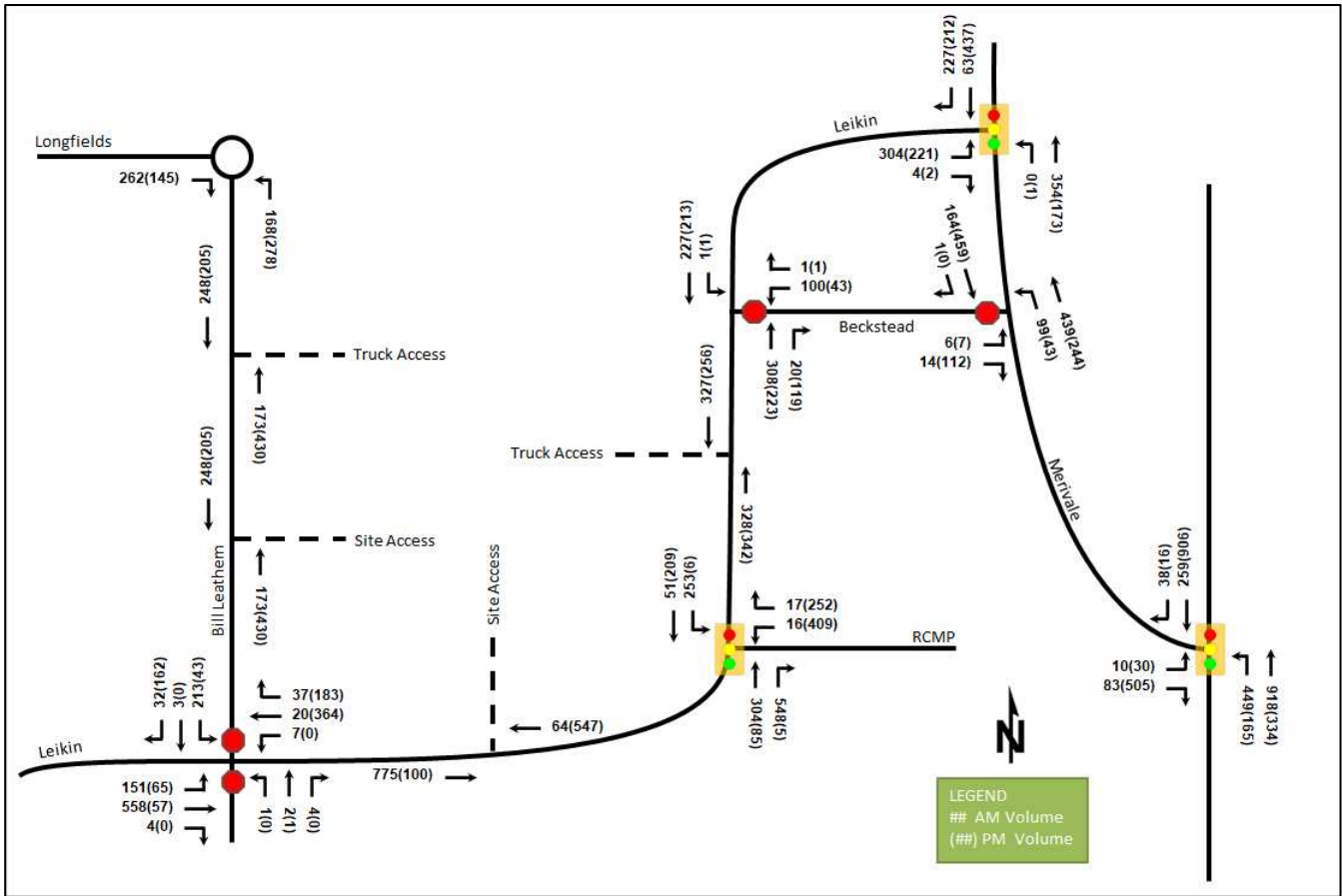


Table 2: Existing Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay (s)	Q (95 <sup>th</sup> )	LOS	V/C	Delay (s)	Q (95 <sup>th</sup> )
Merivale Rd & Leikin Dr <i>Signalized</i>	EBL	D	0.86	56.8	#113.0	B	0.67	34.1	55.0
	EBR	A	0.01	18.8	2.7	A	0.01	15.5	1.5
	NBL	-	-	-	-	A	0.00	9.0	0.9
	NBT	A	0.36	10.7	61.7	A	0.20	9.2	30.1
	SBT	A	0.08	8.6	12.3	A	0.48	12.0	83.1
	SBR	A	0.25	1.9	10.0	A	0.24	2.3	11.0
	<b>Overall</b>	<b>A</b>	<b>0.50</b>	<b>23.2</b>	-	<b>A</b>	<b>0.53</b>	<b>14.2</b>	-
Leikin Dr & Beckstead Rd <i>Unsignalized</i>	WBL	C	0.24	15.3	6.8	B	0.10	13.1	2.3
	WBR	B	0.00	10.2	0.0	B	0.00	10.0	0.0
	NBT/R	-	-	-	-	-	-	-	-
	SBL	A	0.00	8.0	0.0	A	0.00	8.1	0.0
	SBT	-	-	-	-	-	-	-	-
	<b>Overall</b>	<b>A</b>	-	<b>2.3</b>	-	<b>A</b>	-	<b>1.0</b>	-

Figure 13: New Site Generation Employee Auto Volumes

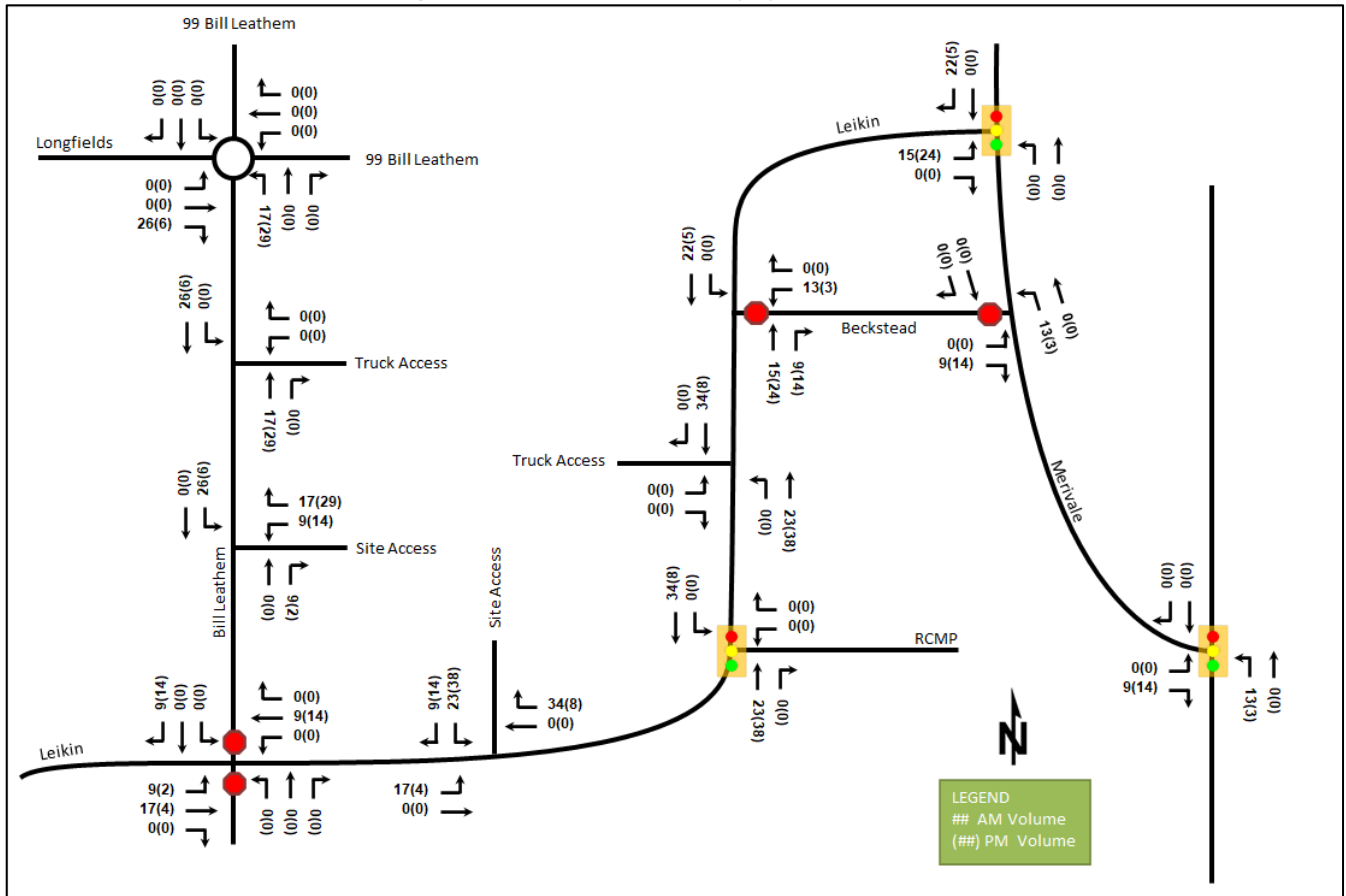
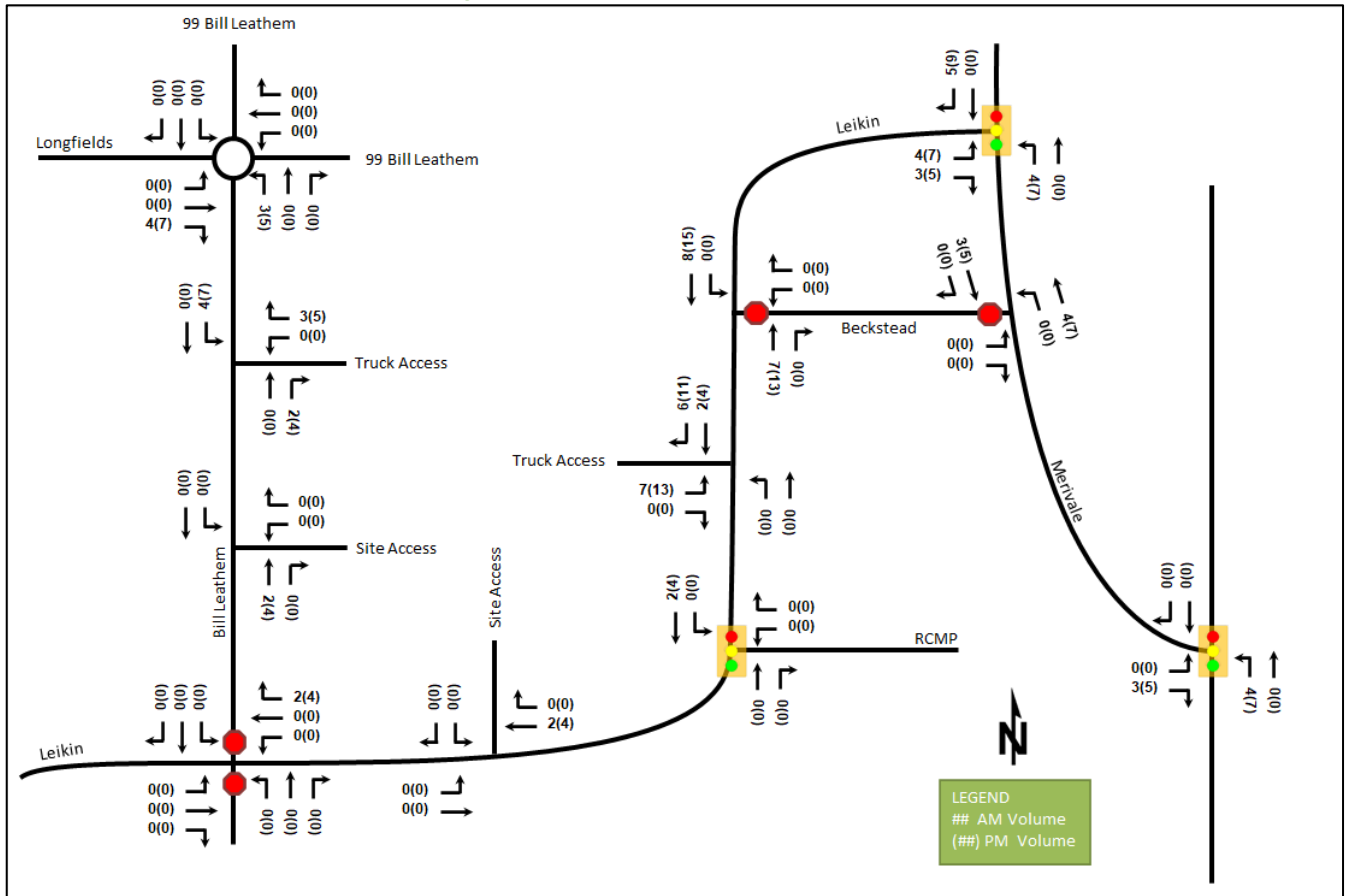


Figure 14: New Site Generation Truck Volumes



## 6 Background Network Travel Demands

### 6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. As previously noted, the north and east legs of the roundabout intersection of Bill Leatham Drive at Leikin Drive will be constructed and serve as site accesses for the proposed 99 Bill Leatham Drive, 2-20 Leikin Drive development. These approaches are understood to consist of a single shared all-movements lane, and no changes to area traffic beyond the volumes introduced at the site accesses are anticipated.

### 6.2 Background Growth

A review of the background projections from the City’s TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for the study area roads.

All growth on Longfields Drive, Bill Leatham Drive, and Leikin Drive is assumed to be associated with future development within this area which can explicitly be accounted for by incorporated forecasted volumes from area traffic studies.

The background TRANS model growth rates for Merivale Road and Prince of Wales Drive are summarized in Table 12 and the TRANS model plots are provided in Appendix G.

## 4. Demand Forecasting

### 4.1 Site Trip Generation – Phase 1

The proposed Phase 1 development will consist of an approximate 7,000 ft<sup>2</sup> (GFA) church. The appropriate trip generation rates for the proposed land use were obtained from the 9<sup>th</sup> Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual, which are summarized in Table 2. Given the church land use does not generate high vehicle volumes during the weekdays, the Sunday peak hour trip generation rates are also provided.

**Table 2: ITE Trip Generation Rates**

Land Use	Data Source	Trip Rates		
		AM Peak	PM Peak	SUN Peak
Church	ITE 560	$T = 0.56 (X)$	$T = 0.55(X);$ $T = 0.34(X) + 5.24$	$T = 12.04 (X);$ $T = 9.48(X) + 82.08$
Notes: $T$ = Average Vehicle Trip Ends $X$ = 1000 ft <sup>2</sup> Gross Floor Area				

Using the above noted trip generation rates for the weekday morning, afternoon and Sunday peak hours, and assuming minimal non-auto modes, the following Table 3 summarizes the Phase 1 site trip generation.

**Table 3: Phase 1 Site Generated Vehicle Trip Generation**

Land Use	Area	AM Peak (veh/h)			PM Peak (veh/h)			SUN Peak (veh/h)		
		In	Out	Total	In	Out	Total	In	Out	Total
Church	7,060 ft <sup>2</sup>	2	2	4	3	5	8	73	76	149

As shown in Table 3, the resulting number of potential ‘new’ two-way vehicle trips generated by Phase 1 of the proposed development during the weekday peak hours is approximately 4 to 8 veh/h. As this amount of vehicle traffic is considered negligible, further weekday peak hour traffic analysis is not required. The projected vehicle traffic travelling to/from the proposed Phase 1 development on a Sunday during the church’s peak hour is approximately 150 veh/h, which has little impact given it is off peak for the roadway network.

### 4.2 Site Trip Generation – Phase 2

As mentioned previously, Phase 2 of the development will consist of an approximate 4,000 ft<sup>2</sup> expansion of the church (total of 11,055 ft<sup>2</sup>). As such, the increased GFA could result in an increase in vehicle trips generated by the site as there will be more seating in the church. The following Table 4 summarizes the Phase 2 site trip generation based on the above-noted vehicle trip generation rates and the expansion of the church GFA.

**Table 4: Phase 2 Site Generated Vehicle Trip Generation**

Land Use	Area	AM Peak (veh/h)			PM Peak (veh/h)			SUN Peak (veh/h)		
		In	Out	Total	In	Out	Total	In	Out	Total
Church	11,055 ft <sup>2</sup>	3	3	6	4	5	9	91	96	187

As shown in Table 4, the total projected vehicle traffic travelling to/from the proposed Phase 2 development on a Sunday during the peak hour is approximately 190 veh/h. Similarly, this has very little impact to the roadway network.

### 4.3 Traffic Distribution and Assignment

The following assumed traffic distribution was based the site’s local context and our knowledge of the surrounding area:

- 40% to/from the south;
- 30% to/from the west;
- 20% to/from the southeast; and
- 10% to/from the northeast.

The Phase 1 ‘new’ site-generated Sunday peak hour vehicle trips assigned to the proposed driveway connections and to the study area network are illustrated as Figure 8.

**Figure 8: ‘New’ Phase 1 Site-Generated Traffic Volumes**

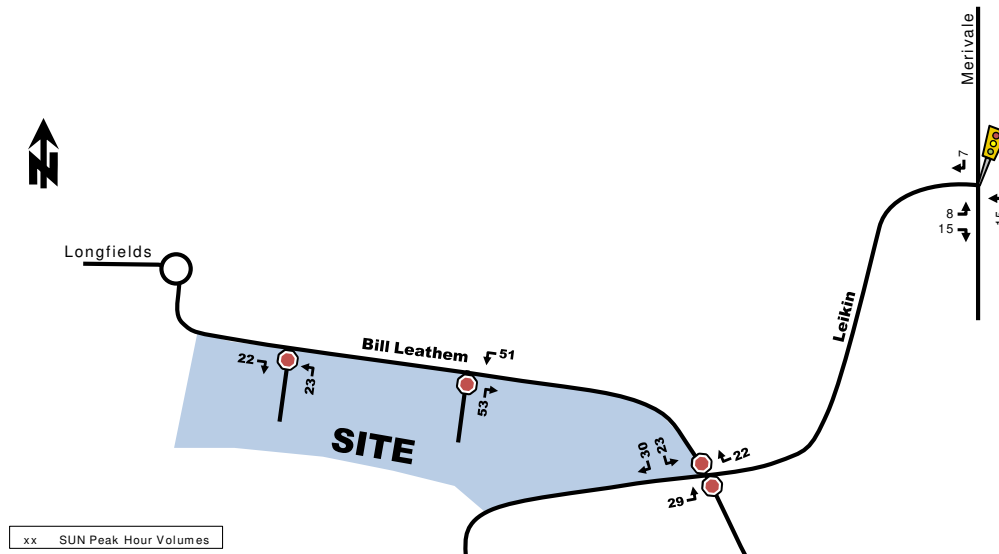
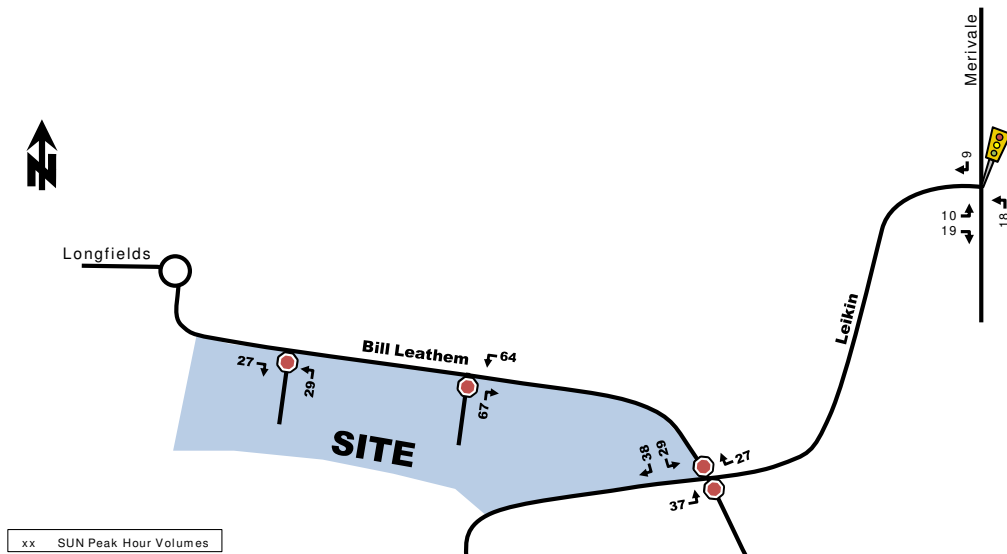


Figure 9 illustrates the proposed Phase 2 ‘new’ site-generated Sunday peak hour vehicle trips assigned to the proposed driveway connections and to the study area network.

**Figure 9: ‘New’ Phase 2 Site-Generated Traffic Volumes**





## **APPENDIX I**

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### Signal Timing Plans

## Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

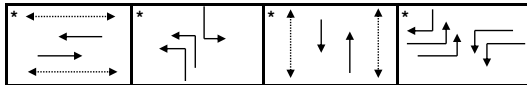
<b>Intersection:</b>	<u>Main: Fallowfield</u>	<b>Side:</b>	<u>Woodroffe</u>
<b>Controller:</b>	<u>ATC 3</u>	<b>TSD:</b>	<u>5531</u>
<b>Author:</b>	<u>Hamadoun Issabre</u>	<b>Date:</b>	<u>05-Sep-2024</u>

### Existing Timing Plans<sup>†</sup>

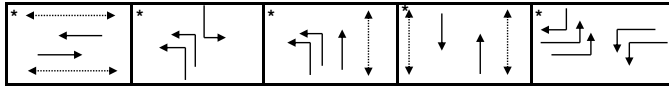
Plan	Ped Minimum Time								Walk	DW	A+R
	Off Peak 2	Night 4	Weekend 5	AM 1 11	AM 2 31	AM 3 32	PM Peak 23	PM Rush 25			
<b>Cycle</b>	Free	Free	Free	Free	150	150	Free	Free			
<b>Offset</b>	X	X	X	X	150	150	X	X			
<b>EB Thru</b>	max=39.8	max=39.8	max=39.8	max=39.8	55	60	max=39.8	max=36.8	7	26	4.6+2.2
<b>WB Thru</b>	max=39.8	max=39.8	max=39.8	max=39.8	40	40	max=39.8	max=36.8	7	26	4.6+2.2
<b>NB Left (fp)</b>	max=21.8	max=21.8	max=18.8	max=42.8	21	21	max=19.8	max=21.8	-	-	4.6+2.2
<b>SB Left (fp)</b>	max=16.8	max=21.8	max=18.8	max=32.8	12	12	max=16.8	max=16.8	-	-	4.6+2.2
<b>NB Thru</b>	max=36.8	max=36.8	max=36.8	max=85.8	66	60	max=36.8	max=66.8	7	23	4.6+2.2
<b>SB Thru</b>	max=36.8	max=36.8	max=36.8	max=36.8	37	37	max=71.8	max=91.8	7	23	4.6+2.2
<b>NB Left (fp)</b>	-	-	-	-	20	14	-	-	-	-	4.6+2.2
<b>WB Left (fp)</b>	max=21.8	max=20.8	max=17.8	max=32.8	17	18	max=36.8	max=36.8	-	-	4.6+2.2
<b>EB Left (fp)</b>	max=21.8	max=20.8	max=17.8	max=32.8	32	38	max=16.8	max=16.8	-	-	4.6+2.2
<b>SB Right</b>	max=21.8	max=20.8	max=17.8	max=32.8	32	38	max=16.8	max=16.8	-	-	4.6+2.2

### Phasing Sequence<sup>‡</sup>

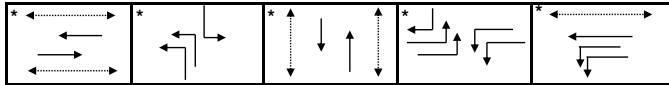
**Plan: 4 & 5**



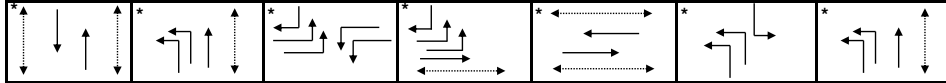
**Plan: 2 & 11**



**Plan: 23 & 25**



**Plan: 31 & 32**



- Notes:**
- 1) In all plans, there is a minimum recall for NS Thru and EW Thru of 10 seconds green.
  - 2) For plans 31 and 32, the NS Thru phases are the coordinated phases
  - 3) For plans 31 and 32; if the EW pedestrian movements are not actuated; the EW Thru movements will force off after 15 seconds.

### Schedule

Weekday		Weekend	
Time	Plan	Time	Plan
0:10	4	0:10	4
6:30	11	8:30	5
7:00	31	22:30	4
7:40	32		
8:30	31		
9:00	11		
9:30	2		
15:00	23		
16:00	25		
17:30	23		
18:30	2		
22:30	4		

### Notes

- †: Time for each direction includes amber and all red intervals  
‡: Start of first phase should be used as reference point for offset  
Asterisk (\*) Indicates actuated phase  
(fp): Fully Protected Left Turn  
◀.....▶ Pedestrian signal

Cost is \$62.38 (\$55.20 + HST)

# Traffic Signal Timing

City of Ottawa, Public Works Department

## Traffic Signal Operations Unit

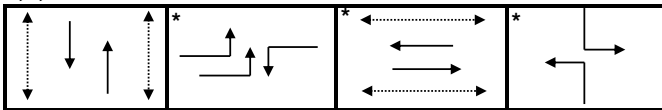
<b>Intersection:</b>	<i>Main:</i> Woodroffe	<i>Side:</i> Longfields
<b>Controller:</b>	<b>ATC 3</b>	<b>TSD: 6543</b>
<b>Author:</b>	Hamadoun Issabre	<b>Date:</b> 05-Sep-2024

### Existing Timing Plans†

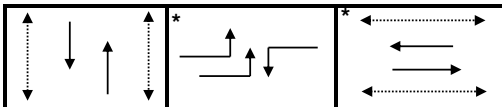
	Plan						Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	AM Heavy 11	Walk	DW	A+R
<b>Cycle</b>	110	105	115	90	90	130			
<b>Offset</b>	80	69	92	X	72	48			
NB Thru	42	41	46	35	37	55	7	18	4.6+1.9
SB Thru	42	41	46	35	37	55	7	18	4.6+1.9
EB Left (fp)	18	14	16	17	15	24	-	-	3.3+3.4
WB Left (fp)	18	14	16	17	15	24	-	-	3.3+3.4
EB Thru	38	38	38	38	38	38	7	24	3.3+3.4
WB Thru	38	38	38	38	38	38	7	24	3.3+3.4
SB Left	12	12	15	-	-	13	-	-	4.6+1.9
NB Left	12	12	15	-	-	13	-	-	4.6+1.9

### Phasing Sequence‡

Plan: 1, 2, 3 & 11



Plan: 4 & 5



### Schedule

#### Weekday

Time	Plan
0:15	4
6:00	1
7:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:30	4

#### Weekend

Time	Plan
0:15	4
8:30	5
22:30	4

### Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (\*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄.....► Pedestrian signal

Cost is \$62.38 (\$55.20 + HST)

# Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

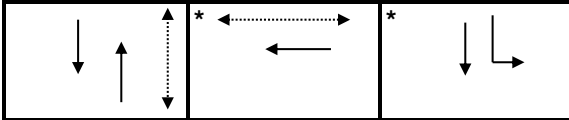
<b>Intersection:</b>	<u>Main:</u> Leikin	<b>Side:</b>	<u>150m N of Bill Leatham</u>
<b>Controller:</b>	<u>ATC 3</u>	<b>TSD:</b>	<u>6754</u>
<b>Author:</b>	<u>Hamadoun Issabre</u>	<b>Date:</b>	<u>06-Sep-2024</u>

## Existing Timing Plans†

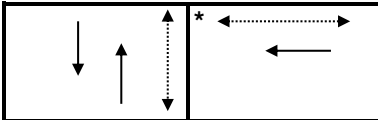
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
<b>Cycle</b>	100	90	120	65	100			
<b>Offset</b>	X	X	X	X	X			
<b>NB Thru</b>	37	34	60	40	46	18	7	3.7+2.7
<b>SB Thru</b>	37	34	60	40	46	-	-	3.7+2.7
<b>WB Thru</b>	28	33	42	25	32	7	11	3.3+3.4
<b>SB Left</b>	35	23	18	-	22	-	-	3.7+2.7

## Phasing Sequence‡

**Plan: 1, 2, 3 & 5**



**Plan: 4**



## Schedule

### Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
22:30	4

### Weekend

Time	Plan
0:15	4
8:30	5
22:30	4

## Notes

- †: Time for each direction includes amber and all red intervals
- ‡: Start of first phase should be used as reference point for offset
- Asterisk (\*) Indicates actuated phase
- (fp): Fully Protected Left Turn
- ◄.....► Pedestrian signal

Cost is \$62.38 (\$55.20 + HST)

# Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

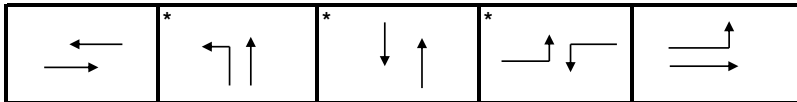
**Intersection:** Main: Fallowfield Side: Merivale  
**Controller:** ATC 3 **TSD:** 5573  
**Author:** Hamadoun Issabre **Date:** 06-Sep-2024

## Existing Timing Plans†

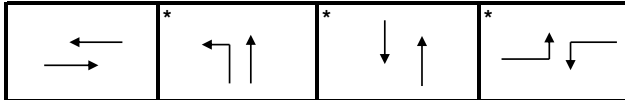
	Plan					Ped Minimum Time			
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	AM Heavy 11	Walk	DW	A+R
<b>Cycle</b>	140	110	160	63	110	150			
<b>Offset</b>	X	X	X	X	X	X			
EB Thru	52	40	62	32	40	35	10	10	4.6+2.0
WB Thru	52	40	62	32	40	35	10	10	4.6+2.0
NB Left	12	17	12	-	17	12	-	-	4.6+2.0
NB Left	40	37	65	31	37	57	7	10	4.6+1.8
SB Left	40	37	65	31	37	57	7	10	4.6+1.8
EB Left	25	16	21	-	16	37	-	-	4.6+1.9
WB Left	11	16	21	-	16	16	-	-	4.6+1.9

## Phasing Sequence‡

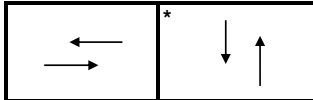
Plan: 1 & 11



Plan: 2, 3 & 5



Plan: 4



**Notes:** 1) There is no pedestrian crossing or display at this intersection

## Schedule

### Weekday

Time	Plan
0:15	4
6:00	1
7:15	11
9:30	2
15:00	3
18:30	2
22:30	4

### Weekend

Time	Plan
0:15	4
8:30	5
22:30	4

## Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (\*) Indicates actuated phase

(fp): Fully Protected Left Turn

◀.....▶ Pedestrian signal

Cost is \$62.38 (\$55.20 + HST)

# Traffic Signal Timing

City of Ottawa, Public Works Department

## Traffic Signal Operations Unit

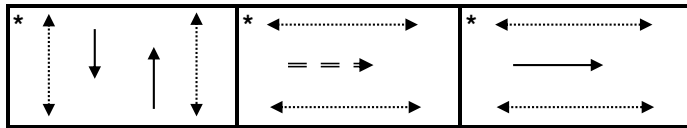
<b>Intersection:</b>	<u>Main: Merivale</u>	<b>Side:</b>	<u>Leikin</u>
<b>Controller:</b>	<u>ATC 3</u>	<b>TSD:</b>	<u>6493</u>
<b>Author:</b>	<u>Hamadoun Issabre</u>	<b>Date:</b>	<u>06-Sep-2024</u>

### Existing Timing Plans<sup>†</sup>

	Plan						Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	AM Heavy 11	Walk	DW	A+R
<b>Cycle</b>	Free	Free	Free	Free	Free	Free			
<b>Offset</b>	X	X	X	X	X	X			
NB Thru	max = 46.5	max = 41.5	max = 46.5	max = 41.5	max = 41.5	max = 66.5	-	-	4.6+1.9
SB Thru	max = 46.5	max = 41.5	max = 46.5	max = 41.5	max = 41.5	max = 66.5	7	21	4.6+1.9
EB Bus	max = 8.0	max = 8.0	max = 8.0	max = 8.0	max = 8.0	max = 8.0	-	-	2.0
EB Thru	max = 30.1	max = 25.1	max = 30.1	max = 15.1	max = 25.1	max = 30.1	7	10	3.3+1.8

### Phasing Sequence<sup>‡</sup>

Plan: All



**Notes:** 1) In all plans; the NS phases have a max recall

### Schedule

Weekday		Weekend	
Time	Plan	Time	Plan
0:15	4	0:10	4
5:30	1	8:30	5
7:45	11	22:30	4
9:30	2		
15:00	3		
18:30	2		
22:00	4		

### Notes

- †: Time for each direction includes amber and all red intervals
- ‡: Start of first phase should be used as reference point for offset
- Asterisk (\*) Indicates actuated phase
- (fp): Fully Protected Left Turn
- ←.....→ Pedestrian signal
- = = ➔ Transit signal

Cost is \$62.38 (\$55.20 + HST)

# Traffic Signal Timing

City of Ottawa, Transportation Services Department

## Traffic Signal Operations Unit

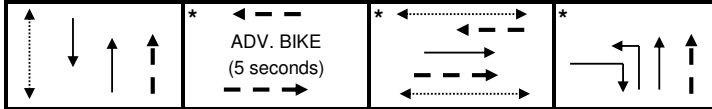
<b>Intersection:</b>	<i>Main:</i> Prince of Wales	<i>Side:</i> Merivale
<b>Controller:</b>	<b>ATC 3</b>	<b>TSD: 6494</b>
<b>Author:</b>	Hamadoun Issabre	<b>Date:</b> 06-Sep-2024

### Existing Timing Plans†

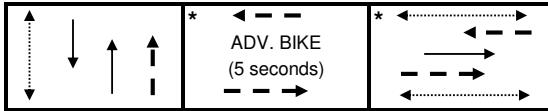
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
<b>Cycle</b>	100	Free	120	Free	Free			
<b>Offset</b>	15	X	112	X	X			
NB Thru	72	max = 51.5	89	max = 56.5	max = 51.5	-	-	4.6+1.9
SB Thru	50	max = 51.5	75	max = 56.5	max = 51.5	7	19	4.6+1.9
EB Veh	28	max = 23.8	31	max = 21.8	max = 23.4	-	-	4.6+2.2
EW Bike/Ped	28	max = 23.8	31	max = 21.8	max = 23.4	7	14	4.6+2.2
<i>NB Left</i>	22	max = 16.4	14	-	max = 16.4	-	-	4.6+1.8
EB Right	22	max = 16.4	14	-	max = 16.4	-	-	4.6+1.8

### Phasing Sequence‡

Plan: 1, 2, 3 & 5



Plan: 4



- Notes:** 1) The Advanced EW Bike phase will display only if the WB bike phase is actuated by demand. Otherwise the split timing is governed by EB vehicle demand and max times.  
2) If the EW Ped crossings are actuated, the max time will be extended to accommodate the higher crossing times.

### Schedule

Weekday		Weekend	
Time	Plan	Time	Plan
0:15	4	0:15	4
6:30	1	6:30	2
9:30	2	11:00	5
15:00	3	19:30	2
18:30	2	22:30	4
22:30	4		

### Notes

- †: Time for each direction includes amber and all red intervals  
‡: Start of first phase should be used as reference point for offset  
Asterisk (\*) Indicates actuated phase  
(fp): Fully Protected Left Turn  
◄.....► Pedestrian signal  
- - - ► Bike signal

Cost is \$62.38 (\$55.20 + HST)

## **APPENDIX J**

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Existing Synchro Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Future Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				299			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	447	626	207	100	166	13	422	1451	523	13	330	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	447	626	207	100	179	0	422	1451	523	13	330	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

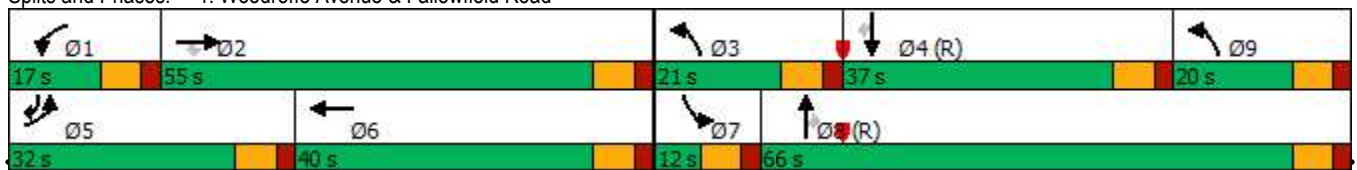
Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.9	37.6	37.6	9.3	23.1		35.7	77.4	77.4	6.1	33.3	57.2
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15		0.24	0.52	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.75	0.40	0.51	0.36		0.56	0.84	0.58	0.19	0.45	0.15
Control Delay	78.7	57.8	5.6	77.3	56.5		30.5	37.8	14.5	76.2	53.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	57.8	5.6	77.3	56.5		30.5	37.8	14.5	76.2	53.6	0.5
LOS	E	E	A	E	E		C	D	B	E	D	A
Approach Delay		56.6			64.0			31.4			42.5	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.7	86.0	0.0	13.8	23.3		29.0	156.3	34.9	3.5	42.0	0.0
Queue Length 95th (m)	#82.6	94.4	12.9	23.0	31.2		46.2	#275.3	92.0	10.5	57.3	0.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	545	1065	608	214	710		771	1727	902	68	744	659
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.59	0.34	0.47	0.25		0.55	0.84	0.58	0.19	0.44	0.15

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 42.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 93.7%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	38	20	8	13	78	24	1490	35	92	345	55
Future Volume (vph)	223	38	20	8	13	78	24	1490	35	92	345	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.948				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1654	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.525			0.061		
Satd. Flow (perm)	3216	1654	0	1674	1728	1483	905	3316	1483	106	3316	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				140			142			142
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	248	42	22	9	14	87	27	1656	39	102	383	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	64	0	9	14	87	27	1656	39	102	383	61
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

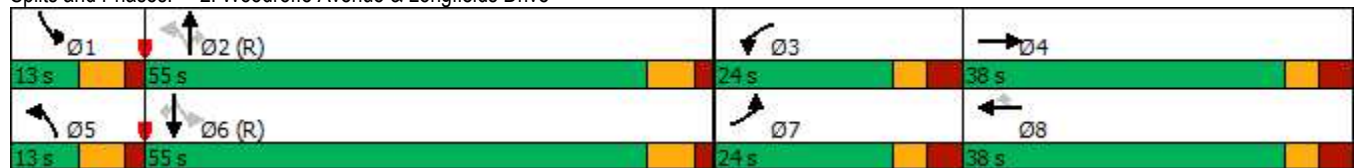
2-20 Leikin and 99 Bill Leathem  
Existing Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	24.0	38.0		24.0	38.0	38.0	13.0	55.0	55.0	13.0	55.0	55.0
Total Split (%)	18.5%	29.2%		18.5%	29.2%	29.2%	10.0%	42.3%	42.3%	10.0%	42.3%	42.3%
Maximum Green (s)	17.3	31.3		17.3	31.3	31.3	6.5	48.5	48.5	6.5	48.5	48.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0		24.0	24.0			18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3		3	3			3	3		3	3
Act Effct Green (s)	14.8	32.9		6.3	14.2	14.2	72.0	65.8	65.8	78.9	73.2	73.2
Actuated g/C Ratio	0.11	0.25		0.05	0.11	0.11	0.55	0.51	0.51	0.61	0.56	0.56
v/c Ratio	0.68	0.15		0.11	0.07	0.30	0.05	0.99	0.05	0.61	0.21	0.07
Control Delay	64.7	26.8		61.6	48.3	3.6	13.2	51.1	0.1	36.3	17.2	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	26.8		61.6	48.3	3.6	13.2	51.1	0.1	36.3	17.2	0.1
LOS	E	C		E	D	A	B	D	A	D	B	A
Approach Delay		56.9			14.0			49.4			18.9	
Approach LOS		E			B			D			B	
Queue Length 50th (m)	29.2	8.3		2.1	3.1	0.0	2.1	188.0	0.0	8.3	23.0	0.0
Queue Length 95th (m)	41.4	17.4		7.4	7.6	2.0	8.2	#306.6	0.0	#42.7	45.1	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	427	443		222	416	463	541	1678	820	168	1867	884
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.14		0.04	0.03	0.19	0.05	0.99	0.05	0.61	0.21	0.07

Intersection Summary




















Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 48 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 42.6  
 Intersection Capacity Utilization 78.7%  
 Intersection LOS: D  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	553	4	7	17	24	0	0	2	178	3	28
Future Volume (vph)	141	553	4	7	17	24	0	0	2	178	3	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.912			0.865			0.982	
Flt Protected	0.950			0.950							0.959	
Satd. Flow (prot)	1626	1743	0	1353	1411	0	0	1026	0	0	1655	0
Flt Permitted	0.950			0.950							0.959	
Satd. Flow (perm)	1626	1743	0	1353	1411	0	0	1026	0	0	1655	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	157	614	4	8	19	27	0	0	2	198	3	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	618	0	8	46	0	0	2	0	0	232	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	56.7%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	315	548	253	51
Future Volume (vph)	15	17	315	548	253	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Fl <sub>t</sub> Permitted	0.950				0.437	
Satd. Flow (perm)	1674	1325	1728	1450	767	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		19		609		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	17	19	350	609	281	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	19	350	609	281	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						



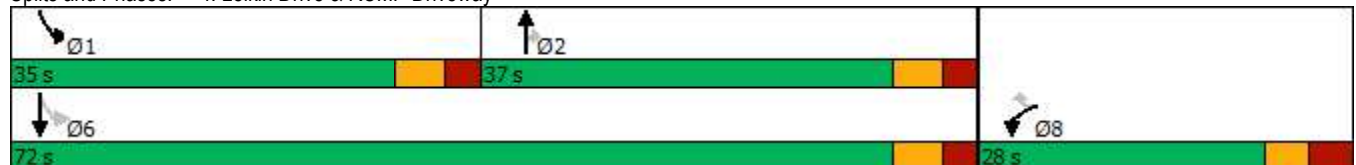












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.1	32.1	48.0	52.7
Actuated g/C Ratio	0.19	0.19	0.52	0.52	0.78	0.86
v/c Ratio	0.05	0.07	0.39	0.58	0.38	0.04
Control Delay	25.5	13.3	14.4	4.3	5.3	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	13.3	14.4	4.3	5.3	3.9
LOS	C	B	B	A	A	A
Approach Delay	19.0		8.0			5.1
Approach LOS	B		A			A
Queue Length 50th (m)	1.3	0.0	14.5	0.0	0.3	0.0
Queue Length 95th (m)	6.7	4.8	63.8	20.4	27.0	6.6
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	610	494	905	1049	1045	1419
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04	0.39	0.58	0.27	0.04

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 61.2  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 7.6  
 Intersection Capacity Utilization 63.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	99	1	307	19	1	226
Future Volume (vph)	99	1	307	19	1	226
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999		0.992			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1661	0	1731	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1661	0	1731	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	166.4		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	110	1	341	21	1	251
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	362	0	1	251
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.8%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Future Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.995				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1736	0	1762	1618	1327
Flt Permitted	0.457			0.515			0.575					
Satd. Flow (perm)	798	1745	1427	899	1690	0	1013	1736	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		1			2				179
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	686	423	37	163	163	4	20	606	21	0	133	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	423	37	163	167	0	20	627	0	0	133	54
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic

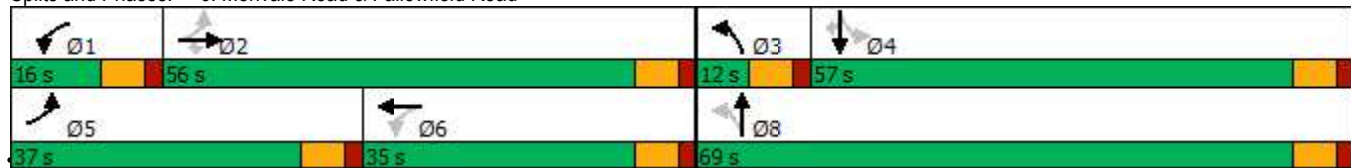


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	37.0	56.0	56.0	16.0	35.0		12.0	69.0		57.0	57.0	57.0
Total Split (%)	26.2%	39.7%	39.7%	11.3%	24.8%		8.5%	48.9%		40.4%	40.4%	40.4%
Maximum Green (s)	30.5	49.4	49.4	9.5	28.4		5.4	62.6		50.6	50.6	50.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	65.9	50.1	50.1	37.9	28.6		50.1	50.3			43.5	43.5
Actuated g/C Ratio	0.51	0.39	0.39	0.29	0.22		0.39	0.39			0.34	0.34
v/c Ratio	1.12	0.63	0.06	0.51	0.45		0.05	0.93			0.24	0.10
Control Delay	102.8	39.0	0.2	30.8	49.9		23.3	58.1			33.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	102.8	39.0	0.2	30.8	49.9		23.3	58.1			33.0	0.3
LOS	F	D	A	C	D		C	E			C	A
Approach Delay		75.9			40.5			57.0			23.6	
Approach LOS		E			D			E			C	
Queue Length 50th (m)	~165.4	81.0	0.0	20.6	34.2		2.9	137.8			23.8	0.0
Queue Length 95th (m)	#285.5	128.5	0.0	38.3	59.7		7.4	186.4			38.7	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	611	676	631	322	374		420	847			637	631
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.12	0.63	0.06	0.51	0.45		0.05	0.74			0.21	0.09

Intersection Summary

Area Type: Other  
 Cycle Length: 141  
 Actuated Cycle Length: 129.2  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 61.3 Intersection LOS: E  
 Intersection Capacity Utilization 100.5% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	304	4	0	354	63	227	
Future Volume (vph)	304	4	0	354	63	227	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950						
Satd. Flow (prot)	1674	1498	1762	1728	1424	1469	
Flt Permitted	0.950						
Satd. Flow (perm)	1674	1498	1762	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		4				252	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			310.4	194.8		
Travel Time (s)	4.5			14.0	8.8		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	338	4	0	393	70	252	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	338	4	0	393	70	252	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

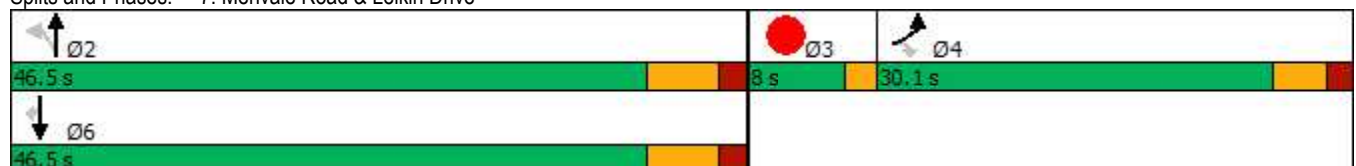


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.2	20.2		40.1	40.1	40.1	
Actuated g/C Ratio	0.25	0.25		0.50	0.50	0.50	
v/c Ratio	0.80	0.01		0.45	0.10	0.29	
Control Delay	42.8	14.2		15.9	12.3	2.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	42.8	14.2		15.9	12.3	2.8	
LOS	D	B		B	B	A	
Approach Delay	42.5			15.9	4.9		
Approach LOS	D			B	A		
Queue Length 50th (m)	44.1	0.0		34.5	5.0	0.0	
Queue Length 95th (m)	70.5	2.0		59.8	12.0	10.5	
Internal Link Dist (m)	50.7			286.4	170.8		
Turn Bay Length (m)						100.0	
Base Capacity (vph)	524	472		867	714	862	
Starvation Cap Reductn	0	0		0	0	0	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.65	0.01		0.45	0.10	0.29	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 21.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 47.1%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive
















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	14	99	439	164	1
Future Volume (vph)	6	14	99	439	164	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.906				0.999	
Fl <sub>t</sub> Protected	0.985		0.950			
Satd. Flow (prot)	1557	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.985		0.950			
Satd. Flow (perm)	1557	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	166.4			159.4	310.4	
Travel Time (s)	12.0			7.2	14.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	16	110	488	182	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	110	488	183	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.4%
Analysis Period (min)	15
	ICU Level of Service A

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	10	83	449	918	259	38	
Future Volume (vph)	10	83	449	918	259	38	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Fr <sub>t</sub>		0.850			0.981		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Fl <sub>t</sub> Permitted	0.950		0.492				
Satd. Flow (perm)	1674	1261	850	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		92			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	92	499	1020	288	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	92	499	1020	330	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



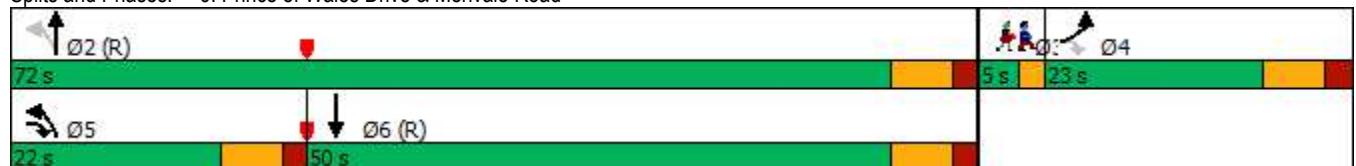


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.6	75.0	76.2	53.5		
Actuated g/C Ratio	0.11	0.31	0.75	0.76	0.54		
v/c Ratio	0.06	0.20	0.66	0.77	0.20		
Control Delay	38.9	5.6	11.2	15.5	14.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.6	11.2	15.5	14.3		
LOS	D	A	B	B	B		
Approach Delay	9.1			14.1	14.3		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	31.0	106.6	16.3		
Queue Length 95th (m)	6.2	8.7	58.6	#234.9	26.4		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	448	772	1329	1675		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.21	0.65	0.77	0.20		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 13.8  
 Intersection Capacity Utilization 70.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Future Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				299			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	447	626	207	100	166	13	422	1451	523	13	330	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	447	626	207	100	179	0	422	1451	523	13	330	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

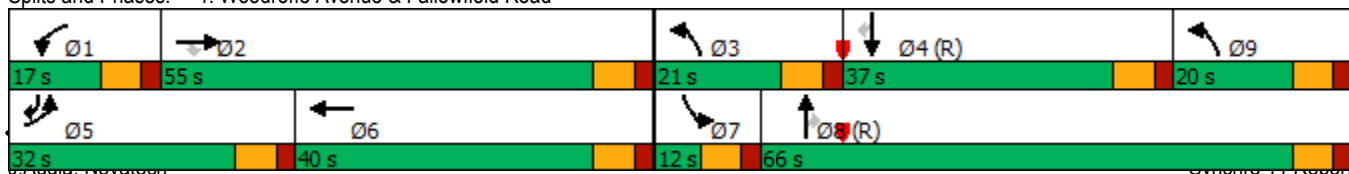


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.9	37.6	37.6	9.3	23.1			35.7	77.4	6.1	33.3	57.2
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15			0.24	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.75	0.40	0.51	0.36			0.56	0.84	0.58	0.19	0.45
Control Delay	78.7	57.8	5.6	77.3	56.5			21.8	28.9	11.4	76.2	53.6
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	57.8	5.6	77.3	56.5			21.8	28.9	11.4	76.2	53.6
LOS	E	E	A	E	E			C	C	B	E	D
Approach Delay		56.6			64.0			23.8			42.5	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.7	86.0	0.0	13.8	23.3			23.9	172.7	48.1	3.5	42.0
Queue Length 95th (m)	#82.6	94.4	12.9	23.0	31.2			m32.6	#281.5	m117.2	10.5	57.3
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	608	214	710			771	1727	902	68	744
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	0.82	0.59	0.34	0.47	0.25			0.55	0.84	0.58	0.19	0.44

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 37.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 93.7%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	38	20	8	13	78	24	1490	35	92	345	55
Future Volume (vph)	223	38	20	8	13	78	24	1490	35	92	345	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.948				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1654	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.525			0.046		
Satd. Flow (perm)	3216	1654	0	1674	1728	1483	904	3316	1483	80	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	248	42	22	9	14	87	27	1656	39	102	383	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	64	0	9	14	87	27	1656	39	102	383	61
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	13.3	31.3		6.4	14.2	14.2	92.1	86.0	86.0	101.2	94.8	94.8
Actuated g/C Ratio	0.09	0.21		0.04	0.09	0.09	0.61	0.57	0.57	0.67	0.63	0.63
v/c Ratio	0.87	0.18		0.13	0.09	0.35	0.05	0.87	0.04	0.64	0.18	0.06
Control Delay	95.5	37.4		72.4	58.7	6.6	10.2	34.1	0.1	68.2	5.3	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	37.4		72.4	58.7	6.6	10.2	34.1	0.1	68.2	5.3	0.1
LOS	F	D		E	E	A	B	C	A	E	A	A
Approach Delay		83.6			18.6			33.0			16.5	
Approach LOS		F			B			C			B	
Queue Length 50th (m)	35.2	11.0		2.4	3.7	0.0	2.0	188.7	0.0	13.6	6.5	0.0
Queue Length 95th (m)	#57.2	22.1		8.1	9.0	5.6	7.3	#294.3	0.0	#51.7	15.2	0.1
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	368		148	360	405	590	1900	902	160	2095	967
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.17		0.06	0.04	0.21	0.05	0.87	0.04	0.64	0.18	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 34.9  
 Intersection Capacity Utilization 78.7%  
 Intersection LOS: C  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Future Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Fr <sub>t</sub>			0.850		0.996			0.995				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1736	0	1762	1618	1327
Fl <sub>t</sub> Permitted	0.328			0.515			0.567					
Satd. Flow (perm)	572	1745	1427	899	1690	0	999	1736	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			1				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	686	423	37	163	163	4	20	606	21	0	133	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	423	37	163	167	0	20	627	0	0	133	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0



6: Merivale Road & Fallowfield Road  
AM Peak Hour

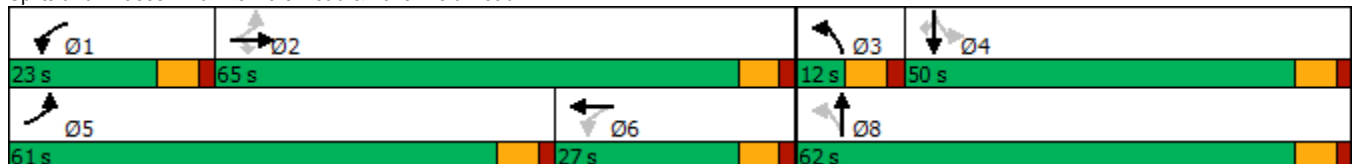
2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.5	62.1	62.1	33.3	20.4		54.7	54.9		47.7	47.7	47.7
Actuated g/C Ratio	0.55	0.42	0.42	0.22	0.14		0.37	0.37		0.32	0.32	0.32
v/c Ratio	0.97	0.58	0.06	0.62	0.72		0.05	0.98		0.26	0.10	0.10
Control Delay	57.4	38.4	0.2	37.0	79.7		30.7	77.8		40.9	0.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	57.4	38.4	0.2	37.0	79.7		30.7	77.8		40.9	0.4	0.4
LOS	E	D	A	D	E		C	E		D	A	A
Approach Delay		48.5			58.6			76.4		29.2		
Approach LOS		D			E			E		C		
Queue Length 50th (m)	152.5	89.0	0.0	22.0	44.3		3.5	168.5		28.3	0.0	0.0
Queue Length 95th (m)	#228.8	126.7	0.0	33.9	#72.9		8.9	#241.4		45.3	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	709	725	663	306	231		390	647		516	538	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.97	0.58	0.06	0.53	0.72		0.05	0.97		0.26	0.10	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 149.3  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 56.2 Intersection LOS: E  
 Intersection Capacity Utilization 100.5% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	304	4	0	354	63	227	
Future Volume (vph)	304	4	0	354	63	227	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950						
Satd. Flow (prot)	1674	1498	1762	1728	1424	1469	
Flt Permitted	0.950						
Satd. Flow (perm)	1674	1498	1762	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		4				252	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			310.4	194.8		
Travel Time (s)	4.5			14.0	8.8		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	338	4	0	393	70	252	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	338	4	0	393	70	252	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

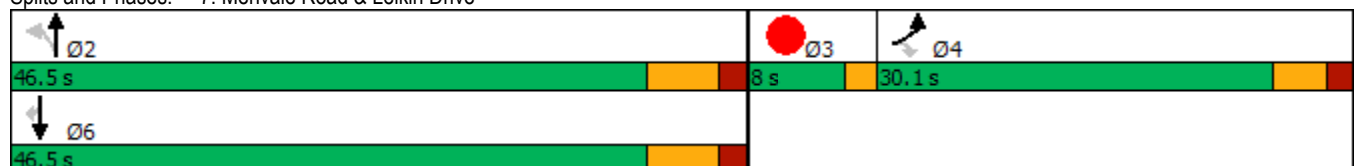


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.2	20.2		40.1	40.1	40.1	
Actuated g/C Ratio	0.25	0.25		0.50	0.50	0.50	
v/c Ratio	0.80	0.01		0.45	0.10	0.29	
Control Delay	42.8	14.2		15.9	12.3	2.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	
Total Delay	42.8	14.2		15.9	12.3	2.8	
LOS	D	B		B	B	A	
Approach Delay	42.5			15.9	4.9		
Approach LOS	D			B	A		
Queue Length 50th (m)	44.1	0.0		34.5	5.0	0.0	
Queue Length 95th (m)	70.5	2.0		59.8	12.0	10.5	
Internal Link Dist (m)	50.7			286.4	170.8		
Turn Bay Length (m)						100.0	
Base Capacity (vph)	524	472		867	714	862	
Starvation Cap Reductn	0	0		0	0	0	
Spillback Cap Reductn	0	0		0	0	0	
Storage Cap Reductn	0	0		0	0	0	
Reduced v/c Ratio	0.65	0.01		0.45	0.10	0.29	

Intersection Summary













Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 21.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 47.1%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	10	83	449	918	259	38	
Future Volume (vph)	10	83	449	918	259	38	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Frt		0.850			0.981		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Flt Permitted	0.950		0.492				
Satd. Flow (perm)	1674	1261	850	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		92			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	92	499	1020	288	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	92	499	1020	330	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.6	75.0	76.2	53.5		
Actuated g/C Ratio	0.11	0.31	0.75	0.76	0.54		
v/c Ratio	0.06	0.20	0.66	0.77	0.20		
Control Delay	38.9	5.6	11.2	15.5	14.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.6	11.2	15.5	14.3		
LOS	D	A	B	B	B		
Approach Delay	9.1			14.1	14.3		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	31.0	106.6	16.3		
Queue Length 95th (m)	6.2	8.7	58.6	#234.9	26.4		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	448	772	1329	1675		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.21	0.65	0.77	0.20		

Intersection Summary




















Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 13.8  
 Intersection Capacity Utilization 70.4%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (demand rationalized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	533	4	7	17	24	0	0	2	178	3	28
Future Volume (vph)	141	533	4	7	17	24	0	0	2	178	3	28
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.912			0.865			0.982	
Flt Protected	0.950			0.950							0.959	
Satd. Flow (prot)	1626	1743	0	1353	1411	0	0	1026	0	0	1655	0
Flt Permitted	0.950			0.950							0.959	
Satd. Flow (perm)	1626	1743	0	1353	1411	0	0	1026	0	0	1655	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	157	592	4	8	19	27	0	0	2	198	3	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	596	0	8	46	0	0	2	0	0	232	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.6%
ICU Level of Service	B
Analysis Period (min)	15

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	577	381	33	147	147	4	18	415	19	0	120	49
Future Volume (vph)	577	381	33	147	147	4	18	415	19	0	120	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.993				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1732	0	1762	1618	1327
Flt Permitted	0.361			0.515			0.535					
Satd. Flow (perm)	630	1745	1427	899	1690	0	943	1732	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			2				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	641	423	37	163	163	4	20	461	21	0	133	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	641	423	37	163	167	0	20	482	0	0	133	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (demand rationalized)

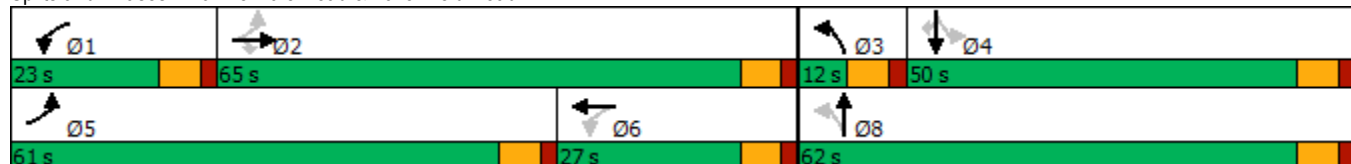


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.9	63.6	63.6	32.3	20.5		42.1	42.3		35.4	35.4	35.4
Actuated g/C Ratio	0.60	0.46	0.46	0.24	0.15		0.31	0.31		0.26	0.26	0.26
v/c Ratio	0.82	0.52	0.05	0.59	0.66		0.06	0.90		0.32	0.12	0.12
Control Delay	31.1	31.5	0.1	33.4	69.8		32.1	65.9		44.2	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	31.1	31.5	0.1	33.4	69.8		32.1	65.9		44.2	0.5	0.5
LOS	C	C	A	C	E		C	E		D	A	A
Approach Delay		30.2			51.9			64.6			31.6	
Approach LOS		C			D			E			C	
Queue Length 50th (m)	101.9	73.5	0.0	17.5	39.6		3.5	114.3		28.3	0.0	0.0
Queue Length 95th (m)	#196.2	126.7	0.0	33.9	#72.9		8.9	154.4		45.3	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	786	809	726	335	253		318	706			517	539
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.82	0.52	0.05	0.49	0.66		0.06	0.68		0.26	0.10	0.10

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 137.1  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 41.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 90.9%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (road mods)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔↔	↔↔	↑↑		↔↔	↑↑	↔	↔	↑↑	↔
Traffic Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Future Volume (vph)	402	563	186	90	149	12	380	1306	471	12	297	88
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		2	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	0.88	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor					1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	2536	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	2536	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			207		5				299			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	447	626	207	100	166	13	422	1451	523	13	330	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	447	626	207	100	179	0	422	1451	523	13	330	98
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	custom	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	2 3	1	6		3 9	8		7	4	5
Permitted Phases									8			4
Detector Phase	5	2	2 3	1	6		3 9	8	8	7	4	5

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		

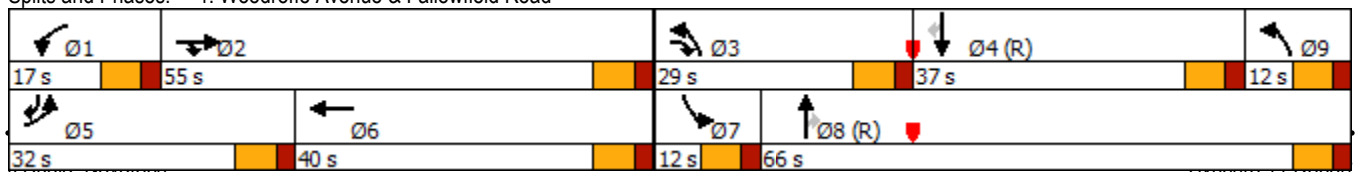


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8		11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0		17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%		11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2		10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6		4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2		2.2	2.2			2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min		None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	23.9	37.6	60.6	9.3	23.1		29.4	77.4	77.4	6.1	39.6	63.5
Actuated g/C Ratio	0.16	0.25	0.40	0.06	0.15		0.20	0.52	0.52	0.04	0.26	0.42
v/c Ratio	0.86	0.75	0.18	0.51	0.36		0.68	0.84	0.58	0.19	0.38	0.14
Control Delay	78.7	57.8	2.9	77.3	56.5		37.7	37.8	14.5	76.2	48.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	57.8	2.9	77.3	56.5		37.7	37.8	14.5	76.2	48.1	0.4
LOS	E	E	A	E	E		D	D	B	E	D	A
Approach Delay		56.2			64.0			32.7			38.4	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.7	86.0	0.0	13.8	23.3		29.0	156.3	34.9	3.5	39.0	0.0
Queue Length 95th (m)	#82.6	94.4	6.4	23.0	31.2		55.8	#275.3	92.0	10.5	57.3	0.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	545	1065	1221	214	710		754	1727	902	68	877	711
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.59	0.17	0.47	0.25		0.56	0.84	0.58	0.19	0.38	0.14

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 42.1 Intersection LOS: D  
 Intersection Capacity Utilization 93.7% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	29.0	12.0
Total Split (%)	19%	8%
Maximum Green (s)	22.2	5.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (road mods)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Future Volume (vph)	617	381	33	147	147	4	18	545	19	0	120	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.995				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3216	1745	1427	1658	1690	0	1674	1736	0	1762	1618	1327
Flt Permitted	0.950			0.950			0.575					
Satd. Flow (perm)	3216	1745	1427	1658	1690	0	1013	1736	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			2				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	686	423	37	163	163	4	20	606	21	0	133	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	686	423	37	163	167	0	20	627	0	0	133	54
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)		7.0			7.0			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8				4
Permitted Phases			2				8			4		4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (road mods)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	39.0	46.0	46.0	30.0	37.0		12.0	74.0		62.0	62.0	62.0
Total Split (%)	26.0%	30.7%	30.7%	20.0%	24.7%		8.0%	49.3%		41.3%	41.3%	41.3%
Maximum Green (s)	32.5	39.4	39.4	23.5	30.4		5.4	67.6		55.6	55.6	55.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	32.7	45.5	45.5	17.8	30.6		52.3	52.5			45.7	45.7
Actuated g/C Ratio	0.24	0.34	0.34	0.13	0.23		0.39	0.39			0.34	0.34
v/c Ratio	0.88	0.72	0.07	0.75	0.44		0.05	0.93			0.24	0.10
Control Delay	64.5	50.6	0.2	78.8	51.4		24.4	60.6			34.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	64.5	50.6	0.2	78.8	51.4		24.4	60.6			34.2	0.3
LOS	E	D	A	E	D		C	E			C	A
Approach Delay		57.3			64.9			59.5			24.5	
Approach LOS		E			E			E			C	
Queue Length 50th (m)	84.9	92.5	0.0	39.1	35.6		3.0	145.4			24.9	0.0
Queue Length 95th (m)	#134.2	#170.9	0.0	65.5	62.7		7.7	193.8			39.9	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	776	586	559	289	382		417	872			668	647
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.88	0.72	0.07	0.56	0.44		0.05	0.72			0.20	0.08

**Intersection Summary**

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 135.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 56.4

Intersection LOS: E

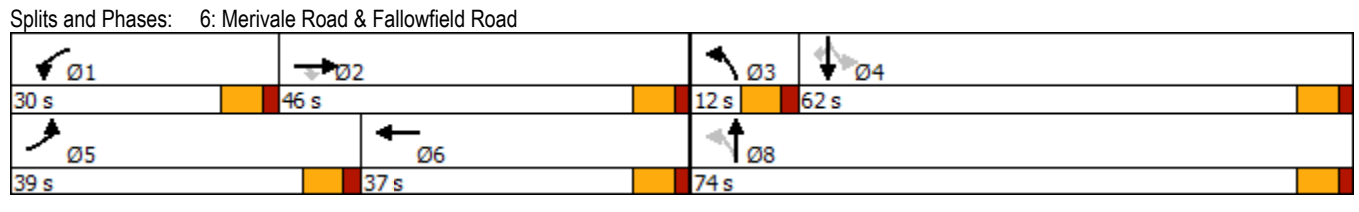
Intersection Capacity Utilization 83.0%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Future Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.97	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3327	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1441	3229	3327	0	3154	3349	1433	1639	3349	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				224			113
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	214	312	482	461	519	20	316	758	226	26	1407	563
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	312	482	461	539	0	316	758	226	26	1407	563
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	16.8	39.8	39.8	36.8	59.8		19.8	74.8	74.8	16.8	71.8	16.8
Total Split (%)	10.0%	23.7%	23.7%	21.9%	35.6%		11.8%	44.5%	44.5%	10.0%	42.7%	10.0%
Maximum Green (s)	10.0	33.0	33.0	30.0	53.0		13.0	68.0	68.0	10.0	65.0	10.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	10.0	33.0	33.0	27.2	50.3		13.0	75.4	75.4	7.9	65.0	75.0
Actuated g/C Ratio	0.06	0.20	0.20	0.16	0.30		0.08	0.46	0.46	0.05	0.39	0.45
v/c Ratio	1.09	0.48	1.17	0.86	0.53		1.28	0.50	0.29	0.33	1.07	0.77
Control Delay	159.2	61.8	136.1	84.0	49.8		209.1	34.7	4.7	88.0	92.9	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	159.2	61.8	136.1	84.0	49.8		209.1	34.7	4.7	88.0	92.9	34.6
LOS	F	E	F	F	D		F	C	A	F	F	C
Approach Delay		118.0			65.6			71.9			76.4	
Approach LOS		F			E			E			E	
Queue Length 50th (m)	~38.1	45.2	~135.2	71.1	71.6		~63.2	91.5	0.4	7.9	~252.3	109.1
Queue Length 95th (m)	#64.6	60.4	#202.5	90.1	88.9		#93.5	113.5	15.9	18.1	#294.4	155.3
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	196	655	412	589	1067		247	1525	774	99	1315	729
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.48	1.17	0.78	0.51		1.28	0.50	0.29	0.26	1.07	0.77

Intersection Summary

Area Type: Other  
 Cycle Length: 168.2  
 Actuated Cycle Length: 165.5  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.28  
 Intersection Signal Delay: 81.2  
 Intersection Capacity Utilization 99.3%  
 Analysis Period (min) 15

Intersection LOS: F

ICU Level of Service F

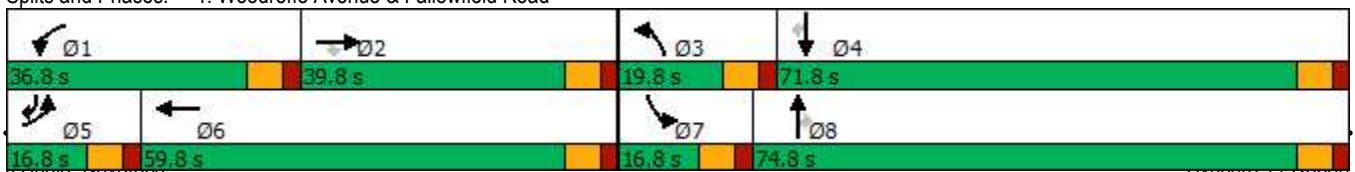
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road





2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	25	36	25	36	134	59	840	21	101	1388	162
Future Volume (vph)	141	25	36	25	36	134	59	840	21	101	1388	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Frt		0.912				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.073			0.209		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	368	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				158			160			180
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	157	28	40	28	40	149	66	933	23	112	1542	180
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	68	0	28	40	149	66	933	23	112	1542	180
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	9.0	20.9		7.4	14.2	14.2	64.6	57.4	57.4	67.4	60.6	60.6
Actuated g/C Ratio	0.08	0.18		0.06	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.62	0.23		0.26	0.22	0.47	0.43	0.56	0.03	0.37	0.87	0.21
Control Delay	62.7	21.9		56.7	45.2	10.1	23.0	23.6	0.0	14.3	32.5	4.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	21.9		56.7	45.2	10.1	23.0	23.6	0.0	14.3	32.5	4.0
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		50.4			22.6			23.0			28.6	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	16.4	5.4		5.6	7.9	0.0	4.5	63.8	0.0	7.8	137.2	0.0
Queue Length 95th (m)	26.4	14.6		13.9	14.2	12.3	17.3	116.0	0.0	22.3	#258.6	13.4
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	428		135	403	511	170	1654	809	315	1764	853
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.16		0.21	0.10	0.29	0.39	0.56	0.03	0.36	0.87	0.21

Intersection Summary




















Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.0 Intersection LOS: C  
 Intersection Capacity Utilization 72.6% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	56	0	0	242	90	0	0	0	38	0	187
Future Volume (vph)	77	56	0	0	242	90	0	0	0	38	0	187
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Fr					0.959							0.888
Flt Protected	0.950											0.992
Satd. Flow (prot)	1674	1589	0	1762	1686	0	0	1762	0	0	1540	0
Flt Permitted	0.950											0.992
Satd. Flow (perm)	1674	1589	0	1762	1686	0	0	1762	0	0	1540	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)	1		10	10		1	1					1
Confl. Bikes (#/hr)			3			7			1			3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	12%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%
Adj. Flow (vph)	86	62	0	0	269	100	0	0	0	42	0	208
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	62	0	0	369	0	0	0	0	0	250	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.3%						ICU Level of Service A					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	85	2	8	209
Future Volume (vph)	168	145	85	2	8	209
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.622	
Satd. Flow (perm)	1674	1373	1648	1440	1080	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		161		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	187	161	94	2	9	232
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	161	94	2	9	232
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

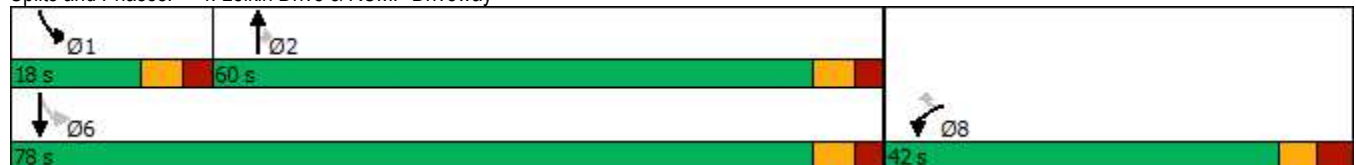












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	14.7	14.7	54.2	54.2	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.64	0.64	0.67	0.67
v/c Ratio	0.64	0.43	0.09	0.00	0.01	0.20
Control Delay	43.2	9.3	7.9	7.0	5.8	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	9.3	7.9	7.0	5.8	6.4
LOS	D	A	A	A	A	A
Approach Delay	27.5		7.9			6.4
Approach LOS	C		A			A
Queue Length 50th (m)	24.9	0.0	4.2	0.0	0.4	11.1
Queue Length 95th (m)	49.8	14.7	15.4	1.0	2.0	24.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	708	674	1059	926	803	1484
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.24	0.09	0.00	0.01	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	84.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	17.3
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A























Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	42	1	150	118	1	222
Future Volume (vph)	42	1	150	118	1	222
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997		0.941			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1658	0	1642	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1658	0	1642	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	166.4		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	1	167	131	1	247
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	298	0	1	247
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.9%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Future Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.960				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1606	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.062			0.563			0.106			0.576		
Satd. Flow (perm)	99	1745	1469	992	1762	0	175	1606	0	1015	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					15				251
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	146	283	40	50	671	2	54	214	78	4	533	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	283	40	50	673	0	54	292	0	4	533	303
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

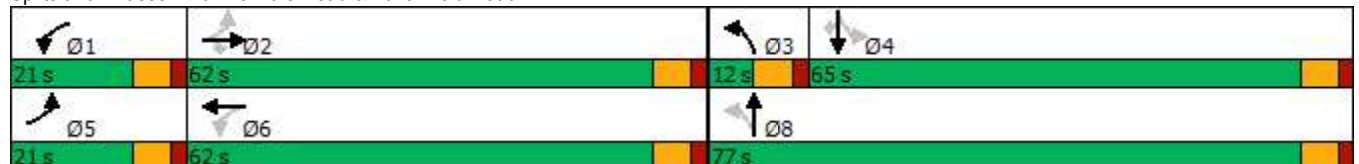
2-20 Leikin and 99 Bill Leatham  
Existing Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.8	64.9	64.9	64.2	56.2		57.8	58.0		48.9	48.9	48.9
Actuated g/C Ratio	0.51	0.44	0.44	0.44	0.38		0.39	0.39		0.33	0.33	0.33
v/c Ratio	0.81	0.37	0.06	0.11	1.00		0.45	0.46		0.01	0.91	0.46
Control Delay	70.4	33.8	0.1	22.5	81.9		38.8	32.8		32.8	68.6	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	70.4	33.8	0.1	22.5	81.9		38.8	32.8		32.8	68.6	9.7
LOS	E	C	A	C	F		D	C		C	E	A
Approach Delay		42.3			77.8			33.7			47.2	
Approach LOS		D			E			C			D	
Queue Length 50th (m)	28.7	56.3	0.0	7.2	~207.3		9.1	54.7		0.8	141.7	10.0
Queue Length 95th (m)	#67.2	87.2	0.0	15.2	#293.1		17.4	78.2		3.4	187.4	32.4
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	191	767	708	545	671		120	787		408	709	753
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	0.76	0.37	0.06	0.09	1.00		0.45	0.37		0.01	0.75	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 147.5  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 53.6      Intersection LOS: D  
 Intersection Capacity Utilization 96.3%      ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road







Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	148	3	2	186	442	221	
Future Volume (vph)	148	3	2	186	442	221	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.415				
Satd. Flow (perm)	1642	756	492	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		3				246	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			310.4	194.8		
Travel Time (s)	4.5			14.0	8.8		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	164	3	2	207	491	246	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	164	3	2	207	491	246	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

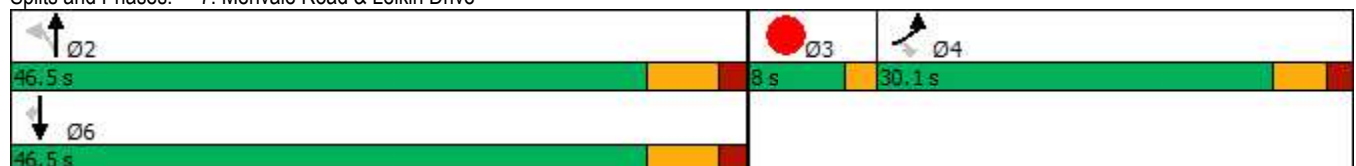


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	12.9	12.9	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.57	0.02	0.01	0.23	0.51	0.26	
Control Delay	35.2	17.0	8.5	9.7	13.0	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.2	17.0	8.5	9.7	13.0	2.2	
LOS	D	B	A	A	B	A	
Approach Delay	34.8			9.7	9.4		
Approach LOS	C			A	A		
Queue Length 50th (m)	19.0	0.0	0.1	11.9	34.3	0.0	
Queue Length 95th (m)	34.7	1.8	1.0	25.3	65.2	9.0	
Internal Link Dist (m)	50.7			286.4	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	566	262	271	909	972	937	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.01	0.01	0.23	0.51	0.26	

Intersection Summary











Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 72.6  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 13.3      Intersection LOS: B  
 Intersection Capacity Utilization 44.2%      ICU Level of Service A  
 Analysis Period (min) 15












Splits and Phases: 7: Merivale Road & Leikin Drive



8: Merivale Road & Beckstead Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	112	43	244	459	0
Future Volume (vph)	7	112	43	244	459	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.873					
Fl <sub>t</sub> Protected	0.997		0.950			
Satd. Flow (prot)	1519	0	1658	1745	1745	0
Fl <sub>t</sub> Permitted	0.997		0.950			
Satd. Flow (perm)	1519	0	1658	1745	1745	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	166.4			159.4	310.4	
Travel Time (s)	12.0			7.2	14.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	8	124	48	271	510	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	132	0	48	271	510	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.6%			ICU Level of Service A		
Analysis Period (min)	15					

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	23	496	160	332	843	14	
Future Volume (vph)	23	496	160	332	843	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Frt		0.850			0.997		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3337	0	
Flt Permitted	0.950		0.221				
Satd. Flow (perm)	1642	1464	364	1745	3337	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		165			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	26	551	178	369	937	16	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	26	551	178	369	953	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	26.0	14.0	14.0	89.0	75.0		5.0
Total Split (%)	21.7%	11.7%	11.7%	74.2%	62.5%		4%
Maximum Green (s)	19.2	7.6	7.6	82.5	68.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	19.2	27.2	82.6	82.5	68.5		
Actuated g/C Ratio	0.16	0.23	0.69	0.69	0.57		
v/c Ratio	0.10	1.20	0.55	0.31	0.50		
Control Delay	44.3	135.6	13.1	8.2	16.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.3	135.6	13.1	8.2	16.6		
LOS	D	F	B	A	B		
Approach Delay	131.4			9.8	16.6		
Approach LOS	F			A	B		
Queue Length 50th (m)	4.9	-93.7	12.2	28.7	62.0		
Queue Length 95th (m)	12.5	#155.7	19.8	41.5	77.1		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	262	460	326	1199	1905		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.10	1.20	0.55	0.31	0.50		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.20  
 Intersection Signal Delay: 46.7  
 Intersection Capacity Utilization 68.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service C

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Future Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				226			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	214	312	482	461	519	20	316	758	226	26	1407	563
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	312	482	461	539	0	316	758	226	26	1407	563
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												

1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

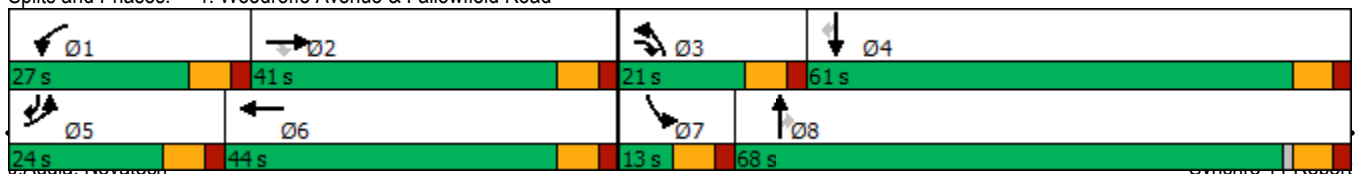
	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.5	20.2	30.2		14.2	67.7	67.7	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.22		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.55	1.06	0.99	0.75		0.99	0.47	0.28	0.37	1.09	0.72
Control Delay	70.4	56.6	95.6	97.3	58.9		110.1	27.2	4.0	81.9	92.4	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	56.6	95.6	97.3	58.9		110.1	27.2	4.0	81.9	92.4	23.8
LOS	E	E	F	F	E		F	C	A	F	F	C
Approach Delay		78.2			76.6			43.3			72.9	
Approach LOS		E			E			D			E	
Queue Length 50th (m)	26.8	38.7	~123.0	59.7	68.1		41.1	69.1	0.0	6.4	~203.0	73.5
Queue Length 95th (m)	41.4	52.6	#134.0	#102.0	88.6		#76.4	99.0	14.5	16.6	#275.7	124.7
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	801	456	468	885		319	1615	808	72	1296	815
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.39	1.06	0.99	0.61		0.99	0.47	0.28	0.36	1.09	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.2  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 67.4  
 Intersection Capacity Utilization 99.3%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F



























~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 							 			 	
Traffic Volume (vph)	141	25	36	25	36	134	59	840	21	101	1388	162
Future Volume (vph)	141	25	36	25	36	134	59	840	21	101	1388	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Fr <sub>t</sub>		0.912				0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Fl <sub>t</sub> Permitted	0.950			0.950			0.073			0.209		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	368	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				158			160			180
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	157	28	40	28	40	149	66	933	23	112	1542	180
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	68	0	28	40	149	66	933	23	112	1542	180
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

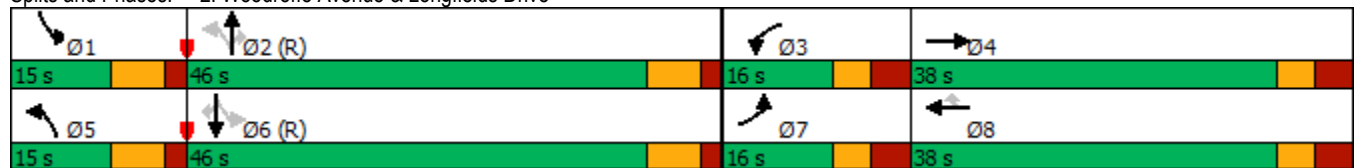
2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	9.0	20.9		7.4	14.2	14.2	64.6	57.4	57.4	67.4	60.6	60.6
Actuated g/C Ratio	0.08	0.18		0.06	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.62	0.23		0.26	0.22	0.47	0.43	0.56	0.03	0.37	0.87	0.21
Control Delay	62.7	21.9		56.7	45.2	10.1	23.0	23.6	0.0	14.3	32.5	4.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	21.9		56.7	45.2	10.1	23.0	23.6	0.0	14.3	32.5	4.0
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		50.4			22.6			23.0			28.6	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	16.4	5.4		5.6	7.9	0.0	4.5	63.8	0.0	7.8	137.2	0.0
Queue Length 95th (m)	26.4	14.6		13.9	14.2	12.3	17.3	116.0	0.0	22.3	#258.6	13.4
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	428		135	403	511	170	1654	809	315	1764	853
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.16		0.21	0.10	0.29	0.39	0.56	0.03	0.36	0.87	0.21

Intersection Summary

Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.0 Intersection LOS: C  
 Intersection Capacity Utilization 72.6% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Future Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.960				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1606	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.122			0.548			0.078			0.573		
Satd. Flow (perm)	194	1745	1469	966	1762	0	129	1606	0	1010	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					15				220
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	146	283	40	50	671	2	54	214	78	4	533	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	283	40	50	673	0	54	292	0	4	533	303
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

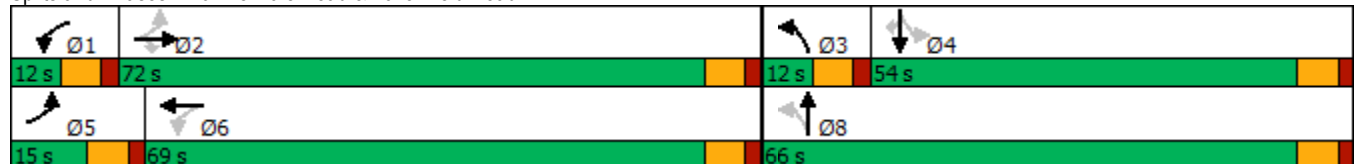
2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.1	68.4	68.4	68.2	62.6		54.9	55.1		45.7	45.7	45.7
Actuated g/C Ratio	0.52	0.47	0.47	0.47	0.43		0.38	0.38		0.31	0.31	0.31
v/c Ratio	0.82	0.35	0.05	0.10	0.89		0.53	0.47		0.01	0.96	0.49
Control Delay	56.9	28.2	0.1	19.0	54.9		48.0	35.0		35.5	79.8	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	56.9	28.2	0.1	19.0	54.9		48.0	35.0		35.5	79.8	14.2
LOS	E	C	A	B	D		D	C		D	E	B
Approach Delay		34.8			52.4			37.0			55.9	
Approach LOS		C			D			D			E	
Queue Length 50th (m)	20.9	51.7	0.0	6.7	172.8		9.2	55.4		0.8	143.3	16.5
Queue Length 95th (m)	#51.7	73.6	0.0	13.2	#242.8		18.0	80.2		3.5	#208.7	42.2
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	177	817	752	478	756		101	668		330	577	638
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	0.82	0.35	0.05	0.10	0.89		0.53	0.44		0.01	0.92	0.47

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 145.8  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 47.9 Intersection LOS: D  
 Intersection Capacity Utilization 96.3% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	148	3	2	186	442	221	
Future Volume (vph)	148	3	2	186	442	221	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.415				
Satd. Flow (perm)	1642	756	492	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		3				246	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			310.4	194.8		
Travel Time (s)	4.5			14.0	8.8		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	164	3	2	207	491	246	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	164	3	2	207	491	246	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (adjusted timings)

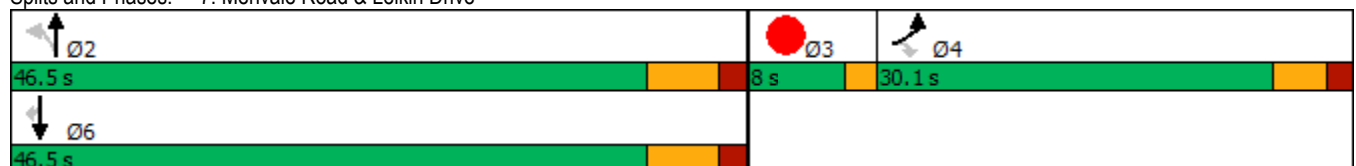


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	12.9	12.9	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.57	0.02	0.01	0.23	0.51	0.26	
Control Delay	35.2	17.0	8.5	9.7	13.0	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.2	17.0	8.5	9.7	13.0	2.2	
LOS	D	B	A	A	B	A	
Approach Delay	34.8			9.7	9.4		
Approach LOS	C			A	A		
Queue Length 50th (m)	19.0	0.0	0.1	11.9	34.3	0.0	
Queue Length 95th (m)	34.7	1.8	1.0	25.3	65.2	9.0	
Internal Link Dist (m)	50.7			286.4	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	566	262	271	909	972	937	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.01	0.01	0.23	0.51	0.26	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 72.6  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 13.3      Intersection LOS: B  
 Intersection Capacity Utilization 44.2%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	23	496	160	332	843	14	
Future Volume (vph)	23	496	160	332	843	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Frt		0.850			0.997		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3337	0	
Flt Permitted	0.950		0.147				
Satd. Flow (perm)	1642	1465	242	1745	3337	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		99			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	26	551	178	369	937	16	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	26	551	178	369	953	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	41.0	26.0	26.0	74.0	48.0		5.0
Total Split (%)	34.2%	21.7%	21.7%	61.7%	40.0%		4%
Maximum Green (s)	34.2	19.6	19.6	67.5	41.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lead	Lead	Lead		Lag		Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	32.3	45.9	67.6	67.5	47.9		
Actuated g/C Ratio	0.27	0.38	0.56	0.56	0.40		
v/c Ratio	0.06	0.89	0.63	0.38	0.71		
Control Delay	31.9	37.2	24.7	16.0	34.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	31.9	37.2	24.7	16.0	34.7		
LOS	C	D	C	B	C		
Approach Delay	36.9			18.8	34.7		
Approach LOS	D			B	C		
Queue Length 50th (m)	4.1	76.2	18.1	42.3	88.6		
Queue Length 95th (m)	10.5	100.7	32.1	61.3	122.9		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	467	645	352	981	1333		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.06	0.85	0.51	0.38	0.71		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 31.1  
 Intersection Capacity Utilization 68.2%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	281	404	415	467	18	284	682	203	23	1166	507
Future Volume (vph)	193	281	404	415	467	18	284	682	203	23	1166	507
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				226			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	214	312	449	461	519	20	316	758	226	26	1296	563
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	312	449	461	539	0	316	758	226	26	1296	563
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												





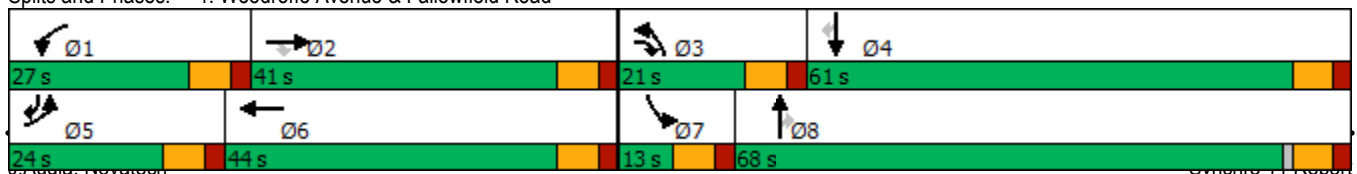
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.5	20.2	30.2		14.2	67.7	67.7	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.22		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.55	0.98	0.99	0.75		0.99	0.47	0.28	0.37	1.00	0.72
Control Delay	70.4	56.6	76.7	97.3	58.9		110.1	27.2	4.0	81.9	67.8	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	56.6	76.7	97.3	58.9		110.1	27.2	4.0	81.9	67.8	23.8
LOS	E	E	E	F	E		F	C	A	F	E	C
Approach Delay		68.9			76.6			43.3			54.9	
Approach LOS		E			E			D			D	
Queue Length 50th (m)	26.8	38.7	~96.1	59.7	68.1		41.1	69.1	0.0	6.4	166.3	73.5
Queue Length 95th (m)	41.4	52.6	#151.7	#102.0	88.6		#76.4	99.0	14.5	16.6	#242.5	124.7
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	801	456	468	885		319	1615	808	72	1296	815
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.39	0.98	0.99	0.61		0.99	0.47	0.28	0.36	1.00	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.2  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 58.8  
 Intersection Capacity Utilization 96.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
Existing Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	255	36	45	604	2	49	193	70	4	400	273
Future Volume (vph)	131	255	36	45	604	2	49	193	70	4	400	273
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.960				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1606	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.145			0.561			0.131			0.570		
Satd. Flow (perm)	230	1745	1469	989	1762	0	216	1606	0	1005	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					15				228
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	146	283	40	50	671	2	54	214	78	4	444	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	283	40	50	673	0	54	292	0	4	444	303
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

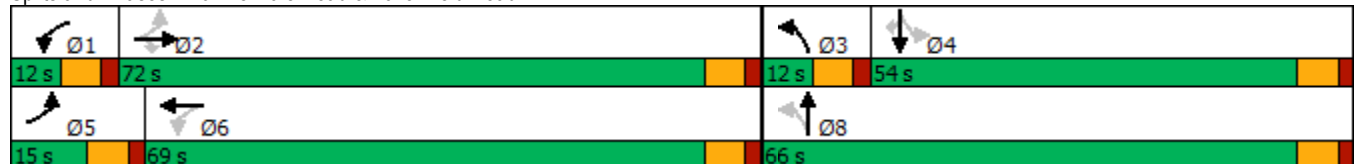
2-20 Leikin and 99 Bill Leathem  
Existing Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.5	68.9	68.9	68.6	63.0		48.4	48.6		39.4	39.4	39.4
Actuated g/C Ratio	0.54	0.49	0.49	0.49	0.45		0.35	0.35		0.28	0.28	0.28
v/c Ratio	0.72	0.33	0.05	0.10	0.85		0.43	0.51		0.01	0.90	0.52
Control Delay	40.7	26.2	0.1	18.0	48.0		39.5	36.7		35.8	69.8	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.7	26.2	0.1	18.0	48.0		39.5	36.7		35.8	69.8	14.0
LOS	D	C	A	B	D		D	D		D	E	B
Approach Delay		28.5			45.9			37.2			47.1	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	19.2	48.2	0.0	6.1	161.6		9.2	55.4		0.8	111.3	14.8
Queue Length 95th (m)	#43.5	73.6	0.0	13.2	#242.8		18.0	80.2		3.5	151.1	40.1
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	202	859	784	512	793		127	699		345	605	664
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	0.72	0.33	0.05	0.10	0.85		0.43	0.42		0.01	0.73	0.46

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 139.8  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 41.4      Intersection LOS: D  
 Intersection Capacity Utilization 96.3%      ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (road mods)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Future Volume (vph)	193	281	434	415	467	18	284	682	203	23	1266	507
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		2	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	0.88	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor				0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	2611	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	2611	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				226			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	214	312	482	461	519	20	316	758	226	26	1407	563
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	312	482	461	539	0	316	758	226	26	1407	563
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	2 3	1	6		3	8		7	4	5
Permitted Phases									8			4
Detector Phase	5	2	2 3	1	6		3	8	8	7	4	5

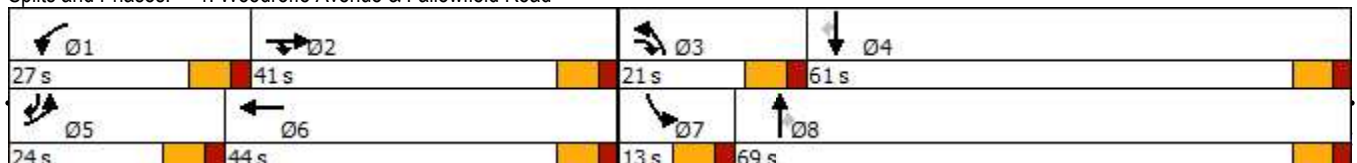


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	20.0		5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8		11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0		27.0	44.0		21.0	69.0	69.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%		18.0%	29.3%		14.0%	46.0%	46.0%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2		20.2	37.2		14.2	62.2	62.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8		6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min		None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	25.1	46.1	20.2	31.0		14.2	67.7	67.7	6.1	54.3	68.6
Actuated g/C Ratio	0.10	0.18	0.33	0.14	0.22		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.54	0.53	0.99	0.74		0.99	0.47	0.28	0.37	1.09	0.72
Control Delay	70.8	55.9	34.2	99.1	58.0		111.9	27.6	4.0	82.5	95.1	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	55.9	34.2	99.1	58.0		111.9	27.6	4.0	82.5	95.1	24.2
LOS	E	E	C	F	E		F	C	A	F	F	C
Approach Delay		48.7			77.0			44.0			74.9	
Approach LOS		D			E			D			E	
Queue Length 50th (m)	27.5	38.7	48.1	61.4	68.3		42.2	72.3	0.0	6.6	~212.1	77.6
Queue Length 95th (m)	41.5	52.6	64.8	#102.4	88.6		#76.7	99.3	14.6	16.6	#276.3	125.2
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	396	797	884	466	879		318	1606	805	72	1288	811
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.39	0.55	0.99	0.61		0.99	0.47	0.28	0.36	1.09	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 141  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 62.7  
 Intersection LOS: E  
 Intersection Capacity Utilization 99.3%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (road mods)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Future Volume (vph)	131	255	36	45	604	2	49	193	70	4	480	273
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	2		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.960				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2929	1745	1469	1674	1762	0	1566	1606	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.950			0.950			0.085			0.562		
Satd. Flow (perm)	2929	1745	1469	1674	1762	0	140	1606	0	990	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					14				237
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	146	283	40	50	671	2	54	214	78	4	533	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	283	40	50	673	0	54	292	0	4	533	303
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)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases			2				8			4		4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
Existing Traffic (road mods)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	16.0	72.0	72.0	17.0	73.0		12.0	71.0		59.0	59.0	59.0
Total Split (%)	10.0%	45.0%	45.0%	10.6%	45.6%		7.5%	44.4%		36.9%	36.9%	36.9%
Maximum Green (s)	9.5	65.4	65.4	10.5	66.4		5.4	64.6		52.6	52.6	52.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	9.6	70.2	70.2	9.0	66.8		58.3	58.5		49.2	49.2	49.2
Actuated g/C Ratio	0.06	0.45	0.45	0.06	0.43		0.38	0.38		0.32	0.32	0.32
v/c Ratio	0.81	0.36	0.05	0.52	0.88		0.52	0.47		0.01	0.95	0.47
Control Delay	103.1	32.2	0.1	91.1	56.3		48.7	36.7		36.5	78.8	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	103.1	32.2	0.1	91.1	56.3		48.7	36.7		36.5	78.8	12.4
LOS	F	C	A	F	E		D	D		D	E	B
Approach Delay		51.6			58.7			38.6			54.6	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	22.2	58.0	0.0	14.4	185.5		9.8	58.9		0.8	150.7	13.6
Queue Length 95th (m)	#40.3	81.8	0.0	28.1	#256.3		18.6	84.0		3.6	#213.8	38.6
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	181	793	728	114	762		103	683		339	603	668
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	0.81	0.36	0.05	0.44	0.88		0.52	0.43		0.01	0.88	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 154.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 52.9      Intersection LOS: D  
 Intersection Capacity Utilization 92.8%      ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road

Ø1	Ø2	Ø3	Ø4
17 s	72 s	12 s	59 s
Ø5	Ø6	Ø7	Ø8
16 s	73 s	71 s	

## **APPENDIX K**

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### Background Synchro Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Future Volume (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				297			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	580	201	93	165	0	397	1351	485	12	315	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

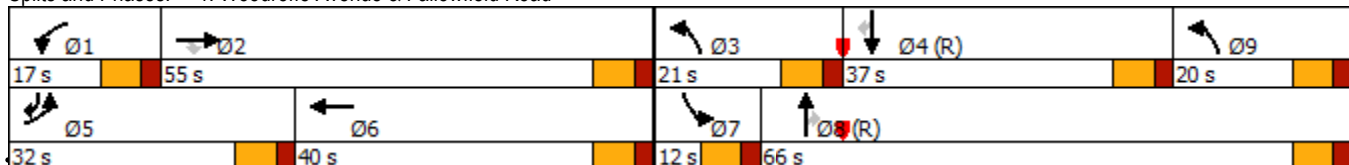


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.0	36.5	36.5	9.1	22.6			35.2	78.7	6.1	35.2	58.2
Actuated g/C Ratio	0.15	0.24	0.24	0.06	0.15			0.23	0.52	0.04	0.23	0.39
v/c Ratio	0.83	0.72	0.39	0.48	0.34			0.53	0.77	0.53	0.18	0.40
Control Delay	76.5	57.2	5.1	76.6	56.4			29.6	33.8	12.4	75.7	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	57.2	5.1	76.6	56.4			29.6	33.8	12.4	75.7	51.5
LOS	E	E	A	E	E			C	C	B	E	D
Approach Delay		55.1			63.7			28.4			41.1	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	56.9	78.8	0.0	12.8	21.3			26.6	135.8	26.9	3.2	39.2
Queue Length 95th (m)	73.7	86.6	11.5	21.7	29.1			43.4	#245.4	77.2	9.9	54.8
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	608	214	710			766	1757	912	67	779
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	0.76	0.54	0.33	0.43	0.23			0.52	0.77	0.53	0.18	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 39.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 95.4%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.




























Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 		 	 	 	 			
Traffic Volume (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Future Volume (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.951				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1660	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.539			0.059		
Satd. Flow (perm)	3216	1660	0	1674	1728	1483	929	3316	1483	103	3316	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				140			142			142
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	61	0	14	15	90	24	1535	44	110	355	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

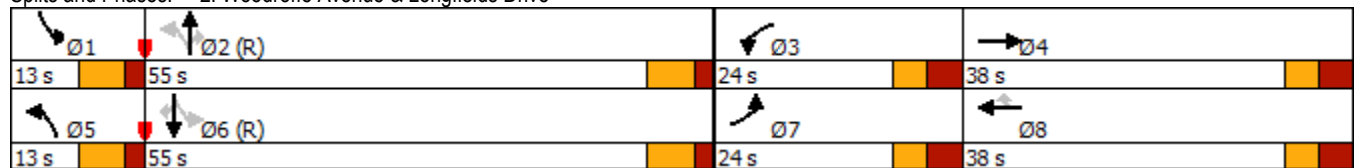


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	24.0	38.0		24.0	38.0	38.0	13.0	55.0	55.0	13.0	55.0	55.0
Total Split (%)	18.5%	29.2%		18.5%	29.2%	29.2%	10.0%	42.3%	42.3%	10.0%	42.3%	42.3%
Maximum Green (s)	17.3	31.3		17.3	31.3	31.3	6.5	48.5	48.5	6.5	48.5	48.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	14.1	29.2		6.7	14.2	14.2	72.0	65.9	65.9	80.1	74.0	74.0
Actuated g/C Ratio	0.11	0.22		0.05	0.11	0.11	0.55	0.51	0.51	0.62	0.57	0.57
v/c Ratio	0.64	0.16		0.16	0.08	0.31	0.04	0.91	0.05	0.62	0.19	0.06
Control Delay	63.9	30.0		62.6	48.5	4.0	13.1	39.7	0.1	38.5	16.7	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	30.0		62.6	48.5	4.0	13.1	39.7	0.1	38.5	16.7	0.1
LOS	E	C		E	D	A	B	D	A	D	B	A
Approach Delay		56.6			16.5			38.2			19.6	
Approach LOS		E			B			D			B	
Queue Length 50th (m)	26.3	8.0		3.2	3.4	0.0	1.8	162.6	0.0	10.2	20.6	0.0
Queue Length 95th (m)	37.6	17.1		9.5	8.2	2.8	7.4	#275.6	0.0	#48.8	41.8	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	427	435		222	416	463	553	1680	821	176	1888	892
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.14		0.06	0.04	0.19	0.04	0.91	0.05	0.63	0.19	0.06

Intersection Summary




















Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 48 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 35.5  
 Intersection Capacity Utilization 81.0%  
 Intersection LOS: D  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Future Volume (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.925			0.865			0.977	
Flt Protected	0.950			0.950							0.961	
Satd. Flow (prot)	1626	1743	0	1353	1395	0	0	1026	0	0	1650	0
Flt Permitted	0.950			0.950							0.961	
Satd. Flow (perm)	1626	1743	0	1353	1395	0	0	1026	0	0	1650	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour 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
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	574	0	7	52	0	0	2	0	0	218	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.2%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Fl <sub>t</sub> Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						



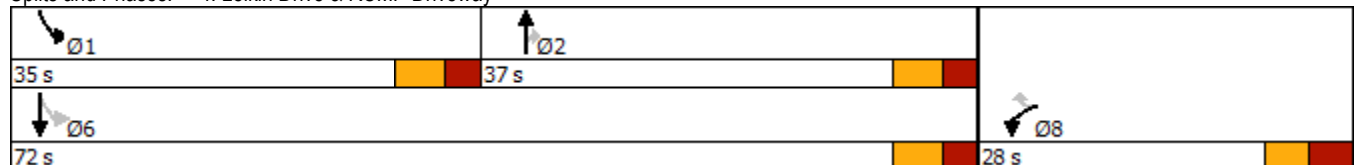












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 60.8  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.54  
 Intersection Signal Delay: 7.2  
 Intersection Capacity Utilization 63.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	1	329	28	1	256
Future Volume (vph)	112	1	329	28	1	256
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999		0.989			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1661	0	1726	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1661	0	1726	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.4		300.7		142.0	
Travel Time (s)	12.1		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	1	329	28	1	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	357	0	1	256
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.4%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Future Volume (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.992				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1730	0	1762	1618	1327
Flt Permitted	0.480			0.530			0.571					
Satd. Flow (perm)	838	1745	1427	925	1690	0	1006	1730	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		1			2				179
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	34	166	155	0	19	600	0	0	136	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

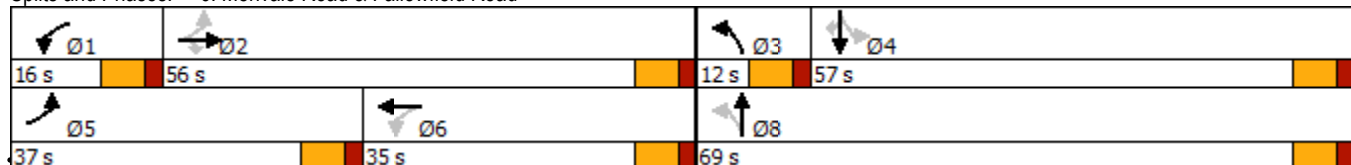


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	37.0	56.0	56.0	16.0	35.0		12.0	69.0		57.0	57.0	57.0
Total Split (%)	26.2%	39.7%	39.7%	11.3%	24.8%		8.5%	48.9%		40.4%	40.4%	40.4%
Maximum Green (s)	30.5	49.4	49.4	9.5	28.4		5.4	62.6		50.6	50.6	50.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	65.9	50.1	50.1	37.9	28.6		47.5	47.7			43.3	43.3
Actuated g/C Ratio	0.52	0.40	0.40	0.30	0.23		0.38	0.38			0.34	0.34
v/c Ratio	1.00	0.57	0.05	0.50	0.41		0.05	0.92			0.25	0.09
Control Delay	64.2	36.0	0.1	29.4	47.7		23.6	57.5			31.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	64.2	36.0	0.1	29.4	47.7		23.6	57.5			31.9	0.3
LOS	E	D	A	C	D		C	E			C	A
Approach Delay		51.7			38.3			56.5			23.4	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	~112.7	70.1	0.0	19.8	30.4		2.7	128.9			20.9	0.0
Queue Length 95th (m)	#254.6	117.0	0.0	39.1	55.5		7.3	174.8			39.6	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	635	690	642	334	382		405	862			650	640
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.00	0.57	0.05	0.50	0.41		0.05	0.70			0.21	0.08

Intersection Summary

Area Type: Other  
 Cycle Length: 141  
 Actuated Cycle Length: 126.6  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 48.7 Intersection LOS: D  
 Intersection Capacity Utilization 103.7% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	323	7	4	365	65	254	
Future Volume (vph)	323	7	4	365	65	254	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.715				
Satd. Flow (perm)	1674	1498	1260	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				254	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	323	7	4	365	65	254	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	323	7	4	365	65	254	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

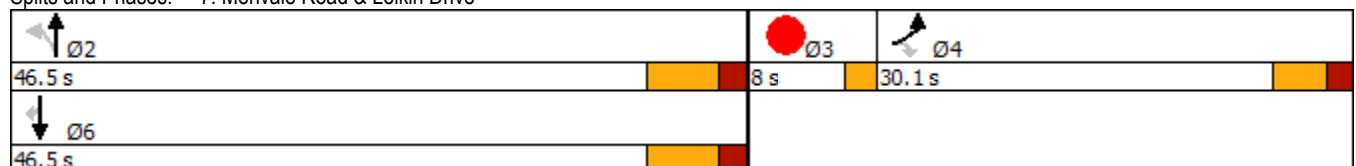


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	19.6	19.6	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.25	0.25	0.51	0.51	0.51	0.51	
v/c Ratio	0.78	0.02	0.01	0.42	0.09	0.29	
Control Delay	41.9	12.7	11.5	15.1	12.0	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.9	12.7	11.5	15.1	12.0	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	41.3			15.0	4.7		
Approach LOS	D			B	A		
Queue Length 50th (m)	41.7	0.0	0.3	30.5	4.5	0.0	
Queue Length 95th (m)	66.9	2.7	1.8	54.8	11.4	10.6	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	529	478	637	874	720	868	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	0.01	0.01	0.42	0.09	0.29	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 79.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 20.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 48.8%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive

















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	23	112	456	172	1
Future Volume (vph)	6	23	112	456	172	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.893				0.999	
Fl <sub>t</sub> Protected	0.990		0.950			
Satd. Flow (prot)	1543	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.990		0.950			
Satd. Flow (perm)	1543	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.4			153.6	316.2	
Travel Time (s)	12.1			6.9	14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	23	112	456	172	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	112	456	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.3%
Analysis Period (min)	15
	ICU Level of Service A

							
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	10	97	479	946	267	39	
Future Volume (vph)	10	97	479	946	267	39	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Frt		0.850			0.981		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Flt Permitted	0.950		0.504				
Satd. Flow (perm)	1674	1261	871	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		97			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	10	97	479	946	267	39	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	97	479	946	306	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



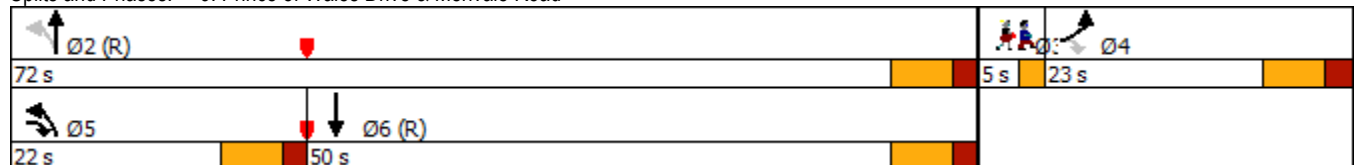


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.2	75.0	76.2	53.9		
Actuated g/C Ratio	0.11	0.30	0.75	0.76	0.54		
v/c Ratio	0.05	0.22	0.63	0.71	0.18		
Control Delay	38.8	5.6	10.2	13.2	13.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.8	5.6	10.2	13.2	13.9		
LOS	D	A	B	B	B		
Approach Delay	8.7			12.2	13.9		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.7	0.0	29.3	89.9	14.7		
Queue Length 95th (m)	5.7	9.0	55.6	174.5	24.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	447	781	1329	1688		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.22	0.61	0.71	0.18		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 12.3  
 Intersection Capacity Utilization 72.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Future Volume (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				297			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	414	580	201	93	153	12	397	1351	485	12	315	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	580	201	93	165	0	397	1351	485	12	315	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

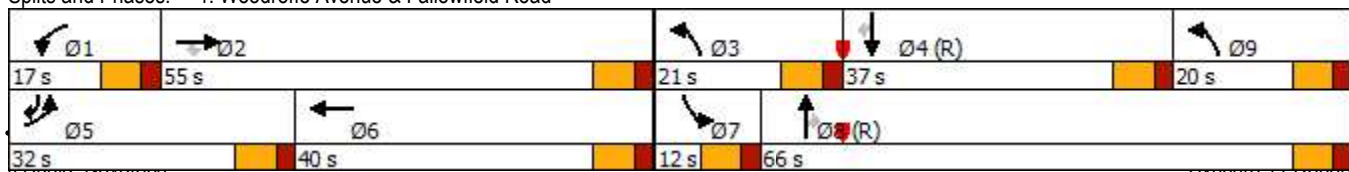


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.0	36.5	36.5	9.1	22.6			35.2	78.7	6.1	35.2	58.2
Actuated g/C Ratio	0.15	0.24	0.24	0.06	0.15			0.23	0.52	0.04	0.23	0.39
v/c Ratio	0.83	0.72	0.39	0.48	0.34			0.53	0.77	0.53	0.18	0.40
Control Delay	76.5	57.2	5.1	76.6	56.4			21.8	25.8	10.0	75.7	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	57.2	5.1	76.6	56.4			21.8	25.8	10.0	75.7	51.5
LOS	E	E	A	E	E			C	C	B	E	D
Approach Delay		55.1			63.7			21.7			41.1	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	56.9	78.8	0.0	12.8	21.3			22.1	152.7	42.0	3.2	39.2
Queue Length 95th (m)	73.7	86.6	11.5	21.7	29.1			m32.3	#251.0	m114.6	9.9	54.8
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	608	214	710			766	1757	912	67	779
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	0.76	0.54	0.33	0.43	0.23			0.52	0.77	0.53	0.18	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 36.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 95.4%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.




























Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 	 	 	 				
Traffic Volume (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Future Volume (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.951				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1660	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.539			0.060		
Satd. Flow (perm)	3216	1660	0	1674	1728	1483	928	3316	1483	105	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	41	20	14	15	90	24	1535	44	110	355	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	61	0	14	15	90	24	1535	44	110	355	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

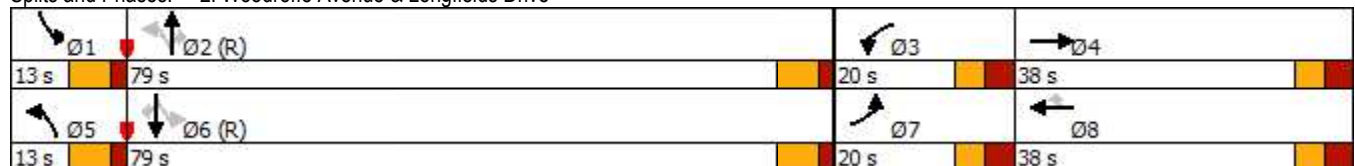
2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0		24.0	24.0			18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3		3	3			3	3		3	3
Act Effct Green (s)	13.0	27.9		6.9	14.2	14.2	91.3	85.2	85.2	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.19		0.05	0.09	0.09	0.61	0.57	0.57	0.68	0.63	0.63
v/c Ratio	0.80	0.19		0.18	0.09	0.36	0.04	0.82	0.05	0.59	0.17	0.06
Control Delay	88.3	40.9		73.7	58.9	7.1	10.3	31.4	0.1	57.2	5.2	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	40.9		73.7	58.9	7.1	10.3	31.4	0.1	57.2	5.2	0.1
LOS	F	D		E	E	A	B	C	A	E	A	A
Approach Delay		78.1			21.5			30.3			15.7	
Approach LOS		E			C			C			B	
Queue Length 50th (m)	31.3	10.5		3.8	3.9	0.0	1.8	166.7	0.0	11.8	6.2	0.0
Queue Length 95th (m)	#48.7	21.7		10.8	9.2	6.3	6.7	#258.4	0.0	#50.8	14.2	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	598	1883	895	187	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.17		0.09	0.04	0.22	0.04	0.82	0.05	0.59	0.17	0.06

Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 32.2  
 Intersection Capacity Utilization 81.0%  
 Intersection LOS: C  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Fl <sub>t</sub> Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						



4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

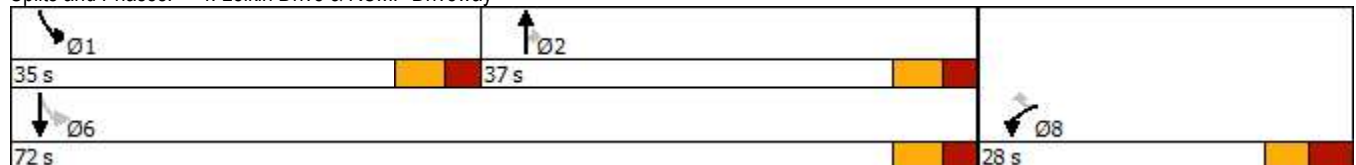


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 60.8  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.54  
 Intersection Signal Delay: 7.2  
 Intersection Capacity Utilization 63.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Future Volume (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.992				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1730	0	1762	1618	1327
Flt Permitted	0.361			0.530			0.559					
Satd. Flow (perm)	630	1745	1427	925	1690	0	985	1730	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			2				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	34	166	151	4	19	570	30	0	136	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	34	166	155	0	19	600	0	0	136	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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.6	62.2	62.2	33.3	20.4		52.8	53.0		46.0	46.0	46.0
Actuated g/C Ratio	0.55	0.42	0.42	0.23	0.14		0.36	0.36		0.31	0.31	0.31
v/c Ratio	0.87	0.53	0.05	0.61	0.66		0.05	0.96		0.27	0.09	0.09
Control Delay	40.4	36.4	0.1	36.3	75.1		30.7	74.0		41.2	0.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	40.4	36.4	0.1	36.3	75.1		30.7	74.0		41.2	0.4	0.4
LOS	D	D	A	D	E		C	E		D	A	A
Approach Delay		37.6			55.1			72.7		30.2		
Approach LOS		D			E			E		C		
Queue Length 50th (m)	125.9	80.8	0.0	22.4	40.8		3.3	157.4		29.0	0.0	0.0
Queue Length 95th (m)	#192.8	115.6	0.0	34.6	63.7		8.7	#225.0		46.4	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	728	735	670	313	234		378	653		504	529	529
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	0.87	0.53	0.05	0.53	0.66		0.05	0.92		0.27	0.09	0.09

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 147.5

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 49.5

Intersection LOS: D

Intersection Capacity Utilization 103.7%

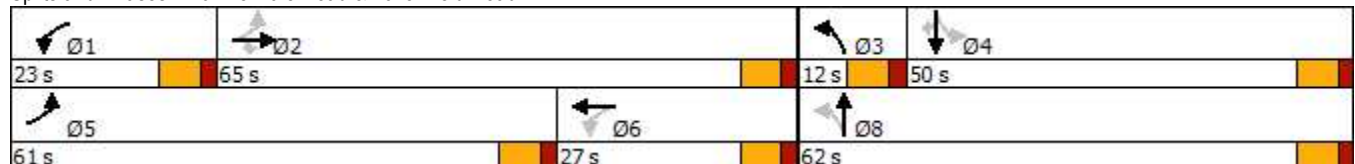
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	323	7	4	365	65	254	
Future Volume (vph)	323	7	4	365	65	254	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Fl <sub>t</sub> Permitted	0.950		0.715				
Satd. Flow (perm)	1674	1498	1260	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				254	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	323	7	4	365	65	254	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	323	7	4	365	65	254	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

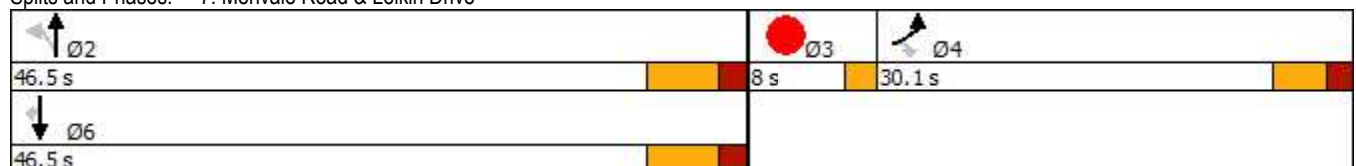


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	19.6	19.6	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.25	0.25	0.51	0.51	0.51	0.51	
v/c Ratio	0.78	0.02	0.01	0.42	0.09	0.29	
Control Delay	41.9	12.7	11.5	15.1	12.0	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.9	12.7	11.5	15.1	12.0	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	41.3			15.0	4.7		
Approach LOS	D			B	A		
Queue Length 50th (m)	41.7	0.0	0.3	30.5	4.5	0.0	
Queue Length 95th (m)	66.9	2.7	1.8	54.8	11.4	10.6	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	529	478	637	874	720	868	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	0.01	0.01	0.42	0.09	0.29	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 79.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 20.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 48.8%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	10	97	479	946	267	39	
Future Volume (vph)	10	97	479	946	267	39	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Fr <sub>t</sub>		0.850			0.981		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Fl <sub>t</sub> Permitted	0.950		0.504				
Satd. Flow (perm)	1674	1261	871	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		97			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	10	97	479	946	267	39	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	97	479	946	306	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

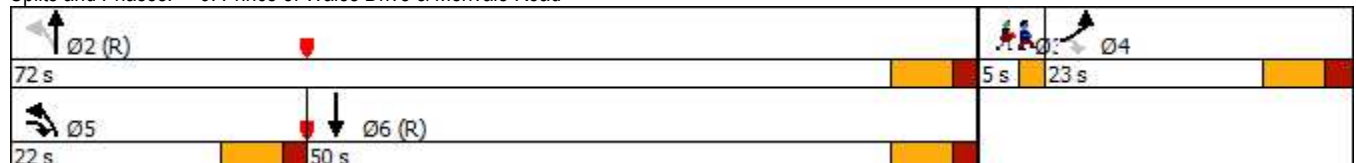


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.2	75.0	76.2	53.9		
Actuated g/C Ratio	0.11	0.30	0.75	0.76	0.54		
v/c Ratio	0.05	0.22	0.63	0.71	0.18		
Control Delay	38.8	5.6	10.2	13.2	13.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.8	5.6	10.2	13.2	13.9		
LOS	D	A	B	B	B		
Approach Delay	8.7			12.2	13.9		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.7	0.0	29.3	89.9	14.7		
Queue Length 95th (m)	5.7	9.0	55.6	174.5	24.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	447	781	1329	1688		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.22	0.61	0.71	0.18		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 12.3  
 Intersection Capacity Utilization 72.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	34	166	151	4	19	450	30	0	136	50
Future Volume (vph)	636	392	34	166	151	4	19	450	30	0	136	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.991				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1728	0	1762	1618	1327
Flt Permitted	0.387			0.530			0.530					
Satd. Flow (perm)	675	1745	1427	925	1690	0	934	1728	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			3				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	34	166	151	4	19	450	30	0	136	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	34	166	155	0	19	480	0	0	136	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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0



6: Merivale Road & Fallowfield Road  
AM Peak Hour

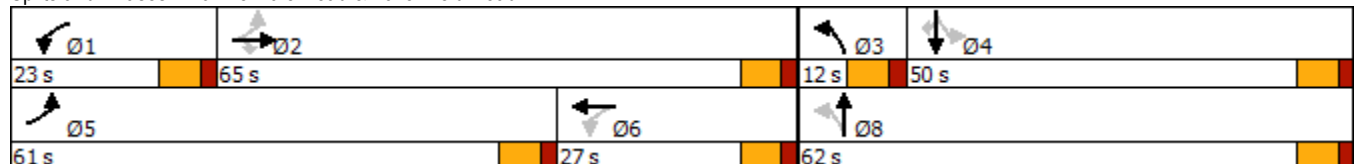
2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.9	63.5	63.5	32.3	20.5		41.9	42.1		35.3	35.3	35.3
Actuated g/C Ratio	0.60	0.46	0.46	0.24	0.15		0.31	0.31		0.26	0.26	0.26
v/c Ratio	0.80	0.49	0.05	0.59	0.61		0.06	0.90		0.33	0.11	0.11
Control Delay	29.3	30.5	0.1	33.2	67.5		32.1	65.8		44.4	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	29.3	30.5	0.1	33.2	67.5		32.1	65.8		44.4	0.5	0.5
LOS	C	C	A	C	E		C	E		D	A	A
Approach Delay		28.8			49.8			64.5		32.6		
Approach LOS		C			D			E		C		
Queue Length 50th (m)	99.1	66.5	0.0	17.7	36.4		3.3	113.5		29.0	0.0	0.0
Queue Length 95th (m)	#188.0	115.6	0.0	34.6	63.7		8.7	153.6		46.4	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	796	808	725	339	253		315	706		517	539	539
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	0.80	0.49	0.05	0.49	0.61		0.06	0.68		0.26	0.09	0.09

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 137  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 41.0 Intersection LOS: D  
 Intersection Capacity Utilization 97.0% ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Future Volume (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.97	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3327	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1441	3228	3327	0	3154	3349	1433	1639	3349	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				209			121
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	289	451	427	500	0	303	712	209	24	1308	522
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												



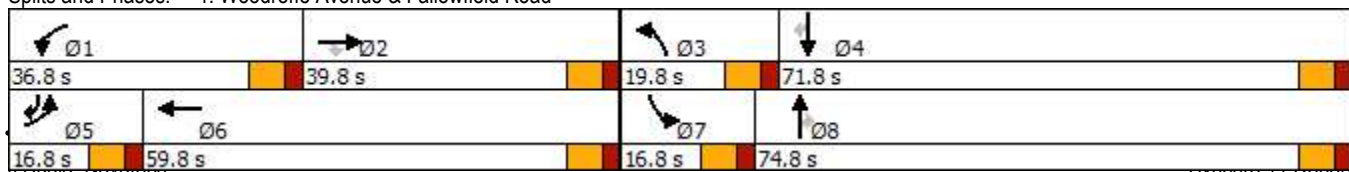
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	16.8	39.8	39.8	36.8	59.8		19.8	74.8	74.8	16.8	71.8	16.8
Total Split (%)	10.0%	23.7%	23.7%	21.9%	35.6%		11.8%	44.5%	44.5%	10.0%	42.7%	10.0%
Maximum Green (s)	10.0	33.0	33.0	30.0	53.0		13.0	68.0	68.0	10.0	65.0	10.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	10.0	33.0	33.0	26.0	49.0		13.0	75.6	75.6	7.8	65.1	75.1
Actuated g/C Ratio	0.06	0.20	0.20	0.16	0.30		0.08	0.46	0.46	0.05	0.40	0.46
v/c Ratio	1.01	0.44	1.09	0.83	0.50		1.22	0.46	0.27	0.31	0.99	0.71
Control Delay	140.2	60.4	108.2	81.6	49.2		187.3	33.4	4.5	86.7	70.4	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	140.2	60.4	108.2	81.6	49.2		187.3	33.4	4.5	86.7	70.4	29.6
LOS	F	E	F	F	D		F	C	A	F	E	C
Approach Delay		100.3			64.2			66.6			59.1	
Approach LOS		F			E			E			E	
Queue Length 50th (m)	~32.0	40.8	~112.8	65.1	65.4		~57.6	82.1	0.0	7.2	206.3	90.1
Queue Length 95th (m)	#58.7	56.1	#181.8	83.1	82.0		#88.9	105.3	15.1	16.9	#261.5	133.2
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	197	659	414	593	1075		249	1540	772	99	1326	739
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.44	1.09	0.72	0.47		1.22	0.46	0.27	0.24	0.99	0.71

Intersection Summary

Area Type: Other  
 Cycle Length: 168.2  
 Actuated Cycle Length: 164.3  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.22  
 Intersection Signal Delay: 69.7  
 Intersection Capacity Utilization 101.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic

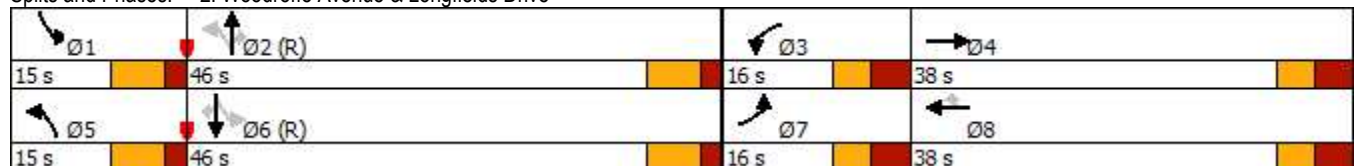
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Future Volume (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Frt		0.913				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.073			0.237		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	417	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				158			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	62	0	35	40	154	59	865	25	109	1430	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	8.9	20.6		7.6	14.2	14.2	64.7	57.6	57.6	67.5	60.8	60.8
Actuated g/C Ratio	0.08	0.18		0.07	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.57	0.21		0.32	0.22	0.49	0.39	0.52	0.03	0.33	0.81	0.19
Control Delay	60.5	22.4		58.2	45.2	10.9	20.9	22.6	0.1	13.5	29.0	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	22.4		58.2	45.2	10.9	20.9	22.6	0.1	13.5	29.0	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			24.1			21.9			25.6	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	5.0		7.0	7.9	0.0	4.0	57.4	0.0	7.5	119.3	0.0
Queue Length 95th (m)	24.1	13.7		16.3	14.2	13.4	15.1	105.0	0.0	21.9	#232.9	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	425		135	403	511	170	1660	811	340	1771	847
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.15		0.26	0.10	0.30	0.35	0.52	0.03	0.32	0.81	0.19

Intersection Summary




















Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 25.9 Intersection LOS: C  
 Intersection Capacity Utilization 74.1% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	60	0	0	256	94	0	0	0	38	0	201
Future Volume (vph)	79	60	0	0	256	94	0	0	0	38	0	201
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Fr					0.960							0.886
Flt Protected	0.950											0.992
Satd. Flow (prot)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Flt Permitted	0.950											0.992
Satd. Flow (perm)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)	1		10	10		1	1					1
Confl. Bikes (#/hr)			3			7			1			3
Peak Hour 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
Heavy Vehicles (%)	1%	12%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%
Adj. Flow (vph)	79	60	0	0	256	94	0	0	0	38	0	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	60	0	0	350	0	0	0	0	0	239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.3%						ICU Level of Service A					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr t		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Flt Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

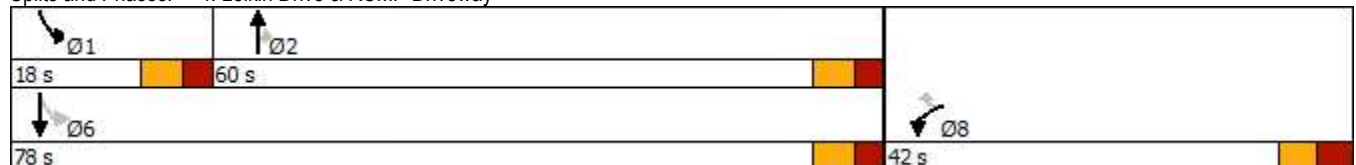


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14











Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway





						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	1	187	132	1	242
Future Volume (vph)	45	1	187	132	1	242
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997		0.944			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1658	0	1647	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1658	0	1647	0	1658	1745
Link Speed (k/h)	50		60			60
Link Distance (m)	167.4		300.7			142.0
Travel Time (s)	12.1		18.0			8.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	1	187	132	1	242
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	319	0	1	242
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Future Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.118			0.586			0.118			0.562		
Satd. Flow (perm)	188	1745	1469	1033	1762	0	194	1602	0	990	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					17				248
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	37	54	624	0	50	302	0	4	500	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

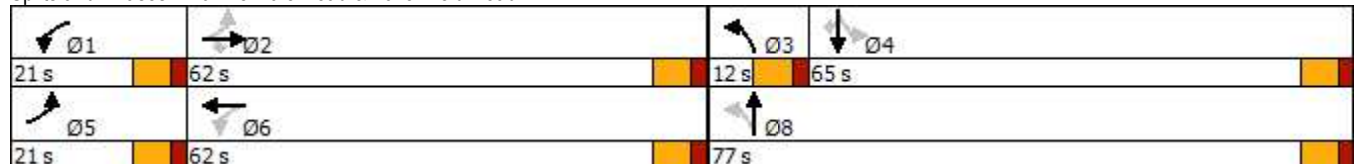
2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.8	64.2	64.2	64.4	56.3		54.0	54.2		45.1	45.1	45.1
Actuated g/C Ratio	0.52	0.45	0.45	0.45	0.39		0.38	0.38		0.32	0.32	0.32
v/c Ratio	0.62	0.34	0.05	0.11	0.90		0.40	0.49		0.01	0.90	0.44
Control Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
LOS	D	C	A	C	E		D	C		C	E	A
Approach Delay		30.4			57.3			34.1			46.2	
Approach LOS		C			E			C			D	
Queue Length 50th (m)	19.2	48.8	0.0	7.2	164.6		8.4	56.7		0.8	129.5	6.3
Queue Length 95th (m)	38.6	81.0	0.0	16.0	#262.1		16.5	80.8		3.4	171.8	26.5
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	235	783	721	579	693		125	812		412	733	768
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	0.57	0.34	0.05	0.09	0.90		0.40	0.37		0.01	0.68	0.37

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 143.1  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 44.6      Intersection LOS: D  
 Intersection Capacity Utilization 98.4%      ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	179	8	9	192	455	235	
Future Volume (vph)	179	8	9	192	455	235	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Flt Permitted	0.950		0.442				
Satd. Flow (perm)	1642	756	525	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				235	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	179	8	9	192	455	235	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	179	8	9	192	455	235	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

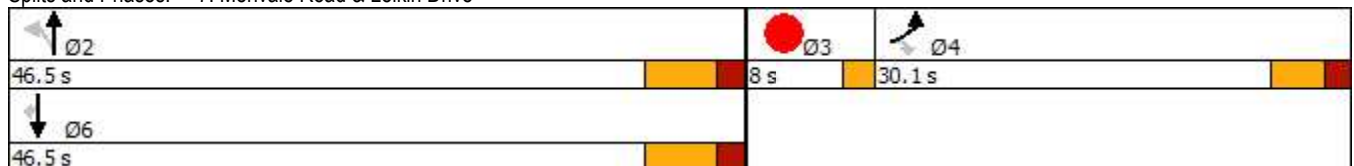


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	13.5	13.5	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.59	0.06	0.03	0.21	0.47	0.25	
Control Delay	35.7	14.8	9.4	9.9	12.8	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	14.8	9.4	9.9	12.8	2.3	
LOS	D	B	A	A	B	A	
Approach Delay	34.8			9.9	9.2		
Approach LOS	C			A	A		
Queue Length 50th (m)	20.9	0.0	0.5	11.2	31.7	0.0	
Queue Length 95th (m)	37.5	3.1	2.6	24.2	60.9	9.0	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	561	263	287	902	964	926	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.03	0.03	0.21	0.47	0.25	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 73.2  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 13.8      Intersection LOS: B  
 Intersection Capacity Utilization 45.4%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



8: Merivale Road & Beckstead Road  
PM Peak Hour













2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	126	46	258	478	0
Future Volume (vph)	7	126	46	258	478	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.872					
Fl <sub>t</sub> Protected	0.997		0.950			
Satd. Flow (prot)	1517	0	1658	1745	1745	0
Fl <sub>t</sub> Permitted	0.997		0.950			
Satd. Flow (perm)	1517	0	1658	1745	1745	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.4			153.6	316.2	
Travel Time (s)	12.1			6.9	14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	126	46	258	478	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	133	0	46	258	478	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.5%
Analysis Period (min)	15
	ICU Level of Service A

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	24	530	175	342	868	14	
Future Volume (vph)	24	530	175	342	868	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Frt		0.850			0.998		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3341	0	
Flt Permitted	0.950		0.246				
Satd. Flow (perm)	1642	1464	405	1745	3341	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		187			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	24	530	175	342	868	14	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	24	530	175	342	882	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



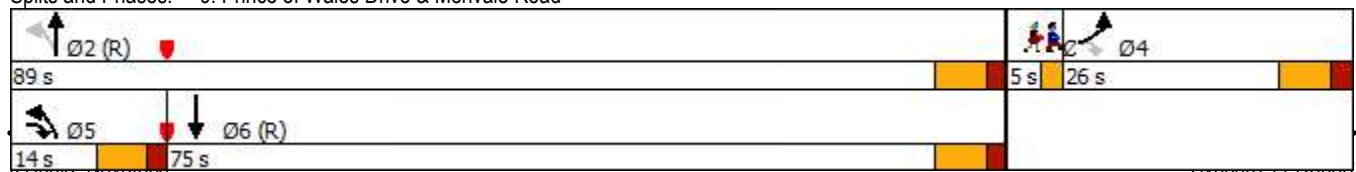
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	26.0	14.0	14.0	89.0	75.0		5.0
Total Split (%)	21.7%	11.7%	11.7%	74.2%	62.5%		4%
Maximum Green (s)	19.2	7.6	7.6	82.5	68.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	19.2	27.2	82.6	82.5	68.5		
Actuated g/C Ratio	0.16	0.23	0.69	0.69	0.57		
v/c Ratio	0.09	1.11	0.50	0.29	0.46		
Control Delay	44.1	101.6	11.6	8.0	16.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.1	101.6	11.6	8.0	16.0		
LOS	D	F	B	A	B		
Approach Delay	99.1			9.2	16.0		
Approach LOS	F			A	B		
Queue Length 50th (m)	4.5	~76.2	12.1	26.1	55.7		
Queue Length 95th (m)	11.7	#137.2	19.5	38.1	69.7		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	262	477	352	1199	1908		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.09	1.11	0.50	0.29	0.46		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.11  
 Intersection Signal Delay: 37.8  
 Intersection Capacity Utilization 71.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service C

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Future Volume (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3230	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				209			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	199	289	451	427	481	19	303	712	209	24	1308	522
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	289	451	427	500	0	303	712	209	24	1308	522
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												

1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)



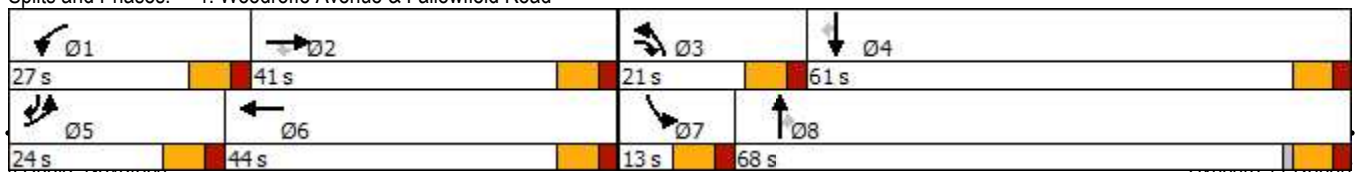
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	13.7	23.4	37.6	20.2	29.9		14.2	67.6	67.6	6.1	54.3	68.0
Actuated g/C Ratio	0.10	0.17	0.27	0.15	0.21		0.10	0.49	0.49	0.04	0.39	0.49
v/c Ratio	0.62	0.52	1.00	0.91	0.70		0.94	0.44	0.26	0.34	1.00	0.66
Control Delay	69.4	56.2	81.5	82.3	56.6		99.5	26.1	4.0	79.5	68.0	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	56.2	81.5	82.3	56.6		99.5	26.1	4.0	79.5	68.0	21.4
LOS	E	E	F	F	E		F	C	A	E	E	C
Approach Delay		71.2			68.4			40.5			55.0	
Approach LOS		E			E			D			D	
Queue Length 50th (m)	24.6	35.5	~101.1	53.9	61.8		38.8	62.5	0.0	5.9	166.0	63.0
Queue Length 95th (m)	38.8	48.8	#157.1	#91.3	81.9		#72.4	91.7	14.0	16.0	#246.4	108.5
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	401	806	450	471	890		321	1624	803	72	1304	820
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.36	1.00	0.91	0.56		0.94	0.44	0.26	0.33	1.00	0.64

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 139.3  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 57.0  
 Intersection Capacity Utilization 101.4%  
 Intersection LOS: E  
 ICU Level of Service G  
 Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)

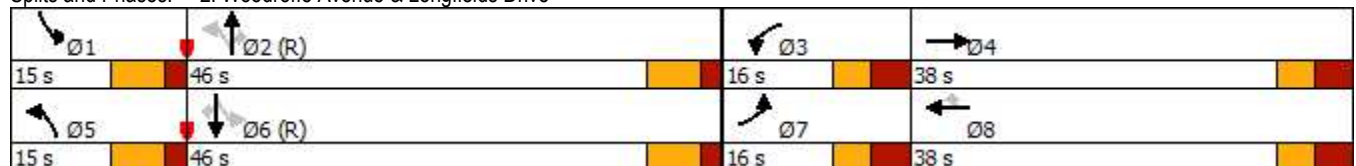
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Future Volume (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99						0.98		0.98	1.00		0.97
Fr <sub>t</sub>		0.913				0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Fl <sub>t</sub> Permitted	0.950			0.950			0.073			0.237		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	417	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				158			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	26	36	35	40	154	59	865	25	109	1430	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	62	0	35	40	154	59	865	25	109	1430	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	8.9	20.6		7.6	14.2	14.2	64.7	57.6	57.6	67.5	60.8	60.8
Actuated g/C Ratio	0.08	0.18		0.07	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.57	0.21		0.32	0.22	0.49	0.39	0.52	0.03	0.33	0.81	0.19
Control Delay	60.5	22.4		58.2	45.2	10.9	20.9	22.6	0.1	13.5	29.0	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	22.4		58.2	45.2	10.9	20.9	22.6	0.1	13.5	29.0	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			24.1			21.9			25.6	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	5.0		7.0	7.9	0.0	4.0	57.4	0.0	7.5	119.3	0.0
Queue Length 95th (m)	24.1	13.7		16.3	14.2	13.4	15.1	105.0	0.0	21.9	#232.9	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	425		135	403	511	170	1660	811	340	1771	847
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.15		0.26	0.10	0.30	0.35	0.52	0.03	0.32	0.81	0.19

Intersection Summary













Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 25.9 Intersection LOS: C  
 Intersection Capacity Utilization 74.1% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

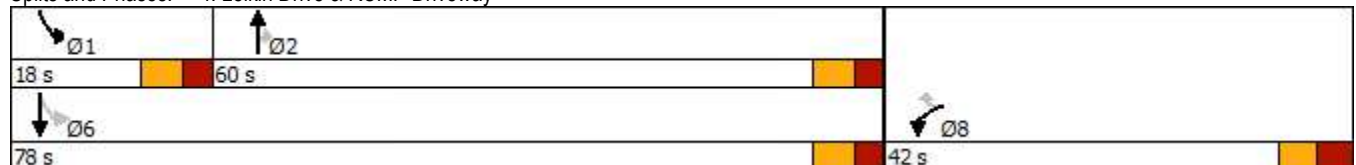


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Future Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.118			0.586			0.118			0.562		
Satd. Flow (perm)	188	1745	1469	1033	1762	0	194	1602	0	990	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					17				248
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	37	54	624	0	50	302	0	4	500	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.8	64.2	64.2	64.4	56.3		54.0	54.2		45.1	45.1	45.1
Actuated g/C Ratio	0.52	0.45	0.45	0.45	0.39		0.38	0.38		0.32	0.32	0.32
v/c Ratio	0.62	0.34	0.05	0.11	0.90		0.40	0.49		0.01	0.90	0.44
Control Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
LOS	D	C	A	C	E		D	C		C	E	A
Approach Delay		30.4			57.3			34.1			46.2	
Approach LOS		C			E			C			D	
Queue Length 50th (m)	19.2	48.8	0.0	7.2	164.6		8.4	56.7		0.8	129.5	6.3
Queue Length 95th (m)	38.6	81.0	0.0	16.0	#262.1		16.5	80.8		3.4	171.8	26.5
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	235	783	721	579	693		125	812		412	733	768
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	0.57	0.34	0.05	0.09	0.90		0.40	0.37		0.01	0.68	0.37

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 143.1  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 44.6      Intersection LOS: D  
 Intersection Capacity Utilization 98.4%      ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road

Ø1 21 s	Ø2 62 s	Ø3 12 s	Ø4 65 s
Ø5 21 s	Ø6 62 s	Ø8 77 s	



7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	179	8	9	192	455	235	
Future Volume (vph)	179	8	9	192	455	235	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Flt Permitted	0.950		0.442				
Satd. Flow (perm)	1642	756	525	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				235	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	179	8	9	192	455	235	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	179	8	9	192	455	235	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

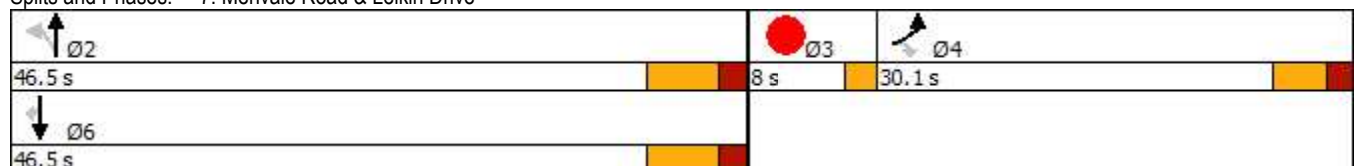


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	13.5	13.5	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.59	0.06	0.03	0.21	0.47	0.25	
Control Delay	35.7	14.8	9.4	9.9	12.8	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	14.8	9.4	9.9	12.8	2.3	
LOS	D	B	A	A	B	A	
Approach Delay	34.8			9.9	9.2		
Approach LOS	C			A	A		
Queue Length 50th (m)	20.9	0.0	0.5	11.2	31.7	0.0	
Queue Length 95th (m)	37.5	3.1	2.6	24.2	60.9	9.0	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	561	263	287	902	964	926	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.03	0.03	0.21	0.47	0.25	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 73.2  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 13.8      Intersection LOS: B  
 Intersection Capacity Utilization 45.4%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	24	530	175	342	868	14	
Future Volume (vph)	24	530	175	342	868	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3340	0	
Fl <sub>t</sub> Permitted	0.950		0.187				
Satd. Flow (perm)	1642	1465	308	1745	3340	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		108			1		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	24	530	175	342	868	14	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	24	530	175	342	882	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

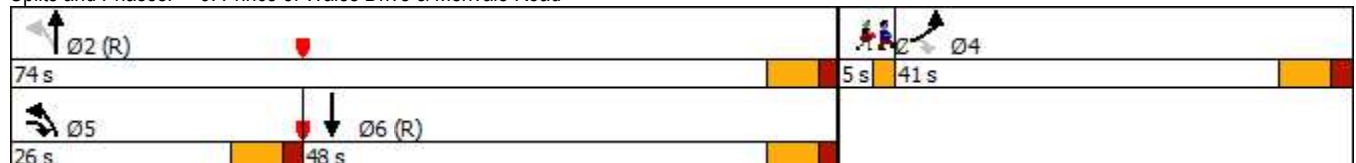


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	41.0	26.0	26.0	74.0	48.0		5.0
Total Split (%)	34.2%	21.7%	21.7%	61.7%	40.0%		4%
Maximum Green (s)	34.2	19.6	19.6	67.5	41.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	32.3	45.0	69.5	69.4	50.7		
Actuated g/C Ratio	0.27	0.38	0.58	0.58	0.42		
v/c Ratio	0.05	0.86	0.57	0.34	0.63		
Control Delay	31.8	37.3	20.1	14.9	30.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	31.8	37.3	20.1	14.9	30.8		
LOS	C	D	C	B	C		
Approach Delay	37.0			16.7	30.8		
Approach LOS	D			B	C		
Queue Length 50th (m)	3.8	76.0	17.8	38.5	79.5		
Queue Length 95th (m)	9.8	105.6	28.8	56.2	108.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	467	636	383	1009	1411		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.05	0.83	0.46	0.34	0.63		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 28.8  
 Intersection Capacity Utilization 71.2%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Future Volume (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.118			0.586			0.118			0.562		
Satd. Flow (perm)	188	1745	1469	1033	1762	0	194	1602	0	990	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					17				248
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	37	54	622	2	50	213	89	4	500	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	37	54	624	0	50	302	0	4	500	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

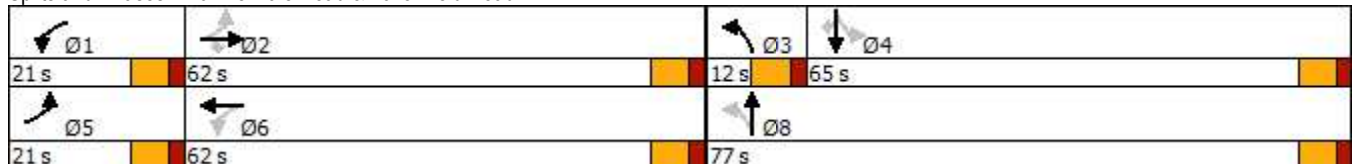
2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.8	64.2	64.2	64.4	56.3		54.0	54.2		45.1	45.1	45.1
Actuated g/C Ratio	0.52	0.45	0.45	0.45	0.39		0.38	0.38		0.32	0.32	0.32
v/c Ratio	0.62	0.34	0.05	0.11	0.90		0.40	0.49		0.01	0.90	0.44
Control Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.7	31.9	0.1	21.4	60.5		36.4	33.7		33.2	67.6	8.4
LOS	D	C	A	C	E		D	C		C	E	A
Approach Delay		30.4			57.3			34.1			46.2	
Approach LOS		C			E			C			D	
Queue Length 50th (m)	19.2	48.8	0.0	7.2	164.6		8.4	56.7		0.8	129.5	6.3
Queue Length 95th (m)	38.6	81.0	0.0	16.0	#262.1		16.5	80.8		3.4	171.8	26.5
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	235	783	721	579	693		125	812		412	733	768
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	0.57	0.34	0.05	0.09	0.90		0.40	0.37		0.01	0.68	0.37

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 143.1  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 44.6      Intersection LOS: D  
 Intersection Capacity Utilization 98.4%      ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Future Volume (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				297			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	622	215	99	178	0	426	1449	520	13	337	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		



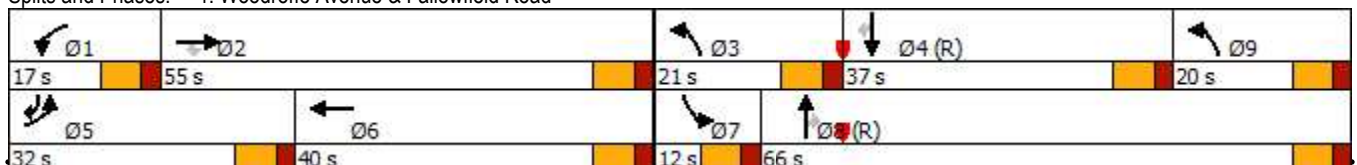


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.8	37.5	37.5	9.3	23.0			35.7	77.5	6.1	33.4	57.3
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15			0.24	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.75	0.41	0.51	0.36			0.56	0.84	0.58	0.19	0.46
Control Delay	78.4	57.7	6.4	77.1	56.5			30.7	37.6	14.4	76.2	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	78.4	57.7	6.4	77.1	56.5			30.7	37.6	14.4	76.2	53.7
LOS	E	E	A	E	E			C	D	B	E	D
Approach Delay		56.3			63.9			31.4			42.8	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.2	85.3	0.0	13.7	23.2			29.3	155.9	34.7	3.5	43.0
Queue Length 95th (m)	#80.6	93.7	14.8	22.7	31.1			46.5	#274.7	91.7	10.5	58.7
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	608	214	710			770	1729	902	68	744
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	0.81	0.58	0.35	0.46	0.25			0.55	0.84	0.58	0.19	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 41.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.1%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Future Volume (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.951				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1660	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.526			0.059		
Satd. Flow (perm)	3216	1660	0	1674	1728	1483	906	3316	1483	103	3316	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				140			142			142
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	61	0	14	15	90	24	1646	44	110	381	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

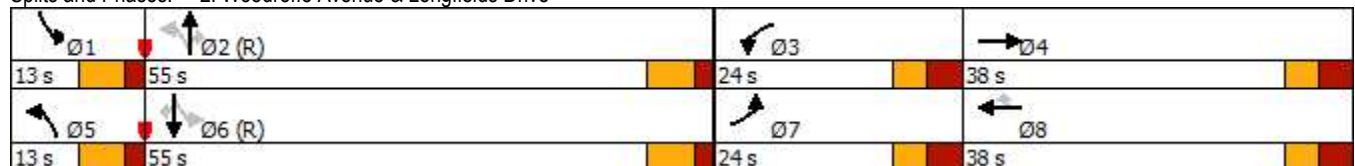


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	24.0	38.0		24.0	38.0	38.0	13.0	55.0	55.0	13.0	55.0	55.0
Total Split (%)	18.5%	29.2%		18.5%	29.2%	29.2%	10.0%	42.3%	42.3%	10.0%	42.3%	42.3%
Maximum Green (s)	17.3	31.3		17.3	31.3	31.3	6.5	48.5	48.5	6.5	48.5	48.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	14.1	29.2		6.7	14.2	14.2	72.0	65.9	65.9	80.1	74.0	74.0
Actuated g/C Ratio	0.11	0.22		0.05	0.11	0.11	0.55	0.51	0.51	0.62	0.57	0.57
v/c Ratio	0.64	0.16		0.16	0.08	0.31	0.04	0.98	0.05	0.62	0.20	0.06
Control Delay	63.9	30.0		62.6	48.5	4.0	13.1	49.5	0.1	38.5	16.9	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	30.0		62.6	48.5	4.0	13.1	49.5	0.1	38.5	16.9	0.1
LOS	E	C		E	D	A	B	D	A	D	B	A
Approach Delay		56.6			16.5			47.8			19.5	
Approach LOS		E			B			D			B	
Queue Length 50th (m)	26.3	8.0		3.2	3.4	0.0	1.8	186.2	0.0	10.2	22.3	0.0
Queue Length 95th (m)	37.6	17.1		9.5	8.2	2.8	7.4	#304.0	0.0	#48.8	45.0	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	427	435		222	416	463	541	1680	821	176	1888	892
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.14		0.06	0.04	0.19	0.04	0.98	0.05	0.63	0.20	0.06

Intersection Summary




















Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 48 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 41.5  
 Intersection Capacity Utilization 84.3%  
 Intersection LOS: D  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Future Volume (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.925			0.865				0.977
Flt Protected	0.950			0.950								0.961
Satd. Flow (prot)	1626	1743	0	1353	1395	0	0	1026	0	0	1650	0
Flt Permitted	0.950			0.950								0.961
Satd. Flow (perm)	1626	1743	0	1353	1395	0	0	1026	0	0	1650	0
Link Speed (k/h)		60			60			50				50
Link Distance (m)		361.1			206.1			114.9				620.0
Travel Time (s)		21.7			12.4			8.3				44.6
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour 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
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	150	570	4	7	26	26	0	0	2	178	3	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	574	0	7	52	0	0	2	0	0	218	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.2%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr't		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

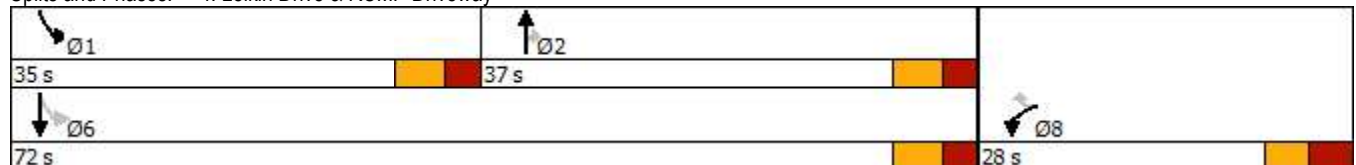












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	1	329	28	1	256
Future Volume (vph)	112	1	329	28	1	256
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999		0.989			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1661	0	1726	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1661	0	1726	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.4		300.7		142.0	
Travel Time (s)	12.1		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	1	329	28	1	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	357	0	1	256
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.4%			ICU Level of Service A		
Analysis Period (min)	15					



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Future Volume (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.993				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1732	0	1762	1618	1327
Flt Permitted	0.455			0.516			0.563					
Satd. Flow (perm)	794	1745	1427	900	1690	0	992	1732	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		1			2				179
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	682	421	36	177	166	0	20	642	0	0	145	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8				4
Permitted Phases	2		2	6			8			4		4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic

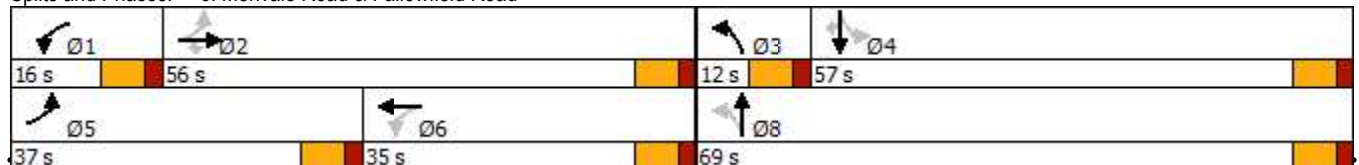


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	37.0	56.0	56.0	16.0	35.0		12.0	69.0		57.0	57.0	57.0
Total Split (%)	26.2%	39.7%	39.7%	11.3%	24.8%		8.5%	48.9%		40.4%	40.4%	40.4%
Maximum Green (s)	30.5	49.4	49.4	9.5	28.4		5.4	62.6		50.6	50.6	50.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	65.9	49.9	49.9	38.0	28.6		52.0	52.2		45.3	45.3	45.3
Actuated g/C Ratio	0.50	0.38	0.38	0.29	0.22		0.40	0.40		0.35	0.35	0.35
v/c Ratio	1.13	0.63	0.06	0.56	0.45		0.05	0.93		0.26	0.09	0.09
Control Delay	108.1	40.2	0.2	33.9	50.8		23.1	58.2		32.9	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	108.1	40.2	0.2	33.9	50.8		23.1	58.2		32.9	0.3	0.3
LOS	F	D	A	C	D		C	E		C	A	A
Approach Delay		79.6			42.1			57.2			24.1	
Approach LOS		E			D			E			C	
Queue Length 50th (m)	~173.7	83.2	0.0	23.5	34.9		2.9	143.2		26.1	0.0	0.0
Queue Length 95th (m)	#283.1	127.7	0.0	41.5	59.5		7.4	193.8		42.1	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	601	665	623	317	369		421	833			628	624
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.13	0.63	0.06	0.56	0.45		0.05	0.77		0.23	0.09	0.09

Intersection Summary

Area Type: Other  
 Cycle Length: 141  
 Actuated Cycle Length: 131  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 63.1 Intersection LOS: E  
 Intersection Capacity Utilization 108.7% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	323	7	4	391	70	254	
Future Volume (vph)	323	7	4	391	70	254	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.711				
Satd. Flow (perm)	1674	1498	1253	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				254	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	323	7	4	391	70	254	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	323	7	4	391	70	254	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

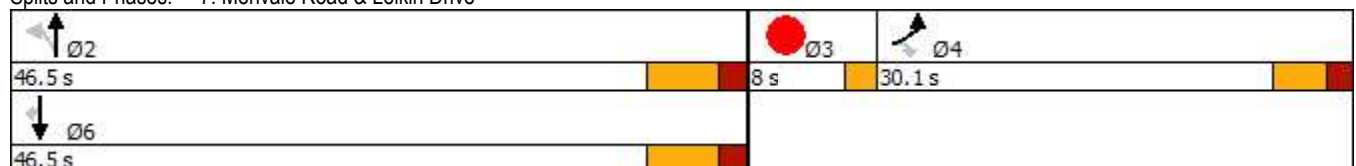


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	19.6	19.6	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.25	0.25	0.51	0.51	0.51	0.51	
v/c Ratio	0.78	0.02	0.01	0.45	0.10	0.29	
Control Delay	41.9	12.7	11.5	15.5	12.1	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.9	12.7	11.5	15.5	12.1	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	41.3			15.5	4.8		
Approach LOS	D			B	A		
Queue Length 50th (m)	41.7	0.0	0.3	33.3	4.9	0.0	
Queue Length 95th (m)	66.9	2.7	1.8	59.5	12.0	10.6	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	529	478	633	874	720	868	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	0.01	0.01	0.45	0.10	0.29	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 79.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 20.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 50.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive

















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	23	112	489	184	1
Future Volume (vph)	6	23	112	489	184	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.893				0.999	
Fl <sub>t</sub> Protected	0.990		0.950			
Satd. Flow (prot)	1543	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.990		0.950			
Satd. Flow (perm)	1543	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.4			153.6	316.2	
Travel Time (s)	12.1			6.9	14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	23	112	489	184	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	112	489	185	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	37.2%
Analysis Period (min)	15
	ICU Level of Service A

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	11	104	513	1014	286	42	
Future Volume (vph)	11	104	513	1014	286	42	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Fr <sub>t</sub>		0.850			0.981		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Fl <sub>t</sub> Permitted	0.950		0.491				
Satd. Flow (perm)	1674	1261	849	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		104			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	104	513	1014	286	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	104	513	1014	328	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

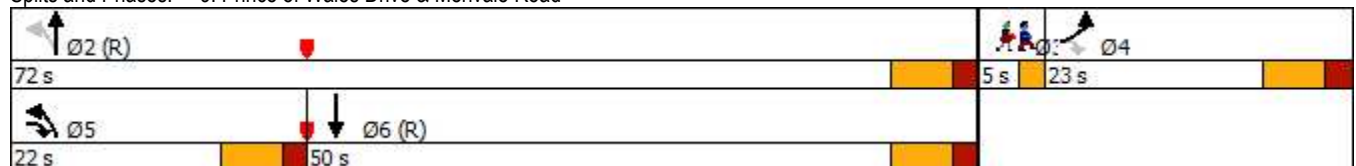


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	31.1	74.0	73.9	51.4		
Actuated g/C Ratio	0.11	0.31	0.74	0.74	0.51		
v/c Ratio	0.06	0.22	0.68	0.79	0.20		
Control Delay	38.9	5.4	11.9	16.2	14.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.4	11.9	16.2	14.8		
LOS	D	A	B	B	B		
Approach Delay	8.6			14.7	14.8		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	32.3	105.2	16.5		
Queue Length 95th (m)	6.2	9.3	61.1	#232.3	26.2		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	462	766	1289	1609		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.23	0.67	0.79	0.20		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 14.4  
 Intersection Capacity Utilization 75.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Future Volume (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5				297			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	444	622	215	99	165	13	426	1449	520	13	337	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	622	215	99	178	0	426	1449	520	13	337	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												



Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

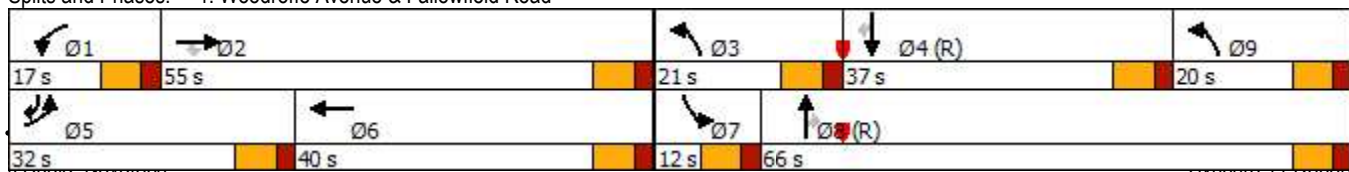


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.8	37.5	37.5	9.3	23.0			35.7	77.5	6.1	33.4	57.3
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15			0.24	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.75	0.41	0.51	0.36			0.56	0.84	0.58	0.19	0.46
Control Delay	78.4	57.7	6.4	77.1	56.5			22.3	29.0	11.2	76.2	53.7
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	78.4	57.7	6.4	77.1	56.5			22.3	29.0	11.2	76.2	53.7
LOS	E	E	A	E	E			C	C	B	E	D
Approach Delay		56.3			63.9			23.9			42.8	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.2	85.3	0.0	13.7	23.2			23.9	175.1	46.2	3.5	43.0
Queue Length 95th (m)	#80.6	93.7	14.8	22.7	31.1			m32.9	#281.1	m118.0	10.5	58.7
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	608	214	710			770	1729	902	68	744
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	0.81	0.58	0.35	0.46	0.25			0.55	0.84	0.58	0.19	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 37.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.1%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

































Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 		 	 	 	 	 	 	 
Traffic Volume (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Future Volume (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.951				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1660	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.526			0.046		
Satd. Flow (perm)	3216	1660	0	1674	1728	1483	906	3316	1483	80	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	41	20	14	15	90	24	1646	44	110	381	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	61	0	14	15	90	24	1646	44	110	381	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

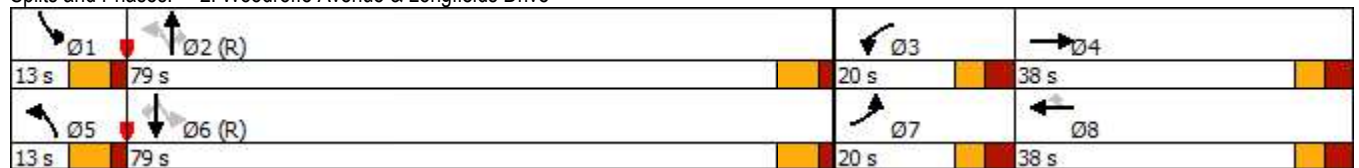
2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	13.0	27.9		6.9	14.2	14.2	91.3	85.2	85.2	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.19		0.05	0.09	0.09	0.61	0.57	0.57	0.68	0.63	0.63
v/c Ratio	0.80	0.19		0.18	0.09	0.36	0.04	0.87	0.05	0.64	0.18	0.06
Control Delay	88.3	40.9		73.7	58.9	7.1	10.3	34.8	0.1	68.9	5.6	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	40.9		73.7	58.9	7.1	10.3	34.8	0.1	68.9	5.6	0.1
LOS	F	D		E	E	A	B	C	A	E	A	A
Approach Delay		78.1			21.5			33.6			17.8	
Approach LOS		E			C			C			B	
Queue Length 50th (m)	31.3	10.5		3.8	3.9	0.0	1.8	190.7	0.0	15.5	6.6	0.0
Queue Length 95th (m)	#48.7	21.7		10.8	9.2	6.3	6.7	#291.3	0.0	#58.1	15.7	0.1
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	586	1883	895	172	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.17		0.09	0.04	0.22	0.04	0.87	0.05	0.64	0.18	0.06

Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 34.6  
 Intersection Capacity Utilization 84.3%  
 Intersection LOS: C  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr't		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

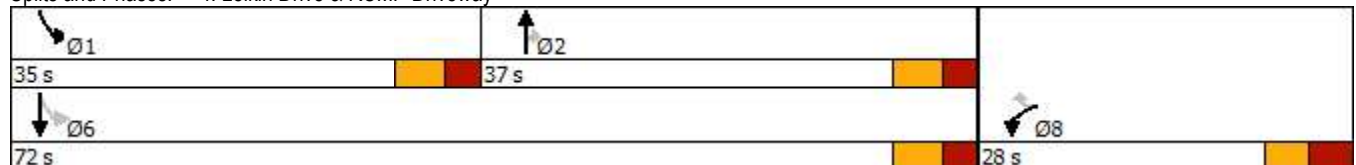


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

























Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Future Volume (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.993				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1732	0	1762	1618	1327
Flt Permitted	0.329			0.516			0.552					
Satd. Flow (perm)	574	1745	1427	900	1690	0	973	1732	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			2				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	682	421	36	177	162	4	20	611	31	0	145	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	682	421	36	177	166	0	20	642	0	0	145	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (adjusted timings)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.5	61.5	61.5	33.9	20.4		55.4	55.6			48.4	48.4
Actuated g/C Ratio	0.54	0.41	0.41	0.23	0.14		0.37	0.37			0.32	0.32
v/c Ratio	0.97	0.59	0.05	0.65	0.72		0.05	1.00			0.28	0.10
Control Delay	57.4	39.1	0.2	38.8	79.9		30.7	81.6			41.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	57.4	39.1	0.2	38.8	79.9		30.7	81.6			41.2	0.4
LOS	E	D	A	D	E		C	F			D	A
Approach Delay		48.8			58.7			80.1			30.1	
Approach LOS		D			E			F			C	
Queue Length 50th (m)	150.4	89.3	0.0	24.1	44.0		3.5	174.8			31.1	0.0
Queue Length 95th (m)	#226.3	125.7	0.0	36.8	#72.4		8.9	#250.1			49.2	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	705	715	655	305	230		384	643			522	542
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.97	0.59	0.05	0.58	0.72		0.05	1.00			0.28	0.10

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 57.5

Intersection LOS: E

Intersection Capacity Utilization 108.7%

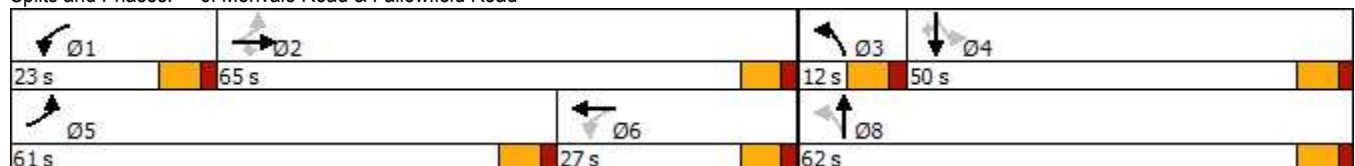
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	323	7	4	391	70	254	
Future Volume (vph)	323	7	4	391	70	254	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Fl <sub>t</sub> Permitted	0.950		0.711				
Satd. Flow (perm)	1674	1498	1253	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				254	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	323	7	4	391	70	254	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	323	7	4	391	70	254	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

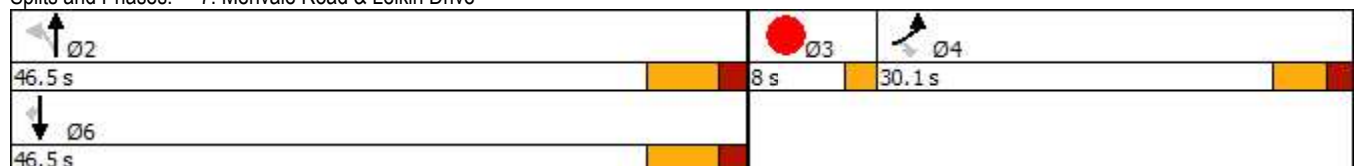


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	19.6	19.6	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.25	0.25	0.51	0.51	0.51	0.51	
v/c Ratio	0.78	0.02	0.01	0.45	0.10	0.29	
Control Delay	41.9	12.7	11.5	15.5	12.1	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.9	12.7	11.5	15.5	12.1	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	41.3			15.5	4.8		
Approach LOS	D			B	A		
Queue Length 50th (m)	41.7	0.0	0.3	33.3	4.9	0.0	
Queue Length 95th (m)	66.9	2.7	1.8	59.5	12.0	10.6	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	529	478	633	874	720	868	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	0.01	0.01	0.45	0.10	0.29	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 79.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 20.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 50.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	11	104	513	1014	286	42	
Future Volume (vph)	11	104	513	1014	286	42	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Frt		0.850			0.981		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Flt Permitted	0.950		0.491				
Satd. Flow (perm)	1674	1261	849	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		104			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)							1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	104	513	1014	286	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	104	513	1014	328	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	31.1	74.0	73.9	51.4		
Actuated g/C Ratio	0.11	0.31	0.74	0.74	0.51		
v/c Ratio	0.06	0.22	0.68	0.79	0.20		
Control Delay	38.9	5.4	11.9	16.2	14.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.4	11.9	16.2	14.8		
LOS	D	A	B	B	B		
Approach Delay	8.6			14.7	14.8		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	32.3	105.2	16.5		
Queue Length 95th (m)	6.2	9.3	61.1	#232.3	26.2		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	462	766	1289	1609		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.23	0.67	0.79	0.20		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 75.8%

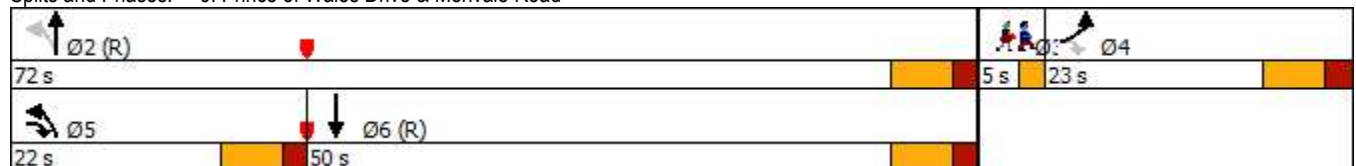
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	632	421	36	177	162	4	20	451	31	0	145	54
Future Volume (vph)	632	421	36	177	162	4	20	451	31	0	145	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.990				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1726	0	1762	1618	1327
Flt Permitted	0.362			0.516			0.517					
Satd. Flow (perm)	632	1745	1427	900	1690	0	911	1726	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			3				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	632	421	36	177	162	4	20	451	31	0	145	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	632	421	36	177	166	0	20	482	0	0	145	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8				4
Permitted Phases	2		2	6			8			4		4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (demand rationalized)

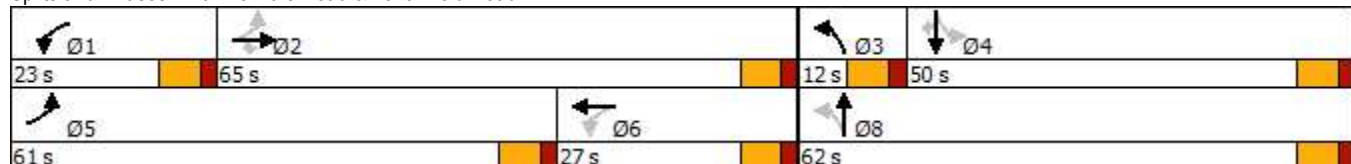


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.9	63.1	63.1	32.7	20.5		42.2	42.4		35.5	35.5	35.5
Actuated g/C Ratio	0.60	0.46	0.46	0.24	0.15		0.31	0.31		0.26	0.26	0.26
v/c Ratio	0.80	0.52	0.05	0.63	0.66		0.06	0.90		0.35	0.12	0.12
Control Delay	30.2	31.9	0.1	34.9	69.7		32.1	65.9		44.7	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	30.2	31.9	0.1	34.9	69.7		32.1	65.9		44.7	0.5	0.5
LOS	C	C	A	C	E		C	E		D	A	A
Approach Delay		29.9			51.7			64.5		32.7		
Approach LOS		C			D			E		C		
Queue Length 50th (m)	98.9	73.8	0.0	19.2	39.4		3.5	114.2		31.1	0.0	0.0
Queue Length 95th (m)	#190.8	125.7	0.0	36.8	#72.4		8.9	154.5		49.2	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	786	802	721	335	253		310	704		516	538	538
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	0.80	0.52	0.05	0.53	0.66		0.06	0.68		0.28	0.10	0.10

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 137.2  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 41.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 96.9%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Future Volume (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.97	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3327	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1441	3229	3327	0	3154	3349	1433	1639	3349	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				220			113
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	311	484	459	536	0	324	764	224	25	1403	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												





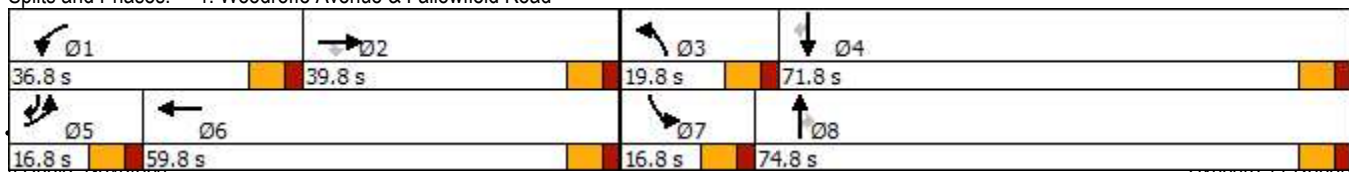
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	16.8	39.8	39.8	36.8	59.8		19.8	74.8	74.8	16.8	71.8	16.8
Total Split (%)	10.0%	23.7%	23.7%	21.9%	35.6%		11.8%	44.5%	44.5%	10.0%	42.7%	10.0%
Maximum Green (s)	10.0	33.0	33.0	30.0	53.0		13.0	68.0	68.0	10.0	65.0	10.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	10.0	33.0	33.0	27.1	50.2		13.0	75.5	75.5	7.8	65.0	75.0
Actuated g/C Ratio	0.06	0.20	0.20	0.16	0.30		0.08	0.46	0.46	0.05	0.39	0.45
v/c Ratio	1.09	0.47	1.17	0.86	0.53		1.31	0.50	0.29	0.32	1.07	0.77
Control Delay	157.6	61.7	137.6	83.9	49.8		220.1	34.7	4.8	87.6	91.6	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.6	61.7	137.6	83.9	49.8		220.1	34.7	4.8	87.6	91.6	34.2
LOS	F	E	F	F	D		F	C	A	F	F	C
Approach Delay		118.4			65.5			75.4			75.4	
Approach LOS		F			E			E			E	
Queue Length 50th (m)	~37.7	45.0	~136.2	70.8	71.1		~65.7	92.0	0.7	7.6	~250.4	107.8
Queue Length 95th (m)	#64.3	60.4	#203.8	89.6	88.4		#96.4	114.5	16.3	17.5	#293.1	153.4
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	196	655	413	589	1067		247	1527	773	99	1316	730
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.47	1.17	0.78	0.50		1.31	0.50	0.29	0.25	1.07	0.77

Intersection Summary

Area Type: Other  
 Cycle Length: 168.2  
 Actuated Cycle Length: 165.4  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 81.7  
 Intersection Capacity Utilization 105.8%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Future Volume (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99						0.98		0.98	1.00		0.97
Frt		0.913				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.073			0.211		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	372	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				158			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	62	0	35	40	154	59	928	25	109	1534	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

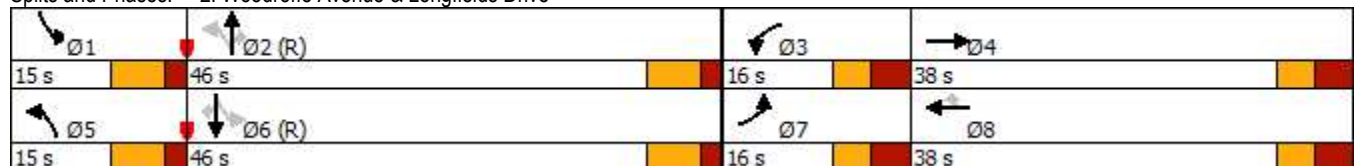


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	8.9	20.6		7.6	14.2	14.2	64.7	57.6	57.6	67.5	60.8	60.8
Actuated g/C Ratio	0.08	0.18		0.07	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.57	0.21		0.32	0.22	0.49	0.39	0.56	0.03	0.36	0.87	0.19
Control Delay	60.5	22.4		58.2	45.2	10.9	20.9	23.4	0.1	14.1	31.9	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	22.4		58.2	45.2	10.9	20.9	23.4	0.1	14.1	31.9	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			24.1			22.7			28.3	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	5.0		7.0	7.9	0.0	4.0	63.2	0.0	7.5	135.4	0.0
Queue Length 95th (m)	24.1	13.7		16.3	14.2	13.4	15.1	115.1	0.0	21.9	#256.7	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	425		135	403	511	170	1660	811	317	1771	847
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.15		0.26	0.10	0.30	0.35	0.56	0.03	0.34	0.87	0.19

Intersection Summary




















Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 27.5  
 Intersection Capacity Utilization 77.2%  
 Intersection LOS: C  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	79	60	0	0	256	94	0	0	0	38	0	201	
Future Volume (vph)	79	60	0	0	256	94	0	0	0	38	0	201	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	55.0			35.0			7.5			7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor													
Frt	0.960					0.886							
Flt Protected	0.950											0.992	
Satd. Flow (prot)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0	
Flt Permitted	0.950											0.992	
Satd. Flow (perm)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0	
Link Speed (k/h)	60						60		50		50		
Link Distance (m)	361.1				206.1				114.9				620.0
Travel Time (s)	21.7						12.4		8.3		44.6		
Confl. Peds. (#/hr)	1	10		10	1			1					
Confl. Bikes (#/hr)	3			7				1		3			
Peak Hour 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	
Heavy Vehicles (%)	1%	12%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%	
Adj. Flow (vph)	79	60	0	0	256	94	0	0	0	38	0	201	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	79	60	0	0	350	0	0	0	0	0	239	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(m)	3.5				3.5				0.0		0.0		
Link Offset(m)	0.0		0.0				0.0		0.0				
Crosswalk Width(m)	2.5				2.5				2.5		2.5		
Two way Left Turn Lane													
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	
Sign Control	Stop			Stop				Stop		Stop			
<b>Intersection Summary</b>													
Area Type:	Other												
Control Type:	Unsignalized												
Intersection Capacity Utilization	50.3%						ICU Level of Service A						
Analysis Period (min)	15												

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

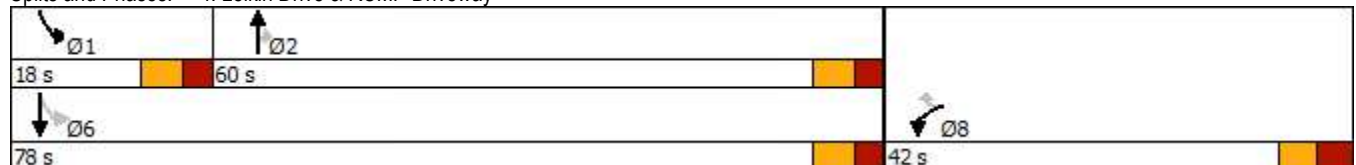












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	1	187	132	1	242
Future Volume (vph)	45	1	187	132	1	242
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997		0.944			
Flt Protected	0.953				0.950	
Satd. Flow (prot)	1658	0	1647	0	1658	1745
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1658	0	1647	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.4		300.7		142.0	
Travel Time (s)	12.1		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	1	187	132	1	242
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	319	0	1	242
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Future Volume (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.062			0.559			0.104			0.536		
Satd. Flow (perm)	99	1745	1469	985	1762	0	171	1602	0	945	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					17				249
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	40	58	669	0	54	321	0	4	536	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0



6: Merivale Road & Fallowfield Road  
PM Peak Hour

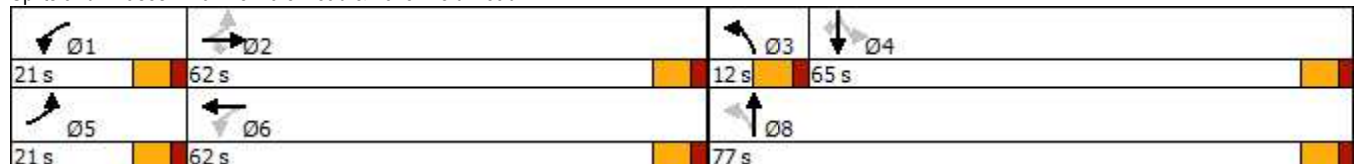
2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.4	64.5	64.5	64.5	56.1		58.0	58.2		49.1	49.1	49.1
Actuated g/C Ratio	0.51	0.44	0.44	0.44	0.38		0.39	0.39		0.33	0.33	0.33
v/c Ratio	0.81	0.37	0.06	0.12	1.00		0.46	0.50		0.01	0.91	0.45
Control Delay	70.4	34.2	0.1	22.5	81.1		39.1	33.8		32.8	68.8	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	70.4	34.2	0.1	22.5	81.1		39.1	33.8		32.8	68.8	9.8
LOS	E	C	A	C	F		D	C		C	E	A
Approach Delay		42.5			76.4			34.6			47.5	
Approach LOS		D			E			C			D	
Queue Length 50th (m)	28.6	56.7	0.0	8.4	~206.2		9.1	61.4		0.8	142.9	10.2
Queue Length 95th (m)	#66.9	87.4	0.0	16.9	#290.7		17.4	86.8		3.4	188.8	32.6
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	191	762	704	542	670		118	785		380	709	751
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	0.76	0.37	0.06	0.11	1.00		0.46	0.41		0.01	0.76	0.40

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 147.6  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 53.2      Intersection LOS: D  
 Intersection Capacity Utilization 102.6%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	179	8	9	206	488	235	
Future Volume (vph)	179	8	9	206	488	235	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Flt Permitted	0.950		0.415				
Satd. Flow (perm)	1642	756	492	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				235	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	179	8	9	206	488	235	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	179	8	9	206	488	235	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

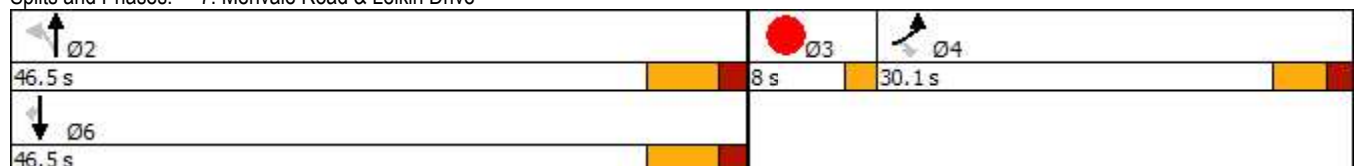


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	13.5	13.5	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.59	0.06	0.03	0.23	0.51	0.25	
Control Delay	35.7	14.8	9.4	10.1	13.3	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	14.8	9.4	10.1	13.3	2.3	
LOS	D	B	A	B	B	A	
Approach Delay	34.8			10.0	9.7		
Approach LOS	C			B	A		
Queue Length 50th (m)	20.9	0.0	0.5	12.2	34.9	0.0	
Queue Length 95th (m)	37.5	3.1	2.6	25.9	66.8	9.0	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	561	263	269	902	964	926	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.03	0.03	0.23	0.51	0.25	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 73.2  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 14.0      Intersection LOS: B  
 Intersection Capacity Utilization 47.2%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	126	46	277	512	0
Future Volume (vph)	7	126	46	277	512	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.872					
Fl <sub>t</sub> Protected	0.997		0.950			
Satd. Flow (prot)	1517	0	1658	1745	1745	0
Fl <sub>t</sub> Permitted	0.997		0.950			
Satd. Flow (perm)	1517	0	1658	1745	1745	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.4			153.6	316.2	
Travel Time (s)	12.1			6.9	14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	126	46	277	512	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	133	0	46	277	512	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.4%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	25	567	187	367	932	15	
Future Volume (vph)	25	567	187	367	932	15	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3341	0	
Fl <sub>t</sub> Permitted	0.950		0.223				
Satd. Flow (perm)	1642	1464	368	1745	3341	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		167			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	25	567	187	367	932	15	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	25	567	187	367	947	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



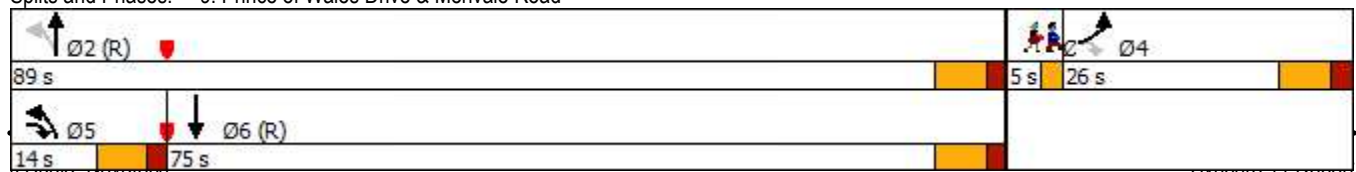
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	26.0	14.0	14.0	89.0	75.0		5.0
Total Split (%)	21.7%	11.7%	11.7%	74.2%	62.5%		4%
Maximum Green (s)	19.2	7.6	7.6	82.5	68.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	19.2	27.2	82.6	82.5	68.5		
Actuated g/C Ratio	0.16	0.23	0.69	0.69	0.57		
v/c Ratio	0.10	1.23	0.57	0.31	0.50		
Control Delay	44.2	147.0	13.7	8.2	16.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.2	147.0	13.7	8.2	16.5		
LOS	D	F	B	A	B		
Approach Delay	142.7			10.1	16.5		
Approach LOS	F			B	B		
Queue Length 50th (m)	4.7	~100.4	13.0	28.4	61.4		
Queue Length 95th (m)	12.1	#163.2	20.8	41.3	76.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	262	462	329	1199	1908		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.10	1.23	0.57	0.31	0.50		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.23  
 Intersection Signal Delay: 50.5  
 Intersection Capacity Utilization 75.5%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service D

























~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Future Volume (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				224			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	311	484	459	516	20	324	764	224	25	1403	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	311	484	459	536	0	324	764	224	25	1403	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												



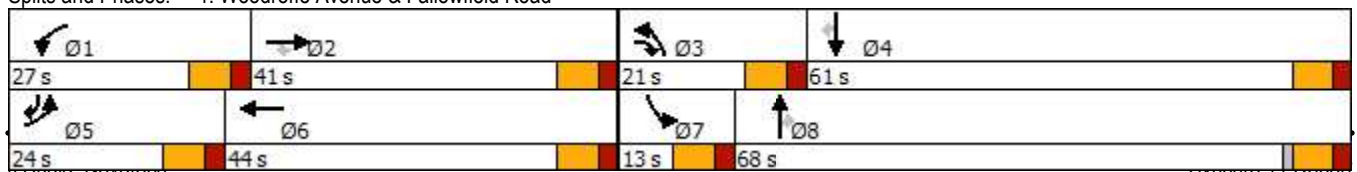
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.4	20.2	30.1		14.2	67.6	67.6	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.21		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.55	1.06	0.98	0.75		1.02	0.47	0.28	0.35	1.08	0.71
Control Delay	70.2	56.6	97.2	96.3	58.8		115.5	27.2	4.0	81.0	91.2	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	56.6	97.2	96.3	58.8		115.5	27.2	4.0	81.0	91.2	23.6
LOS	E	E	F	F	E		F	C	A	F	F	C
Approach Delay		79.0			76.1			45.0			72.0	
Approach LOS		E			E			D			E	
Queue Length 50th (m)	26.7	38.6	~124.1	59.3	67.7		42.2	69.7	0.0	6.2	~201.6	72.6
Queue Length 95th (m)	41.2	52.5	#135.1	#101.1	88.2		#79.1	99.8	14.5	16.3	#274.2	123.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	802	456	468	885		319	1616	808	72	1296	816
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.39	1.06	0.98	0.61		1.02	0.47	0.28	0.35	1.08	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.1  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 67.4  
 Intersection Capacity Utilization 105.8%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road





2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Future Volume (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Fr <sub>t</sub>		0.913				0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1468	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Fl <sub>t</sub> Permitted	0.950			0.950			0.073			0.211		
Satd. Flow (perm)	3182	1468	0	1674	1483	1456	116	3316	1461	372	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				158			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	26	36	35	40	154	59	928	25	109	1534	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	62	0	35	40	154	59	928	25	109	1534	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

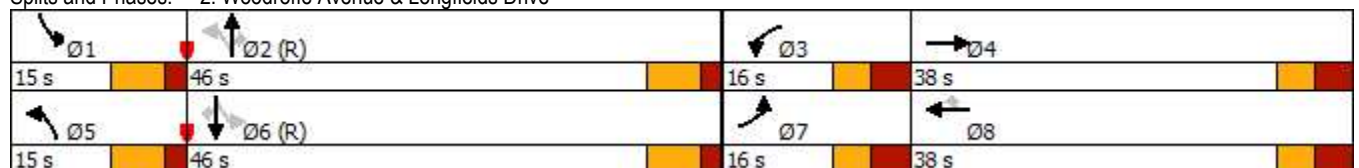
2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	8.9	20.6		7.6	14.2	14.2	64.7	57.6	57.6	67.5	60.8	60.8
Actuated g/C Ratio	0.08	0.18		0.07	0.12	0.12	0.56	0.50	0.50	0.59	0.53	0.53
v/c Ratio	0.57	0.21		0.32	0.22	0.49	0.39	0.56	0.03	0.36	0.87	0.19
Control Delay	60.5	22.4		58.2	45.2	10.9	20.9	23.4	0.1	14.1	31.9	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	22.4		58.2	45.2	10.9	20.9	23.4	0.1	14.1	31.9	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			24.1			22.7			28.3	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	5.0		7.0	7.9	0.0	4.0	63.2	0.0	7.5	135.4	0.0
Queue Length 95th (m)	24.1	13.7		16.3	14.2	13.4	15.1	115.1	0.0	21.9	#256.7	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	425		135	403	511	170	1660	811	317	1771	847
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.15		0.26	0.10	0.30	0.35	0.56	0.03	0.34	0.87	0.19

Intersection Summary













Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 27.5  
 Intersection Capacity Utilization 77.2%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

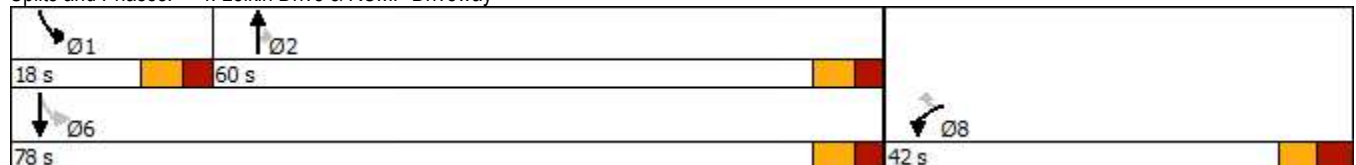


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 83.2  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 16.2  
 Intersection Capacity Utilization 44.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 4: Leikin Drive & RCMP Driveway



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Future Volume (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.124			0.549			0.077			0.532		
Satd. Flow (perm)	197	1745	1469	968	1762	0	127	1602	0	938	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					16				221
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	40	58	667	2	54	227	94	4	536	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	40	58	669	0	54	321	0	4	536	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

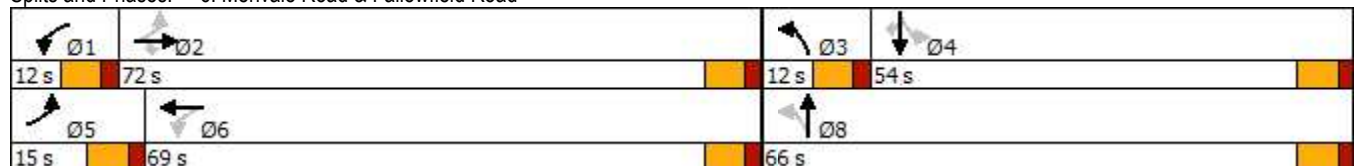
2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.1	68.3	68.3	68.2	62.6		55.1	55.3		45.9	45.9	45.9
Actuated g/C Ratio	0.51	0.47	0.47	0.47	0.43		0.38	0.38		0.31	0.31	0.31
v/c Ratio	0.82	0.35	0.05	0.12	0.89		0.53	0.52		0.01	0.97	0.49
Control Delay	55.4	28.3	0.1	19.0	54.4		48.1	36.3		35.5	80.3	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.4	28.3	0.1	19.0	54.4		48.1	36.3		35.5	80.3	14.0
LOS	E	C	A	B	D		D	D		D	F	B
Approach Delay		34.3			51.6			38.0			56.3	
Approach LOS		C			D			D			E	
Queue Length 50th (m)	20.8	51.5	0.0	7.8	171.3		9.2	62.4		0.8	144.4	16.1
Queue Length 95th (m)	#47.5	73.0	0.0	14.8	#240.0		18.0	89.3		3.5	#211.0	41.7
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	177	816	751	479	755		101	666		306	576	639
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	0.82	0.35	0.05	0.12	0.89		0.53	0.48		0.01	0.93	0.47

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 146  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 47.8 Intersection LOS: D  
 Intersection Capacity Utilization 102.6% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	179	8	9	206	488	235	
Future Volume (vph)	179	8	9	206	488	235	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.415				
Satd. Flow (perm)	1642	756	492	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				235	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			316.2	194.8		
Travel Time (s)	4.5			14.2	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	179	8	9	206	488	235	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	179	8	9	206	488	235	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

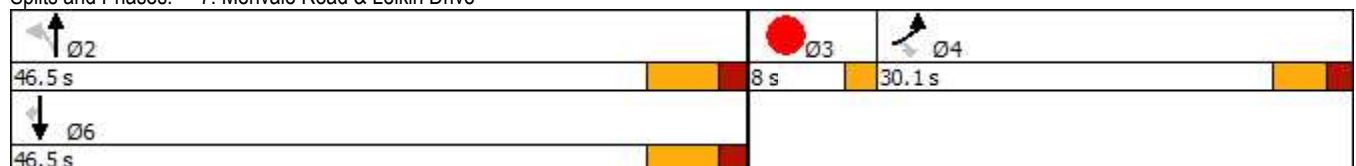


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	13.5	13.5	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.18	0.18	0.55	0.55	0.55	0.55	
v/c Ratio	0.59	0.06	0.03	0.23	0.51	0.25	
Control Delay	35.7	14.8	9.4	10.1	13.3	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	14.8	9.4	10.1	13.3	2.3	
LOS	D	B	A	B	B	A	
Approach Delay	34.8			10.0	9.7		
Approach LOS	C			B	A		
Queue Length 50th (m)	20.9	0.0	0.5	12.2	34.9	0.0	
Queue Length 95th (m)	37.5	3.1	2.6	25.9	66.8	9.0	
Internal Link Dist (m)	50.7			292.2	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	561	263	269	902	964	926	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.03	0.03	0.23	0.51	0.25	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 73.2  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 14.0      Intersection LOS: B  
 Intersection Capacity Utilization 47.2%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive





9: Prince of Wales Drive & Merivale Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	25	567	187	367	932	15	
Future Volume (vph)	25	567	187	367	932	15	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3340	0	
Fl <sub>t</sub> Permitted	0.950		0.152				
Satd. Flow (perm)	1642	1465	251	1745	3340	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		100			1		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	25	567	187	367	932	15	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	25	567	187	367	947	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

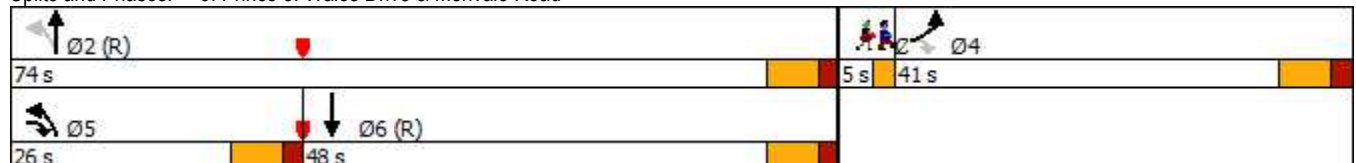


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	41.0	26.0	26.0	74.0	48.0		5.0
Total Split (%)	34.2%	21.7%	21.7%	61.7%	40.0%		4%
Maximum Green (s)	34.2	19.6	19.6	67.5	41.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	33.2	47.1	68.6	68.5	48.6		
Actuated g/C Ratio	0.28	0.39	0.57	0.57	0.40		
v/c Ratio	0.06	0.89	0.64	0.37	0.70		
Control Delay	31.7	40.8	24.7	15.6	34.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	31.7	40.8	24.7	15.6	34.1		
LOS	C	D	C	B	C		
Approach Delay	40.4			18.7	34.1		
Approach LOS	D			B	C		
Queue Length 50th (m)	3.9	86.9	19.2	42.0	88.5		
Queue Length 95th (m)	10.2	117.3	33.8	60.9	122.0		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	467	648	358	996	1354		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.05	0.88	0.52	0.37	0.70		

Intersection Summary

























Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 31.8  
 Intersection Capacity Utilization 75.5%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (demand rationalized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	311	454	459	516	20	314	764	224	25	1293	560
Future Volume (vph)	213	311	454	459	516	20	314	764	224	25	1293	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				224			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	311	454	459	516	20	314	764	224	25	1293	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	311	454	459	536	0	314	764	224	25	1293	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												

1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (demand rationalized)

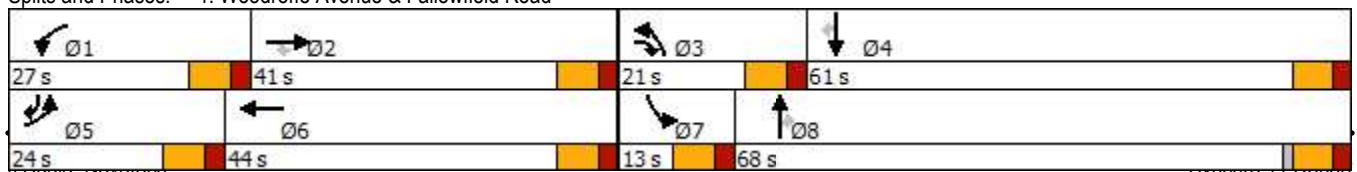
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.4	20.2	30.1		14.2	67.6	67.6	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.21		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.55	1.00	0.98	0.75		0.98	0.47	0.28	0.35	1.00	0.71
Control Delay	70.2	56.6	79.8	96.3	58.8		108.6	27.2	4.0	81.0	67.1	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	56.6	79.8	96.3	58.8		108.6	27.2	4.0	81.0	67.1	23.6
LOS	E	E	E	F	E		F	C	A	F	E	C
Approach Delay		70.3			76.1			42.8			54.3	
Approach LOS		E			E			D			D	
Queue Length 50th (m)	26.7	38.6	~99.9	59.3	67.7		40.8	69.7	0.0	6.2	165.4	72.6
Queue Length 95th (m)	41.2	52.5	#158.3	#101.1	88.2		#75.6	99.8	14.5	16.3	#241.9	123.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	802	456	468	885		319	1616	808	72	1296	816
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.39	1.00	0.98	0.61		0.98	0.47	0.28	0.35	1.00	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.1  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 58.6  
 Intersection Capacity Utilization 102.3%  
 Intersection LOS: E  
 ICU Level of Service G  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	40	58	667	2	54	227	94	4	446	302
Future Volume (vph)	145	282	40	58	667	2	54	227	94	4	446	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.956				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1602	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.147			0.562			0.130			0.525		
Satd. Flow (perm)	234	1745	1469	990	1762	0	214	1602	0	925	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					16				229
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	40	58	667	2	54	227	94	4	446	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	40	58	669	0	54	321	0	4	446	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

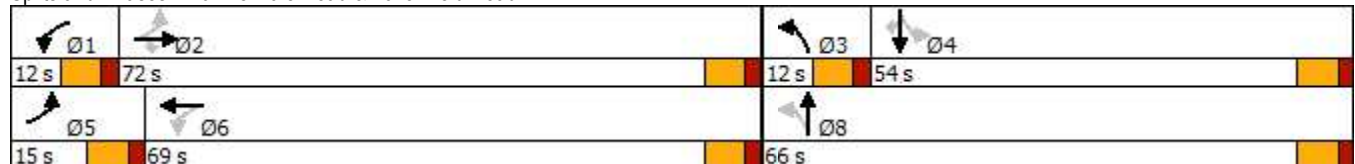
2-20 Leikin and 99 Bill Leatham  
2031 Background Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	75.5	68.9	68.9	68.6	63.0		48.6	48.8		39.5	39.5	39.5
Actuated g/C Ratio	0.54	0.49	0.49	0.49	0.45		0.35	0.35		0.28	0.28	0.28
v/c Ratio	0.71	0.33	0.05	0.11	0.84		0.43	0.57		0.02	0.90	0.51
Control Delay	39.7	26.3	0.1	18.1	47.7		39.6	38.3		35.8	70.0	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.7	26.3	0.1	18.1	47.7		39.6	38.3		35.8	70.0	13.8
LOS	D	C	A	B	D		D	D		D	E	B
Approach Delay		28.2			45.4			38.5			47.3	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	19.2	48.2	0.0	7.2	160.7		9.2	62.4		0.8	112.0	14.4
Queue Length 95th (m)	#42.4	73.0	0.0	14.8	#240.0		18.0	89.3		3.5	151.5	39.6
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	204	858	784	512	792		126	697		317	604	664
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	0.71	0.33	0.05	0.11	0.84		0.43	0.46		0.01	0.74	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 41.4 Intersection LOS: D  
 Intersection Capacity Utilization 102.6% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



## **APPENDIX L**

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### Transportation Demand Management

**TDM-Supportive Development Design and Infrastructure Checklist:**  
*Non-Residential Developments (office, institutional, retail or industrial)*

<b>Legend</b>	
<b>REQUIRED</b>	The Official Plan or Zoning By-law provides related guidance that must be followed
<b>BASIC</b>	The measure is generally feasible and effective, and in most cases would benefit the development and its users
<b>BETTER</b>	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>1. WALKING &amp; CYCLING: ROUTES</b>		
<b>1.1 Building location &amp; access points</b>		
<b>BASIC</b>	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	<input type="checkbox"/>
<b>BASIC</b>	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	<input type="checkbox"/>
<b>BASIC</b>	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	<input type="checkbox"/>
<b>1.2 Facilities for walking &amp; cycling</b>		
<b>REQUIRED</b>	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations ( <i>see Official Plan policy 4.3.3</i> )	<input type="checkbox"/> - N/A (no rapid transit within 600m)
<b>REQUIRED</b>	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible ( <i>see Official Plan policy 4.3.12</i> )	<input checked="" type="checkbox"/>



<b>TDM-supportive design &amp; infrastructure measures: <i>Non-residential developments</i></b>		<b>Check if completed &amp; add descriptions, explanations or plan/drawing references</b>
<b>REQUIRED</b>	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks ( <i>see Official Plan policy 4.3.10</i> )	<input checked="" type="checkbox"/>
<b>REQUIRED</b>	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps ( <i>see Official Plan policy 4.3.10</i> )	<input checked="" type="checkbox"/>
<b>REQUIRED</b>	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians ( <i>see Official Plan policy 4.3.11</i> )	<input checked="" type="checkbox"/>
<b>BASIC</b>	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input type="checkbox"/>
<b>BASIC</b>	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input type="checkbox"/>
<b>BASIC</b>	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	<input checked="" type="checkbox"/>
<b>1.3 Amenities for walking &amp; cycling</b>		
<b>BASIC</b>	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	<input type="checkbox"/>
<b>BASIC</b>	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>2. WALKING &amp; CYCLING: END-OF-TRIP FACILITIES</b>		
<b>2.1 Bicycle parking</b>		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i> )	<input checked="" type="checkbox"/>
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i> )	<input checked="" type="checkbox"/>
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i> )	<input checked="" type="checkbox"/>
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	<input type="checkbox"/>
BETTER	2.1.5 Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	<input type="checkbox"/>
<b>2.2 Secure bicycle parking</b>		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i> )	<input type="checkbox"/> - N/A (not an office building)
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	<input type="checkbox"/>
<b>2.3 Shower &amp; change facilities</b>		
BASIC	2.3.1 Provide shower and change facilities for the use of active commuters	<input type="checkbox"/>
BETTER	2.3.2 In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	<input type="checkbox"/>
<b>2.4 Bicycle repair station</b>		
BETTER	2.4.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	<input checked="" type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>3. TRANSIT</b>		
<b>3.1 Customer amenities</b>		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	<input type="checkbox"/>
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	<input type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/>
<b>4. RIDESHARING</b>		
<b>4.1 Pick-up &amp; drop-off facilities</b>		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	<input checked="" type="checkbox"/>
<b>4.2 Carpool parking</b>		
BASIC	4.2.1 Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	<input type="checkbox"/>
BETTER	4.2.2 At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	<input type="checkbox"/>
<b>5. CARSHARING &amp; BIKESHARING</b>		
<b>5.1 Carshare parking spaces</b>		
BETTER	5.1.1 Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces ( <i>see Zoning By-law Section 94</i> )	<input type="checkbox"/>
<b>5.2 Bikeshare station location</b>		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
<b>6. PARKING</b>		
<b>6.1 Number of parking spaces</b>		
<b>REQUIRED</b>	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	<input checked="" type="checkbox"/>
<b>BASIC</b>	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	<input type="checkbox"/>
<b>BASIC</b>	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly ( <i>see Zoning By-law Section 104</i> )	<input type="checkbox"/>
<b>BETTER</b>	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking ( <i>see Zoning By-law Section 111</i> )	<input type="checkbox"/>
<b>6.2 Separate long-term &amp; short-term parking areas</b>		
<b>BETTER</b>	6.2.1 Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	<input type="checkbox"/>
<b>7. OTHER</b>		
<b>7.1 On-site amenities to minimize off-site trips</b>		
<b>BETTER</b>	7.1.1 Provide on-site amenities to minimize mid-day or mid-commute errands	<input checked="" type="checkbox"/>

**TDM Measures Checklist:**  
*Non-Residential Developments (office, institutional, retail or industrial)*

<b>Legend</b>	
<b>BASIC</b>	The measure is generally feasible and effective, and in most cases would benefit the development and its users
<b>BETTER</b>	The measure could maximize support for users of sustainable modes, and optimize development performance
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
<b>1. TDM PROGRAM MANAGEMENT</b>		
<b>1.1 Program coordinator</b>		
<b>BASIC</b>	★	1.1.1 Designate an internal coordinator, or contract with an external coordinator
		<input checked="" type="checkbox"/> - On-site HR staff can be set up to coordinate with OC Transpo.
<b>1.2 Travel surveys</b>		
<b>BETTER</b>	1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	
		<input checked="" type="checkbox"/> - Proponent is willing to conduct surveys to support a TDM plan.
<b>2. WALKING AND CYCLING</b>		
<b>2.1 Information on walking/cycling routes &amp; destinations</b>		
<b>BASIC</b>	2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	
		<input checked="" type="checkbox"/> - Can be provided physically and on the company intranet page.
<b>2.2 Bicycle skills training</b>		
<i>Commuter travel</i>		
<b>BETTER</b>	★	2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses
		<input type="checkbox"/>
<b>2.3 Valet bike parking</b>		
<i>Visitor travel</i>		
<b>BETTER</b>	2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	
		<input type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
<b>3. TRANSIT</b>		
<b>3.1 Transit information</b>		
BASIC	3.1.1 Display relevant transit schedules and route maps at entrances	<input checked="" type="checkbox"/>
BASIC	3.1.2 Provide online links to OC Transpo and STO information	<input checked="" type="checkbox"/> - Can be provided on the company intranet page.
BETTER	3.1.3 Provide real-time arrival information display at entrances	<input checked="" type="checkbox"/> - Can be set up in the main lobby.
<b>3.2 Transit fare incentives</b>		
<i>Commuter travel</i>		
BETTER	3.2.1 Offer preloaded PRESTO cards to encourage commuters to use transit	<input type="checkbox"/>
BETTER ★	3.2.2 Subsidize or reimburse monthly transit pass purchases by employees	<input type="checkbox"/>
<i>Visitor travel</i>		
BETTER	3.2.3 Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	<input type="checkbox"/>
<b>3.3 Enhanced public transit service</b>		
<i>Commuter travel</i>		
BETTER	3.3.1 Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	<input type="checkbox"/>
<i>Visitor travel</i>		
BETTER	3.3.2 Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	<input type="checkbox"/>
<b>3.4 Private transit service</b>		
<i>Commuter travel</i>		
BETTER	3.4.1 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	<input type="checkbox"/>
<i>Visitor travel</i>		
BETTER	3.4.2 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	<input type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
<b>4. RIDESHARING</b>		
<b>4.1 Ridematching service</b>		
<i>Commuter travel</i>		
BASIC ★	4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com	<input checked="" type="checkbox"/> - Commuter Ontario has been used at other facilities to coordinate carpooling. Proponent is open to this ridematching portal instead if the City prefers.
<b>4.2 Carpool parking price incentives</b>		
<i>Commuter travel</i>		
BETTER	4.2.1 Provide discounts on parking costs for registered carpools	<input type="checkbox"/>
<b>4.3 Vanpool service</b>		
<i>Commuter travel</i>		
BETTER	4.3.1 Provide a vanpooling service for long-distance commuters	<input type="checkbox"/>
<b>5. CARSHARING &amp; BIKESHARING</b>		
<b>5.1 Bikeshare stations &amp; memberships</b>		
BETTER	5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors	<input type="checkbox"/>
<i>Commuter travel</i>		
BETTER	5.1.2 Provide employees with bikeshare memberships for local business travel	<input type="checkbox"/>
<b>5.2 Carshare vehicles &amp; memberships</b>		
<i>Commuter travel</i>		
BETTER	5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants	<input type="checkbox"/>
BETTER	5.2.2 Provide employees with carshare memberships for local business travel	<input type="checkbox"/>
<b>6. PARKING</b>		
<b>6.1 Priced parking</b>		
<i>Commuter travel</i>		
BASIC ★	6.1.1 Charge for long-term parking (daily, weekly, monthly)	<input type="checkbox"/>
BASIC	6.1.2 Unbundle parking cost from lease rates at multi-tenant sites	<input type="checkbox"/>
<i>Visitor travel</i>		
BETTER	6.1.3 Charge for short-term parking (hourly)	<input type="checkbox"/>

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
<b>7. TDM MARKETING &amp; COMMUNICATIONS</b>		
<b>7.1 Multimodal travel information</b>		
<i>Commuter travel</i>		
BASIC ★	7.1.1 Provide a multimodal travel option information package to new/relocating employees and students	<input checked="" type="checkbox"/> - Can be provided as part of the new hire packet.
<i>Visitor travel</i>		
BETTER ★	7.1.2 Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	<input type="checkbox"/>
<b>7.2 Personalized trip planning</b>		
<i>Commuter travel</i>		
BETTER ★	7.2.1 Offer personalized trip planning to new/relocating employees	<input type="checkbox"/>
<b>7.3 Promotions</b>		
<i>Commuter travel</i>		
BETTER	7.3.1 Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	<input checked="" type="checkbox"/> - Incentives like this are commonly done at the proponent's other facilities.
<b>8. OTHER INCENTIVES &amp; AMENITIES</b>		
<b>8.1 Emergency ride home</b>		
<i>Commuter travel</i>		
BETTER ★	8.1.1 Provide emergency ride home service to non-driving commuters	<input type="checkbox"/>
<b>8.2 Alternative work arrangements</b>		
<i>Commuter travel</i>		
BASIC ★	8.2.1 Encourage flexible work hours	<input type="checkbox"/>
BETTER	8.2.2 Encourage compressed workweeks	<input type="checkbox"/>
BETTER ★	8.2.3 Encourage telework	<input type="checkbox"/>
<b>8.3 Local business travel options</b>		
<i>Commuter travel</i>		
BASIC ★	8.3.1 Provide local business travel options that minimize the need for employees to bring a personal car to work	<input type="checkbox"/>
<b>8.4 Commuter incentives</b>		
<i>Commuter travel</i>		
BETTER	8.4.1 Offer employees a taxable, mode-neutral commuting allowance	<input type="checkbox"/>
<b>8.5 On-site amenities</b>		
<i>Commuter travel</i>		
BETTER	8.5.1 Provide on-site amenities/services to minimize mid-day or mid-commute errands	<input checked="" type="checkbox"/> - Facilities like lunchrooms, fridges, microwaves, and small market area for purchasing food and drinks is standard practice at the proponent's other facilities.



## **APPENDIX M**

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MMLOS Analysis

## Segment MMLOS Analysis

This section provides a review of the boundary streets Merivale Road, Longfields Drive, Bill Leatham Drive, Leikin Drive, and Paragon Avenue, using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines*, produced by IBI Group in October 2015, were used to evaluate the levels of service for each alternative mode of transportation on the boundary streets. All boundary streets have been evaluated based on the targets for the Employment Area.

Exhibit 4 of the *MMLOS Guidelines* has been used to evaluate the segment pedestrian level of service (PLOS) of the boundary streets. Exhibit 22 of the *MMLOS Guidelines* identifies a target PLOS C for all roadways in the Employment Area. The results of the segment PLOS analysis are summarized in **Table 1**.

Exhibit 11 of the *MMLOS Guidelines* has been used to evaluate the segment bicycle level of service (BLOS) of the boundary streets. Within the Employment Area, Exhibit 22 of the *MMLOS Guidelines* identifies a target BLOS C for arterial spine routes (Merivale Road) or local routes (Longfields Drive, Bill Leatham Drive, Leikin Drive), and no target for local roadways with no cycling route designation (Paragon Avenue). The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 of the *MMLOS Guidelines* has been used to evaluate the segment transit level of service (TLOS) of the boundary streets. No boundary streets are designated in the City's Rapid Transit and Transit Priority (RTTP) network, and therefore no target is identified. All boundary streets except for Paragon Avenue have still been evaluated for TLOS based on existing transit routes. The results of the segment TLOS analysis are summarized in **Table 3**.

Exhibit 20 of the *MMLOS Guidelines* has been used to evaluate the segment truck level of service (TkLOS) of the boundary streets. Within the Employment Area, Exhibit 22 of the *MMLOS Guidelines* identifies a target TkLOS B for arterial truck routes (Merivale Road), a target TkLOS D for collector roadways with no truck route designation (Longfields Drive, Bill Leatham Drive, Leikin Drive), and a target TkLOS E for local roadways with no truck route designation (Paragon Avenue). The results of the segment TkLOS analysis are summarized in **Table 4**.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed <sup>(1)</sup>	PLOS
<b>Merivale Road (Boycrest Street to Leikin Drive, east side)</b>					
No sidewalk		> 3,000 vpd	No	90 km/h	<b>F</b>
<b>Merivale Road (Boycrest Street to Leikin Drive, west side)</b>					
No sidewalk		> 3,000 vpd	No	90 km/h	<b>F</b>
<b>Longfields Drive (Woodroffe Avenue to Bill Leatham Drive, north side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	80 km/h	<b>F</b>
<b>Longfields Drive (Woodroffe Avenue to Bill Leatham Drive, south side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	80 km/h	<b>F</b>
<b>Bill Leatham Drive (Longfields Drive to Paragon Avenue, north side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	60 km/h	<b>F</b>
<b>Bill Leatham Drive (Longfields Drive to Paragon Avenue, south side)</b>					
≥ 2.0m	0m	≤ 3,000 vpd	N/A	60 km/h	<b>C</b>
<b>Leikin Drive (Merivale Road to Beckstead Road, east side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	70 km/h	<b>F</b>
<b>Leikin Drive (Merivale Road to Beckstead Road, west side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	70 km/h	<b>F</b>
<b>Paragon Avenue (north of Bill Leatham Drive, east side)</b>					
≥ 2.0m	0m	≤ 3,000 vpd	N/A	60 km/h	<b>C</b>
<b>Paragon Avenue (north of Bill Leatham Drive, west side)</b>					
No sidewalk		≤ 3,000 vpd	N/A	60 km/h	<b>F</b>

1. Operating speed taken as the speed limit plus 10 km/h.

Table 2: BLOS Segment Analysis

Road Class	Route Type	Bikeway Type	Travel Lanes	Operating Speed	Bike Lane Width	Bike Lane Blockage	BLOS
<b>Merivale Road (Boycrest Street to Leikin Drive)</b>							
Arterial	Spine Route	Paved Shoulder	2	90 km/h	1.2m-1.5m	Rare	<b>E</b>
<b>Longfields Drive (Woodroffe Avenue to Bill Leatham Drive)</b>							
Major Collector	Local Route	Paved Shoulder	2	80 km/h	1.2m-1.5m	Rare	<b>E</b>
<b>Bill Leatham Drive (Longfields Drive to Paragon Avenue)</b>							
Major Collector	Local Route	Mixed Traffic	2	60 km/h	-	-	<b>F</b>
<b>Leikin Drive (Merivale Road to Beckstead Road)</b>							
Major Collector	Local Route	Curbside Bike Lane	3	70 km/h	1.5m-1.8m	Rare	<b>E</b>
<b>Paragon Avenue (north of Bill Leatham Drive)</b>							
Local	No Class	Mixed Traffic	2	60 km/h	-	-	<b>F</b>

Table 3: TLOS Segment Analysis

Facility Type	Exposure to Congestion Delay, Friction, and Incidents			TLOS
	Congestion	Friction	Incident Potential	
<b>Merivale Road (Boycrest Street to Leikin Drive)</b>				
Mixed Traffic – Limited Parking/Driveway Friction	Yes	Low	Medium	D
<b>Longfields Drive (Woodroffe Avenue to Bill Leathem Drive)</b>				
Mixed Traffic – Limited Parking/Driveway Friction	Yes	Low	Medium	D
<b>Bill Leathem Drive (Longfields Drive to Paragon Avenue)</b>				
Mixed Traffic – Limited Parking/Driveway Friction	Yes	Low	Medium	D
<b>Leikin Drive (Merivale Road to Beckstead Road)</b>				
Mixed Traffic – Limited Parking/Driveway Friction	Yes	Low	Medium	D

Table 4: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes Per Direction	TkLOS
<b>Merivale Road (Boycrest Street to Leikin Drive)</b>		
≥ 3.7m	1	B
<b>Longfields Drive (Woodroffe Avenue to Bill Leathem Drive)</b>		
3.3m to 3.5m	1	C
<b>Bill Leathem Drive (Longfields Drive to Paragon Avenue)</b>		
≥ 3.7m	1	B
<b>Leikin Drive (Merivale Road to Beckstead Road)</b>		
≥ 3.7m	1 to 2	B
<b>Paragon Avenue (north of Bill Leathem Drive)</b>		
≥ 3.7m	1	B

## Intersection MMLOS Analysis

The following is a review of the MMLOS of the signalized intersections within the study area, using complete streets principles. The following targets were considered for each intersection:

- Within 600m of a rapid transit station: Woodroffe Avenue/Fallowfield Road;
- General Urban Area: Woodroffe Avenue/Longfields Drive;
- Employment Area: Leikin Drive/RCMP Access, Merivale Road/Leikin Drive, and Merivale Road/Prince of Wales Drive.
- All Other Designations: Merivale Road/Fallowfield Road (located in an Agricultural Resource Area).

Exhibit 5 of the *Addendum to the MMLOS Guidelines* has been used to evaluate the existing PLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* suggests a target PLOS A for intersections within 600m of a rapid transit station, a target PLOS C for all roadways within the General Urban or Employment Areas, and a target PLOS D for roadways in Agricultural Resource Areas. The results of the intersection PLOS analysis are summarized in **Table 5** through **Table 10**.

Exhibit 12 of the *MMLOS Guidelines* has been used to evaluate the existing BLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* suggests a target BLOS C for Spine Routes within 600m of a rapid transit station, the General Urban Area, or Employment Area (all intersections except Leikin Drive/RCMP Access), or Local Routes within the Employment Area (Leikin Drive/RCMP Access). The results of the intersection BLOS analysis are summarized in **Table 11**.

Exhibit 16 of the *MMLOS Guidelines* has been used to evaluate the existing TLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* identifies a target TLOS D for Transit Priority Corridors with Isolated Measures (Woodroffe Avenue), and does not identify a target TLOS for roadways without a Rapid Transit or Transit Priority designation (all others). The TLOS has been evaluated for every approach that is currently used by transit. The results of the intersection TLOS analysis are summarized in **Table 12**.

Exhibit 21 of the *MMLOS Guidelines* has been used to evaluate the existing TkLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* identifies a target TkLOS B for arterial truck routes in the Employment Area (Merivale Road at Leikin Drive), and a target TkLOS D for arterial truck routes within 600m of a rapid transit station, the General Urban Area, or the Agricultural Resource Area (Woodroffe Avenue, Fallowfield Road, Prince of Wales Drive). The results of the intersection TkLOS analysis are summarized in **Table 13**.

**Table 5: PLOS Intersection Analysis – Woodroffe Avenue/Fallowfield Road**

CRITERIA	North Approach		South Approach		East Approach		West Approach	
<b>PETSI SCORE</b>								
<i>CROSSING DISTANCE CONDITIONS</i>								
Median > 2.4m in Width	No	-10	No	-10	No	-10	No	-10
Lanes Crossed (3.5m Lane Width)	10 +		10 +		10 +			
<i>SIGNAL PHASING AND TIMING</i>								
Left Turn Conflict	Protected	0	Protected	0	Protected	0	Protected	0
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Perm + Prot	-5
Right Turn on Red	RTOR Allowed	-3	N/A	0	RTOR Allowed	-3	N/A	0
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>								
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 25m	-9	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn Channel	-4	Conventional with Receiving	-3	Conventional without Receiving	0	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	> 25m	-9	N/A	0	> 10m to 15m	-6
Perpendicular Right Turn Channel	N/A	0	Conventional without Receiving	0	N/A	0	Conventional with Receiving	-3
<i>CROSSING TREATMENT</i>								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
	<b>PETSI SCORE</b>	<b>-37</b>		<b>-42</b>		<b>-36</b>		<b>-43</b>
	<b>LOS</b>	<b>F</b>		<b>F</b>		<b>F</b>		<b>F</b>
<b>DELAY SCORE</b>								
Cycle Length		150		150		150		150
Pedestrian Walk Time		7.2		22.2		30.2		7.2
	<b>DELAY SCORE</b>	<b>68.0</b>		<b>54.4</b>		<b>47.8</b>		<b>68.0</b>
	<b>LOS</b>	<b>F</b>		<b>E</b>		<b>E</b>		<b>F</b>
<b>OVERALL</b>								
		<b>F</b>		<b>F</b>		<b>F</b>		<b>F</b>

**Table 6: PLOS Intersection Analysis – Woodroffe Avenue/Longfields Drive**

CRITERIA	North Approach		South Approach		East Approach		West Approach	
<b>PETSI SCORE</b>								
<i>CROSSING DISTANCE CONDITIONS</i>								
Median > 2.4m in Width	No	-10	No	-10	No	-10	No	39
Lanes Crossed (3.5m Lane Width)	10 +		10 +		10 +			
<i>SIGNAL PHASING AND TIMING</i>								
Left Turn Conflict	Protected	0	Protected	0	Perm + Prot	-8	Perm + Prot	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	N/A	0	N/A	0	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>								
Parallel Radius	> 15m to 25m	-8	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	Smart Channel	2	No Right Turn Channel	-4	Smart Channel	2	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	> 15m to 25m	-8	> 15m to 25m	-8	N/A	0
Perpendicular Right Turn Channel	N/A	0	Smart Channel	2	Smart Channel	2	N/A	0
<i>CROSSING TREATMENT</i>								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
	<b>PETSI SCORE</b>	<b>-33</b>		<b>-40</b>		<b>-44</b>		<b>2</b>
	<b>LOS</b>	<b>F</b>		<b>F</b>		<b>F</b>		<b>F</b>
<b>DELAY SCORE</b>								
Cycle Length		130		130		130		130
Pedestrian Walk Time		7.3		24.5		24.5		24.5
	<b>DELAY SCORE</b>	<b>57.9</b>		<b>57.9</b>		<b>42.8</b>		<b>42.8</b>
	<b>LOS</b>	<b>E</b>		<b>E</b>		<b>E</b>		<b>E</b>
<b>OVERALL</b>								
		<b>F</b>		<b>F</b>		<b>F</b>		<b>F</b>

**Table 7: PLOS Intersection Analysis – Leikin Drive/RCMP Access**

CRITERIA	North Approach		South Approach		East Approach	
<b>PETSI SCORE</b>						
<i>CROSSING DISTANCE CONDITIONS</i>						
Median > 2.4m in Width	No	72	N/A	0	Yes	0
Lanes Crossed (3.5m Lane Width)	5		N/A		10 +	
<i>SIGNAL PHASING AND TIMING</i>						
Left Turn Conflict	No Left Turn/Prohibited	0	N/A	0	Perm + Prot	-8
Right Turn Conflict	Permissive or Yield	-5	N/A	0	Permissive or Yield	-5
Right Turn on Red	N/A	0	N/A	0	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	N/A	0	No	-2
<i>CORNER RADIUS</i>						
Parallel Radius	> 5m to 10m	-5	N/A	0	> 5m to 10m	-5
Parallel Right Turn Channel	No Right Turn Channel	-4	N/A	0	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0
<i>CROSSING TREATMENT</i>						
Treatment	Standard	-7	N/A	0	Standard	-7
	<b>PETSI SCORE</b>	<b>49</b>				<b>-34</b>
	<b>LOS</b>	<b>D</b>				<b>F</b>
<b>DELAY SCORE</b>						
Cycle Length		100				100
Pedestrian Walk Time		10.3				23.6
	<b>DELAY SCORE</b>	<b>40.2</b>				<b>29.2</b>
	<b>LOS</b>	<b>E</b>				<b>C</b>
<b>OVERALL</b>		<b>E</b>				<b>F</b>

**Table 8: PLOS Intersection Analysis – Merivale Road/Fallowfield Road**

CRITERIA	North Approach		South Approach		East Approach		West Approach	
<b>PETSI SCORE</b>								
<i>CROSSING DISTANCE CONDITIONS</i>								
Median > 2.4m in Width	N/A	0	N/A	0	N/A	0	N/A	0
Lanes Crossed (3.5m Lane Width)	N/A		N/A		N/A			
<i>SIGNAL PHASING AND TIMING</i>								
Left Turn Conflict	N/A	0	N/A	0	N/A	0	N/A	0
Right Turn Conflict	N/A	0	N/A	0	N/A	0	N/A	0
Right Turn on Red	N/A	0	N/A	0	N/A	0	N/A	0
Leading Pedestrian Interval	N/A	0	N/A	0	N/A	0	N/A	0
<i>CORNER RADIUS</i>								
Parallel Radius	N/A	0	N/A	0	N/A	0	N/A	0
Parallel Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
<i>CROSSING TREATMENT</i>								
Treatment	N/A	0	N/A	0	N/A	0	N/A	0
	<b>PETSI SCORE</b>	<b>-</b>				<b>-</b>		<b>-</b>
	<b>LOS</b>	<b>-</b>				<b>-</b>		<b>-</b>
<b>DELAY SCORE</b>								
Cycle Length		150		150		140		140
Pedestrian Walk Time		18.4		18.4		23.6		23.6
	<b>DELAY SCORE</b>	<b>57.7</b>		<b>57.7</b>		<b>48.4</b>		<b>48.4</b>
	<b>LOS</b>	<b>E</b>		<b>E</b>		<b>E</b>		<b>E</b>
<b>OVERALL</b>		<b>-</b>		<b>-</b>		<b>-</b>		<b>-</b>

**Table 9: PLOS Intersection Analysis – Merivale Road/Leikin Drive**

CRITERIA	North Approach		South Approach		West Approach	
<b>PETSI SCORE</b>						
<i>CROSSING DISTANCE CONDITIONS</i>						
Median > 2.4m in Width	No	72	No	88	No	-10
Lanes Crossed (3.5m Lane Width)	5		4		10 +	
<i>SIGNAL PHASING AND TIMING</i>						
Left Turn Conflict	Permissive	-8	No Left Turn/Prohibited	0	Permissive	-8
Right Turn Conflict	No Right Turn/Prohibited	0	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	N/A	0	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>						
Parallel Radius	No Right Turn	0	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn	0	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0
<i>CROSSING TREATMENT</i>						
Treatment	Standard	-7	Standard	-7	Standard	-7
	<b>PETSI SCORE</b>	<b>52</b>		<b>62</b>		<b>-47</b>
	<b>LOS</b>	<b>D</b>		<b>C</b>		<b>F</b>
<b>DELAY SCORE</b>						
Cycle Length		76.6		76.6		76.6
Pedestrian Walk Time		15.0		15.0		19.0
	<b>DELAY SCORE</b>	<b>24.8</b>		<b>24.8</b>		<b>21.7</b>
	<b>LOS</b>	<b>C</b>		<b>C</b>		<b>C</b>
<b>OVERALL</b>		<b>D</b>			<b>C</b>	<b>F</b>

**Table 10: PLOS Intersection Analysis – Merivale Road/Prince of Wales Drive**

CRITERIA	North Approach		South Approach		West Approach	
<b>PETSI SCORE</b>						
<i>CROSSING DISTANCE CONDITIONS</i>						
Median > 2.4m in Width	No	-10	No	55	No	-10
Lanes Crossed (3.5m Lane Width)	10 +		6		10 +	
<i>SIGNAL PHASING AND TIMING</i>						
Left Turn Conflict	Permissive	-8	No Left Turn/Prohibited	0	Perm + Prot	-8
Right Turn Conflict	Permissive or Yield	-5	Perm + Prot	-5	Permissive or Yield	-5
Right Turn on Red	N/A	0	N/A	0	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>						
Parallel Radius	No Right Turn	0	> 15m to 25m	-8	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn	0	No Right Turn Channel	-4	Smart Channel	2
Perpendicular Radius	> 10m to 15m	-6	N/A	0	N/A	0
Perpendicular Right Turn Channel	Smart Channel	2	N/A	0	N/A	0
<i>CROSSING TREATMENT</i>						
Treatment	Zebra Stripe	-4	Zebra Stripe	-4	Zebra Stripe	-4
	<b>PETSI SCORE</b>	<b>-33</b>		<b>32</b>		<b>-36</b>
	<b>LOS</b>	<b>F</b>		<b>E</b>		<b>F</b>
<b>DELAY SCORE</b>						
Cycle Length		120		120		100
Pedestrian Walk Time		10.2		10.2		24.5
	<b>DELAY SCORE</b>	<b>50.2</b>		<b>50.2</b>		<b>28.5</b>
	<b>LOS</b>	<b>E</b>		<b>E</b>		<b>C</b>
<b>OVERALL</b>		<b>F</b>			<b>E</b>	<b>F</b>



Table 11: BLOS Intersection Analysis

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
<b>Woodroffe Avenue/Fallowfield Road</b>				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	Two lanes crossed; $\geq 50$ km/h	<b>F</b>
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Bike lane shifts to the left of the right turn lane	<b>D</b>
		Left Turn Accommodation	Dual left turn lanes	<b>F</b>
East Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	<b>A</b>
		Left Turn Accommodation	Dual left turn lanes	<b>F</b>
West Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	Dual left turn lanes	<b>F</b>
<b>Woodroffe Avenue/Longfields Drive</b>				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	Two lanes crossed; $\geq 50$ km/h	<b>F</b>
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	Two lanes crossed; $\geq 50$ km/h	<b>F</b>
East Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	<b>E</b>
West Approach	Curbside Bike Lane	Right Turn Lane Characteristics	Cycling facility remains to the right	<b>A</b>
		Left Turn Accommodation	Dual left turn lanes	<b>F</b>
<b>Leikin Drive/RCMP Access</b>				
North Approach	Curbside Bike Lane	Right Turn Lane Characteristics	No right turns	-
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	<b>E</b>
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	<b>D</b>
		Left Turn Accommodation	No left turns	-
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Right turn lane $\leq 50$ m; turning speed $\leq 25$ km/h	<b>D</b>
		Left Turn Accommodation	One lane crossed; $\leq 40$ km/h	<b>B</b>

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
<b>Merivale Road/Fallowfield Road</b>				
North Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	E
South Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	E
East Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	E
West Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane introduced to the right and is longer than 50m	D
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	E
<b>Merivale Road/Leikin Drive</b>				
North Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	No left turns	-
South Approach	Paved Shoulder	Right Turn Lane Characteristics	No right turns	-
		Left Turn Accommodation	One lane crossed; $\geq 60$ km/h	E
West Approach	Curbside Bike Lane	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	No lanes crossed; $\geq 60$ km/h	C
<b>Merivale Road/Prince of Wales Drive</b>				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane $\leq 50$ m; turning speed $\leq 25$ km/h	B
		Left Turn Accommodation	No left turns	-
South Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	Two-stage left turn bike box	A
West Approach	Paved Shoulder	Right Turn Lane Characteristics	Cycling facility remains to the right	A
		Left Turn Accommodation	Crossride provided to access paved shoulder on opposite side	A

Table 12: TLOS Intersection Analysis

Approach	Delay <sup>(1)</sup>		TLOS
	AM Hour	PM Hour	
<b>Woodroffe Avenue/Fallowfield Road</b>			
South Approach	30 sec	72 sec	F
West Approach	58 sec	118 sec	F
<b>Woodroffe Avenue/Longfields Drive</b>			
North Approach	19 sec	29 sec	D
South Approach	49 sec	23 sec	F
East Approach	14 sec	23 sec	D
West Approach	57 sec	50 sec	F
<b>Leikin Drive/RCMP Access</b>			
North Approach	5 sec	6 sec	B
South Approach	8 sec	8 sec	B
<b>Merivale Road/Fallowfield Road</b>			
North Approach	24 sec	47 sec	F
South Approach	57 sec	34 sec	F
<b>Merivale Road/Leikin Drive</b>			
North Approach	4 sec	6 sec	B
West Approach	35 sec	29 sec	E

1. Delay based on outputs from Synchro analysis of existing conditions

Table 13: TkLOS Intersection Analysis

Approach	Effective Corner Radius	Number of Receiving Lanes Departing Intersection	TkLOS
<b>Woodroffe Avenue/Fallowfield Road</b>			
North Approach	10m to 15m	2	B
South Approach	> 15m	2	A
East Approach	10m to 15m	2	B
West Approach	10m to 15m	3	B
<b>Woodroffe Avenue/Longfields Drive</b>			
North Approach	> 15m	1	C
South Approach	> 15m	1	C
East Approach	> 15m	2	A
West Approach	10m to 15m	2	B
<b>Leikin Drive/RCMP Access</b>			
South Approach	< 10m	2	D
East Approach	< 10m	1	F
<b>Merivale Road/Fallowfield Road</b>			
North Approach	> 15m	1	C
South Approach	> 15m	1	C
East Approach	10m to 15m	1	E
West Approach	10m to 15m	1	E
<b>Merivale Road/Leikin Drive</b>			
North Approach	> 15m	1	C
West Approach	> 15m	1	C
<b>Merivale Road/Prince of Wales Drive</b>			
North Approach	> 15m	1	C
West Approach	10m to 15m	2	B

## **APPENDIX N**

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Total Synchro Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Future Volume (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234		5				296			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	585	234	93	165	0	406	1356	485	12	348	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

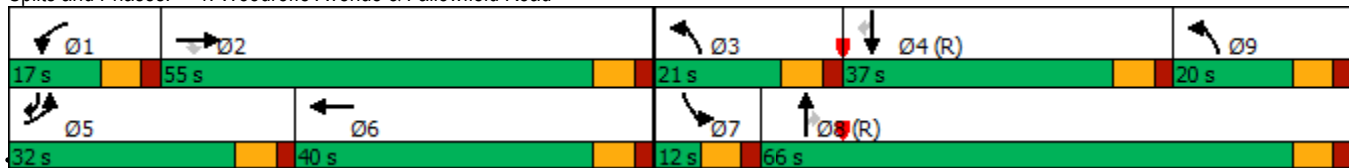


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.0	36.5	36.5	9.1	22.6			35.1	78.7	6.1	35.3	58.3
Actuated g/C Ratio	0.15	0.24	0.24	0.06	0.15			0.23	0.52	0.04	0.24	0.39
v/c Ratio	0.83	0.73	0.45	0.48	0.34			0.54	0.77	0.53	0.18	0.45
Control Delay	76.5	57.4	7.4	76.6	56.4			30.1	34.0	12.4	75.7	52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	57.4	7.4	76.6	56.4			30.1	34.0	12.4	75.7	52.2
LOS	E	E	A	E	E			C	C	B	E	D
Approach Delay		54.3			63.7			28.6			42.4	
Approach LOS		D			E			C			D	
Queue Length 50th (m)	56.9	79.6	0.0	12.8	21.3			27.3	136.6	27.1	3.2	43.9
Queue Length 95th (m)	73.7	87.4	17.5	21.7	29.1			44.3	#247.2	77.5	9.9	60.4
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	614	214	710			762	1757	911	67	781
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	0.76	0.55	0.38	0.43	0.23			0.53	0.77	0.53	0.18	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 39.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 95.5%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		



2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Future Volume (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.539			0.068		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	929	3316	1483	119	3316	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				140			142			142
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1535	78	176	355	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0



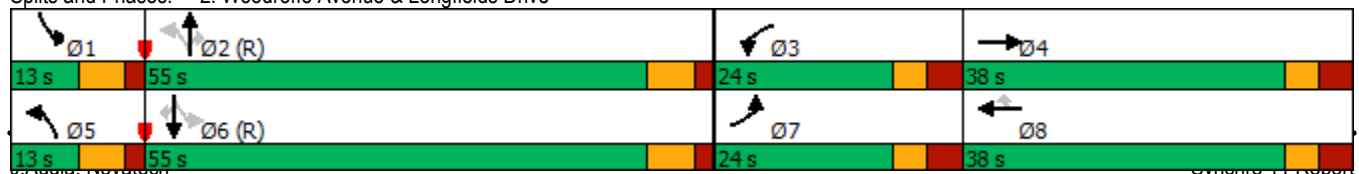
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	24.0	38.0		24.0	38.0	38.0	13.0	55.0	55.0	13.0	55.0	55.0
Total Split (%)	18.5%	29.2%		18.5%	29.2%	29.2%	10.0%	42.3%	42.3%	10.0%	42.3%	42.3%
Maximum Green (s)	17.3	31.3		17.3	31.3	31.3	6.5	48.5	48.5	6.5	48.5	48.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	14.1	28.9		7.1	14.2	14.2	62.1	56.0	56.0	80.5	74.0	74.0
Actuated g/C Ratio	0.11	0.22		0.05	0.11	0.11	0.48	0.43	0.43	0.62	0.57	0.57
v/c Ratio	0.64	0.20		0.21	0.09	0.36	0.05	1.07	0.11	0.58	0.19	0.06
Control Delay	63.9	35.0		63.6	48.9	6.0	13.8	82.4	0.3	35.6	16.7	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	35.0		63.6	48.9	6.0	13.8	82.4	0.3	35.6	16.7	0.1
LOS	E	D		E	D	A	B	F	A	D	B	A
Approach Delay		56.4			19.0			77.5			20.8	
Approach LOS		E			B			E			C	
Queue Length 50th (m)	26.3	12.2		4.4	3.8	0.0	1.8	~194.6	0.0	22.8	20.6	0.0
Queue Length 95th (m)	37.6	22.5		11.8	8.9	6.1	7.4	#275.6	0.0	#86.1	41.8	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	427	435		222	416	463	483	1428	719	302	1888	892
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.18		0.09	0.04	0.22	0.05	1.07	0.11	0.58	0.19	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 48 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 59.6  
 Intersection Capacity Utilization 84.9%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service E




















~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Future Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.925			0.865				0.975
Flt Protected	0.950			0.950								0.962
Satd. Flow (prot)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Flt Permitted	0.950			0.950								0.962
Satd. Flow (perm)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Link Speed (k/h)		60			60			50				50
Link Distance (m)		361.1			206.1			114.9				620.0
Travel Time (s)		21.7			12.4			8.3				44.6
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour 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
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	574	0	7	52	0	0	2	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.5%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr t		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

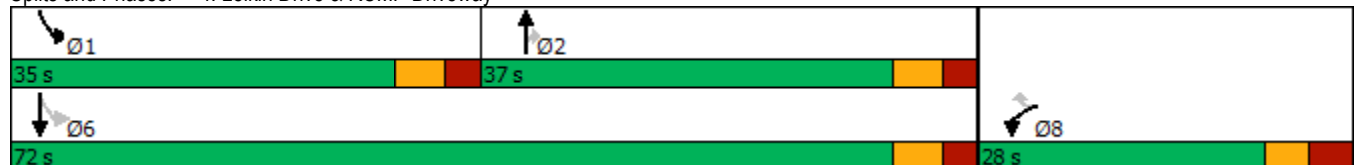












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	34	329	28	6	256
Future Volume (vph)	112	34	329	28	6	256
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.969		0.989			
Flt Protected	0.963				0.950	
Satd. Flow (prot)	1628	0	1726	0	1658	1745
Flt Permitted	0.963				0.950	
Satd. Flow (perm)	1628	0	1726	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.2		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	34	329	28	6	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	357	0	6	256
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Future Volume (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Fr <sub>t</sub>			0.850		0.996			0.989				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1725	0	1762	1618	1327
Fl <sub>t</sub> Permitted	0.475			0.530			0.496					
Satd. Flow (perm)	829	1745	1427	925	1690	0	874	1725	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		1			4				179
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	39	253	155	0	19	626	0	0	202	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic

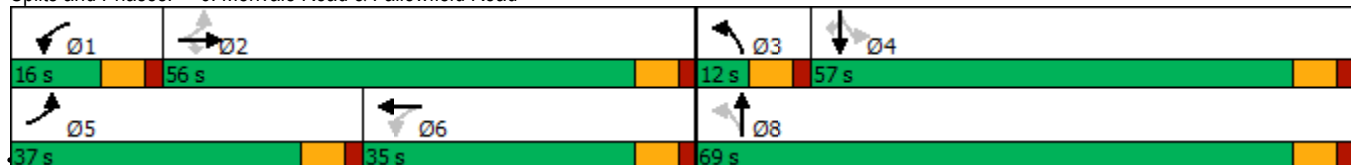


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	37.0	56.0	56.0	16.0	35.0		12.0	69.0		57.0	57.0	57.0
Total Split (%)	26.2%	39.7%	39.7%	11.3%	24.8%		8.5%	48.9%		40.4%	40.4%	40.4%
Maximum Green (s)	30.5	49.4	49.4	9.5	28.4		5.4	62.6		50.6	50.6	50.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	65.9	49.7	49.7	38.2	28.6		50.2	50.4		46.0	46.0	46.0
Actuated g/C Ratio	0.51	0.38	0.38	0.30	0.22		0.39	0.39		0.36	0.36	0.36
v/c Ratio	1.03	0.59	0.06	0.77	0.41		0.05	0.93		0.35	0.09	0.09
Control Delay	72.4	37.8	0.2	47.2	49.2		23.3	58.1		33.3	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	72.4	37.8	0.2	47.2	49.2		23.3	58.1		33.3	0.3	0.3
LOS	E	D	A	D	D		C	E		C	A	A
Approach Delay		57.1			47.9			57.1		26.7		
Approach LOS		E			D			E		C		
Queue Length 50th (m)	~127.4	73.7	0.0	34.2	31.6		2.7	137.4		32.5	0.0	0.0
Queue Length 95th (m)	#255.2	117.0	0.0	#74.7	55.5		7.3	186.4		57.5	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	619	670	627	327	374		373	842		640	632	632
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	1.03	0.59	0.06	0.77	0.41		0.05	0.74		0.32	0.08	0.08

Intersection Summary

Area Type: Other  
 Cycle Length: 141  
 Actuated Cycle Length: 129.3  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 52.3 Intersection LOS: D  
 Intersection Capacity Utilization 105.3% ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road







Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	349	7	4	365	65	412	
Future Volume (vph)	349	7	4	365	65	412	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.715				
Satd. Flow (perm)	1674	1498	1260	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				412	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	349	7	4	365	65	412	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	349	7	4	365	65	412	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

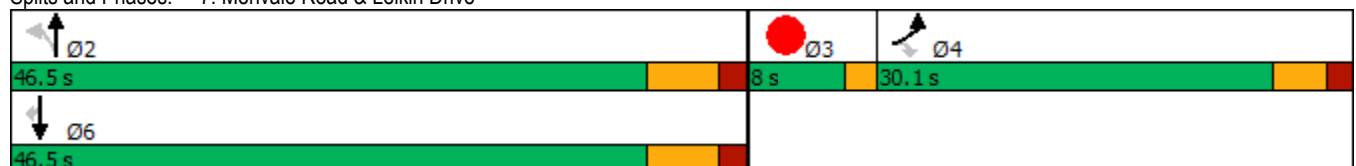


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.6	20.6	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.26	0.26	0.50	0.50	0.50	0.50	
v/c Ratio	0.81	0.02	0.01	0.42	0.09	0.44	
Control Delay	43.8	12.7	11.8	15.6	12.3	3.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	12.7	11.8	15.6	12.3	3.1	
LOS	D	B	B	B	B	A	
Approach Delay	43.2			15.5	4.3		
Approach LOS	D			B	A		
Queue Length 50th (m)	46.0	0.0	0.3	32.1	4.7	0.0	
Queue Length 95th (m)	73.1	2.7	1.8	54.8	11.4	13.0	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	521	471	628	862	710	939	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.01	0.01	0.42	0.09	0.44	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 19.3      Intersection LOS: B  
 Intersection Capacity Utilization 54.4%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive

















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	28	145	456	172	1
Future Volume (vph)	6	28	145	456	172	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.889				0.999	
Fl <sub>t</sub> Protected	0.991		0.950			
Satd. Flow (prot)	1537	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.991		0.950			
Satd. Flow (perm)	1537	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.2			147.3	322.5	
Travel Time (s)	12.0			6.6	14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	28	145	456	172	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	145	456	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.3%
Analysis Period (min)	15
	ICU Level of Service A

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	10	102	512	946	267	39	
Future Volume (vph)	10	102	512	946	267	39	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Fr <sub>t</sub>		0.850			0.981		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Fl <sub>t</sub> Permitted	0.950		0.503				
Satd. Flow (perm)	1674	1261	869	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		102			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	10	102	512	946	267	39	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	102	512	946	306	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.9	75.0	76.2	53.1		
Actuated g/C Ratio	0.11	0.31	0.75	0.76	0.53		
v/c Ratio	0.05	0.22	0.67	0.71	0.18		
Control Delay	38.8	5.4	11.3	13.2	14.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.8	5.4	11.3	13.2	14.4		
LOS	D	A	B	B	B		
Approach Delay	8.4			12.6	14.4		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.7	0.0	32.1	89.9	15.1		
Queue Length 95th (m)	5.7	9.2	61.0	174.5	24.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	459	785	1329	1664		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.22	0.65	0.71	0.18		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 12.6  
 Intersection Capacity Utilization 72.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Volume (vph)	0	378	160	0	0	4
Future Volume (vph)	0	378	160	0	0	4
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Flt Protected						
Satd. Flow (prot)	0	1745	1745	0	0	770
Flt Permitted						
Satd. Flow (perm)	0	1745	1745	0	0	770
Link Speed (k/h)		70	70		50	
Link Distance (m)		443.4	82.3		140.4	
Travel Time (s)		22.8	4.2		10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	100%
Adj. Flow (vph)	0	378	160	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	378	160	0	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		2.5	2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.3%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	5	33	330	257	149
Future Volume (vph)	23	5	33	330	257	149
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976			0.950		
Flt Protected	0.961			0.995		
Satd. Flow (prot)	1637	0	0	1736	1658	0
Flt Permitted	0.961			0.995		
Satd. Flow (perm)	1637	0	0	1736	1658	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	170.6			142.0	64.1	
Travel Time (s)	12.3			8.5	3.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	5	33	330	257	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	363	406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.3%
ICU Level of Service	B
Analysis Period (min)	15



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	0	0	353	406	9
Future Volume (vph)	3	0	0	353	406	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.997	
Flt Protected	0.950					
Satd. Flow (prot)	846	0	0	1745	1704	0
Flt Permitted	0.950					
Satd. Flow (perm)	846	0	0	1745	1704	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	175.0			64.1	124.6	
Travel Time (s)	12.6			3.8	7.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	100%	2%	2%	2%	2%	100%
Adj. Flow (vph)	3	0	0	353	406	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	0	353	415	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15
	ICU Level of Service A



1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Future Volume (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234		5				296			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	414	585	234	93	153	12	406	1356	485	12	348	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	414	585	234	93	165	0	406	1356	485	12	348	91
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

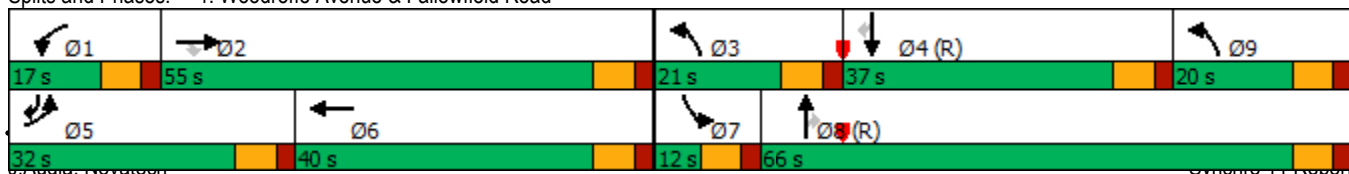


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.0	36.5	36.5	9.1	22.6			35.1	78.7	6.1	35.3	58.3
Actuated g/C Ratio	0.15	0.24	0.24	0.06	0.15			0.23	0.52	0.04	0.24	0.39
v/c Ratio	0.83	0.73	0.45	0.48	0.34			0.54	0.77	0.53	0.18	0.45
Control Delay	76.5	57.4	7.4	76.6	56.4			23.1	20.5	7.2	75.7	52.2
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	57.4	7.4	76.6	56.4			23.1	20.5	7.2	75.7	52.2
LOS	E	E	A	E	E			C	C	A	E	D
Approach Delay		54.3			63.7			18.1			42.4	
Approach LOS		D			E			B			D	
Queue Length 50th (m)	56.9	79.6	0.0	12.8	21.3			27.0	127.8	17.5	3.2	43.9
Queue Length 95th (m)	73.7	87.4	17.5	21.7	29.1			m29.5	m#246.4	m85.2	9.9	60.4
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	614	214	710			762	1757	911	67	781
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	0.76	0.55	0.38	0.43	0.23			0.53	0.77	0.53	0.18	0.45

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 135  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 34.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 95.5%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Future Volume (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.539			0.051		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	928	3316	1483	89	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1535	78	176	355	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1535	78	176	355	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	13.0	24.9		7.3	14.2	14.2	80.6	74.5	74.5	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.17		0.05	0.09	0.09	0.54	0.50	0.50	0.68	0.63	0.63
v/c Ratio	0.80	0.27		0.23	0.10	0.42	0.05	0.93	0.10	0.61	0.17	0.06
Control Delay	88.3	50.5		74.8	59.3	10.6	11.1	46.4	0.8	60.9	6.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	50.5		74.8	59.3	10.6	11.1	46.4	0.8	60.9	6.0	0.1
LOS	F	D		E	E	B	B	D	A	E	A	A
Approach Delay		78.5			25.3			43.7			22.0	
Approach LOS		E			C			D			C	
Queue Length 50th (m)	31.3	17.6		5.1	4.5	0.0	1.8	196.8	0.0	30.5	6.5	0.0
Queue Length 95th (m)	#48.7	28.5		13.2	10.2	10.4	6.7	#258.4	1.6	#101.1	15.8	0.2
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	532	1647	798	289	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.21		0.13	0.05	0.26	0.05	0.93	0.10	0.61	0.17	0.06

Intersection Summary




















Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 41.9  
 Intersection Capacity Utilization 84.9%  
 Intersection LOS: D  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Future Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.925			0.865				0.975
Flt Protected	0.950			0.950								0.962
Satd. Flow (prot)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Flt Permitted	0.950			0.950								0.962
Satd. Flow (perm)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Link Speed (k/h)		60			60			50				50
Link Distance (m)		361.1			206.1			114.9				620.0
Travel Time (s)		21.7			12.4			8.3				44.6
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour 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
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	574	0	7	52	0	0	2	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.5%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr't		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						



4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

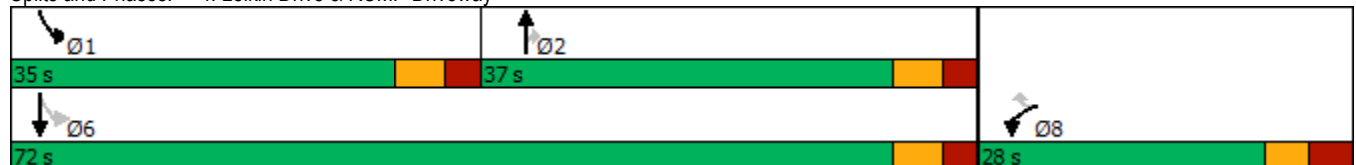












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	34	329	28	6	256
Future Volume (vph)	112	34	329	28	6	256
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.969		0.989			
Flt Protected	0.963				0.950	
Satd. Flow (prot)	1628	0	1726	0	1658	1745
Flt Permitted	0.963				0.950	
Satd. Flow (perm)	1628	0	1726	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.2		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	34	329	28	6	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	357	0	6	256
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Future Volume (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.989				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1724	0	1762	1618	1327
Flt Permitted	0.357			0.530			0.476					
Satd. Flow (perm)	623	1745	1427	925	1690	0	839	1724	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			3				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	39	253	151	4	19	580	46	0	202	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	39	253	155	0	19	626	0	0	202	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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

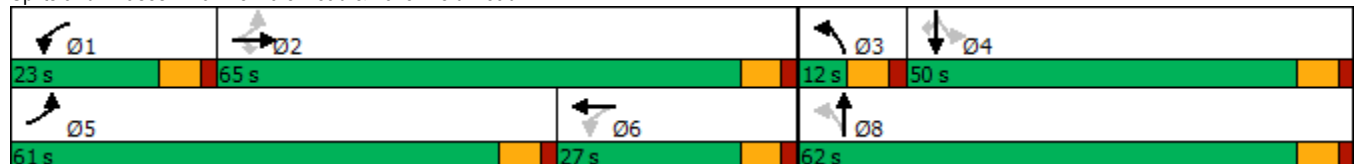
2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.5	59.1	59.1	36.4	20.4		55.0	55.2		48.0	48.0	48.0
Actuated g/C Ratio	0.54	0.40	0.40	0.24	0.14		0.37	0.37		0.32	0.32	0.32
v/c Ratio	0.89	0.57	0.06	0.84	0.67		0.06	0.98		0.39	0.09	0.09
Control Delay	42.8	39.6	0.2	52.9	76.4		30.7	77.8		43.6	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.8	39.6	0.2	52.9	76.4		30.7	77.8		43.6	0.3	0.3
LOS	D	D	A	D	E		C	E		D	A	A
Approach Delay		40.1			61.8			76.4		35.0		
Approach LOS		D			E			E		C		
Queue Length 50th (m)	126.5	84.2	0.0	36.3	40.8		3.3	168.1		45.1	0.0	0.0
Queue Length 95th (m)	#193.5	115.6	0.0	#69.8	63.7		8.7	#241.4		67.5	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	716	688	635	309	231		338	642		519	540	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.89	0.57	0.06	0.82	0.67		0.06	0.98		0.39	0.09	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 149.6  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 53.2 Intersection LOS: D  
 Intersection Capacity Utilization 105.3% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	349	7	4	365	65	412	
Future Volume (vph)	349	7	4	365	65	412	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.715				
Satd. Flow (perm)	1674	1498	1260	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				412	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	349	7	4	365	65	412	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	349	7	4	365	65	412	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

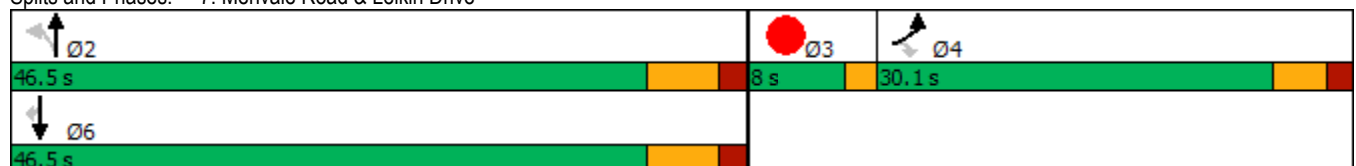


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.6	20.6	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.26	0.26	0.50	0.50	0.50	0.50	
v/c Ratio	0.81	0.02	0.01	0.42	0.09	0.44	
Control Delay	43.8	12.7	11.8	15.6	12.3	3.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	12.7	11.8	15.6	12.3	3.1	
LOS	D	B	B	B	B	A	
Approach Delay	43.2			15.5	4.3		
Approach LOS	D			B	A		
Queue Length 50th (m)	46.0	0.0	0.3	32.1	4.7	0.0	
Queue Length 95th (m)	73.1	2.7	1.8	54.8	11.4	13.0	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	521	471	628	862	710	939	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.01	0.01	0.42	0.09	0.44	

Intersection Summary











Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 19.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 54.4%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive















8: Merivale Road & Beckstead Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	28	145	456	172	1
Future Volume (vph)	6	28	145	456	172	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.889				0.999	
Fl <sub>t</sub> Protected	0.991		0.950			
Satd. Flow (prot)	1537	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.991		0.950			
Satd. Flow (perm)	1537	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.2			147.3	322.5	
Travel Time (s)	12.0			6.6	14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	28	145	456	172	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	145	456	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.3%			ICU Level of Service A		
Analysis Period (min)	15					

9: Prince of Wales Drive & Merivale Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	10	102	512	946	267	39	
Future Volume (vph)	10	102	512	946	267	39	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Fr <sub>t</sub>		0.850			0.981		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Fl <sub>t</sub> Permitted	0.950		0.503				
Satd. Flow (perm)	1674	1261	869	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		102			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	10	102	512	946	267	39	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	102	512	946	306	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	30.9	75.0	76.2	53.1		
Actuated g/C Ratio	0.11	0.31	0.75	0.76	0.53		
v/c Ratio	0.05	0.22	0.67	0.71	0.18		
Control Delay	38.8	5.4	11.3	13.2	14.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.8	5.4	11.3	13.2	14.4		
LOS	D	A	B	B	B		
Approach Delay	8.4			12.6	14.4		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.7	0.0	32.1	89.9	15.1		
Queue Length 95th (m)	5.7	9.2	61.0	174.5	24.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	459	785	1329	1664		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.22	0.65	0.71	0.18		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 12.6  
 Intersection Capacity Utilization 72.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Volume (vph)	0	378	160	0	0	4
Future Volume (vph)	0	378	160	0	0	4
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	1745	1745	0	0	770
Flt Permitted						
Satd. Flow (perm)	0	1745	1745	0	0	770
Link Speed (k/h)		70	70		50	
Link Distance (m)		443.4	82.3		140.4	
Travel Time (s)		22.8	4.2		10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	100%
Adj. Flow (vph)	0	378	160	0	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	378	160	0	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		2.5	2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.3%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	5	33	330	257	149
Future Volume (vph)	23	5	33	330	257	149
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976			0.950		
Flt Protected	0.961			0.995		
Satd. Flow (prot)	1637	0	0	1736	1658	0
Flt Permitted	0.961			0.995		
Satd. Flow (perm)	1637	0	0	1736	1658	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	170.6			142.0	64.1	
Travel Time (s)	12.3			8.5	3.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	5	33	330	257	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	363	406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.3%
ICU Level of Service	B
Analysis Period (min)	15

12: Leikin Drive & Truck Access  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	0	0	353	406	9
Future Volume (vph)	3	0	0	353	406	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.997	
Fl <sub>t</sub> Protected	0.950					
Satd. Flow (prot)	846	0	0	1745	1704	0
Fl <sub>t</sub> Permitted	0.950					
Satd. Flow (perm)	846	0	0	1745	1704	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	175.0			64.1	124.6	
Travel Time (s)	12.6			3.8	7.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	100%	2%	2%	2%	2%	100%
Adj. Flow (vph)	3	0	0	353	406	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	0	353	415	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15
	ICU Level of Service A

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	58	20	19	17	104	24	1485	78	176	355	55
Future Volume (vph)	223	58	20	19	17	104	24	1485	78	176	355	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.539			0.051		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	928	3316	1483	89	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1485	78	176	355	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1485	78	176	355	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	13.0	24.9		7.3	14.2	14.2	80.6	74.5	74.5	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.17		0.05	0.09	0.09	0.54	0.50	0.50	0.68	0.63	0.63
v/c Ratio	0.80	0.27		0.23	0.10	0.42	0.05	0.90	0.10	0.61	0.17	0.06
Control Delay	88.3	50.5		74.8	59.3	10.6	11.1	43.0	0.8	60.9	6.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	50.5		74.8	59.3	10.6	11.1	43.0	0.8	60.9	6.0	0.1
LOS	F	D		E	E	B	B	D	A	E	A	A
Approach Delay		78.5			25.3			40.5			22.0	
Approach LOS		E			C			D			C	
Queue Length 50th (m)	31.3	17.6		5.1	4.5	0.0	1.8	185.3	0.0	30.5	6.5	0.0
Queue Length 95th (m)	#48.7	28.5		13.2	10.2	10.4	6.7	#234.5	1.6	#101.1	15.8	0.2
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	532	1647	798	289	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.21		0.13	0.05	0.26	0.05	0.90	0.10	0.61	0.17	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 39.9  
 Intersection Capacity Utilization 83.4%  
 Intersection LOS: D  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	636	392	39	253	151	4	19	430	46	0	202	50
Future Volume (vph)	636	392	39	253	151	4	19	430	46	0	202	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.986				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1719	0	1762	1618	1327
Flt Permitted	0.387			0.530			0.428					
Satd. Flow (perm)	675	1745	1427	925	1690	0	754	1719	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			4				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	636	392	39	253	151	4	19	430	46	0	202	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	636	392	39	253	155	0	19	476	0	0	202	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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

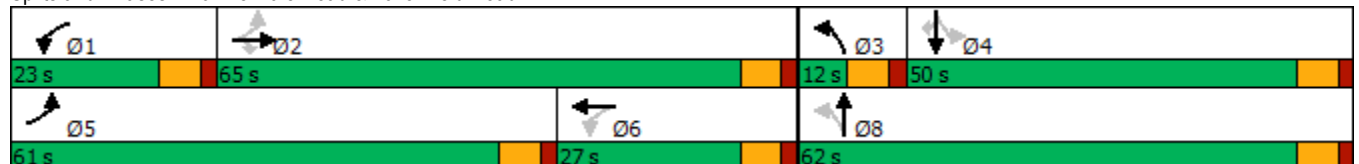
2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.9	60.5	60.5	35.4	20.5		41.8	42.0		35.1	35.1	35.1
Actuated g/C Ratio	0.60	0.44	0.44	0.26	0.15		0.31	0.31		0.26	0.26	0.26
v/c Ratio	0.80	0.51	0.06	0.80	0.61		0.07	0.90		0.49	0.11	0.11
Control Delay	29.1	32.6	0.2	45.0	67.3		32.2	65.6		48.3	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	29.1	32.6	0.2	45.0	67.3		32.2	65.6		48.3	0.5	0.5
LOS	C	C	A	D	E		C	E		D	A	A
Approach Delay		29.4			53.5			64.3		38.8		
Approach LOS		C			D			E		D		
Queue Length 50th (m)	98.5	71.0	0.0	28.5	36.3		3.3	112.1		45.1	0.0	0.0
Queue Length 95th (m)	#188.0	115.6	0.0	#69.8	63.7		8.7	152.2		67.5	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	797	771	697	340	254		266	704		518	539	539
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	0.80	0.51	0.06	0.74	0.61		0.07	0.68		0.39	0.09	0.09

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 136.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 42.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 96.9%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Future Volume (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.97	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3327	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1441	3228	3327	0	3154	3349	1433	1639	3349	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				209			121
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	296	478	427	500	0	334	737	209	24	1335	522
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												



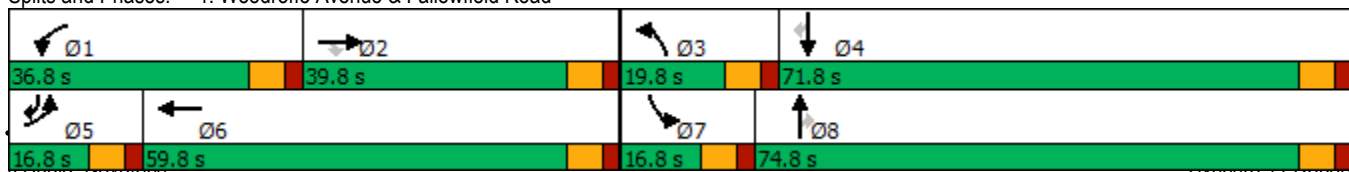
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	16.8	39.8	39.8	36.8	59.8		19.8	74.8	74.8	16.8	71.8	16.8
Total Split (%)	10.0%	23.7%	23.7%	21.9%	35.6%		11.8%	44.5%	44.5%	10.0%	42.7%	10.0%
Maximum Green (s)	10.0	33.0	33.0	30.0	53.0		13.0	68.0	68.0	10.0	65.0	10.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	10.0	33.0	33.0	26.0	49.0		13.0	75.6	75.6	7.8	65.1	75.1
Actuated g/C Ratio	0.06	0.20	0.20	0.16	0.30		0.08	0.46	0.46	0.05	0.40	0.46
v/c Ratio	1.01	0.45	1.15	0.83	0.50		1.34	0.48	0.27	0.31	1.01	0.71
Control Delay	140.2	60.7	130.3	81.6	49.2		230.8	33.8	4.5	86.7	75.1	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	140.2	60.7	130.3	81.6	49.2		230.8	33.8	4.5	86.7	75.1	29.6
LOS	F	E	F	F	D		F	C	A	F	E	C
Approach Delay		111.2			64.2			80.4			62.6	
Approach LOS		F			E			F			E	
Queue Length 50th (m)	~32.0	41.8	~129.9	65.1	65.4		~67.6	85.7	0.0	7.2	~217.5	90.1
Queue Length 95th (m)	#58.7	57.5	#199.9	83.1	82.0		#100.1	109.8	15.1	16.9	#270.5	133.2
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	197	659	414	593	1075		249	1540	772	99	1326	739
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.45	1.15	0.72	0.47		1.34	0.48	0.27	0.24	1.01	0.71

Intersection Summary

Area Type: Other  
 Cycle Length: 168.2  
 Actuated Cycle Length: 164.3  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.34  
 Intersection Signal Delay: 76.7  
 Intersection Capacity Utilization 103.2%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic

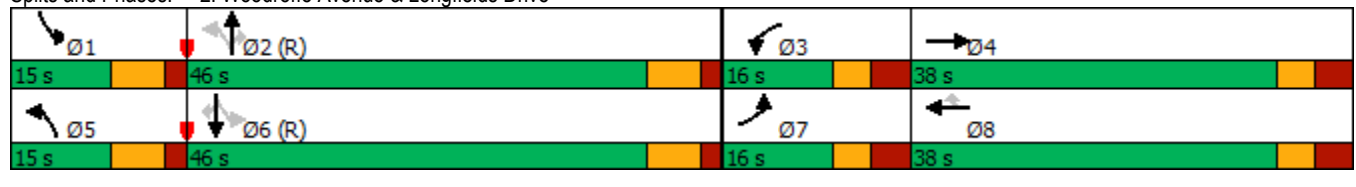
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Future Volume (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99						0.98		0.98	1.00		0.97
Frt		0.928				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1471	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.080			0.228		
Satd. Flow (perm)	3183	1471	0	1674	1483	1456	127	3316	1461	401	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				204			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	75	0	59	52	210	59	865	52	162	1430	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	8.9	17.5		8.3	14.4	14.4	62.9	55.8	55.8	68.7	60.6	60.6
Actuated g/C Ratio	0.08	0.15		0.07	0.13	0.13	0.55	0.49	0.49	0.60	0.53	0.53
v/c Ratio	0.57	0.30		0.49	0.28	0.58	0.38	0.54	0.07	0.47	0.81	0.19
Control Delay	60.5	27.1		64.9	46.6	12.8	19.7	23.9	0.2	16.4	29.3	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	27.1		64.9	46.6	12.8	19.7	23.9	0.2	16.4	29.3	4.1
LOS	E	C		E	D	B	B	C	A	B	C	A
Approach Delay		48.9			27.9			22.4			25.8	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	7.7		11.9	10.4	1.2	4.0	59.7	0.0	11.6	119.3	0.0
Queue Length 95th (m)	24.1	17.0		24.4	17.3	17.2	14.1	105.0	0.0	31.2	#232.9	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	426		135	403	544	173	1607	790	347	1765	845
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.18		0.44	0.13	0.39	0.34	0.54	0.07	0.47	0.81	0.19

Intersection Summary




















Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 26.5  
 Intersection Capacity Utilization 75.3%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Future Volume (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Fr					0.960							0.885
Flt Protected	0.950											0.993
Satd. Flow (prot)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Flt Permitted	0.950											0.993
Satd. Flow (perm)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)	1		10	10		1	1					1
Confl. Bikes (#/hr)			3			7			1			3
Peak Hour 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
Heavy Vehicles (%)	1%	12%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%
Adj. Flow (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	60	0	0	350	0	0	0	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.5%						ICU Level of Service A					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic

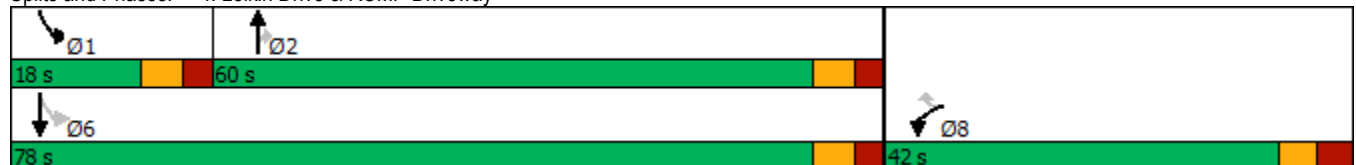
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr t		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Flt Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						











Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	27	187	132	25	242
Future Volume (vph)	45	27	187	132	25	242
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949		0.944			
Flt Protected	0.970				0.950	
Satd. Flow (prot)	1606	0	1647	0	1658	1745
Flt Permitted	0.970				0.950	
Satd. Flow (perm)	1606	0	1647	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.2		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	27	187	132	25	242
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	319	0	25	242
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.0%			ICU Level of Service A		
Analysis Period (min)	15					



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Future Volume (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.944				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1589	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.099			0.513			0.103			0.417		
Satd. Flow (perm)	157	1745	1469	904	1762	0	170	1589	0	735	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					24				224
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	44	127	624	0	50	419	0	4	553	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

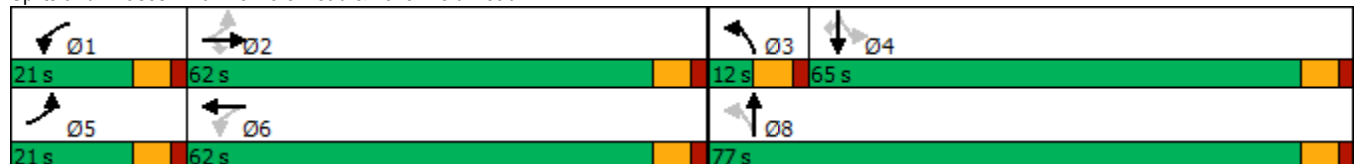
2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	70.4	57.5	57.5	67.8	56.2		59.3	59.5		50.4	50.4	50.4
Actuated g/C Ratio	0.47	0.39	0.39	0.46	0.38		0.40	0.40		0.34	0.34	0.34
v/c Ratio	0.71	0.39	0.07	0.27	0.94		0.42	0.64		0.02	0.92	0.43
Control Delay	49.0	38.0	0.2	23.6	68.4		37.0	37.9		33.0	69.6	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	49.0	38.0	0.2	23.6	68.4		37.0	37.9		33.0	69.6	10.5
LOS	D	D	A	C	E		D	D		C	E	B
Approach Delay		37.6			60.8			37.8			49.6	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	21.5	56.2	0.0	20.0	~181.1		8.4	86.6		0.8	149.5	11.0
Queue Length 95th (m)	#48.3	84.3	0.0	33.1	#262.1		16.5	119.6		3.4	#205.9	32.8
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	210	677	638	509	667		119	779		294	706	734
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	0.64	0.39	0.07	0.25	0.94		0.42	0.54		0.01	0.78	0.38

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 148.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 48.6      Intersection LOS: D  
 Intersection Capacity Utilization 102.7%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	296	8	9	192	455	368	
Future Volume (vph)	296	8	9	192	455	368	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frnt		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Flt Permitted	0.950		0.420				
Satd. Flow (perm)	1642	756	498	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				368	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	296	8	9	192	455	368	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	296	8	9	192	455	368	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

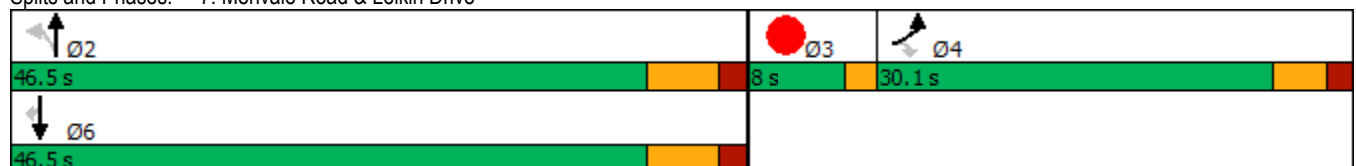


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	18.7	18.7	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.24	0.24	0.51	0.51	0.51	0.51	
v/c Ratio	0.76	0.04	0.04	0.23	0.50	0.39	
Control Delay	40.8	13.1	12.0	12.6	16.1	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	13.1	12.0	12.6	16.1	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	40.1			12.5	10.2		
Approach LOS	D			B	B		
Queue Length 50th (m)	37.7	0.0	0.6	13.8	39.0	0.0	
Queue Length 95th (m)	61.3	2.8	3.0	28.3	71.1	12.4	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	524	247	254	843	901	946	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.03	0.04	0.23	0.50	0.39	

Intersection Summary











Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 78.5  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 17.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 52.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



8: Merivale Road & Beckstead Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	150	72	258	478	0
Future Volume (vph)	7	150	72	258	478	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.871					
Fl <sub>t</sub> Protected	0.998		0.950			
Satd. Flow (prot)	1517	0	1658	1745	1745	0
Fl <sub>t</sub> Permitted	0.998		0.950			
Satd. Flow (perm)	1517	0	1658	1745	1745	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.2			147.3	322.5	
Travel Time (s)	12.0			6.6	14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	150	72	258	478	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	72	258	478	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.0%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	24	554	201	342	868	14	
Future Volume (vph)	24	554	201	342	868	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Frt		0.850			0.998		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3341	0	
Flt Permitted	0.950		0.246				
Satd. Flow (perm)	1642	1464	405	1745	3341	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		187			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	24	554	201	342	868	14	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	24	554	201	342	882	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	26.0	14.0	14.0	89.0	75.0		5.0
Total Split (%)	21.7%	11.7%	11.7%	74.2%	62.5%		4%
Maximum Green (s)	19.2	7.6	7.6	82.5	68.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	19.2	27.2	82.6	82.5	68.5		
Actuated g/C Ratio	0.16	0.23	0.69	0.69	0.57		
v/c Ratio	0.09	1.16	0.57	0.29	0.46		
Control Delay	44.1	119.9	13.5	8.0	16.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.1	119.9	13.5	8.0	16.0		
LOS	D	F	B	A	B		
Approach Delay	116.8			10.1	16.0		
Approach LOS	F			B	B		
Queue Length 50th (m)	4.5	~87.2	14.1	26.1	55.7		
Queue Length 95th (m)	11.7	#149.1	22.3	38.1	69.7		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	262	477	352	1199	1908		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.09	1.16	0.57	0.29	0.46		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.16  
 Intersection Signal Delay: 43.4  
 Intersection Capacity Utilization 72.8%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service C

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Volume (vph)	0	266	341	0	0	7
Future Volume (vph)	0	266	341	0	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Flt Protected						
Satd. Flow (prot)	0	1745	1745	0	0	770
Flt Permitted						
Satd. Flow (perm)	0	1745	1745	0	0	770
Link Speed (k/h)		70	70		50	
Link Distance (m)		443.4	82.3		140.4	
Travel Time (s)		22.8	4.2		10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	100%
Adj. Flow (vph)	0	266	341	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	266	341	0	0	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		2.5	2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%			ICU Level of Service A		
Analysis Period (min)	15					





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	24	26	188	243	120
Future Volume (vph)	110	24	26	188	243	120
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976			0.955		
Flt Protected	0.961			0.994		
Satd. Flow (prot)	1637	0	0	1735	1667	0
Flt Permitted	0.961			0.994		
Satd. Flow (perm)	1637	0	0	1735	1667	0
Link Speed (k/h)	50			50		
Link Distance (m)	170.6			142.0		64.1
Travel Time (s)	12.3			10.2		4.6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	24	26	188	243	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	0	0	214	363	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5		
Link Offset(m)	0.0			0.0		
Crosswalk Width(m)	2.5			2.5		2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free		Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	0	0	298	363	13
Future Volume (vph)	7	0	0	298	363	13
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts					0.995	
Flt Protected	0.950					
Satd. Flow (prot)	846	0	0	1745	1681	0
Flt Permitted	0.950					
Satd. Flow (perm)	846	0	0	1745	1681	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	175.0			64.1	124.6	
Travel Time (s)	12.6			3.8	7.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	100%	2%	2%	2%	2%	100%
Adj. Flow (vph)	7	0	0	298	363	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	298	376	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.0%
Analysis Period (min)	15
	ICU Level of Service A

1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Future Volume (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3230	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				209			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	199	296	478	427	481	19	334	737	209	24	1335	522
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	296	478	427	500	0	334	737	209	24	1335	522
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												



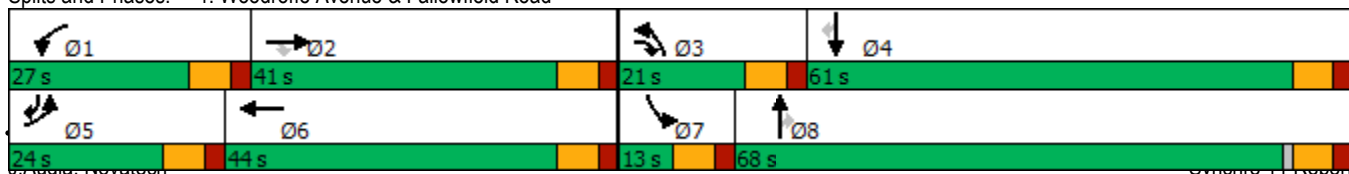
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	13.7	23.4	37.6	20.2	29.9		14.2	67.6	67.6	6.1	54.3	68.0
Actuated g/C Ratio	0.10	0.17	0.27	0.15	0.21		0.10	0.49	0.49	0.04	0.39	0.49
v/c Ratio	0.62	0.54	1.06	0.91	0.70		1.04	0.45	0.26	0.34	1.02	0.66
Control Delay	69.4	56.6	97.5	82.3	56.6		120.6	26.4	4.0	79.5	73.0	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	56.6	97.5	82.3	56.6		120.6	26.4	4.0	79.5	73.0	21.4
LOS	E	E	F	F	E		F	C	A	E	E	C
Approach Delay		79.3			68.4			47.3			58.7	
Approach LOS		E			E			D			E	
Queue Length 50th (m)	24.6	36.5	~122.2	53.9	61.8		~43.9	65.3	0.0	5.9	171.7	63.0
Queue Length 95th (m)	38.8	50.0	#131.7	#91.3	81.9		#82.3	95.6	14.0	16.0	#254.4	108.5
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	401	806	450	471	890		321	1624	803	72	1304	820
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.37	1.06	0.91	0.56		1.04	0.45	0.26	0.33	1.02	0.64

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 139.3  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 61.6  
 Intersection Capacity Utilization 103.2%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G




























~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 		 	 	 	 			
Traffic Volume (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Future Volume (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Frt		0.928				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1471	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.080			0.228		
Satd. Flow (perm)	3183	1471	0	1674	1483	1456	127	3316	1461	401	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				204			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	39	36	59	52	210	59	865	52	162	1430	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	75	0	59	52	210	59	865	52	162	1430	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

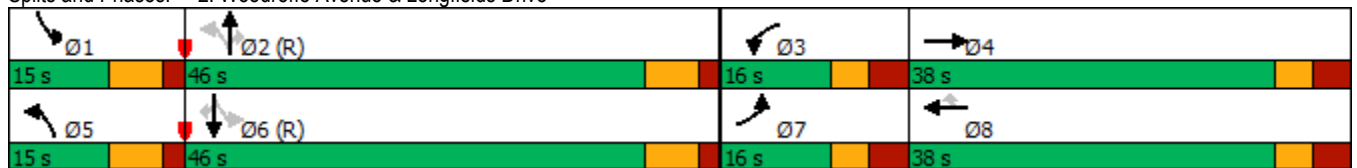
2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	8.9	17.5		8.3	14.4	14.4	62.9	55.8	55.8	68.7	60.6	60.6
Actuated g/C Ratio	0.08	0.15		0.07	0.13	0.13	0.55	0.49	0.49	0.60	0.53	0.53
v/c Ratio	0.57	0.30		0.49	0.28	0.58	0.38	0.54	0.07	0.47	0.81	0.19
Control Delay	60.5	27.1		64.9	46.6	12.8	19.7	23.9	0.2	16.4	29.3	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	27.1		64.9	46.6	12.8	19.7	23.9	0.2	16.4	29.3	4.1
LOS	E	C		E	D	B	B	C	A	B	C	A
Approach Delay		48.9			27.9			22.4			25.8	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	7.7		11.9	10.4	1.2	4.0	59.7	0.0	11.6	119.3	0.0
Queue Length 95th (m)	24.1	17.0		24.4	17.3	17.2	14.1	105.0	0.0	31.2	#232.9	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	426		135	403	544	173	1607	790	347	1765	845
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.18		0.44	0.13	0.39	0.34	0.54	0.07	0.47	0.81	0.19

Intersection Summary













Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 115  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 26.5 Intersection LOS: C  
 Intersection Capacity Utilization 75.3% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway





6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Future Volume (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.944				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1589	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.152			0.552			0.076			0.406		
Satd. Flow (perm)	242	1745	1469	973	1762	0	125	1589	0	716	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					24				222
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	44	127	622	2	50	262	157	4	553	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	44	127	624	0	50	419	0	4	553	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

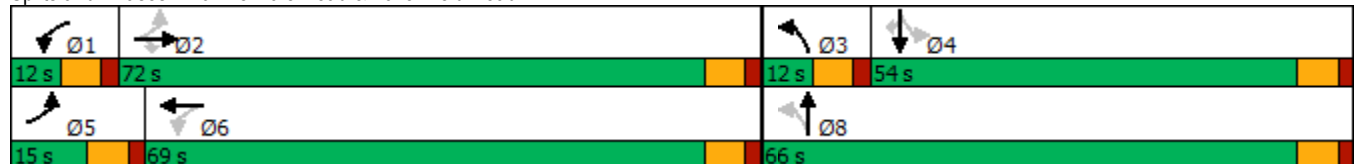
2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.1	65.5	65.5	68.1	62.5		56.8	57.0		47.5	47.5	47.5
Actuated g/C Ratio	0.50	0.44	0.44	0.46	0.42		0.39	0.39		0.32	0.32	0.32
v/c Ratio	0.70	0.34	0.06	0.27	0.84		0.50	0.67		0.02	0.98	0.44
Control Delay	39.9	29.0	0.2	21.9	50.1		45.3	41.0		35.8	81.5	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.9	29.0	0.2	21.9	50.1		45.3	41.0		35.8	81.5	11.7
LOS	D	C	A	C	D		D	D		D	F	B
Approach Delay		29.5			45.3			41.5			57.8	
Approach LOS		C			D			D			E	
Queue Length 50th (m)	19.2	47.3	0.0	17.8	153.3		8.5	87.7		0.8	151.1	11.5
Queue Length 95th (m)	#35.5	68.2	0.0	28.7	#213.9		16.8	122.7		3.5	#221.2	34.5
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	194	774	719	475	746		101	657		231	569	634
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	0.70	0.34	0.06	0.27	0.84		0.50	0.64		0.02	0.97	0.44

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 147.5  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 46.0 Intersection LOS: D  
 Intersection Capacity Utilization 102.7% ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	296	8	9	192	455	368	
Future Volume (vph)	296	8	9	192	455	368	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.420				
Satd. Flow (perm)	1642	756	498	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				368	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	296	8	9	192	455	368	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	296	8	9	192	455	368	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2026 Total Traffic (adjusted timings)

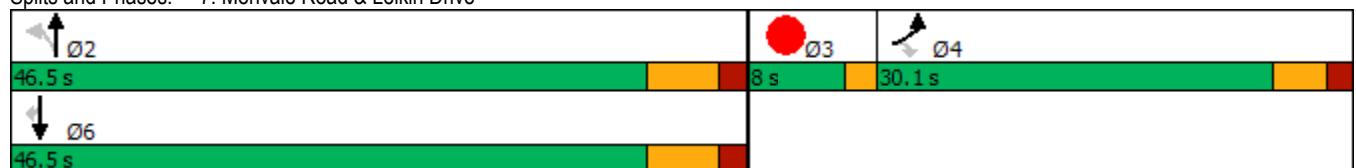


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	18.7	18.7	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.24	0.24	0.51	0.51	0.51	0.51	
v/c Ratio	0.76	0.04	0.04	0.23	0.50	0.39	
Control Delay	40.8	13.1	12.0	12.6	16.1	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	13.1	12.0	12.6	16.1	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	40.1			12.5	10.2		
Approach LOS	D			B	B		
Queue Length 50th (m)	37.7	0.0	0.6	13.8	39.0	0.0	
Queue Length 95th (m)	61.3	2.8	3.0	28.3	71.1	12.4	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	524	247	254	843	901	946	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.03	0.04	0.23	0.50	0.39	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 78.5  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 17.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 52.3%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (adjusted timings)

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	24	554	201	342	868	14	
Future Volume (vph)	24	554	201	342	868	14	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3340	0	
Fl <sub>t</sub> Permitted	0.950		0.178				
Satd. Flow (perm)	1642	1465	293	1745	3340	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		108			1		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	24	554	201	342	868	14	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	24	554	201	342	882	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	41.0	26.0	26.0	74.0	48.0		5.0
Total Split (%)	34.2%	21.7%	21.7%	61.7%	40.0%		4%
Maximum Green (s)	34.2	19.6	19.6	67.5	41.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	32.8	46.9	69.0	68.9	48.8		
Actuated g/C Ratio	0.27	0.39	0.58	0.57	0.41		
v/c Ratio	0.05	0.87	0.64	0.34	0.65		
Control Delay	31.7	37.3	23.1	15.1	32.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	31.7	37.3	23.1	15.1	32.6		
LOS	C	D	C	B	C		
Approach Delay	37.1			18.0	32.6		
Approach LOS	D			B	C		
Queue Length 50th (m)	3.8	80.8	20.8	38.5	81.0		
Queue Length 95th (m)	9.8	110.4	33.3	56.2	111.3		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	467	655	376	1001	1359		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.05	0.85	0.53	0.34	0.65		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 30.0  
 Intersection Capacity Utilization 72.8%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	296	448	427	481	19	314	737	209	24	1305	522
Future Volume (vph)	199	296	448	427	481	19	314	737	209	24	1305	522
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3230	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				209			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	199	296	448	427	481	19	314	737	209	24	1305	522
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	296	448	427	500	0	314	737	209	24	1305	522
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	13.7	23.4	37.6	20.2	29.9		14.2	67.6	67.6	6.1	54.3	68.0
Actuated g/C Ratio	0.10	0.17	0.27	0.15	0.21		0.10	0.49	0.49	0.04	0.39	0.49
v/c Ratio	0.62	0.54	1.00	0.91	0.70		0.98	0.45	0.26	0.34	1.00	0.66
Control Delay	69.4	56.6	79.9	82.3	56.6		106.8	26.4	4.0	79.5	67.5	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	56.6	79.9	82.3	56.6		106.8	26.4	4.0	79.5	67.5	21.4
LOS	E	E	E	F	E		F	C	A	E	E	C
Approach Delay		70.3			68.4			42.7			54.6	
Approach LOS		E			E			D			D	
Queue Length 50th (m)	24.6	36.5	~99.0	53.9	61.8		40.4	65.3	0.0	5.9	165.4	63.0
Queue Length 95th (m)	38.8	50.0	#150.8	#91.3	81.9		#75.6	95.6	14.0	16.0	#245.2	108.5
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	401	806	450	471	890		321	1624	803	72	1304	820
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.37	1.00	0.91	0.56		0.98	0.45	0.26	0.33	1.00	0.64

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 139.3  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 57.2  
 Intersection Capacity Utilization 101.7%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

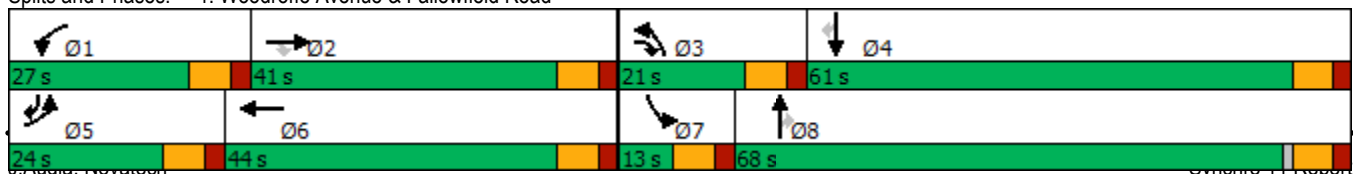
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road





6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	263	44	127	622	2	50	262	157	4	453	281
Future Volume (vph)	135	263	44	127	622	2	50	262	157	4	453	281
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.944				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1589	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.181			0.564			0.132			0.383		
Satd. Flow (perm)	288	1745	1469	994	1762	0	218	1589	0	675	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					24				249
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	135	263	44	127	622	2	50	262	157	4	453	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	263	44	127	624	0	50	419	0	4	453	281
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

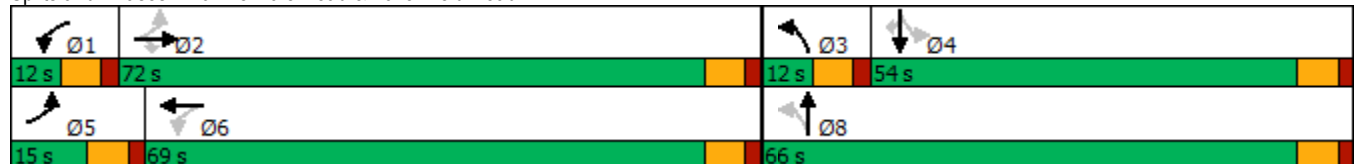
2-20 Leikin and 99 Bill Leatham  
2026 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.5	66.0	66.0	68.8	63.1		49.1	49.3		40.1	40.1	40.1
Actuated g/C Ratio	0.53	0.47	0.47	0.49	0.45		0.35	0.35		0.29	0.29	0.29
v/c Ratio	0.60	0.32	0.06	0.25	0.79		0.39	0.73		0.02	0.90	0.46
Control Delay	30.5	26.8	0.2	20.2	43.9		37.9	44.9		36.0	70.6	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	30.5	26.8	0.2	20.2	43.9		37.9	44.9		36.0	70.6	9.3
LOS	C	C	A	C	D		D	D		D	E	A
Approach Delay		25.3			39.9			44.1			47.1	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	18.0	44.9	0.0	16.7	145.8		8.5	87.7		0.8	114.4	6.1
Queue Length 95th (m)	30.9	68.2	0.0	28.7	#213.9		16.8	122.7		3.5	#156.8	27.3
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	227	819	753	513	791		128	693		230	602	676
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	0.59	0.32	0.06	0.25	0.79		0.39	0.60		0.02	0.75	0.42

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.5  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 40.2      Intersection LOS: D  
 Intersection Capacity Utilization 102.7%      ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Future Volume (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248		5				296			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	627	248	99	178	0	435	1454	520	13	370	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.8	37.6	37.6	9.3	23.1		35.5	77.4	77.4	6.1	33.6	57.4
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15		0.24	0.52	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.76	0.46	0.51	0.36		0.58	0.84	0.58	0.19	0.50	0.15
Control Delay	78.4	57.9	7.3	77.1	56.4		31.2	37.9	14.5	76.2	54.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.4	57.9	7.3	77.1	56.4		31.2	37.9	14.5	76.2	54.5	0.5
LOS	E	E	A	E	E		C	D	B	E	D	A
Approach Delay		55.3			63.8			31.6			44.2	
Approach LOS		E			E			C			D	
Queue Length 50th (m)	61.2	86.1	0.0	13.7	23.2		30.1	156.8	34.8	3.5	47.7	0.0
Queue Length 95th (m)	#80.6	94.6	18.3	22.7	31.1		47.6	#276.2	92.0	10.5	64.3	0.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	545	1065	623	214	710		765	1728	901	68	743	661
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.59	0.40	0.46	0.25		0.57	0.84	0.58	0.19	0.50	0.15

**Intersection Summary**

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 41.9

Intersection LOS: D

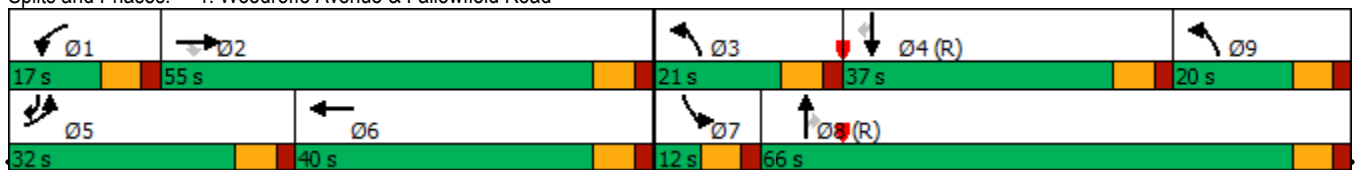
Intersection Capacity Utilization 99.3%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.




























Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 					 		 			 	
Traffic Volume (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Future Volume (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.526			0.068		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	906	3316	1483	119	3316	1460
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				140			142			142
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1646	78	176	381	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic

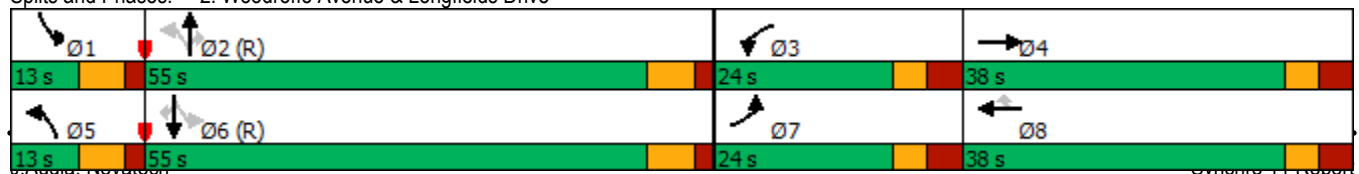
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	24.0	38.0		24.0	38.0	38.0	13.0	55.0	55.0	13.0	55.0	55.0
Total Split (%)	18.5%	29.2%		18.5%	29.2%	29.2%	10.0%	42.3%	42.3%	10.0%	42.3%	42.3%
Maximum Green (s)	17.3	31.3		17.3	31.3	31.3	6.5	48.5	48.5	6.5	48.5	48.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	14.1	28.9		7.1	14.2	14.2	62.1	56.0	56.0	80.5	74.0	74.0
Actuated g/C Ratio	0.11	0.22		0.05	0.11	0.11	0.48	0.43	0.43	0.62	0.57	0.57
v/c Ratio	0.64	0.20		0.21	0.09	0.36	0.05	1.15	0.11	0.58	0.20	0.06
Control Delay	63.9	35.0		63.6	48.9	6.0	13.8	111.6	0.3	35.6	16.9	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	35.0		63.6	48.9	6.0	13.8	111.6	0.3	35.6	16.9	0.1
LOS	E	D		E	D	A	B	F	A	D	B	A
Approach Delay		56.4			19.0			105.3			20.7	
Approach LOS		E			B			F			C	
Queue Length 50th (m)	26.3	12.2		4.4	3.8	0.0	1.8	~229.5	0.0	22.8	22.3	0.0
Queue Length 95th (m)	37.6	22.5		11.8	8.9	6.1	7.4	#304.0	0.0	#86.1	45.0	0.0
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	427	435		222	416	463	473	1428	719	302	1888	892
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.18		0.09	0.04	0.22	0.05	1.15	0.11	0.58	0.20	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 48 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.15  
 Intersection Signal Delay: 77.3  
 Intersection Capacity Utilization 88.1%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.




















Splits and Phases: 2: Woodroffe Avenue & Longfields Drive

















3: Leikin Drive & Bill Leathem Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Future Volume (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.999			0.925			0.865				0.975
Flt Protected	0.950			0.950								0.962
Satd. Flow (prot)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Flt Permitted	0.950			0.950								0.962
Satd. Flow (perm)	1626	1743	0	1353	1395	0	0	1026	0	0	1649	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)			5	5								
Confl. Bikes (#/hr)			9			1			1			1
Peak Hour 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
Heavy Vehicles (%)	4%	2%	1%	25%	35%	1%	1%	1%	50%	1%	33%	0%
Adj. Flow (vph)	183	570	4	7	26	26	0	0	2	178	3	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	574	0	7	52	0	0	2	0	0	223	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.5%						ICU Level of Service B					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Fr t		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

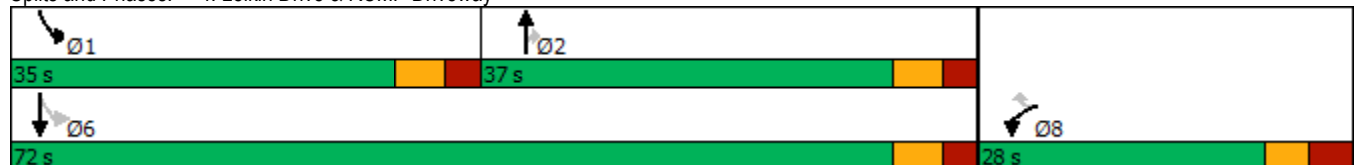












Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B



























Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	112	34	329	28	6	256
Future Volume (vph)	112	34	329	28	6	256
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.969		0.989			
Flt Protected	0.963				0.950	
Satd. Flow (prot)	1628	0	1726	0	1658	1745
Flt Permitted	0.963				0.950	
Satd. Flow (perm)	1628	0	1726	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.2		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	34	329	28	6	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	357	0	6	256
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	682	421	41	264	162	4	20	621	47	0	211	54	
Future Volume (vph)	682	421	41	264	162	4	20	621	47	0	211	54	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0	
Storage Lanes	1		1	1		0	1		0	1		1	
Taper Length (m)	40.0			35.0			65.0			55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor								1.00					
Frt			0.850		0.996			0.989					
Flt Protected	0.950			0.950			0.950						
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1725	0	1762	1618	1327	
Flt Permitted	0.450			0.516			0.488						
Satd. Flow (perm)	785	1745	1427	900	1690	0	860	1725	0	1762	1618	1327	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			128		1			3				179	
Link Speed (k/h)		80			80			80				80	
Link Distance (m)		1740.9			282.6			384.7				354.0	
Travel Time (s)		78.3			12.7			17.3				15.9	
Confl. Bikes (#/hr)									1				
Peak Hour 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	
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%	
Adj. Flow (vph)	682	421	41	264	162	4	20	621	47	0	211	54	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	682	421	41	264	166	0	20	668	0	0	211	54	
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)		3.5			3.5			3.5				3.5	
Link Offset(m)		0.0			0.0			0.0				0.0	
Crosswalk Width(m)		2.5			2.5			2.5				2.5	
Two way Left Turn Lane													
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	2	1	1	2		1	2		1	2	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4				9.4	
Detector 2 Size(m)		0.6			0.6			0.6				0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0				0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	
Protected Phases	5	2		1	6		3	8			4		
Permitted Phases	2		2	6			8		4			4	
Detector Phase	5	2	2	1	6		3	8	4	4		4	
Switch Phase													
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0	

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	37.0	56.0	56.0	16.0	35.0		12.0	69.0		57.0	57.0	57.0
Total Split (%)	26.2%	39.7%	39.7%	11.3%	24.8%		8.5%	48.9%		40.4%	40.4%	40.4%
Maximum Green (s)	30.5	49.4	49.4	9.5	28.4		5.4	62.6		50.6	50.6	50.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	65.8	49.6	49.6	38.2	28.5		54.4	54.6			47.7	47.7
Actuated g/C Ratio	0.49	0.37	0.37	0.29	0.21		0.41	0.41			0.36	0.36
v/c Ratio	1.16	0.65	0.07	0.85	0.46		0.05	0.94			0.37	0.09
Control Delay	118.9	41.8	0.2	57.4	51.9		22.9	60.4			34.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	118.9	41.8	0.2	57.4	51.9		22.9	60.4			34.5	0.3
LOS	F	D	A	E	D		C	E			C	A
Approach Delay		86.3			55.3			59.3			27.6	
Approach LOS		F			E			E			C	
Queue Length 50th (m)	~194.4	88.0	0.0	40.0	36.5		2.9	152.9			39.8	0.0
Queue Length 95th (m)	#283.7	127.7	0.0	#83.0	59.5		7.4	#218.9			60.2	0.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	587	649	611	311	362		383	815			616	616
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.16	0.65	0.07	0.85	0.46		0.05	0.82			0.34	0.09

Intersection Summary

Area Type: Other

Cycle Length: 141

Actuated Cycle Length: 133.3

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 67.5

Intersection LOS: E

Intersection Capacity Utilization 110.3%

ICU Level of Service H

Analysis Period (min) 15

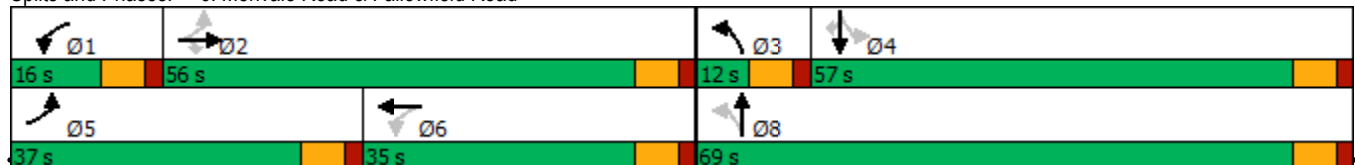
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	349	7	4	391	70	412	
Future Volume (vph)	349	7	4	391	70	412	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.711				
Satd. Flow (perm)	1674	1498	1253	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				412	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	349	7	4	391	70	412	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	349	7	4	391	70	412	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

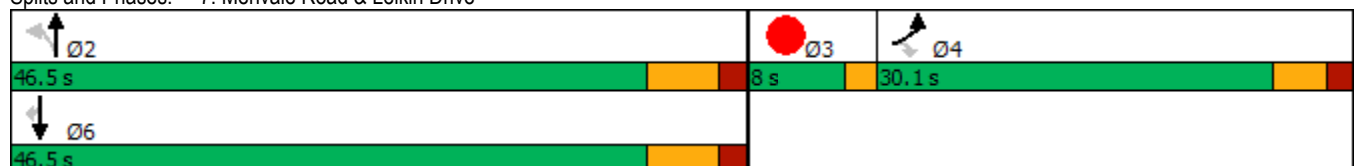


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.6	20.6	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.26	0.26	0.50	0.50	0.50	0.50	
v/c Ratio	0.81	0.02	0.01	0.45	0.10	0.44	
Control Delay	43.8	12.7	11.8	16.1	12.4	3.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	12.7	11.8	16.1	12.4	3.1	
LOS	D	B	B	B	B	A	
Approach Delay	43.2			16.0	4.4		
Approach LOS	D			B	A		
Queue Length 50th (m)	46.0	0.0	0.3	35.0	5.1	0.0	
Queue Length 95th (m)	73.1	2.7	1.8	59.5	12.0	13.0	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	521	471	625	862	710	939	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.01	0.01	0.45	0.10	0.44	

Intersection Summary

Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 19.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 54.4%  
 ICU Level of Service A  
 Analysis Period (min) 15











Splits and Phases: 7: Merivale Road & Leikin Drive

















8: Merivale Road & Beckstead Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	28	145	489	184	1
Future Volume (vph)	6	28	145	489	184	1
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.889				0.999	
Fl <sub>t</sub> Protected	0.991		0.950			
Satd. Flow (prot)	1537	0	1658	1745	1743	0
Fl <sub>t</sub> Permitted	0.991		0.950			
Satd. Flow (perm)	1537	0	1658	1745	1743	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.2			147.3	322.5	
Travel Time (s)	12.0			6.6	14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	28	145	489	184	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	145	489	185	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.2%			ICU Level of Service A		
Analysis Period (min)	15					

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	11	109	546	1014	286	42	
Future Volume (vph)	11	109	546	1014	286	42	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Frt		0.850			0.981		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Flt Permitted	0.950		0.486				
Satd. Flow (perm)	1674	1261	840	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		109			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	109	546	1014	286	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	109	546	1014	328	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	36.2	70.6	70.5	45.9		
Actuated g/C Ratio	0.11	0.36	0.71	0.70	0.46		
v/c Ratio	0.06	0.21	0.74	0.82	0.23		
Control Delay	38.9	5.0	15.0	18.5	16.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.0	15.0	18.5	16.3		
LOS	D	A	B	B	B		
Approach Delay	8.1			17.3	16.3		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	35.4	105.2	17.3		
Queue Length 95th (m)	6.2	9.5	#72.4	#232.3	26.2		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	509	740	1230	1441		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.21	0.74	0.82	0.23		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 16.6  
 Intersection Capacity Utilization 75.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Volume (vph)	0	378	160	0	0	7
Future Volume (vph)	0	378	160	0	0	7
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Flt Protected						
Satd. Flow (prot)	0	1745	1745	0	0	770
Flt Permitted						
Satd. Flow (perm)	0	1745	1745	0	0	770
Link Speed (k/h)		70	70		50	
Link Distance (m)		443.4	82.3		140.4	
Travel Time (s)		22.8	4.2		10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	100%
Adj. Flow (vph)	0	378	160	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	378	160	0	0	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		2.5	2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.3%			ICU Level of Service A		
Analysis Period (min)	15					



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	5	33	330	257	149
Future Volume (vph)	23	5	33	330	257	149
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976			0.950		
Flt Protected	0.961			0.995		
Satd. Flow (prot)	1637	0	0	1736	1658	0
Flt Permitted	0.961			0.995		
Satd. Flow (perm)	1637	0	0	1736	1658	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	170.6			142.0	64.1	
Travel Time (s)	12.3			8.5	3.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	5	33	330	257	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	363	406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.3%
ICU Level of Service	B
Analysis Period (min)	15



































Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	0	0	353	406	9
Future Volume (vph)	3	0	0	353	406	9
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't					0.997	
Flt Protected	0.950					
Satd. Flow (prot)	846	0	0	1745	1704	0
Flt Permitted	0.950					
Satd. Flow (perm)	846	0	0	1745	1704	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	175.0			64.1	124.6	
Travel Time (s)	12.6			3.8	7.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	100%	2%	2%	2%	2%	100%
Adj. Flow (vph)	3	0	0	353	406	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	0	353	415	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.1%
Analysis Period (min)	15
	ICU Level of Service A

1: Woodroffe Avenue & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 	 	 	 		 	 		 	 	
Traffic Volume (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Future Volume (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98		1.00				0.98	1.00		0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3316	1441	3154	3191	0	3185	3349	1498	1674	3316	1427
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3316	1417	3154	3191	0	3185	3349	1469	1674	3316	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248		5				296			176
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			7			1			11			5
Peak Hour 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
Heavy Vehicles (%)	1%	2%	5%	4%	5%	1%	3%	1%	1%	1%	2%	6%
Adj. Flow (vph)	444	627	248	99	165	13	435	1454	520	13	370	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	444	627	248	99	178	0	435	1454	520	13	370	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		39	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		39	8	8	7	4	5
Switch Phase												

Lane Group	Ø3	Ø9
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	3	9
Permitted Phases		
Detector Phase		
Switch Phase		



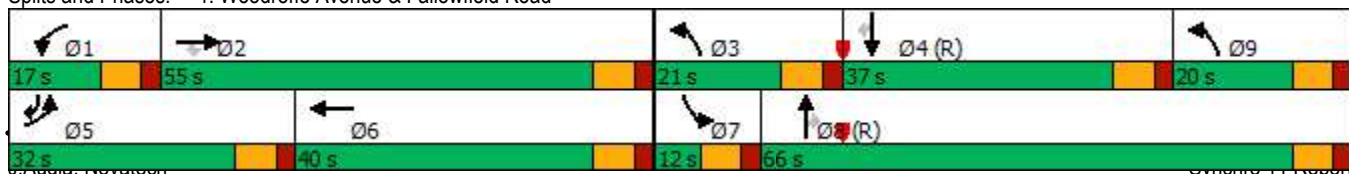


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0			20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8			36.8	36.8	11.8	36.8	11.8
Total Split (s)	32.0	55.0	55.0	17.0	40.0			66.0	66.0	12.0	37.0	32.0
Total Split (%)	21.3%	36.7%	36.7%	11.3%	26.7%			44.0%	44.0%	8.0%	24.7%	21.3%
Maximum Green (s)	25.2	48.2	48.2	10.2	33.2			59.2	59.2	5.2	30.2	25.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6			4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2			2.2	2.2	2.2	2.2	2.2
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)	6.8	6.8	6.8	6.8	6.8			6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min			C-Min	C-Min	None	C-Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	23.8	37.6	37.6	9.3	23.1			35.5	77.4	6.1	33.6	57.4
Actuated g/C Ratio	0.16	0.25	0.25	0.06	0.15			0.24	0.52	0.04	0.22	0.38
v/c Ratio	0.86	0.76	0.46	0.51	0.36			0.58	0.84	0.58	0.19	0.50
Control Delay	78.4	57.9	7.3	77.1	56.4			22.8	23.3	8.2	76.2	54.5
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	78.4	57.9	7.3	77.1	56.4			22.8	23.3	8.2	76.2	54.5
LOS	E	E	A	E	E			C	C	A	E	D
Approach Delay		55.3			63.8			20.0			44.2	
Approach LOS		E			E			B			D	
Queue Length 50th (m)	61.2	86.1	0.0	13.7	23.2			29.2	145.6	20.9	3.5	47.7
Queue Length 95th (m)	#80.6	94.6	18.3	22.7	31.1			m30.1	m#255.6	m92.7	10.5	64.3
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0				100.0		90.0		300.0
Base Capacity (vph)	545	1065	623	214	710			765	1728	901	68	743
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	0.81	0.59	0.40	0.46	0.25			0.57	0.84	0.58	0.19	0.50

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:SBT and 8:NBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 35.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.3%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



Lane Group	Ø3	Ø9
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.8	11.8
Total Split (s)	21.0	20.0
Total Split (%)	14%	13%
Maximum Green (s)	14.2	13.2
Yellow Time (s)	4.6	4.6
All-Red Time (s)	2.2	2.2
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (m)		
Queue Length 95th (m)		
Internal Link Dist (m)		
Turn Bay Length (m)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Future Volume (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.526			0.051		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	906	3316	1483	89	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1646	78	176	381	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1646	78	176	381	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

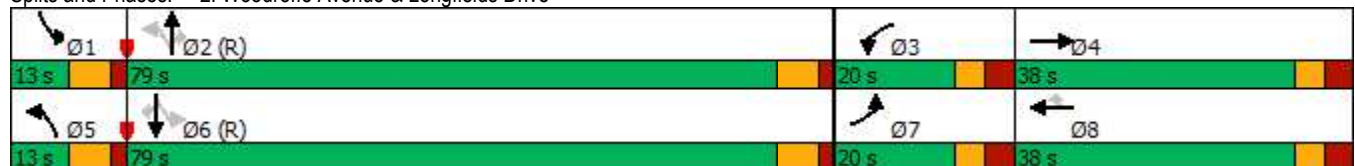
2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	13.0	24.9		7.3	14.2	14.2	80.6	74.5	74.5	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.17		0.05	0.09	0.09	0.54	0.50	0.50	0.68	0.63	0.63
v/c Ratio	0.80	0.27		0.23	0.10	0.42	0.05	1.00	0.10	0.61	0.18	0.06
Control Delay	88.3	50.5		74.8	59.3	10.6	11.1	59.3	0.8	62.4	6.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	50.5		74.8	59.3	10.6	11.1	59.3	0.8	62.4	6.0	0.1
LOS	F	D		E	E	B	B	E	A	E	A	A
Approach Delay		78.5			25.3			56.0			21.7	
Approach LOS		E			C			E			C	
Queue Length 50th (m)	31.3	17.6		5.1	4.5	0.0	1.8	225.3	0.0	30.8	7.0	0.0
Queue Length 95th (m)	#48.7	28.5		13.2	10.2	10.4	6.7	#291.3	1.6	#101.4	16.7	0.2
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	522	1647	798	289	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.21		0.13	0.05	0.26	0.05	1.00	0.10	0.61	0.18	0.06

Intersection Summary













Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 49.4  
 Intersection Capacity Utilization 88.1%  
 Intersection LOS: D  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	17	338	548	253	87
Future Volume (vph)	15	17	338	548	253	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93		0.97	1.00	
Frnt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1427	1728	1498	1674	1508
Flt Permitted	0.950				0.448	
Satd. Flow (perm)	1674	1325	1728	1450	786	1508
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		17		548		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		5	5	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	6%	3%	1%	1%	18%
Adj. Flow (vph)	15	17	338	548	253	87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	17	338	548	253	87
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

4: Leikin Drive & RCMP Driveway  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

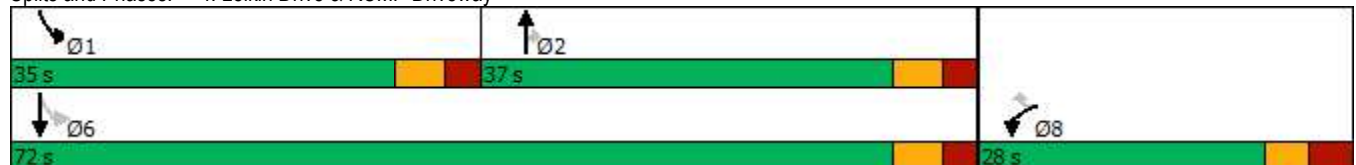


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	28.0	28.0	37.0	37.0	35.0	72.0
Total Split (%)	28.0%	28.0%	37.0%	37.0%	35.0%	72.0%
Maximum Green (s)	21.3	21.3	30.6	30.6	28.6	65.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	11.6	11.6	32.0	32.0	47.6	52.2
Actuated g/C Ratio	0.19	0.19	0.53	0.53	0.78	0.86
v/c Ratio	0.05	0.06	0.37	0.54	0.34	0.07
Control Delay	25.1	13.4	14.0	4.0	5.1	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	13.4	14.0	4.0	5.1	3.9
LOS	C	B	B	A	A	A
Approach Delay	18.8		7.8			4.8
Approach LOS	B		A			A
Queue Length 50th (m)	1.1	0.0	13.4	0.0	0.3	0.0
Queue Length 95th (m)	6.0	4.6	60.0	18.3	24.3	9.3
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	613	496	909	1022	1052	1424
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.03	0.37	0.54	0.24	0.06

Intersection Summary























Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	60.8
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	7.2
Intersection Capacity Utilization:	63.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 4: Leikin Drive & RCMP Driveway



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	682	421	41	264	162	4	20	621	47	0	211	54
Future Volume (vph)	682	421	41	264	162	4	20	621	47	0	211	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.989				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1725	0	1762	1618	1327
Flt Permitted	0.329			0.516			0.466					
Satd. Flow (perm)	574	1745	1427	900	1690	0	821	1725	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			3				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	682	421	41	264	162	4	20	621	47	0	211	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	682	421	41	264	166	0	20	668	0	0	211	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8				4
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.5	58.7	58.7	36.7	20.4		55.4	55.6		48.4	48.4	48.4
Actuated g/C Ratio	0.54	0.39	0.39	0.24	0.14		0.37	0.37		0.32	0.32	0.32
v/c Ratio	0.97	0.62	0.06	0.88	0.72		0.06	1.04		0.40	0.10	0.10
Control Delay	57.4	41.5	0.2	58.8	79.9		30.8	92.1		43.9	0.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	57.4	41.5	0.2	58.8	79.9		30.8	92.1		43.9	0.4	0.4
LOS	E	D	A	E	E		C	F		D	A	A
Approach Delay		49.5			66.9			90.4		35.0		
Approach LOS		D			E			F		D		
Queue Length 50th (m)	150.4	92.4	0.0	38.2	44.0		3.5	~197.0		47.4	0.0	0.0
Queue Length 95th (m)	#226.3	125.7	0.0	#78.9	#72.4		8.9	#266.0		70.5	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	705	683	631	305	230		333	641		522	542	
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	0.97	0.62	0.06	0.87	0.72		0.06	1.04		0.40	0.10	0.10

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.04  
 Intersection Signal Delay: 62.1  
 Intersection LOS: E  
 Intersection Capacity Utilization 110.3%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





7: Merivale Road & Leikin Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	349	7	4	391	70	412	
Future Volume (vph)	349	7	4	391	70	412	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't		0.850				0.850	
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1498	1674	1728	1424	1469	
Flt Permitted	0.950		0.711				
Satd. Flow (perm)	1674	1498	1253	1728	1424	1469	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		7				412	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	1%	1%	3%	25%	3%	
Adj. Flow (vph)	349	7	4	391	70	412	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	349	7	4	391	70	412	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

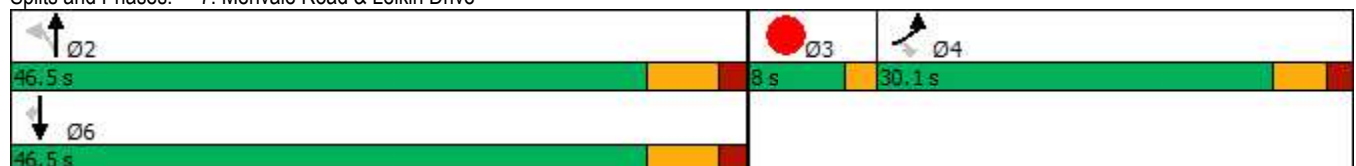


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	20.6	20.6	40.1	40.1	40.1	40.1	
Actuated g/C Ratio	0.26	0.26	0.50	0.50	0.50	0.50	
v/c Ratio	0.81	0.02	0.01	0.45	0.10	0.44	
Control Delay	43.8	12.7	11.8	16.1	12.4	3.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.8	12.7	11.8	16.1	12.4	3.1	
LOS	D	B	B	B	B	A	
Approach Delay	43.2			16.0	4.4		
Approach LOS	D			B	A		
Queue Length 50th (m)	46.0	0.0	0.3	35.0	5.1	0.0	
Queue Length 95th (m)	73.1	2.7	1.8	59.5	12.0	13.0	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	521	471	625	862	710	939	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.01	0.01	0.45	0.10	0.44	

Intersection Summary













Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 80.4  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 19.3      Intersection LOS: B  
 Intersection Capacity Utilization 54.4%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations					 		
Traffic Volume (vph)	11	109	546	1014	286	42	
Future Volume (vph)	11	109	546	1014	286	42	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor					1.00		
Frt		0.850			0.981		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1674	1261	1642	1745	3115	0	
Flt Permitted	0.950		0.486				
Satd. Flow (perm)	1674	1261	840	1745	3115	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		109			20		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)						1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	1%	20%	3%	2%	7%	1%	
Adj. Flow (vph)	11	109	546	1014	286	42	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	109	546	1014	328	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

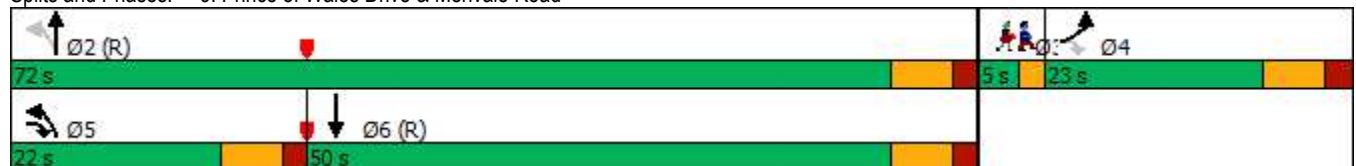


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	23.0	22.0	22.0	72.0	50.0		5.0
Total Split (%)	23.0%	22.0%	22.0%	72.0%	50.0%		5%
Maximum Green (s)	16.2	15.6	15.6	65.5	43.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	11.2	36.2	70.6	70.5	45.9		
Actuated g/C Ratio	0.11	0.36	0.71	0.70	0.46		
v/c Ratio	0.06	0.21	0.74	0.82	0.23		
Control Delay	38.9	5.0	15.0	18.5	16.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	38.9	5.0	15.0	18.5	16.3		
LOS	D	A	B	B	B		
Approach Delay	8.1			17.3	16.3		
Approach LOS	A			B	B		
Queue Length 50th (m)	1.8	0.0	35.4	105.2	17.3		
Queue Length 95th (m)	6.2	9.5	#72.4	#232.3	26.2		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	271	509	740	1230	1441		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.21	0.74	0.82	0.23		

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 15 (15%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 16.6  
 Intersection Capacity Utilization 75.8%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	58	20	19	17	104	24	1486	78	176	381	55
Future Volume (vph)	223	58	20	19	17	104	24	1486	78	176	381	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor							1.00					0.97
Frt		0.962				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1683	0	1674	1728	1483	1642	3316	1483	1658	3316	1498
Flt Permitted	0.950			0.950			0.526			0.051		
Satd. Flow (perm)	3216	1683	0	1674	1728	1483	906	3316	1483	89	3316	1459
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				121			123			123
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)							2					2
Peak Hour 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
Heavy Vehicles (%)	2%	1%	4%	1%	3%	2%	3%	2%	2%	2%	2%	1%
Adj. Flow (vph)	223	58	20	19	17	104	24	1486	78	176	381	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	78	0	19	17	104	24	1486	78	176	381	55
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
AM Peak Hour

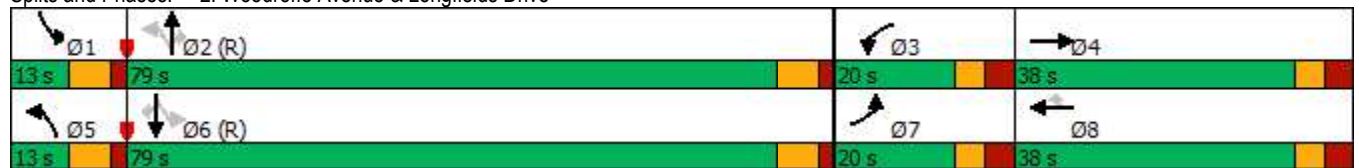
2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	20.0	38.0		20.0	38.0	38.0	13.0	79.0	79.0	13.0	79.0	79.0
Total Split (%)	13.3%	25.3%		13.3%	25.3%	25.3%	8.7%	52.7%	52.7%	8.7%	52.7%	52.7%
Maximum Green (s)	13.3	31.3		13.3	31.3	31.3	6.5	72.5	72.5	6.5	72.5	72.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	13.0	24.9		7.3	14.2	14.2	80.6	74.5	74.5	101.6	95.2	95.2
Actuated g/C Ratio	0.09	0.17		0.05	0.09	0.09	0.54	0.50	0.50	0.68	0.63	0.63
v/c Ratio	0.80	0.27		0.23	0.10	0.42	0.05	0.90	0.10	0.61	0.18	0.06
Control Delay	88.3	50.5		74.8	59.3	10.6	11.1	43.1	0.8	62.4	6.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.3	50.5		74.8	59.3	10.6	11.1	43.1	0.8	62.4	6.0	0.1
LOS	F	D		E	E	B	B	D	A	E	A	A
Approach Delay		78.5			25.3			40.5			21.7	
Approach LOS		E			C			D			C	
Queue Length 50th (m)	31.3	17.6		5.1	4.5	0.0	1.8	185.6	0.0	30.8	7.0	0.0
Queue Length 95th (m)	#48.7	28.5		13.2	10.2	10.4	6.7	#235.1	1.6	#101.4	16.7	0.2
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	285	367		148	360	405	522	1647	798	289	2103	970
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.21		0.13	0.05	0.26	0.05	0.90	0.10	0.61	0.18	0.06

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 39.7  
 Intersection Capacity Utilization 83.4%  
 Intersection LOS: D  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



6: Merivale Road & Fallowfield Road  
AM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	632	421	41	264	162	4	20	431	47	0	211	54
Future Volume (vph)	632	421	41	264	162	4	20	431	47	0	211	54
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt			0.850		0.996			0.985				0.850
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	1658	1745	1427	1658	1690	0	1674	1717	0	1762	1618	1327
Flt Permitted	0.362			0.516			0.416					
Satd. Flow (perm)	632	1745	1427	900	1690	0	733	1717	0	1762	1618	1327
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			4				169
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Confl. Bikes (#/hr)									1			
Peak Hour 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
Heavy Vehicles (%)	2%	2%	6%	2%	5%	1%	1%	2%	1%	1%	10%	14%
Adj. Flow (vph)	632	421	41	264	162	4	20	431	47	0	211	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	632	421	41	264	166	0	20	478	0	0	211	54
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)		3.5			3.5			3.5				3.5
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		2.5			2.5			2.5				2.5
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4				9.4
Detector 2 Size(m)		0.6			0.6			0.6				0.6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8	4	4		4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0

6: Merivale Road & Fallowfield Road  
AM Peak Hour

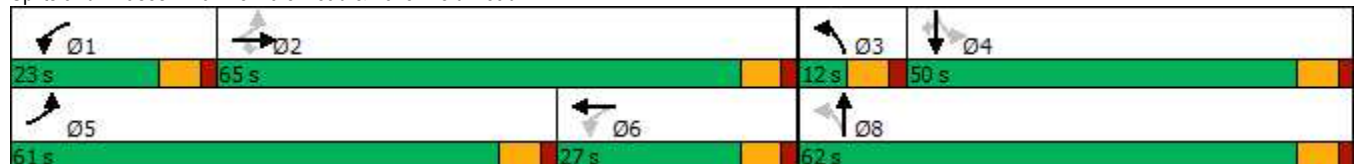
2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	61.0	65.0	65.0	23.0	27.0		12.0	62.0		50.0	50.0	50.0
Total Split (%)	40.7%	43.3%	43.3%	15.3%	18.0%		8.0%	41.3%		33.3%	33.3%	33.3%
Maximum Green (s)	54.5	58.4	58.4	16.5	20.4		5.4	55.6		43.6	43.6	43.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		0	0		0			0		0	0	0
Act Effct Green (s)	81.9	59.9	59.9	35.9	20.5		42.0	42.2		35.3	35.3	35.3
Actuated g/C Ratio	0.60	0.44	0.44	0.26	0.15		0.31	0.31		0.26	0.26	0.26
v/c Ratio	0.80	0.55	0.06	0.82	0.66		0.08	0.90		0.51	0.12	0.12
Control Delay	30.0	34.1	0.2	48.4	69.6		32.3	65.8		48.9	0.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	30.0	34.1	0.2	48.4	69.6		32.3	65.8		48.9	0.5	0.5
LOS	C	C	A	D	E		C	E		D	A	A
Approach Delay		30.5			56.6			64.5		39.0		
Approach LOS		C			E			E		D		
Queue Length 50th (m)	98.3	78.2	0.0	30.2	39.3		3.5	112.9		47.4	0.0	0.0
Queue Length 95th (m)	#190.8	125.7	0.0	#78.9	#72.4		8.9	153.0		70.5	0.0	0.0
Internal Link Dist (m)		1716.9			258.6			360.7		330.0		
Turn Bay Length (m)	110.0		110.0	30.0			70.0					80.0
Base Capacity (vph)	787	763	691	335	253		261	702		517	539	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.80	0.55	0.06	0.79	0.66		0.08	0.68		0.41	0.10	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 137  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 43.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 96.8%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Future Volume (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.97	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3327	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1441	3229	3327	0	3154	3349	1433	1639	3349	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			157		2				213			113
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	318	511	459	536	0	355	789	224	25	1430	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	2	1	6		3	8	8	7	4	5
Switch Phase												



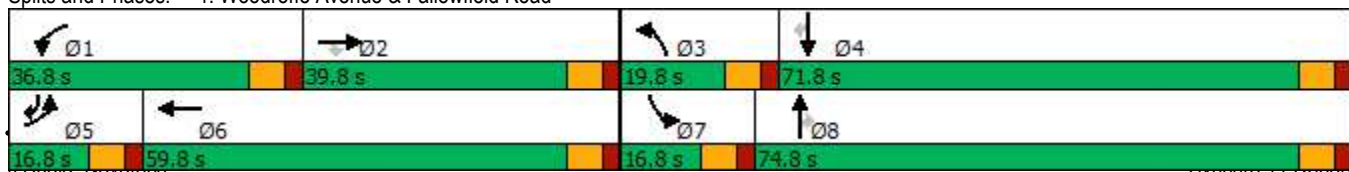
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	39.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	16.8	39.8	39.8	36.8	59.8		19.8	74.8	74.8	16.8	71.8	16.8
Total Split (%)	10.0%	23.7%	23.7%	21.9%	35.6%		11.8%	44.5%	44.5%	10.0%	42.7%	10.0%
Maximum Green (s)	10.0	33.0	33.0	30.0	53.0		13.0	68.0	68.0	10.0	65.0	10.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0	7.0		7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0	26.0		26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3	3		3			3	3		3	
Act Effct Green (s)	10.0	33.0	33.0	27.1	50.2		13.0	75.5	75.5	7.8	65.0	75.0
Actuated g/C Ratio	0.06	0.20	0.20	0.16	0.30		0.08	0.46	0.46	0.05	0.39	0.45
v/c Ratio	1.09	0.49	1.24	0.86	0.53		1.44	0.52	0.29	0.32	1.09	0.77
Control Delay	157.6	62.0	162.3	83.9	49.8		266.9	35.1	5.4	87.6	98.3	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.6	62.0	162.3	83.9	49.8		266.9	35.1	5.4	87.6	98.3	34.2
LOS	F	E	F	F	D		F	D	A	F	F	C
Approach Delay		130.7			65.5			90.4			80.4	
Approach LOS		F			E			F			F	
Queue Length 50th (m)	~37.7	46.1	~153.5	70.8	71.1		~75.8	95.9	2.0	7.6	~259.4	107.8
Queue Length 95th (m)	#64.3	61.7	#222.6	89.6	88.4		#107.3	119.1	18.0	17.5	#302.2	153.4
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	196	655	413	589	1067		247	1527	769	99	1316	730
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.49	1.24	0.78	0.50		1.44	0.52	0.29	0.25	1.09	0.77

Intersection Summary

Area Type: Other  
 Cycle Length: 168.2  
 Actuated Cycle Length: 165.4  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 89.9  
 Intersection Capacity Utilization 107.5%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic

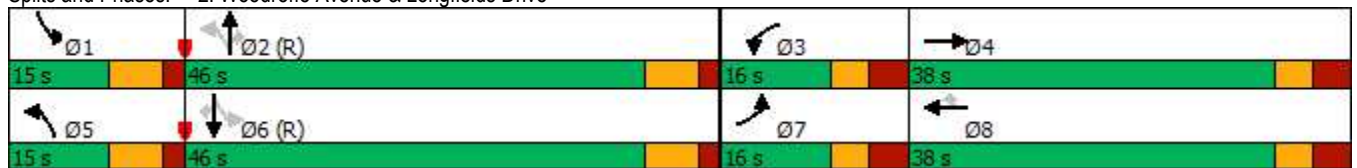
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Future Volume (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99						0.98		0.98	1.00		0.97
Frt		0.928				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1471	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.075			0.198		
Satd. Flow (perm)	3183	1471	0	1674	1483	1456	119	3316	1461	349	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				198			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	75	0	59	52	210	59	928	52	162	1534	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		24.0		24.0	24.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		3		3	3		3	3		3	3	
Act Effct Green (s)	8.9	17.5		8.3	14.4	14.4	62.2	55.1	55.1	69.3	60.6	60.6
Actuated g/C Ratio	0.08	0.15		0.07	0.13	0.13	0.54	0.48	0.48	0.60	0.53	0.53
v/c Ratio	0.57	0.30		0.49	0.28	0.59	0.39	0.58	0.07	0.49	0.87	0.19
Control Delay	60.5	27.1		64.9	46.6	13.9	21.3	25.3	0.2	17.4	32.3	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	27.1		64.9	46.6	13.9	21.3	25.3	0.2	17.4	32.3	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			28.6			23.8			28.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	7.7		11.9	10.4	2.3	4.0	67.3	0.0	11.6	135.4	0.0
Queue Length 95th (m)	24.1	17.0		24.4	17.3	18.5	14.7	115.1	0.0	#31.9	#256.7	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	426		135	403	540	169	1587	782	329	1765	845
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.18		0.44	0.13	0.39	0.35	0.58	0.07	0.49	0.87	0.19

Intersection Summary




















Area Type: Other  
 Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 125  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.4 Intersection LOS: C  
 Intersection Capacity Utilization 78.3% ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive















3: Leikin Drive & Bill Leathem Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Future Volume (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	25.0		0.0	40.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	55.0			35.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Fr					0.960							0.885
Flt Protected	0.950											0.993
Satd. Flow (prot)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Flt Permitted	0.950											0.993
Satd. Flow (perm)	1674	1589	0	1762	1687	0	0	1762	0	0	1536	0
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		361.1			206.1			114.9			620.0	
Travel Time (s)		21.7			12.4			8.3			44.6	
Confl. Peds. (#/hr)	1		10	10		1	1					1
Confl. Bikes (#/hr)			3			7			1			3
Peak Hour 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
Heavy Vehicles (%)	1%	12%	1%	1%	1%	2%	1%	1%	1%	1%	1%	2%
Adj. Flow (vph)	106	60	0	0	256	94	0	0	0	38	0	225
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	60	0	0	350	0	0	0	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.5%						ICU Level of Service A					
Analysis Period (min)	15											

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic

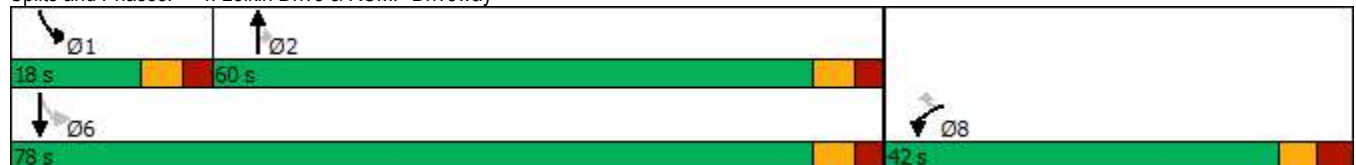
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr <sub>t</sub>		0.850		0.850		
Fl <sub>t</sub> Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Fl <sub>t</sub> Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						











Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	83.2
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	16.2
Intersection Capacity Utilization:	44.8%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	A

Splits and Phases: 4: Leikin Drive & RCMP Driveway



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	27	187	132	25	242
Future Volume (vph)	45	27	187	132	25	242
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		0.0	20.0	
Storage Lanes	1	0		0	1	
Taper Length (m)	7.5				55.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949		0.944			
Flt Protected	0.970				0.950	
Satd. Flow (prot)	1606	0	1647	0	1658	1745
Flt Permitted	0.970				0.950	
Satd. Flow (perm)	1606	0	1647	0	1658	1745
Link Speed (k/h)	50		60		60	
Link Distance (m)	167.2		300.7		142.0	
Travel Time (s)	12.0		18.0		8.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	27	187	132	25	242
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	319	0	25	242
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5		3.5	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	2.5		2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.0%			ICU Level of Service A		
Analysis Period (min)	15					



6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Future Volume (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.945				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1590	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.069			0.487			0.085			0.399		
Satd. Flow (perm)	110	1745	1469	858	1762	0	140	1590	0	703	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			112					24				226
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	47	131	669	0	54	438	0	4	589	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	21.0	62.0	62.0	21.0	62.0		12.0	77.0		65.0	65.0	65.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

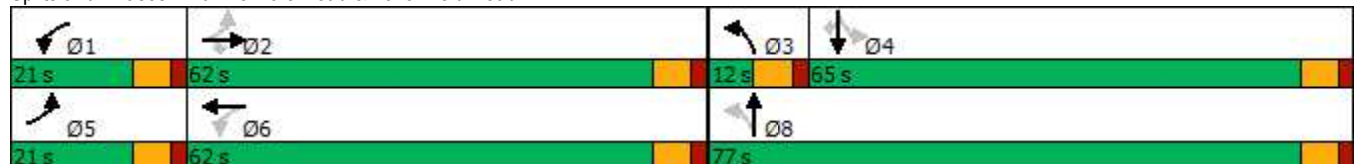
2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.1%	38.8%	38.8%	13.1%	38.8%		7.5%	48.1%		40.6%	40.6%	40.6%
Maximum Green (s)	14.5	55.4	55.4	14.5	55.4		5.4	70.6		58.6	58.6	58.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	71.4	57.7	57.7	67.9	56.0		62.7	62.9		53.7	53.7	53.7
Actuated g/C Ratio	0.47	0.38	0.38	0.45	0.37		0.41	0.41		0.35	0.35	0.35
v/c Ratio	0.82	0.43	0.08	0.29	1.03		0.50	0.65		0.02	0.95	0.45
Control Delay	73.5	40.0	0.2	24.7	91.2		42.2	38.4		32.8	73.2	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	73.5	40.0	0.2	24.7	91.2		42.2	38.4		32.8	73.2	12.0
LOS	E	D	A	C	F		D	D		C	E	B
Approach Delay		46.3			80.3			38.8			52.4	
Approach LOS		D			F			D			D	
Queue Length 50th (m)	29.9	63.2	0.0	21.4	~220.9		9.1	92.3		0.8	164.2	14.9
Queue Length 95th (m)	#65.8	90.7	0.0	33.9	#290.7		17.4	126.7		3.4	#229.0	38.8
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	187	662	626	477	648		108	758		273	686	721
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	0.78	0.43	0.08	0.27	1.03		0.50	0.58		0.01	0.86	0.42

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 152.1  
 Natural Cycle: 150  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 57.2      Intersection LOS: E  
 Intersection Capacity Utilization 109.3%      ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	296	8	9	206	488	368	
Future Volume (vph)	296	8	9	206	488	368	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.392				
Satd. Flow (perm)	1642	756	465	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				368	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	296	8	9	206	488	368	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	296	8	9	206	488	368	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

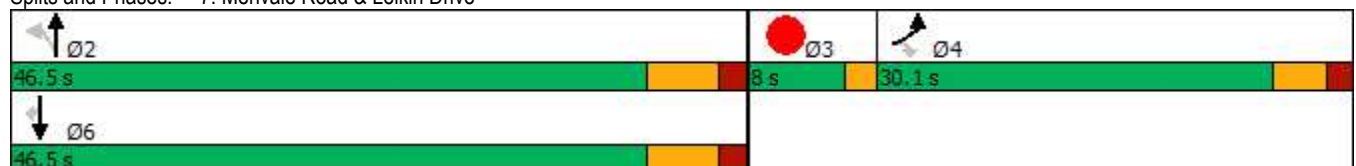


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	18.7	18.7	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.24	0.24	0.51	0.51	0.51	0.51	
v/c Ratio	0.76	0.04	0.04	0.24	0.54	0.39	
Control Delay	40.8	13.1	12.1	12.7	16.8	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	13.1	12.1	12.7	16.8	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	40.1			12.7	10.8		
Approach LOS	D			B	B		
Queue Length 50th (m)	37.7	0.0	0.6	15.0	42.9	0.0	
Queue Length 95th (m)	61.3	2.8	3.0	30.3	77.9	12.4	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	524	247	237	843	901	946	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.03	0.04	0.24	0.54	0.39	

Intersection Summary












Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 78.5  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 17.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 54.1%  
 ICU Level of Service A  
 Analysis Period (min) 15













Splits and Phases: 7: Merivale Road & Leikin Drive



8: Merivale Road & Beckstead Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 					
Traffic Volume (vph)	7	150	72	277	512	0
Future Volume (vph)	7	150	72	277	512	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		55.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871					
Flt Protected	0.998		0.950			
Satd. Flow (prot)	1517	0	1658	1745	1745	0
Flt Permitted	0.998		0.950			
Satd. Flow (perm)	1517	0	1658	1745	1745	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	167.2			147.3	322.5	
Travel Time (s)	12.0			6.6	14.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	150	72	277	512	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	72	277	512	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5	3.5	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free	Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.9%			ICU Level of Service A		
Analysis Period (min)	15					

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	25	591	213	367	932	15	
Future Volume (vph)	25	591	213	367	932	15	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3341	0	
Fl <sub>t</sub> Permitted	0.950		0.223				
Satd. Flow (perm)	1642	1464	368	1745	3341	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		167			2		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	25	591	213	367	932	15	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	25	591	213	367	947	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	26.0	14.0	14.0	89.0	75.0		5.0
Total Split (%)	21.7%	11.7%	11.7%	74.2%	62.5%		4%
Maximum Green (s)	19.2	7.6	7.6	82.5	68.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	19.2	27.2	82.6	82.5	68.5		
Actuated g/C Ratio	0.16	0.23	0.69	0.69	0.57		
v/c Ratio	0.10	1.28	0.65	0.31	0.50		
Control Delay	44.2	168.1	16.7	8.2	16.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.2	168.1	16.7	8.2	16.5		
LOS	D	F	B	A	B		
Approach Delay	163.1			11.3	16.5		
Approach LOS	F			B	B		
Queue Length 50th (m)	4.7	~111.4	15.1	28.4	61.4		
Queue Length 95th (m)	12.1	#174.7	23.7	41.3	76.5		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	262	462	329	1199	1908		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.10	1.28	0.65	0.31	0.50		

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.28

Intersection Signal Delay: 57.2

Intersection LOS: E

Intersection Capacity Utilization 77.1%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↗
Traffic Volume (vph)	0	266	341	0	0	14
Future Volume (vph)	0	266	341	0	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Flt Protected						
Satd. Flow (prot)	0	1745	1745	0	0	770
Flt Permitted						
Satd. Flow (perm)	0	1745	1745	0	0	770
Link Speed (k/h)		70	70		50	
Link Distance (m)		443.4	82.3		140.4	
Travel Time (s)		22.8	4.2		10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	100%
Adj. Flow (vph)	0	266	341	0	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	266	341	0	0	14
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		0.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		2.5	2.5		2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	28.9%			ICU Level of Service A		
Analysis Period (min)	15					





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	110	24	26	188	243	120
Future Volume (vph)	110	24	26	188	243	120
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976			0.955		
Flt Protected	0.961			0.994		
Satd. Flow (prot)	1637	0	0	1735	1667	0
Flt Permitted	0.961			0.994		
Satd. Flow (perm)	1637	0	0	1735	1667	0
Link Speed (k/h)	50			50		
Link Distance (m)	170.6			142.0		64.1
Travel Time (s)	12.3			10.2		4.6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	24	26	188	243	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	0	0	214	363	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			3.5		3.5
Link Offset(m)	0.0			0.0		0.0
Crosswalk Width(m)	2.5			2.5		2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Sign Control	Stop			Free		Free

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15

































Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	0	0	298	363	13
Future Volume (vph)	7	0	0	298	363	13
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frnt					0.995	
Flt Protected	0.950					
Satd. Flow (prot)	846	0	0	1745	1681	0
Flt Permitted	0.950					
Satd. Flow (perm)	846	0	0	1745	1681	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	175.0			64.1	124.6	
Travel Time (s)	12.6			3.8	7.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	100%	2%	2%	2%	2%	100%
Adj. Flow (vph)	7	0	0	298	363	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	298	376	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	2.5			2.5	2.5	
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.0%
Analysis Period (min)	15
	ICU Level of Service A

1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 			 	
Traffic Volume (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Future Volume (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				224			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	318	511	459	516	20	355	789	224	25	1430	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	318	511	459	536	0	355	789	224	25	1430	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												

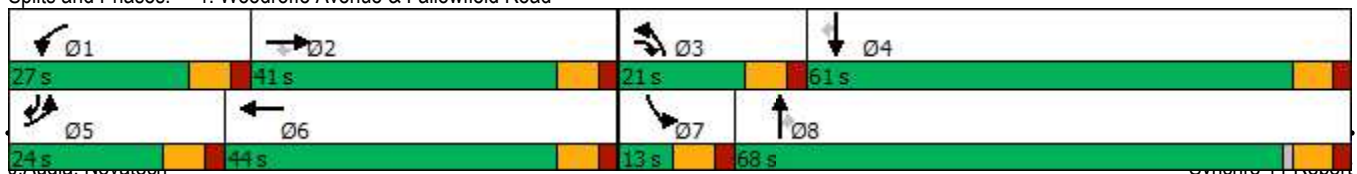
	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.4	20.2	30.1		14.2	67.6	67.6	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.21		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.56	1.12	0.98	0.75		1.11	0.49	0.28	0.35	1.10	0.71
Control Delay	70.2	56.9	116.2	96.3	58.8		139.9	27.5	4.0	81.0	98.5	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	56.9	116.2	96.3	58.8		139.9	27.5	4.0	81.0	98.5	23.6
LOS	E	E	F	F	E		F	C	A	F	F	C
Approach Delay		88.7			76.1			52.8			77.5	
Approach LOS		F			E			D			E	
Queue Length 50th (m)	26.7	39.5	~138.3	59.3	67.7		~51.0	72.7	0.0	6.2	~209.0	72.6
Queue Length 95th (m)	41.2	53.5	#151.7	#101.1	88.2		#88.7	103.7	14.5	16.3	#282.2	123.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	802	456	468	885		319	1616	808	72	1296	816
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.40	1.12	0.98	0.61		1.11	0.49	0.28	0.35	1.10	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.1  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 73.1  
 Intersection Capacity Utilization 107.5%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road



2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Future Volume (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		0.0	140.0		140.0	80.0		70.0	85.0		200.0
Storage Lanes	2		0	1		1	1		1	1		1
Taper Length (m)	35.0			70.0			40.0			40.0		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99					0.98			0.98	1.00		0.97
Frt		0.928				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3216	1471	0	1674	1483	1483	1510	3316	1498	1674	3349	1498
Flt Permitted	0.950			0.950			0.075			0.198		
Satd. Flow (perm)	3183	1471	0	1674	1483	1456	119	3316	1461	349	3349	1458
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36				198			160			162
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		438.1			632.0			462.8			402.8	
Travel Time (s)		22.5			32.5			20.8			18.1	
Confl. Peds. (#/hr)	6					6	3		2	2		3
Peak Hour 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
Heavy Vehicles (%)	2%	20%	4%	1%	20%	2%	12%	2%	1%	1%	1%	1%
Adj. Flow (vph)	141	39	36	59	52	210	59	928	52	162	1534	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	75	0	59	52	210	59	928	52	162	1534	162
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	R NA	L NA	Left	Right	Left	Left	Right	L NA	Left	R NA
Median Width(m)		7.0			7.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8	2		2	6		6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	20.0	20.0	5.0	20.0	20.0

2: Woodroffe Avenue & Longfields Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	11.7	37.7		11.7	37.7	37.7	11.5	31.5	31.5	11.5	31.5	31.5
Total Split (s)	16.0	38.0		16.0	38.0	38.0	15.0	46.0	46.0	15.0	46.0	46.0
Total Split (%)	13.9%	33.0%		13.9%	33.0%	33.0%	13.0%	40.0%	40.0%	13.0%	40.0%	40.0%
Maximum Green (s)	9.3	31.3		9.3	31.3	31.3	8.5	39.5	39.5	8.5	39.5	39.5
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	3.4	3.4		3.4	3.4	3.4	1.9	1.9	1.9	1.9	1.9	1.9
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
Total Lost Time (s)	6.7	6.7		6.7	6.7	6.7	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		24.0			24.0	24.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)		3			3	3		3	3		3	3
Act Effct Green (s)	8.9	17.5		8.3	14.4	14.4	62.2	55.1	55.1	69.3	60.6	60.6
Actuated g/C Ratio	0.08	0.15		0.07	0.13	0.13	0.54	0.48	0.48	0.60	0.53	0.53
v/c Ratio	0.57	0.30		0.49	0.28	0.59	0.39	0.58	0.07	0.49	0.87	0.19
Control Delay	60.5	27.1		64.9	46.6	13.9	21.3	25.3	0.2	17.4	32.3	4.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	27.1		64.9	46.6	13.9	21.3	25.3	0.2	17.4	32.3	4.1
LOS	E	C		E	D	B	C	C	A	B	C	A
Approach Delay		48.9			28.6			23.8			28.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	14.7	7.7		11.9	10.4	2.3	4.0	67.3	0.0	11.6	135.4	0.0
Queue Length 95th (m)	24.1	17.0		24.4	17.3	18.5	14.7	115.1	0.0	#31.9	#256.7	12.8
Internal Link Dist (m)		414.1			608.0			438.8			378.8	
Turn Bay Length (m)	100.0			140.0		140.0	80.0		70.0	85.0		200.0
Base Capacity (vph)	260	426		135	403	540	169	1587	782	329	1765	845
Starvation Cap Reductn	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
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.18		0.44	0.13	0.39	0.35	0.58	0.07	0.49	0.87	0.19

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 92 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 28.4

Intersection LOS: C

Intersection Capacity Utilization 78.3%

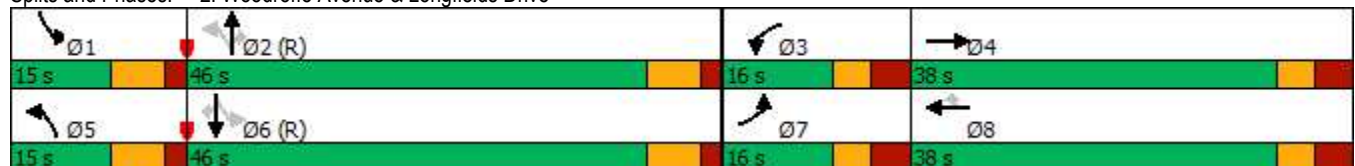
ICU Level of Service D

Analysis Period (min) 15

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













Queue shown is maximum after two cycles.

Splits and Phases: 2: Woodroffe Avenue & Longfields Drive



4: Leikin Drive & RCMP Driveway  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	168	145	123	2	8	221
Future Volume (vph)	168	145	123	2	8	221
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0	0.0		120.0	215.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				35.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.92		0.96	0.99	
Fr t		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1674	1498	1648	1498	1674	1728
Flt Permitted	0.950				0.606	
Satd. Flow (perm)	1674	1373	1648	1440	1053	1728
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		145		2		
Link Speed (k/h)	50		60			60
Link Distance (m)	93.4		206.1			300.7
Travel Time (s)	6.7		12.4			18.0
Confl. Peds. (#/hr)		19		8	8	
Confl. Bikes (#/hr)		1				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	8%	1%	1%	3%
Adj. Flow (vph)	168	145	123	2	8	221
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	145	123	2	8	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	15.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						

4: Leikin Drive & RCMP Driveway  
PM Peak Hour

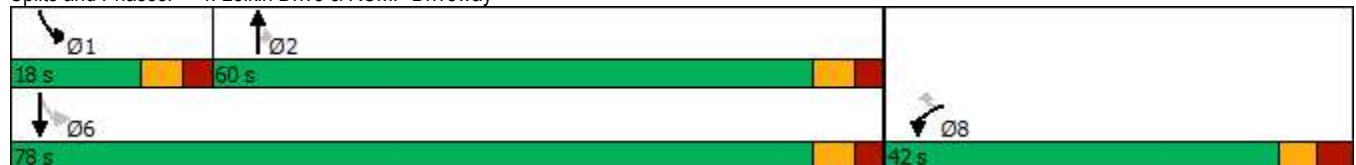
2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	24.7	24.7	31.4	31.4	11.4	16.4
Total Split (s)	42.0	42.0	60.0	60.0	18.0	78.0
Total Split (%)	35.0%	35.0%	50.0%	50.0%	15.0%	65.0%
Maximum Green (s)	35.3	35.3	53.6	53.6	11.6	71.6
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	6.4	6.4	6.4	6.4
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	11.0	11.0	7.0	7.0		
Pedestrian Calls (#/hr)	3	3	3	3		
Act Effct Green (s)	13.8	13.8	54.1	54.1	56.2	56.2
Actuated g/C Ratio	0.17	0.17	0.65	0.65	0.68	0.68
v/c Ratio	0.60	0.42	0.11	0.00	0.01	0.19
Control Delay	42.4	9.7	7.5	6.5	5.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	9.7	7.5	6.5	5.2	5.9
LOS	D	A	A	A	A	A
Approach Delay	27.3		7.5			5.9
Approach LOS	C		A			A
Queue Length 50th (m)	22.0	0.0	5.3	0.0	0.3	10.0
Queue Length 95th (m)	45.0	14.2	18.7	0.9	1.8	21.9
Internal Link Dist (m)	69.4		182.1			276.7
Turn Bay Length (m)				120.0	215.0	
Base Capacity (vph)	716	670	1071	936	798	1529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	0.11	0.00	0.01	0.14

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 83.2  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 16.2  
 Intersection Capacity Utilization 44.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 4: Leikin Drive & RCMP Driveway





6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Future Volume (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.945				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1590	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.112			0.531			0.074			0.383		
Satd. Flow (perm)	178	1745	1469	936	1762	0	122	1590	0	675	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					23				220
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1740.9			282.6			384.7			354.0	
Travel Time (s)		78.3			12.7			17.3			15.9	
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	47	131	667	2	54	276	162	4	589	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	47	131	669	0	54	438	0	4	589	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (adjusted timings)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.1	65.5	65.5	68.1	62.5		56.9	57.1		47.7	47.7	47.7
Actuated g/C Ratio	0.50	0.44	0.44	0.46	0.42		0.39	0.39		0.32	0.32	0.32
v/c Ratio	0.87	0.36	0.07	0.29	0.90		0.54	0.70		0.02	1.04	0.48
Control Delay	66.5	29.6	0.2	22.3	56.5		49.0	42.5		35.8	95.7	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	66.5	29.6	0.2	22.3	56.5		49.0	42.5		35.8	95.7	14.0
LOS	E	C	A	C	E		D	D		D	F	B
Approach Delay		38.0			50.9			43.3			67.8	
Approach LOS		D			D			D			E	
Queue Length 50th (m)	20.8	51.5	0.0	18.4	171.3		9.2	93.6		0.8	~175.8	16.3
Queue Length 95th (m)	#55.2	73.0	0.0	29.5	#240.0		#18.4	130.3		3.5	#242.8	42.0
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	166	773	718	459	745		100	656		218	569	632
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	0.87	0.36	0.07	0.29	0.90		0.54	0.67		0.02	1.04	0.48

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 147.6  
 Natural Cycle: 150  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.04  
 Intersection Signal Delay: 52.9      Intersection LOS: D  
 Intersection Capacity Utilization 109.3%      ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road



7: Merivale Road & Leikin Drive  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations							
Traffic Volume (vph)	296	8	9	206	488	368	
Future Volume (vph)	296	8	9	206	488	368	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0	130.0			100.0	
Storage Lanes	1	1	1			1	
Taper Length (m)	7.5		75.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr <sub>t</sub>		0.850				0.850	
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	756	1127	1648	1762	1498	
Fl <sub>t</sub> Permitted	0.950		0.392				
Satd. Flow (perm)	1642	756	465	1648	1762	1498	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		8				368	
Link Speed (k/h)	60			80	80		
Link Distance (m)	74.7			322.5	194.8		
Travel Time (s)	4.5			14.5	8.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	100%	50%	8%	1%	1%	
Adj. Flow (vph)	296	8	9	206	488	368	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	296	8	9	206	488	368	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	L NA	R NA	L NA	Left	Left	R NA	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2	1	
Detector Template	Left	Right	Left	Thru	Thru	Right	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	Perm	Perm	NA	NA	Perm	
Protected Phases	4			2	6		3
Permitted Phases		4	2			6	
Detector Phase	4	4	2	2	6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	20.0	20.0	20.0	20.0	6.0
Minimum Split (s)	22.1	22.1	26.5	26.5	34.5	34.5	8.0
Total Split (s)	30.1	30.1	46.5	46.5	46.5	46.5	8.0

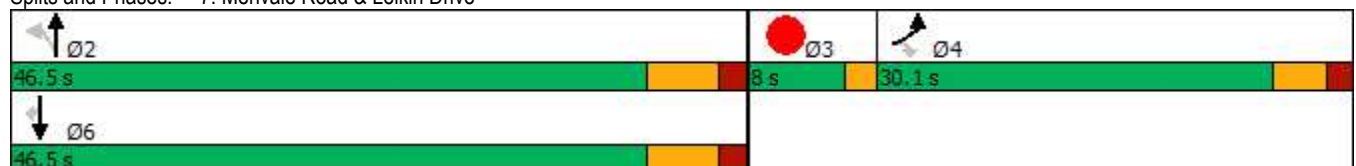


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Total Split (%)	35.6%	35.6%	55.0%	55.0%	55.0%	55.0%	9%
Maximum Green (s)	25.0	25.0	40.0	40.0	40.0	40.0	6.0
Yellow Time (s)	3.3	3.3	4.6	4.6	4.6	4.6	2.0
All-Red Time (s)	1.8	1.8	1.9	1.9	1.9	1.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.1	5.1	6.5	6.5	6.5	6.5	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0	
Flash Dont Walk (s)	10.0	10.0			21.0	21.0	
Pedestrian Calls (#/hr)	3	3			3	3	
Act Effct Green (s)	18.7	18.7	40.2	40.2	40.2	40.2	
Actuated g/C Ratio	0.24	0.24	0.51	0.51	0.51	0.51	
v/c Ratio	0.76	0.04	0.04	0.24	0.54	0.39	
Control Delay	40.8	13.1	12.1	12.7	16.8	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	13.1	12.1	12.7	16.8	2.8	
LOS	D	B	B	B	B	A	
Approach Delay	40.1			12.7	10.8		
Approach LOS	D			B	B		
Queue Length 50th (m)	37.7	0.0	0.6	15.0	42.9	0.0	
Queue Length 95th (m)	61.3	2.8	3.0	30.3	77.9	12.4	
Internal Link Dist (m)	50.7			298.5	170.8		
Turn Bay Length (m)			130.0			100.0	
Base Capacity (vph)	524	247	237	843	901	946	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.03	0.04	0.24	0.54	0.39	

Intersection Summary













Area Type: Other  
 Cycle Length: 84.6  
 Actuated Cycle Length: 78.5  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 17.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 54.1%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 7: Merivale Road & Leikin Drive



9: Prince of Wales Drive & Merivale Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (adjusted timings)

							Ø3
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Lane Configurations					 		
Traffic Volume (vph)	25	591	213	367	932	15	
Future Volume (vph)	25	591	213	367	932	15	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	130.0	0.0	110.0			90.0	
Storage Lanes	1	1	1			0	
Taper Length (m)	30.0		50.0				
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	
Ped Bike Factor		0.99			1.00		
Fr <sub>t</sub>		0.850			0.998		
Fl <sub>t</sub> Protected	0.950		0.950				
Satd. Flow (prot)	1642	1483	1566	1745	3340	0	
Fl <sub>t</sub> Permitted	0.950		0.144				
Satd. Flow (perm)	1642	1465	237	1745	3340	0	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)		100			1		
Link Speed (k/h)	80			80	80		
Link Distance (m)	250.4			413.8	220.8		
Travel Time (s)	11.3			18.6	9.9		
Confl. Bikes (#/hr)		1				6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	3%	2%	8%	2%	1%	1%	
Adj. Flow (vph)	25	591	213	367	932	15	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	25	591	213	367	947	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(m)	3.5			3.5	3.5		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	2.5			2.5	2.5		
Two way Left Turn Lane							
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	
Number of Detectors	1	1	1	2	2		
Detector Template	Left	Right	Left	Thru	Thru		
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0		
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		
Detector 2 Position(m)				9.4	9.4		
Detector 2 Size(m)				0.6	0.6		
Detector 2 Type				Cl+Ex	Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)				0.0	0.0		
Turn Type	Prot	pm+ov	pm+pt	NA	NA		
Protected Phases	4	5	5	2	6	3	
Permitted Phases		4	2				
Detector Phase	3 4	3 4	5	2	6		
Switch Phase							
Minimum Initial (s)	10.0	5.0	5.0	20.0	20.0	3.0	

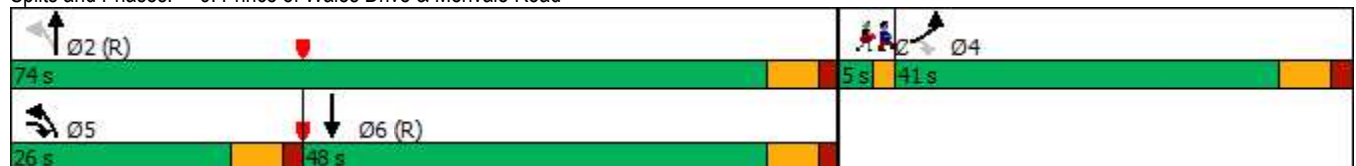


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø3
Minimum Split (s)	22.8	11.4	11.4	26.5	32.5		5.0
Total Split (s)	41.0	26.0	26.0	74.0	48.0		5.0
Total Split (%)	34.2%	21.7%	21.7%	61.7%	40.0%		4%
Maximum Green (s)	34.2	19.6	19.6	67.5	41.5		3.0
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		2.0
All-Red Time (s)	2.2	1.8	1.8	1.9	1.9		0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.8	6.4	6.4	6.5	6.5		
Lead/Lag	Lag	Lead	Lead		Lag		Lead
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	None	None	None	C-Max	C-Max		None
Walk Time (s)	2.0				7.0		
Flash Dont Walk (s)	14.0				19.0		
Pedestrian Calls (#/hr)	3				3		
Act Effct Green (s)	33.6	48.8	68.2	68.1	46.9		
Actuated g/C Ratio	0.28	0.41	0.57	0.57	0.39		
v/c Ratio	0.05	0.90	0.71	0.37	0.72		
Control Delay	31.7	41.4	30.3	15.7	35.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	31.7	41.4	30.3	15.7	35.9		
LOS	C	D	C	B	D		
Approach Delay	41.0			21.1	35.9		
Approach LOS	D			C	D		
Queue Length 50th (m)	3.9	90.5	22.3	42.0	91.5		
Queue Length 95th (m)	10.2	#130.7	43.4	60.9	122.0		
Internal Link Dist (m)	226.4			389.8	196.8		
Turn Bay Length (m)	130.0		110.0				
Base Capacity (vph)	467	663	351	990	1307		
Starvation Cap Reductn	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0		
Reduced v/c Ratio	0.05	0.89	0.61	0.37	0.72		

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 112 (93%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 33.4  
 Intersection Capacity Utilization 77.1%  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 9: Prince of Wales Drive & Merivale Road



1: Woodroffe Avenue & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leatham  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	318	451	459	516	20	315	789	224	25	1300	560
Future Volume (vph)	213	318	451	459	516	20	315	789	224	25	1300	560
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	100.0		150.0	100.0		0.0	100.0		0.0	90.0		300.0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (m)	60.0			50.0			100.0			65.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	0.99	1.00				0.98	1.00		0.98
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3248	3283	1483	3248	3326	0	3154	3349	1469	1642	3349	1498
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3283	1447	3231	3326	0	3154	3349	1434	1639	3349	1471
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		2				224			127
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		452.1			229.7			278.3			686.7	
Travel Time (s)		20.3			10.3			12.5			30.9	
Confl. Peds. (#/hr)			6	6					3	3		
Confl. Bikes (#/hr)			7			4			14			13
Peak Hour 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
Heavy Vehicles (%)	1%	3%	2%	1%	1%	1%	4%	1%	3%	3%	1%	1%
Adj. Flow (vph)	213	318	451	459	516	20	315	789	224	25	1300	560
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	318	451	459	536	0	315	789	224	25	1300	560
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA
Median Width(m)		7.0			7.0			7.0			7.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0	2.0	2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6	2.0	2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	20.0	5.0	5.0	20.0		5.0	20.0	20.0	5.0	20.0	5.0
Minimum Split (s)	11.8	39.8	11.8	11.8	39.8		11.8	36.8	36.8	11.8	36.8	11.8
Total Split (s)	24.0	41.0	21.0	27.0	44.0		21.0	68.0	68.0	13.0	61.0	24.0
Total Split (%)	16.0%	27.3%	14.0%	18.0%	29.3%		14.0%	45.3%	45.3%	8.7%	40.7%	16.0%
Maximum Green (s)	17.2	34.2	14.2	20.2	37.2		14.2	61.2	61.2	6.2	54.2	17.2
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2	2.2	2.2	2.2	2.2
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
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	6.8
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	None	None	Min		None	Min	Min	None	Min	None
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		26.0			26.0			23.0	23.0		23.0	
Pedestrian Calls (#/hr)		3			3			3	3		3	
Act Effct Green (s)	14.3	24.2	38.4	20.2	30.1		14.2	67.6	67.6	6.1	54.3	68.5
Actuated g/C Ratio	0.10	0.17	0.27	0.14	0.21		0.10	0.48	0.48	0.04	0.39	0.49
v/c Ratio	0.65	0.56	0.99	0.98	0.75		0.99	0.49	0.28	0.35	1.00	0.71
Control Delay	70.2	56.9	78.1	96.3	58.8		109.3	27.5	4.0	81.0	68.3	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	56.9	78.1	96.3	58.8		109.3	27.5	4.0	81.0	68.3	23.6
LOS	E	E	E	F	E		F	C	A	F	E	C
Approach Delay		69.5			76.1			43.0			55.2	
Approach LOS		E			E			D			E	
Queue Length 50th (m)	26.7	39.5	~97.8	59.3	67.7		40.9	72.7	0.0	6.2	167.0	72.6
Queue Length 95th (m)	41.2	53.5	#157.1	#101.1	88.2		#76.2	103.7	14.5	16.3	#244.0	123.0
Internal Link Dist (m)		428.1			205.7			254.3			662.7	
Turn Bay Length (m)	100.0		150.0	100.0			100.0			90.0		300.0
Base Capacity (vph)	399	802	456	468	885		319	1616	808	72	1296	816
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.40	0.99	0.98	0.61		0.99	0.49	0.28	0.35	1.00	0.69

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.1  
 Natural Cycle: 145  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 58.8  
 Intersection Capacity Utilization 102.5%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

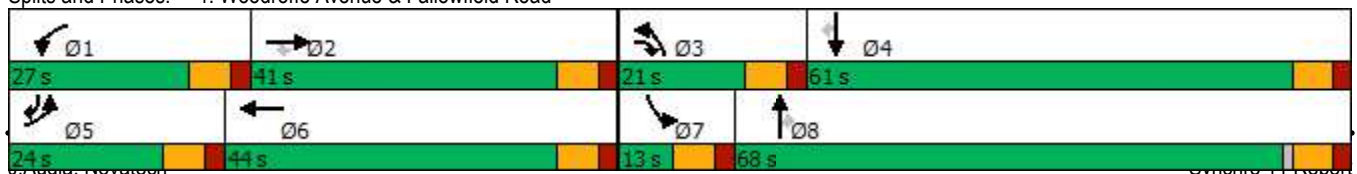
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 1: Woodroffe Avenue & Fallowfield Road





6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	282	47	131	667	2	54	276	162	4	449	302
Future Volume (vph)	145	282	47	131	667	2	54	276	162	4	449	302
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	110.0		110.0	30.0		0.0	70.0		0.0	50.0		80.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	40.0			35.0			65.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.850					0.945				0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1510	1745	1469	1674	1762	0	1566	1590	0	1674	1762	1498
Fl <sub>t</sub> Permitted	0.143			0.546			0.134			0.354		
Satd. Flow (perm)	227	1745	1469	962	1762	0	221	1590	0	624	1762	1498
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120					23				229
Link Speed (k/h)		80			80			80				80
Link Distance (m)		1740.9			282.6			384.7				354.0
Travel Time (s)		78.3			12.7			17.3				15.9
Peak Hour 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
Heavy Vehicles (%)	12%	2%	3%	1%	1%	1%	8%	8%	2%	1%	1%	1%
Adj. Flow (vph)	145	282	47	131	667	2	54	276	162	4	449	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	282	47	131	669	0	54	438	0	4	449	302
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8		4			4
Detector Phase	5	2	2	1	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	5.0	20.0	20.0	5.0	20.0		5.0	20.0		20.0	20.0	20.0
Minimum Split (s)	11.5	26.6	26.6	11.5	26.6		11.6	26.4		26.4	26.4	26.4
Total Split (s)	15.0	72.0	72.0	12.0	69.0		12.0	66.0		54.0	54.0	54.0

6: Merivale Road & Fallowfield Road  
PM Peak Hour

2-20 Leikin and 99 Bill Leathem  
2031 Total Traffic (demand rationalized)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	10.0%	48.0%	48.0%	8.0%	46.0%		8.0%	44.0%		36.0%	36.0%	36.0%
Maximum Green (s)	8.5	65.4	65.4	5.5	62.4		5.4	59.6		47.6	47.6	47.6
Yellow Time (s)	4.6	4.6	4.6	4.6	4.6		4.6	4.6		4.6	4.6	4.6
All-Red Time (s)	1.9	2.0	2.0	1.9	2.0		2.0	1.8		1.8	1.8	1.8
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)	6.5	6.6	6.6	6.5	6.6		6.6	6.4		6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		10.0	10.0		10.0			10.0		10.0	10.0	10.0
Pedestrian Calls (#/hr)		3	3		3			3		3	3	3
Act Effct Green (s)	74.7	66.0	66.0	68.6	63.0		48.8	49.0		39.8	39.8	39.8
Actuated g/C Ratio	0.53	0.47	0.47	0.49	0.45		0.35	0.35		0.28	0.28	0.28
v/c Ratio	0.73	0.34	0.06	0.26	0.85		0.42	0.77		0.02	0.90	0.51
Control Delay	41.8	27.1	0.1	20.4	48.0		39.1	47.3		36.0	70.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	41.8	27.1	0.1	20.4	48.0		39.1	47.3		36.0	70.2	13.8
LOS	D	C	A	C	D		D	D		D	E	B
Approach Delay		28.9			43.4			46.4			47.4	
Approach LOS		C			D			D			D	
Queue Length 50th (m)	19.3	48.5	0.0	17.1	161.6		9.2	93.6		0.8	113.0	14.4
Queue Length 95th (m)	#43.4	73.0	0.0	29.5	#240.0		18.0	130.3		3.5	153.0	39.6
Internal Link Dist (m)		1716.9			258.6			360.7			330.0	
Turn Bay Length (m)	110.0		110.0	30.0			70.0			50.0		80.0
Base Capacity (vph)	199	821	754	499	791		129	695		213	603	663
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	0.73	0.34	0.06	0.26	0.85		0.42	0.63		0.02	0.74	0.46

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 140.2  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 42.5 Intersection LOS: D  
 Intersection Capacity Utilization 109.3% ICU Level of Service H  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Merivale Road & Fallowfield Road

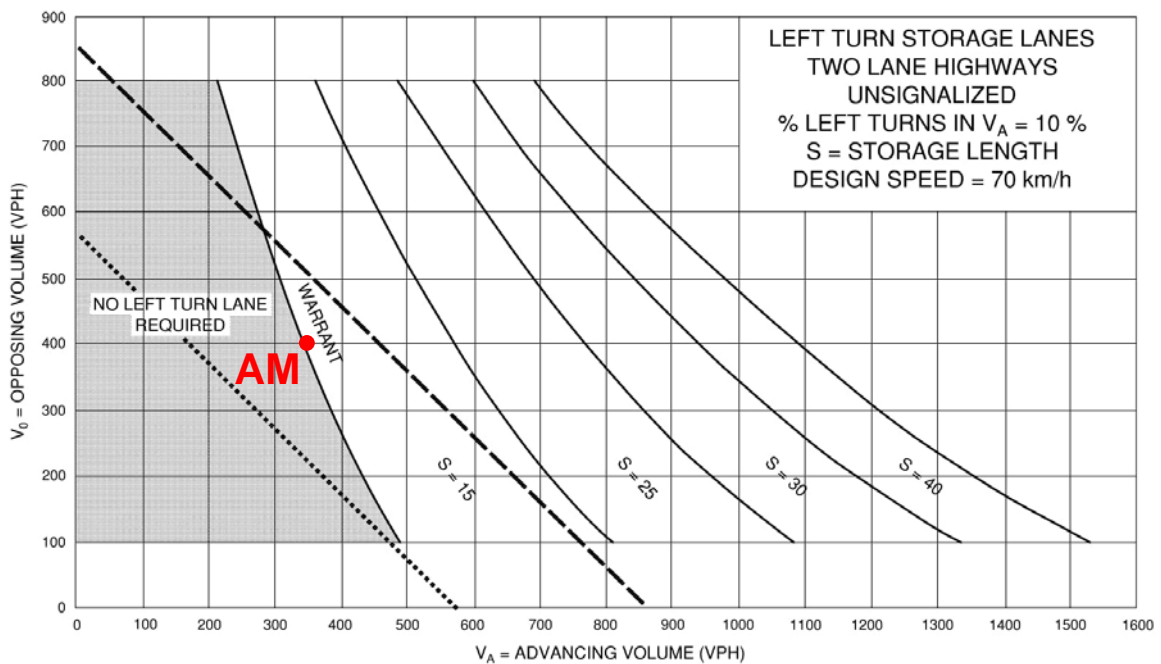
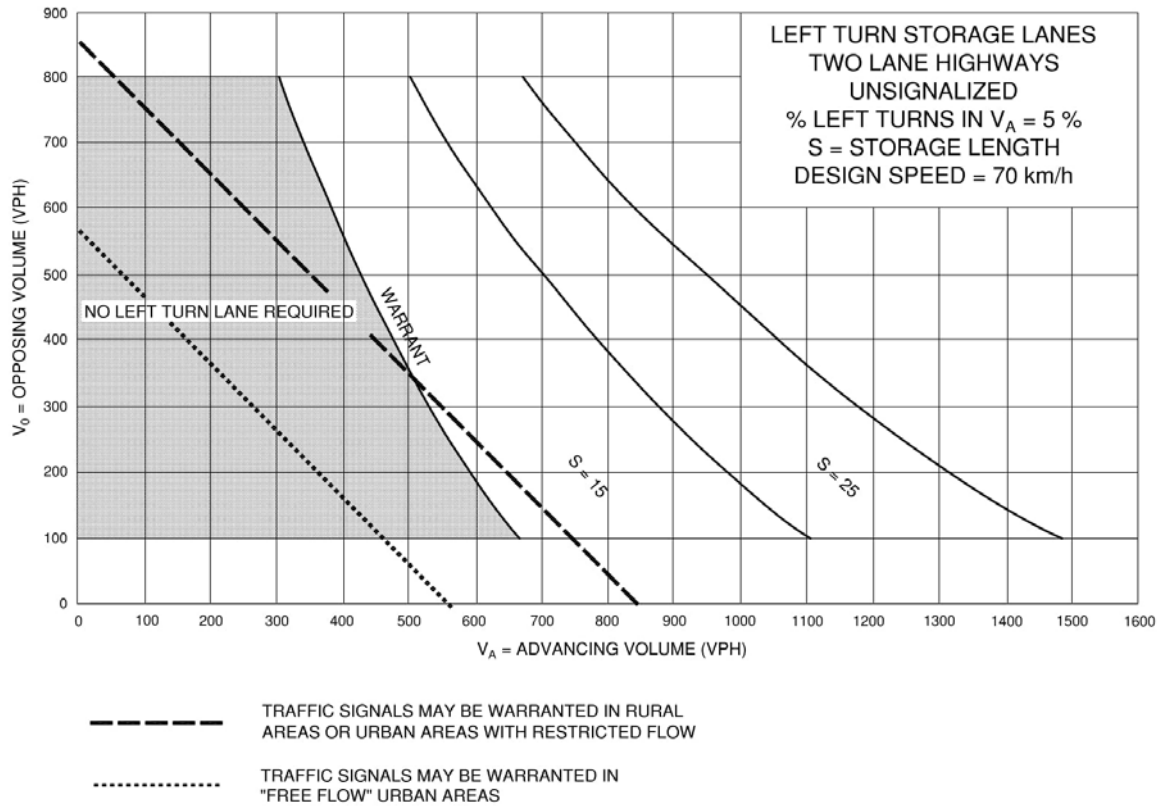


## **APPENDIX O**

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Left Turn Lane Warrants

**Exhibit 9A-10**



**Exhibit 9A-11**

