BURNSIDE

First Capital Asset Management LP
Appleby Village
Transportation Study

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R.J. Burnside & Associates Limited
1465 Pickering Parkway Suite 200
Pickering ON L1V 7G7 CANADA

June 2014
300034551.0001

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R.J. Burnside & Associates Limited

Report Prepared By:

Dave Angelakis
Senior Project Manager - Transportation
DA:cv

Report Reviewed By

David Argue, P.Eng. PTOE
Vice President - Transportation

Executive Summary

Introduction

R.J. Burnside & Associates Limited (Burnside) was retained by First Capital Asset Management LP (First Capital) to undertake a transportation study for a proposed residential condominium development to be integrated with an existing commercial development know as Appleby Village, in Burlington, Ontario.

Appleby Village occupies the northeast quadrant of the intersection of Appleby Line and New Street. Appleby Village consists of 6 buildings with a large variety of ground floor retail-commercial uses, and second floor offices and fitness clubs. The anchor of the development is a Fortinos grocery store. There are 2 other commercial developments, also owned by First Capital, located on the two adjacent quadrants of the intersection. The area has been undergoing revitalization.

This study is part of an application for an Official Plan Amendment, Zoning By-law Amendment and Site Plan.

Proposal

The proposal is for 2 residential condominium buildings to be added to the northerly corner of Appleby Village, adjacent to Pinedale Avenue and Timber Lane. The east and west buildings would have 132 units and 192 units, respectively, for a total of 324 units. The addition of the buildings would not affect the existing site, besides the necessary adjustments to the parking area in which the buildings are proposed. An additional 10,318 sq ft. of ancillary retail / commercial uses are also proposed for the ground floor levels.

Findings

Intersection Operations:

The analysis concludes that the proposed development will have a minimal impact upon the local road network. Road improvements are not required as the result of development related traffic.

Under existing traffic conditions, both the westbound shared through/right turn movement and eastbound left turn movement, at the intersection of New Street and Appleby Line, are currently approaching capacity, each with a v/c ratio of 0.96. Both these movements will continue to approach capacity under total traffic conditions, during the PM Peak Hour, each with a v/c ratio of 0.98. This increase in the v/c ratio is primarily due to background growth.

Development traffic is contributing less than 2% of the total traffic at this intersection.

This intersection is predicted to operate at an acceptable level of service during the other study periods.

All other intersections are predicted to operate at a level of Service E or better and a v/c ratio of 0.77 or better.

Site Plan Review

A high level review was conducted of the parking lot layout, vehicular and non-vehicular circulation and integration with the existing Appleby Village. The on-site operations have been reviewed. It is our opinion that the site is well designed to accommodate and facilitate all modes of travel.

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Disclaimer

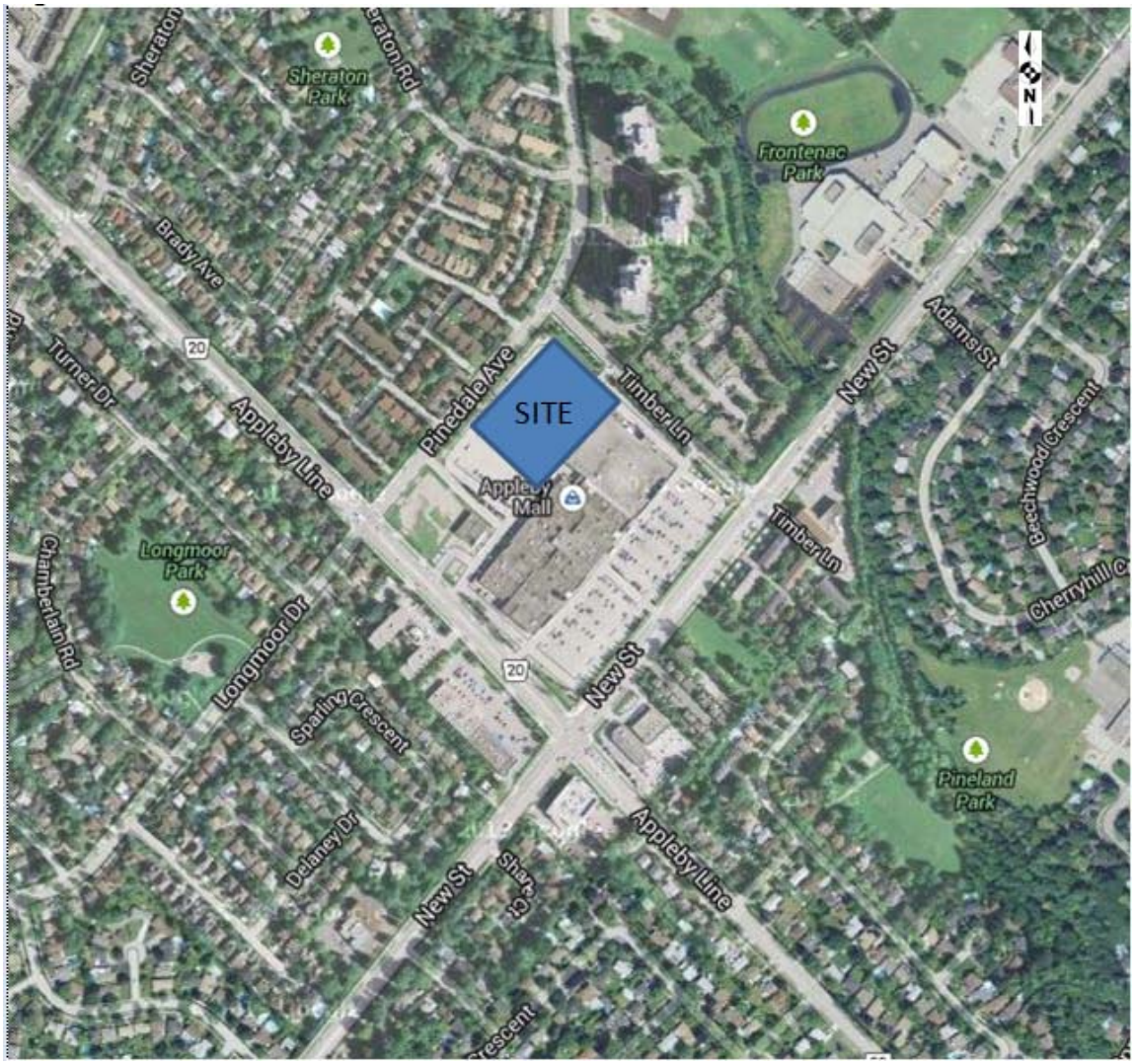
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1.0 Introduction

1.1 Background

R.J. Burnside & Associates Limited (Burnside) was retained by First Capital Asset Management LP (First Capital) to undertake a transportation study for a proposed residential condominium development to be integrated with an existing commercial development known as Appleby Village in Burlington, Ontario. The site location is shown in Figure 1.

Figure 1: Site Location



Located in the northeast quadrant of the intersection of Appleby Line and New Street, Appleby Village consists of 6 buildings with a large variety of ground floor retail-commercial uses, and second floor offices and fitness clubs. The anchor of the development is a Fortinos grocery store. There are 2 adjacent commercial developments also owned by First Capital located on the 2 adjacent quadrants of the intersection. The area has been undergoing revitalization over the last number of years.

The surrounding area has predominantly medium to high density residential along with a nearby High School and 2 elementary schools. Immediately to the east on Pinedale Avenue are 3 high-rise residential condominium buildings.

The proposal is for 2 residential condominium buildings to be added to the northerly corner of Appleby Village, adjacent to Pinedale Avenue and Timber Lane. This space is currently part of the existing parking lot. The 2 buildings would have 132 units and 192 units, respectively, for a total of 324 units. The addition of the buildings would not affect the existing development, besides the necessary adjustments to the parking area in which the buildings are proposed. An additional 10,318 sf of ancillary retail / commercial uses are also proposed for the ground floor levels of both buildings.

An Official Plan Amendment, Zoning By-law Amendment and Site Plan applications are required for the residential uses and this report forms part of that application. A parking study is being provided under separate cover.

1.2 Scope of Work

The study scope of work, as discussed with City of Burlington staff, is summarized below:

Analysis Scenarios	• 2014 Existing Traffic Conditions; • 2019 Background Traffic Conditions (background traffic growth); • 2019 Total Traffic Conditions (background traffic plus site traffic).
Analysis Time Periods	• Weekday AM Peak Hour 7:00 am to 9:00 am; • Weekday PM Peak Hour 4:00 pm to 6:00 pm; • Saturday Midday Peak Hour 11:00 am to 3:00 pm.
Analysis Intersections	• Appleby Line / New Street; • Appleby Line / Pinedale Avenue / Longmoor Drive; • Timber Lane / New Street; • Pinedale Avenue / Timber Lane; • Pinedale Avenue / Driveway 1; • Timber Lane / Driveways 2 and 3; • New Street / Driveway 4; • Appleby Line / Driveways 5 and 6.

1.3 Intersection Operations Analysis Methodology

Intersection operations were assessed for the study intersections using the software program Synchro 8, Traffic Signal Coordination Software Version 8.0, Build 804, which employs methodology from the ***Highway Capacity Manual (HCM2000)***, published by the Transportation Research Board National Research Council. Synchro can analyze both signalized and unsignalized intersections in a road corridor or network taking into account the spacing, interaction, queues and operations between intersections.

The signalized intersection analysis considers two separate measures of performance:

- The capacity of all intersection movements, which is based on a volume to capacity ratio; and
- The level of service for all intersection movements, which is based on the average control delay per vehicle for the various movements through the intersection and overall.

Level of Service	Delay (s/veh)
A	≤10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	> 80

The 2-way unsignalized intersection analysis also considers 2 separate measures of performance:

- The capacity of the critical intersection movements, which is based on a volume to capacity ratio; and
- The level of service for the critical movements, which is based on the average control delay per vehicle for the various critical movements within the intersection.

Level of Service	Delay (s/veh)
A	0-10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

The all-way unsignalized intersection analysis considers the level of service for the movements, which is based on the average control delay per vehicle for the various critical movements within the intersection.

Level of Service	Delay (s/veh)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

Level of service is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between A and F, with F being the longest delay. The volume to capacity (v/c) ratio is a measure of the degree of capacity utilized at an intersection.

2.0 Existing Traffic Conditions

2.1 Site Context

The subject site is bound by Appleby Line, New Street, Pinedale Avenue, and Timber Lane. The surrounding land uses are predominantly medium to high density residential. There are a total of 3 schools within the surrounding area including: Robert Bateman High School located to the east on New Street; Ascension Catholic Elementary School located to the east on New Street; and Frontenac Public School located to the east on Pinedale Avenue. Two other retail developments also owned by First Capital are located on the adjacent quadrants of the intersection of Appleby Line and New Street. The intersection and the commercial developments form a commercial node within the neighbourhood.

2.2 Existing Road Network

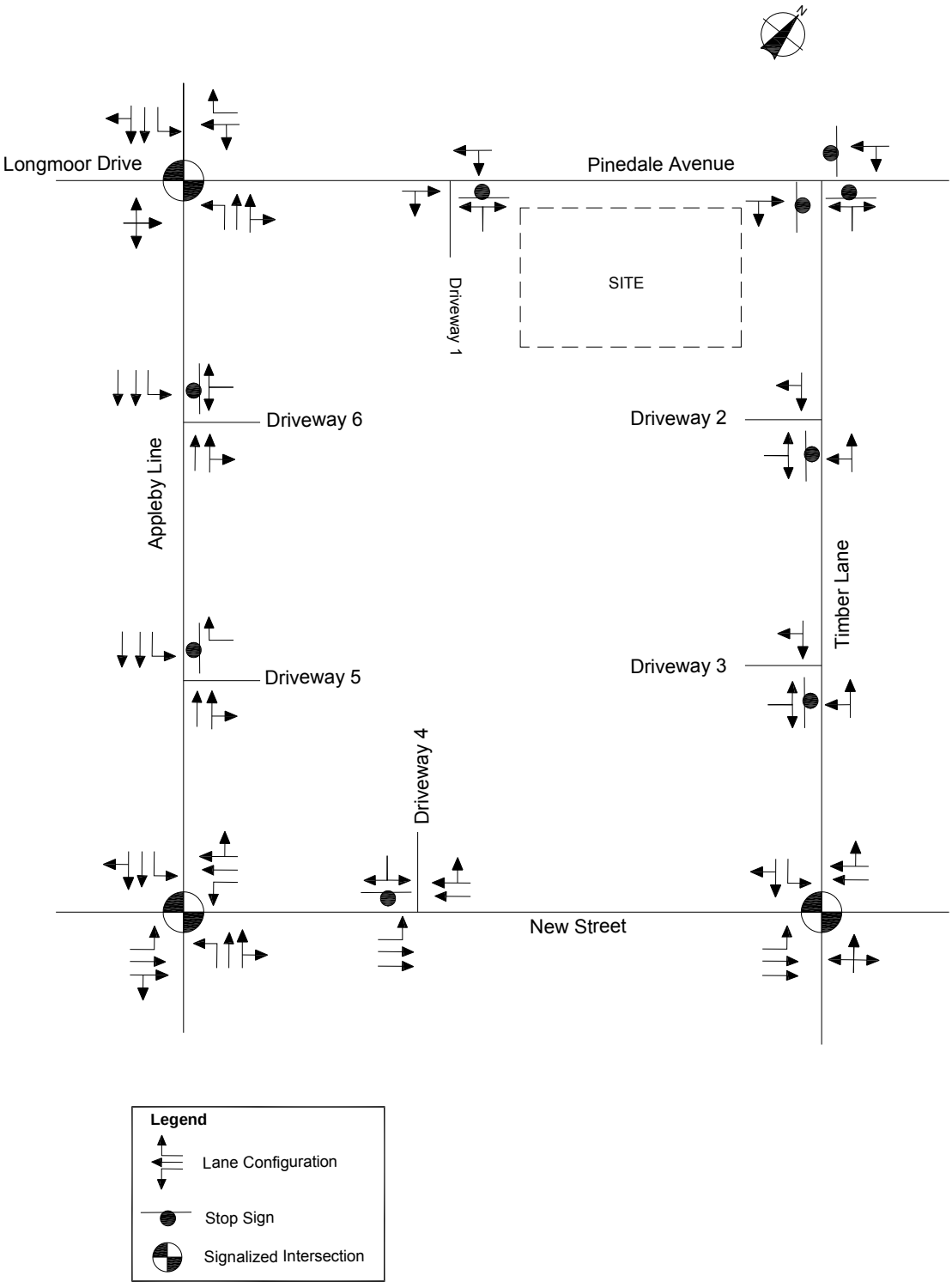
The existing road network is described below and illustrated in Figure 2, including existing traffic controls.

Appleby Line	Appleby Line is a north-south arterial road with a posted speed limit of 50 km/hr. It has a four lane urban cross section. Sidewalks are provided on both sides. Stopping is prohibited on both sides along the frontage of the site.
New Street	New Street is an east-west arterial road with a posted speed limit of 60 km/hr. It has a four lane urban cross section. Sidewalks are provided on both sides. Stopping is prohibited on both sides along the frontage of the site.

Pinedale Avenue / Longmoor Drive	Pinedale Avenue is an east-west collector road with a posted speed limit of 40 km/hr. It has a 2-lane urban cross section. Sidewalks are provided on both sides. Parking is prohibited on both sides along the frontage of the site.
Timber Lane	Timber Lane is a north-south collector road with a posted speed limit of 50 km/hr. It has a 2-lane urban cross section. Sidewalks are provided on both sides. Parking is prohibited on both sides along the frontage of the site.

All study roads are under the jurisdiction of the City of Burlington.

Figure 2: Existing Road Network



2.3 Transit Service

Burlington Transit operates 2 routes in the vicinity of the site. Transit stops are located at all 4 study intersections surrounding the site. Route 4 (Central) operates between 6:30 am and 7:30 pm, Monday to Friday, and 7:30 am to 6:30 pm on weekends. During the week, headways are approximately 30 minutes, while weekend headways are hourly. Route 10 (New-Maple) operates between 5:30 am and 11:30 pm, Monday to Friday, and roughly 8:00 am to 9:00 pm on weekends. During the week headways range between 15 minutes to 30 minutes, while weekend headways are 30 minutes.

Appleby GO Station is also located less than 1.5 kilometres to the north along Appleby Line. Route 4 and Route 10 generally run east-west, but both provide connectivity to Appleby GO station to the north, and to other bus routes.

2.4 Existing Traffic Volumes

Turning movement traffic counts were undertaken on behalf of Burnside by the Traffic Information Group, for the weekday AM and PM peak periods (7:00 am to 9:00 am and 4:00 pm to 6:00 pm) and for the Saturday midday peak period (11:00 am to 3:00 pm). The counts were undertaken on Saturday, September 14, and Tuesday, September 17, 2013. The existing peak hour traffic volumes for each period are shown in Figure 3.

2.5 Existing Traffic Operations

Based on existing traffic volumes, as shown in Figure 3, existing intersection operations were assessed. Existing traffic signal timings were obtained from the City of Burlington. Intersection operations are summarized in Table 1 for signalized intersections, in Table 2 for 2-way stop controlled intersections and in Table 3 for all-way stop controlled intersections. Detailed analysis reports are provided in Appendix A.

During the PM peak hour at New Street & Appleby Line the westbound through-right movement was found to be experiencing a v/c ratio over 1.00 under existing signal timings. It is not possible to have a volume to capacity ratio greater than 1.0 for existing conditions. Therefore, the software is under estimating the capacity of the movement. This could be due to a number of reasons including higher saturation flows, more aggressive drivers, vehicles utilizing more of the yellow or all red phase, etc. Rather than adjust the saturation flow (or other factors), the signal timings were adjusted until the movement was below 1.0 for just the PM peak hour. The existing cycle length was maintained. Table 1 below includes a sensitivity analysis for just the PM Peak Hour for just this intersection.

Figure 3: Existing Traffic Volumes

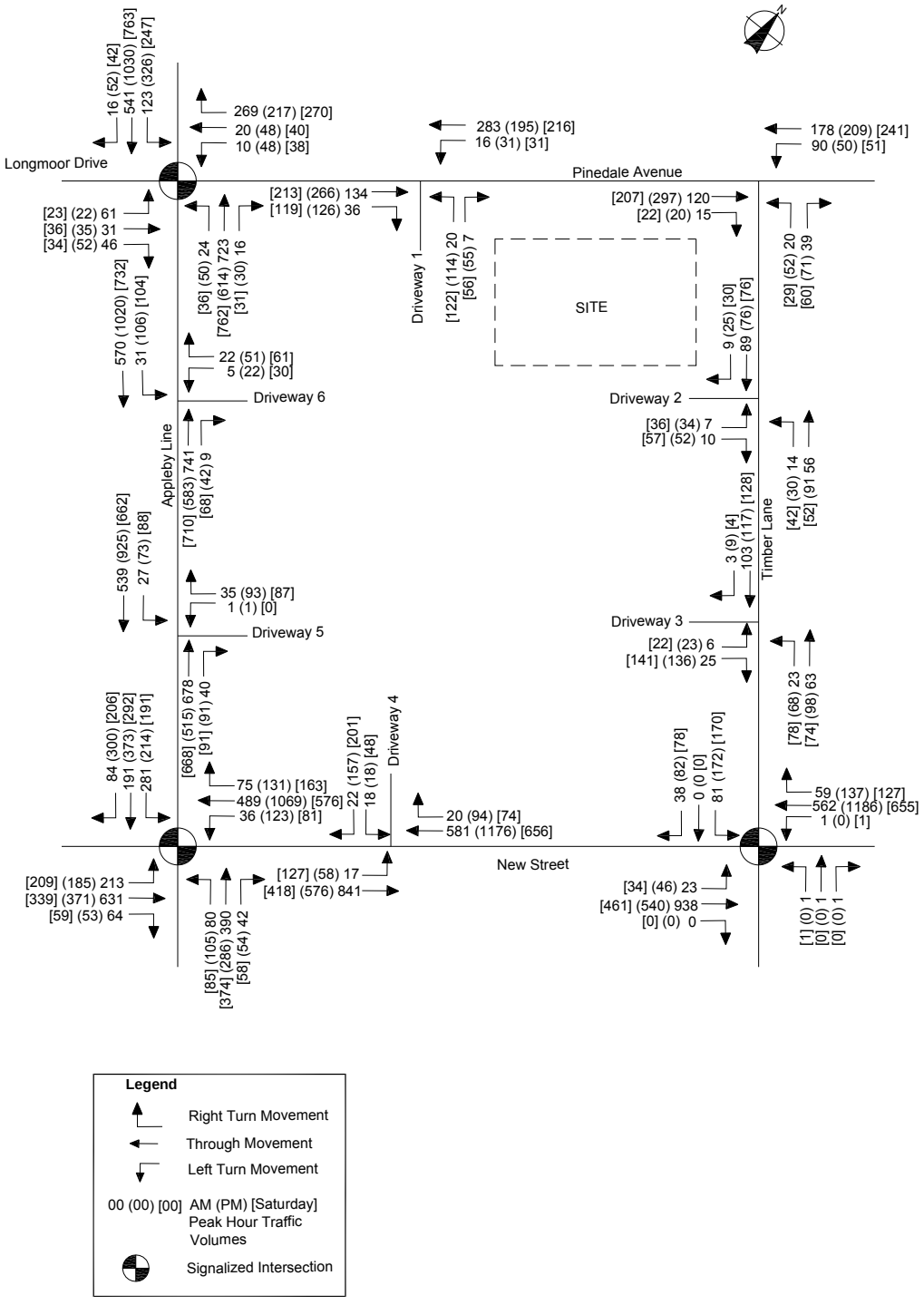


Table 1: Existing Traffic Signalized Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
New Street & Appleby Line							
	Overall	0.81	C	1.08	D	0.88	C
Eastbound	Left Turn	0.81	D	0.95	E	0.88	E
	Through - Right	0.62	C	0.38	C	0.35	C
Westbound	Left Turn	0.16	B	0.29	A	0.19	B
	Through - Right	0.58	C	1.08	E	0.69	C
Northbound	Left Turn	0.17	B	0.33	B	0.20	B
	Through - Right	0.40	C	0.30	C	0.38	C
Southbound	Left Turn	0.78	C	0.43	B	0.44	B
	Through - Right	0.27	B	0.55	B	0.40	B
New Street & Appleby Line - Adjusted Signal Timings [1]							
	Overall	Not Adjusted - Same As Above		0.96	C	Not Adjusted - Same As Above	
Eastbound	Left Turn			0.96	E		
	Through - Right			0.34	C		
Westbound	Left Turn			0.27	A		
	Through - Right			0.96	D		
Northbound	Left Turn			0.37	C		
	Through - Right			0.35	C		
Southbound	Left Turn			0.48	C		
	Through - Right			0.62	C		
Appleby Line & Longmoor Drive / Pinedale Avenue							
	Overall	0.70	B	0.64	B	0.71	B
Eastbound	Left-Through-Right	0.70	E	0.53	D	0.42	C
Westbound	Left – Through	0.16	D	0.64	E	0.40	D
	Right Turn	0.68	B	0.60	B	0.71	B
Northbound	Left Turn	0.06	A	0.17	B	0.13	B
	Through - Right	0.33	A	0.29	B	0.44	B
Southbound	Left Turn	0.25	A	0.54	A	0.49	A
	Through - Right	0.23	A	0.40	A	0.34	A
New Street & Timber Lane							
	Overall	0.47	A	0.73	B	0.64	A
Eastbound	Left Turn	0.06	A	0.17	A	0.08	A
	Through – Right	0.46	A	0.22	A	0.23	A
Westbound	Left Turn	0.00	B	0.00	B	0.00	B
	Through – Right	0.35	A	0.63	B	0.46	B
Northbound	Left-Through-Right	0.01	C	0.01	C	0.01	C
Southbound	Left Turn	0.47	C	0.73	E	0.64	D
	Through – Right	0.09	A	0.20	A	0.15	A

Under existing traffic conditions, during the PM Peak Hour, both the westbound shared through/right turn movement and eastbound left turn movement, at the intersection of New Street and Appleby Line, appear to be approaching capacity, each with a v/c ratio of 0.96. This intersection is operating at an acceptable level of service at other study time periods. All other intersections are operating at level of Service E or better and a v/c ratio of 0.71 or better.

Table 2: Existing Traffic Two-way Stop Controlled Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
Driveway 1 & Pinedale Avenue							
Westbound	Left Turn	0.01	A	0.03	A	0.03	A
Northbound	Left-Right Turn	0.05	B	0.42	C	0.39	C
Driveway 2 & Timber Lane							
Eastbound	Left-Right Turn	0.06	A	0.11	A	0.12	A
Northbound	Right Turn	0.03	A	0.02	A	0.03	A
Driveway 3 & Timber Lane							
Eastbound	Left-Right Turn	0.04	A	0.20	B	0.21	B
Northbound	Left Turn	0.02	A	0.06	A	0.06	A
Driveway 4 & New Street							
Eastbound	Left Turn	0.02	A	0.10	B	0.13	A
Southbound	Left-Right Turn	0.08	B	0.30	B	0.46	C
Driveway 5 & Appleby Line							
Westbound	Right Turn	0.05	A	0.12	B	0.11	A
Southbound	Left Turn	0.03	A	0.08	A	0.13	A
Driveway 6 & Appleby Line							
Westbound	Left-Right Turn	0.05	B	0.23	C	0.29	C
Southbound	Left Turn	0.04	A	0.12	A	0.14	B

Table 3: Existing Traffic All-way Stop Controlled Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
		LOS	LOS	LOS
Timber Lane & Pinedale Avenue (All-Way Stop)				
Eastbound	Through – Right Turn	A	B	A
Westbound	Through – Left Turn	A	B	B
Northbound	Left – Right Turn	A	A	A

Note: v/c – volume to capacity ratio, LOS – level of service; Operations are only shown for critical movements.

All critical movements at the unsignalized intersections are operating at level of Service C or better with a v/c ratio of 0.39 or better.

3.0 2019 Background Traffic Conditions

Forecasts of background traffic consist of general background traffic growth and future traffic due to other developments in the study area to the horizon year of 2019.

3.1 Background Development

We confirmed with City staff that there are no background developments that are anticipated to have an impact on future traffic within the horizon period.

3.2 Planned Road Network Improvements

There are no planned road improvements in the vicinity of the site by the 2019 horizon year.

3.3 Background Traffic Growth

Background traffic volumes for 2019 were developed based on an assumed growth rate of 2% per annum along Appleby Line and New Street. As the areas serviced by Pinedale Avenue and Timber Lane are mature, no growth was assumed along these streets.

The 2% growth per annum was applied to the existing traffic volumes, which results in the traffic volumes shown in Figure 4.

3.4 2019 Background Traffic Operations

Based on the 2019 background traffic volumes shown in Figure 4, intersection operations were assessed. Intersection operations are summarized in Table 4 for signalized intersections; in Table 5 for 2-way stop controlled intersections and Table 6 for all-way stop controlled intersections. Detailed analysis reports are contained in Appendix B.

Figure 4: 2019 Background Traffic Volumes

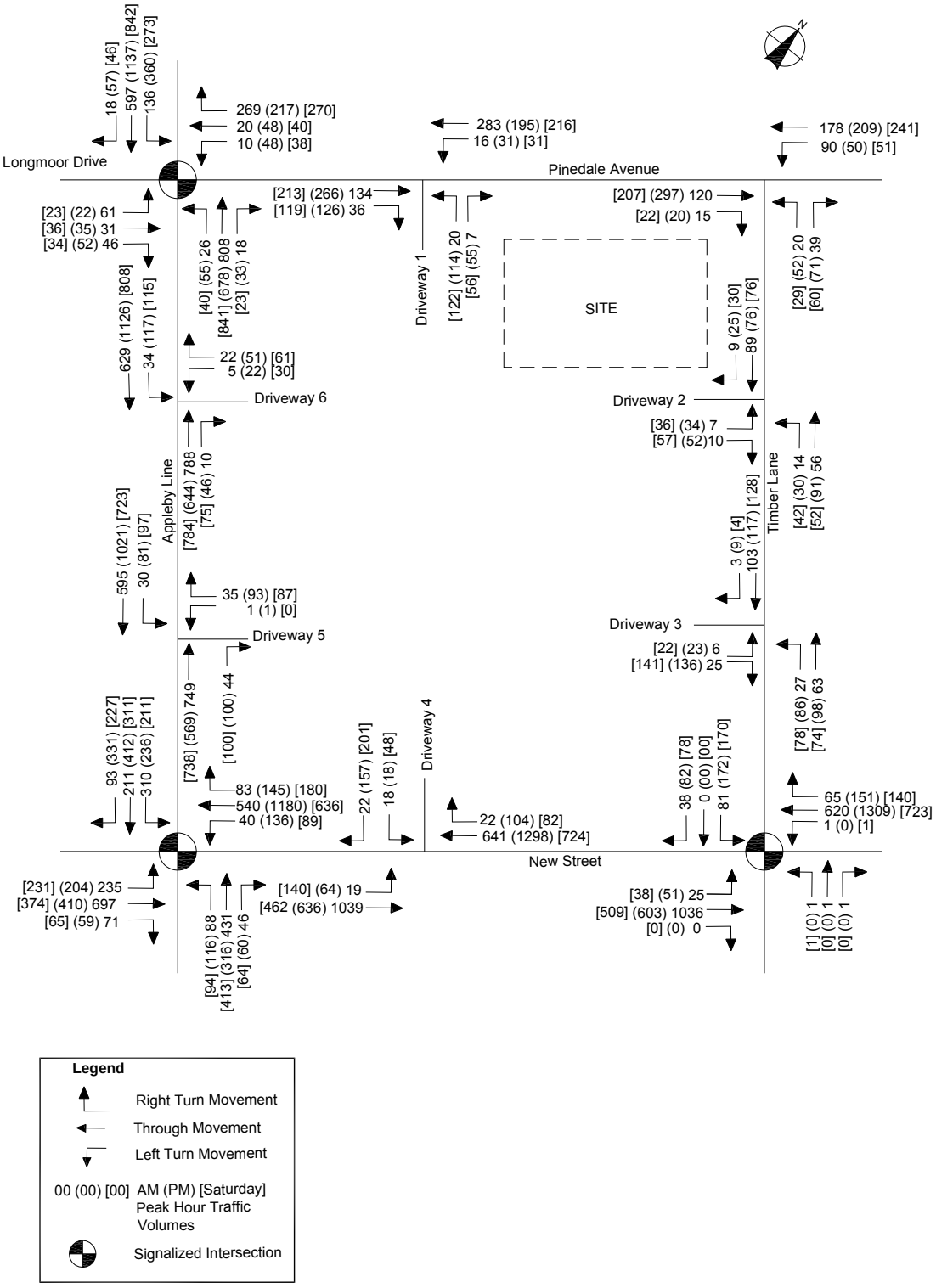


Table 4: 2019 Background Traffic Signalized Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
New Street & Appleby Line							
	Overall	0.99	C	0.98	C	0.79	C
Eastbound	Left Turn	0.99	E	0.98	E	0.79	D
	Through - Right	0.69	C	0.32	B	0.33	C
Westbound	Left Turn	0.20	B	0.27	A	0.21	B
	Through - Right	0.64	C	0.93	C	0.75	C
Northbound	Left Turn	0.19	B	0.57	C	0.28	B
	Through - Right	0.44	C	0.46	C	0.45	C
Southbound	Left Turn	0.91	D	0.66	C	0.61	C
	Through - Right	0.30	C	0.81	C	0.46	B
Appleby Line & Longmoor Drive/Pinedale Avenue							
	Overall	0.70	B	0.64	B	0.72	B
Eastbound	Left-Through-Right	0.70	E	0.53	D	0.41	C
Westbound	Left – Through	0.16	D	0.64	E	0.39	D
	Right Turn	0.70	C	0.60	B	0.72	B
Northbound	Left Turn	0.06	A	0.21	B	0.18	B
	Through - Right	0.37	B	0.33	B	0.57	C
Southbound	Left Turn	0.30	A	0.61	A	0.51	A
	Through - Right	0.26	A	0.45	A	0.38	A
New Street & Timber Lane							
	Overall	0.51	A	0.73	B	0.64	B
Eastbound	Left Turn	0.06	A	0.22	A	0.10	A
	Through – Right Turn	0.51	A	0.25	A	0.25	A
Westbound	Left Turn	0.00	B	0.00	B	0.00	B
	Through – Right Turn	0.39	A	0.72	B	0.54	B
Northbound	Left-Through-Right	0.01	C	0.00	C	0.00	B
Southbound	Left Turn	0.47	C	0.73	E	0.64	D
	Through – Right Turn	0.09	A	0.21	A	0.15	A

Notes: 1. Traffic signal timings were optimized
2 v/c – volume to capacity ratio, LOS – level of service

Under background traffic conditions, during the AM and PM Peak Hours, the eastbound left turn movement, at the intersection of New Street and Appleby Line, is predicted to approach capacity with a v/c ratio of 0.99 and 0.98, respectively. Traffic signal timings were optimized and the westbound shared through/right turn movement, at this intersection, was given priority over this movement due to its higher volume (hence the switch in operations from existing). This intersection is predicted to operate at an acceptable level of service during the Saturday Peak Hour. All other intersections are predicted to operate at a level of Service E or better and a v/c ratio of 0.72 or better.

Table 5: 2019 Background Traffic 2-way Stop Controlled Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
Driveway 1 & Pinedale Avenue							
Eastbound	Right Turn	0.01	A	0.03	A	0.03	A
Westbound	Left Turn	0.05	B	0.42	C	0.39	C
Driveway 2 & Timber Lane							
Eastbound	Left Turn	0.03	A	0.11	A	0.12	A
Eastbound	Right Turn	0.01	A	0.02	A	0.03	A
Driveway 3 & Timber Lane							
Eastbound	Left Turn	0.04	A	0.20	B	0.21	B
Eastbound	Right Turn	0.02	A	0.06	A	0.06	A
Driveway 4 & New Street							
Eastbound	Left Turn	0.02	A	0.12	B	0.15	A
Southbound	Right Turn	0.08	B	0.35	C	0.48	C
Driveway 5 & Appleby Line							
Northbound	Right Turn	0.03	A	0.09	A	0.13	B
Driveway 6 & Appleby Line							
Westbound	Left Turn	0.05	B	0.24	C	0.32	C
Northbound	Right Turn	0.04	A	0.13	A	0.16	B

Note: v/c – volume to capacity ratio, LOS – Level of service; Operations are only shown for critical movements.

Table 6: 2019 Background Traffic All-way Stop Controlled Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
		LOS	LOS	LOS
Timber Lane & Pinedale Avenue				
Eastbound	Through – Right Turn	A	B	A
Westbound	Through – Left Turn	A	B	B
Northbound	Left – Right Turn	A	A	A

Note: v/c – volume to capacity ratio, LOS – level of service; Operations are only show for critical movements

All critical movements at the unsignalized intersections are predicted to operate at level of Service C or better with a v/c ratio of 0.48 or better.

4.0 Proposed Development

4.1 Conceptual Site Plan

Two residential condo buildings are proposed to be added to the northerly corner of Appleby Village, adjacent to Pinedale Avenue. An additional 10,318 sq ft. of ancillary retail / commercial uses are also proposed for the ground floor levels of both buildings combined. This space is currently part of the existing parking lot. The addition of the buildings will not affect the existing site, except for the necessary adjustments to the parking area in which the buildings are proposed.

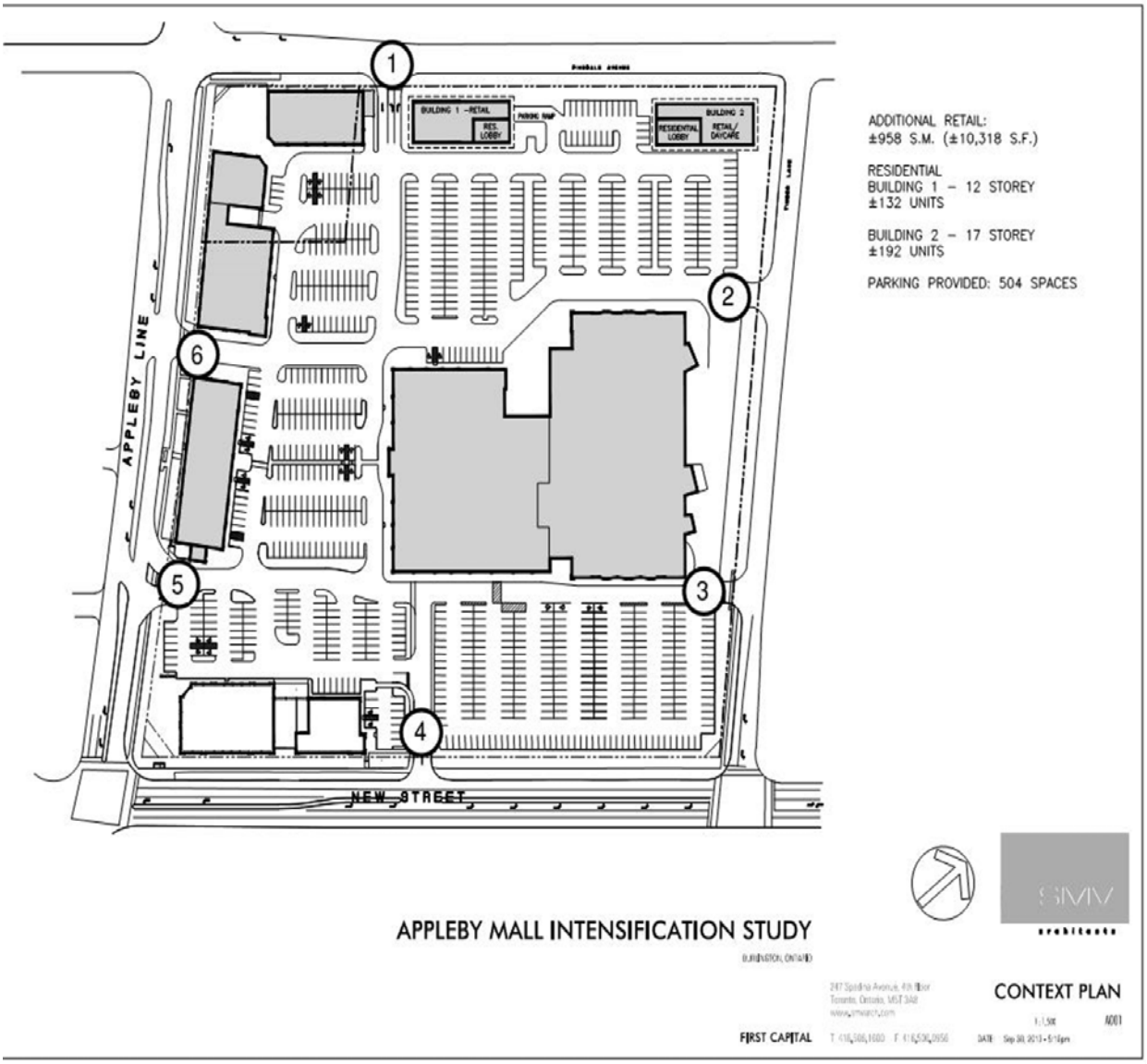
The conceptual site plan is shown in Figure 5.

4.2 Access

Access for the development will be internal to Appleby Village via existing driveways as noted below. The numbered driveway locations are shown in Figure 5.

Driveway 1	Is a full movement driveway providing access on Pinedale Avenue. There is one inbound lane and one outbound lane. This driveway is located to the west, adjacent to the residential development.
Driveway 2	Is a full movement northerly driveway on Timber Lane. There is one inbound lane and one outbound lane. This driveway is located on the north side of the grocery store, just south of the residential development.
Driveway 3	Is a full movement southerly driveway on Timber Lane located along the south side of the grocery store. There is one inbound lane and one outbound lane.
Driveway 4	Is a full movement driveway on New Street. There is one outbound lane and one inbound lane.
Driveway 5	Is a right-in / right-out / left-in driveway on Appleby Line along the south side of the development. There is one outbound lane and one inbound lane.
Driveway 6	Is a full movement driveway on Appleby Line. It is located along the north side of the development. One inbound and one outbound lane is provided.

Figure 5: Conceptual Site Plan



4.3 Site Traffic Generation

Trip generation for the proposed additional development was based on information in the publication ***Trip Generation Manual, 9th Edition,*** by the Institute of Transportation Engineers (ITE). Land use code (LUC) 232, High Rise Residential Condominium/Townhouse, was used to generate trips for the residential buildings. For the ancillary retail uses, LUC 820, Shopping Centre, was used to generate trips.

The residential trip generation is a conservative estimate as we have not reduced trips to account for an increased modal split, nor have we discounted trips to allow for interaction with the commercial uses in Appleby Village, which are all within a short walk. It is expected that residents would patronize the shops and restaurants at Appleby Village, which would reduce trips to the external road network.

For this analysis, it was assumed that there was about 23,925 sq. ft. of vacant space in Appleby Village. However, it was discovered after the analysis was completed, that at the time of the traffic counts, there was about 13,997 sq. ft. of vacant space in Appleby Village (or 9,928 sq. ft. less vacant space). For a more conservative analysis, the original assumption was not changed. The originally assumed vacant space was combined with the 10,318 sq. ft. of proposed retail space to generate for an ultimate retail commercial building area of 222,306 sq. ft. Trips were generated for the total future commercial area of Appleby Village minus the existing occupied area of Appleby Village to obtain the additional trips generated. This process takes into account any interaction within Appleby Village for the commercial component. For retail developments, there are 3 types of trips produced: new trips, pass-by trips, and interaction trips.

New trips are additional traffic added to the road network. The primary purpose of the trip is to visit the development. For example, the customer would leave home, travel to the development and return home. Therefore, the primary trip purpose was to visit the development.

Pass-by trips are trips that are already using the road network and passing by the site. For example, a person leaves work and happens to see the development on their way home, or plans on visiting the development on their way home along their typical route. They continue on their way home after shopping. They do not add any additional trips to the road network, but result in adjustments to traffic volumes at the site driveways. Pass-by rates for this site were derived based upon our experience and information published in the ***Trip Generation Manual, 9th Edition***. Based upon data in the manual for shopping centre development of this size, pass-by trips would be 30% for the each of the weekday AM, weekday PM, and Saturday midday peak hours.

Interaction trips are trips that make stops at multiple adjacent retail facilities. There can be 2 types: external and internal interaction. External interaction would occur for trips travelling between other adjacent developments. Internal interaction trips are trips that make stops at multiple adjacent facilities within the site. For a more conservative analysis, we have not included an interaction trip reduction for this development. The resultant trip generation is summarized in Table 7.

Table 7: Site Traffic Generation

Use	Trip Type	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Residential (334 units)	Total Trips	126	129	129
	Inbound trips	24	80	55
	Outbound trips	102	49	74
Commercial (10,318 sf proposed + 23,925 sf vacant)	Total Future Trips[1] – 222,306 sf	254	1,023	1,469
	Existing Trips[2] – 188,063 sf	229	915	1,318
	Difference	25	108	151
	Pass-by Trips (30%)	8	32	46
	Inbound Pass-by Trips	4	16	23
	Outbound Pass-by Trips	4	16	23
	New Trips	17	76	105
	Inbound Net Trips	11	36	56
	Outbound Net Trips	6	40	49
Total New Trips	Inbound trips	35	116	111
	Outbound trips	108	89	123
	Total	**143**	**205**	**234**
Total Pass-by Trips	Inbound Pass-by Trips	4	16	23
	Outbound Pass-by Trips	4	16	23
	Total	**8**	**32**	**46**

Notes: 1. Total of all commercial (existing occupied, vacant and proposed)
2. Existing occupied commercial space

4.4 Site Traffic Distribution and Assignment

The distribution of new trips was based on knowledge of the area and existing traffic patterns. The distribution is summarized in Table 8. The distribution differs for the residential and commercial-retail components as shown.

Table 8: Site Traffic Distribution

To / From	Via	Residential	Commercial
North	Appleby Line	60	32
South	Appleby Line	4	15
East	New Street	8	24
	Pinedale Avenue	1	12
West	New Street	26	15
	Longmoor Drive	1	2
	Total	**100%**	**100%**

New site trips (new and vacant commercial plus residential trips) are shown in Figure 6 Commercial pass-by trips are shown in Figure 7. Total site trips (Combination of Figure 6 & 7) are shown in Figure 8.

Figure 6: New Site Trips

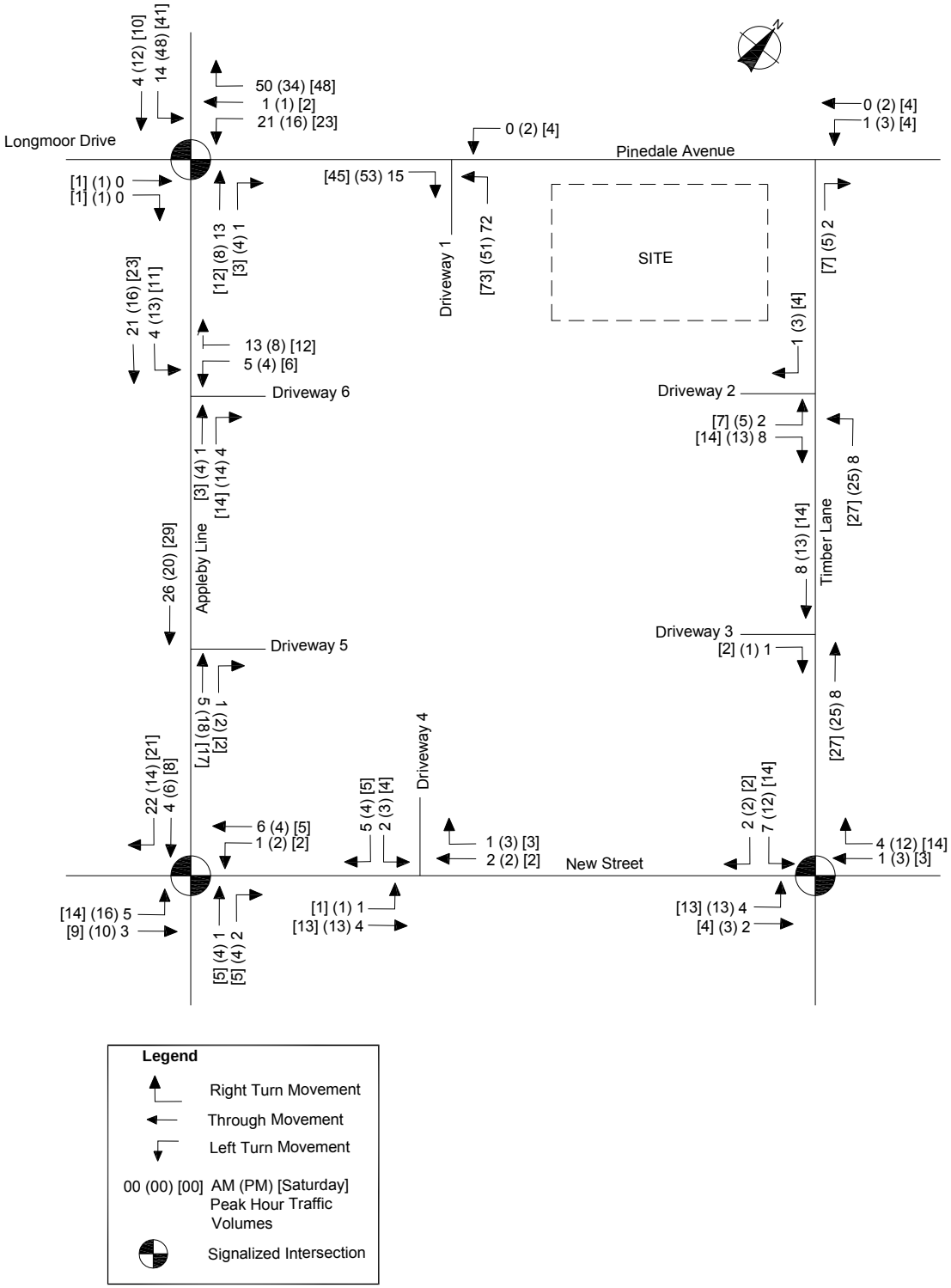


Figure 7: Passby Trips

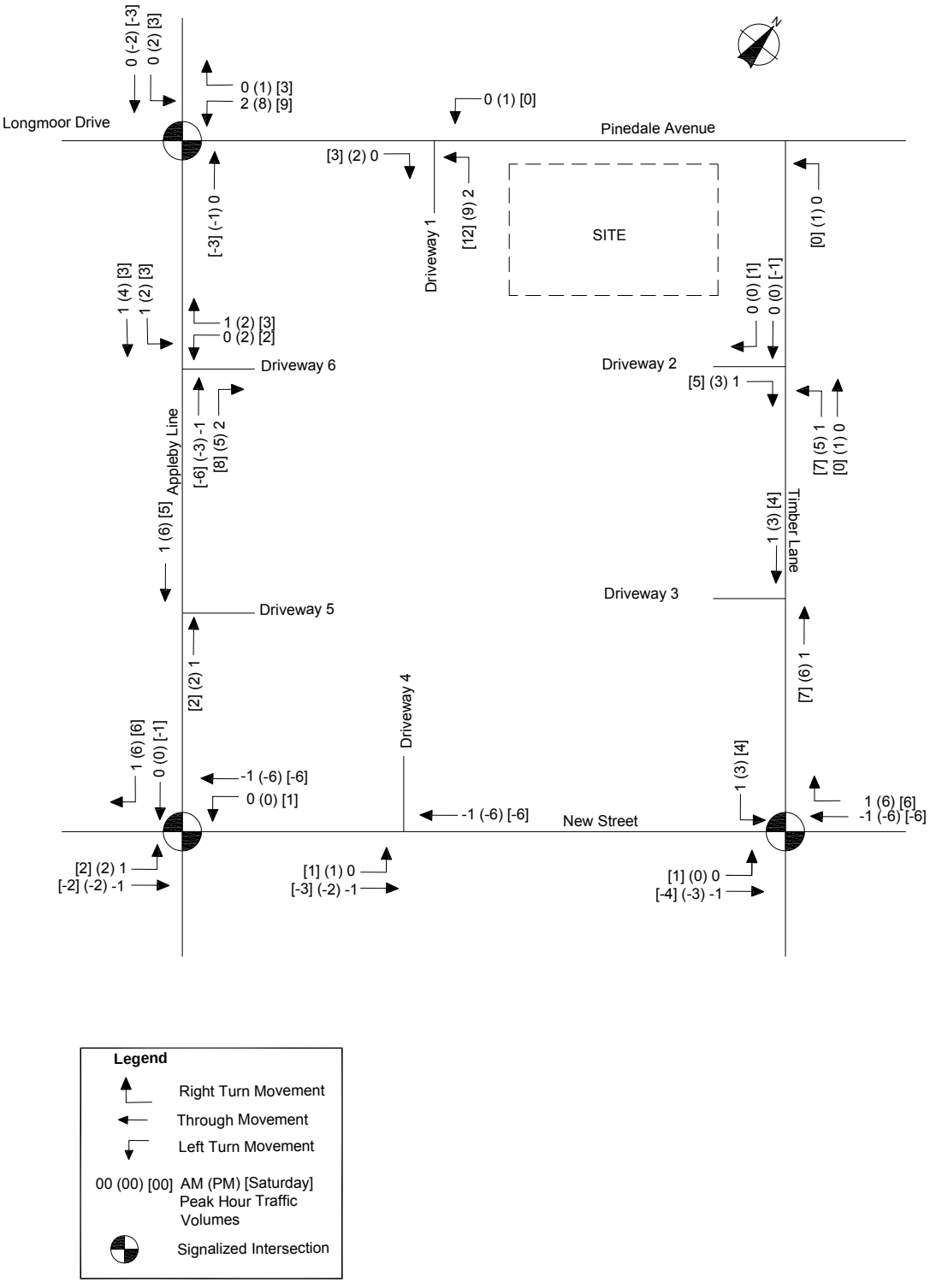
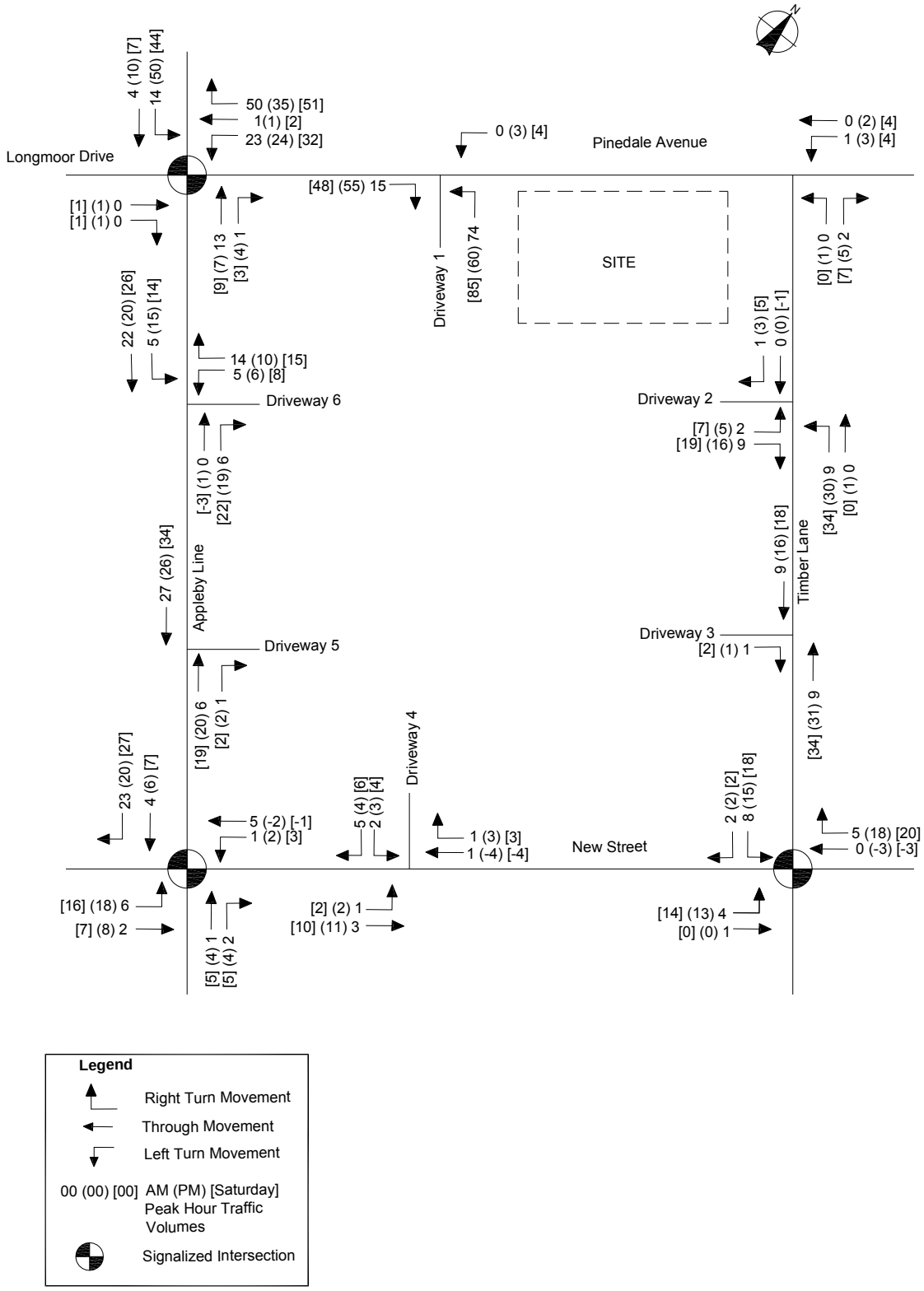


Figure 8: Total Site Trips



5.0 2019 Total Traffic Operations

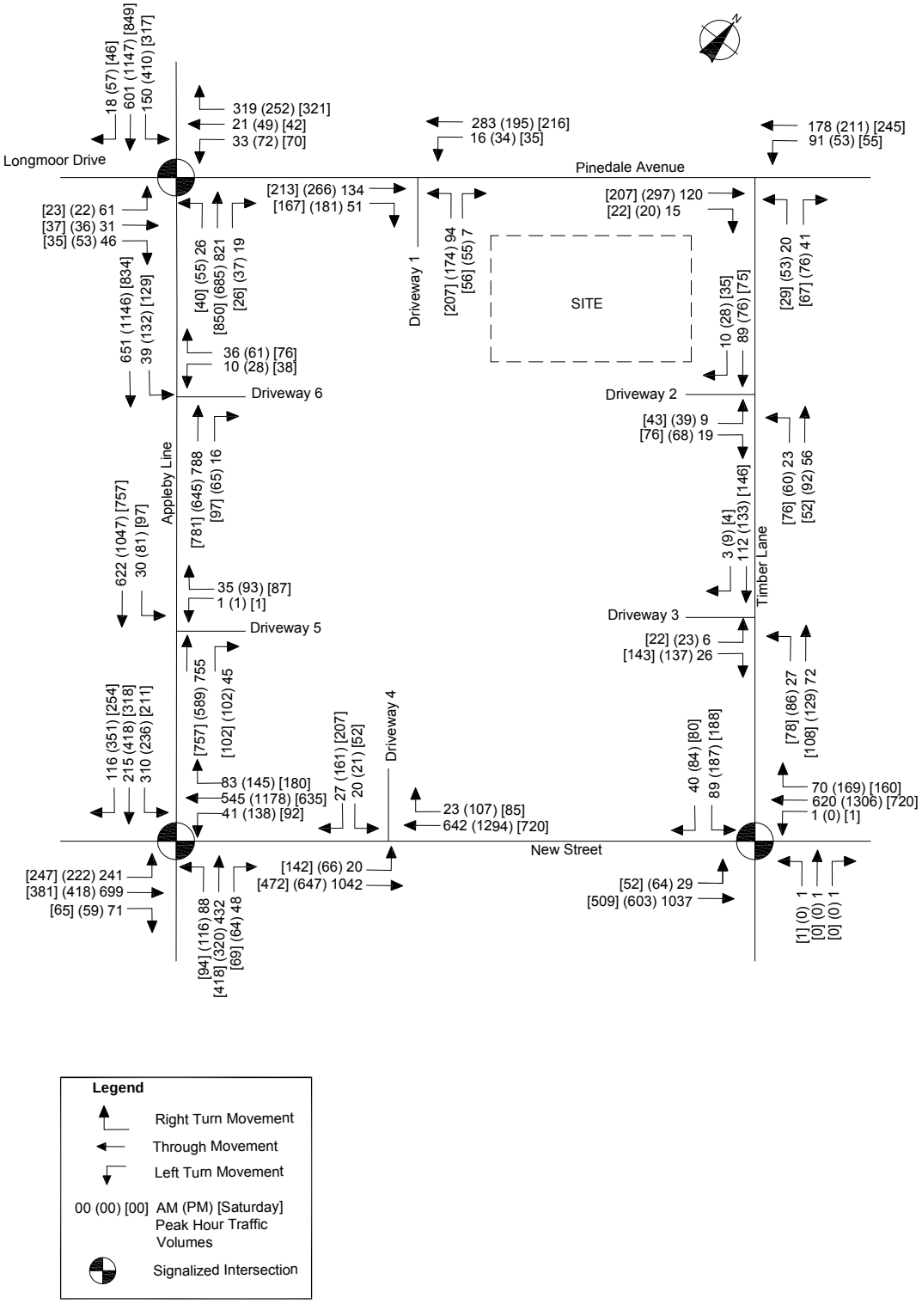
The 2019 background traffic was combined with the site traffic to obtain 2019 total traffic. Based on 2019 total traffic volumes as shown in Figure 9, intersection operations were assessed. Intersection operations are summarized in Table 9 for signalized intersections, in Table 10 for 2-way stop controlled intersections and in Table 11 for all-way stop controlled intersections. Detailed reports are contained in Appendix C.

Table 9: 2019 Total Traffic Signalized Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
New Street & Appleby Line							
	Overall	0.93	C	0.98	C	0.76	C
Eastbound	Left Turn	0.93	E	0.98	E	0.76	C
	Through - Right	0.67	C	0.33	B	0.34	C
Westbound	Left Turn	0.20	B	0.29	A	0.22	B
	Through - Right	0.67	C	0.98	D	0.67	C
Northbound	Left Turn	0.23	B	0.63	D	0.30	B
	Through - Right	0.49	C	0.43	C	0.46	C
Southbound	Left Turn	0.89	D	0.66	C	0.62	C
	Through - Right	0.30	B	0.80	C	0.49	B
Appleby Line & Longmoor Drive/Pinedale Avenue							
	Overall	0.80	B	0.71	B	0.77	B
Eastbound	Left-Through-Right	0.65	D	0.47	D	0.35	C
Westbound	Left – Through	0.33	D	0.71	E	0.47	D
	Right Turn	0.80	C	0.60	B	0.77	C
Northbound	Left Turn	0.07	B	0.09	B	0.22	C
	Through - Right	0.38	B	0.37	B	0.70	C
Southbound	Left Turn	0.34	A	0.68	B	0.58	B
	Through - Right	0.26	A	0.46	A	0.40	A
New Street & Timber Lane							
	Overall	0.51	A	0.76	B	0.68	B
Eastbound	Left Turn	0.07	A	0.28	B	0.08	A
	Through – Right Turn	0.51	A	0.25	A	0.26	A
Westbound	Left Turn	0.00	B	0.00	B	0.00	B
	Through – Right Turn	0.40	B	0.74	B	0.15	A
Northbound	Left-Through-Right	0.01	C	0.00	C	0.00	B
Southbound	Left Turn	0.50	C	0.76	E	0.68	D
	Through – Right Turn	0.10	A	0.21	A	0.09	A

Notes: 1. Traffic signal timings were optimized.
2. v/c – volume to capacity ratio, LOS – level of service

Figure 9: 2019 Total Traffic Volumes



Under total traffic conditions, during the PM Peak Hour, both the westbound shared through/right turn movement and eastbound left turn movement, at the intersection of New Street and Appleby Line, are predicted to approach capacity, each with a v/c ratio of 0.98. This intersection is predicted to operate at an acceptable level of service during other study periods.

This increase in the v/c ratio as compared to existing is primarily due to background growth. Development traffic is contributing less than 2% of the total traffic at this intersection, during the PM Peak Hour.

All other intersections are predicted to operate at a level of Service E or better and a v/c ratio of 0.77 or better.

Table 10: 2019 Total Traffic 2-way Stop Controlled Intersection Operations

Intersection & Critical Movement		Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Midday Peak Hour	
		V/C	LOS	V/C	LOS	V/C	LOS
Driveway 1 & Pinedale Avenue							
Eastbound	Right Turn	0.01	A	0.04	A	0.04	A
Westbound	Left Turn	0.18	B	0.69	D	0.71	D
Driveway 2 & Timber Lane							
Eastbound	Left Turn	0.05	A	0.17	B	0.18	B
Eastbound	Right Turn	0.03	A	0.07	A	0.07	A
Driveway 3 & Timber Lane							
Eastbound	Left Turn	0.05	A	0.21	B	0.23	B
Eastbound	Right Turn	0.02	A	0.06	A	0.06	A
Driveway 4 & New Street							
Eastbound	Left Turn	0.03	A	0.12	B	0.15	A
Southbound	Right Turn	0.10	B	0.37	C	0.55	C
Driveway 5 & Appleby Line							
Northbound	Right Turn	0.03	A	0.09	A	0.13	B
Driveway 6 & Appleby Line							
Westbound	Left Turn	0.09	B	0.37	D	0.49	D
Northbound	Right Turn	0.05	A	0.16	A	0.19	B

Note: v/c – volume to capacity ratio, LOS – level of service; Operations are only shown for critical movements.

Table 11: 2019 total Traffic All-way Stop Controlled Intersection Operations

Intersection & Critical Movement	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
	LOS	LOS	LOS
Timber Lane & Pinedale Avenue			
Eastbound Through – Right Turn	A	B	A
Westbound Through – Left Turn	A	B	B
Northbound Left – Right Turn	A	A	A

Notes: v/c – volume to capacity ratio, LOS – level of service; Operations are only shown for critical movements.

All critical movements at the unsignalized intersections are predicted to operate at level of Service D or better with a v/c ratio of 0.71 or better.

6.0 Site Plan Review

A high level review was conducted of the parking lot layout, vehicular and non-vehicular circulation and integration with the existing Appleby Village. It is our opinion that the site is well designed to accommodate and facilitate all modes of travel. Sidewalks and walkways will be provided to connect to the existing sidewalk network surrounding Appleby Village and connections will be provided internally to connect to the existing commercial uses on site. The existing driveways to Appleby Village will adequately serve the proposed residential and additional commercial.

7.0 Conclusions

7.1 Intersection Operations

The analysis concludes that the proposed development will have a minimal impact upon the local road network. Road improvements are not required as the result of development related traffic.

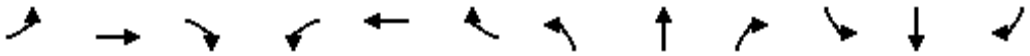
Under existing traffic conditions, both the westbound shared through/right turn movement and eastbound left turn movement, at the intersection of New Street and Appleby Line, are currently approaching capacity, each with a v/c ratio of 0.96. Both these movements will continue to approach capacity under total traffic conditions, during the PM Peak Hour, each with a v/c ratio of 0.98. This increase in the v/c ratio is primarily due to background growth. Development traffic is contributing less than 2% of the total traffic at this intersection. This intersection is predicted to operate at an acceptable level of service during the other study periods.

All other intersections are predicted to operate at a level of Service E or better and a v/c ratio of 0.77 or better.

7.2 Site Plan Review

A high level review was conducted of the parking lot layout, vehicular and non-vehicular circulation and integration with the existing Appleby Village. The on-site operations have been reviewed. It is our opinion that the site is well designed to accommodate and facilitate all modes of travel.

Appendix A
Existing Traffic Operations

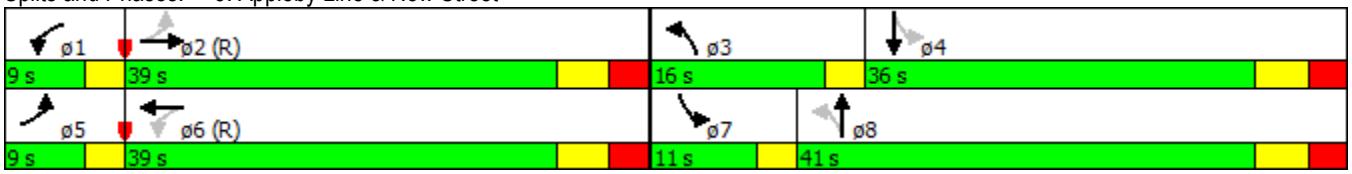


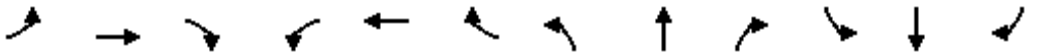
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	213	631	64	36	489	75	80	390	42	281	191	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	1.00		0.98	1.00		0.99	0.99	
Frt		0.986			0.980			0.985			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3420	0	1616	3295	0	1646	3476	0	1616	3068	0
Flt Permitted	0.287			0.251			0.568			0.421		
Satd. Flow (perm)	504	3420	0	426	3295	0	965	3476	0	710	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			18			12			70	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	15		4	4		15	27		13	13		27
Confl. Bikes (#/hr)			2			1			4			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	8%	7%	7%	6%	2%	2%	8%	12%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	763	0	40	619	0	88	475	0	309	302	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	9.0	39.0		9.0	39.0		16.0	41.0		11.0	36.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	43.2	35.6		42.0	32.0		46.4	34.0		45.8	35.4	
Actuated g/C Ratio	0.43	0.36		0.42	0.32		0.46	0.34		0.46	0.35	
v/c Ratio	0.81	0.62		0.16	0.58		0.17	0.40		0.78	0.27	
Control Delay	44.7	29.8		17.2	30.1		14.8	25.8		34.9	19.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.7	29.8		17.2	30.1		14.8	25.8		34.9	19.2	
LOS	D	C		B	C		B	C		C	B	
Approach Delay		33.3			29.4			24.0			27.2	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	28.1	66.6		4.2	50.8		8.9	35.6		36.4	16.8	
Queue Length 95th (m)	#60.7	87.1		10.1	68.5		17.2	49.3		#70.6	28.4	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	288	1224		250	1066		561	1189		397	1132	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.81	0.62		0.16	0.58		0.16	0.40		0.78	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 93.2%		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: 3: Appleby Line & New Street



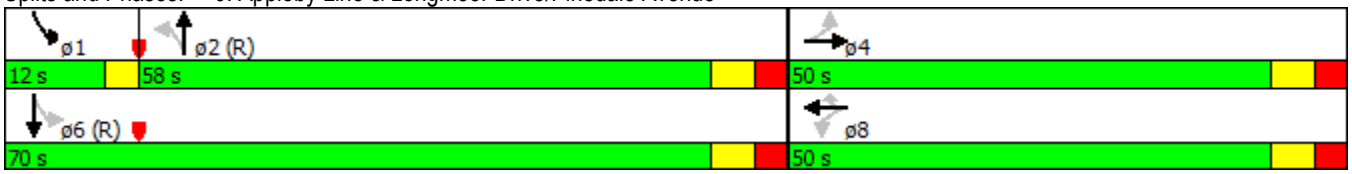


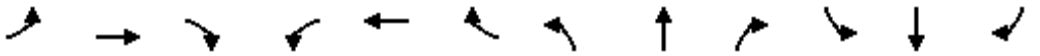
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	31	46	10	20	269	24	732	16	123	541	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		0.99	1.00	
Frt		0.955				0.850		0.997			0.996	
Flt Protected		0.978			0.984		0.950			0.950		
Satd. Flow (prot)	0	1667	0	0	1700	1551	1491	3493	0	1631	3258	0
Flt Permitted		0.842			0.873		0.436			0.326		
Satd. Flow (perm)	0	1432	0	0	1499	1525	679	3493	0	556	3258	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				246		2			4	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		4.7			8.0			7.9			7.5	
Confl. Peds. (#/hr)	4		21	21		4	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	7%	10%	10%	3%	17%	3%	0%	7%	10%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	31	277	25	771	0	127	574	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	58.0	58.0		12.0	70.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		15.4			15.4	15.4	79.8	79.8		94.6	90.6	
Actuated g/C Ratio		0.13			0.13	0.13	0.66	0.66		0.79	0.76	
v/c Ratio		0.70			0.16	0.68	0.06	0.33		0.25	0.23	
Control Delay		58.8			45.7	17.1	9.5	9.9		4.8	5.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.8			45.7	17.1	9.5	9.9		4.8	5.1	
LOS		E			D	B	A	A		A	A	
Approach Delay		58.8			20.0			9.9			5.0	
Approach LOS		E			B			A			A	
Queue Length 50th (m)		27.2			6.6	6.6	1.9	37.3		5.7	17.9	
Queue Length 95th (m)		45.7			14.8	31.4	6.4	60.5		13.2	30.7	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		527			537	704	451	2322		520	2460	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.27			0.06	0.39	0.06	0.33		0.24	0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	938	0	1	562	59	1	1	1	81	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98			1.00	0.99			0.99		1.00	0.98	
Frt					0.986			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1601	3438	0	1745	3280	0	0	1778	0	1678	1512	0
Flt Permitted	0.339			0.252				0.871		0.756		
Satd. Flow (perm)	562	3438	0	462	3280	0	0	1571	0	1334	1512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					17			1			317	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	36			8		36	4		1	1		4
Confl. Bikes (#/hr)						6						1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	5%	0%	0%	8%	5%	0%	0%	0%	4%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1130	0	1	748	0	0	3	0	98	46	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	52.0	50.2		44.9	44.9			10.2		11.0	11.0	
Actuated g/C Ratio	0.74	0.72		0.64	0.64			0.15		0.16	0.16	
v/c Ratio	0.06	0.46		0.00	0.35			0.01		0.47	0.09	
Control Delay	4.2	6.7		11.0	9.6			21.5		33.7	0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.2	6.7		11.0	9.6			21.5		33.7	0.4	
LOS	A	A		B	A			C		C	A	
Approach Delay		6.7			9.6			21.5			23.1	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	0.9	32.5		0.1	20.3			0.3		12.0	0.0	
Queue Length 95th (m)	3.2	49.3		0.8	44.8			1.9		21.2	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	536	2467		296	2109			427		381	658	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.05	0.46		0.00	0.35			0.01		0.26	0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

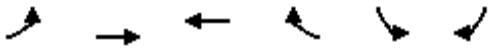




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	120	15	90	178	20	39
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	133	17	100	198	22	43

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	150	298	66
Volume Left (vph)	0	100	22
Volume Right (vph)	17	0	43
Hadj (s)	-0.03	0.10	-0.29
Departure Headway (s)	4.3	4.3	4.6
Degree Utilization, x	0.18	0.36	0.08
Capacity (veh/h)	805	810	714
Control Delay (s)	8.3	9.7	8.0
Approach Delay (s)	8.3	9.7	8.0
Approach LOS	A	A	A

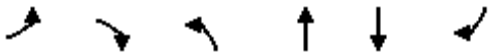
Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	17	841	581	20	18	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	20	1001	692	24	21	26
Pedestrians					11	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.90				0.88	0.90
vC, conflicting volume	726				1256	369
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	469				489	71
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				95	97
cM capacity (veh/h)	982				437	876

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	20	501	501	461	254	48
Volume Left	20	0	0	0	0	21
Volume Right	0	0	0	0	24	26
cSH	982	1700	1700	1700	1700	603
Volume to Capacity	0.02	0.29	0.29	0.27	0.15	0.08
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	1.9
Control Delay (s)	8.7	0.0	0.0	0.0	0.0	11.5
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		11.5
Approach LOS						B

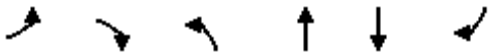
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	25	27	63	103	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	7	30	33	77	126	4
Pedestrians	3			6	6	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	279	136	132			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	279	136	132			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	97	98			
cM capacity (veh/h)	693	890	1437			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	110	129
Volume Left	7	33	0
Volume Right	30	0	4
cSH	843	1437	1700
Volume to Capacity	0.04	0.02	0.08
Queue Length 95th (m)	1.1	0.5	0.0
Control Delay (s)	9.5	2.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.5	2.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	7	10	14	56	89	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	9	13	18	73	116	12
Pedestrians				6		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	231	127	127			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	231	127	127			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	99	99	99			
cM capacity (veh/h)	752	923	1388			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	22	91	127
Volume Left	9	18	0
Volume Right	13	0	12
cSH	844	1388	1700
Volume to Capacity	0.03	0.01	0.07
Queue Length 95th (m)	0.6	0.3	0.0
Control Delay (s)	9.4	1.6	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	1.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		22.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	134	36	16	283	20	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	140	38	17	295	21	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			1.00		1.00	1.00
vC, conflicting volume			177		486	158
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			172		482	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			1412		529	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	177	311	28
Volume Left	0	17	21
Volume Right	38	0	7
cSH	1700	1412	592
Volume to Capacity	0.10	0.01	0.05
Queue Length 95th (m)	0.0	0.3	1.1
Control Delay (s)	0.0	0.5	11.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.4
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	22	714	9	31	570
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	23	744	9	32	594
Pedestrians	4					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.94	0.93			0.93	
vC, conflicting volume	1114	381			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	821	170			577	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			96	
cM capacity (veh/h)	287	785			910	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	496	257	32	297	297
Volume Left	5	0	0	32	0	0
Volume Right	23	0	9	0	0	0
cSH	594	1700	1700	910	1700	1700
Volume to Capacity	0.05	0.29	0.15	0.04	0.17	0.17
Queue Length 95th (m)	1.1	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	11.4	0.0	0.0	9.1	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.4	0.0		0.5		
Approach LOS	B					

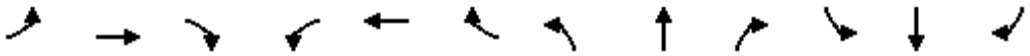
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	35	678	40	27	539
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	1	36	706	42	28	561
Pedestrians	3					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	1067	377			751	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	827	106			518	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			97	
cM capacity (veh/h)	277	836			956	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	471	277	28	281	281
Volume Left	1	0	0	28	0	0
Volume Right	36	0	42	0	0	0
cSH	792	1700	1700	956	1700	1700
Volume to Capacity	0.05	0.28	0.16	0.03	0.17	0.17
Queue Length 95th (m)	1.1	0.0	0.0	0.7	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	8.9	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.8	0.0		0.4		
Approach LOS	A					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

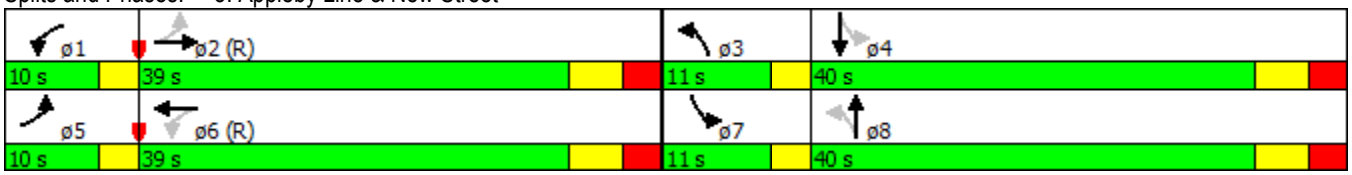


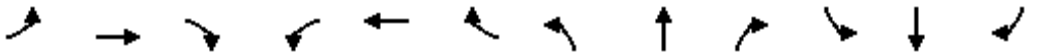
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	371	53	123	1069	131	105	286	54	214	373	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		0.99	1.00		0.99	0.99		0.98	0.99	
Frt		0.981			0.984			0.976			0.933	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3459	0	1745	3487	0	1728	3386	0	1745	3271	0
Flt Permitted	0.125			0.461			0.284			0.531		
Satd. Flow (perm)	220	3459	0	839	3487	0	513	3386	0	959	3271	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			14			23			217	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	27		17	17		27	16		24	24		16
Confl. Bikes (#/hr)			1			1			3			5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	2%	2%	0%	1%	5%	1%	4%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	429	0	124	1212	0	106	344	0	216	680	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	10.0	39.0		10.0	39.0		11.0	40.0		11.0	40.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	43.1	32.1		42.9	32.0		44.6	33.0		45.4	33.4	
Actuated g/C Ratio	0.43	0.32		0.43	0.32		0.45	0.33		0.45	0.33	
v/c Ratio	0.95	0.38		0.29	1.08		0.33	0.30		0.43	0.55	
Control Delay	75.8	26.4		8.5	73.2		17.5	24.1		19.0	20.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	75.8	26.4		8.5	73.2		17.5	24.1		19.0	20.0	
LOS	E	C		A	E		B	C		B	B	
Approach Delay		41.4			67.2			22.5			19.8	
Approach LOS		D			E			C			B	
Queue Length 50th (m)	21.3	32.3		4.1	~138.1		11.0	24.0		24.0	37.7	
Queue Length 95th (m)	#61.8	45.4		m6.5	#173.0		20.4	35.3		38.8	55.1	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	196	1120		424	1125		328	1132		498	1236	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.95	0.38		0.29	1.08		0.32	0.30		0.43	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.4		Intersection LOS: D	
Intersection Capacity Utilization 96.1%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Appleby Line & New Street





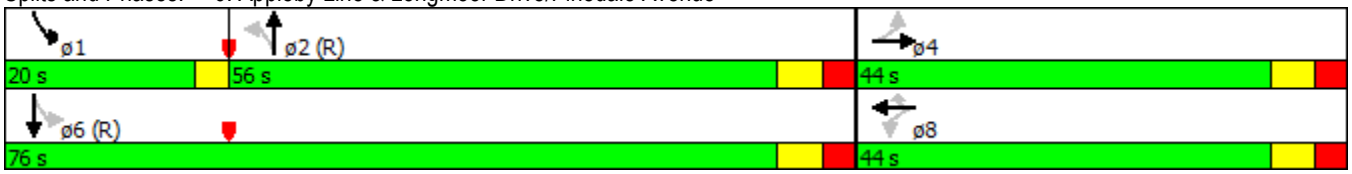
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	35	52	48	48	217	50	614	30	326	1030	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99	0.98	0.99	1.00		0.98	1.00	
Frt		0.936				0.850		0.993			0.993	
Flt Protected		0.990			0.976		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1836	1581	1745	3503	0	1678	3540	0
Flt Permitted		0.905			0.737		0.258			0.372		
Satd. Flow (perm)	0	1542	0	0	1366	1547	471	3503	0	644	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				221		5			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		3.7			6.4			7.9			7.5	
Confl. Peds. (#/hr)	9		32	32		9	12		26	26		12
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	0%	2%	0%	1%	0%	2%	0%	4%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	98	221	51	658	0	333	1104	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	44.0	44.0		44.0	44.0	44.0	56.0	56.0		20.0	76.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		13.5			13.5	13.5	77.8	77.8		96.5	92.5	
Actuated g/C Ratio		0.11			0.11	0.11	0.65	0.65		0.80	0.77	
v/c Ratio		0.53			0.64	0.60	0.17	0.29		0.54	0.40	
Control Delay		40.6			68.8	13.1	12.4	10.4		6.7	5.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		40.6			68.8	13.1	12.4	10.4		6.7	5.4	
LOS		D			E	B	B	B		A	A	
Approach Delay		40.6			30.2			10.5			5.7	
Approach LOS		D			C			B			A	
Queue Length 50th (m)		15.9			22.5	0.0	4.3	31.6		15.1	37.5	
Queue Length 95th (m)		32.3			38.2	21.3	13.4	54.2		30.5	60.0	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		503			421	629	305	2273		664	2731	

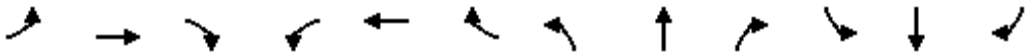
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.22			0.23	0.35	0.17	0.29		0.50	0.40	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 76.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue



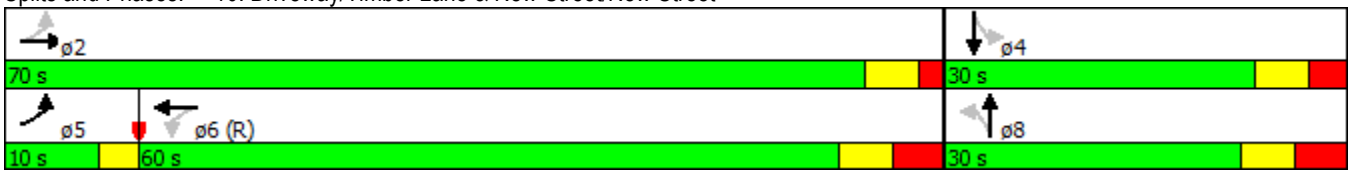


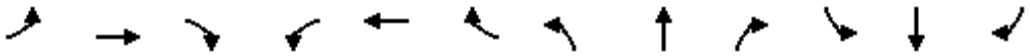
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	546	0	0	1186	137	0	0	0	172	0	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99					0.99	0.97	
Frt					0.984						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1745	3574	0	1837	3465	0	0	1900	0	1745	1571	0
Flt Permitted	0.138									0.757		
Satd. Flow (perm)	253	3574	0	1837	3465	0	0	1900	0	1377	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					18						167	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	19					19				6		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	557	0	0	1350	0	0	0	0	176	84	0
Turn Type	pm+pt	NA		Perm	NA					Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	10.0	70.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	72.5	69.5			61.7					17.5	17.5	
Actuated g/C Ratio	0.72	0.70			0.62					0.18	0.18	
v/c Ratio	0.17	0.22			0.63					0.73	0.20	
Control Delay	6.2	5.4			15.3					56.0	1.1	
Queue Delay	0.0	0.0			0.0					0.0	0.0	
Total Delay	6.2	5.4			15.3					56.0	1.1	
LOS	A	A			B					E	A	
Approach Delay		5.5			15.3						38.3	
Approach LOS		A			B						D	
Queue Length 50th (m)	1.2	8.7			87.5					32.4	0.0	
Queue Length 95th (m)	6.4	31.3			128.1					51.8	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	287	2483			2144					316	489	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.16	0.22			0.63					0.56	0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 28 (28%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	371	53	123	1069	131	105	286	54	214	373	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		0.99	1.00		0.99	0.99		0.98	0.98	
Frt		0.981			0.984			0.976			0.933	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3459	0	1745	3487	0	1728	3386	0	1745	3270	0
Flt Permitted	0.111			0.473			0.254			0.522		
Satd. Flow (perm)	196	3459	0	861	3487	0	459	3386	0	943	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			15			22			205	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	27		17	17		27	16		24	24		16
Confl. Bikes (#/hr)			1			1			3			5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	2%	2%	0%	1%	5%	1%	4%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	429	0	124	1212	0	106	344	0	216	680	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	10.0	43.0		10.0	43.0		11.0	36.0		11.0	36.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	47.1	36.1		46.9	36.0		40.7	29.0		41.3	29.3	
Actuated g/C Ratio	0.47	0.36		0.47	0.36		0.41	0.29		0.41	0.29	
v/c Ratio	0.96	0.34		0.27	0.96		0.37	0.35		0.48	0.62	
Control Delay	76.2	23.2		6.1	36.8		20.8	27.3		22.5	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.2	23.2		6.1	36.8		20.8	27.3		22.5	23.7	
LOS	E	C		A	D		C	C		C	C	
Approach Delay		39.3			34.0			25.8			23.4	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	20.0	30.1		2.9	118.2		11.9	25.7		26.1	41.5	
Queue Length 95th (m)	#62.1	42.4		m4.7	#161.7		22.1	37.7		42.2	60.2	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	195	1259		466	1264		289	997		453	1103	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.96	0.34		0.27	0.96		0.37	0.35		0.48	0.62	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 31.0		Intersection LOS: C	
Intersection Capacity Utilization 96.1%		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: 3: Appleby Line & New Street

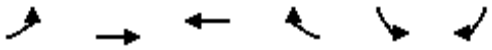




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	297	20	50	209	52	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	330	22	56	232	58	79

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	352	288	137
Volume Left (vph)	0	56	58
Volume Right (vph)	22	0	79
Hadj (s)	-0.01	0.11	-0.25
Departure Headway (s)	4.6	4.8	5.1
Degree Utilization, x	0.45	0.38	0.19
Capacity (veh/h)	747	721	622
Control Delay (s)	11.4	10.7	9.4
Approach Delay (s)	11.4	10.7	9.4
Approach LOS	B	B	A

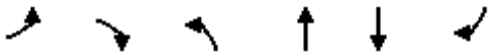
Intersection Summary			
Delay	10.8		
Level of Service	B		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	58	576	1176	94	18	157
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	60	600	1225	98	19	164
Pedestrians		1			9	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.75				0.79	0.75
vC, conflicting volume	1332				1704	671
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	782				957	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				90	80
cM capacity (veh/h)	630				183	814

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	60	300	300	817	506	182
Volume Left	60	0	0	0	0	19
Volume Right	0	0	0	0	98	164
cSH	630	1700	1700	1700	1700	601
Volume to Capacity	0.10	0.18	0.18	0.48	0.30	0.30
Queue Length 95th (m)	2.4	0.0	0.0	0.0	0.0	9.7
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	13.6
Lane LOS	B					B
Approach Delay (s)	1.0			0.0		13.6
Approach LOS						B

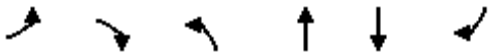
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	23	136	86	98	117	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	143	91	103	123	9
Pedestrians				2		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	412	130	133			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412	130	133			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	85	94			
cM capacity (veh/h)	563	924	1465			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	167	194	133
Volume Left	24	91	0
Volume Right	143	0	9
cSH	845	1465	1700
Volume to Capacity	0.20	0.06	0.08
Queue Length 95th (m)	5.6	1.5	0.0
Control Delay (s)	10.3	3.8	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	3.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	34	52	30	91	76	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	37	57	33	100	84	27
Pedestrians	2			5	2	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	267	104	113			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	267	104	113			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	98			
cM capacity (veh/h)	708	950	1487			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	95	133	111
Volume Left	37	33	0
Volume Right	57	0	27
cSH	837	1487	1700
Volume to Capacity	0.11	0.02	0.07
Queue Length 95th (m)	2.9	0.5	0.0
Control Delay (s)	9.8	2.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	2.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	266	126	31	195	114	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	302	143	35	222	130	62
Pedestrians	7				14	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			459		687	388
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			405		645	330
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		67	91
cM capacity (veh/h)			1094		398	673

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	445	257	192
Volume Left	0	35	130
Volume Right	143	0	62
cSH	1700	1094	459
Volume to Capacity	0.26	0.03	0.42
Queue Length 95th (m)	0.0	0.8	15.5
Control Delay (s)	0.0	1.4	18.4
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	18.4
Approach LOS			C

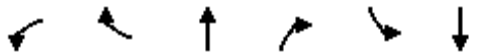
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	22	51	583	42	106	1020
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	23	53	601	43	109	1052
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.91	0.99			0.99	
vC, conflicting volume	1383	338			660	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1179	316			641	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	92			88	
cM capacity (veh/h)	147	671			926	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	401	244	109	526	526
Volume Left	23	0	0	109	0	0
Volume Right	53	0	43	0	0	0
cSH	324	1700	1700	926	1700	1700
Volume to Capacity	0.23	0.24	0.14	0.12	0.31	0.31
Queue Length 95th (m)	6.7	0.0	0.0	3.0	0.0	0.0
Control Delay (s)	19.4	0.0	0.0	9.4	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	19.4	0.0		0.9		
Approach LOS	C					

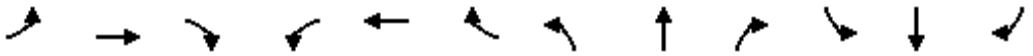
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	93	515	91	73	925
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	96	531	94	75	954
Pedestrians	17		2			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.96	0.94			0.94	
vC, conflicting volume	1224	329			642	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	876	164			496	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			92	
cM capacity (veh/h)	255	797			1001	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	96	354	271	75	477	477
Volume Left	0	0	0	75	0	0
Volume Right	96	0	94	0	0	0
cSH	797	1700	1700	1001	1700	1700
Volume to Capacity	0.12	0.21	0.16	0.08	0.28	0.28
Queue Length 95th (m)	3.1	0.0	0.0	1.8	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	8.9	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	10.1	0.0		0.7		
Approach LOS	B					

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

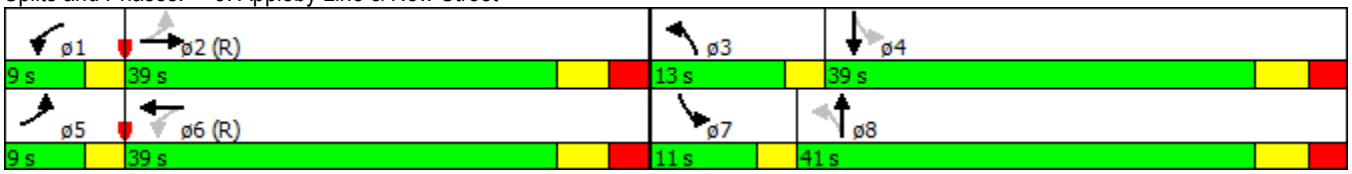


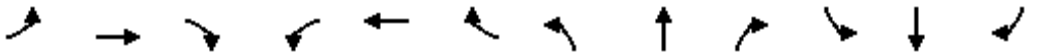
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	209	339	59	81	576	163	85	374	58	191	292	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	1.00		0.99	0.99	
Frt		0.978			0.967			0.980			0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3453	0	1745	3391	0	1745	3462	0	1745	3302	0
Flt Permitted	0.208			0.495			0.419			0.440		
Satd. Flow (perm)	379	3453	0	908	3391	0	763	3462	0	800	3302	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			38			19			187	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	29		3	3		29	17		16	16		17
Confl. Bikes (#/hr)			2			4			5			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	215	410	0	84	762	0	88	446	0	197	513	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	9.0	39.0		9.0	39.0		13.0	41.0		11.0	39.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	42.6	33.8		42.0	32.0		46.1	34.0		46.1	35.7	
Actuated g/C Ratio	0.43	0.34		0.42	0.32		0.46	0.34		0.46	0.36	
v/c Ratio	0.88	0.35		0.19	0.69		0.20	0.38		0.44	0.40	
Control Delay	57.7	25.1		17.2	31.9		15.0	25.0		18.7	16.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	57.7	25.1		17.2	31.9		15.0	25.0		18.7	16.6	
LOS	E	C		B	C		B	C		B	B	
Approach Delay		36.3			30.4			23.3			17.2	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	25.4	30.2		9.1	64.0		8.8	32.5		21.1	24.3	
Queue Length 95th (m)	#60.3	43.1		17.9	84.4		17.1	45.6		34.7	39.4	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	243	1181		431	1110		464	1189		444	1298	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.88	0.35		0.19	0.69		0.19	0.38		0.44	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 88.0%		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.			

Splits and Phases: 3: Appleby Line & New Street



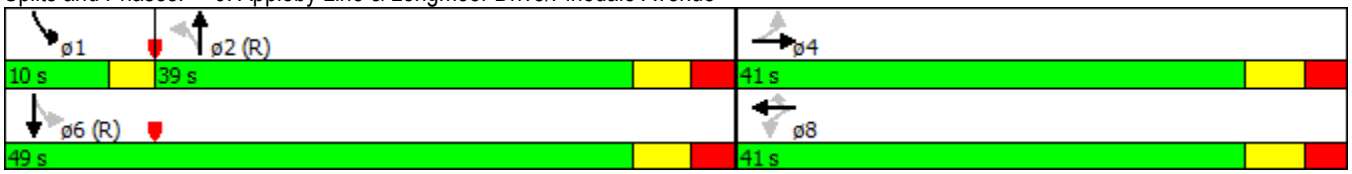


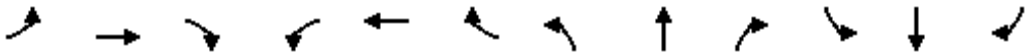
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	36	34	38	40	270	36	762	21	247	763	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		1.00	1.00	
Frt		0.951				0.850		0.996			0.992	
Flt Protected		0.988			0.976		0.950			0.950		
Satd. Flow (prot)	0	1743	0	0	1854	1581	1694	3557	0	1728	3538	0
Flt Permitted		0.889			0.834		0.328			0.272		
Satd. Flow (perm)	0	1567	0	0	1570	1556	579	3557	0	493	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				234		3			8	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		4.7			8.0			7.9			7.5	
Confl. Peds. (#/hr)	3		25	25		3	17		8	8		17
Confl. Bikes (#/hr)			2			3			2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	0%	1%	3%	1%	0%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	84	290	39	842	0	266	865	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	41.0	41.0		41.0	41.0	41.0	39.0	39.0		10.0	49.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		12.0			12.0	12.0	48.2	48.2		68.0	64.0	
Actuated g/C Ratio		0.13			0.13	0.13	0.54	0.54		0.76	0.71	
v/c Ratio		0.42			0.40	0.71	0.13	0.44		0.49	0.34	
Control Delay		27.6			39.9	18.4	14.7	14.8		7.0	5.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		27.6			39.9	18.4	14.7	14.8		7.0	5.9	
LOS		C			D	B	B	B		A	A	
Approach Delay		27.6			23.2			14.8			6.2	
Approach LOS		C			C			B			A	
Queue Length 50th (m)		10.4			13.9	9.1	3.0	40.7		9.4	22.8	
Queue Length 95th (m)		22.3			24.4	30.7	11.0	74.5		25.2	45.5	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		615			593	733	309	1905		547	2517	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.16			0.14	0.40	0.13	0.44		0.49	0.34	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	461	0	1	655	127	1	0	0	170	0	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00	0.99			0.99		0.99	0.99	
Frt					0.976						0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1745	3574	0	1745	3442	0	0	1805	0	1745	1545	0
Flt Permitted	0.281			0.470				0.702		0.757		
Satd. Flow (perm)	514	3574	0	862	3442	0	0	1317	0	1373	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					35						321	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	11			2		11	13			11		2
Confl. Bikes (#/hr)						5						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	496	0	1	841	0	0	1	0	183	84	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	45.5	42.5		36.6	36.6			13.5		14.5	14.5	
Actuated g/C Ratio	0.65	0.61		0.52	0.52			0.19		0.21	0.21	
v/c Ratio	0.08	0.23		0.00	0.46			0.00		0.64	0.15	
Control Delay	6.1	7.3		13.0	13.2			20.0		35.3	0.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	6.1	7.3		13.0	13.2			20.0		35.3	0.5	
LOS	A	A		B	B			B		D	A	
Approach Delay		7.2			13.2			20.0			24.4	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.5	13.7		0.1	27.5			0.1		22.1	0.0	
Queue Length 95th (m)	5.3	25.3		1.0	64.4			1.2		37.1	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	474	2169		450	1816			357		392	670	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.08	0.23		0.00	0.46			0.00		0.47	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 48.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

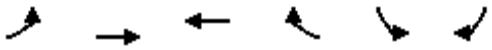




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	207	22	51	241	29	60
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	223	24	55	259	31	65

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	246	314	96
Volume Left (vph)	0	55	31
Volume Right (vph)	24	0	65
Hadj (s)	-0.04	0.03	-0.34
Departure Headway (s)	4.4	4.5	4.8
Degree Utilization, x	0.30	0.39	0.13
Capacity (veh/h)	784	783	674
Control Delay (s)	9.4	10.2	8.5
Approach Delay (s)	9.4	10.2	8.5
Approach LOS	A	B	A

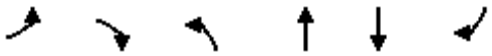
Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	127	418	656	74	48	201
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	131	431	676	76	49	207
Pedestrians					2	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	755				1194	378
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	424				916	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				76	78
cM capacity (veh/h)	997				208	949

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	131	215	215	451	302	257
Volume Left	131	0	0	0	0	49
Volume Right	0	0	0	0	76	207
cSH	997	1700	1700	1700	1700	563
Volume to Capacity	0.13	0.13	0.13	0.27	0.18	0.46
Queue Length 95th (m)	3.4	0.0	0.0	0.0	0.0	18.0
Control Delay (s)	9.2	0.0	0.0	0.0	0.0	16.6
Lane LOS	A					C
Approach Delay (s)	2.1			0.0		16.6
Approach LOS						C

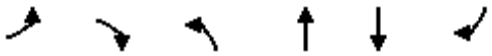
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	22	141	78	74	128	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	153	85	80	139	4
Pedestrians	7			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	398	149	150			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398	149	150			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	83	94			
cM capacity (veh/h)	572	894	1435			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	177	165	143
Volume Left	24	85	0
Volume Right	153	0	4
cSH	831	1435	1700
Volume to Capacity	0.21	0.06	0.08
Queue Length 95th (m)	6.1	1.4	0.0
Control Delay (s)	10.5	4.2	0.0
Lane LOS	B	A	
Approach Delay (s)	10.5	4.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	36	57	42	52	76	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	39	61	45	56	82	32
Pedestrians	1			3		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	245	102	115			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	245	102	115			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	97			
cM capacity (veh/h)	724	956	1485			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	100	101	114
Volume Left	39	45	0
Volume Right	61	0	32
cSH	850	1485	1700
Volume to Capacity	0.12	0.03	0.07
Queue Length 95th (m)	3.0	0.7	0.0
Control Delay (s)	9.8	3.5	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	3.5	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	213	119	31	216	122	56
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	237	132	34	240	136	62
Pedestrians	2			8	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			372		617	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			325		580	265
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		69	92
cM capacity (veh/h)			1193		441	741

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	369	274	198
Volume Left	0	34	136
Volume Right	132	0	62
cSH	1700	1193	505
Volume to Capacity	0.22	0.03	0.39
Queue Length 95th (m)	0.0	0.7	14.0
Control Delay (s)	0.0	1.3	16.6
Lane LOS		A	C
Approach Delay (s)	0.0	1.3	16.6
Approach LOS			C

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	30	61	710	68	104	732
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	66	763	73	112	787
Pedestrians	10		1			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.95	0.95			0.95	
vC, conflicting volume	1428	428			847	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1109	294			734	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	90			86	
cM capacity (veh/h)	168	665			823	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	98	509	328	112	394	394
Volume Left	32	0	0	112	0	0
Volume Right	66	0	73	0	0	0
cSH	337	1700	1700	823	1700	1700
Volume to Capacity	0.29	0.30	0.19	0.14	0.23	0.23
Queue Length 95th (m)	9.0	0.0	0.0	3.6	0.0	0.0
Control Delay (s)	20.0	0.0	0.0	10.1	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	20.0	0.0		1.3		
Approach LOS	C					

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

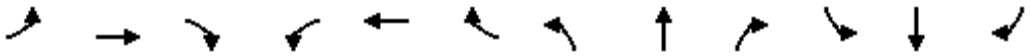


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	87	668	91	88	662
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	726	99	96	720
Pedestrians	18					6
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	2					1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.93	0.92			0.92	
vC, conflicting volume	1345	436			843	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1086	202			646	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			89	
cM capacity (veh/h)	174	728			857	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	95	484	341	96	360	360
Volume Left	0	0	0	96	0	0
Volume Right	95	0	99	0	0	0
cSH	728	1700	1700	857	1700	1700
Volume to Capacity	0.13	0.28	0.20	0.11	0.21	0.21
Queue Length 95th (m)	3.4	0.0	0.0	2.9	0.0	0.0
Control Delay (s)	10.7	0.0	0.0	9.7	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	10.7	0.0		1.1		
Approach LOS	B					

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix B
2019 Background Traffic Operations

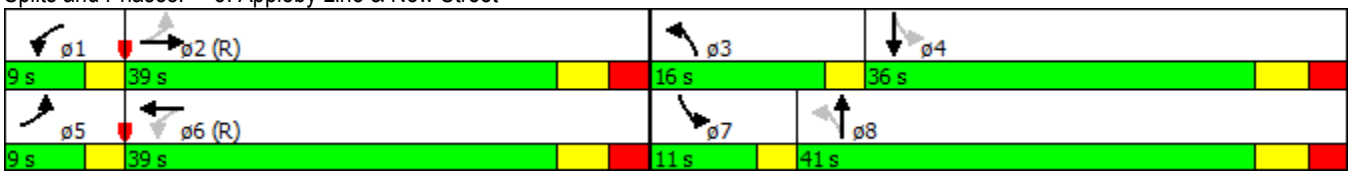


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	235	697	71	40	540	83	88	431	46	310	211	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00		0.98	1.00		0.99	0.99	
Frt		0.986			0.980			0.985			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3420	0	1616	3295	0	1646	3476	0	1616	3068	0
Flt Permitted	0.246			0.204			0.550			0.388		
Satd. Flow (perm)	432	3420	0	347	3295	0	936	3476	0	655	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			18			12			70	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	15		4	4		15	27		13	13		27
Confl. Bikes (#/hr)			2			1			4			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	8%	7%	7%	6%	2%	2%	8%	12%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	844	0	44	684	0	97	525	0	341	334	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	9.0	39.0		9.0	39.0		16.0	41.0		11.0	36.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	43.2	35.6		42.0	32.0		46.6	34.0		45.5	35.1	
Actuated g/C Ratio	0.43	0.36		0.42	0.32		0.47	0.34		0.46	0.35	
v/c Ratio	0.99	0.69		0.20	0.64		0.19	0.44		0.91	0.30	
Control Delay	79.1	31.5		17.9	31.6		15.0	26.4		52.4	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.1	31.5		17.9	31.6		15.0	26.4		52.4	20.2	
LOS	E	C		B	C		B	C		D	C	
Approach Delay		42.7			30.8			24.7			36.5	
Approach LOS		D			C			C			D	
Queue Length 50th (m)	~32.0	76.1		4.7	57.7		9.8	40.2		41.1	19.4	
Queue Length 95th (m)	#78.8	98.7		10.8	76.7		18.6	54.8		#93.5	32.0	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	261	1224		221	1066		550	1189		374	1123	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.99	0.69		0.20	0.64		0.18	0.44		0.91	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 35.0		Intersection LOS: C	
Intersection Capacity Utilization 96.0%		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: 3: Appleby Line & New Street

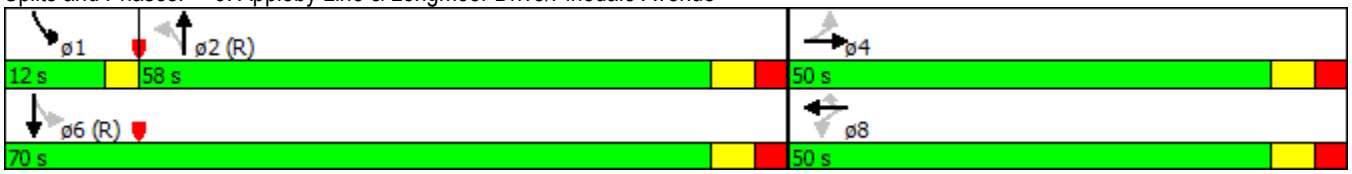


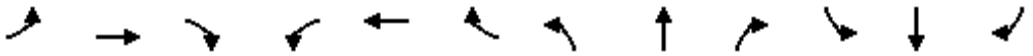
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	31	46	10	20	269	26	808	18	136	597	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		0.99	1.00	
Frt		0.955				0.850		0.997			0.996	
Flt Protected		0.978			0.984		0.950			0.950		
Satd. Flow (prot)	0	1667	0	0	1700	1551	1491	3493	0	1631	3257	0
Flt Permitted		0.842			0.873		0.411			0.294		
Satd. Flow (perm)	0	1432	0	0	1499	1525	640	3493	0	502	3257	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				227		2			4	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		4.7			8.0			7.9			7.5	
Confl. Peds. (#/hr)	4		21	21		4	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	7%	10%	10%	3%	17%	3%	0%	7%	10%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	31	277	27	852	0	140	634	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	58.0	58.0		12.0	70.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		15.4			15.4	15.4	79.5	79.5		94.6	90.6	
Actuated g/C Ratio		0.13			0.13	0.13	0.66	0.66		0.79	0.76	
v/c Ratio		0.70			0.16	0.70	0.06	0.37		0.30	0.26	
Control Delay		58.8			45.7	20.7	9.7	10.4		5.2	5.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.8			45.7	20.7	9.7	10.4		5.2	5.2	
LOS		E			D	C	A	B		A	A	
Approach Delay		58.8			23.2			10.4			5.2	
Approach LOS		E			C			B			A	
Queue Length 50th (m)		27.2			6.6	10.8	2.0	42.7		6.3	20.3	
Queue Length 95th (m)		45.7			14.8	36.7	7.0	69.1		14.5	34.4	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		527			537	692	424	2315		483	2459	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.27			0.06	0.40	0.06	0.37		0.29	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	1036	0	1	620	65	1	1	1	81	0	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99			1.00	0.99			0.99		1.00	0.98	
Frt					0.986			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1601	3438	0	1745	3280	0	0	1778	0	1678	1512	0
Flt Permitted	0.306			0.216				0.871		0.756		
Satd. Flow (perm)	509	3438	0	396	3280	0	0	1571	0	1334	1512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					17			1			306	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	36			8		36	4		1	1		4
Confl. Bikes (#/hr)						6						1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	5%	0%	0%	8%	5%	0%	0%	0%	4%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1248	0	1	825	0	0	3	0	98	46	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	52.0	50.2		44.8	44.8			10.2		11.0	11.0	
Actuated g/C Ratio	0.74	0.72		0.64	0.64			0.15		0.16	0.16	
v/c Ratio	0.06	0.51		0.00	0.39			0.01		0.47	0.09	
Control Delay	4.2	7.2		11.0	10.0			21.5		33.7	0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.2	7.2		11.0	10.0			21.5		33.7	0.4	
LOS	A	A		B	A			C		C	A	
Approach Delay		7.1			10.0			21.5			23.1	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	0.9	37.9		0.1	23.1			0.3		12.0	0.0	
Queue Length 95th (m)	3.4	56.7		0.8	50.5			1.9		21.2	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	503	2467		253	2107			427		381	650	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.06	0.51		0.00	0.39			0.01		0.26	0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

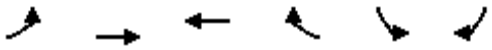




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	120	15	90	178	20	39
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	133	17	100	198	22	43

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	150	298	66
Volume Left (vph)	0	100	22
Volume Right (vph)	17	0	43
Hadj (s)	-0.03	0.10	-0.29
Departure Headway (s)	4.3	4.3	4.6
Degree Utilization, x	0.18	0.36	0.08
Capacity (veh/h)	805	810	714
Control Delay (s)	8.3	9.7	8.0
Approach Delay (s)	8.3	9.7	8.0
Approach LOS	A	A	A

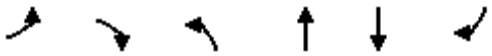
Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	19	1039	641	22	18	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	23	1237	763	26	21	26
Pedestrians					11	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.88				0.86	0.88
vC, conflicting volume	800				1451	406
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496				553	47
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				94	97
cM capacity (veh/h)	939				387	887

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	23	618	618	509	281	48
Volume Left	23	0	0	0	0	21
Volume Right	0	0	0	0	26	26
cSH	939	1700	1700	1700	1700	561
Volume to Capacity	0.02	0.36	0.36	0.30	0.17	0.08
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	2.1
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	12.0
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		12.0
Approach LOS						B

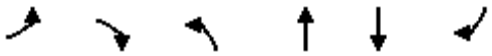
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	25	27	63	103	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	7	30	33	77	126	4
Pedestrians	3			6	6	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	279	136	132			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	279	136	132			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	97	98			
cM capacity (veh/h)	693	890	1437			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	110	129
Volume Left	7	33	0
Volume Right	30	0	4
cSH	843	1437	1700
Volume to Capacity	0.04	0.02	0.08
Queue Length 95th (m)	1.1	0.5	0.0
Control Delay (s)	9.5	2.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.5	2.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	7	10	14	56	89	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	9	13	18	73	116	12
Pedestrians				6		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	231	127	127			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	231	127	127			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	99	99	99			
cM capacity (veh/h)	752	923	1388			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	22	91	127
Volume Left	9	18	0
Volume Right	13	0	12
cSH	844	1388	1700
Volume to Capacity	0.03	0.01	0.07
Queue Length 95th (m)	0.6	0.3	0.0
Control Delay (s)	9.4	1.6	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	1.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	22.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	134	36	16	283	20	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	140	38	17	295	21	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			1.00		1.00	1.00
vC, conflicting volume			177		486	158
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			172		483	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		96	99
cM capacity (veh/h)			1412		529	895

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	177	311	28
Volume Left	0	17	21
Volume Right	38	0	7
cSH	1700	1412	592
Volume to Capacity	0.10	0.01	0.05
Queue Length 95th (m)	0.0	0.3	1.1
Control Delay (s)	0.0	0.5	11.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.4
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	22	788	10	34	629
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	23	821	10	35	655
Pedestrians	4					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.93	0.91			0.91	
vC, conflicting volume	1228	420			835	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	883	168			624	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	97			96	
cM capacity (veh/h)	258	774			859	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	547	284	35	328	328
Volume Left	5	0	0	35	0	0
Volume Right	23	0	10	0	0	0
cSH	565	1700	1700	859	1700	1700
Volume to Capacity	0.05	0.32	0.17	0.04	0.19	0.19
Queue Length 95th (m)	1.2	0.0	0.0	1.0	0.0	0.0
Control Delay (s)	11.7	0.0	0.0	9.4	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.7	0.0		0.5		
Approach LOS	B					

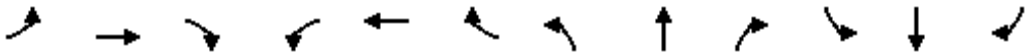
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	35	749	44	30	595
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	1	36	780	46	31	620
Pedestrians	3					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.90	0.89			0.89	
vC, conflicting volume	1179	416			829	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	883	107			569	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			97	
cM capacity (veh/h)	252	823			903	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	520	306	31	310	310
Volume Left	1	0	0	31	0	0
Volume Right	36	0	46	0	0	0
cSH	774	1700	1700	903	1700	1700
Volume to Capacity	0.05	0.31	0.18	0.03	0.18	0.18
Queue Length 95th (m)	1.2	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	9.9	0.0	0.0	9.1	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.9	0.0		0.4		
Approach LOS	A					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

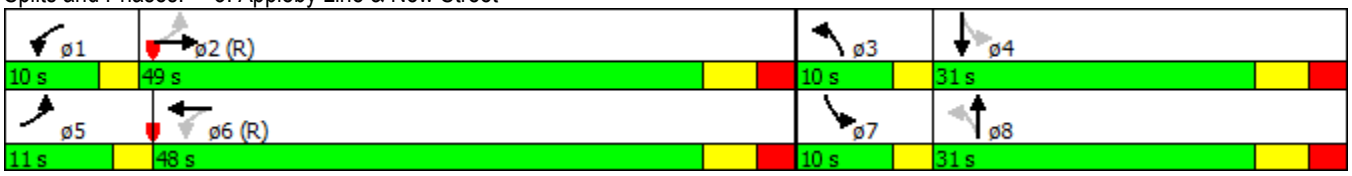


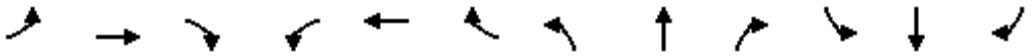
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	410	59	136	1180	145	116	316	60	236	412	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	0.99		0.98	0.98	
Frt		0.981			0.984			0.976			0.933	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3459	0	1745	3487	0	1728	3386	0	1745	3269	0
Flt Permitted	0.095			0.466			0.167			0.470		
Satd. Flow (perm)	168	3459	0	849	3487	0	302	3386	0	850	3269	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			16			21			190	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	27		17	17		27	16		24	24		16
Confl. Bikes (#/hr)			1			1			3			5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	2%	2%	0%	1%	5%	1%	4%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	474	0	137	1338	0	117	380	0	238	750	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	49.0		10.0	48.0		10.0	31.0		10.0	31.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	54.1	42.1		51.9	41.0		34.9	24.0		35.1	24.1	
Actuated g/C Ratio	0.54	0.42		0.52	0.41		0.35	0.24		0.35	0.24	
v/c Ratio	0.98	0.32		0.27	0.93		0.57	0.46		0.66	0.81	
Control Delay	79.1	19.3		3.7	26.2		32.8	32.7		34.1	34.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.1	19.3		3.7	26.2		32.8	32.7		34.1	34.3	
LOS	E	B		A	C		C	C		C	C	
Approach Delay		37.4			24.1			32.7			34.3	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	24.1	30.3		2.1	126.3		14.9	31.3		32.6	54.8	
Queue Length 95th (m)	#68.6	42.1		m3.1	#167.1		27.1	45.1		52.0	77.0	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	211	1466		504	1439		205	828		360	930	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.98	0.32		0.27	0.93		0.57	0.46		0.66	0.81	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 101.9%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Appleby Line & New Street





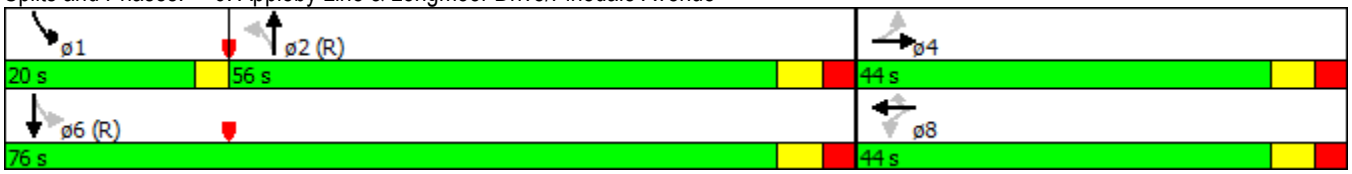
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	35	52	48	48	217	55	678	33	360	1137	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.99	0.98	0.99	1.00		0.98	1.00	
Frt		0.936				0.850		0.993			0.993	
Flt Protected		0.990			0.976		0.950			0.950		
Satd. Flow (prot)	0	1690	0	0	1836	1581	1745	3503	0	1678	3540	0
Flt Permitted		0.905			0.737		0.231			0.337		
Satd. Flow (perm)	0	1542	0	0	1366	1547	422	3503	0	585	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				221		5			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		3.7			6.4			7.9			7.5	
Confl. Peds. (#/hr)	9		32	32		9	12		26	26		12
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	0%	2%	0%	1%	0%	2%	0%	4%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	98	221	56	726	0	367	1218	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	44.0	44.0		44.0	44.0	44.0	56.0	56.0		20.0	76.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		13.5			13.5	13.5	75.5	75.5		96.5	92.5	
Actuated g/C Ratio		0.11			0.11	0.11	0.63	0.63		0.80	0.77	
v/c Ratio		0.53			0.64	0.60	0.21	0.33		0.61	0.45	
Control Delay		40.6			68.8	13.1	15.0	12.0		8.1	5.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		40.6			68.8	13.1	15.0	12.0		8.1	5.7	
LOS		D			E	B	B	B		A	A	
Approach Delay		40.6			30.2			12.2			6.3	
Approach LOS		D			C			B			A	
Queue Length 50th (m)		15.9			22.5	0.0	5.1	37.6		17.1	43.4	
Queue Length 95th (m)		32.3			38.2	21.3	16.3	65.6		34.3	69.0	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		503			421	629	265	2206		631	2731	

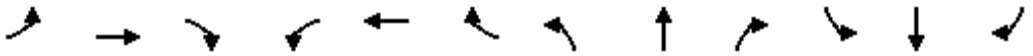
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.22			0.23	0.35	0.21	0.33		0.58	0.45	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





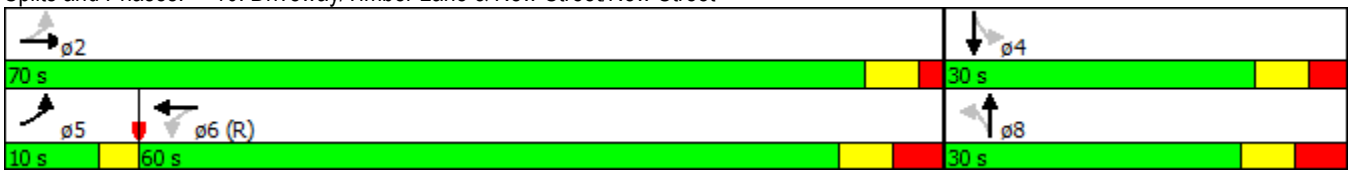
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	603	0	0	1309	151	0	0	0	172	0	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99					0.99	0.97	
Frt					0.984						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1745	3574	0	1837	3465	0	0	1900	0	1745	1571	0
Flt Permitted	0.103									0.757		
Satd. Flow (perm)	189	3574	0	1837	3465	0	0	1900	0	1377	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					18						156	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	19					19				6		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	615	0	0	1490	0	0	0	0	176	84	0
Turn Type	pm+pt	NA		Perm	NA					Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	10.0	70.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	72.5	69.5			59.9					17.5	17.5	
Actuated g/C Ratio	0.72	0.70			0.60					0.18	0.18	
v/c Ratio	0.22	0.25			0.72					0.73	0.21	
Control Delay	8.3	4.2			18.1					56.0	1.2	
Queue Delay	0.0	0.0			0.0					0.0	0.0	
Total Delay	8.3	4.2			18.1					56.0	1.2	
LOS	A	A			B					E	A	
Approach Delay		4.6			18.1						38.3	
Approach LOS		A			B						D	
Queue Length 50th (m)	1.5	11.6			104.0					32.4	0.0	
Queue Length 95th (m)	m6.7	21.8			151.0					51.8	0.2	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	245	2483			2081					316	481	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.21	0.25			0.72					0.56	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 28 (28%), Referenced to phase 6:WBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.5 Intersection LOS: B
Intersection Capacity Utilization 65.0% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

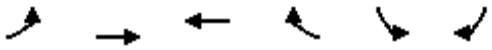




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	297	20	50	209	52	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	330	22	56	232	58	79

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	352	288	137
Volume Left (vph)	0	56	58
Volume Right (vph)	22	0	79
Hadj (s)	-0.01	0.11	-0.25
Departure Headway (s)	4.6	4.8	5.1
Degree Utilization, x	0.45	0.38	0.19
Capacity (veh/h)	747	721	622
Control Delay (s)	11.4	10.7	9.4
Approach Delay (s)	11.4	10.7	9.4
Approach LOS	B	B	A

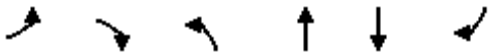
Intersection Summary			
Delay	10.8		
Level of Service	B		
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	64	636	1298	104	18	157
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	67	662	1352	108	19	164
Pedestrians		1			9	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.69				0.73	0.69
vC, conflicting volume	1469				1880	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	796				1059	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				87	78
cM capacity (veh/h)	575				142	751

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	67	331	331	901	559	182
Volume Left	67	0	0	0	0	19
Volume Right	0	0	0	0	108	164
cSH	575	1700	1700	1700	1700	521
Volume to Capacity	0.12	0.19	0.19	0.53	0.33	0.35
Queue Length 95th (m)	3.0	0.0	0.0	0.0	0.0	11.8
Control Delay (s)	12.1	0.0	0.0	0.0	0.0	15.6
Lane LOS	B					C
Approach Delay (s)	1.1			0.0		15.6
Approach LOS						C

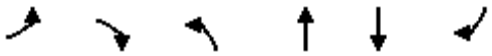
Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	23	136	86	98	117	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	143	91	103	123	9
Pedestrians				2		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	412	130	133			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412	130	133			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	85	94			
cM capacity (veh/h)	563	924	1465			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	167	194	133
Volume Left	24	91	0
Volume Right	143	0	9
cSH	845	1465	1700
Volume to Capacity	0.20	0.06	0.08
Queue Length 95th (m)	5.6	1.5	0.0
Control Delay (s)	10.3	3.8	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	3.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		5.0	
Intersection Capacity Utilization		36.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	34	52	30	91	76	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	37	57	33	100	84	27
Pedestrians	2			5	2	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	267	104	113			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	267	104	113			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	98			
cM capacity (veh/h)	708	950	1487			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	95	133	111
Volume Left	37	33	0
Volume Right	57	0	27
cSH	837	1487	1700
Volume to Capacity	0.11	0.02	0.07
Queue Length 95th (m)	2.9	0.5	0.0
Control Delay (s)	9.8	2.0	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	2.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	266	126	31	195	114	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	302	143	35	222	130	62
Pedestrians	7				14	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.94		0.94	0.94
vC, conflicting volume			459		687	388
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			395		637	319
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		67	91
cM capacity (veh/h)			1093		398	676

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	445	257	192
Volume Left	0	35	130
Volume Right	143	0	62
cSH	1700	1093	460
Volume to Capacity	0.26	0.03	0.42
Queue Length 95th (m)	0.0	0.8	15.4
Control Delay (s)	0.0	1.4	18.3
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	18.3
Approach LOS			C

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	22	51	644	46	117	1126
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	23	53	664	47	121	1161
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.90	0.97			0.97	
vC, conflicting volume	1525	372			727	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1208	286			653	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	92			87	
cM capacity (veh/h)	138	685			895	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	443	269	121	580	580
Volume Left	23	0	0	121	0	0
Volume Right	53	0	47	0	0	0
cSH	311	1700	1700	895	1700	1700
Volume to Capacity	0.24	0.26	0.16	0.13	0.34	0.34
Queue Length 95th (m)	7.0	0.0	0.0	3.5	0.0	0.0
Control Delay (s)	20.2	0.0	0.0	9.6	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	20.2	0.0		0.9		
Approach LOS	C					

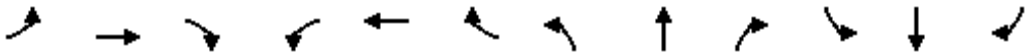
Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	1	93	569	100	81	1021
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	1	96	587	103	84	1053
Pedestrians	17		2			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.95	0.92			0.92	
vC, conflicting volume	1350	362			707	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	135			510	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			91	
cM capacity (veh/h)	244	813			968	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	97	391	299	84	526	526
Volume Left	1	0	0	84	0	0
Volume Right	96	0	103	0	0	0
cSH	793	1700	1700	968	1700	1700
Volume to Capacity	0.12	0.23	0.18	0.09	0.31	0.31
Queue Length 95th (m)	3.2	0.0	0.0	2.1	0.0	0.0
Control Delay (s)	10.2	0.0	0.0	9.1	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	10.2	0.0		0.7		
Approach LOS	B					

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

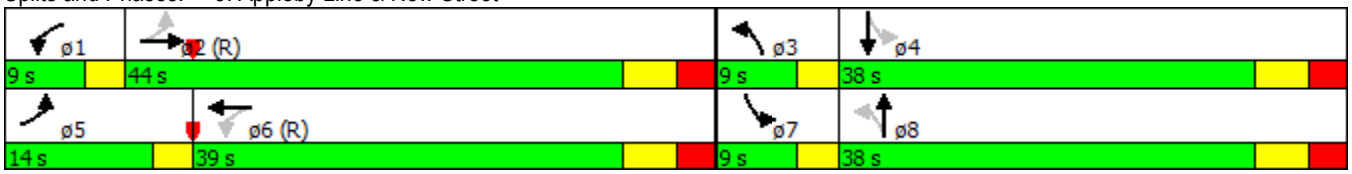


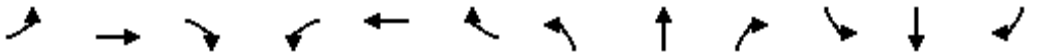
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	374	65	89	636	180	94	413	64	211	311	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	1.00		0.99	0.99	
Frt		0.978			0.967			0.980			0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3453	0	1745	3391	0	1745	3462	0	1745	3298	0
Flt Permitted	0.158			0.491			0.376			0.390		
Satd. Flow (perm)	288	3453	0	900	3391	0	685	3462	0	710	3298	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			38			18			191	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	29		3	3		29	17		16	16		17
Confl. Bikes (#/hr)			2			4			5			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	453	0	92	842	0	97	492	0	218	555	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	14.0	44.0		9.0	39.0		9.0	38.0		9.0	38.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	50.0	38.8		42.2	32.2		41.0	31.0		41.6	32.8	
Actuated g/C Ratio	0.50	0.39		0.42	0.32		0.41	0.31		0.42	0.33	
v/c Ratio	0.79	0.33		0.21	0.75		0.28	0.45		0.61	0.46	
Control Delay	35.9	21.8		14.9	34.1		19.0	28.3		28.1	18.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.9	21.8		14.9	34.1		19.0	28.3		28.1	18.8	
LOS	D	C		B	C		B	C		C	B	
Approach Delay		26.7			32.2			26.7			21.4	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	25.6	31.2		9.0	73.3		10.9	38.5		26.3	29.1	
Queue Length 95th (m)	#57.3	43.8		17.3	95.7		20.6	53.3		42.6	44.6	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	304	1353		430	1117		344	1085		357	1210	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.33		0.21	0.75		0.28	0.45		0.61	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 27.0		Intersection LOS: C	
Intersection Capacity Utilization 90.3%		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: 3: Appleby Line & New Street



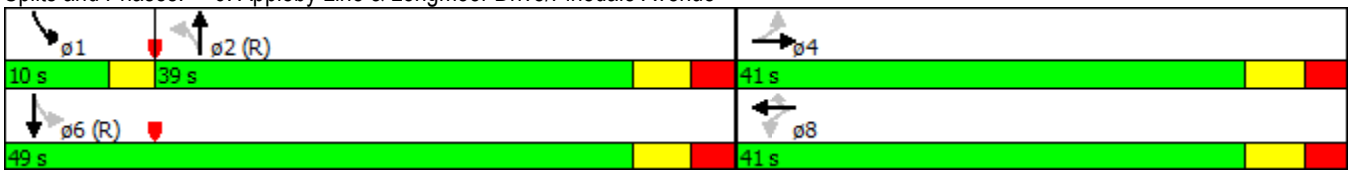


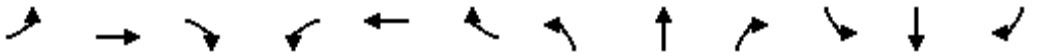
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	36	34	38	40	270	40	841	23	273	842	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		1.00	1.00	
Frt		0.951				0.850		0.996			0.992	
Flt Protected		0.988			0.976		0.950			0.950		
Satd. Flow (prot)	0	1743	0	0	1854	1581	1694	3557	0	1728	3538	0
Flt Permitted		0.889			0.834		0.300			0.209		
Satd. Flow (perm)	0	1567	0	0	1570	1556	530	3557	0	379	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				223		3			8	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		4.7			8.0			7.9			7.5	
Confl. Peds. (#/hr)	3		25	25		3	17		8	8		17
Confl. Bikes (#/hr)			2			3			2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	0%	1%	3%	1%	0%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	84	290	43	929	0	294	954	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	41.0	41.0		41.0	41.0	41.0	39.0	39.0		10.0	49.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		12.3			12.3	12.3	41.3	41.3		67.7	63.7	
Actuated g/C Ratio		0.14			0.14	0.14	0.46	0.46		0.75	0.71	
v/c Ratio		0.41			0.39	0.72	0.18	0.57		0.51	0.38	
Control Delay		27.1			39.2	19.9	18.8	20.3		8.3	6.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		27.1			39.2	19.9	18.8	20.3		8.3	6.3	
LOS		C			D	B	B	C		A	A	
Approach Delay		27.1			24.2			20.2			6.8	
Approach LOS		C			C			C			A	
Queue Length 50th (m)		10.4			13.9	10.9	3.8	53.4		10.6	26.1	
Queue Length 95th (m)		22.1			24.1	32.5	13.4	93.1		34.0	52.9	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		615			593	726	242	1633		576	2506	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.16			0.14	0.40	0.18	0.57		0.51	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	509	0	1	723	140	1	0	0	170	0	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00	0.99			0.99		0.99	0.99	
Frt					0.976						0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1745	3574	0	1745	3442	0	0	1805	0	1745	1545	0
Flt Permitted	0.239			0.448				0.702		0.757		
Satd. Flow (perm)	438	3574	0	822	3442	0	0	1317	0	1373	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					35						309	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	11			2		11	13			11		2
Confl. Bikes (#/hr)						5						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	547	0	1	928	0	0	1	0	183	84	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	45.5	42.5		34.7	34.7			13.5		14.5	14.5	
Actuated g/C Ratio	0.65	0.61		0.50	0.50			0.19		0.21	0.21	
v/c Ratio	0.10	0.25		0.00	0.54			0.00		0.64	0.15	
Control Delay	6.2	7.4		14.0	15.2			20.0		35.3	0.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	6.2	7.4		14.0	15.2			20.0		35.3	0.6	
LOS	A	A		B	B			B		D	A	
Approach Delay		7.3			15.2			20.0			24.4	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	1.7	15.4		0.1	43.8			0.1		22.1	0.0	
Queue Length 95th (m)	5.7	28.1		1.0	73.5			1.2		37.1	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	434	2169		407	1725			357		392	662	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.09	0.25		0.00	0.54			0.00		0.47	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 51.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

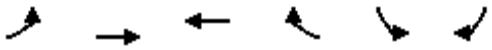




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	207	22	51	241	29	60
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	223	24	55	259	31	65

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	246	314	96
Volume Left (vph)	0	55	31
Volume Right (vph)	24	0	65
Hadj (s)	-0.04	0.03	-0.34
Departure Headway (s)	4.4	4.5	4.8
Degree Utilization, x	0.30	0.39	0.13
Capacity (veh/h)	784	783	674
Control Delay (s)	9.4	10.2	8.5
Approach Delay (s)	9.4	10.2	8.5
Approach LOS	A	B	A

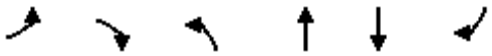
Intersection Summary			
Delay	9.7		
Level of Service	A		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	462	724	82	48	201
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	144	476	746	85	49	207
Pedestrians					2	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.84				0.85	0.84
vC, conflicting volume	833				1317	417
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	416				935	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				74	77
cM capacity (veh/h)	966				192	913

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	144	238	238	498	333	257
Volume Left	144	0	0	0	0	49
Volume Right	0	0	0	0	85	207
cSH	966	1700	1700	1700	1700	530
Volume to Capacity	0.15	0.14	0.14	0.29	0.20	0.48
Queue Length 95th (m)	4.0	0.0	0.0	0.0	0.0	19.9
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	18.0
Lane LOS	A					C
Approach Delay (s)	2.2			0.0		18.0
Approach LOS						C

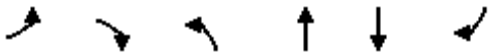
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	22	141	78	74	128	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	153	85	80	139	4
Pedestrians	7			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	398	149	150			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398	149	150			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	83	94			
cM capacity (veh/h)	572	894	1435			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	177	165	143
Volume Left	24	85	0
Volume Right	153	0	4
cSH	831	1435	1700
Volume to Capacity	0.21	0.06	0.08
Queue Length 95th (m)	6.1	1.4	0.0
Control Delay (s)	10.5	4.2	0.0
Lane LOS	B	A	
Approach Delay (s)	10.5	4.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	36	57	42	52	76	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	39	61	45	56	82	32
Pedestrians	1			3		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	245	102	115			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	245	102	115			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	97			
cM capacity (veh/h)	724	956	1485			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	100	101	114
Volume Left	39	45	0
Volume Right	61	0	32
cSH	850	1485	1700
Volume to Capacity	0.12	0.03	0.07
Queue Length 95th (m)	3.0	0.7	0.0
Control Delay (s)	9.8	3.5	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	3.5	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	213	119	31	216	122	56
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	237	132	34	240	136	62
Pedestrians	2			8	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			372		617	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			313		571	252
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		69	92
cM capacity (veh/h)			1193		442	745

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	369	274	198
Volume Left	0	34	136
Volume Right	132	0	62
cSH	1700	1193	507
Volume to Capacity	0.22	0.03	0.39
Queue Length 95th (m)	0.0	0.7	13.9
Control Delay (s)	0.0	1.3	16.6
Lane LOS		A	C
Approach Delay (s)	0.0	1.3	16.6
Approach LOS			C

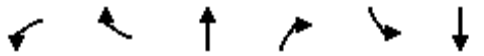
Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	30	61	784	75	115	808
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	66	843	81	124	869
Pedestrians	10		1			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.94	0.94			0.94	
vC, conflicting volume	1576	472			934	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185	303			796	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	90			84	
cM capacity (veh/h)	144	647			770	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	98	562	362	124	434	434
Volume Left	32	0	0	124	0	0
Volume Right	66	0	81	0	0	0
cSH	301	1700	1700	770	1700	1700
Volume to Capacity	0.32	0.33	0.21	0.16	0.26	0.26
Queue Length 95th (m)	10.4	0.0	0.0	4.3	0.0	0.0
Control Delay (s)	22.6	0.0	0.0	10.6	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	22.6	0.0		1.3		
Approach LOS	C					

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

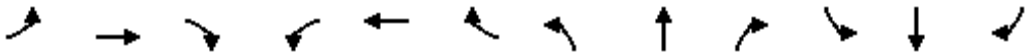


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	87	738	100	97	723
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	802	109	105	786
Pedestrians	18					6
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	2					1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.93	0.90			0.90	
vC, conflicting volume	1478	479			929	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1144	213			710	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			87	
cM capacity (veh/h)	155	708			800	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	95	535	376	105	393	393
Volume Left	0	0	0	105	0	0
Volume Right	95	0	109	0	0	0
cSH	708	1700	1700	800	1700	1700
Volume to Capacity	0.13	0.31	0.22	0.13	0.23	0.23
Queue Length 95th (m)	3.5	0.0	0.0	3.4	0.0	0.0
Control Delay (s)	10.9	0.0	0.0	10.2	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	10.9	0.0		1.2		
Approach LOS	B					

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix C
2019 Total Traffic Operations

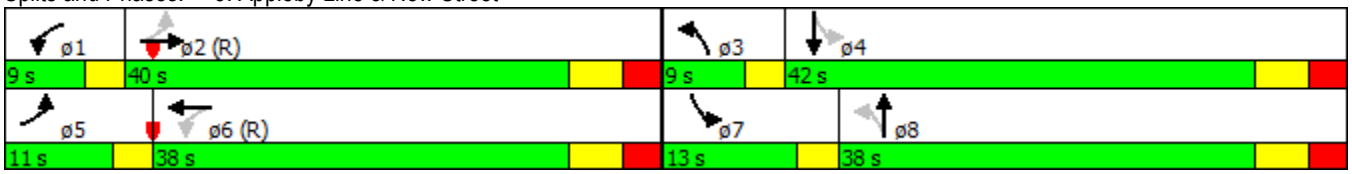


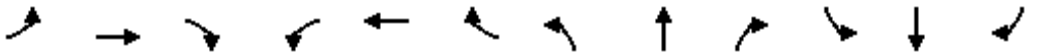
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	699	71	41	545	83	88	432	48	310	215	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00		0.98	1.00		0.99	0.98	
Frt		0.986			0.980			0.985			0.948	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3420	0	1616	3295	0	1646	3476	0	1616	3048	0
Flt Permitted	0.231			0.224			0.535			0.344		
Satd. Flow (perm)	406	3420	0	381	3295	0	910	3476	0	581	3048	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			17			12			110	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	15		4	4		15	27		13	13		27
Confl. Bikes (#/hr)			2			1			4			1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	4%	3%	8%	7%	7%	6%	2%	2%	8%	12%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	266	846	0	45	690	0	97	528	0	341	363	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	40.0		9.0	38.0		9.0	38.0		13.0	42.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	45.4	36.6		41.0	31.0		41.0	31.0		48.0	36.8	
Actuated g/C Ratio	0.45	0.37		0.41	0.31		0.41	0.31		0.48	0.37	
v/c Ratio	0.93	0.67		0.20	0.67		0.23	0.49		0.89	0.30	
Control Delay	61.4	30.4		17.3	33.0		16.2	29.2		47.3	16.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.4	30.4		17.3	33.0		16.2	29.2		47.3	16.7	
LOS	E	C		B	C		B	C		D	B	
Approach Delay		37.8			32.1			27.2			31.5	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	32.1	75.1		4.7	59.4		10.0	42.4		42.0	18.1	
Queue Length 95th (m)	#74.8	97.3		10.8	78.9		19.1	58.0		#88.0	29.4	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	286	1258		230	1033		417	1085		382	1191	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.93	0.67		0.20	0.67		0.23	0.49		0.89	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 96.4%		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: 3: Appleby Line & New Street



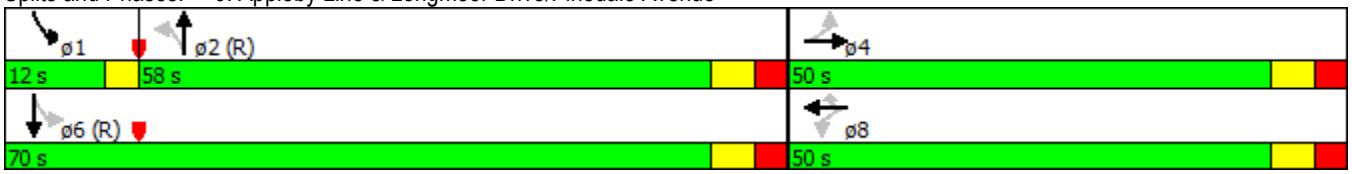


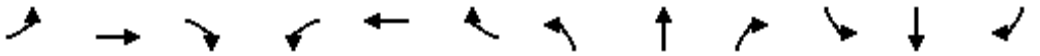
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	31	46	33	21	319	26	821	19	150	601	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		0.99	1.00	
Frt		0.955				0.850		0.997			0.996	
Flt Protected		0.978			0.971		0.950			0.950		
Satd. Flow (prot)	0	1667	0	0	1677	1551	1491	3493	0	1631	3257	0
Flt Permitted		0.830			0.695		0.409			0.285		
Satd. Flow (perm)	0	1412	0	0	1187	1525	637	3493	0	487	3257	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				224		2			4	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		4.7			8.0			7.9			7.5	
Confl. Peds. (#/hr)	4		21	21		4	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	7%	10%	10%	3%	17%	3%	0%	7%	10%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	56	329	27	866	0	155	639	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	50.0	50.0		50.0	50.0	50.0	58.0	58.0		12.0	70.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		17.1			17.1	17.1	77.3	77.3		92.9	88.9	
Actuated g/C Ratio		0.14			0.14	0.14	0.64	0.64		0.77	0.74	
v/c Ratio		0.65			0.33	0.80	0.07	0.38		0.34	0.26	
Control Delay		52.6			48.7	30.7	11.6	12.0		6.4	6.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		52.6			48.7	30.7	11.6	12.0		6.4	6.1	
LOS		D			D	C	B	B		A	A	
Approach Delay		52.6			33.4			12.0			6.1	
Approach LOS		D			C			B			A	
Queue Length 50th (m)		27.2			12.2	24.2	2.1	44.2		7.1	20.6	
Queue Length 95th (m)		43.1			22.3	52.2	8.1	81.1		19.0	40.6	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		520			425	690	410	2250		470	2414	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.27			0.13	0.48	0.07	0.38		0.33	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	1037	0	1	620	70	1	1	1	89	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99			1.00	0.99			0.99		1.00	0.98	
Frt					0.985			0.955			0.850	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1601	3438	0	1745	3276	0	0	1778	0	1678	1512	0
Flt Permitted	0.302			0.215				0.874		0.756		
Satd. Flow (perm)	502	3438	0	394	3276	0	0	1577	0	1334	1512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					19			1			306	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	36			8		36	4		1	1		4
Confl. Bikes (#/hr)						6						1
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	5%	0%	0%	8%	5%	0%	0%	0%	4%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	1249	0	1	831	0	0	3	0	107	48	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	51.7	49.9		44.4	44.4			10.5		11.3	11.3	
Actuated g/C Ratio	0.74	0.71		0.63	0.63			0.15		0.16	0.16	
v/c Ratio	0.07	0.51		0.00	0.40			0.01		0.50	0.10	
Control Delay	4.5	7.5		11.0	10.3			21.0		34.1	0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.5	7.5		11.0	10.3			21.0		34.1	0.4	
LOS	A	A		B	B			C		C	A	
Approach Delay		7.4			10.3			21.0			23.7	
Approach LOS		A			B			C			C	
Queue Length 50th (m)	1.1	39.0		0.1	23.9			0.3		13.0	0.0	
Queue Length 95th (m)	3.8	58.4		0.8	52.1			1.9		22.6	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	496	2450		250	2086			428		381	650	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.07	0.51		0.00	0.40			0.01		0.28	0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

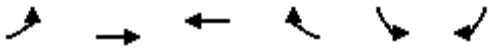




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	134	51	16	283	94	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	140	53	17	295	98	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.99		0.99	0.99
vC, conflicting volume			193		494	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			180		484	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		81	99
cM capacity (veh/h)			1394		525	890

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	193	311	105
Volume Left	0	17	98
Volume Right	53	0	7
cSH	1700	1394	540
Volume to Capacity	0.11	0.01	0.19
Queue Length 95th (m)	0.0	0.3	5.4
Control Delay (s)	0.0	0.5	13.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	13.3
Approach LOS			B

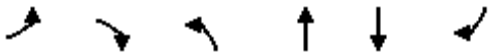
Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		40.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	1042	642	23	20	27
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	24	1240	764	27	24	32
Pedestrians					11	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.88				0.86	0.88
vC, conflicting volume	803				1457	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	491				558	39
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	96
cM capacity (veh/h)	939				386	894

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	24	620	620	510	282	56
Volume Left	24	0	0	0	0	24
Volume Right	0	0	0	0	27	32
cSH	939	1700	1700	1700	1700	573
Volume to Capacity	0.03	0.36	0.36	0.30	0.17	0.10
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	2.5
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	12.0
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		12.0
Approach LOS						B

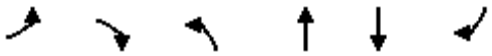
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	6	26	27	72	112	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	7	32	33	88	137	4
Pedestrians	3			6	6	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	301	147	143			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	301	147	143			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	99	96	98			
cM capacity (veh/h)	674	877	1424			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	39	121	140
Volume Left	7	33	0
Volume Right	32	0	4
cSH	830	1424	1700
Volume to Capacity	0.05	0.02	0.08
Queue Length 95th (m)	1.1	0.5	0.0
Control Delay (s)	9.6	2.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.6	2.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	9	19	23	56	89	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	12	25	30	73	116	13
Pedestrians				6		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				1		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	255	128	129			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	255	128	129			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	98	97	98			
cM capacity (veh/h)	723	923	1386			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	103	129
Volume Left	12	30	0
Volume Right	25	0	13
cSH	847	1386	1700
Volume to Capacity	0.04	0.02	0.08
Queue Length 95th (m)	1.0	0.5	0.0
Control Delay (s)	9.4	2.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.4	2.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	134	51	16	283	94	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	140	53	17	295	98	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.99		0.99	0.99
vC, conflicting volume			193		494	166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			180		484	153
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		81	99
cM capacity (veh/h)			1394		525	890

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	193	311	105
Volume Left	0	17	98
Volume Right	53	0	7
cSH	1700	1394	540
Volume to Capacity	0.11	0.01	0.19
Queue Length 95th (m)	0.0	0.3	5.4
Control Delay (s)	0.0	0.5	13.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	13.3
Approach LOS			B

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		40.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	36	788	16	39	651
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	38	821	17	41	678
Pedestrians	4					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.93	0.91			0.91	
vC, conflicting volume	1253	423			842	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882	153			616	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	95			95	
cM capacity (veh/h)	256	787			860	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	48	547	290	41	339	339
Volume Left	10	0	0	41	0	0
Volume Right	38	0	17	0	0	0
cSH	542	1700	1700	860	1700	1700
Volume to Capacity	0.09	0.32	0.17	0.05	0.20	0.20
Queue Length 95th (m)	2.2	0.0	0.0	1.1	0.0	0.0
Control Delay (s)	12.3	0.0	0.0	9.4	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	12.3	0.0		0.5		
Approach LOS	B					

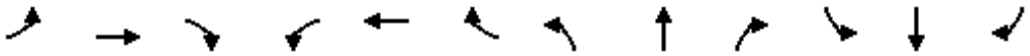
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	35	755	45	30	622
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	36	786	47	31	648
Pedestrians	3					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.90	0.89			0.89	
vC, conflicting volume	1199	420			836	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874	92			561	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			97	
cM capacity (veh/h)	254	836			903	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	36	524	309	31	324	324
Volume Left	0	0	0	31	0	0
Volume Right	36	0	47	0	0	0
cSH	836	1700	1700	903	1700	1700
Volume to Capacity	0.04	0.31	0.18	0.03	0.19	0.19
Queue Length 95th (m)	1.0	0.0	0.0	0.8	0.0	0.0
Control Delay (s)	9.5	0.0	0.0	9.1	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.5	0.0		0.4		
Approach LOS	A					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

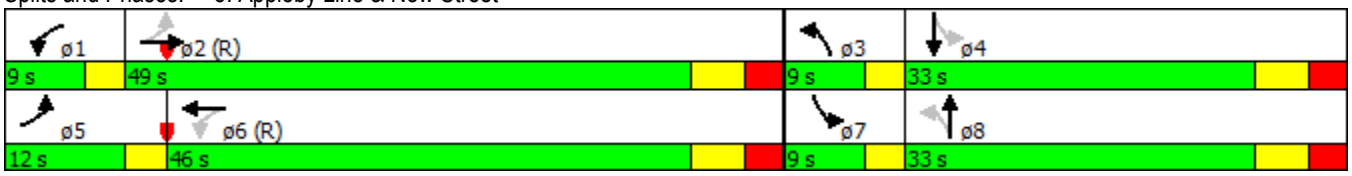


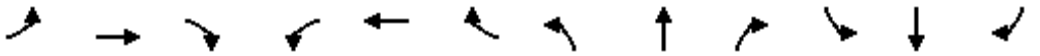
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	222	418	59	138	1178	145	116	320	64	236	418	351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	0.99		0.98	0.98	
Frt		0.981			0.984			0.975			0.931	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	3460	0	1745	3487	0	1728	3383	0	1745	3261	0
Flt Permitted	0.095			0.477			0.155			0.473		
Satd. Flow (perm)	168	3460	0	869	3487	0	281	3383	0	855	3261	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			15			23			170	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	27		17	17		27	16		24	24		16
Confl. Bikes (#/hr)			1			1			3			5
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	2%	2%	0%	1%	5%	1%	4%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	482	0	139	1336	0	117	388	0	238	777	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	12.0	49.0		9.0	46.0		9.0	33.0		9.0	33.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	55.0	42.0		49.0	39.0		36.0	26.0		36.0	26.0	
Actuated g/C Ratio	0.55	0.42		0.49	0.39		0.36	0.26		0.36	0.26	
v/c Ratio	0.98	0.33		0.29	0.98		0.63	0.43		0.66	0.80	
Control Delay	79.2	19.5		4.2	35.1		36.7	30.7		33.8	33.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.2	19.5		4.2	35.1		36.7	30.7		33.8	33.9	
LOS	E	B		A	D		D	C		C	C	
Approach Delay		38.4			32.2			32.1			33.9	
Approach LOS		D			C			C			C	
Queue Length 50th (m)	27.6	30.9		2.3	130.7		14.6	31.0		32.0	58.7	
Queue Length 95th (m)	#74.1	42.9		m3.3	#174.4		#29.6	44.5		51.0	81.2	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	228	1464		478	1369		187	896		361	973	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.98	0.33		0.29	0.98		0.63	0.43		0.66	0.80	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 33.8		Intersection LOS: C	
Intersection Capacity Utilization 102.8%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Appleby Line & New Street



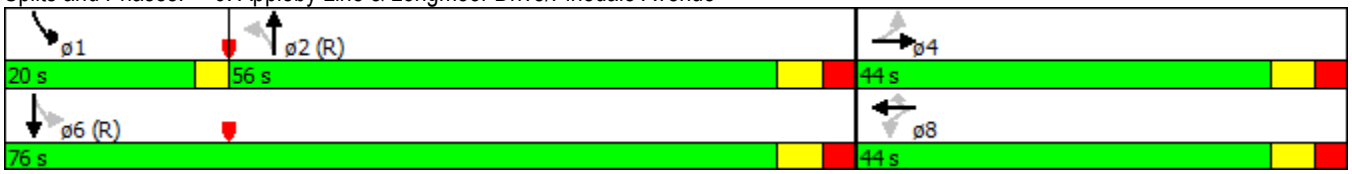


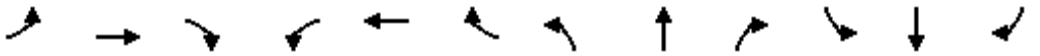
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	36	53	72	49	252	22	685	37	410	1147	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.98			0.98	0.98	0.99	1.00		0.98	1.00	
Frt		0.935				0.850		0.992			0.993	
Flt Protected		0.990			0.971		0.950			0.950		
Satd. Flow (prot)	0	1689	0	0	1823	1581	1745	3498	0	1678	3540	0
Flt Permitted		0.906			0.714		0.228			0.317		
Satd. Flow (perm)	0	1543	0	0	1317	1547	416	3498	0	551	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40				257		6			7	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		3.7			6.4			7.9			7.5	
Confl. Peds. (#/hr)	9		32	32		9	12		26	26		12
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	0%	2%	0%	1%	0%	2%	0%	4%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	0	0	123	257	22	737	0	418	1228	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	44.0	44.0		44.0	44.0	44.0	56.0	56.0		20.0	76.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		15.9			15.9	15.9	67.5	67.5		94.1	90.1	
Actuated g/C Ratio		0.13			0.13	0.13	0.56	0.56		0.78	0.75	
v/c Ratio		0.47			0.71	0.60	0.09	0.37		0.68	0.46	
Control Delay		36.3			70.5	11.5	17.9	16.8		10.5	6.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		36.3			70.5	11.5	17.9	16.8		10.5	6.8	
LOS		D			E	B	B	B		B	A	
Approach Delay		36.3			30.6			16.8			7.8	
Approach LOS		D			C			B			A	
Queue Length 50th (m)		15.9			28.2	0.0	2.2	46.4		23.2	49.1	
Queue Length 95th (m)		31.8			45.5	21.8	8.8	81.0		45.8	78.7	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		503			406	654	234	1971		622	2660	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.22			0.30	0.39	0.09	0.37		0.67	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: Appleby Line & Longmoor Drive/Pinedale Avenue



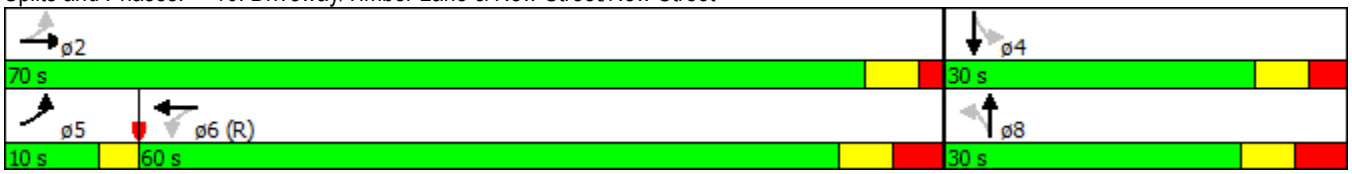


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	603	0	0	1306	169	0	0	0	187	0	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99					0.99	0.97	
Frt					0.983						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1745	3574	0	1837	3460	0	0	1900	0	1745	1571	0
Flt Permitted	0.097									0.757		
Satd. Flow (perm)	178	3574	0	1837	3460	0	0	1900	0	1377	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					21						157	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	19					19				6		10
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	615	0	0	1505	0	0	0	0	191	86	0
Turn Type	pm+pt	NA		Perm	NA					Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	10.0	70.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	71.7	68.7			58.9					18.3	18.3	
Actuated g/C Ratio	0.72	0.69			0.59					0.18	0.18	
v/c Ratio	0.28	0.25			0.74					0.76	0.21	
Control Delay	10.6	3.9			19.1					57.4	1.1	
Queue Delay	0.0	0.0			0.0					0.0	0.0	
Total Delay	10.6	3.9			19.1					57.4	1.1	
LOS	B	A			B					E	A	
Approach Delay		4.6			19.1						39.9	
Approach LOS		A			B						D	
Queue Length 50th (m)	2.0	12.1			109.4					35.2	0.0	
Queue Length 95th (m)	m8.8	17.3			153.7					56.1	0.5	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	237	2455			2047					316	482	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.27	0.25			0.74					0.60	0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 28 (28%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

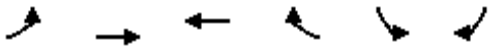




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	297	20	53	211	53	76
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	330	22	59	234	59	84

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	352	293	143
Volume Left (vph)	0	59	59
Volume Right (vph)	22	0	84
Hadj (s)	-0.01	0.11	-0.26
Departure Headway (s)	4.6	4.8	5.1
Degree Utilization, x	0.45	0.39	0.20
Capacity (veh/h)	742	717	622
Control Delay (s)	11.5	10.9	9.5
Approach Delay (s)	11.5	10.9	9.5
Approach LOS	B	B	A

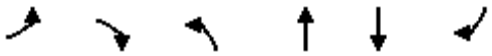
Intersection Summary			
Delay	10.9		
Level of Service	B		
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	66	647	1294	107	21	161
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	69	674	1348	111	22	168
Pedestrians		1			9	
Lane Width (m)		3.6			3.6	
Walking Speed (m/s)		1.2			1.2	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked	0.68				0.72	0.68
vC, conflicting volume	1468				1887	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	754				1023	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				85	77
cM capacity (veh/h)	586				147	738

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	69	337	337	899	561	190
Volume Left	69	0	0	0	0	22
Volume Right	0	0	0	0	111	168
cSH	586	1700	1700	1700	1700	504
Volume to Capacity	0.12	0.20	0.20	0.53	0.33	0.38
Queue Length 95th (m)	3.0	0.0	0.0	0.0	0.0	13.2
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	16.4
Lane LOS	B					C
Approach Delay (s)	1.1			0.0		16.4
Approach LOS						C

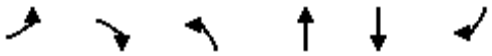
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	23	137	86	129	133	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	24	144	91	136	140	9
Pedestrians				2		
Lane Width (m)				3.6		
Walking Speed (m/s)				1.2		
Percent Blockage				0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	462	147	149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462	147	149			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	84	94			
cM capacity (veh/h)	527	904	1444			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	168	226	149
Volume Left	24	91	0
Volume Right	144	0	9
cSH	820	1444	1700
Volume to Capacity	0.21	0.06	0.09
Queue Length 95th (m)	5.8	1.5	0.0
Control Delay (s)	10.5	3.4	0.0
Lane LOS	B	A	
Approach Delay (s)	10.5	3.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	39	68	60	92	76	28
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	43	75	66	101	84	31
Pedestrians	2			5	2	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	336	106	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336	106	116			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	92	96			
cM capacity (veh/h)	632	948	1482			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	118	167	114
Volume Left	43	66	0
Volume Right	75	0	31
cSH	802	1482	1700
Volume to Capacity	0.15	0.04	0.07
Queue Length 95th (m)	3.9	1.1	0.0
Control Delay (s)	10.3	3.2	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	3.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	266	188	37	195	193	55
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	302	214	42	222	219	62
Pedestrians	7				14	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			530		736	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			446		670	330
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		41	90
cM capacity (veh/h)			1023		369	652

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	516	264	282
Volume Left	0	42	219
Volume Right	214	0	62
cSH	1700	1023	408
Volume to Capacity	0.30	0.04	0.69
Queue Length 95th (m)	0.0	1.0	38.5
Control Delay (s)	0.0	1.7	31.3
Lane LOS		A	D
Approach Delay (s)	0.0	1.7	31.3
Approach LOS			D

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	28	61	645	65	132	1146
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	29	63	665	67	136	1181
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.89	0.97			0.97	
vC, conflicting volume	1577	382			748	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1251	302			679	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	77	91			84	
cM capacity (veh/h)	124	670			877	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	92	443	289	136	591	591
Volume Left	29	0	0	136	0	0
Volume Right	63	0	67	0	0	0
cSH	281	1700	1700	877	1700	1700
Volume to Capacity	0.33	0.26	0.17	0.16	0.35	0.35
Queue Length 95th (m)	10.4	0.0	0.0	4.2	0.0	0.0
Control Delay (s)	23.9	0.0	0.0	9.9	0.0	0.0
Lane LOS	C			A		
Approach Delay (s)	23.9	0.0		1.0		
Approach LOS	C					

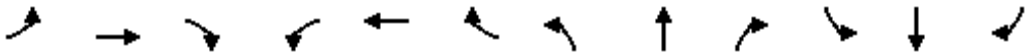
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	93	589	102	81	1047
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	96	607	105	84	1079
Pedestrians	17		2			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.94	0.92			0.92	
vC, conflicting volume	1385	373			729	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906	150			537	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			91	
cM capacity (veh/h)	235	796			947	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	96	405	308	84	540	540
Volume Left	0	0	0	84	0	0
Volume Right	96	0	105	0	0	0
cSH	796	1700	1700	947	1700	1700
Volume to Capacity	0.12	0.24	0.18	0.09	0.32	0.32
Queue Length 95th (m)	3.1	0.0	0.0	2.2	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	9.2	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	10.1	0.0		0.7		
Approach LOS	B					

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

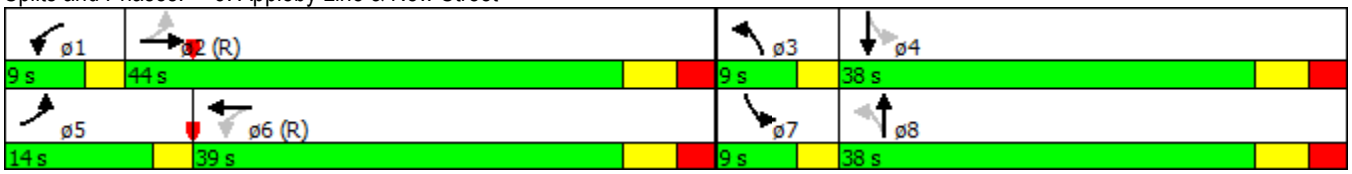


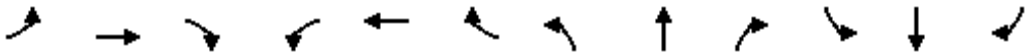
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	247	381	65	91	635	91	94	418	69	211	319	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	48.0		0.0	69.0		0.0	35.0		0.0	48.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	32.0			37.0			47.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	1.00		0.99	0.99	
Frt		0.978			0.981			0.979			0.934	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3453	0	1745	3454	0	1745	3458	0	1745	3286	0
Flt Permitted	0.206			0.487			0.350			0.383		
Satd. Flow (perm)	376	3453	0	893	3454	0	638	3458	0	698	3286	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			17			19			210	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		87.1			150.4			61.1			86.3	
Travel Time (s)		5.2			9.0			4.4			6.2	
Confl. Peds. (#/hr)	29		3	3		29	17		16	16		17
Confl. Bikes (#/hr)			2			4			5			2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	255	460	0	94	749	0	97	502	0	218	591	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Total Split (s)	14.0	44.0		9.0	39.0		9.0	38.0		9.0	38.0	
Total Lost Time (s)	3.0	7.0		3.0	7.0		3.0	7.0		3.0	7.0	
Act Effct Green (s)	50.0	38.8		42.2	32.2		41.0	31.0		41.6	32.8	
Actuated g/C Ratio	0.50	0.39		0.42	0.32		0.41	0.31		0.42	0.33	
v/c Ratio	0.76	0.34		0.22	0.67		0.30	0.46		0.62	0.49	
Control Delay	31.3	21.9		15.0	32.1		19.3	28.3		28.4	18.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.3	21.9		15.0	32.1		19.3	28.3		28.4	18.8	
LOS	C	C		B	C		B	C		C	B	
Approach Delay		25.3			30.2			26.9			21.4	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	27.8	31.8		9.3	64.2		10.9	39.4		26.3	30.8	
Queue Length 95th (m)	#51.1	44.5		17.6	84.3		20.6	54.3		42.6	47.0	
Internal Link Dist (m)		63.1			126.4			37.1			62.3	
Turn Bay Length (m)	48.0			69.0			35.0			48.0		
Base Capacity (vph)	338	1353		428	1122		328	1085		353	1218	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.75	0.34		0.22	0.67		0.30	0.46		0.62	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 55 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 91.2%		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: 3: Appleby Line & New Street





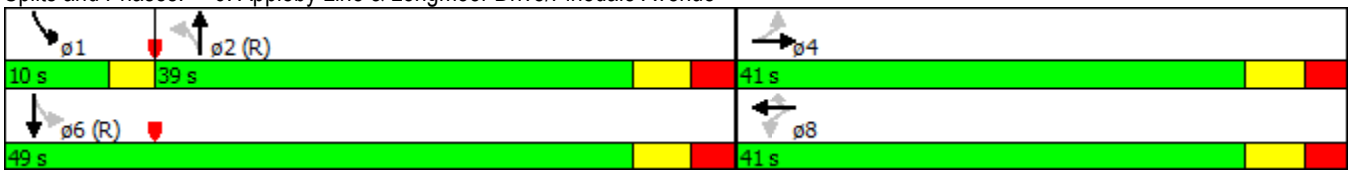
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	37	35	70	42	321	40	850	26	316	850	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.5	3.3	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	36.0		0.0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (m)	2.5			2.5			19.0			37.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99	0.98	0.99	1.00		1.00	1.00	
Frt		0.950				0.850		0.996			0.992	
Flt Protected		0.988			0.970		0.950			0.950		
Satd. Flow (prot)	0	1741	0	0	1843	1581	1694	3557	0	1728	3538	0
Flt Permitted		0.888			0.792		0.297			0.163		
Satd. Flow (perm)	0	1564	0	0	1488	1556	525	3557	0	296	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				222		4			8	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		51.7			89.4			109.6			104.6	
Travel Time (s)		3.7			6.4			7.9			7.5	
Confl. Peds. (#/hr)	3		25	25		3	17		8	8		17
Confl. Bikes (#/hr)			2			3			2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	0%	0%	0%	1%	3%	1%	0%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	120	345	43	942	0	340	963	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	41.0	41.0		41.0	41.0	41.0	39.0	39.0		10.0	49.0	
Total Lost Time (s)		7.0			7.0	7.0	7.0	7.0		3.0	7.0	
Act Effct Green (s)		15.3			15.3	15.3	34.2	34.2		64.7	60.7	
Actuated g/C Ratio		0.17			0.17	0.17	0.38	0.38		0.72	0.67	
v/c Ratio		0.35			0.47	0.77	0.22	0.70		0.58	0.40	
Control Delay		22.7			38.0	23.9	23.1	26.9		16.1	8.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		22.7			38.0	23.9	23.1	26.9		16.1	8.1	
LOS		C			D	C	C	C		B	A	
Approach Delay		22.7			27.6			26.8			10.2	
Approach LOS		C			C			C			B	
Queue Length 50th (m)		10.1			19.4	19.9	4.6	66.2		21.0	31.5	
Queue Length 95th (m)		20.5			30.4	42.9	13.6	95.8		#72.7	63.4	
Internal Link Dist (m)		27.7			65.4			85.6			80.6	
Turn Bay Length (m)							28.0			36.0		
Base Capacity (vph)		614			562	725	199	1355		585	2388	

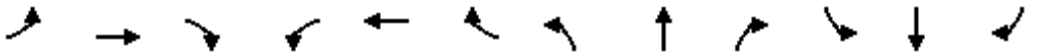
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			0	0	0	0		0	0	
Spillback Cap Reductn		0			0	0	0	0		0	0	
Storage Cap Reductn		0			0	0	0	0		0	0	
Reduced v/c Ratio		0.17			0.21	0.48	0.22	0.70		0.58	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 19.2		Intersection LOS: B	
Intersection Capacity Utilization 80.6%		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: 6: Appleby Line & Longmoor Drive/Pinedale Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	509	0	1	70	160	0	0	0	188	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.3	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	140.0		0.0	0.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	0.0			2.5			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99			1.00	0.97					0.99	0.99	
Frt					0.896						0.850	
Flt Protected	0.950			0.950						0.950		
Satd. Flow (prot)	1745	3574	0	1745	3123	0	0	1900	0	1745	1545	0
Flt Permitted	0.551			0.448						0.757		
Satd. Flow (perm)	1001	3574	0	822	3123	0	0	1900	0	1373	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					172						843	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		145.3			103.5			44.2			83.4	
Travel Time (s)		8.7			6.2			3.2			6.0	
Confl. Peds. (#/hr)	11			2		11	13			11		2
Confl. Bikes (#/hr)						5						1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	547	0	1	247	0	0	0	0	202	86	0
Turn Type	pm+pt	NA		Perm	NA					Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Total Split (s)	11.0	43.0		32.0	32.0		27.0	27.0		27.0	27.0	
Total Lost Time (s)	3.0	6.0		8.0	8.0			8.0		7.0	7.0	
Act Effct Green (s)	44.9	41.9		33.9	33.9					15.1	15.1	
Actuated g/C Ratio	0.64	0.60		0.48	0.48					0.22	0.22	
v/c Ratio	0.08	0.26		0.00	0.15					0.68	0.09	
Control Delay	6.1	7.7		14.0	5.3					36.6	0.2	
Queue Delay	0.0	0.0		0.0	0.0					0.0	0.0	
Total Delay	6.1	7.7		14.0	5.3					36.6	0.2	
LOS	A	A		B	A					D	A	
Approach Delay		7.6			5.4						25.8	
Approach LOS		A			A						C	
Queue Length 50th (m)	2.4	16.1		0.1	2.8					24.3	0.0	
Queue Length 95th (m)	7.1	28.1		1.0	10.3					40.9	0.0	
Internal Link Dist (m)		121.3			79.5			20.2			59.4	
Turn Bay Length (m)	140.0									30.0		
Base Capacity (vph)	727	2140		398	1602					392	1043	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.08	0.26		0.00	0.15					0.52	0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 28 (40%), Referenced to phase 6:WBTL, Start of Green			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Driveway/Timber Lane & New Street/New Street

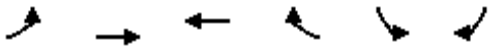




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	207	22	55	245	29	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	223	24	59	263	31	72

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	246	323	103
Volume Left (vph)	0	59	31
Volume Right (vph)	24	0	72
Hadj (s)	-0.04	0.04	-0.36
Departure Headway (s)	4.5	4.5	4.8
Degree Utilization, x	0.31	0.40	0.14
Capacity (veh/h)	777	777	663
Control Delay (s)	9.4	10.4	8.6
Approach Delay (s)	9.4	10.4	8.6
Approach LOS	A	B	A

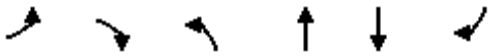
Intersection Summary			
Delay	9.8		
Level of Service	A		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	142	472	720	85	52	206
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	146	487	742	88	54	212
Pedestrians					2	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		150	145			
pX, platoon unblocked					0.99	
vC, conflicting volume	832				1324	417
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	832				1302	417
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				57	64
cM capacity (veh/h)	808				125	589

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	146	243	243	495	335	266
Volume Left	146	0	0	0	0	54
Volume Right	0	0	0	0	88	212
cSH	808	1700	1700	1700	1700	337
Volume to Capacity	0.18	0.14	0.14	0.29	0.20	0.79
Queue Length 95th (m)	5.0	0.0	0.0	0.0	0.0	49.3
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	46.0
Lane LOS	B					E
Approach Delay (s)	2.4			0.0		46.0
Approach LOS						E

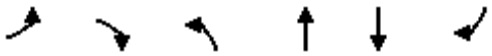
Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	22	143	78	108	146	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	155	85	117	159	4
Pedestrians	7			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				84		
pX, platoon unblocked						
vC, conflicting volume	455	169	170			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	455	169	170			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	82	94			
cM capacity (veh/h)	530	872	1411			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	179	202	163
Volume Left	24	85	0
Volume Right	155	0	4
cSH	803	1411	1700
Volume to Capacity	0.22	0.06	0.10
Queue Length 95th (m)	6.5	1.5	0.0
Control Delay (s)	10.8	3.5	0.0
Lane LOS	B	A	
Approach Delay (s)	10.8	3.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	43	76	76	52	75	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	46	82	82	56	81	38
Pedestrians	1			3		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				197		
pX, platoon unblocked						
vC, conflicting volume	320	103	119			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	320	103	119			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	91	94			
cM capacity (veh/h)	640	954	1480			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	128	138	118
Volume Left	46	82	0
Volume Right	82	0	38
cSH	810	1480	1700
Volume to Capacity	0.16	0.06	0.07
Queue Length 95th (m)	4.2	1.3	0.0
Control Delay (s)	10.3	4.7	0.0
Lane LOS	B	A	
Approach Delay (s)	10.3	4.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	213	166	35	216	207	56
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	237	184	39	240	230	62
Pedestrians	2			8	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			1	0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	89					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			424		652	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			337		583	246
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		45	91
cM capacity (veh/h)			1138		421	731

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	421	279	292
Volume Left	0	39	230
Volume Right	184	0	62
cSH	1700	1138	463
Volume to Capacity	0.25	0.03	0.63
Queue Length 95th (m)	0.0	0.8	32.5
Control Delay (s)	0.0	1.4	25.2
Lane LOS		A	D
Approach Delay (s)	0.0	1.4	25.2
Approach LOS			D

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	38	79	781	97	129	835
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	85	840	104	139	898
Pedestrians	10		1			
Lane Width (m)	3.6		3.6			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			184			110
pX, platoon unblocked	0.93	0.93			0.93	
vC, conflicting volume	1629	482			954	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1190	294			801	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	87			82	
cM capacity (veh/h)	138	651			761	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	126	560	384	139	449	449
Volume Left	41	0	0	139	0	0
Volume Right	85	0	104	0	0	0
cSH	295	1700	1700	761	1700	1700
Volume to Capacity	0.43	0.33	0.23	0.18	0.26	0.26
Queue Length 95th (m)	15.5	0.0	0.0	5.0	0.0	0.0
Control Delay (s)	26.0	0.0	0.0	10.8	0.0	0.0
Lane LOS	D			B		
Approach Delay (s)	26.0	0.0		1.4		
Approach LOS	D					

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	87	757	102	97	758
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	823	111	105	824
Pedestrians	18					6
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	2					1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			86			208
pX, platoon unblocked	0.93	0.90			0.90	
vC, conflicting volume	1519	491			952	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1116	203			717	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			87	
cM capacity (veh/h)	162	712			789	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	95	549	385	105	412	412
Volume Left	0	0	0	105	0	0
Volume Right	95	0	111	0	0	0
cSH	712	1700	1700	789	1700	1700
Volume to Capacity	0.13	0.32	0.23	0.13	0.24	0.24
Queue Length 95th (m)	3.5	0.0	0.0	3.5	0.0	0.0
Control Delay (s)	10.8	0.0	0.0	10.3	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	10.8	0.0		1.2		
Approach LOS	B					

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		