

COUNTERPOINT
LAND DEVELOPMENT BY

DILLON
CONSULTING

LBI DEVELOPMENTS INC.

TRANSPORTATION IMPACT STUDY

Walker Road and Cabana Road East Redevelopment
Official Plan and Zoning By-Law Amendments

July 2025 – 24-9442

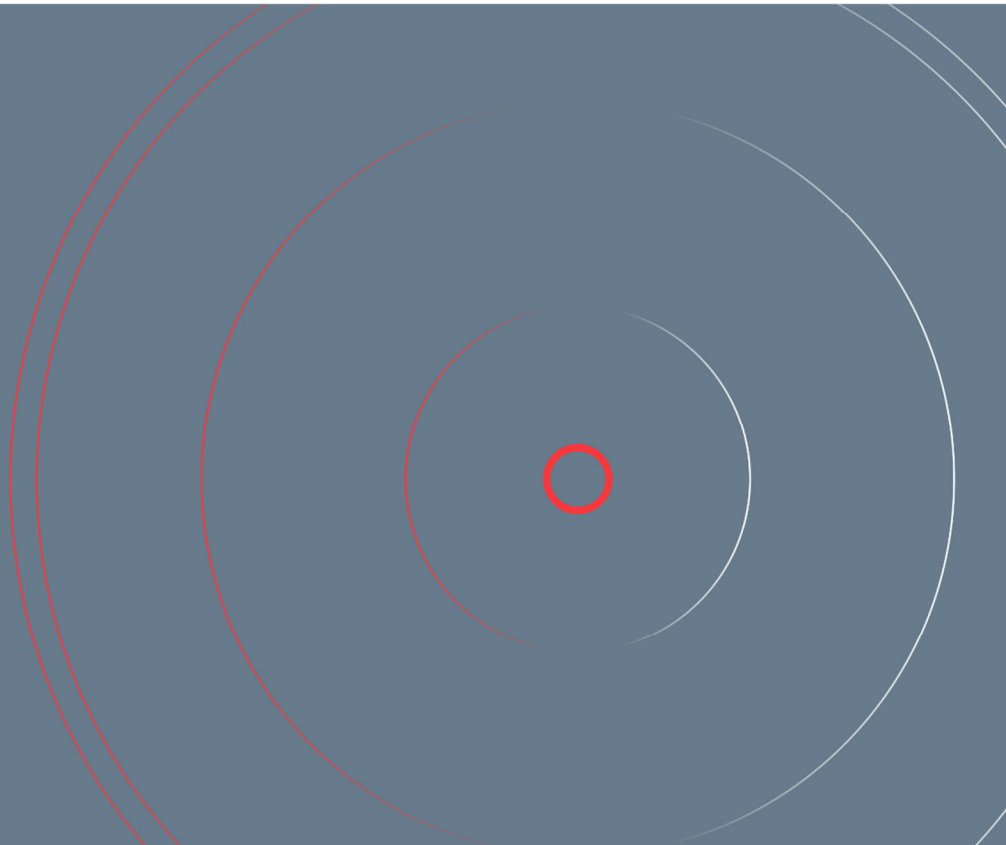


TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Purpose	1
1.2 Proposed Development	3
1.3 Scope of Analysis	4
2.0 EXISTING CONDITIONS	7
2.1 Existing Road Network	7
2.2 Existing Transit Network	8
2.3 Existing Traffic Volumes	10
2.4 Existing Pedestrian and Cycling Activity	13
3.0 FUTURE BACKGROUND CONDITIONS	14
3.1 Background Transportation Network	14
3.1.1 Planned Active Transportation Modifications	14
3.1.2 Planned Transit Modifications	16
3.1.3 Planned Road Network Modifications	18
3.1.4 Planned Road and Intersection Modifications	19
3.2 Background Traffic Growth	21
3.3 Future Background Traffic Volumes	24
4.0 TOTAL FUTURE CONDITIONS	28
4.1 Proposed Development	28
4.2 Site Trip Generation	28
4.3 Site Trip Distribution	31
4.4 Site Trip Assignment	31
4.5 Total Future Traffic Volumes	35
5.0 INTERSECTION OPERATIONS	40
5.1 Walker Road at Cabana Road	40
5.2 Walker Road at Home Depot Entrance/Walker Way Forum Entrance	44

5.3 Walker Road at Walker Place North Entrance	47
5.4 Walker Road at Walker Place South Entrance.....	48
5.5 Walker Road at Winners Entrance / Canadian Tire Entrance	48
5.6 Walker Road at Cora Breakfast and Planet Fitness Entrance.....	52
5.7 Walker Road at Petro Canada & Car Wash North Entrance.....	53
5.8 Walker Road at Best Buy Entrance / Petro Canada & Car Wash South Entrance	54
5.9 Walker Road at Swiss Chalet and Starbucks Entrance.....	57
5.10 Walker Road at Legacy Park Drive / 7th Concession Road	58
5.11 Cabana Road / County Road 42 at 7th Concession Road.....	62
5.12 Walker Road at Site Driveway	64
5.13 Cabana Road at Site Driveway.....	65
5.13.1 Driveway Operations.....	65
5.13.2 Driveway Location.....	66
6.0 ACTIVE TRANSPORTATION AND TRANSIT CONNECTIVITY	69
7.0 SUMMARY	71

FIGURES

Figure 1: Site Location.....	1
Figure 2: Local Context.....	2
Figure 3: Conceptual Development Plan.....	4
Figure 4: Study Area Intersection Locations.....	5
Figure 5: Existing Intersection Geometry and Traffic Control	8
Figure 6: Transit Windsor Route Map Excerpt	9
Figure 7: Existing Weekday Traffic Volumes	11
Figure 8: Existing Weekend Traffic Volumes	12
Figure 9: Sidewalk Improvements Required	14
Figure 10: Planned All Ages and Abilities Bicycle Network.....	15

Figure 11: Proposed Bicycle Network Priorities	16
Figure 12: Planned New Bus Network Structure in Southeast Windsor (Primary Grid Routes)	17
Figure 13: Planned New Bus Network Structure in Southeast Windsor (Primary Highway Routes).....	17
Figure 14: Planned New Bus Network Structure in Southeast Windsor (Inter-Regional Routes).....	18
Figure 15: Planned New Bus Network Structure in Southeast Windsor (Local Routes)	18
Figure 16: Planned Road Network	19
Figure 17: Conceptual Intersection Modifications, County Road 42 at 7 th Concession	20
Figure 18: Conceptual Intersection Modifications, Walker Road at Legacy Park Drive / 7 th Concession	21
Figure 19: Future Background Weekday Traffic Volumes (2030).....	24
Figure 20: Future Background Weekend Traffic Volumes (2030)	25
Figure 21: Future Background Weekday Traffic Volumes (2040).....	26
Figure 22: Future Background Weekend Traffic Volumes (2040)	27
Figure 23: Weekday Pass-by Trips	32
Figure 24: Weekend Pass-by Trips.....	33
Figure 25: Weekday Site-Generated Trips	34
Figure 26: Weekend Site-Generated Trips.....	35
Figure 27: Total Future Weekday Traffic Volumes (2030)	36
Figure 28: Total Future Weekend Traffic Volumes (2030).....	37
Figure 29: Total Future Weekday Traffic Volumes (2040)	38
Figure 30: Total Future Weekend Traffic Volumes (2040).....	39
Figure 31: Internal Pedestrian Circulation	70

TABLES

Table 1: Existing Pedestrian Activity	13
Table 2: Applied Annual Growth Rates	23
Table 3: Weekday Trip Generation	30
Table 4: Weekend Trip Generation.....	30

Table 5: Residential Trip Distribution.....	31
Table 6: Intersection Operations — Walker Road at Cabana Road (Weekday Peak Hours).....	41
Table 7: Intersection Operations — Walker Road at Cabana Road (Weekend Peak Hours)	42
Table 8: Intersection Operations — Walker Road at Home Depot Entrance/Walker Way Forum Entrance, Weekday Peak Hours.....	44
Table 9: Intersection Operations — Walker Road at Home Depot Entrance/Walker Way Forum Entrance, Weekend Peak Hours.....	45
Table 10: Intersection Operations — Walker Road at Walker Place North Entrance, Weekday Peak Hours.	47
Table 11: Intersection Operations — Walker Road at Walker Place North Entrance, Weekend Peak Hours	47
Table 12: Intersection Operations — Walker Road at Walker Place South Entrance, Weekday Peak Hours.	48
Table 13: Intersection Operations — Walker Road at Walker Place South Entrance, Weekend Peak Hours	48
Table 14: Intersection Operations — Walker Road at Winners Entrance / Canadian Tire Entrance, Weekday Peak Hours	49
Table 15: Intersection Operations — Walker Road at Winners Entrance / Canadian Tire Entrance, Weekend Peak Hours	50
Table 16: Intersection Operations — Walker Road at Cora Breakfast and Planet Fitness Entrance, Weekday Peak Hours	52
Table 17: Intersection Operations — Walker Road at Cora Breakfast and Planet Fitness Entrance, Weekend Peak Hours	53
Table 18: Intersection Operations — Walker Road at Petro Canada & Car Wash North Entrance, Weekday Peak Hours	53
Table 19: Intersection Operations — Walker Road at Petro Canada & Car Wash North Entrance, Weekend Peak Hours	54
Table 20: Intersection Operations — Walker Road at Best Buy Entrance / Petro Canada & Car Wash South Entrance, Weekday Peak Hours	54
Table 21: Intersection Operations — Walker Road at Best Buy Entrance / Petro Canada & Car Wash South Entrance, Weekend Peak Hours.....	56
Table 22: Intersection Operations — Walker Road at Swiss Chalet and Starbucks Entrance, Weekday Peak Hours.....	57
Table 23: Intersection Operations — Walker Road at Swiss Chalet and Starbucks Entrance, Weekend Peak Hours.....	58

Table 24: Intersection Operations — Walker Road at Legacy Park Drive/ 7th Concession Road, Weekday Peak Hours	59
Table 25: Intersection Operations — Walker Road at Legacy Park Drive/ 7th Concession Road, Weekend Peak Hours	60
Table 26: Intersection Operations — Cabana Road / County Road 42 at 7th Concession Road, Weekday Peak Hours.....	62
Table 27: Intersection Operations — Cabana Road / County Road 42 at 7th Concession Road, Weekend Peak Hours	63
Table 28: Intersection Operations — Walker Road at Site Driveway, Weekday Peak Hours	64
Table 29: Intersection Operations — Walker Road at Site Driveway, Weekend Peak Hours	64
Table 30: Intersection Operations — Cabana Road at Site Driveway, Weekday Peak Hours.....	65
Table 31: Intersection Operations — Cabana Road at Site Driveway, Weekend Peak Hours.....	66

APPENDICES

- A Conceptual Development Plan
- B Turning Movement Count Data
- C Trip Generation Rates
- D Level of Service Definitions
- E Synchro Analysis Worksheets

1.0 INTRODUCTION

1.1 PURPOSE

Dillon Consulting Limited (Dillon) has been retained by LBI Developments Incorporated to undertake a transportation impact study (TIS). The TIS documents the review of transportation impacts associated with a proposed infill mixed-use (commercial and residential) development southeast of the Walker Road and Cabana Road intersection in the city of Windsor. The proposed infill development is located at 2385 Cabana Road East, 2375 Cabana Road East, 2415 Cabana Road East, 0 Cabana Road East, 0 Cabana Road East, 4040 Walker Road and part of 4096 to 4128 Walker Road. The parcel is currently occupied by a Jet Stream Car Wash and a vacant motel, which are planned for removal as part of the development. The site location is illustrated in Figure 1 and the existing local context is illustrated in Figure 2.

Figure 1: Site Location



Image source: Google Earth, May 2023 image

Figure 2: Local Context



Image source: Google Earth, May 2023 image

1.2 PROPOSED DEVELOPMENT

The proposed infill development is envisioned to include two mixed-use buildings combining residential and commercial spaces, and four commercial-only buildings. The total development yield will be 74 residential units and 17,744 m² (191,026 sq. ft.) of commercial GFA, subdivided by building as follows:

- 'Building A' is proposed to be a five-storey apartment building with 44 dwelling units and 1,049 m² (11,297 sq. ft.) of ground floor retail space.
- 'Building B' is proposed to be a three-storey apartment building with 30 dwelling units and 1,010 m² (10,873 sq. ft.) of ground floor retail space.
- 'Building C' is proposed to be a 791 m² (8,519 sq. ft.) commercial building.
- 'Building D' is proposed to be a 5,213 m² (56,116 sq. ft.) commercial building.
- 'Building E' is proposed to be a 4,653 m² (50,092 sq. ft.) grocery store.
- 'Building F' is proposed to be a 1,046 m² (11,260 sq. ft.) commercial building.
- 'Building G' is proposed to be a 3,982 m² (42,869 sq. ft.) commercial building.

Currently, there are two active site driveways: one on Walker Road and another on Cabana Road.

- The existing driveway on Cabana Road is approximately 65 metres east of Walker Road, immediately past the median island that extends east from Walker Road intersection. It is proposed to be relocated approximately 120 metres east which will no longer align with the eastbound left-turn lane.
- The existing driveway on Walker Road is approximately 60 metres south of Cabana Road and is restricted to right-in, right-out movements. It is proposed to be relocated approximately 55 metres farther to the south and converted into a full-movement driveway. This driveway will become a shared driveway with the adjacent lot to the south, which currently serves as the access to the parking and loading area of the Walker Way Forum plaza.

Two other inactive or low-volume driveways exist on both Walker Road and Cabana Road within the development limits.

As part of the development, all of these driveways would be closed, and two driveways would be constructed or modified:

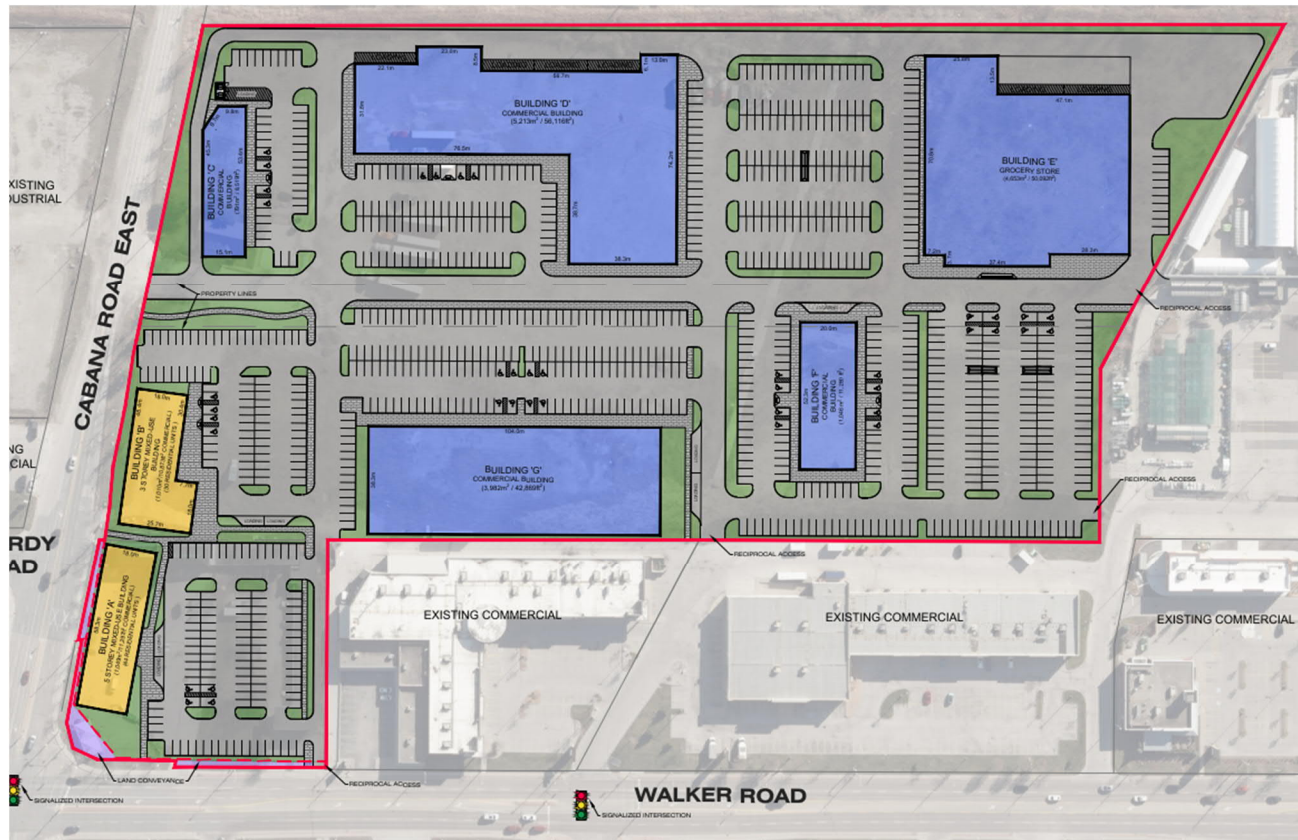
- A new driveway is proposed on Cabana Road, approximately 100 metres east of Riberty Street.
- An existing driveway to Walker Road, approximately 115 metres south of Cabana Road, will be modified to serve the development. This driveway is currently a narrow laneway leading to the rear of the adjacent commercial plaza at 4050 Walker Road. The driveway will be widened to the north and will be extended into the subject site, becoming a reciprocal access serving both sites.

The conceptual development plan also proposes driveway interconnections to the larger commercial sites to the south. These interconnections would provide additional access to Walker Road at existing signalized intersections (one at the driveway leading to the Home Depot development on the west side of Walker Road; one at the driveway serving Canadian Tire store south of the subject lands).

The conceptual development plan shows a parking supply of 956 spaces.

Figure 3 illustrates the conceptual development plan. A detailed version can be found in Appendix A.

Figure 3: Conceptual Development Plan



Source: Planning Justification Report, Dillon Consulting, July 2025. Figure 1.0: Conceptual Development Plan

1.3 SCOPE OF ANALYSIS

Based on discussions with City of Windsor staff, the study area includes the following intersections:

- Walker Road at Cabana Road;
- Walker Road at Home Depot Entrance/Walker Way Forum Entrance;
- Walker Road at Walker Place North Entrance;
- Walker Road at Walker Place South Entrance;
- Walker Road at Winners Entrance/ Canadian Tire Entrance;
- Walker Road at Cora Breakfast and Planet Fitness Entrance;
- Walker Road at Petro Canada & Car Wash North Entrance;
- Walker Road at Best Buy Entrance/Petro Canada & Car Wash South Entrance;
- Walker Road at Swiss Chalet and Starbucks Entrance;
- Walker Road at Legacy Park Drive/ 7th Concession Road;
- Cabana Road / County Road 42 at 7th Concession Road;
- Walker Road at Site Driveway; and

- Cabana Road at Site Driveway.

Figure 4 illustrates the study area intersection locations.

Figure 4: Study Area Intersection Locations

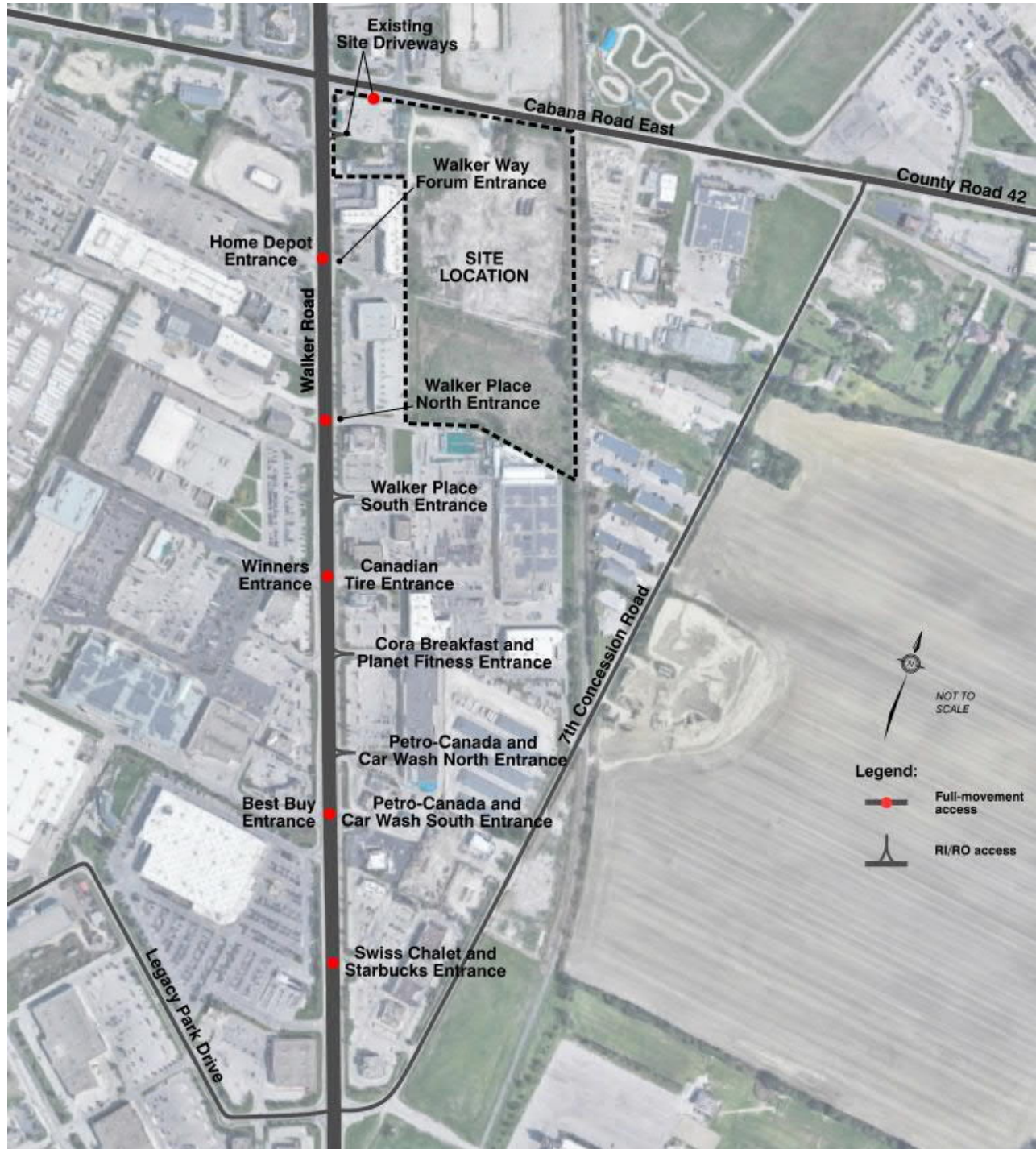


Image source: Google Earth, May 2023 image

Traffic analyses have been completed for the weekday AM and PM peak hours as well as the weekend Saturday and Sunday peak hours. Two horizon years have been assessed:

- 2030, corresponding to the anticipated build-out year; and
- 2040, corresponding to ten years after the anticipated build-out year.

2.0 EXISTING CONDITIONS

2.1 EXISTING ROAD NETWORK

The following describes the roadways within the study area.

Walker Road is a north-south Class II arterial road under the jurisdiction of the City of Windsor. The road begins at Riverside Drive and extends south across the city. Within the study area, the road features a four-lane cross-section with sidewalks on both sides. There is a two-way left-turn lane through much of the study area, providing access to numerous commercial driveways along Walker Road. South of Legacy Park Drive/7th Concession Road, a multi-use path is located on the west side of the road. The posted speed limit through the study area is 60 km/h.

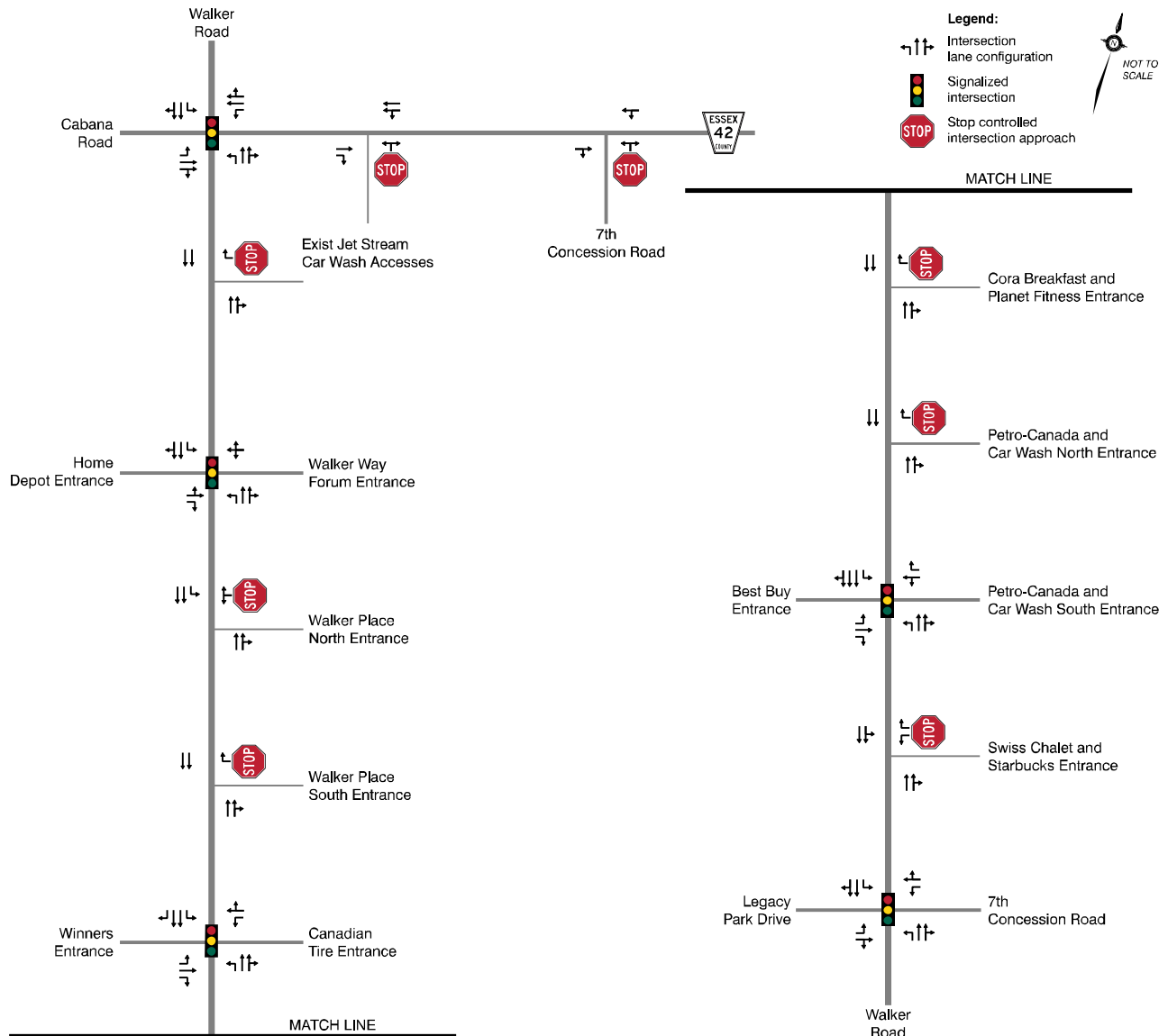
Cabana Road/County Road 42 is an east-west Class II arterial road under the jurisdiction of the City of Windsor. The road begins as Todd Lane in the town of LaSalle, then extends east across Windsor as Cabana Road and County Road 42 (east of 7th Concession Road), serving as a major east-west corridor into Essex County. It has several intersections with local residential streets in the west part of the study area, and also provides direct access to adjacent commercial properties. In the west part of the study area, the road has a two-lane urban cross-section with intermittent sidewalks, primarily within one block of Walker Road; in the east part of the study area, the road has a two-lane rural cross-section with gravel shoulders on both sides. There is no dedicated bicycle infrastructure within the study area. The posted speed limit along Cabana Road and Cabana Road is 50 km/h.

Legacy Park Drive is an east-west local road under the jurisdiction of the City of Windsor. The road begins at Walker Road and extends west to Provincial Road, providing access to the surrounding commercial properties. Within the study area, the road has a two-lane cross-section; there is a sidewalk on the south side of the road, extending approximately halfway to Provincial Road before terminating.

7th Concession Road is a north-south Class II collector road under the jurisdiction of the City of Windsor. The road begins at Walker Road and extends north to Cabana Road/County Road 42. It provides access to several adjacent industrial properties, as well as rear access to some of the commercial properties fronting Walker Road. The road has a two-lane rural cross-section, and has no sidewalks or other dedicated active transportation facilities. The posted speed limit along 7th Concession Road is 50 km/h.

Figure 5 illustrates the existing traffic control and lane configuration at the study area intersections.

Figure 5: Existing Intersection Geometry and Traffic Control



2.2 EXISTING TRANSIT NETWORK

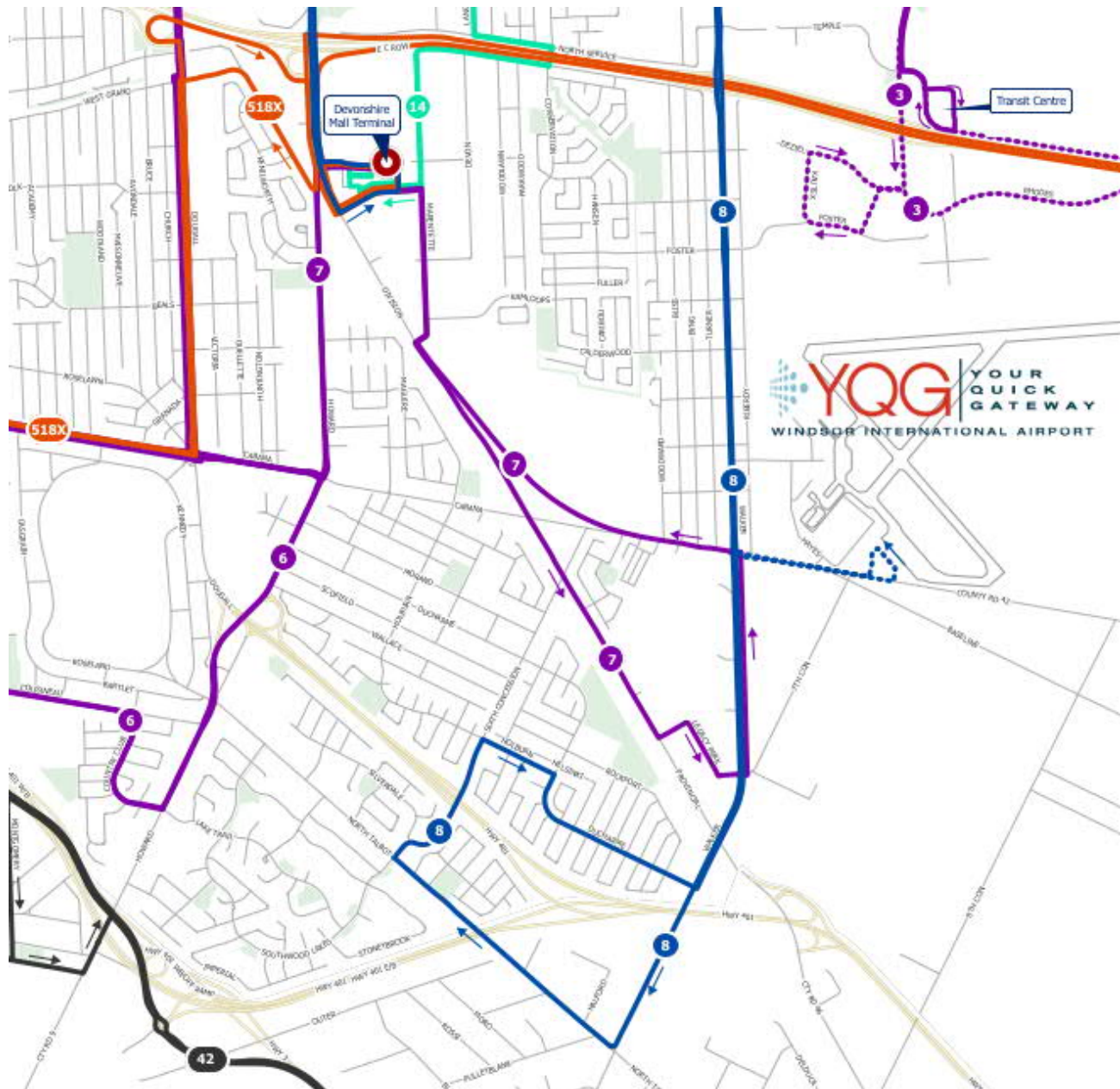
Transit service in the study area is operated by Transit Windsor. Figure 6 is an excerpt from the network map illustrating the route structure in the general vicinity of the site. Two routes pass through the study area:

- *South Windsor 7* serves the south Windsor area, connecting to major terminals like the Hotel Dieu Grace Healthcare Terminal, St. Clair College Terminal, and Devonshire Mall Terminal. The route operates approximately every 30 minutes during the weekday AM and PM peak hours and approximately 45 minutes during the Saturday peak hour. Service is not provided on Sundays.

- *Walkerville 8* serves the central Windsor area, mainly Walker Road, connecting to Windsor International Transit Terminal and the Windsor International Airport. The route operates approximately every 30 minutes during the weekday AM and PM peak hours, approximately 45 minutes during the Saturday peak hour and approximately 75 minutes during the Sunday peak hour.

Both routes have stops at the intersection of Walker Road and Cabana Road, and at the signalized Home Depot access 200 metres south of Cabana Road.

Figure 6: Transit Windsor Route Map Excerpt



Source: Transit Windsor System Map (current version as of June 2025)

2.3 EXISTING TRAFFIC VOLUMES

Weekday AM and PM peak hour and weekend Saturday and Sunday turning movement counts (TMCs) were taken at the study area intersections by Horizon Data Services Limited (HDSL) on the following dates:

- Tuesday, December 10, 2024;
- Thursday, December 19, 2024;
- Saturday, December 7, 2024;
- Sunday, December 8, 2024; and
- Sunday, December 22, 2024.

Figure 7 and Figure 8 present the existing weekday AM and PM peak hour traffic volumes, and the existing weekend Saturday and Sunday peak hour traffic volumes, respectively. On road sections without intermediate driveways, the through volumes were balanced to account for discrepancies due to differing peak hours at adjacent pairs of intersections.

The detailed TMC data are provided in Appendix B.

Figure 7: Existing Weekday Traffic Volumes

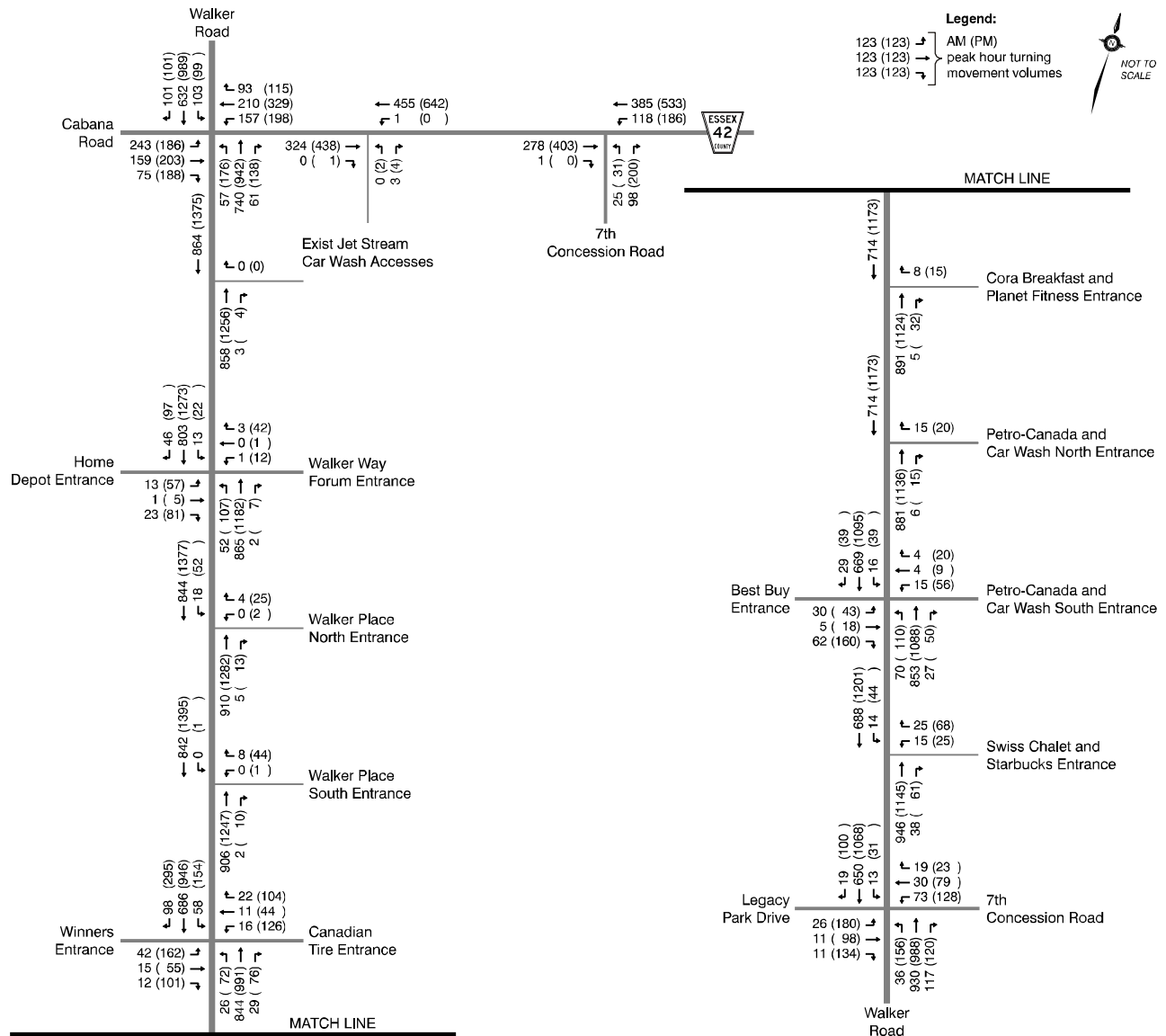
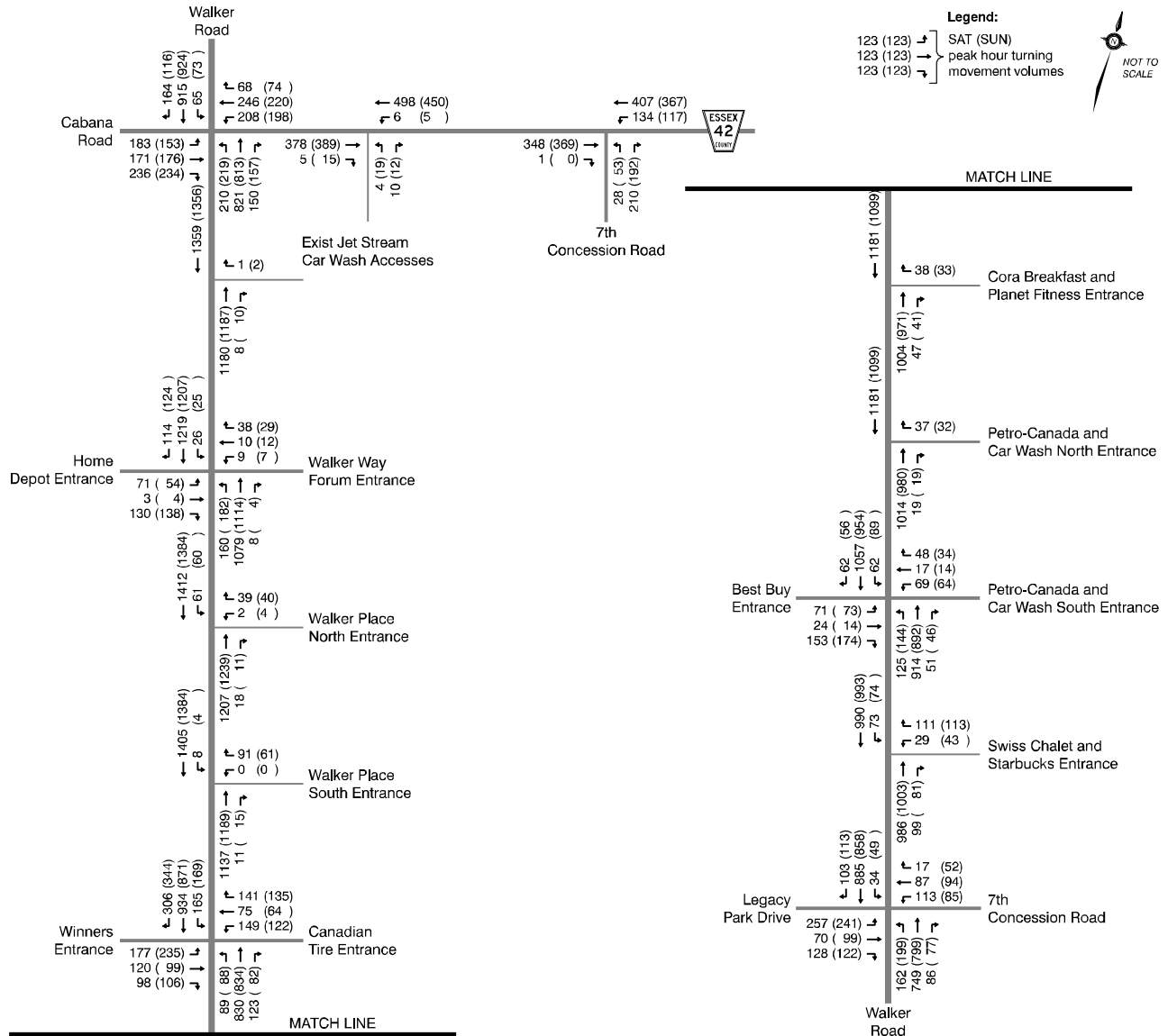


Figure 8: Existing Weekend Traffic Volumes



2.4 EXISTING PEDESTRIAN AND CYCLING ACTIVITY

Pedestrians and cyclist volumes were recorded as part of the traffic surveys undertaken by HDSL.

Table 1 presents the number of pedestrians observed at each intersection during all four peak hours.

Table 1: Existing Pedestrian Activity

Intersection	AM (PM) peak hour					Saturday (Sunday) peak hour				
	North leg	South leg	West leg	East leg	Total	North leg	South leg	West leg	East leg	Total
Walker Road at:										
Cabana Road	9 (11)	3 (2)	3 (7)	2 (4)	17 (24)	6 (10)	1 (3)	1 (1)	4 (5)	12 (19)
Home Depot Entrance / Walker Way Forum Entrance	0 (0)	1 (4)	3 (1)	2 (3)	6 (8)	1 (0)	3 (1)	0 (1)	1 (3)	5 (5)
Walker Place North Entrance	1 (2)	0 (0)	0 (0)	3 (3)	4 (5)	0 (0)	0 (0)	0 (0)	0 (1)	0 (1)
Walker Place South Entrance	0 (2)	0 (2)	0 (0)	1 (3)	1 (7)	0 (0)	2 (7)	0 (0)	0 (1)	2 (8)
Winners Entrance / Canadian Tire Entrance	0 (8)	1 (3)	1 (2)	3 (1)	5 (14)	1 (0)	3 (0)	2 (1)	1 (1)	7 (2)
Cora Breakfast and Planet Fitness Entrance	0 (0)	0 (0)	0 (0)	0 (2)	0 (2)	0 (1)	2 (2)	0 (0)	1 (1)	3 (4)
Petro Canada & Car Wash North Entrance	0 (0)	3 (20)	0 (0)	1 (3)	4 (23)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Best Buy Entrance / Petro Canada & Car Wash South Entrance	4 (19)	0 (1)	1 (2)	1 (3)	6 (25)	7 (7)	10 (6)	6 (8)	1 (4)	24 (25)
Swiss Chalet and Starbucks Entrance	1 (0)	0 (1)	0 (0)	0 (2)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Legacy Park Drive / 7th Concession Road	1 (2)	9 (0)	1 (1)	0 (1)	11 (4)	2 (0)	1 (2)	0 (1)	2 (0)	5 (3)
Site Driveway	0 (0)	0 (0)	0 (0)	4 (3)	4 (3)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)
Cabana Road at:										
7th Concession Road	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)	0 (0)	2 (0)	0 (0)	0 (0)	2 (0)
Site Driveway	0 (0)	0 (1)	1 (0)	0 (2)	1 (3)	0 (0)	0 (0)	2 (1)	2 (2)	4 (3)

The level of pedestrian activity can be characterized as low to negligible, generally one pedestrian crossing every two to three minutes at two intersections (Walker Road and Cabana Road; Walker Road at the Best Buy entrance), and 10 pedestrian crossings or fewer at other locations.

A negligible level of cycling activity was observed (no more than one to two cyclists at any intersection, and likely the same cyclist observed at multiple locations). Cycling activity would be expected to be low given that the count was undertaken in December.

3.0 FUTURE BACKGROUND CONDITIONS

This section establishes the magnitude of traffic growth under future background conditions (i.e., traffic volumes that are forecasted without the proposed development in place).

Two horizon years have been assessed:

- 2030, corresponding to the anticipated build-out year; and
- 2040, corresponding to five years after the anticipated build-out year.

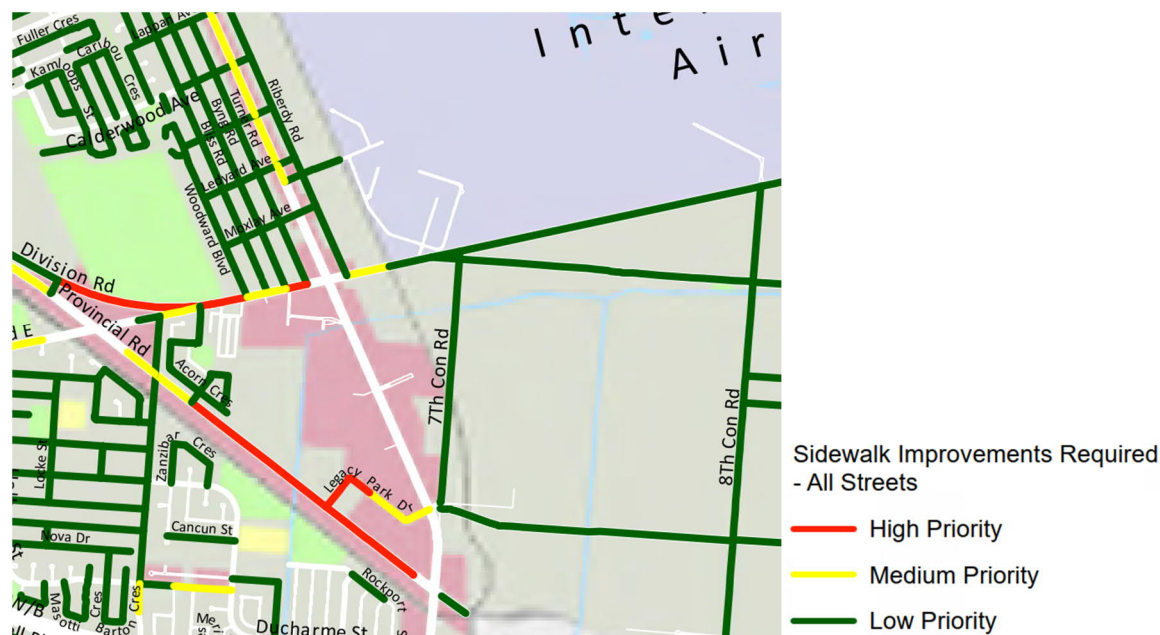
3.1 BACKGROUND TRANSPORTATION NETWORK

3.1.1 Planned Active Transportation Modifications

In 2019, the City of Windsor completed their active transportation master plan, which identified gaps in sidewalk infrastructure and developed a conceptual cycling network accommodating all ages and abilities (AAA).

Figure 9 illustrates the sidewalk improvement priorities identified in the active transportation master plan. The main priorities are the completion of sidewalks along Cabana Road where sidewalks do not currently exist in the existing urban area. Other lower priorities include the construction of sidewalks in the residential area north of Cabana Road, and construction of sidewalks on roads south of the airport. In practice, the sidewalks would be constructed on those rural roads when they are urbanized in anticipation of future development.

Figure 9: Sidewalk Improvements Required



Source: City of Windsor Active Transportation Master Plan, Final Report, May 2019. Figure ES-1: Sidewalk Priority Map

Figure 10 illustrates the planned AAA network in the study area, and Figure 11 illustrates the implementation priorities.

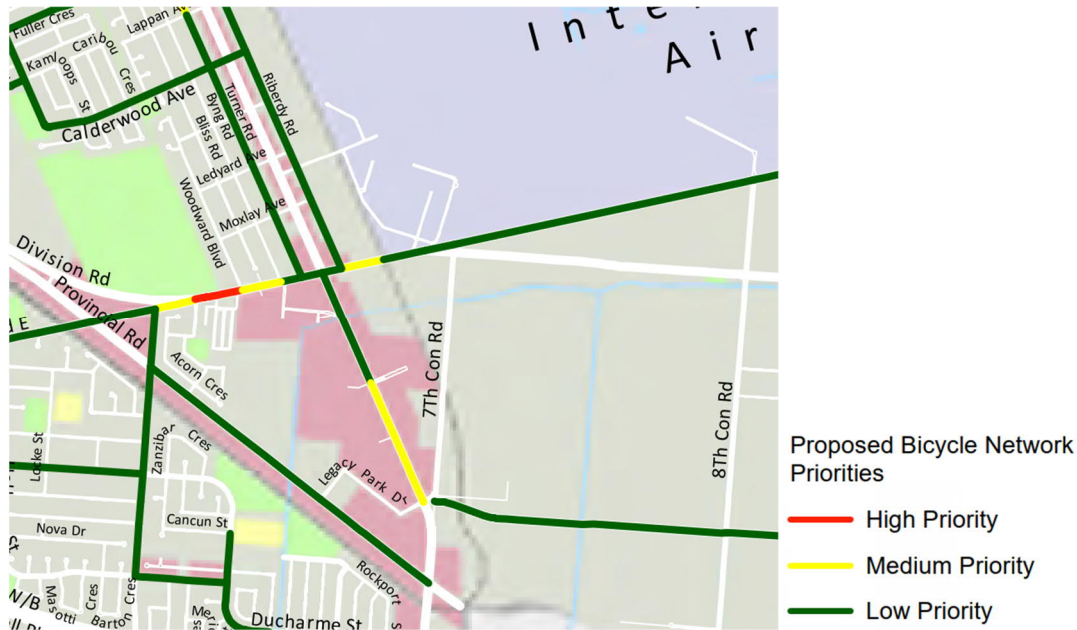
- The AAA network is planned to include cycling infrastructure on County Road 42 east of Walker Road and on the new east-west arterial road extending east from Legacy Park Drive. Facilities could include multi-use paths adjacent to the road. These are identified as lower priorities because those facilities would be implemented as part of other planned road modifications.
- The AAA network also envisions north-south connections along the low-volume local streets adjacent to Walker Road, north of Cabana Road.
- Walker Road and Cabana Road are envisioned to form part of the supporting network. Facilities on these streets could take the form of on-street bicycle lanes.

Figure 10: Planned All Ages and Abilities Bicycle Network



Source: City of Windsor Active Transportation Master Plan, Final Report, May 2019. Figure 27: Proposed Long-Term All Ages and Abilities (AAA) Bicycle Network

Figure 11: Proposed Bicycle Network Priorities



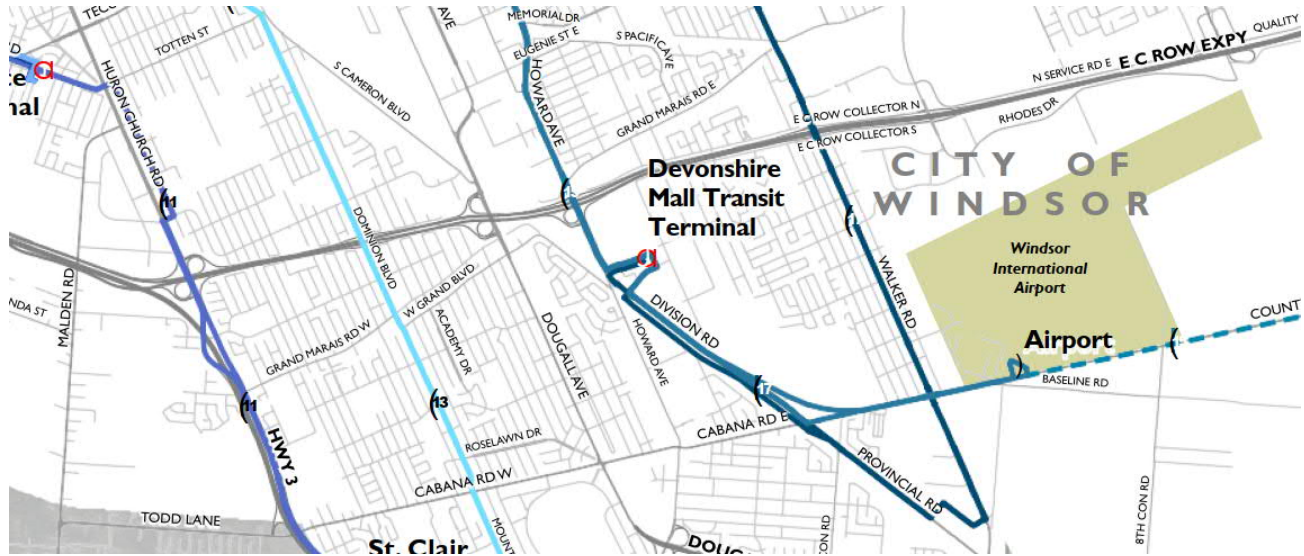
Source: City of Windsor Active Transportation Master Plan, Final Report, May 2019. Figure ES-2: Bike Network Priority Map

3.1.2 Planned Transit Modifications

In 2019, Transit Windsor completed their transit master plan, which included recommendations for long-term modifications to the network route structure. The recommendations included several modifications in southeast Windsor in anticipation of the eventual opening of the new hospital on County Road 42. The conceptual routes in the vicinity of the site are illustrated in the following figures, and have the following tentative headways (interval between buses):

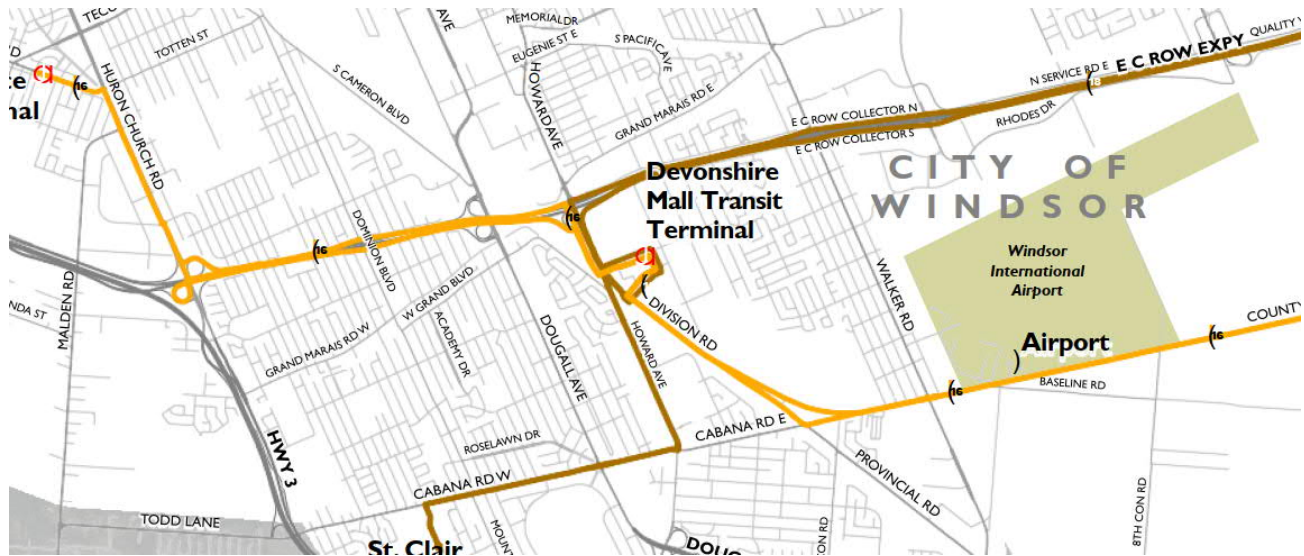
- Figure 12 presents the planned primary grid routes (typically every 15-20 minutes daytime / 30 minutes evenings);
- Figure 13 presents the planned primary highway routes (typically every 15-20 minutes daytime / 30 minutes evenings);
- Figure 14 presents the planned inter-regional routes (typically every 30 minutes daytime / 60 minutes evenings); and
- Figure 15 presents the planned local routes (typically every 30-45 minutes daytime / 60 minutes evenings).

Figure 12: Planned New Bus Network Structure in Southeast Windsor (Primary Grid Routes)



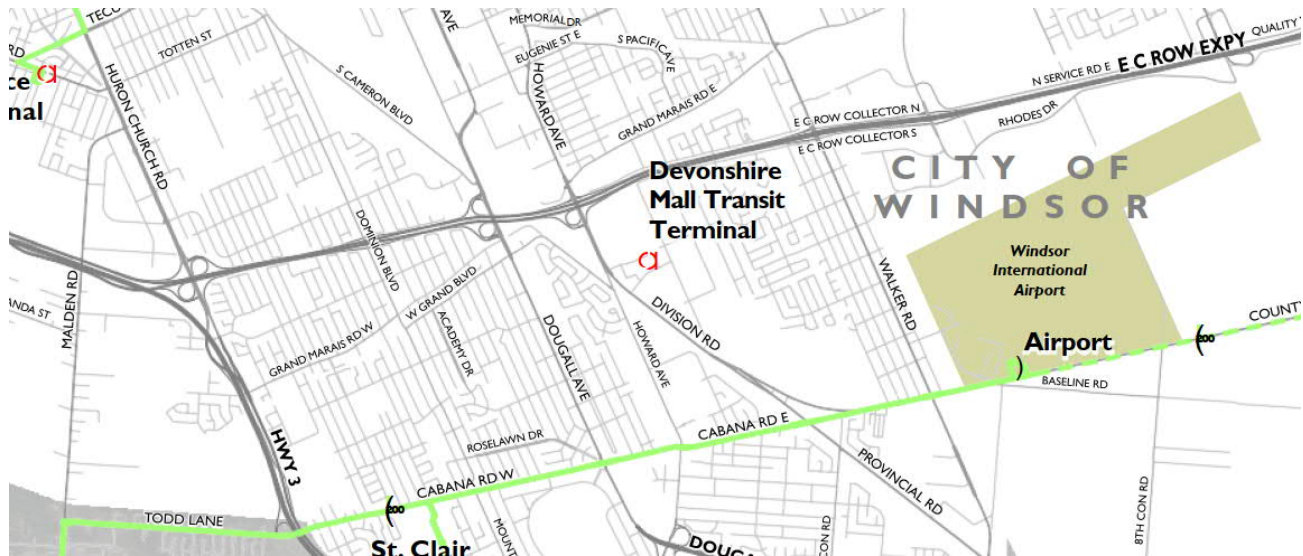
Source: Transit Windsor 2019 Transit Master Plan ("More Than Transit"). Figure 8: Primary Grid Routes.

Figure 13: Planned New Bus Network Structure in Southeast Windsor (Primary Highway Routes)



Source: Transit Windsor 2019 Transit Master Plan ("More Than Transit"). Figure 9: Primary Highway Routes.

Figure 14: Planned New Bus Network Structure in Southeast Windsor (Inter-Regional Routes)



Source: Transit Windsor 2019 Transit Master Plan ("More Than Transit"). Figure 11: Inter-Regional Routes.

Figure 15: Planned New Bus Network Structure in Southeast Windsor (Local Routes)



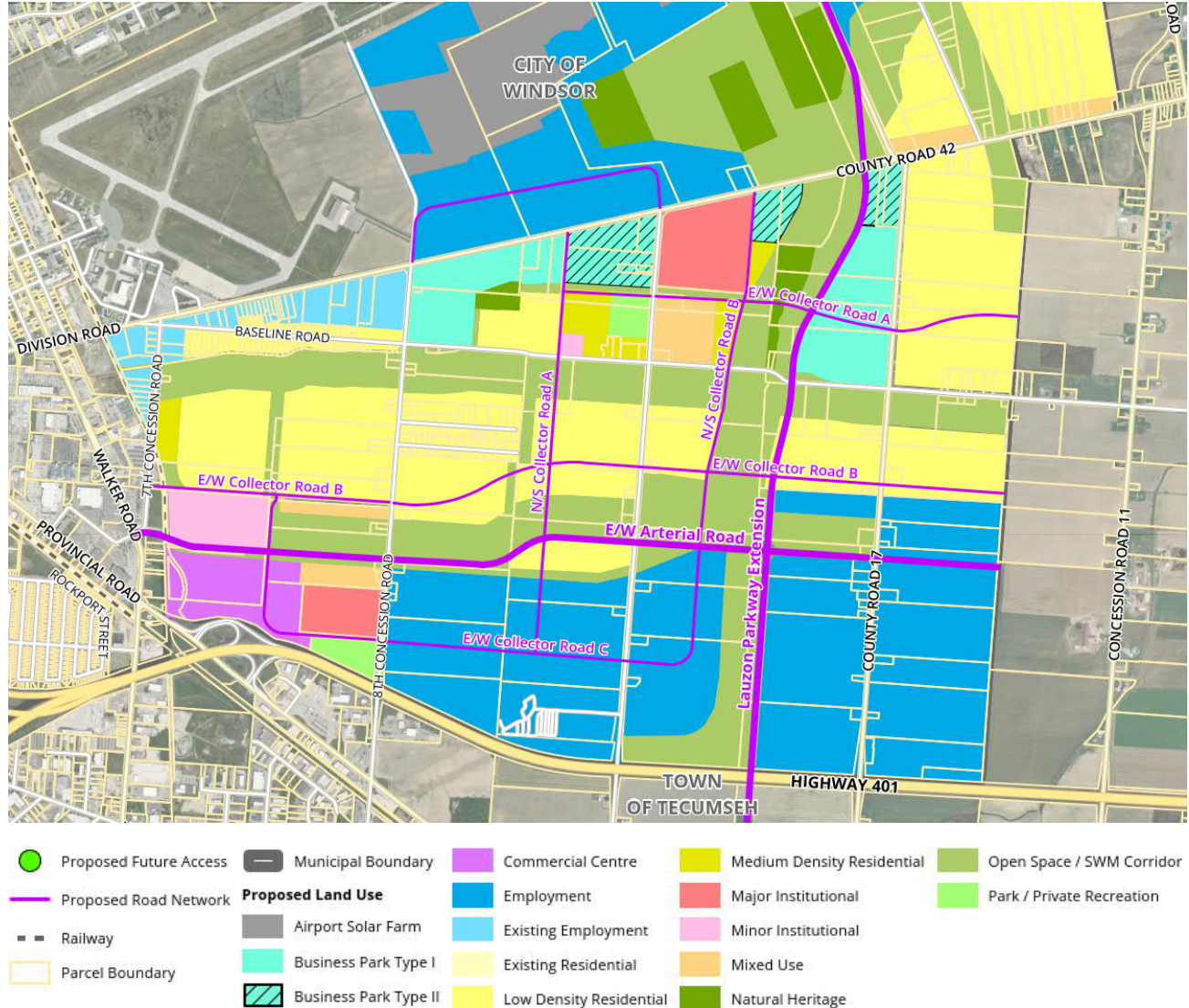
Source: Transit Windsor 2019 Transit Master Plan ("More Than Transit"). Figure 12: Local Routes and ASD Areas. The new hospital east of the airport had not yet been approved at that time.

3.1.3 Planned Road Network Modifications

Substantial development is planned in the currently rural area south of the airport (see **Section 3.2**). A network of arterial and collector roads has been identified that would support the urbanization of this area. New roads include the southerly extension of Lauzon Parkway to a new interchange at Highway 401; a new east-west arterial road extending easterly from the Walker Road and Legacy Park Drive intersection; and a

network of supporting collector roads. Figure 16 is an excerpt from the 2025 County Road 42 corridor assessment (see **Section 3.2**), illustrating the planned road network in this area.

Figure 16: Planned Road Network

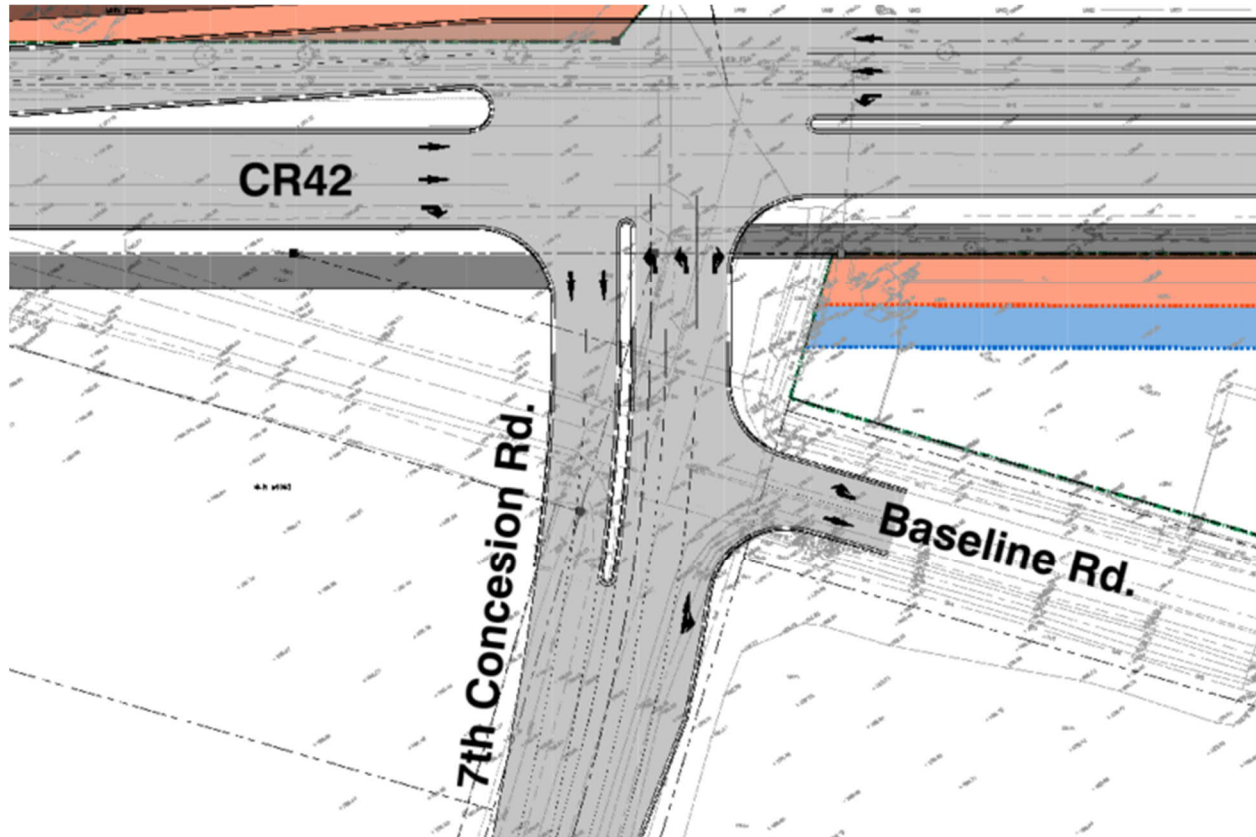


Source: County Road 42 Transportation Assessment, June 2025. Figure 3: Future Road Network.

3.1.4 Planned Road and Intersection Modifications

The City of Windsor is planning to widen the Cabana Road / County Road 42 corridor to a continuous four-lane cross-section, potentially before this study's 2030 horizon. This would include modifications to the intersection at 7th Concession, as illustrated conceptually in Figure 17. In particular, Baseline Road would be truncated at 7th Concession and converted to a right-in/right-out intersection, and the short connection between County Road 42 and 7th Concession would be closed, with eastbound right turns from County Road 42 now being made at the 7th Concession intersection.

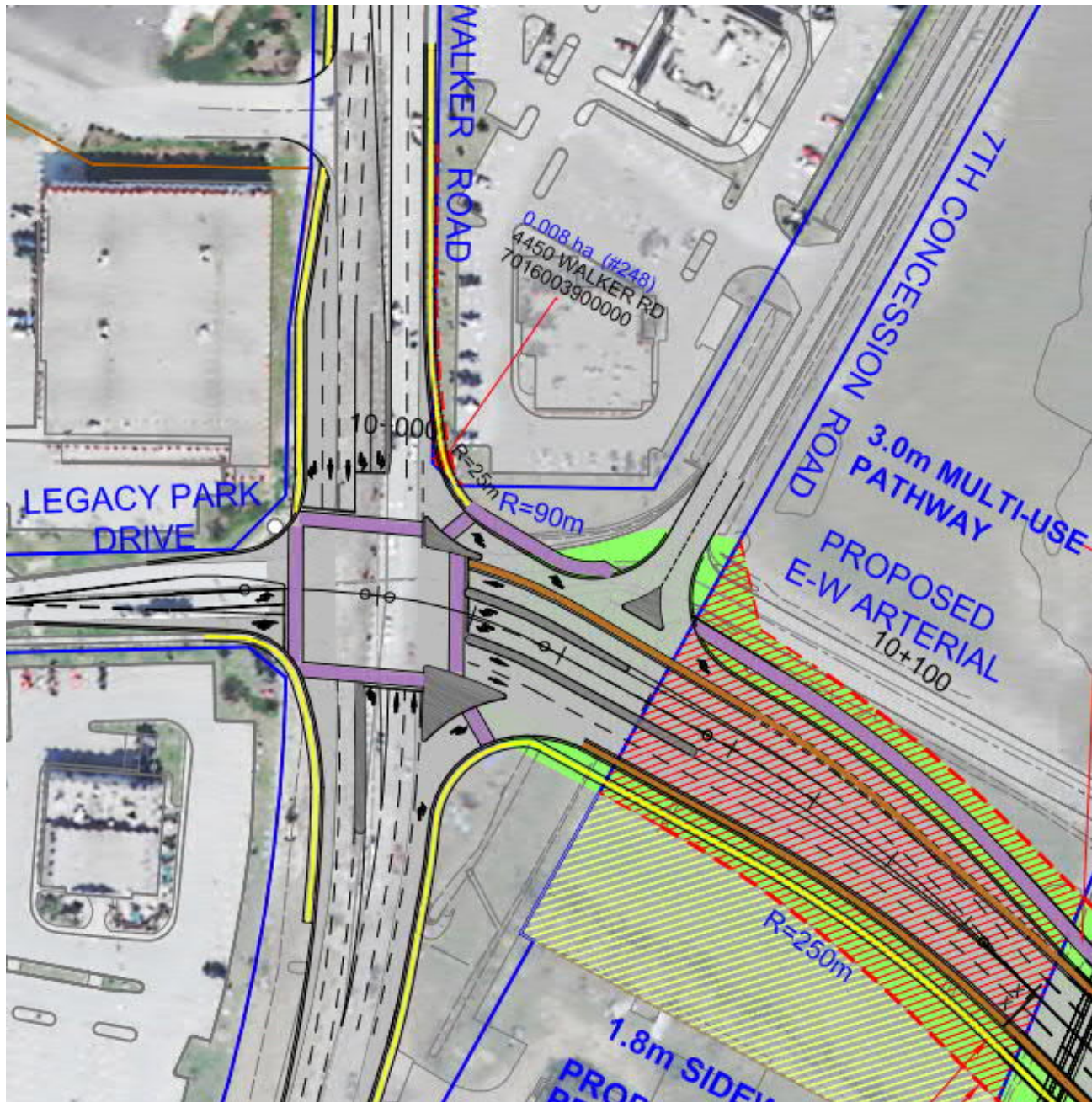
Figure 17: Conceptual Intersection Modifications, County Road 42 at 7th Concession



Source: County Road 42 Transportation Assessment, June 2025. Figure 14: Planned Future Intersection Layout at Baseline Road and 7th Concession Road

The Lauzon Parkway EA identified potential intersection modifications at the intersection of Walker Road and Legacy Park Drive that would accommodate the construction of the new east-west arterial road. The conceptual design for this intersection is illustrated in Figure 18.

Figure 18: Conceptual Intersection Modifications, Walker Road at Legacy Park Drive / 7th Concession



Source: Lauzon Parkway Improvements Class Environmental Assessment Study, Environmental Study Report Addendum, May 19, 2015. Plate 1a / Exhibit 17: E-W Arterial and Walker Road.

3.2 BACKGROUND TRAFFIC GROWTH

The City of Windsor indicated that there are no planned background developments within the study area that would contribute to background traffic growth. However, there is substantial development planned in the broader area immediately to the east; the area between the Windsor airport and Highway 401, which is

predominantly rural today, would be developed for residential, commercial and employment uses over the coming decades.

- Based on work undertaken for the Sandwich South Master Servicing Plan in 2023, the lands in this area (extending as far east as Banwell Road) may accommodate up to 9,165 residential units and 25,863 employees. This includes the new Windsor hospital planned at the southeast corner of County Road 42 and 9th Concession.
- This is in addition to development east of Banwell Road in Tecumseh, where the Tecumseh Hamlet and Manning Road Secondary Plan areas are anticipated to accommodate up to 5,963 residential units and 714,000 sq. ft. of commercial GFA.

Several studies have assessed the transportation demand in this area over the past 20 years; most recently, Dillon completed a transportation assessment of the County Road 42 corridor in May 2025. The assessment focused on County Road 42, from Walker Road to the eastern limits of the city, with a horizon year of 2049.

The analyses in the County Road 42 corridor transportation assessment focused on weekday peak hour traffic volumes at a 2049 horizon. This TIS has different horizon years (2030 and 2040) and also includes additional peak hour analyses (Saturday and Sunday peak hours), requiring the development of revised background traffic forecasts. The addition of the Saturday and Sunday peak hour analyses required developing additional background development forecasts for a substantial amount of development with complex interactions between land uses and road network alternatives. As a proxy, background traffic volumes were estimated by applying growth rates to account for all development in the area. These growth rates were calculated at the Cabana Road and Walker Road intersection and at the County Road 42 and 7th Concession intersection, both on the individual turning movements and the upstream and downstream links. The following approach was followed to derive these growth rates:

- The 2049 AM and PM peak hour traffic forecasts from the County Road 42 corridor study were adjusted to remove trips generated by the subject lands.
- The net difference between the existing volumes and the (adjusted) 2049 projected volumes was calculated, and the total percentage increase compared to existing volumes was calculated.
- The average (linear) annual growth rates on each movement and upstream/downstream link were calculated by dividing the total percentage increase by 25 years (2024 to 2049).
- The Walker Road and 7th Concession intersection was not included in the County Road 42 corridor study. Growth rates were assumed based on movements at the other two intersections.
- No growth was assumed on the driveways along Walker Road.

These growth rates were then used to estimate the future background intersection volumes, using the following approach:

- The net increase in traffic was calculated on the links upstream and downstream from those two intersections, as well as on intersection turning movements that are less subject to development-related growth or that had lower growth rates. (This avoided movements that had very high growth rates because significant development traffic volumes were added to movements that currently experience low volumes.)
- The remaining turning movement volumes at those intersections were calculated through balancing with the adjacent link volumes.

- At intermediate intersections (e.g., driveway intersections along Walker Road), the net traffic increase at Walker Road and Cabana Road was carried upstream and downstream along the corridor.

Table 2 presents the annual growth rates that were calculated and applied to generate background traffic volumes. For the movements at those three intersections that are not listed, the background traffic increase was calculated from other known links and turning movements.

Table 2: Applied Annual Growth Rates

Location	Direction / movement	AM peak hour	PM peak hour	Saturday peak hour	Sunday peak hour
At Walker Road and Cabana Road:					
West of Walker Road	WB	6%	10%	8%	8%
	EB	10%	6%	8%	8%
North of Cabana Road	SB	6%	4%	4%	4%
	NB	3%	4%	4%	4%
South of Cabana Road	SB	2%	2%	2%	2%
	NB	2%	3%	2%	2%
East of Walker Road	WB	6%	12%	12%	12%
	EB	22%	12%	12%	12%
Intersection movements	SB right	2%	2%	2%	2%
	EB left	2%	2%	2%	2%
	EB right	2%	2%	2%	2%
	NB left	2%	2%	2%	2%
	NB through	3%	3%	3%	3%
	SB through	3%	3%	3%	3%
At County Road 42 and 7 th Concession:					
East of 7 th Concession	WB	4%	10%	8%	8%
	EB	16%	6%	8%	8%
South of County Road 42	SB	5%	10%	7.5%	7.5%
	NB	10%	5%	7.5%	7.5%
Intersection movements	NB right	1%	1%	1%	1%
	WB left	1%	1%	1%	1%
At Walker Road and Legacy Park Drive / 7 th Concession:					
Intersection movements (related to west leg)	SB right	2%	2%	2%	2%
	EB left	2%	2%	2%	2%
	EB right	2%	2%	2%	2%
	NB left	2%	2%	2%	2%
Intersection movements (related to east leg)	SB left	6%	6%	6%	6%
	WB right	6%	6%	6%	6%
	WB left	6%	6%	6%	6%
	NB right	6%	6%	6%	6%
Intersection movements (related to both legs)	WB through	4%	4%	4%	4%
	EB through	4%	4%	4%	4%

3.3 FUTURE BACKGROUND TRAFFIC VOLUMES

Figure 19 and Figure 20 present the future background weekday AM and PM peak hour traffic volumes for 2030, and the future background weekend Saturday and Sunday peak hour traffic volumes for 2030, respectively.

Figure 19: Future Background Weekday Traffic Volumes (2030)

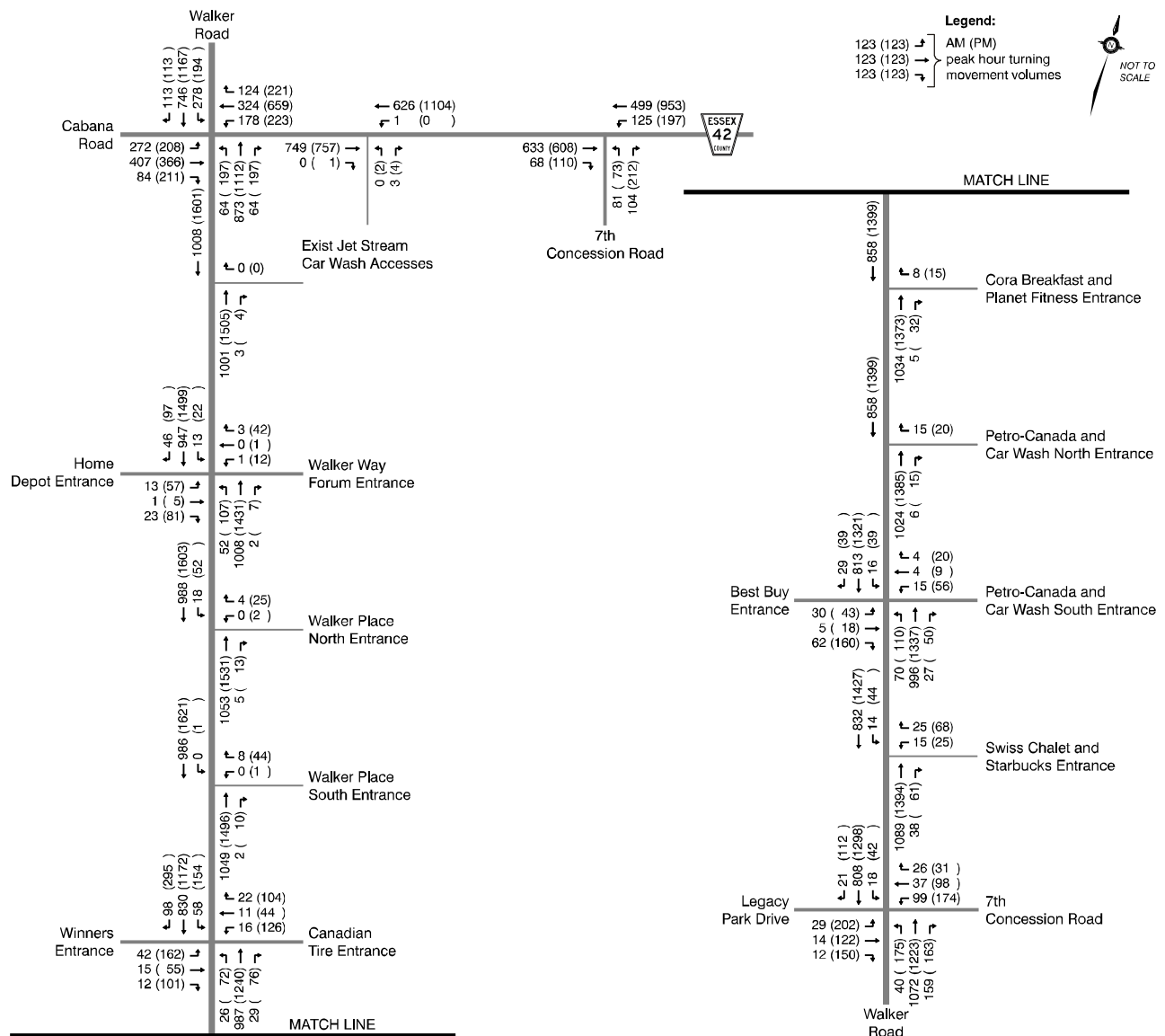


Figure 20: Future Background Weekend Traffic Volumes (2030)

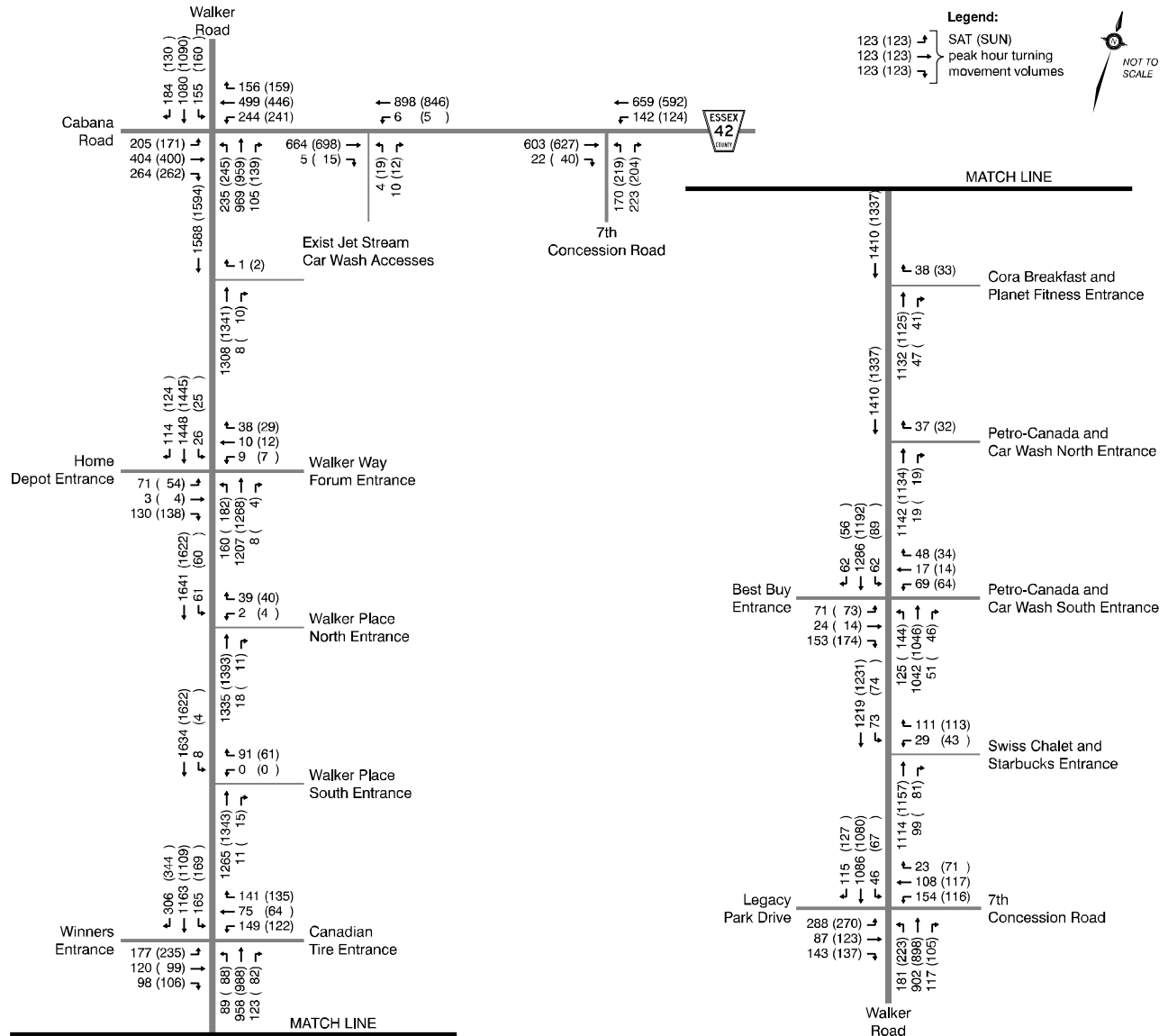


Figure 21 and Figure 22 present the future background weekday AM and PM peak hour traffic volumes for 2040, and the future background weekend Saturday and Sunday peak hour traffic volumes for 2040, respectively.

Figure 21: Future Background Weekday Traffic Volumes (2040)

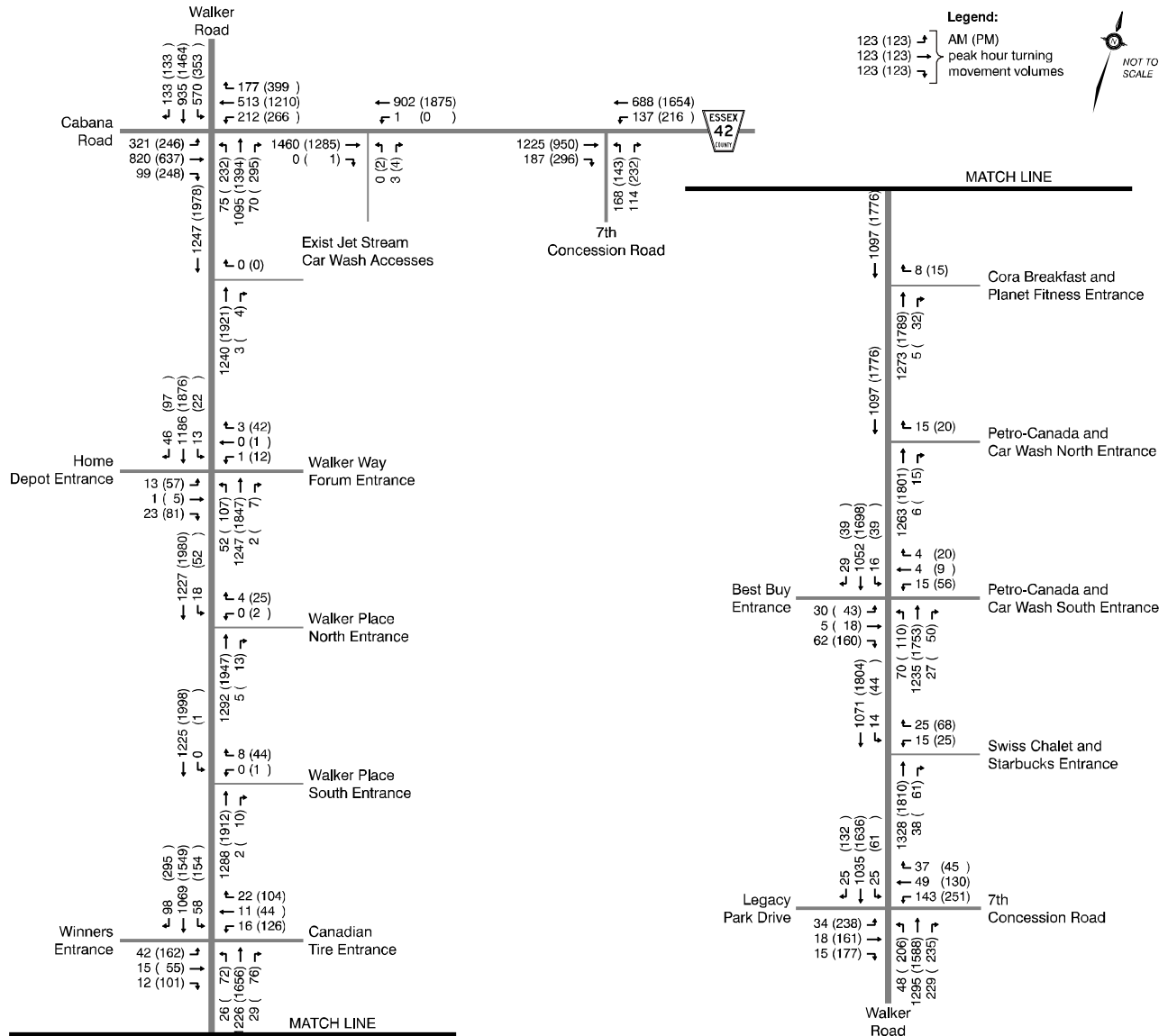
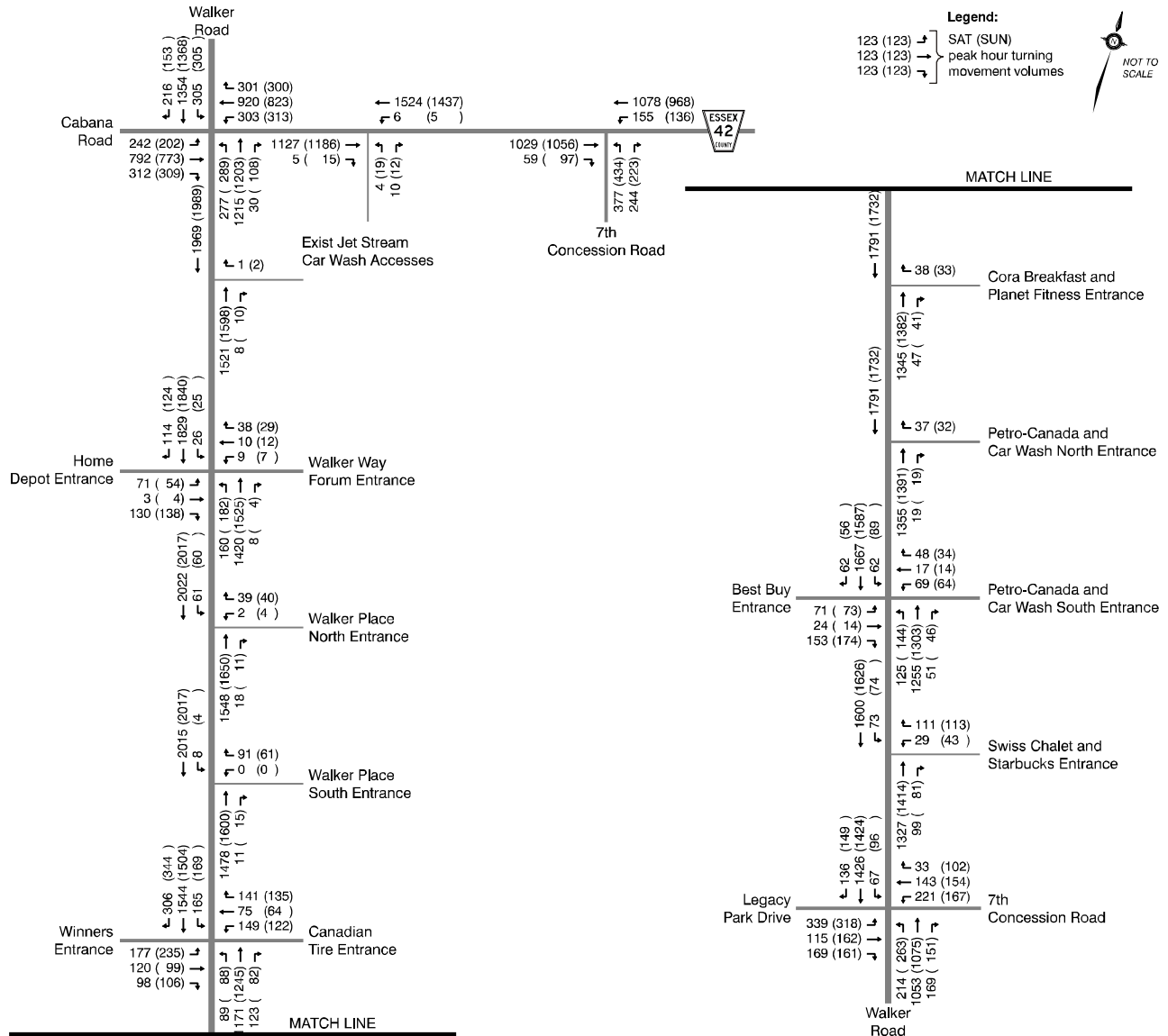


Figure 22: Future Background Weekend Traffic Volumes (2040)



4.0 TOTAL FUTURE CONDITIONS

4.1 PROPOSED DEVELOPMENT

The conceptual development plan is provided in Appendix A.

The proposed infill development is envisioned to include two mixed-use buildings combining residential and commercial spaces, and four commercial-only buildings. The total development yield will be 74 residential units and 17,744 m² (191,026 sq. ft.) of commercial GFA, subdivided by building as follows:

- 'Building A' is proposed to be a five-storey apartment building with 44 dwelling units and 1,049 m² (11,297 sq. ft.) of ground floor retail space.
- 'Building B' is proposed to be a three-storey apartment building with 30 dwelling units and 1,010 m² (10,873 sq. ft.) of ground floor retail space.
- 'Building C' is proposed to be a 791 m² (8,519 sq. ft.) commercial building.
- 'Building D' is proposed to be a 5,213 m² (56,116 sq. ft.) commercial building.
- 'Building E' is proposed to be a 4,653 m² (50,092 sq. ft.) grocery store.
- 'Building F' is proposed to be a 1,046 m² (11,260 sq. ft.) commercial building.
- 'Building G' is proposed to be a 3,982 m² (42,869 sq. ft.) commercial building.

As part of the development, all existing driveways on the subject lands would be closed, and two driveways would be constructed or modified:

- A new driveway will be constructed to Cabana Road, 100 metres east of Riberdy Road.
- An existing driveway to Walker Road, approximately 115 metres south of Cabana Road, will be modified to serve the development. This driveway is currently a narrow laneway leading to the rear of the adjacent commercial plaza at 4050 Walker Road. The driveway will be widened to the north and will be extended into the subject site, becoming a reciprocal access serving both sites.

The conceptual development plan also proposes driveway interconnections to the larger commercial sites to the south. These interconnections would provide additional access to Walker Road at existing signalized intersections (one at the driveway leading to the Home Depot development on the west side of Walker Road; one at the driveway serving Canadian Tire store south of the subject lands).

The conceptual development plan shows a parking supply of 956 spaces.

4.2 SITE TRIP GENERATION

Trips generated by the proposed mixed-use development were estimated based on trip generation rates published by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual*, 11th edition. The applicable references are provided in Appendix C.

The trips generated by the three and- five-storey apartment buildings are based on ITE land use code 220 ("Multifamily Housing (Low-Rise)"). This land use code reflects multi-unit residential buildings of up to three storeys of "living space". While the five-storey residential building has one additional storey of "living space" (after discounting the retail space on the ground floor) and is therefore slightly taller than this, both

buildings were assessed under the low-rise land use code, which can be considered to be slightly conservative.

The trips generated by the commercial buildings (including the grocery store and the ground floor retail space in the mixed-use buildings) are based on ITE land use code 820 ("Shopping Center (>150k)"). The proposed supermarket was not considered separately because this ITE land use code covers shopping centres with a wide range of anchor tenants, including supermarkets.

To plan for non-auto trips, the City's 2019 Active Transportation Master Plan (ATMP) was reviewed. The 2041 target mode shares for various areas within the city of Windsor are outlined in the ATMP. For newer communities, the target non-auto mode share is identified as 14%.

Given the location of the development and the nature of the proposed land uses, the non-auto mode share (14%) was broken down as follows:

- 10% for transit;
- 2% for walking; and
- 2% for cycling.

The non-auto trips were added to the vehicle trips.

Table 3 and Table 4 summarize the estimated number of trips that are expected to be generated by the subject development during the weekday AM and PM peak hours and during the weekend Saturday and Sunday peak hours, respectively. The fitted curve equation trip rate was used in the calculations; if it was not available, the average rate was used instead. For the Saturday and Sunday peak hours, there was no data available for ITE land use code 220, so ITE LUC 221 was used instead.

An internal capture reduction was applied to reflect trips made between the proposed residential and commercial buildings; these trips would remain within the site and would not travel on the road network. The internal capture rate was applied to the net vehicles that are anticipated to be generated by the site.

A further reduction was applied to reflect trip interaction between the subject site and the other interconnected commercial sites on the east side of Walker Road. Some customers that are already making a trip to the adjacent shopping centre (e.g., the Canadian Tire store) may also make a trip to one or more of the stores in the proposed development. This trip would be made without traveling on the public road network and would not add to driveway volumes. Based on a review of the volume of east-west through traffic at the signalized commercial driveway intersections along Walker Road, this was assumed to be approximately 5% of commercial trips.

The commercial trips were then subdivided into primary trips and pass-by trips. Primary trips are new trips made by motorists that would not otherwise be traveling in the area. Pass-by trips are made by motorists that are already passing the site and are making a stop along the way at the subject site; these trips are observed on the site driveways but do not represent an increase in traffic on the road network. Pass-by rates were obtained from the ITE *Trip Generation Handbook* (3rd edition). There was no pass-by data available for the Saturday and Sunday peak hours, so the PM peak hour pass-by rate was used instead.

Table 3: Weekday Trip Generation

Land use / trip type	AM peak hour					PM peak hour				
	Rate	% in/out	Total trips	Trips in	Trips out	Rate	% in/out	Total trips	Trips in	Trips out
Low-rise apartment building (74 units)	[1]	24 / 76	46	11	35	[1]	63 / 37	52	33	19
Shopping centre (191,000 sq ft)	[2]	62 / 38	246	153	94	[2]	48 / 52	899	432	468
Subtotal			315	169	146			952	465	487
Residential internal capture		0 / 2	0	0	0		46 / 41	23	15	8
Commercial internal capture		1 / 0	0	0	0		3 / 4	23	9	14
Net residential trip generation			46	11	35			30	19	11
Net commercial trip generation			246	153	94			877	424	454
Trips generated within site:			292	164	129			907	443	465
Interaction with adjacent commercial site		-5%	-12	-8	-5		-5%	-44	-21	-23
Total site trips (driveway volumes)			280	156	124			864	422	442
Pass-by adjustment	0%		0	0	0	29%		-242	-117	-125
Commercial primary trips								592	286	306
Total net vehicle trips			280	156	124			622	305	317
Non-auto trips (14%)			39	22	17			87	43	44
Total person trips			319	178	141			709	347	362

[1] LUC 220: AM: $T = 0.31 (X) + 22.85$; PM: $T = 0.43 (X) + 20.55$

[2] LUC 820: AM: $T = 0.59 (X) + 133.55$; PM: $\ln(T) = 0.72 \ln(X) + 3.02$

Some numbers may not add to 100% due to rounding error.

Table 4: Weekend Trip Generation

Land use / trip type	Saturday peak hour					Sunday peak hour				
	Rate	% in/out	Total trips	Trips in	Trips out	Rate	% in/out	Total trips	Trips in	Trips out
Low-rise apartment building (74 units)	[1]	51 / 49	30	15	15	[1]	55 / 45	39	22	18
Shopping centre (191,000 sq ft)	[2]	52 / 48	1,088	566	522	2.35	49 / 51	449	220	229
Subtotal			1,117	581	537			488	242	247
Residential internal capture		47 / 40	13	7	6		45 / 41	18	10	8
Commercial internal capture		1 / 1	11	6	5		5 / 7	18	9	9
Net residential trip generation			19	10	9			22	13	10
Net commercial trip generation			1,077	560	517			432	212	220
Trips generated within site:			1,096	570	526			455	225	230
Interaction with adjacent commercial site		-5%	-54	-28	-26		-5%	-22	-11	-11
Total site trips (driveway volumes)			1,042	542	500			433	214	219
Pass-by adjustment	29%		-297	-154	-142	29%		-119	-58	-61
Commercial primary trips			726	378	349			291	143	148
Total net vehicle trips			745	388	358			314	156	158
Non-auto trips (14%)			104	54	50			44	22	22
Total person trips			849	442	408			357	178	180

[1] LUC 221: SAT: $\ln(T) = 1.00 \ln(X) - 0.91$; SUN: $T = 0.24 (X) + 21.51$

[2] LUC 820: SAT: $\ln(T) = 0.76 \ln(X) + 3.00$

Some numbers may not add to 100% due to rounding error.

The proposed mixed-use development is anticipated to generate 280 vehicle trips during the weekday AM peak hour; 864 vehicle trips during the weekday PM peak hour; 1,042 vehicle trips during the Saturday peak hour; and 433 vehicle trips during the Sunday peak hour.

After subtracting pass-by traffic and focusing on primary trips that will represent additional traffic on the road network, the site is anticipated to generate 280 vehicle trips during the weekday AM peak hour; 622

vehicle trips during the weekday PM peak hour; 745 vehicle trips during the Saturday peak hour; and 314 vehicle trips during the Sunday peak hour.

When considering an additional 14% non-auto mode share, the proposed development is expected to generate 319 person trips during the weekday AM peak hour; 709 person trips during the weekday PM peak hour; 849 person trips during the Saturday peak hour; and 357 person trips during the weekend Sunday peak hour.

4.3 SITE TRIP DISTRIBUTION

The vehicle trips generated by the proposed development were distributed to the road network based on existing travel patterns and the attractiveness of various travel routes. In addition, the trip distribution related to the commercial component also considered an estimated catchment area, as well as observations of interaction between commercial developments on either side of Walker Road.

Table 5 lists the trip distribution applied to the residential and commercial primary site trips.

Table 5: Residential Trip Distribution

To/from	Residential		Commercial (primary)	
	Inbound	Outbound	Inbound	Outbound
North via Walker Road	40%	40%	25%	25%
South via Walker Road	20%	20%	15%	15%
South via Walker Road to 7 th Concession	—	—	10%	5%
West via Cabana Road	20%	20%	25%	25%
East via Cabana Road	20%	20%	10%	10%
East via Cabana Road to 7 th Concession	—	—	5%	10%
Commercial interaction (Home Depot)	—	—	5%	5%
Commercial interaction (Winners)	—	—	5%	5%
Total	100%	100%	100%	100%

4.4 SITE TRIP ASSIGNMENT

Figure 23 and Figure 24 illustrate how pass-by trips were distributed and assigned through the study area intersections during the weekday AM and PM peak hours, and the weekend Saturday and Sunday peak hours, respectively.

Figure 25 and Figure 26 illustrate how vehicle trips were distributed and assigned through the study area intersections during the weekday AM and PM peak hours, and the weekend Saturday and Sunday peak hours, respectively.

The vehicle trips were logically assigned to the various site driveways (including those leading to interconnections through adjoining sites) based on factors such as the distribution of parking areas within the site and the ease of making turning movements along the travel route.

Figure 24: Weekend Pass-by Trips

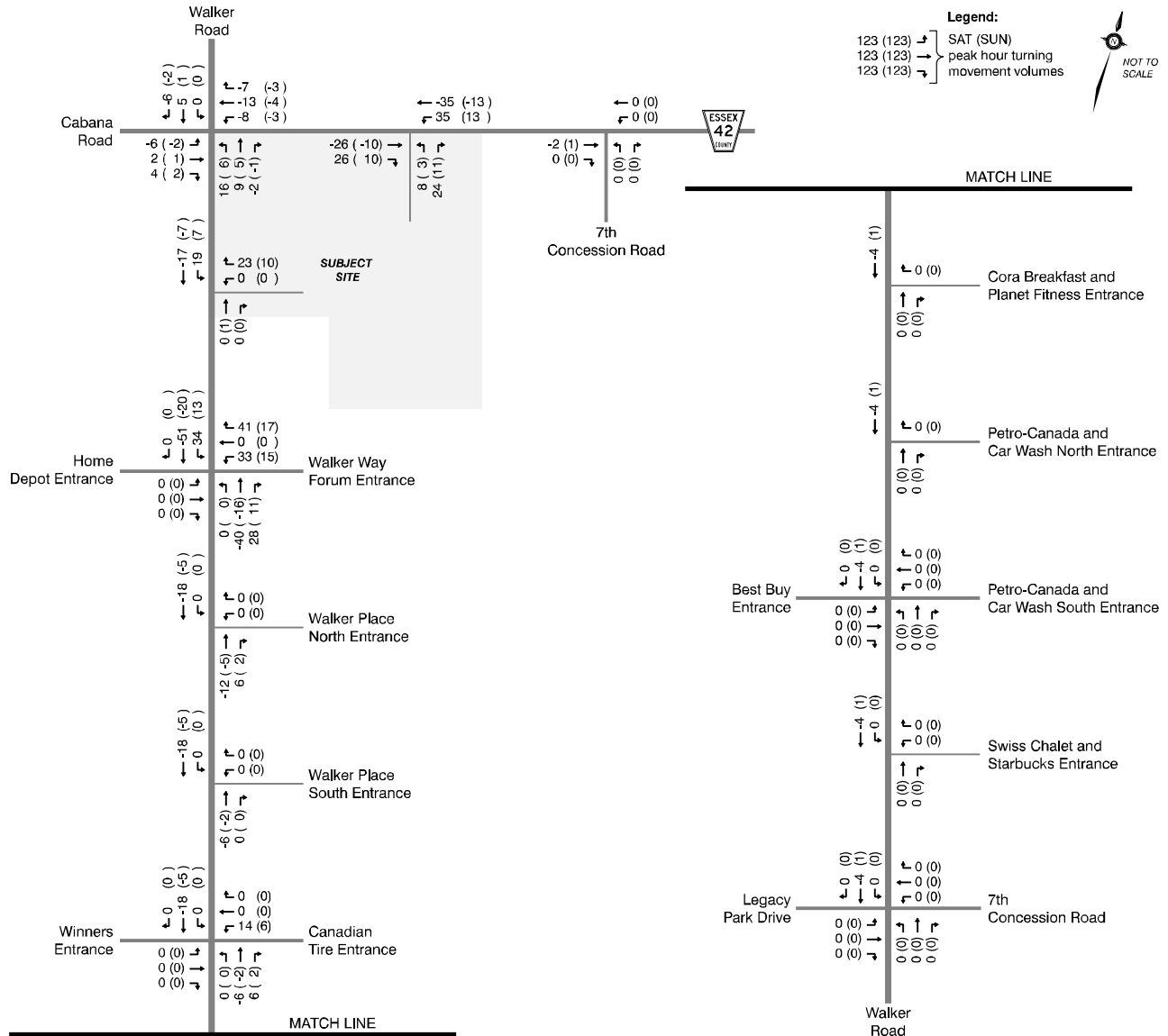


Figure 25: Weekday Site-Generated Trips

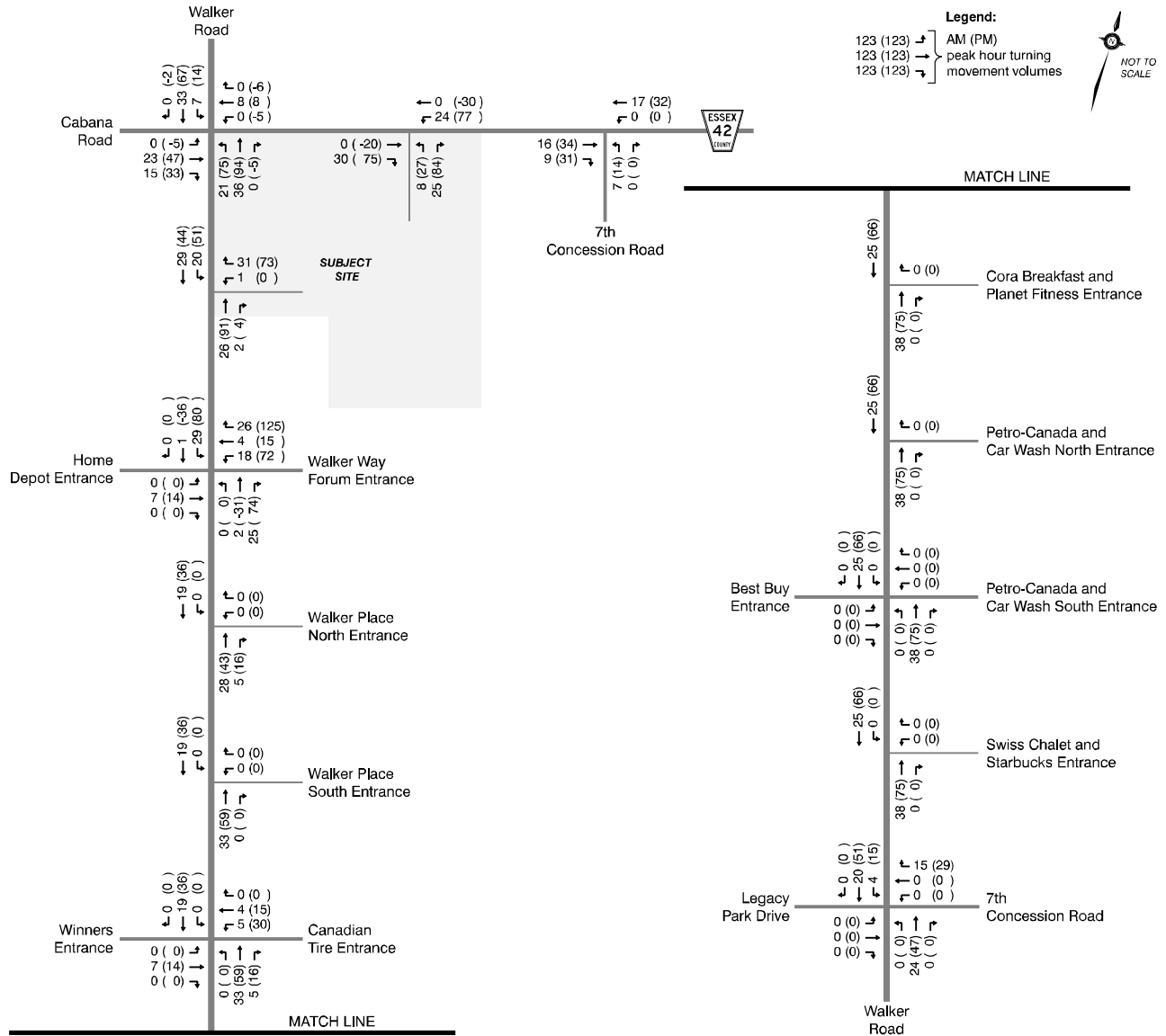
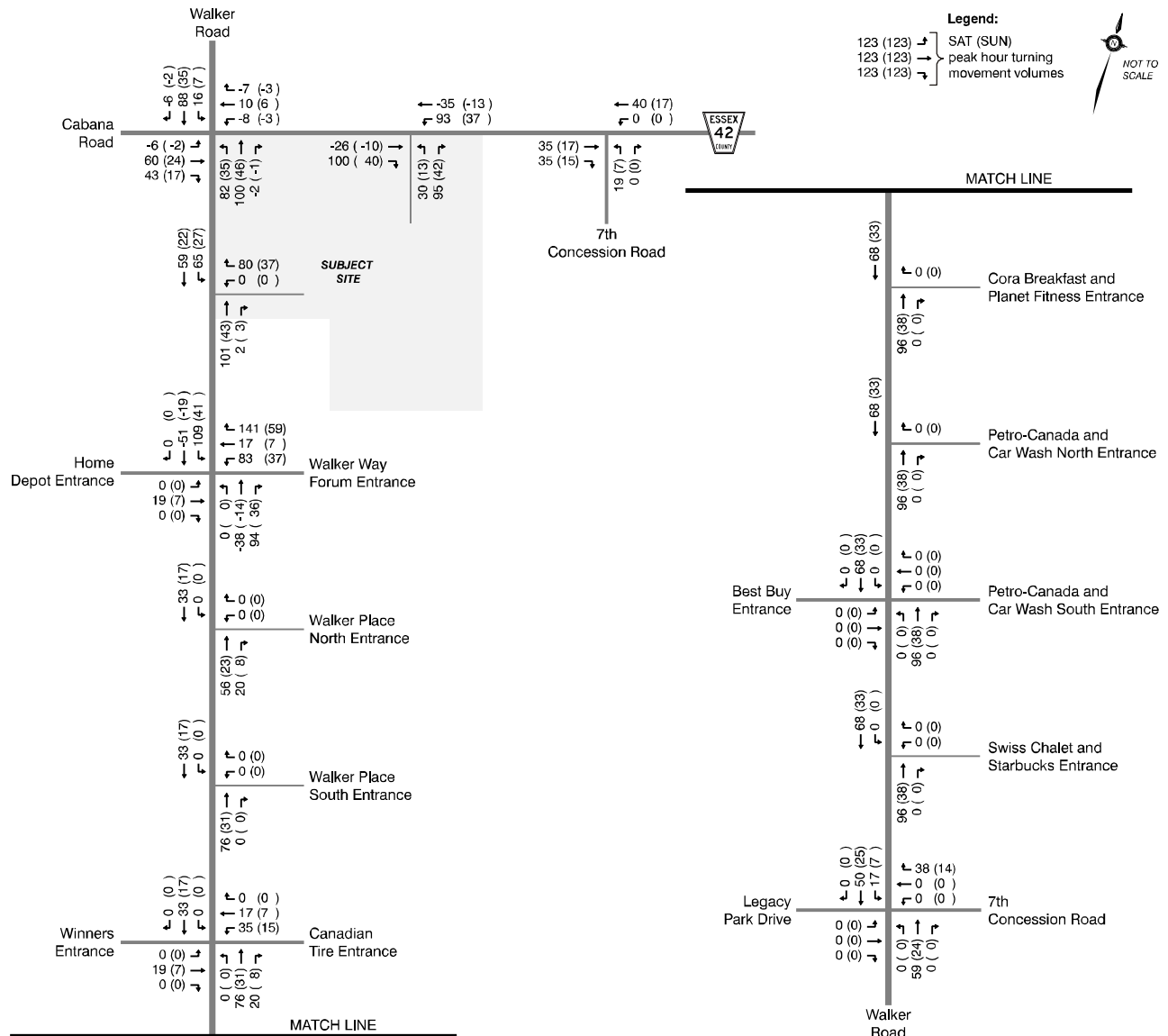


Figure 26: Weekend Site-Generated Trips



4.5 TOTAL FUTURE TRAFFIC VOLUMES

The total future traffic volumes were calculated by adding the site trips to the future background traffic volumes.

Figure 27 and Figure 28 present the total future weekday AM and PM peak hour traffic volumes for 2030, and the total future weekend Saturday and Sunday peak hour traffic volumes for 2030, respectively.

Figure 27: Total Future Weekday Traffic Volumes (2030)

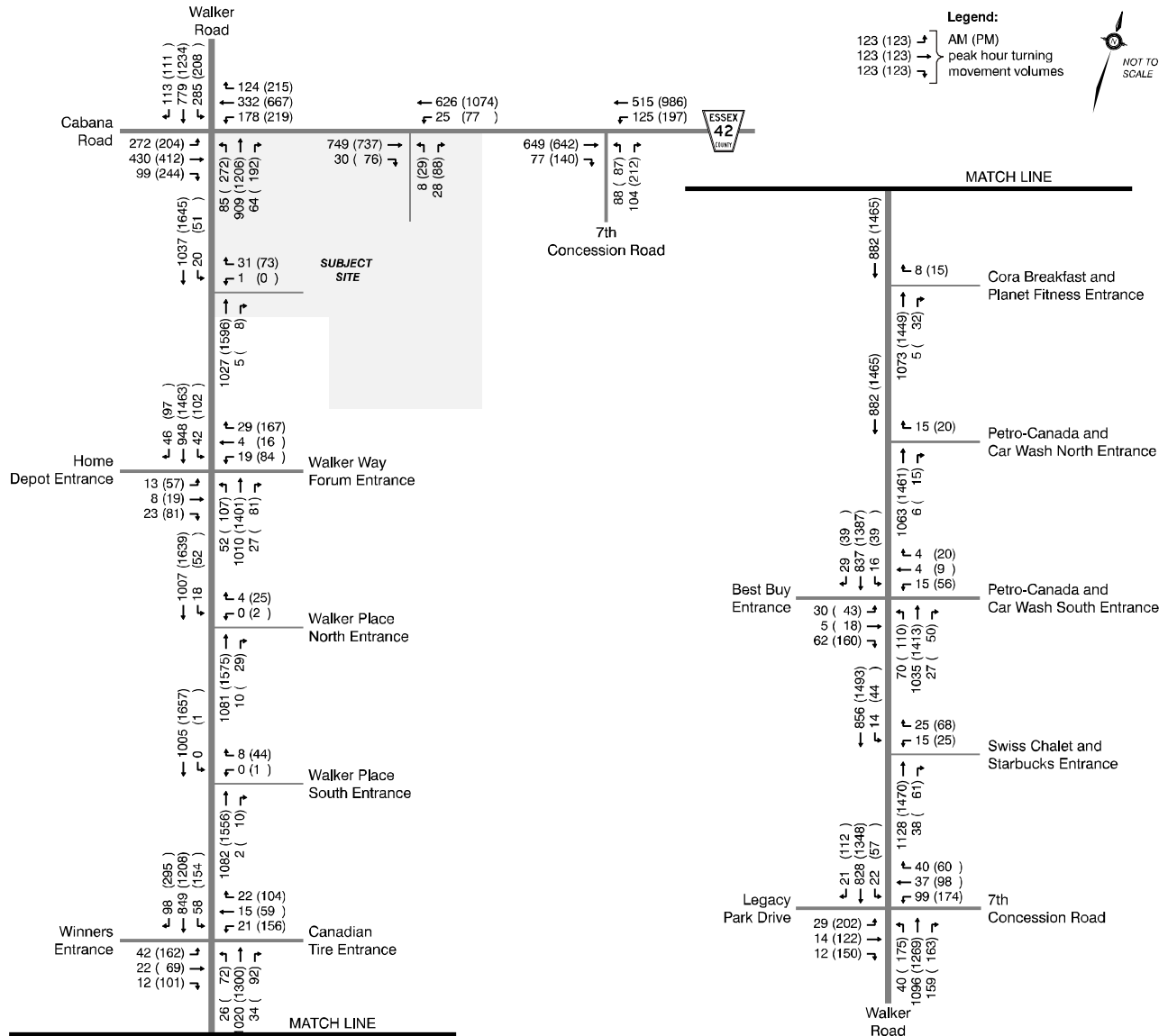


Figure 28: Total Future Weekend Traffic Volumes (2030)

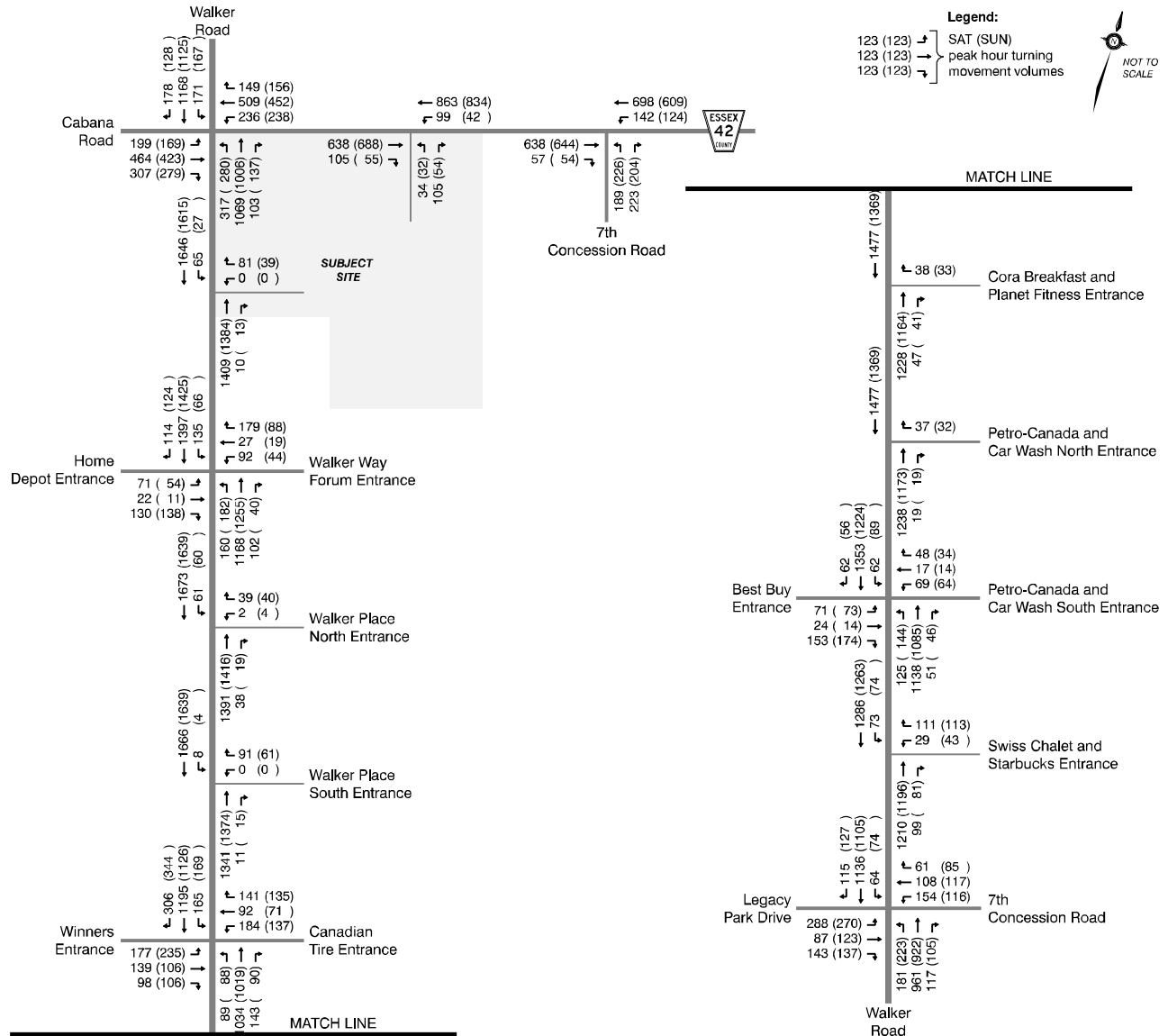


Figure 29 and Figure 30 present the total future weekday AM and PM peak hour traffic volumes for 2040, and the total future weekend Saturday and Sunday peak hour traffic volumes for 2040, respectively.

Figure 29: Total Future Weekday Traffic Volumes (2040)

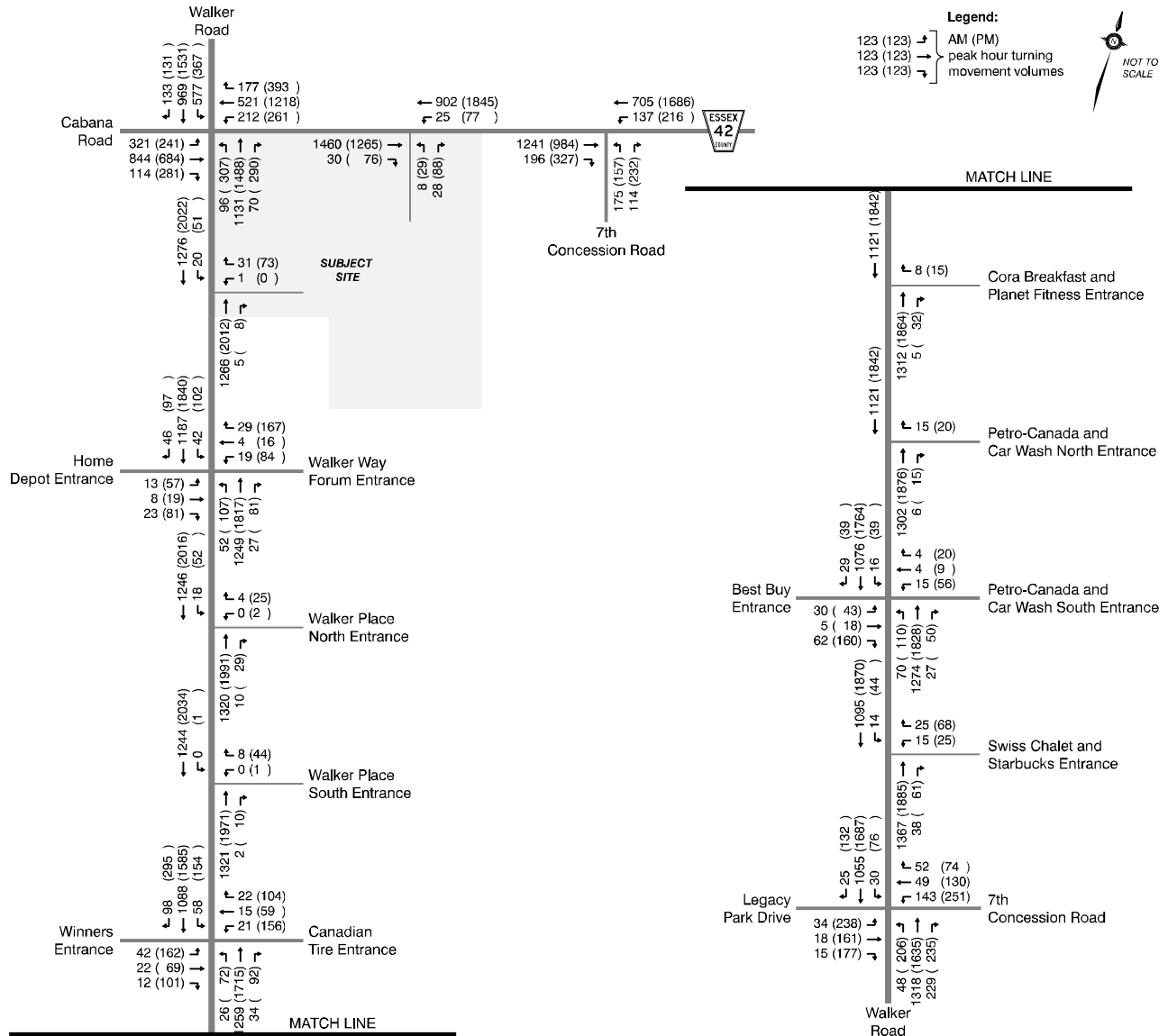
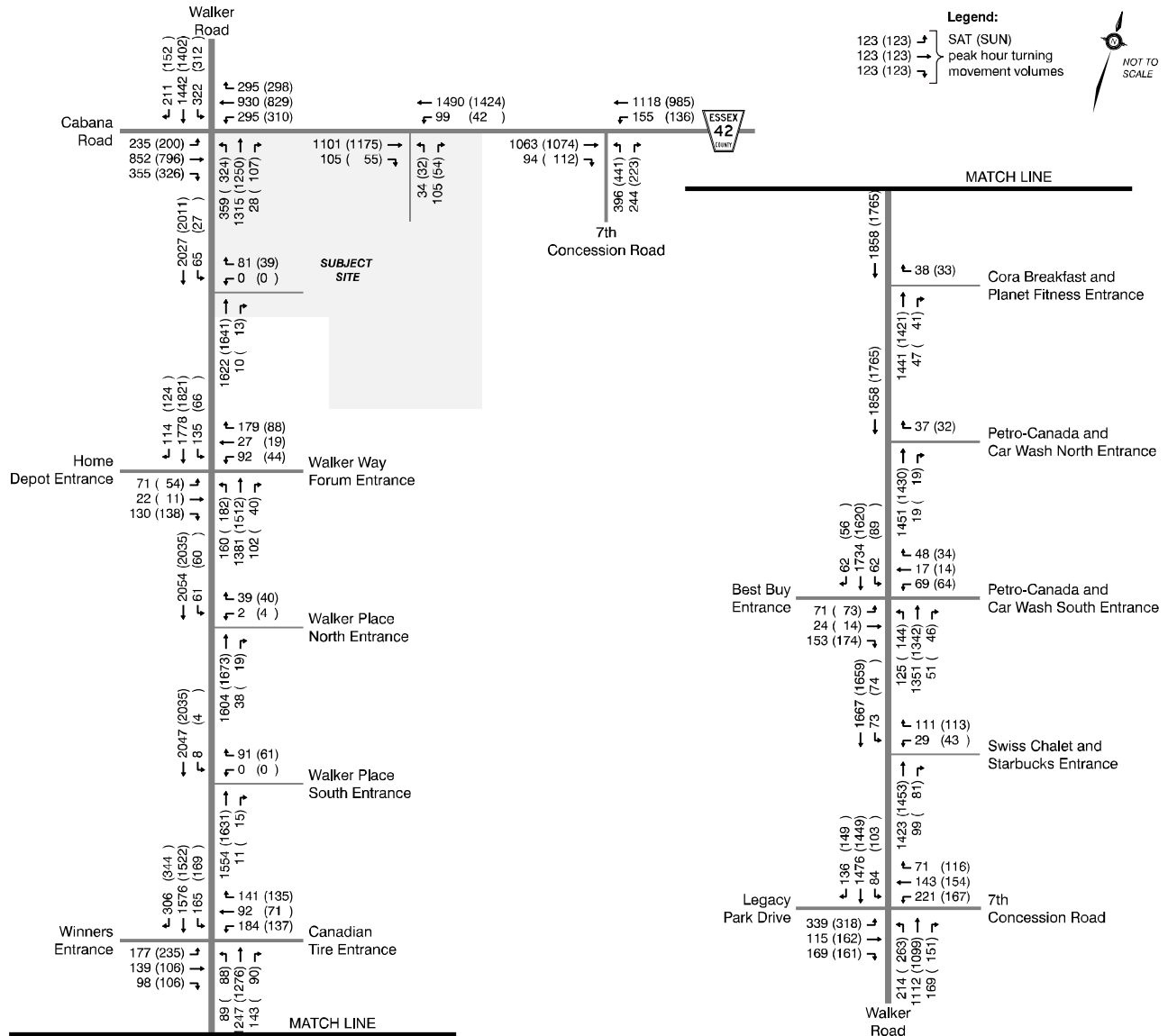


Figure 30: Total Future Weekend Traffic Volumes (2040)



5.0 INTERSECTION OPERATIONS

Intersection operational analyses were completed for the study area intersections using Trafficware's Synchro software (version 12).

At the study area intersections, the volume-to-capacity (v/c) ratio, delay, level of service and 95th percentile queue were noted for any stop-controlled movements or for any movements where an exclusive left turn lane is present. Level of service (LOS) definitions are provided in Appendix D. The Synchro analysis worksheets reports are provided in Appendix E.

At each intersection, critical movements were identified. Critical movements are defined by the City of Windsor as:

- Any through movement or shared through / turning movement at a signalized intersection operating at a v/c ratio of 0.85 or greater;
- An exclusive turning movement at a signalized intersection operating at a v/c ratio of 1.00 or greater;
- Any individual movement at a signalized intersection operating at LOS F;
- Any individual movement at an unsignalized intersection operating at LOS E or worse; and
- Any turning movement where the calculated 95th percentile queue exceeds the available storage length.

The analyses reflect the existing lane configurations and traffic signal timings obtained from the City of Windsor.

5.1 WALKER ROAD AT CABANA ROAD

Table 6 and Table 7 summarize the existing and future operations for the Walker Road and Cabana Road intersection during the weekday and weekend peak hours, respectively.

Although the west and east legs of the intersection have four-lane cross-sections, the road narrows down to a two-lane cross-section within 70 to 95 metres of the intersection, both west and east of Walker Road. The limited storage and receiving distance lowers the capacity of the through lanes; the capacity of the second lane is limited by the number of vehicles that can be queued in advance of the intersection and/or that can be received beyond the intersection before needing to merge. To account for this reduced capacity, a lane utilization factor of 0.75 (eastbound) and 0.85 (westbound) was applied.

It is anticipated that the two-lane sections of Cabana Road will be widened to four lanes in advance of the 2030 horizon. Although the lane configuration at Walker Road will not change, the capacity will increase because the limited storage and receiving distance that current exists will no longer apply. For the 2030 and 2040 analyses, the effect of this increased capacity was modeled by restoring the default lane utilization factor of 0.95.

Table 6: Intersection Operations — Walker Road at Cabana Road (Weekday Peak Hours)

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.81	D	46.1	55	0.71	D	42.1	49
EB through	0.45	C	30.3	35	0.68	D	38.0	64
WB left	0.57	C	33.1	36	0.76	D	47.0	53
WB through	0.62	D	36.9	42	0.75	D	49.4	75
NB left	0.19	A	8.9	7	0.67	D	43.3	58
NB through	0.62	B	17.5	40	0.74	C	21.2	179
SB left	0.38	B	15.5	25	0.45	B	19.8	23
SB through	0.52	C	23.0	105	0.77	D	35.8	198
Overall	-	C	25.7	-	-	C	34.2	-
2030 future background volumes								
EB left	0.96	E	69.2	68	0.87	E	60.7	82
EB through	0.66	D	37.3	63	0.64	D	36.6	80
WB left	0.79	D	47.7	42	0.77	D	43.1	60
WB through	0.70	D	38.6	57	1.03	E	79.0	166
NB left	0.27	B	13.3	9	0.77	E	55.7	66
NB through	1.04	E	65.9	160	1.17	F	115.9	264
SB left	0.86	D	50.4	130	0.80	D	49.8	61
SB through	0.66	C	28.2	141	1.09	F	95.3	253
Overall	-	D	46.4	-	-	F	83.6	-
2030 total future volumes								
EB left	0.96	E	69.7	70	0.86	E	58.2	79
EB through	0.70	D	38.3	68	0.73	D	39.7	93
WB left	0.83	D	54.1	47	0.84	E	76.0	78
WB through	0.71	D	38.9	58	1.03	E	70.4	168
NB left	0.37	B	15.0	12	0.93	E	73.0	110
NB through	1.08	E	78.4	170	1.28	F	161.0	291
SB left	0.89	E	55.8	134	0.82	D	51.4	70
SB through	0.70	C	29.7	150	1.22	F	144.7	272
Overall	-	D	50.8	-	-	F	109.4	-
2040 future background volumes								
EB left	1.22	F	148.7	126	1.03	F	95.7	105
EB through	0.93	D	49.5	149	1.01	E	74.2	164
WB left	1.24	F	169.9	96	1.13	F	127.4	119
WB through	0.80	D	39.1	97	1.88	F	425.9	379
NB left	0.42	C	24.7	20	0.85	E	61.7	84
NB through	1.29	F	163.6	222	1.65	F	322.1	375
SB left	2.81	F	843.5	290	1.23	F	162.4	161
SB through	1.02	E	68.0	198	1.41	F	222.4	345
Overall	-	F	179.6	-	-	F	258.7	-
2040 total future volumes								
EB left	1.22	F	149.3	127	1.01	F	90.6	103
EB through	0.97	D	54.7	159	1.10	F	100.9	187
WB left	1.24	F	168.9	97	1.11	F	124.2	109
WB through	0.80	D	39.2	99	1.88	F	425.4	376
NB left	0.52	C	30.8	26	1.04	F	90.9	120
NB through	1.33	F	180.6	232	1.73	F	360.4	401
SB left	2.86	F	866.2	292	1.28	F	179.1	168
SB through	1.14	F	108.6	207	1.52	F	272.9	363
Overall	-	F	194.2	-	-	F	281.5	-
2040 total future volumes (mitigated)								
EB left	1.65	F	335.3	159	1.01	F	90.6	103

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
EB through	1.02	E	70.2	167	1.10	F	101.7	187
WB left	1.48	F	272.1	104	1.11	F	160.8	109
WB through	0.78	D	37.2	97	1.88	F	425.4	376
NB left	0.65	D	43.7	32	1.04	E	76.8	98
NB through	1.25	F	145.9	225	1.73	F	363.8	414
SB left	2.52	F	712.1	284	1.28	F	179.1	168
SB through	0.95	D	47.5	176	1.52	F	271.7	363
Overall	-	F	174.5	-	-	F	282.9	-

Table 7: Intersection Operations — Walker Road at Cabana Road (Weekend Peak Hours)

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.71	D	47.7	59	0.46	C	29.8	34
EB through	0.76	C	29.8	53	0.70	C	23.4	40
WB left	0.88	E	67.7	77	0.73	D	42.3	44
WB through	0.74	D	55.0	61	0.57	D	39.9	42
NB left	0.72	D	43.4	57	0.70	D	43.7	72
NB through	0.57	A	10.0	27	0.59	C	22.8	141
SB left	0.25	B	11.5	12	0.25	B	14.2	17
SB through	0.70	C	27.9	147	0.73	C	32.1	184
Overall	-	C	29.6	-	-	C	29.9	-
2030 future background volumes								
EB left	0.87	E	65.3	78	0.59	C	29.1	38
EB through	1.17	F	129.0	135	0.78	D	37.2	77
WB left	1.03	F	100.4	102	0.88	F	109.6	77
WB through	1.28	F	179.7	149	0.73	D	39.9	79
NB left	0.87	E	71.3	91	0.83	E	62.7	88
NB through	0.71	B	16.0	85	0.90	D	41.4	194
SB left	0.63	C	23.5	32	0.66	C	33.6	42
SB through	0.88	D	40.1	190	1.07	F	83.3	231
Overall	-	E	73.3	-	-	E	56.3	-
2030 total future volumes								
EB left	0.85	E	61.8	74	0.57	C	27.5	37
EB through	1.34	F	198.9	166	0.79	D	37.6	83
WB left	1.00	F	92.7	97	0.87	F	108.3	77
WB through	1.29	F	181.3	151	0.70	D	38.2	80
NB left	1.12	F	125.6	139	0.88	E	65.6	107
NB through	0.79	B	17.3	105	0.97	D	52.6	207
SB left	0.74	D	38.4	47	0.68	C	34.0	43
SB through	0.95	F	89.8	224	1.19	F	127.9	239
Overall	-	F	101.5	-	-	E	71.2	-
2040 future background volumes								
EB left	1.02	F	98.4	101	0.76	D	40.9	59
EB through	2.10	F	525.0	279	1.13	F	106.6	190
WB left	1.28	F	185.3	140	1.13	F	139.5	125
WB through	2.39	F	652.6	317	1.14	F	108.6	201
NB left	0.97	F	89.0	115	0.95	E	79.4	106
NB through	0.87	C	24.1	111	1.39	F	213.2	250
SB left	1.23	F	162.3	141	1.01	F	83.0	113
SB through	1.11	F	92.6	288	1.59	F	301.0	309
Overall	-	F	272.2	-	-	F	174.9	-

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 total future volumes								
EB left	1.00	F	91.6	97	0.76	D	40.4	58
EB through	2.28	F	605.6	308	1.17	F	122.5	200
WB left	1.25	F	171.8	135	1.12	F	146.7	123
WB through	2.39	F	655.8	318	1.14	F	110.5	203
NB left	1.26	F	174.9	163	1.06	F	105.0	124
NB through	0.94	C	32.7	219	1.44	F	235.6	263
SB left	1.30	F	188.3	151	1.04	F	89.8	117
SB through	1.17	F	117.1	312	1.63	F	315.9	317
Overall	-	F	296.3	-	-	F	188.4	-
2040 total future volumes (mitigated)								
EB left	1.45	F	258.0	119	1.09	F	117.6	82
EB through	1.25	F	154.8	244	1.10	F	94.9	192
WB left	1.68	F	380.7	153	1.58	F	332.4	141
WB through	1.26	F	159.4	251	1.07	F	84.4	191
NB left	1.67	F	338.7	164	1.43	F	243.0	145
NB through	1.09	F	95.7	258	1.11	F	99.9	238
SB left	1.75	F	380.0	168	1.50	F	273.7	140
SB through	1.36	F	198.2	341	1.29	F	166.3	284
Overall	-	F	189.0	-	-	F	140.6	-

The Walker Road and Cabana Road intersection currently operates at a reasonable overall level of service (LOS C) during all peak hours, with no critical movements.

This intersection is anticipated to experience a significant amount of traffic growth as the lands east of the study area are developed. This is exemplified in the high annual growth rates derived from the growth projections in the County Road 42 corridor study (e.g., 12% per year east of Walker Road during the PM, Saturday and Sunday peak hours). This will include significant growth on left and right turn movements, especially those leading to/from the east.

At these high growth rates, background traffic growth even to the initial 2030 horizon was found to result in the intersection operating at LOS E to F during most peak hours, with several movements becoming critical from a v/c and/or level of service perspective. By 2040, the intersection is expected to operate at LOS F at all times, and most movements are projected to exceed capacity during the PM, Saturday and Sunday peak hours. Although site traffic contributes to this intersection, the primary factor is the substantial amount of background traffic growth forecast in the area to the east.

The 2040 total future mitigation scenario consists of traffic signal timing adjustments. Given that most or all movements are projected to exceed capacity, the effect of these adjustments would be to better balance green time between these movements (e.g., to better reflect the disproportionate traffic growth in the east-west direction), rather than to bring individual movements under capacity. However, this would still reduce delay compared to “do nothing” conditions.

Additional measures beyond signal timing adjustments would require widening the intersection (e.g., to provide right turn lanes). It is understood that property constraints preclude any further widening. Notwithstanding, the City should continue to monitor opportunities for additional capacity at this intersection.

5.2 WALKER ROAD AT HOME DEPOT ENTRANCE/WALKER WAY FORUM ENTRANCE

Table 8 and Table 9 summarize the existing and future operations for the Walker Road and Home Depot Entrance/Walker Way Forum Entrance intersection during the weekday and weekend peak hours, respectively.

Table 8: **Intersection Operations** — Walker Road at Home Depot Entrance/Walker Way Forum Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB through/left	0.10	D	40.4	9	0.41	E	56.6	28
EB right	0.12	A	1.8	1	0.34	B	13.4	14
WB approach	0.02	A	0.3	0	0.27	C	21.6	15
NB left	0.13	A	1.4	1	0.35	A	7.5	21
NB through	0.35	A	1.9	3	0.43	A	6.7	123
SB left	0.04	A	4.9	0	0.07	A	3.6	1
SB through	0.38	A	3.7	26	0.57	A	4.8	27
Overall	-	A	3.0	-	-	A	7.3	-
2030 future background volumes								
EB through/left	0.10	D	40.4	9	0.41	E	56.6	28
EB right	0.12	A	1.8	1	0.34	B	13.4	14
WB approach	0.02	A	0.3	0	0.27	C	21.6	15
NB left	0.15	A	1.5	1	0.42	B	10.7	22
NB through	0.41	A	2.1	3	0.52	A	9.3	174
SB left	0.05	A	4.6	0	0.10	A	4.1	1
SB through	0.45	A	3.6	32	0.66	A	7.4	31
Overall	-	A	3.0	-	-	A	9.6	-
2030 total future volumes								
EB through/left	0.13	D	40.7	11	0.43	D	48.3	31
EB right	0.12	A	1.8	1	0.22	A	9.1	13
WB approach	0.38	C	28.6	16	0.81	D	53.6	78
NB left	0.16	A	1.8	1	0.49	B	18.0	26
NB through	0.44	A	2.9	3	0.60	B	16.2	201
SB left	0.17	A	5.3	0	0.62	B	16.4	22
SB through	0.47	A	4.1	31	0.74	B	16.7	172
Overall	-	A	4.4	-	-	B	19.7	-
2040 future background volumes								
EB through/left	0.10	D	40.4	9	0.41	E	56.6	28
EB right	0.12	A	1.8	1	0.34	B	13.4	14
WB approach	0.02	A	0.3	0	0.29	C	34.8	20
NB left	0.20	A	1.9	0	0.59	C	22.6	17
NB through	0.51	A	2.3	3	0.67	B	13.9	250
SB left	0.06	A	3.2	0	0.17	A	4.0	1
SB through	0.56	A	3.4	27	0.82	E	56.9	29
Overall	-	A	3.0	-	-	D	35.4	-
2040 total future volumes								
EB through/left	0.13	D	40.7	11	0.37	D	44.7	30
EB right	0.12	A	1.8	1	0.21	A	8.8	13
WB approach	0.38	C	28.6	16	0.82	E	60.6	88
NB left	0.20	A	2.1	0	0.57	C	21.8	21

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
NB through	0.54	A	3.1	3	0.78	C	23.9	258
SB left	0.23	A	3.5	0	1.41	F	215.2	14
SB through	0.58	A	3.9	25	0.94	E	62.8	173
Overall	-	A	4.2	-	-	D	47.3	-
2040 total future volumes (mitigated)								
EB through/left	-	-	-	-	0.46	D	51.1	32
EB right	-	-	-	-	0.23	A	9.6	13
WB approach	-	-	-	-	0.83	E	55.6	80
NB left	-	-	-	-	0.66	D	36.3	23
NB through	-	-	-	-	0.87	C	20.1	143
SB left	-	-	-	-	0.64	C	21.9	4
SB through	-	-	-	-	0.89	E	72.2	167
Overall	-	-	-	-	-	D	45.5	-

Table 9: Intersection Operations — Walker Road at Home Depot Entrance/Walker Way Forum Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB through/left	0.50	E	57.2	33	0.35	D	48.0	24
EB right	0.45	B	11.8	18	0.46	B	11.5	17
WB approach	0.27	C	22.5	17	0.23	C	23.6	15
NB left	0.54	B	12.7	26	0.56	B	12.1	30
NB through	0.43	A	9.3	123	0.41	A	9.8	108
SB left	0.10	A	8.9	3	0.09	A	5.8	4
SB through	0.63	B	10.3	109	0.61	B	14.1	171
Overall	-	B	11.6	-	-	B	13.0	-
2030 future background volumes								
EB through/left	0.50	E	57.2	33	0.35	D	48.0	24
EB right	0.45	B	11.8	18	0.46	B	11.5	17
WB approach	0.27	C	22.5	17	0.23	C	23.6	15
NB left	0.65	C	22.9	34	0.65	B	18.3	33
NB through	0.48	B	11.9	161	0.47	B	12.4	154
SB left	0.12	A	9.2	2	0.11	A	5.4	3
SB through	0.74	B	12.5	152	0.73	B	13.4	178
Overall	-	B	13.9	-	-	B	13.9	-
2030 total future volumes								
EB through/left	0.52	D	48.5	39	0.58	E	62.5	28
EB right	0.31	A	7.3	16	0.43	B	10.8	17
WB approach	0.87	E	57.7	104	0.64	D	38.7	41
NB left	0.74	C	33.9	43	0.66	B	18.3	31
NB through	0.58	C	20.2	182	0.49	B	11.7	137
SB left	0.82	C	27.2	31	0.31	A	8.3	10
SB through	0.84	C	23.7	191	0.74	B	13.0	166
Overall	-	C	25.9	-	-	B	14.7	-
2040 future background volumes								
EB through/left	0.50	E	57.2	33	0.35	D	48.0	24
EB right	0.45	B	11.8	18	0.46	B	11.5	17
WB approach	0.27	C	22.5	17	0.23	C	23.6	15
NB left	0.72	C	35.0	39	0.72	C	28.8	34
NB through	0.56	B	14.5	203	0.57	B	14.7	200

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
SB left	0.15	A	9.3	2	0.15	A	7.0	2
SB through	0.91	D	39.4	141	0.91	E	62.3	167
Overall	-	C	28.8	-	-	D	39.5	-
2040 total future volumes								
EB through/left	0.50	D	46.8	39	0.53	E	57.4	28
EB right	0.30	A	7.2	16	0.42	B	10.3	17
WB approach	0.87	E	60.3	110	0.65	D	42.7	44
NB left	0.73	C	30.8	35	0.73	C	28.1	33
NB through	0.68	C	24.7	236	0.59	B	14.6	188
SB left	1.23	F	135.8	32	0.42	B	13.3	8
SB through	1.07	E	67.6	183	0.93	E	63.7	161
Overall	-	D	50.3	-	-	D	40.1	-
2040 total future volumes (mitigated)								
EB through/left	0.52	E	64.7	39	0.57	E	61.5	28
EB right	0.31	A	8.7	18	0.43	B	10.7	17
WB approach	0.87	F	116.1	104	0.64	D	39.6	41
NB left	0.82	D	50.8	57	0.75	C	31.7	51
NB through	0.81	C	26.6	154	0.65	C	23.0	214
SB left	0.71	C	27.8	6	0.30	A	5.1	1
SB through	1.03	E	69.0	171	0.91	E	64.1	169
Overall	-	D	53.4	-	-	D	43.4	-

The Walker Road intersection with the entrances to the Home Depot and Walker Way Forum currently operate at a good level of service (LOS A during the weekday peak hours; LOS B during the weekend peak hours).

AM peak hour operations are not anticipated to change significantly; the level of service is anticipated to be unchanged and no critical movements are projected in any scenario.

During the PM peak hour, the level of service is expected to change to LOS C under 2030 future background conditions and LOS D under both 2040 scenarios. The southbound left turn is anticipated to exceed capacity in the 2040 total future scenario, and the southbound through movement will be near capacity.

During the weekend peak hour, the level of service is anticipated to change from LOS B (existing) to LOS D under 2040 total future volumes. Both the southbound left turn and the southbound through movement are anticipated to exceed capacity on Saturday.

The 2040 total future operations were analyzed with the addition of a southbound advance left turn phase. This would allow the southbound left turn to operate within capacity.

Although the westbound approach is projected to operate within capacity, it is critical from a queuing perspective. The Saturday peak hour queues are projected to be approximately 105 metres long, which would extend through the extent of the Walker Way Forum site and into the subject lands. This would result in operational constraints due to the queue conflicting with intersecting parking aisles and loading areas. If this driveway is relied upon as an interconnecting access point, consideration should be given to measures to address these conflicts and allow the driveway and adjacent parking area to operate efficiently. (As noted in **Section 6.0**, it is also recommended that consideration be given to pedestrian connectivity in

this area as well, given the likelihood of increased pedestrian activity using this drive aisle to travel between the subject site and the bus stops at this intersection.)

5.3 WALKER ROAD AT WALKER PLACE NORTH ENTRANCE

Table 10 and Table 11 summarize the existing and future operations for the Walker Road and Walker Place North Entrance intersection during the weekday and weekend peak hours, respectively.

Table 10: **Intersection Operations** — Walker Road at Walker Place North Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB approach	0.01	A	9.9	0	0.05	B	11.7	1
SB left	0.03	B	10.1	1	0.09	B	11.7	2
2030 future background volumes								
WB approach	0.01	A	9.9	0	0.05	B	11.4	1
SB left	0.03	B	10.8	1	0.11	B	13.5	3
2030 total future volumes								
WB approach	0.01	A	9.8	0	0.04	B	10.8	1
SB left	0.03	B	11.0	1	0.12	B	13.9	3
2040 future background volumes								
WB approach	0.01	A	9.5	0	0.05	B	11.7	1
SB left	0.04	B	12.3	1	0.17	C	18.5	5
2040 total future volumes								
WB approach	0.00	A	9.4	0	0.05	B	11.8	1
SB left	0.04	B	12.5	1	0.17	C	19.3	5

Table 11: **Intersection Operations** — Walker Road at Walker Place North Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB approach	0.07	B	11.6	2	0.09	B	12.3	2
SB left	0.11	B	11.7	3	0.11	B	11.8	3
2030 future background volumes								
WB approach	0.09	B	13.0	2	0.11	B	14.6	3
SB left	0.12	B	12.9	3	0.13	B	13.3	3
2030 total future volumes								
WB approach	0.06	B	10.7	2	0.08	B	11.8	2
SB left	0.13	B	13.1	4	0.12	B	13.1	3
2040 future background volumes								
WB approach	0.08	B	12.5	2	0.10	B	13.9	3
SB left	0.15	C	15.0	4	0.16	C	16.0	5
2040 total future volumes								
WB approach	0.06	B	10.7	2	0.07	B	11.1	2
SB left	0.16	C	15.2	4	0.16	C	15.6	4

At the intersection of Walker Road and the Walker Place north entrance, the westbound approach and the southbound left turn both currently operate at good levels of service (LOS B or better). These movements are anticipated to continue operating at LOS C or better under all scenarios.

5.4 WALKER ROAD AT WALKER PLACE SOUTH ENTRANCE

Table 12 and Table 13 summarize the existing and future operations for the Walker Road and Walker Place South Entrance intersection during the weekday and weekend peak hours, respectively.

Table 12: **Intersection Operations** — Walker Road at Walker Place South Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.01	A	9.7	0	0.06	B	10.2	2
2030 future background volumes								
WB right	0.01	A	9.8	0	0.06	B	10.0	2
2030 total future volumes								
WB right	0.01	A	9.7	0	0.06	B	10.1	2
2040 future background volumes								
WB right	0.01	A	9.5	0	0.07	B	11.4	2
2040 total future volumes								
WB right	0.01	A	9.5	0	0.08	B	11.9	2

Table 13: **Intersection Operations** — Walker Road at Walker Place South Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.11	A	9.8	3	0.08	A	9.6	2
2030 future background volumes								
WB right	0.15	B	11.5	4	0.10	B	11.5	3
2030 total future volumes								
WB right	0.12	B	10.1	3	0.08	A	10.0	2
2040 future background volumes								
WB right	0.15	B	11.4	4	0.10	B	11.4	3
2040 total future volumes								
WB right	0.14	B	10.9	4	0.09	B	10.8	3

At the intersection of Walker Road and the Walker Place south entrance, the westbound right turn currently operates at a good level of service (LOS B or better), and is anticipated to continue operating at LOS B or better under all scenarios.

5.5 WALKER ROAD AT WINNERS ENTRANCE / CANADIAN TIRE ENTRANCE

Table 14 and Table 15 summarize the existing and future operations for the Walker Road and Winners Entrance / Canadian Tire Entrance intersection during the weekday and weekend peak hours, respectively.

The initial analysis of existing conditions, using default parameters, found that the eastbound left turn exceeded capacity by 10% during the Sunday peak hour. Because the analysis is based on surveyed volumes, the intersection has capacity to process them, and the v/c ratio should be 1.00 or less. This indicates that opposing traffic has less of an effect on this left turn's capacity than the default parameters

would suggest (i.e., the calculated permissive left turn factor (f_{LTPerm}) is understated). This is due to a combination of intersection geometry, the high percentage of right turns in the opposing flow, and driver behaviour. To better calibrate the model to reflect the actual capacity of this movement, its ideal (unadjusted) saturated flow rate was increased. (This parameter was adjusted rather than the permissive left turn factor, as the latter would vary in each scenario depending on opposing volumes, whereas the ideal saturated flow rate is a static input in the capacity calculations.) An ideal saturation flow rate of 2,200 vehicles per hour per lane was applied to the eastbound left turn movement, which resulted in its calculated capacity being close to the volume that was processed during the survey.

Table 14: **Intersection Operations** — Walker Road at Winners Entrance / Canadian Tire Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.24	D	41.5	17	0.81	E	75.8	65
EB through	0.07	D	36.9	8	0.17	D	41.1	24
EB right	0.05	A	0.3	0	0.28	A	9.2	15
WB left	0.10	D	37.8	9	0.54	D	52.5	49
WB through	0.16	C	20.1	10	0.41	C	21.1	32
NB left	0.05	A	3.3	3	0.18	A	6.2	11
NB through	0.42	A	5.6	31	0.52	B	13.1	79
SB left	0.15	A	9.3	19	0.43	A	5.7	8
SB through	0.31	B	16.4	111	0.41	A	7.0	63
SB right	0.10	A	9.3	27	0.27	A	2.1	12
Overall	-	B	11.4	-	-	B	15.3	-
2030 future background volumes								
EB left	0.24	D	41.5	17	0.81	E	75.8	65
EB through	0.07	D	36.9	8	0.17	D	41.1	24
EB right	0.05	A	0.3	0	0.28	A	9.2	15
WB left	0.10	D	37.8	9	0.54	D	52.5	49
WB through	0.16	C	20.1	10	0.41	C	21.1	32
NB left	0.06	A	3.3	3	0.23	A	8.7	13
NB through	0.49	A	5.8	35	0.64	B	18.9	107
SB left	0.18	A	8.5	19	0.54	B	17.9	19
SB through	0.38	B	17.4	131	0.51	A	5.6	68
SB right	0.10	A	8.7	28	0.27	A	1.2	8
Overall	-	B	11.9	-	-	B	16.8	-
2030 total future volumes								
EB left	0.25	D	41.5	17	0.85	F	81.0	71
EB through	0.10	D	37.8	11	0.20	D	41.5	28
EB right	0.05	A	0.3	0	0.28	A	9.1	15
WB left	0.13	D	38.8	10	0.66	E	58.2	60
WB through	0.17	C	21.4	11	0.46	C	29.3	43
NB left	0.06	A	3.3	3	0.24	A	9.0	13
NB through	0.51	A	5.9	36	0.69	C	20.1	113
SB left	0.19	A	8.1	19	0.58	C	27.9	26
SB through	0.39	B	16.7	133	0.53	A	4.4	15
SB right	0.10	A	8.1	27	0.27	A	0.7	0
Overall	-	B	11.7	-	-	B	18.3	-

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 future background volumes								
EB left	0.24	D	41.5	17	0.81	E	75.8	65
EB through	0.07	D	36.9	8	0.17	D	41.1	24
EB right	0.05	A	0.3	0	0.28	A	9.2	15
WB left	0.10	D	37.8	9	0.54	D	52.5	49
WB through	0.16	C	20.1	10	0.41	C	21.1	32
NB left	0.08	A	3.8	3	0.34	B	10.7	10
NB through	0.60	A	7.1	48	0.84	C	27.0	280
SB left	0.23	A	6.8	14	0.74	D	52.9	29
SB through	0.49	B	14.9	165	0.67	A	7.4	125
SB right	0.10	A	5.5	22	0.27	A	1.1	6
Overall	-	B	11.2	-	-	C	21.1	-
2040 total future volumes								
EB left	0.25	D	41.5	17	0.85	F	81.0	71
EB through	0.10	D	37.8	11	0.20	D	41.5	28
EB right	0.05	A	0.3	0	0.28	A	9.1	15
WB left	0.13	D	38.8	10	0.66	E	58.2	60
WB through	0.17	C	21.4	11	0.46	C	29.3	43
NB left	0.08	A	3.9	3	0.35	B	11.8	10
NB through	0.62	A	7.4	50	0.89	C	29.8	301
SB left	0.24	A	7.0	13	0.73	D	53.7	29
SB through	0.50	B	14.7	168	0.69	A	5.1	38
SB right	0.10	A	5.3	22	0.28	A	0.4	0
Overall	-	B	11.4	-	-	C	22.3	-

Table 15: **Intersection Operations** — Walker Road at Winners Entrance / Canadian Tire Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.94	F	96.1	88	0.96	F	87.9	105
EB through	0.31	D	40.1	43	0.23	C	34.6	34
EB right	0.23	A	7.7	13	0.23	A	7.0	13
WB left	0.62	D	52.5	58	0.41	D	39.3	43
WB through	0.54	C	31.6	58	0.44	C	22.1	44
NB left	0.24	A	6.1	9	0.24	A	5.8	8
NB through	0.51	B	11.5	55	0.52	B	12.3	42
SB left	0.45	A	7.0	9	0.47	A	8.7	11
SB through	0.45	B	11.2	64	0.42	B	12.2	40
SB right	0.30	A	3.1	13	0.34	A	4.8	9
Overall	-	B	19.1	-	-	B	18.9	-

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2030 future background volumes								
EB left	0.94	F	96.1	88	0.96	F	87.9	105
EB through	0.31	D	40.1	43	0.23	C	34.6	34
EB right	0.23	A	7.7	13	0.23	A	7.0	13
WB left	0.62	D	52.5	58	0.41	D	39.3	43
WB through	0.54	C	31.6	58	0.44	C	22.1	44
NB left	0.31	A	7.4	9	0.31	A	6.9	8
NB through	0.58	B	12.0	61	0.61	B	12.9	47
SB left	0.51	B	10.8	10	0.55	B	14.2	14
SB through	0.56	B	11.8	81	0.54	B	12.2	54
SB right	0.30	A	2.5	11	0.34	A	3.4	7
Overall	-	B	18.8	-	-	B	18.5	-
2030 total future volumes								
EB left	0.95	F	99.1	91	0.98	F	93.1	106
EB through	0.34	D	40.5	49	0.24	C	34.8	36
EB right	0.23	A	7.6	13	0.23	A	7.0	13
WB left	0.78	E	64.2	82	0.47	D	41.0	48
WB through	0.57	D	35.7	67	0.46	C	24.7	48
NB left	0.33	A	7.9	9	0.32	A	7.0	8
NB through	0.64	B	12.8	65	0.63	B	13.2	48
SB left	0.57	C	20.6	15	0.57	B	16.7	15
SB through	0.58	A	7.6	55	0.55	B	11.5	56
SB right	0.31	A	1.0	2	0.34	A	3.0	7
Overall	-	B	19.3	-	-	B	19.1	-
2040 future background volumes								
EB left	0.94	F	96.1	88	0.96	F	87.9	105
EB through	0.31	D	40.1	43	0.23	C	34.6	34
EB right	0.23	A	7.7	13	0.23	A	7.0	13
WB left	0.62	D	52.5	58	0.41	D	39.3	43
WB through	0.54	C	31.6	58	0.44	C	22.1	44
NB left	0.47	C	22.0	25	0.48	C	22.6	23
NB through	0.69	B	13.6	75	0.75	B	14.8	54
SB left	0.62	C	21.8	14	0.70	C	31.9	19
SB through	0.74	B	15.5	234	0.73	B	14.9	152
SB right	0.31	A	2.2	9	0.34	A	2.1	5
Overall	-	C	20.4	-	-	C	20.1	-
2040 total future volumes								
EB left	0.95	F	99.1	91	0.98	F	93.1	106
EB through	0.34	D	40.5	49	0.24	C	34.8	36
EB right	0.23	A	7.6	13	0.23	A	7.0	13
WB left	0.78	E	64.2	82	0.47	D	41.0	48
WB through	0.57	D	35.7	67	0.46	C	24.7	48
NB left	0.49	C	26.0	27	0.50	C	24.3	24
NB through	0.76	B	15.8	88	0.78	B	15.7	56
SB left	0.69	D	36.5	18	0.73	D	37.0	21
SB through	0.77	B	10.5	99	0.74	B	13.9	141
SB right	0.31	A	0.8	2	0.34	A	1.7	5
Overall	-	C	20.9	-	-	C	20.7	-

The Walker Road intersection with the entrances to Winners and Canadian Tire currently operate at a good level of service (LOS B) during all peak hours. The eastbound left turn operates at a critical level of service (LOS F) during the weekend peak hours.

The intersection is anticipated to continue operating at LOS B overall through 2030; by 2040, additional growth on Walker Road will result in the level of service changing to LOS C at some times of day. The northbound through movement is anticipated to have a critical v/c ratio during the PM peak hour ($v/c = 0.89$); however, because the corridor capacity is governed by the downstream signals at Cabana Road, a critical v/c ratio at this location is less impactful than it might be in other contexts, and no mitigation is proposed.

The existing westbound left turn and/or through queues are calculated to reach approximately 50 to 60 metres during most of the analyzed peak hours. A 50-metre queue can be accommodated within the driveway throat before reaching the first drive aisle on the north side. The addition of site traffic is anticipated to increase the westbound left turn queue length to approximately 85 metres during the Saturday peak hour; this would extend past the first drive aisle on the north side and reach the second drive aisle. The eastbound lane is approximately 7 metres wide and is wide enough to bypass a vehicle waiting to turn left across this queue. Notwithstanding, a “DO NOT BLOCK INTERSECTION” sign should be installed facing westbound traffic to encourage motorists to leave an opening at the westernmost drive aisle, to reduce the risk of eastbound vehicles spilling back toward Walker Road.

5.6 WALKER ROAD AT CORA BREAKFAST AND PLANET FITNESS ENTRANCE

Table 16 and Table 17 summarize the existing and future operations for the Walker Road and Cora Breakfast and Planet Fitness Entrance intersection during the weekday and weekend peak hours, respectively.

Table 16: **Intersection Operations** — Walker Road at Cora Breakfast and Planet Fitness Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.01	B	10.6	0	0.03	B	10.9	1
2030 future background volumes								
WB right	0.01	B	10.9	0	0.03	B	11.2	1
2030 total future volumes								
WB right	0.01	B	10.9	0	0.03	B	11.2	1
2040 future background volumes								
WB right	0.01	B	11.0	0	0.02	B	10.5	1
2040 total future volumes								
WB right	0.01	B	11.0	0	0.02	B	10.1	1

Table 17: **Intersection Operations** — Walker Road at Cora Breakfast and Planet Fitness Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.07	B	11.5	2	0.05	B	11.0	1
2030 future background volumes								
WB right	0.07	B	11.8	2	0.06	B	11.2	1
2030 total future volumes								
WB right	0.07	B	12.0	2	0.06	B	11.3	1
2040 future background volumes								
WB right	0.07	B	12.2	2	0.06	B	11.5	2
2040 total future volumes								
WB right	0.08	B	12.3	2	0.06	B	11.6	2

At the intersection of Walker Road and the Cora Breakfast / Planet Fitness entrance, the westbound right turn currently operates at good levels of service (LOS B). This movement is anticipated to continue operating at LOS B under all scenarios.

5.7 WALKER ROAD AT PETRO CANADA & CAR WASH NORTH ENTRANCE

Table 18 and Table 19 summarize the existing and future operations for the Walker Road and Petro Canada & Car Wash North Entrance intersection during the weekday and weekend peak hours, respectively.

Table 18: **Intersection Operations** — Walker Road at Petro Canada & Car Wash North Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.03	B	10.6	1	0.03	B	10.7	1
2030 future background volumes								
WB right	0.03	B	10.8	1	0.03	B	11.0	1
2030 total future volumes								
WB right	0.03	B	10.9	1	0.03	B	11.1	1
2040 future background volumes								
WB right	0.03	B	11.0	1	0.03	B	10.6	1
2040 total future volumes								
WB right	0.03	B	11.0	1	0.03	B	10.2	1

Table 19: **Intersection Operations** — Walker Road at Petro Canada & Car Wash North Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.06	B	11.1	2	0.05	B	10.8	1
2030 future background volumes								
WB right	0.07	B	11.4	2	0.05	B	11.1	1
2030 total future volumes								
WB right	0.07	B	11.7	2	0.06	B	11.2	1
2040 future background volumes								
WB right	0.07	B	11.9	2	0.06	B	11.5	2
2040 total future volumes								
WB right	0.07	B	12.1	2	0.06	B	11.6	2

At the intersection of Walker Road and the Petro-Canada and car wash north entrance, the westbound right turn currently operates at good levels of service (LOS B). This movement is anticipated to continue operating at LOS B under all scenarios.

5.8 WALKER ROAD AT BEST BUY ENTRANCE / PETRO CANADA & CAR WASH SOUTH ENTRANCE

Table 20 and Table 21 summarize the existing and future operations for the Walker Road and Best Buy Entrance/ Petro Canada & Car Wash South Entrance intersection during the weekday and weekend peak hours, respectively.

Table 20: **Intersection Operations** — Walker Road at Best Buy Entrance / Petro Canada & Car Wash South Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.20	D	40.5	13	0.23	D	45.2	19
EB through	0.02	D	35.2	4	0.07	D	40.3	10
EB right	0.25	A	8.8	9	0.44	A	9.7	18
WB through/left	0.11	D	37.9	10	0.33	D	48.0	27
WB right	0.02	A	0.0	0	0.07	A	0.5	0
NB left	0.16	A	2.6	4	0.31	A	5.6	10
NB through	0.39	A	2.0	15	0.45	A	4.2	47
SB left	0.05	A	3.4	1	0.13	A	8.3	13
SB through	0.24	A	3.5	3	0.35	A	8.9	96
Overall	-	A	4.0	-	-	A	8.5	-

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2030 future background volumes								
EB left	0.20	D	40.5	13	0.23	D	45.2	19
EB through	0.02	D	35.2	4	0.07	D	40.3	10
EB right	0.25	A	8.8	9	0.44	A	9.7	18
WB through/left	0.11	D	37.9	10	0.33	D	48.0	27
WB right	0.02	A	0.0	0	0.07	A	0.5	0
NB left	0.19	A	2.8	4	0.38	A	7.1	9
NB through	0.45	A	2.2	17	0.54	A	4.4	52
SB left	0.05	A	3.3	0	0.17	A	8.1	11
SB through	0.29	A	2.8	3	0.42	A	8.0	105
Overall	-	A	3.6	-	-	A	7.9	-
2030 total future volumes								
EB left	0.20	D	40.5	13	0.23	D	45.2	19
EB through	0.02	D	35.2	4	0.07	D	40.3	10
EB right	0.25	A	8.8	9	0.44	A	9.7	18
WB through/left	0.11	D	37.9	10	0.33	D	48.0	27
WB right	0.02	A	0.0	0	0.07	A	0.5	0
NB left	0.19	A	2.9	4	0.40	A	8.3	9
NB through	0.47	A	2.3	19	0.57	A	4.6	59
SB left	0.06	A	3.5	1	0.18	A	8.8	9
SB through	0.30	A	3.6	4	0.44	A	7.8	90
Overall	-	A	4.0	-	-	A	7.9	-
2040 future background volumes								
EB left	0.20	D	40.5	13	0.23	D	45.2	19
EB through	0.02	D	35.2	4	0.07	D	40.3	10
EB right	0.25	A	8.8	9	0.44	A	9.7	18
WB through/left	0.11	D	37.9	10	0.33	D	48.0	27
WB right	0.02	A	0.0	0	0.07	A	0.5	0
NB left	0.24	A	3.3	3	0.48	B	17.3	12
NB through	0.56	A	2.4	21	0.70	A	5.4	83
SB left	0.07	A	3.8	1	0.30	B	13.8	9
SB through	0.37	A	3.0	7	0.54	A	8.5	139
Overall	-	A	3.6	-	-	A	8.5	-
2040 total future volumes								
EB left	0.20	D	40.5	13	0.23	D	45.2	19
EB through	0.02	D	35.2	4	0.07	D	40.3	10
EB right	0.25	A	8.8	9	0.44	A	9.7	18
WB through/left	0.11	D	37.9	10	0.33	D	48.0	27
WB right	0.02	A	0.0	0	0.07	A	0.5	0
NB left	0.24	A	3.4	3	0.50	B	19.3	13
NB through	0.57	A	2.5	23	0.73	A	5.9	93
SB left	0.08	A	4.4	1	0.34	B	17.0	9
SB through	0.38	A	4.0	9	0.57	A	8.7	146
Overall	-	A	4.1	-	-	A	8.9	-

Table 21: **Intersection Operations** — Walker Road at Best Buy Entrance / Petro Canada & Car Wash South Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.44	D	52.5	28	0.44	D	48.7	27
EB through	0.10	D	41.6	12	0.06	D	37.1	8
EB right	0.45	B	10.4	17	0.48	A	9.8	17
WB through/left	0.47	D	53.1	33	0.42	D	47.3	29
WB right	0.18	A	5.4	6	0.13	A	1.6	1
NB left	0.36	A	6.1	14	0.39	A	6.4	14
NB through	0.38	A	4.2	51	0.37	A	4.0	42
SB left	0.18	A	7.8	19	0.27	A	7.9	23
SB through	0.34	A	6.3	89	0.33	A	5.1	33
Overall	-	A	8.8	-	-	A	7.8	-
2030 future background volumes								
EB left	0.44	D	52.5	28	0.44	D	48.7	27
EB through	0.10	D	41.6	12	0.06	D	37.1	8
EB right	0.45	B	10.4	17	0.48	A	9.8	17
WB through/left	0.47	D	53.1	33	0.42	D	47.3	29
WB right	0.18	A	5.4	6	0.13	A	1.6	1
NB left	0.43	A	8.3	13	0.47	A	9.4	14
NB through	0.42	A	4.2	53	0.43	A	4.2	49
SB left	0.20	A	7.0	14	0.32	A	7.9	20
SB through	0.41	A	5.6	96	0.41	A	4.5	38
Overall	-	A	8.2	-	-	A	7.4	-
2030 total future volumes								
EB left	0.44	D	52.5	28	0.44	D	48.7	27
EB through	0.10	D	41.6	12	0.06	D	37.1	8
EB right	0.45	B	10.4	17	0.48	A	9.8	17
WB through/left	0.47	D	53.1	33	0.42	D	47.3	29
WB right	0.18	A	5.4	6	0.13	A	1.6	1
NB left	0.45	A	9.1	13	0.48	B	10.2	14
NB through	0.46	A	4.6	57	0.45	A	4.3	50
SB left	0.22	A	8.3	14	0.33	A	8.7	26
SB through	0.44	A	6.5	109	0.42	A	4.8	46
Overall	-	A	8.7	-	-	A	7.6	-
2040 future background volumes								
EB left	0.44	D	52.5	28	0.44	D	48.7	27
EB through	0.10	D	41.6	12	0.06	D	37.1	8
EB right	0.45	B	10.4	17	0.48	A	9.8	17
WB through/left	0.47	D	53.1	33	0.42	D	47.3	29
WB right	0.18	A	5.4	6	0.13	A	1.6	1
NB left	0.54	B	19.8	20	0.60	C	24.4	26
NB through	0.51	A	4.7	61	0.53	A	4.8	57
SB left	0.26	A	6.7	8	0.42	A	9.2	8
SB through	0.54	A	5.1	103	0.54	A	3.9	42
Overall	-	A	8.1	-	-	A	7.4	-

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 total future volumes								
EB left	0.44	D	52.5	28	0.44	D	48.7	27
EB through	0.10	D	41.6	12	0.06	D	37.1	8
EB right	0.45	B	10.4	17	0.48	A	9.8	17
WB through/left	0.47	D	53.1	33	0.42	D	47.3	29
WB right	0.18	A	5.4	6	0.13	A	1.6	1
NB left	0.57	C	22.6	23	0.61	C	26.2	28
NB through	0.54	A	5.2	74	0.55	A	4.9	61
SB left	0.28	A	7.8	8	0.44	B	10.3	9
SB through	0.56	A	5.8	111	0.55	A	4.2	48
Overall	-	A	8.5	-	-	A	7.6	-

The intersection of Walker Road and the Best Buy / Petro-Canada south entrance currently operates at a good level of service (LOS A) with no critical movements. The intersection is anticipated to continue operating at LOS A under all future scenarios, and no new critical movements are anticipated under future conditions.

5.9 WALKER ROAD AT SWISS CHALET AND STARBUCKS ENTRANCE

Table 22 and Table 23 summarize the existing and future operations for the Walker Road and Swiss Chalet and Starbucks Entrance intersection during the weekday and weekend peak hours, respectively.

Table 22: **Intersection Operations** — Walker Road at Swiss Chalet and Starbucks Entrance, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB left	0.08	C	24.2	2	0.21	E	39.5	6
WB right	0.04	B	10.9	1	0.11	B	11.5	3
SB left	0.02	A	0.3	1	0.08	A	1.2	2
2030 future background volumes								
WB left	0.10	D	27.4	3	0.27	F	53.1	8
WB right	0.04	B	10.5	1	0.10	B	10.3	3
SB left	0.03	A	0.3	1	0.10	A	1.8	3
2030 total future volumes								
WB left	0.10	D	29.0	3	0.30	F	60.9	9
WB right	0.04	B	10.6	1	0.10	B	10.4	3
SB left	0.03	A	0.4	1	0.10	A	2.1	3
2040 future background volumes								
WB left	0.12	D	33.7	3	0.39	F	86.6	12
WB right	0.04	A	9.7	1	0.11	B	11.4	3
SB left	0.03	A	0.5	1	0.15	A	4.2	4
2040 total future volumes								
WB left	0.13	E	35.6	3	0.41	F	92.3	13
WB right	0.04	A	9.7	1	0.12	B	11.8	3
SB left	0.03	A	0.5	1	0.16	A	5.2	5

Table 23: **Intersection Operations** — Walker Road at Swiss Chalet and Starbucks Entrance, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB left	0.20	D	34.0	6	0.29	E	37.6	9
WB right	0.18	B	11.9	5	0.18	B	11.6	5
SB left	0.11	A	1.5	3	0.12	A	1.6	3
2030 future background volumes								
WB left	0.22	E	39.5	6	0.34	E	46.3	11
WB right	0.18	B	11.9	5	0.18	B	11.6	5
SB left	0.12	A	1.9	3	0.13	A	2.1	4
2030 total future volumes								
WB left	0.25	E	45.7	8	0.36	E	49.7	12
WB right	0.19	B	12.2	5	0.18	B	11.7	5
SB left	0.13	A	2.2	4	0.14	A	2.3	4
2040 future background volumes								
WB left	0.31	F	57.1	9	0.46	F	70.8	16
WB right	0.19	B	12.2	5	0.19	B	11.9	5
SB left	0.15	A	2.9	4	0.17	A	3.6	5
2040 total future volumes								
WB left	0.34	F	66.5	11	0.49	F	76.2	17
WB right	0.19	B	12.5	6	0.19	B	12.0	6
SB left	0.16	A	3.5	5	0.17	A	3.9	5

At the intersection of Walker Road and the Swiss Chalet / Starbucks entrance, the westbound left turn currently operates at a reasonable level of service (LOS C to D) during the AM and Saturday peak hours, and a poor level of service (LOS E) during the PM and Sunday peak hours; however, it operates within capacity at all times. The westbound right turn and southbound left turn both operate at goods level of service (LOS A to B).

With additional north-south traffic on Walker Road, the westbound left turn level of service is anticipated to eventually reach LOS E to F during all peak hours. The movement will operate within capacity, but drivers will experience delays making a left turn. In the event that these delays become too long, there is an alternate egress route to southbound Walker Road via a driveway to 7th Concession at the rear of this plaza.

5.10 WALKER ROAD AT LEGACY PARK DRIVE / 7TH CONCESSION ROAD

Table 24 and Table 25 summarize the existing and future operations for the Walker Road and Legacy Park Drive/ 7th Concession Road intersection during the weekday and weekend peak hours, respectively.

This intersection is planned to be modified in the future to accommodate the construction of the new east-west arterial roadway on the east leg. An ultimate intersection design was identified in the Lauzon Parkway EA, with dual left turn lanes on the southbound and westbound approaches, and with right turn lanes on all but the eastbound approach. The intersection analyses assume that the east-west arterial is constructed at the outset without these intersection modifications on Walker Road, to determine whether they could be deferred or if they would be required when the east-west arterial roadway is constructed.

Table 24: Intersection Operations — Walker Road at Legacy Park Drive/ 7th Concession Road, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.16	D	38.5	13	0.76	E	62.3	66
EB through	0.10	C	23.7	9	0.58	D	36.8	63
WB left	0.44	D	47.0	28	0.95	F	110.6	63
WB through	0.20	C	26.6	16	0.27	C	34.9	33
NB left	0.07	A	4.2	6	0.52	B	12.6	23
NB through	0.42	A	5.1	72	0.46	A	8.9	88
SB left	0.05	B	13.6	7	0.12	A	8.0	5
SB through	0.31	A	8.8	72	0.59	A	9.6	45
Overall	-	A	9.2	-	-	B	19.6	-
2030 future background volumes								
EB left	0.17	D	37.4	14	0.68	D	51.5	76
EB through	0.11	C	23.3	10	0.54	C	34.5	78
WB left	0.55	D	48.3	35	0.97	F	101.7	87
WB through	0.24	C	22.8	18	0.27	C	32.1	39
NB left	0.10	A	4.7	6	0.80	D	51.1	63
NB through	0.52	A	6.8	92	0.63	B	14.1	125
SB left	0.09	B	14.4	9	0.31	B	12.7	5
SB through	0.41	A	9.8	94	0.82	B	19.0	57
Overall	-	B	10.6	-	-	C	25.7	-
2030 total future volumes								
EB left	0.17	D	37.4	14	0.74	E	57.0	85
EB through	0.11	C	23.3	10	0.54	C	34.5	78
WB left	0.55	D	50.1	36	0.97	F	95.6	93
WB through	0.28	C	21.7	20	0.33	C	23.7	48
NB left	0.10	A	4.7	6	0.81	D	53.9	64
NB through	0.53	A	6.9	95	0.65	B	14.6	132
SB left	0.11	B	14.4	10	0.45	B	18.9	7
SB through	0.42	A	9.9	96	0.85	C	21.0	64
Overall	-	B	10.8	-	-	C	26.3	-
2040 future background volumes								
EB left	0.17	D	35.1	15	0.92	E	79.9	111
EB through	0.11	C	21.9	12	0.67	D	40.8	103
WB left	0.68	D	46.3	39	1.91	F	453.6	114
WB through	0.27	B	19.3	16	0.36	C	33.9	41
NB left	0.16	A	6.1	8	0.92	E	72.0	84
NB through	0.67	B	10.1	139	0.83	C	20.3	210
SB left	0.22	C	21.3	12	1.07	F	154.4	45
SB through	0.56	B	13.4	121	1.05	D	54.6	297
Overall	-	B	13.5	-	-	E	63.8	-
2040 total future volumes								
EB left	0.17	D	35.4	15	1.00	F	102.6	117
EB through	0.11	C	21.9	12	0.67	D	40.8	103
WB left	0.68	D	54.0	50	1.91	F	456.9	157
WB through	0.31	C	22.2	25	0.42	C	27.2	64
NB left	0.17	A	6.1	8	0.92	E	72.0	84
NB through	0.68	B	10.3	143	0.85	C	21.4	222
SB left	0.28	C	23.1	13	1.32	F	237.1	56
SB through	0.57	B	13.4	121	1.08	E	65.5	312
Overall	-	B	14.4	-	-	E	70.0	-

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 total future volumes (mitigated)								
EB left	-	-	-	-	0.69	D	45.0	73
EB through	-	-	-	-	0.90	E	67.4	129
WB left	-	-	-	-	1.06	F	131.2	63
WB through	-	-	-	-	0.34	C	33.3	37
NB left	-	-	-	-	1.13	F	134.6	101
NB through	-	-	-	-	0.90	D	35.3	265
SB left	-	-	-	-	0.40	D	44.7	18
SB through	-	-	-	-	1.03	E	72.6	299
Overall	-	-	-	-	-	E	57.2	-

Table 25: **Intersection Operations** — Walker Road at Legacy Park Drive/ 7th Concession Road, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
EB left	0.94	F	84.3	116	0.88	E	67.8	94
EB through	0.45	C	27.0	50	0.46	C	26.9	54
WB left	0.58	D	51.6	46	0.40	D	37.4	31
WB through	0.25	C	34.7	36	0.31	C	27.1	39
NB left	0.48	B	11.2	21	0.61	B	16.1	30
NB through	0.36	A	8.3	53	0.39	A	10.0	65
SB left	0.11	A	6.6	5	0.18	B	17.1	12
SB through	0.53	A	7.2	38	0.58	B	16.1	78
Overall	-	B	19.5	-	-	C	20.8	-
2030 future background volumes								
EB left	1.12	F	131.5	140	0.97	F	85.1	118
EB through	0.51	C	31.6	63	0.49	C	28.5	67
WB left	0.88	F	84.0	79	0.53	D	41.6	43
WB through	0.31	D	35.8	44	0.36	C	27.7	50
NB left	0.61	B	19.7	36	0.84	D	50.0	73
NB through	0.44	A	9.2	68	0.47	B	12.0	77
SB left	0.19	A	9.8	8	0.32	C	22.2	19
SB through	0.68	B	11.3	65	0.80	C	22.6	115
Overall	-	C	27.6	-	-	C	27.7	-
2030 total future volumes								
EB left	1.27	F	188.9	148	1.01	F	95.4	121
EB through	0.51	C	31.6	63	0.49	C	28.5	67
WB left	0.88	F	84.0	79	0.53	D	41.6	43
WB through	0.40	C	35.0	53	0.39	C	27.7	53
NB left	0.64	C	23.5	40	0.84	D	50.0	73
NB through	0.46	A	9.5	74	0.48	B	12.2	79
SB left	0.28	B	13.1	11	0.37	C	27.8	21
SB through	0.71	B	13.2	76	0.82	C	28.2	120
Overall	-	C	32.9	-	-	C	30.6	-

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 future background volumes								
EB left	1.55	F	298.0	180	1.44	F	251.0	159
EB through	0.64	D	38.3	83	0.61	C	33.4	88
WB left	1.65	F	353.5	132	0.99	F	106.0	86
WB through	0.41	D	38.5	58	0.50	C	31.2	70
NB left	0.78	D	45.0	60	0.93	E	64.7	96
NB through	0.53	B	10.3	89	0.57	B	13.5	102
SB left	0.36	B	18.7	16	0.63	D	41.8	43
SB through	0.92	C	22.5	260	1.07	E	67.3	253
Overall	-	E	62.6	-	-	E	61.5	-
2040 total future volumes								
EB left	1.80	F	409.1	188	1.51	F	280.9	162
EB through	0.64	D	38.3	83	0.61	C	33.4	88
WB left	1.65	F	353.5	132	0.99	F	106.0	86
WB through	0.50	D	39.1	68	0.52	C	31.4	73
NB left	0.78	D	45.0	60	0.93	E	64.7	96
NB through	0.55	B	10.7	95	0.59	B	13.7	105
SB left	0.47	C	23.7	19	0.71	D	53.9	51
SB through	0.95	C	27.1	275	1.09	E	78.2	260
Overall	-	E	71.8	-	-	E	67.8	-
2040 total future volumes (mitigated)								
EB left	1.14	F	134.4	160	1.13	F	130.4	144
EB through	0.60	D	35.3	80	0.72	D	41.6	95
WB left	1.00	F	113.4	56	0.81	E	77.6	39
WB through	0.21	C	26.0	41	0.24	C	25.3	42
NB left	1.24	F	171.7	103	1.15	F	130.8	111
NB through	0.69	C	28.0	145	0.71	C	28.0	135
SB left	0.43	D	46.7	20	0.50	D	47.0	20
SB through	0.99	E	60.7	254	1.05	E	75.2	248
Overall	-	E	58.6	-	-	E	59.1	-

The intersection of Walker Road and Legacy Park Drive / 7th Concession currently operates at a good overall level of service (LOS C during the Sunday peak hour; LOS B or better at other times). There are no critical movements from a capacity perspective; the westbound left turn is at a critical level of service and exceeds the designated storage during the PM peak hours, and the eastbound left turn exceeds the designated storage and/or operates at a critical level of service during the PM and weekend peak hours.

In the intersection's current configuration, background growth is anticipated to result in several movements exceed capacity during the PM and weekend peak hours. In particular, the westbound left turn is expected to significantly exceed capacity during the PM and Saturday peak hours, and the eastbound left turn is anticipated to significantly exceed capacity during the Saturday and Sunday peak hours. The southbound through movement is expected to exceed capacity during the PM and Sunday peak hours.

As mitigation, the intersection was tested under the configuration that was identified in the Lauzon Parkway EA, with dual left turn lanes on the southbound and westbound approaches, and with right turn lanes on all but the eastbound approach. This configuration also involves converting the southbound and westbound left turn phases to fully protected operations. Under the projected 2040 total future volumes, the intersection level of service would remain at LOS E, but there would be additional capacity for the most constrained left turn movements. Further, the future configuration includes additional storage on the

westbound approach to reduce the impact of queue interactions. As such, it is recommended that the full intersection configuration (including the widening of Walker Road) be implemented when the east-west arterial roadway is constructed.

5.11 CABANA ROAD / COUNTY ROAD 42 AT 7TH CONCESSION ROAD

Table 26 and Table 27 summarize the existing and future operations for the Cabana Road / County Road 42 and 7th Concession Road intersection during the weekday and weekend peak hours, respectively.

This intersection currently operates under two-way stop control. It is anticipated that the planned widening of County Road 42 will include the reconfiguration of the intersection with 7th Concession (see **Section 3.1.4**) and the installation of traffic signals.

Table 26: Intersection Operations — Cabana Road / County Road 42 at 7th Concession Road, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
NB approach	0.25	B	14.2	8	0.61	D	26.6	31
2030 future background volumes								
EB through	0.40	B	17.7	68	0.38	B	19.1	69
EB right	0.08	A	3.5	8	0.14	A	7.3	10
WB left	0.27	A	9.1	19	0.42	B	11.4	31
WB through	0.27	A	9.8	37	0.48	B	13.0	83
NB left	0.10	C	34.3	15	0.08	C	29.6	13
NB right	0.24	A	7.6	14	0.38	A	7.4	19
Overall	-	B	13.9	-	-	B	14.3	-
2030 total future volumes								
EB through	0.41	B	17.8	70	0.40	C	20.3	74
EB right	0.09	A	3.3	8	0.17	A	7.0	11
WB left	0.28	A	9.1	19	0.43	B	11.2	30
WB through	0.28	A	9.8	38	0.49	B	12.7	85
NB left	0.11	C	34.4	16	0.10	C	29.8	15
NB right	0.24	A	7.6	14	0.38	A	7.4	18
Overall	-	B	14.0	-	-	B	14.5	-
2040 future background volumes								
EB through	0.70	B	19.6	145	0.51	C	26.3	96
EB right	0.19	A	2.0	10	0.30	A	8.3	12
WB left	0.51	B	11.8	16	0.58	B	11.6	25
WB through	0.34	A	7.6	44	0.75	B	13.9	159
NB left	0.27	D	41.8	31	0.22	D	36.4	20
NB right	0.31	A	9.3	17	0.48	A	7.0	13
Overall	-	B	15.6	-	-	B	17.1	-

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
2040 total future volumes								
EB through	0.71	B	19.9	149	0.53	C	26.5	96
EB right	0.20	A	2.0	10	0.33	A	8.1	13
WB left	0.52	B	12.1	16	0.60	B	12.3	25
WB through	0.35	A	7.7	45	0.76	B	14.3	167
NB left	0.28	D	41.9	32	0.25	D	36.2	22
NB right	0.31	A	9.3	17	0.48	A	6.6	11
Overall	-	B	15.8	-	-	B	17.4	-

Table 27: **Intersection Operations** — Cabana Road / County Road 42 at 7th Concession Road, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing								
NB approach	0.54	C	20.5	26	0.55	C	21.7	26
2030 future background volumes								
EB through	0.40	C	20.4	71	0.38	C	20.3	71
EB right	0.03	A	6.2	5	0.05	A	5.2	7
WB left	0.35	B	11.5	24	0.29	B	11.2	21
WB through	0.36	B	12.3	56	0.30	B	12.2	48
NB left	0.21	C	32.8	28	0.23	C	32.3	33
NB right	0.39	A	5.8	18	0.34	A	5.6	18
Overall	-	B	16.0	-	-	B	16.5	-
2030 total future volumes								
EB through	0.41	C	20.0	75	0.39	B	19.7	72
EB right	0.08	A	4.3	7	0.07	A	4.5	7
WB left	0.36	B	11.2	24	0.29	B	10.8	21
WB through	0.37	B	12.1	59	0.30	B	11.8	49
NB left	0.24	C	33.9	31	0.24	C	33.2	34
NB right	0.40	A	6.0	18	0.35	A	5.8	18
Overall	-	B	15.8	-	-	B	16.2	-
2040 future background volumes								
EB through	0.60	C	20.0	122	0.59	C	20.3	121
EB right	0.07	A	3.4	7	0.11	A	3.0	9
WB left	0.55	B	13.6	22	0.46	B	12.0	20
WB through	0.53	B	11.4	89	0.45	B	11.2	76
NB left	0.58	D	44.3	64	0.54	D	41.9	69
NB right	0.49	B	10.5	29	0.41	A	7.7	22
Overall	-	B	18.5	-	-	B	18.6	-
2040 total future volumes								
EB through	0.62	B	19.8	128	0.59	B	19.7	121
EB right	0.11	A	2.8	8	0.13	A	2.7	9
WB left	0.56	B	13.5	21	0.46	B	11.7	19
WB through	0.54	B	11.1	91	0.46	B	10.8	76
NB left	0.63	D	46.5	68	0.57	D	43.2	71
NB right	0.49	A	8.9	24	0.42	A	8.3	24
Overall	-	B	18.4	-	-	B	18.4	-

At the intersection of County Road 42 and 7th Concession, the stop-controlled northbound approach currently operates at an acceptable level of service (LOS D or better) and within capacity.

Following the intersection widening and installation of traffic signals, the intersection is anticipated to operate at a good overall level of service (LOS B) with no critical movements.

5.12 WALKER ROAD AT SITE DRIVEWAY

Table 28 and Table 29 summarize the existing and future operations for the Walker Road and the site driveway intersection during the weekday and weekend peak hours, respectively.

Table 28: **Intersection Operations** — Walker Road at Site Driveway, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.0	A	0.0	0	0.0	A	0.0	0
2030 future background volumes								
WB right	0.0	A	0.0	0	0.0	A	0.0	0
2030 total future volumes								
WB approach	0.06	B	11.4	2	0.12	B	11.8	3
SB left	0.03	B	10.7	1	0.12	B	14.6	3
2040 future background volumes								
WB right	0.0	A	0.0	0	0.0	A	0.0	0
2040 total future volumes								
WB approach	0.06	B	11.9	2	0.11	B	11.1	3
SB left	0.04	B	12.2	1	0.19	C	21.2	6

Table 29: **Intersection Operations** — Walker Road at Site Driveway, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
WB right	0.0	A	11.4	0	0.0	A	11.0	0
2030 future background volumes								
WB right	0.0	B	11.5	0	0.00	B	11.7	0
2030 total future volumes								
WB approach	0.14	B	11.5	4	0.07	B	11.7	2
SB left	0.15	B	14.0	4	0.05	B	12.1	1
2040 future background volumes								
WB right	0.0	B	11.8	0	0.00	B	12.1	0
2040 total future volumes								
WB approach	0.13	B	10.9	4	0.07	B	11.8	2
SB left	0.19	C	16.6	5	0.06	B	14.1	2

The existing driveway to Walker Road experiences low volumes; it currently operates at a good level of service (LOS A) and is expected to continue operating at LOS B or better under background conditions.

With the development of the site, the relocated and reconfigured driveway is anticipated to continue operating at a reasonable level of service under the projected volumes.

The westbound approach is projected to operate at LOS B. This assumes that outbound left-turning traffic destined to the south will use the adjacent signalized driveway at peak times, given the amount of traffic on

Walker Road. If some of these left turns shift to this driveway, the level of service will become poorer, given the high volume on Walker Road and the effect of queuing at Cabana Road.

The southbound left turn is projected to operate at LOS B to C. The queues are calculated to reach one vehicle in length. This can be accommodated within the marked storage. However, it is noted that the northbound left turn queues at Cabana Road are expected to extend beyond the designated storage length and into the two-way left turn lane, in which case they would prevent the use of the two-way left turn lane by site traffic.

Notwithstanding the reasonable level of service, the additional effect of queue interactions indicates potential operational constraints that suggest limiting this driveway to right-in, right-out movements only. This could be achieved by extending the existing median island on the north side of the Home Depot driveway intersection.

5.13 CABANA ROAD AT SITE DRIVEWAY

5.13.1 Driveway Operations

Table 30 and Table 31 summarize the existing and future operations for the Cabana Road and the site driveway intersection during the weekday and weekend peak hours, respectively.

Table 30: **Intersection Operations** — Cabana Road at Site Driveway, Weekday Peak Hours

Movement	AM peak hour				PM peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
NB approach	0.00	A	10.0	0	0.01	B	13.0	0
2030 future background volumes								
NB approach	0.00	A	8.9	1	0.02	C	15.5	0
2030 total future volumes								
WB left	0.03	A	9.1	1	0.10	A	9.7	3
NB approach	0.08	B	12.7	2	0.44	D	26.8	17
2040 future background volumes								
NB approach	0.00	A	9.7	0	0.08	F	54.0	2
2040 total future volumes								
WB left	0.06	B	13.1	1	0.16	B	12.9	4
NB approach	0.22	D	31.5	7	2.03	F	>200	97
2040 total future volumes (mitigated)								
WB left	0.04	B	11.2	1	0.12	B	11.1	3
NB left	0.12	F	56.9	3	1.20	F	>200	31
NB right	0.04	A	9.6	1	0.11	A	9.7	3

Table 31: Intersection Operations — Cabana Road at Site Driveway, Weekend Peak Hours

Movement	Saturday peak hour				Sunday peak hour			
	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)	v/c	LOS	Delay (s/veh)	95 th %ile queue (m)
Existing volumes								
NB approach	0.03	B	12.1	1	0.07	B	13.2	2
2030 future background volumes								
NB approach	0.03	B	12.2	1	0.11	C	18.0	3
2030 total future volumes								
WB left	0.11	A	9.2	3	0.05	A	9.4	1
NB approach	0.38	C	19.7	14	0.32	C	22.7	11
2040 future background volumes								
NB approach	0.09	D	29.5	2	0.39	F	70.1	12
2040 total future volumes								
WB left	0.18	B	12.5	5	0.07	B	11.1	2
NB approach	1.45	F	>200	88	0.88	F	128.8	41
2040 total future volumes (mitigated)								
WB left	0.13	B	10.0	4	0.06	A	9.8	2
NB left	0.76	F	193	25	0.53	F	110.3	18
NB right	0.14	B	10.2	4	0.07	A	9.7	2

The existing driveway to Cabana Road experiences low volumes; it currently operates at a good level of service (LOS B or better) and is expected to continue operating at LOS B or better under background conditions.

All total future scenarios assume that a westbound left turn lane is available. The combination of the high east-west volumes on Cabana Road, the relatively high-volume left turn movement, and the proximity to the railway tracks 100 metres to the east indicate that a westbound left turn lane should be provided.

The proposed new site access was initially analyzed with a single outbound lane. This configuration was found to operate at an acceptable level of service in 2030, but was found to significantly exceed capacity by 2040 due to the significant amount of additional background growth on Cabana Road.

A second scenario was tested, in which the driveway is widened to accommodate a separate northbound left turn lane. In addition, a growth factor of 0.85 was applied to the eastbound movements; this accounts for the capacity constraints at the adjacent Walker Road intersection, which limit how much traffic can reach the downstream lanes during the peak hour. With the additional outbound lane, and considering the metering effect of the adjacent signals, the northbound left turn would continue to operate at a poor level of service (LOS F), but there would be adequate driveway capacity under most scenarios, and the outbound right turn movement would be significantly improved, reducing queue lengths within the site. The left turn would still exceed capacity during the PM peak hour, but only by approximately 5 vehicles, and some of this traffic may shift to the Walker Road driveways if delays become too long.

5.13.2 Driveway Location

The location of the site driveway was reviewed from an operational perspective. The driveway location needs to strike a balance between several factors, including:

- Maximizing separation from the signalized intersection at Walker Road (to reduce the potential for westbound queues to extend beyond the driveway).

- Maximizing westbound left turn storage capacity at Walker Road (to reduce the potential for left turn queues to spill into the through lanes).
- Providing adequate separation from the adjacent level crossing (so that westbound left turn queues do not extend across the tracks).
- Providing appropriate traffic signal spacing, in the event that traffic signals are installed in the future.

These factors are considered below.

- Westbound through queues at Walker Road:
 - The proposed driveway location provides approximately 160 metres of queuing space between Walker Road and the west side of the driveway.
 - Under mitigated 2040 total future peak hour operations (see **Section 5.1**), the westbound through queues were found to reach approximately 100 metres during the AM peak hour; 375 metres during the PM peak hour; 250 metres during the Saturday peak hour; and 190 metres during the Sunday peak hour.
 - The PM, Saturday and Sunday peak hour queues would extend past the proposed driveway location; the PM peak hour queue would extend beyond the level crossing. Further, because the westbound through movement was found to exceed capacity during the PM, Saturday and Sunday peak hours, the queues could exceed those levels.
 - While it would be preferable to provide more space to accommodate longer queues, there is no driveway location that would accommodate westbound queues given the projected volumes and anticipated congestion at the Walker Road intersection.
- Westbound left turn queues at Walker Road:
 - Under mitigated 2040 total future peak hour operations (see **Section 5.1**), the westbound left turn queues were found to reach approximately 105 metres during the AM peak hour; 110 metres during the PM peak hour; 155 metres during the Saturday peak hour; and 140 metres during the Sunday peak hour.
 - These queue lengths can be accommodated in the distance between Walker Road and the site access.
- Westbound left turn queues at site access:
 - The calculated queues (see Table 30 and Table 31) are not projected to exceed a single vehicle.
 - Additional “first principles” calculations were made as a sensitivity test. The maximum projected left turn demand is 93 vehicles (during the Saturday peak hour). In a worst-case capacity condition, these motorists would need to wait until the downstream signal at Walker Road turns red, creating a gap in eastbound traffic. This occurs every 2 minutes. On average, 3 left-turning vehicles would accumulate over that time. Accounting for potential variability from one cycle to the next, the 95th percentile number of arrivals in one cycle would be 6 vehicles (45 metres) based on the arrival tables in Book 12 of the Ontario Traffic Manual (OTM).
 - The proposed driveway location provides approximately 80 metres of queuing space between the driveway and the level crossing. This is adequate to accommodate a 6-vehicle queue.

- Traffic signal spacing:
 - The site driveway intersection was analyzed under two-way stop control. The main movement that would benefit from a traffic signal is the northbound left turn, and there is an alternate route for north- and west-destined site traffic via the proposed Walker Road driveways. Notwithstanding, the site access driveway location was reviewed from the perspective of traffic signal spacing, in the event that traffic signals are warranted in the future.
 - OTM Book 12 recommends minimum spacing of 215 metres between adjacent signals from the perspective of accommodating back-to-back left turn lanes and proper tapers, and to ensure that motorists are focusing on the signal indications for the upstream movement.
 - The currently proposed driveway location would result in slightly shorter signal spacing of 190 metres (measured centre line to centre line). This is reasonably close to the 215-metre recommended minimum.
 - Attaining a 215-metre signal spacing would require shifting the driveway 25 metres to the east. This would reduce the storage between the driveway and the level crossing to approximately 55 metres. It would be preferable to maintain (or increase) the storage distance between the driveway and the level crossing, and accept a signal spacing that is slightly lower than the minimum recommended in OTM Book 12.

The proposed driveway location is reasonable from the perspective of balancing the need to accommodate queues at Walker Road and the need to minimize the risk of the left turn queue at the site access extending across the level crossing, and it would be able to accommodate the installation of traffic signals if warranted in the future.

6.0 ACTIVE TRANSPORTATION AND TRANSIT CONNECTIVITY

The development plan is conceptual at this time, and internal walkways have not yet been determined.

As the site plan is refined, sidewalks and pedestrian walkways should be incorporated to account for pedestrian desire lines. This may include pedestrians walking to the site from bus stops along Walker Road or from other nearby sites; it may also include pedestrians walking from one building to another within the site. Figure 31 illustrates potential pedestrian corridors within the site.

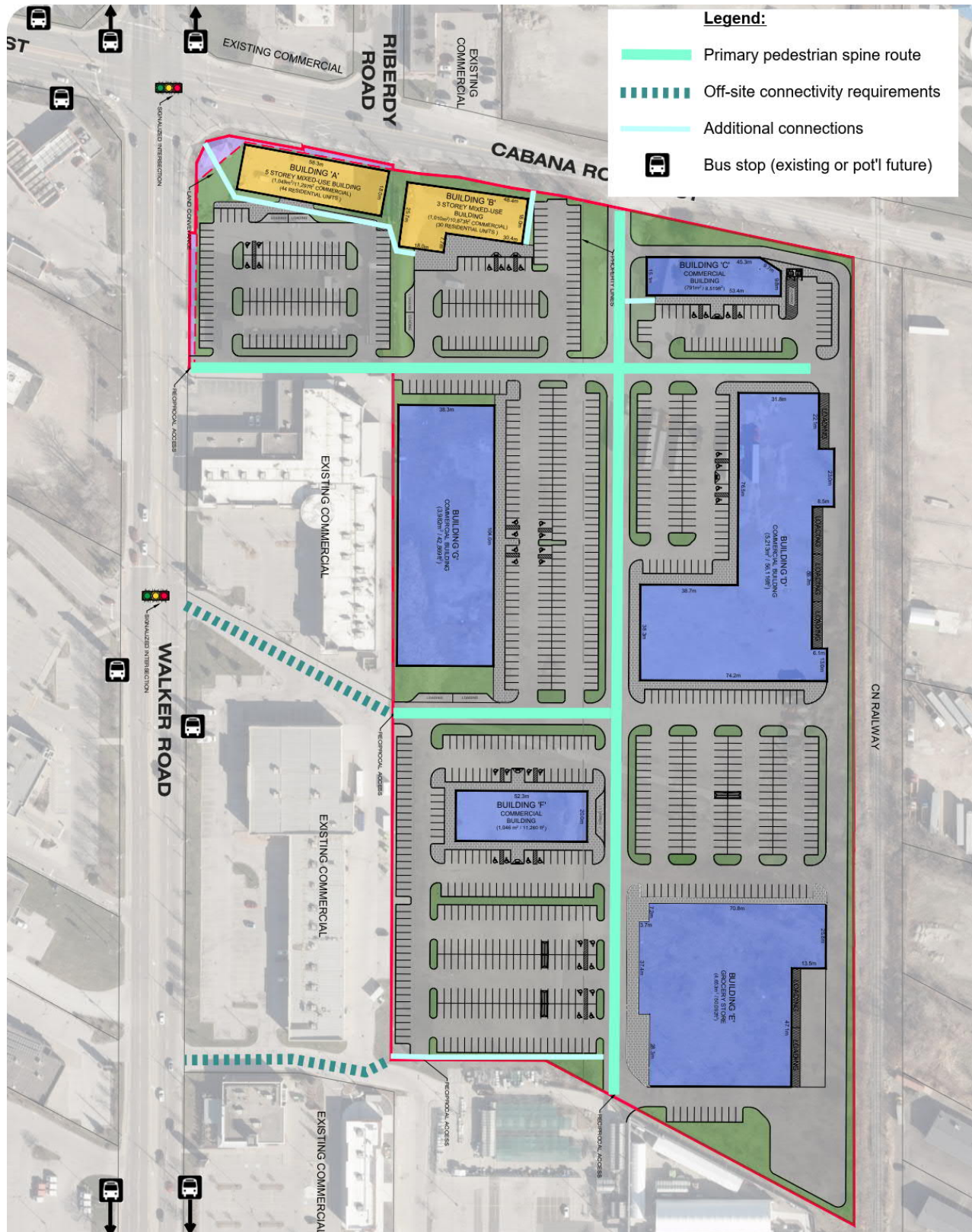
The main north-south and east-west drive aisles are likely to serve as primary pedestrian corridors to Walker Road and to Cabana Road. In particular, the main east-west drive aisles will be important for pedestrian travel because they are the only corridors that penetrate the existing commercial development to the west, providing access to bus stops and signalized crossings on Walker Road.

Opportunities should be reviewed to provide pedestrian facilities along the east-west drive aisles within the adjacent lands that will be used as connections to Walker Road. In particular, the area southwest of Building “G” should be considered. This area is an open, undefined area that is used primarily by trucks accessing the existing loading spaces to the north and south. The proposed interconnection will significantly change the use of this area, serving as a major vehicular access route to the subject site and a key pedestrian connection between the bus stops on Walker Road and key generators within the site (e.g., the proposed grocery store in Building “E”). Modifications to the existing portion of this drive aisle interconnection to Walker Road should be considered to allow the area to operate safely and efficiently.

At a more detailed level, when the site plan is refined including building entrances, needs / opportunities should be reviewed for connecting pedestrian walkways where informal desire paths may otherwise develop (e.g., a connection from the two residential buildings to the Walker Road and Cabana Road intersection).

The conceptual development plan does not illustrate short-term bicycle parking spaces at this time. Opportunities for bicycle parking should be identified when the site plan is developed in more detail.

Figure 31: Internal Pedestrian Circulation



7.0 SUMMARY

Dillon Consulting Limited (Dillon) has been retained by LBI Developments Incorporated to undertake a transportation impact study (TIS). The TIS documents the review of transportation impacts associated with a proposed infill mixed-use (commercial and residential) development southeast of the Walker Road and Cabana Road intersection in the city of Windsor.

The proposed infill development is envisioned to include two mixed-use buildings combining residential and commercial space, and four commercial-only buildings (one of which is anticipated to be a grocery store). The total development yield will be 74 residential units and 17,744 m² (191,026 sq. ft.) of commercial GFA. The conceptual development plan shows a parking supply of 956 spaces.

As part of the development, all existing driveways on the subject lands would be closed, and two driveways would be constructed or modified:

- A new driveway will be constructed to Cabana Road, 100 metres east of Riberty Street.
- An existing driveway to Walker Road, approximately 115 metres south of Cabana Road, will be modified to serve the development. This driveway is currently a narrow laneway leading to the rear of the adjacent commercial plaza at 4050 Walker Road. The driveway will be widened to the north and will be extended into the subject site, becoming a reciprocal access serving both sites.

The conceptual development plan also proposes driveway interconnections to the larger commercial sites to the south. These interconnections would provide additional access to Walker Road at existing signalized intersections (one at the driveway leading to the Home Depot development on the west side of Walker Road; one at the driveway serving Canadian Tire store south of the subject lands).

The proposed Cabana Road driveway location is reasonable from the perspective of balancing the need to accommodate queues at Walker Road and the need to minimize the risk of the left turn queue at the site access extending across the level crossing, and it would be able to accommodate the installation of traffic signals if warranted in the future.

Analyses were undertaken for the weekday AM and PM peak hours, the Saturday peak hour and the Sunday peak hour. Two analysis horizons were analyzed (2030 and 2040).

The site is anticipated to generate the following number of vehicle trips:

- 280 total trips and 280 primary trips during the weekday AM peak hour;
- 864 total trips and 622 primary trips during the weekday PM peak hour;
- 1,042 total trips and 745 primary trips during the Saturday peak hour; and
- 433 total trips and 314 primary trips during the Sunday peak hour.

The site is located at the west end of a major greenfield development area in southeast Windsor. This area is currently largely rural but is planned to be developed for a significant level of residential, commercial and employment uses over the coming decades. This could include up to 9,165 residential units and 25,863 employees. This includes the new Windsor hospital planned at the southeast corner of County Road 42 and 9th Concession. Additional development in west Tecumseh is anticipated to accommodate up to 5,963

residential units and 714,000 sq. ft. of commercial GFA. This will result in significant background traffic growth on the study area road network.

Based on the traffic operations analysis, the following is recommended:

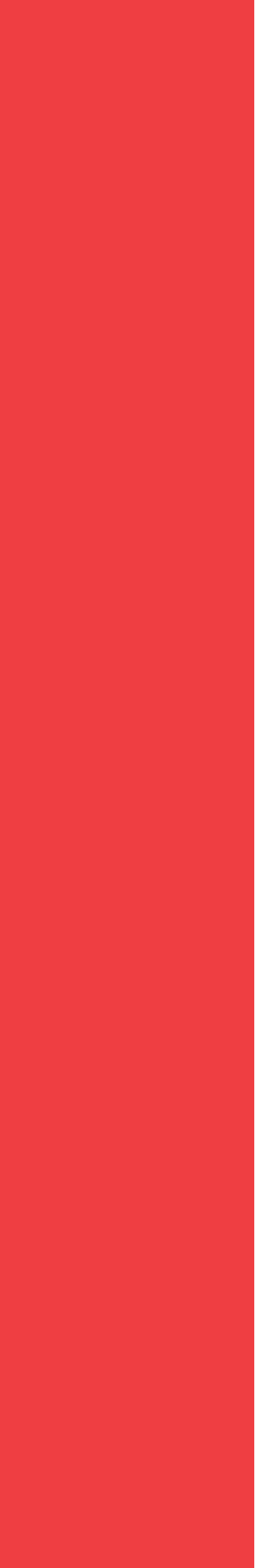
- Given the significant level of traffic growth anticipated as a result of development east of the study area, the Walker Road and Cabana Road intersection was found to experience significant capacity deficiencies on several movements, both under future background and total future volumes. Traffic signal timing adjustments should be made to reflect east-west traffic growth, and opportunities should be reviewed to provide right turn lanes or other measures to increase intersection capacity.
- At the site access intersection on Cabana Road, northbound and westbound left turn lanes should be provided.
- The site access on Walker Road should be limited to right turn movements only to mitigate against interactions with northbound queues at Cabana Road.
- At the Walker Road and Home Depot signalized intersection, which will serve as an interconnecting driveway leading to the site, a southbound left turn phase should be added. Additionally, the design of the existing drive aisle (and especially the loading area at its east end) should be reviewed to ensure that it can accommodate the growth of traffic generated by the subject site, as well as accommodating pedestrian activity, in a safe and efficient manner.
- At the Walker Road and Legacy Park Drive / 7th Concession intersection, the construction of the new east-west arterial should include the associated modifications on Walker Road (dual southbound and westbound left turn lanes; northbound, westbound and southbound right turn lanes).

From the perspective of active transportation within the site, the following is recommended:

- As the site plan is refined in the future, it should identify locations for bicycle parking.
- As the site plan is refined in the future, it should include internal pedestrian walkways leading into and within the site, providing connections to bus stops on Walker Road. This includes consideration for pedestrian facilities on the adjacent properties to the west that will form part of the pedestrian route to Walker Road.

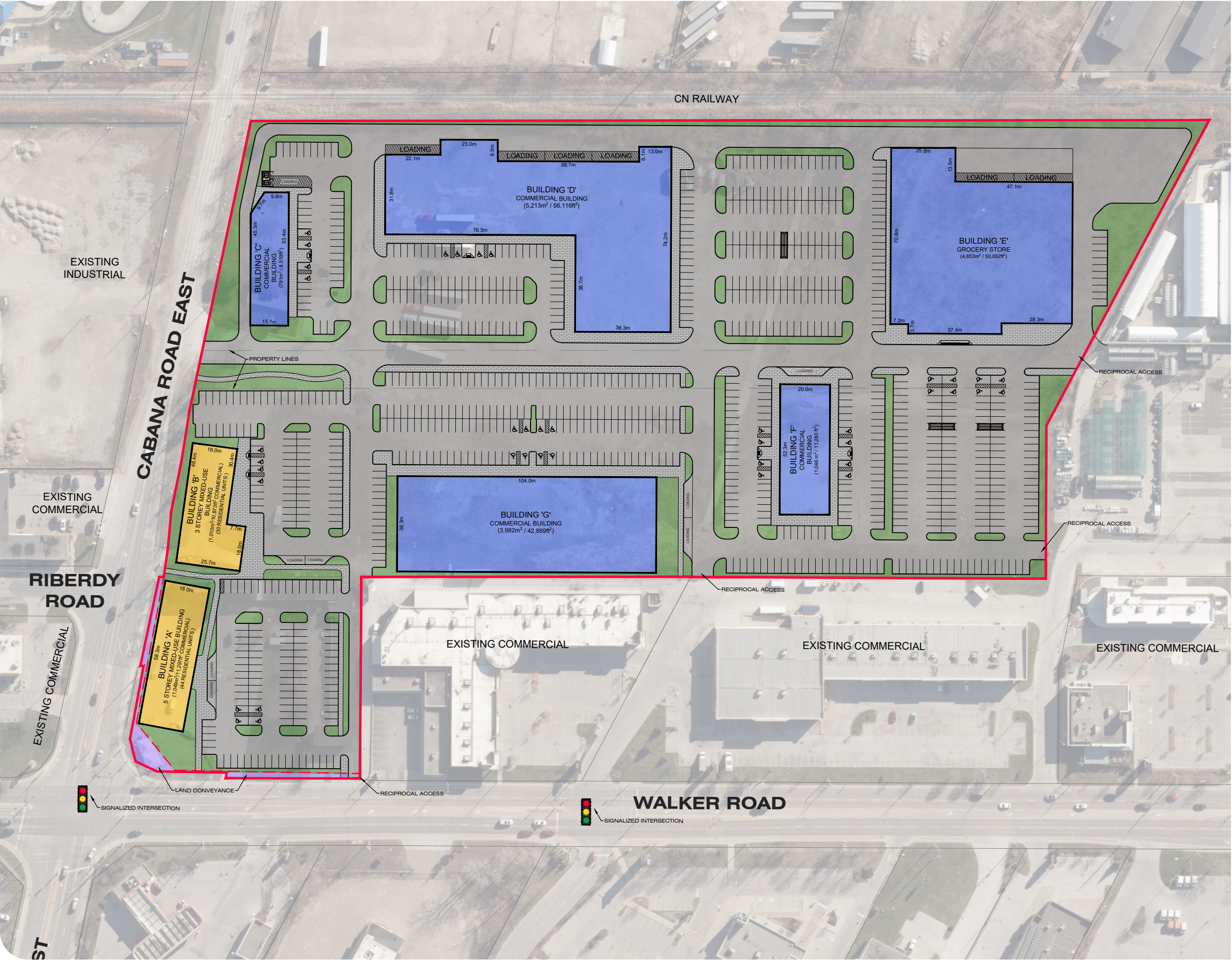


Mike Walters, P.Eng.
Transportation Engineer

A solid red vertical bar runs along the left edge of the page.

APPENDIX A

Conceptual Development Plan



LB1 DEVELOPMENTS INC.
WALKER ROAD AT CABANA ROAD
REDEVELOPMENT

CONCEPTUAL DEVELOPMENT PLAN
FIGURE 1.0

SUBJECT AREA
(± 7.30ha / 18.05ac)

LAND
CONVEYANCE

PROPOSED COMMERCIAL
BUILDINGS

PROPOSED MIXED-USE
BUILDINGS

SITE DATA MATRIX

	REQUIRED	PROVIDED
MAJOR USE	N/A	COMMERCIAL, MIXED-USE
LOT AREA	N/A	73,061.38m ²
AREA: BUILDING 'A'	N/A	1049m ² COMMERCIAL & 44 RESIDENTIAL UNITS
AREA: BUILDING 'B'	N/A	1010m ² COMMERCIAL & 30 RESIDENTIAL UNITS
AREA: BUILDING 'C'	N/A	791m ²
AREA: BUILDING 'D'	N/A	5,213m ²
AREA: BUILDING 'E'	N/A	4,653m ²
AREA: BUILDING 'F'	N/A	1,046m ²
AREA: BUILDING 'G'	N/A	3,982m ²
BUILDING AREA TOTAL	N/A	17,744m ²
BUILDING 'A' - MIXED USE	101 SPACES (1 space per 22.5m ² commercial & 1.25 spaces per unit)	113 SPACES
BUILDING 'B' - MIXED USE	81 SPACES (1 space per 22.5m ² commercial & 1.25 spaces per unit)	81 SPACES
BUILDING 'C' - COMMERCIAL USE	35 SPACES (1 space per 22.5m ² commercial)	40 SPACES
BUILDING 'D' - COMMERCIAL USE	231 SPACES (1 space per 22.5m ² commercial)	232 SPACES
BUILDING 'E' - GROCERY STORE	202 SPACES (1 space per 22.5m ² commercial)	223 SPACES
BUILDING 'F' - COMMERCIAL USE	46 SPACES (1 space per 22.5m ² commercial)	87 SPACES
BUILDING 'G' - COMMERCIAL USE	176 SPACES (1 space per 22.5m ² commercial)	180 SPACES
TOTAL PARKING	872 SPACES	956 SPACES

SCALE: 1:1500 (11x17)



MAP/DRAWING INFORMATION:
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND
BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

CREATED BY: ESB
CHECKED BY: MAM
DESIGNED BY: ESB

SOURCE: COUNTY OF ESSEX AERIAL
PHOTOGRAPHY (2023)

File Location:
c:\pw working directory\projects 2024\dillon_32esb\dms99052\24-9442 - concept
plan for sub.dwg
June, 23, 2025 1:16 PM



PROJECT: 24-9442
STATUS: DRAFT
DATE: 06/23/2025

APPENDIX B

Turning Movement Count Data

Weekday Traffic Counts

Signalized Driveway #1 on Walker Road	=	Walker Road at Home Depot Entrance/Walker Way Forum Entrance
Unsignalized Driveway #1 on Walker Road	=	Walker Road at Walker Place North Entrance
Unsignalized Driveway #2 on Walker Road	=	Walker Road at Walker Place South Entrance
Signalized Driveway #2 on Walker Road	=	Walker Road at Winners Entrance/ Canadian Tire Entrance
Unsignalized Driveway #3 on Walker Road	=	Walker Road at Cora Breakfast and Planet Fitness Entrance
Unsignalized Driveway #4 on Walker Road	=	Walker Road at Petro Canada & Car Wash North Entrance
Signalized Driveway #3 on Walker Road	=	Walker Road at Best Buy Entrance/ Petro Canada & Car Wash South Entrance
Unsignalized Driveway #5 on Walker Road	=	Walker Road at Swiss Chalet and Starbucks Entrance

	Walker Rd From North					Division Rd From East					Walker Rd From South					Cabana Rd E From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	27	163	12	3	205	22	22	18	1	63	13	150	9	1	173	11	31	29	0	71	512
07:15 AM	18	159	26	0	203	19	34	23	0	76	12	180	7	0	199	11	29	43	0	83	561
07:30 AM	19	183	19	8	229	11	57	27	0	95	6	181	9	1	197	8	51	52	3	114	635
07:45 AM	24	160	23	1	208	29	50	45	3	127	17	223	8	0	248	12	48	55	1	116	699
Total	88	665	80	12	845	81	163	113	4	361	48	734	33	2	817	42	159	179	4	384	2407
08:00 AM	25	136	22	0	183	28	44	30	0	102	17	181	12	0	210	13	46	53	0	112	607
08:15 AM	26	133	32	0	191	18	69	40	1	128	13	179	19	2	213	18	37	73	0	128	660
08:30 AM	21	169	20	7	217	23	45	41	0	109	11	180	10	1	202	21	43	60	2	126	654
08:45 AM	29	194	29	2	254	24	52	46	1	123	20	200	16	0	236	23	33	57	1	114	727
Total	101	632	103	9	845	93	210	157	2	462	61	740	57	3	861	75	159	243	3	480	2648
04:00 PM	25	260	23	2	310	28	67	35	0	130	47	244	48	1	340	41	45	43	1	130	910
04:15 PM	28	229	29	0	286	26	53	36	0	115	24	225	57	0	306	42	52	43	0	137	844
04:30 PM	20	243	32	2	297	30	96	39	3	168	31	226	47	0	304	56	55	44	0	155	924
04:45 PM	33	245	19	3	300	15	71	41	1	128	29	256	47	2	334	53	45	57	2	157	919
Total	106	977	103	7	1193	99	287	151	4	541	131	951	199	3	1284	192	197	187	3	579	3597
05:00 PM	23	252	18	3	296	41	80	71	0	192	43	231	38	0	312	41	59	53	4	157	957
05:15 PM	25	249	30	3	307	29	82	47	0	158	35	229	44	0	308	38	44	32	1	115	888
05:30 PM	36	211	11	4	262	20	75	47	0	142	21	223	53	0	297	42	30	51	4	127	828
05:45 PM	25	205	16	0	246	10	44	33	0	87	30	193	56	0	279	32	45	47	0	124	736
Total	109	917	75	10	1111	100	281	198	0	579	129	876	191	0	1196	153	178	183	9	523	3409
Grand Total	404	3191	361	38	3994	373	941	619	10	1943	369	3301	480	8	4158	462	693	792	19	1966	12061
Apprch %	10.1	79.9	9	1		19.2	48.4	31.9	0.5		8.9	79.4	11.5	0.2		23.5	35.2	40.3	1		
Total %	3.3	26.5	3	0.3	33.1	3.1	7.8	5.1	0.1	16.1	3.1	27.4	4	0.1	34.5	3.8	5.7	6.6	0.2	16.3	
Cars	377	3052	326	38	3793	318	903	565	10	1796	300	3141	467	8	3916	460	666	768	19	1913	11418
% Cars	93.3	95.6	90.3	100	95	85.3	96	91.3	100	92.4	81.3	95.2	97.3	100	94.2	99.6	96.1	97	100	97.3	94.7
Trucks	5	32	9	0	46	18	12	7	0	37	5	54	3	0	62	1	15	15	0	31	176
% Trucks	1.2	1	2.5	0	1.2	4.8	1.3	1.1	0	1.9	1.4	1.6	0.6	0	1.5	0.2	2.2	1.9	0	1.6	1.5
Heavies	22	106	26	0	154	37	26	47	0	110	64	106	10	0	180	1	12	9	0	22	466
% Heavies	5.4	3.3	7.2	0	3.9	9.9	2.8	7.6	0	5.7	17.3	3.2	2.1	0	4.3	0.2	1.7	1.1	0	1.1	3.9
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

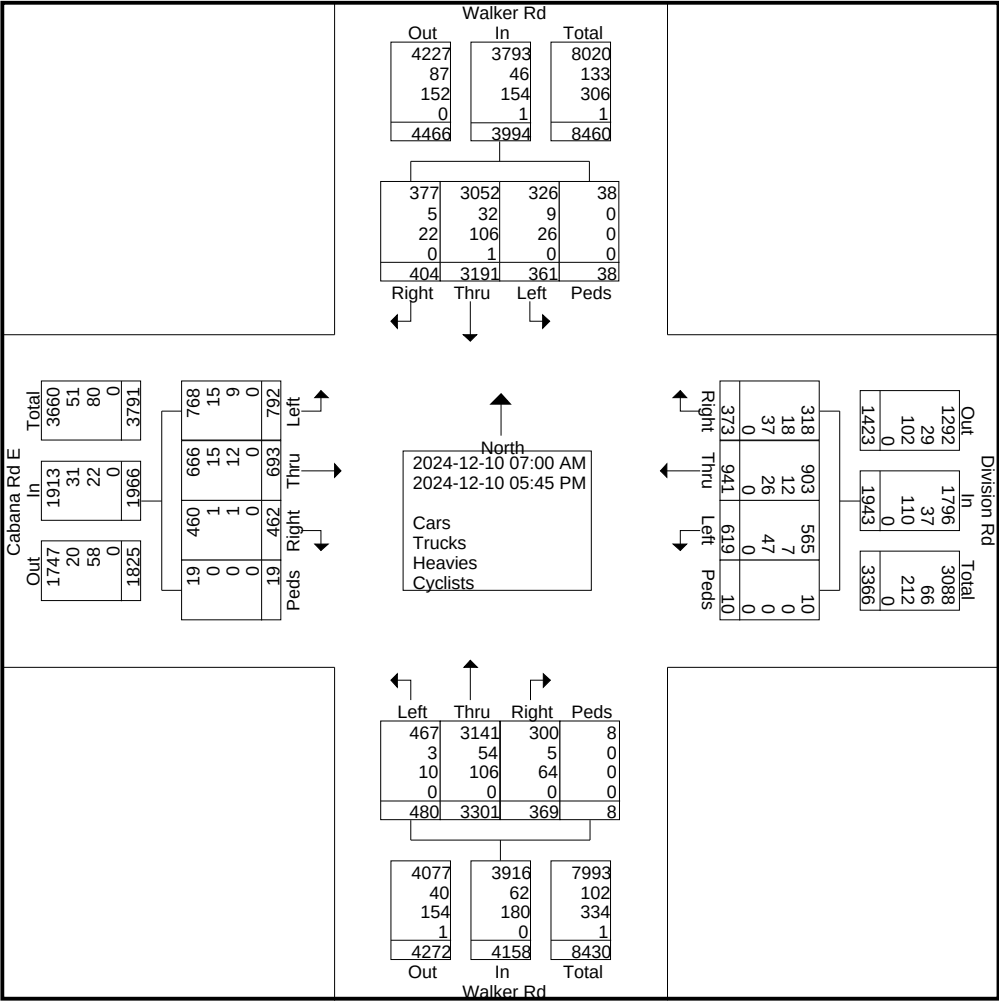
Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

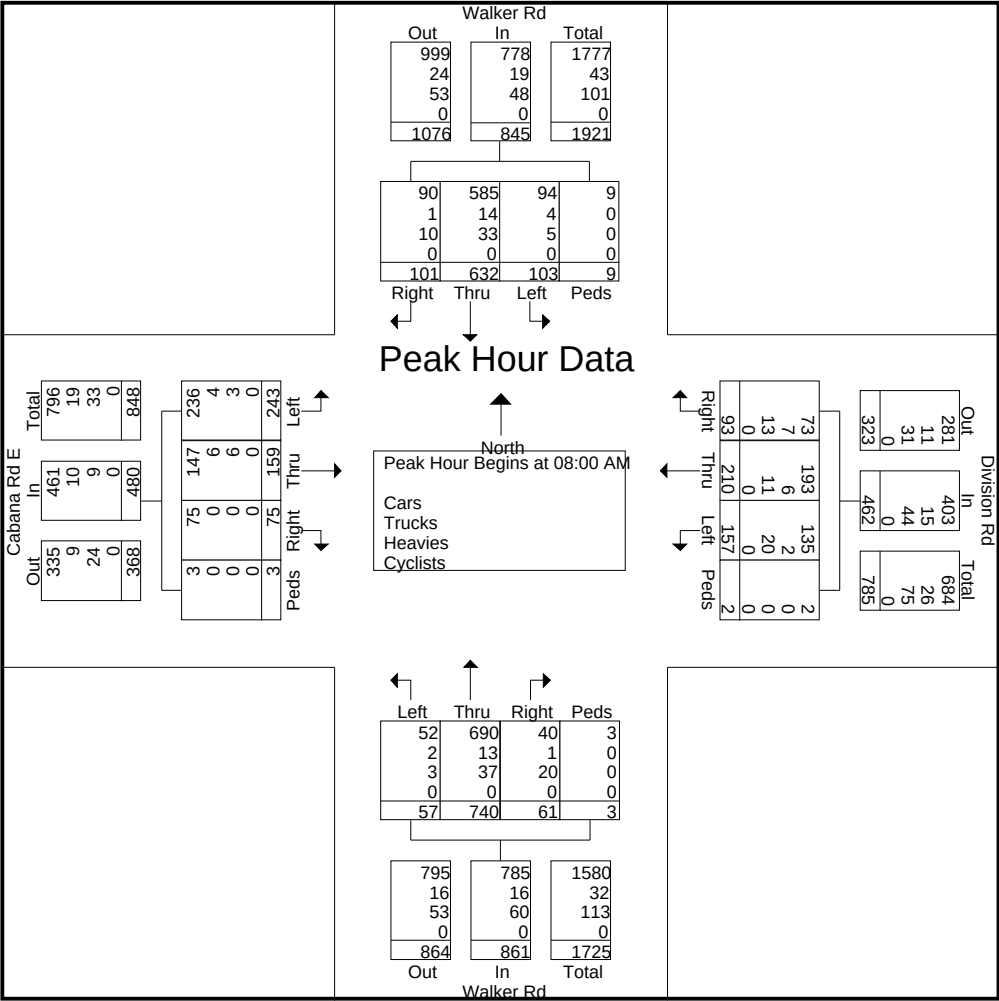
Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

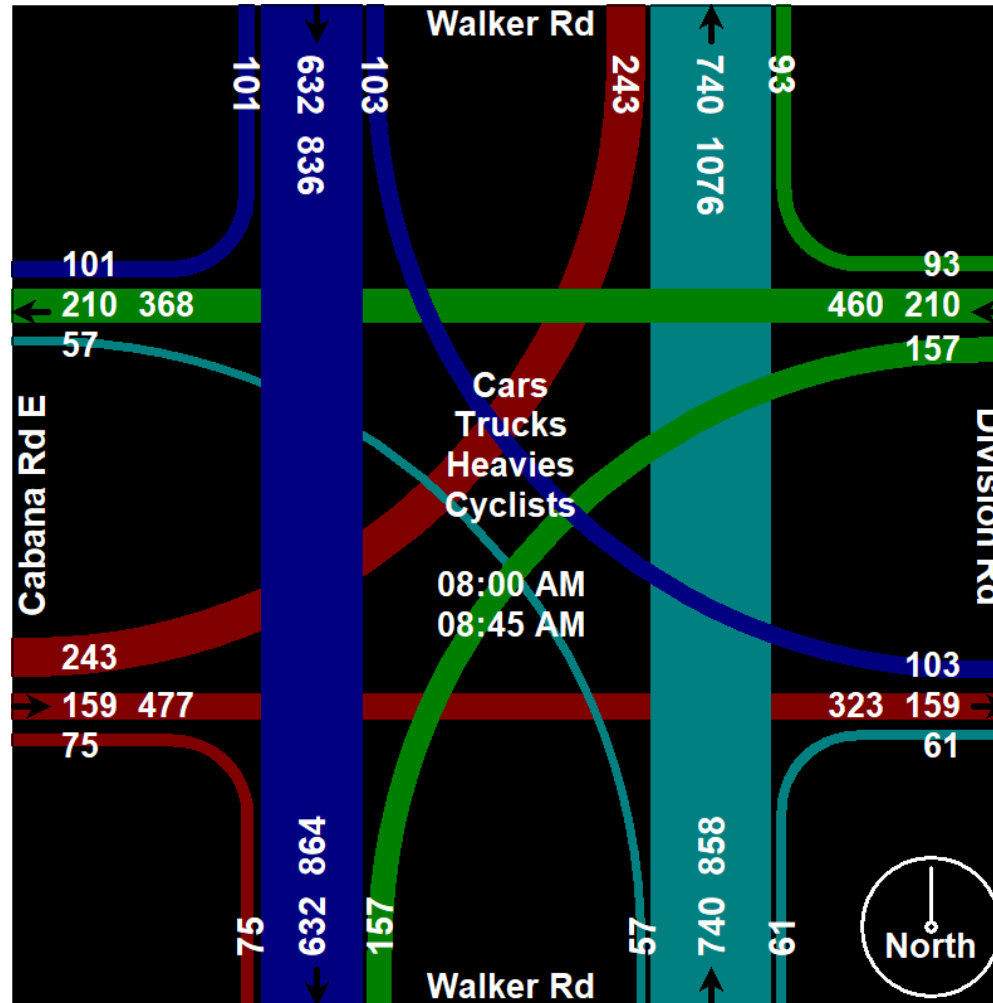
Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 6

[illegible]

Horizon Data Services Ltd

(416) 840-6619

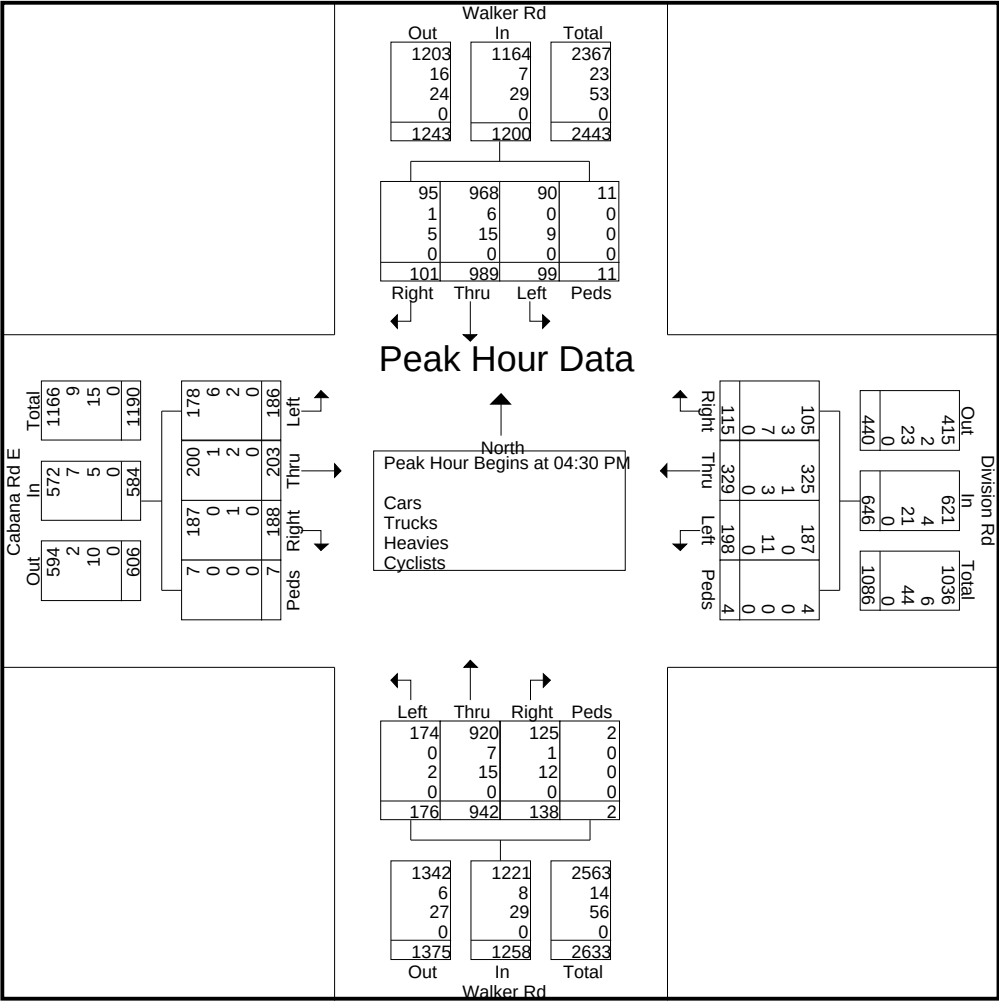
Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

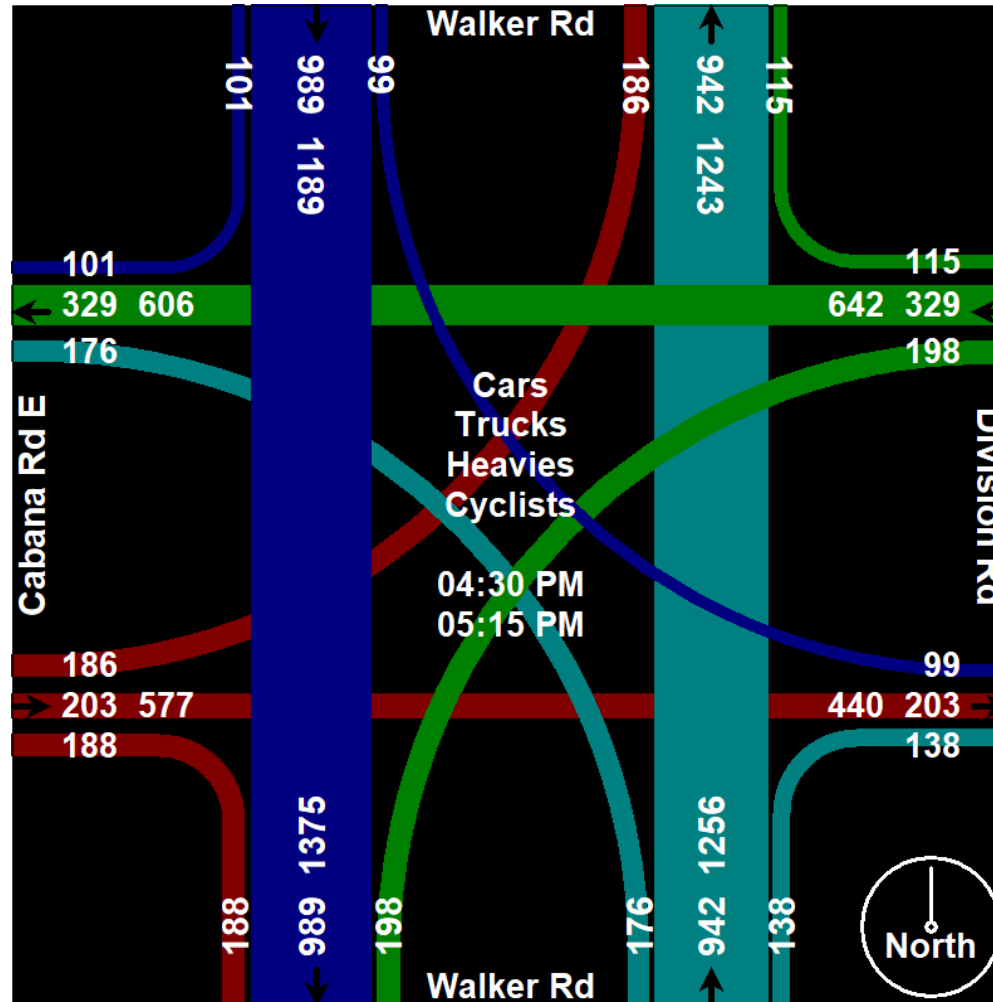
Your Traffic Count Specialist

File Name : Walker Road at Division Road

Site Code : Loc-9

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Walker Way Forum Ent From East					Walker Rd From South					Home Depot Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	189	1	0	193	2	0	0	0	2	0	188	2	0	190	1	0	0	0	1	386
07:15 AM	4	191	1	0	196	0	0	0	0	0	0	197	1	0	198	1	0	0	1	2	396
07:30 AM	2	203	1	0	206	0	0	0	0	0	0	206	6	0	212	2	0	1	3	6	424
07:45 AM	7	217	0	0	224	0	0	0	4	4	0	245	4	3	252	2	0	0	0	2	482
Total	16	800	3	0	819	2	0	0	4	6	0	836	13	3	852	6	0	1	4	11	1688
08:00 AM	8	178	0	0	186	1	0	0	1	2	0	207	10	0	217	1	0	3	0	4	409
08:15 AM	5	182	3	0	190	1	0	0	0	1	1	216	14	1	232	6	0	2	0	8	431
08:30 AM	15	202	3	0	220	1	0	0	0	1	0	205	20	0	225	6	1	4	1	12	458
08:45 AM	18	241	7	0	266	0	0	1	1	2	1	237	8	0	246	10	0	4	2	16	530
Total	46	803	13	0	862	3	0	1	2	6	2	865	52	1	920	23	1	13	3	40	1828
04:00 PM	22	315	5	0	342	15	3	2	0	20	5	302	29	0	336	32	0	18	1	51	749
04:15 PM	21	293	2	0	316	10	1	3	0	14	1	307	29	0	337	28	2	7	0	37	704
04:30 PM	18	327	5	0	350	8	0	4	3	15	1	288	27	2	318	17	1	11	0	29	712
04:45 PM	26	307	3	0	336	9	0	2	0	11	3	308	26	2	339	22	2	16	0	40	726
Total	87	1242	15	0	1344	42	4	11	3	60	10	1205	111	4	1330	99	5	52	1	157	2891
05:00 PM	30	333	10	0	373	12	0	4	0	16	2	283	26	0	311	21	1	18	0	40	740
05:15 PM	23	306	4	0	333	13	1	2	0	16	1	303	28	0	332	21	1	12	1	35	716
05:30 PM	31	264	10	0	305	9	0	2	0	11	1	270	24	0	295	22	0	14	2	38	649
05:45 PM	22	254	1	0	277	10	3	3	1	17	3	252	16	0	271	17	0	18	1	36	601
Total	106	1157	25	0	1288	44	4	11	1	60	7	1108	94	0	1209	81	2	62	4	149	2706
Grand Total	255	4002	56	0	4313	91	8	23	10	132	19	4014	270	8	4311	209	8	128	12	357	9113
Apprch %	5.9	92.8	1.3	0		68.9	6.1	17.4	7.6		0.4	93.1	6.3	0.2		58.5	2.2	35.9	3.4		
Total %	2.8	43.9	0.6	0	47.3	1	0.1	0.3	0.1	1.4	0.2	44	3	0.1	47.3	2.3	0.1	1.4	0.1	3.9	
Cars	254	3808	55	0	4117	86	7	23	10	126	19	3770	267	8	4064	207	8	128	12	355	8662
% Cars	99.6	95.2	98.2	0	95.5	94.5	87.5	100	100	95.5	100	93.9	98.9	100	94.3	99	100	100	100	99.4	95.1
Trucks	1	39	0	0	40	2	1	0	0	3	0	63	3	0	66	1	0	0	0	1	110
% Trucks	0.4	1	0	0	0.9	2.2	12.5	0	0	2.3	0	1.6	1.1	0	1.5	0.5	0	0	0	0.3	1.2
Heavies	0	155	1	0	156	1	0	0	0	1	0	181	0	0	181	1	0	0	0	1	339
% Heavies	0	3.9	1.8	0	3.6	1.1	0	0	0	0.8	0	4.5	0	0	4.2	0.5	0	0	0	0.3	3.7
Cyclists	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% Cyclists	0	0	0	0	0	2.2	0	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

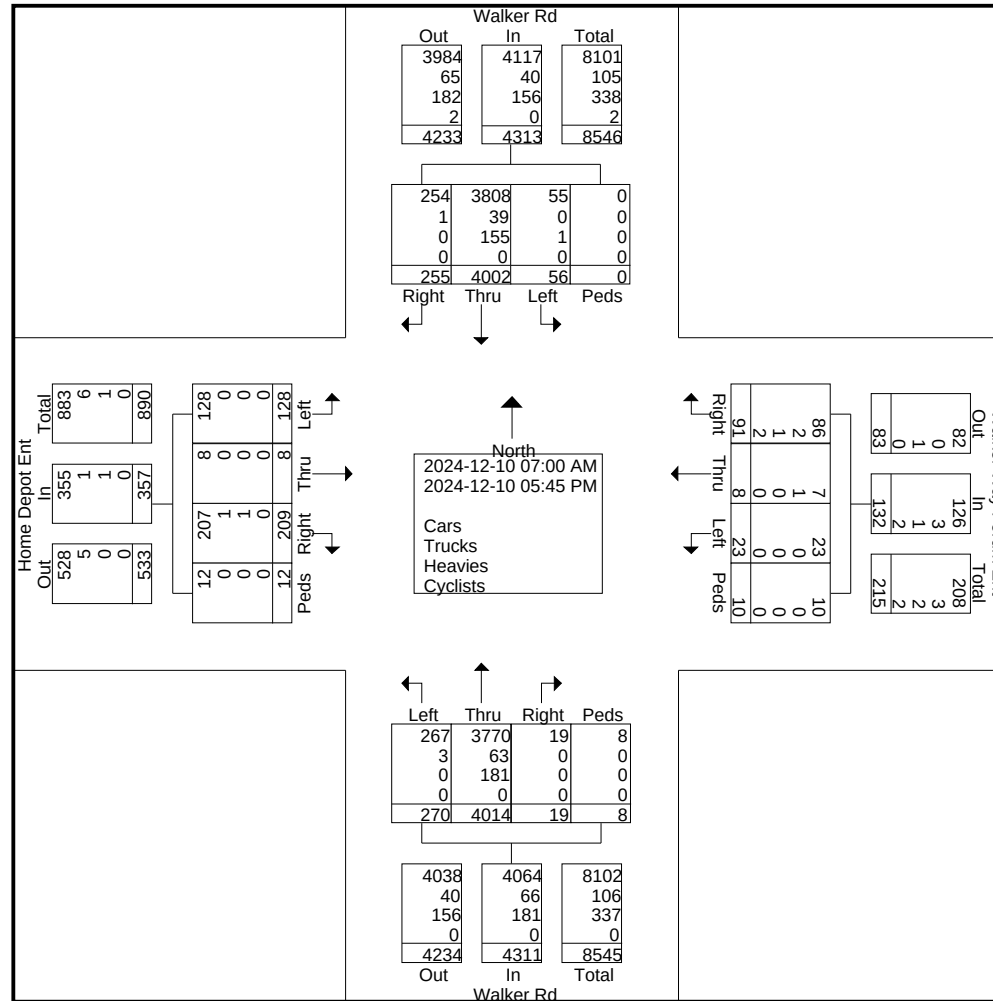
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road

Site Code : Loc-14

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

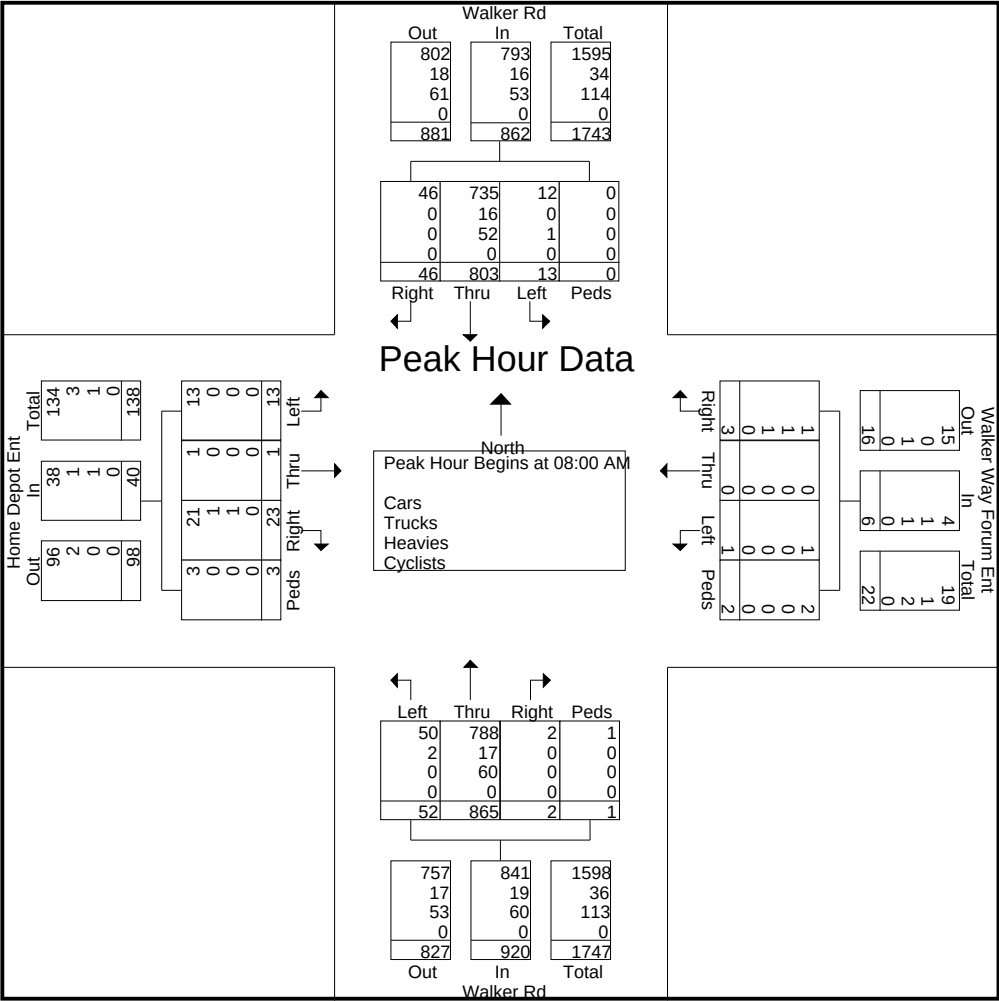
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road

Site Code : Loc-14

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

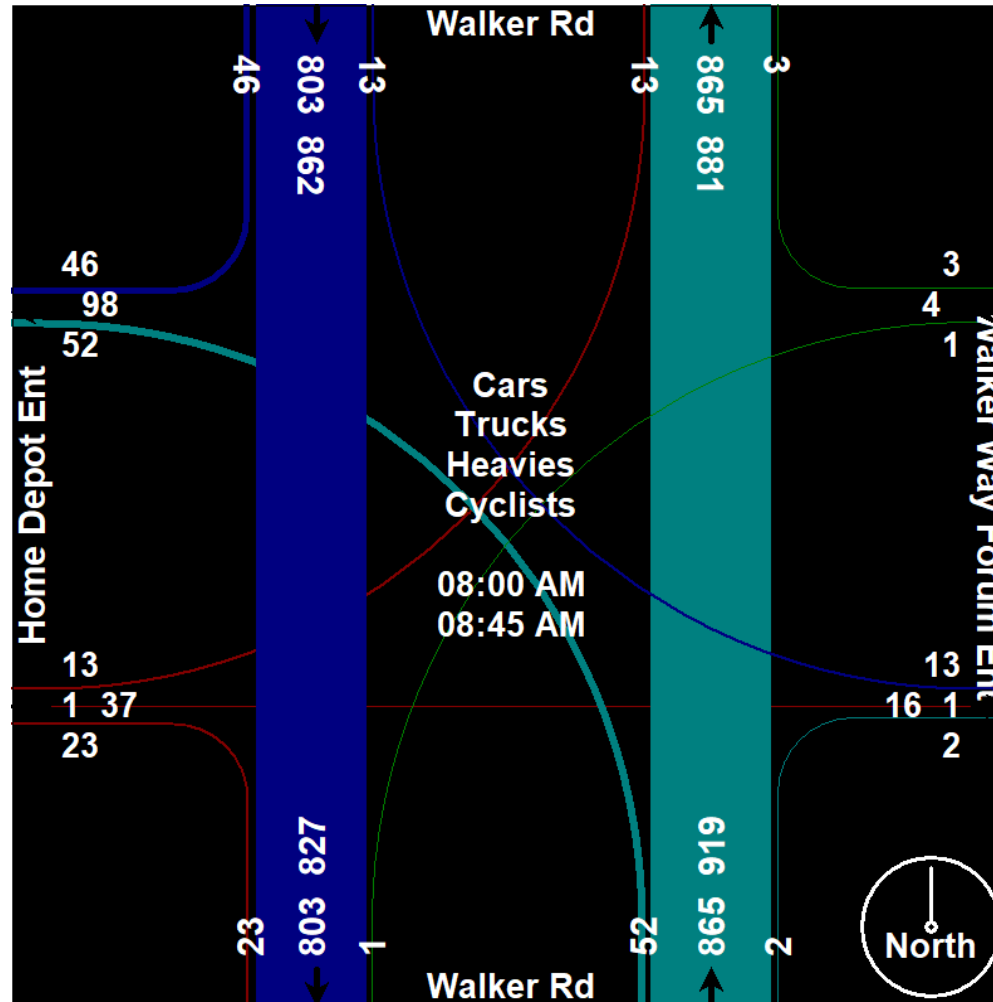
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road

Site Code : Loc-14

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

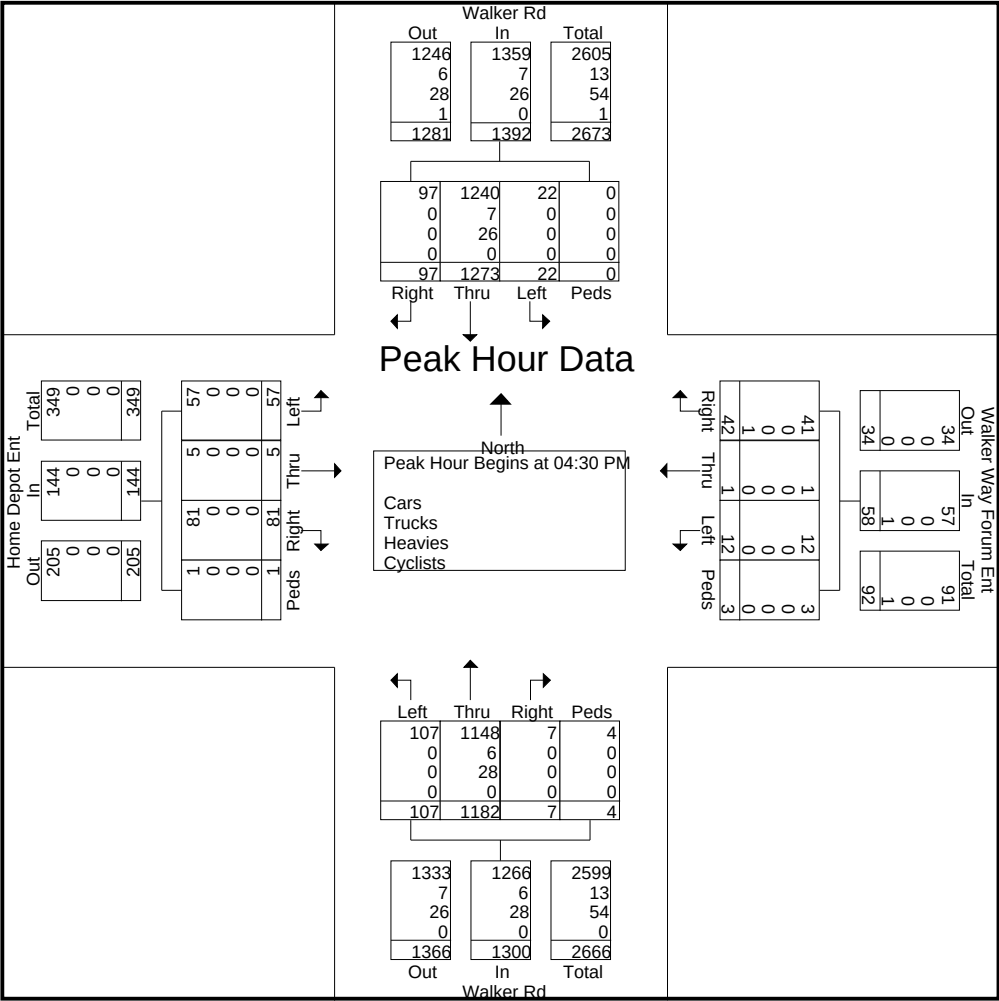
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road

Site Code : Loc-14

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

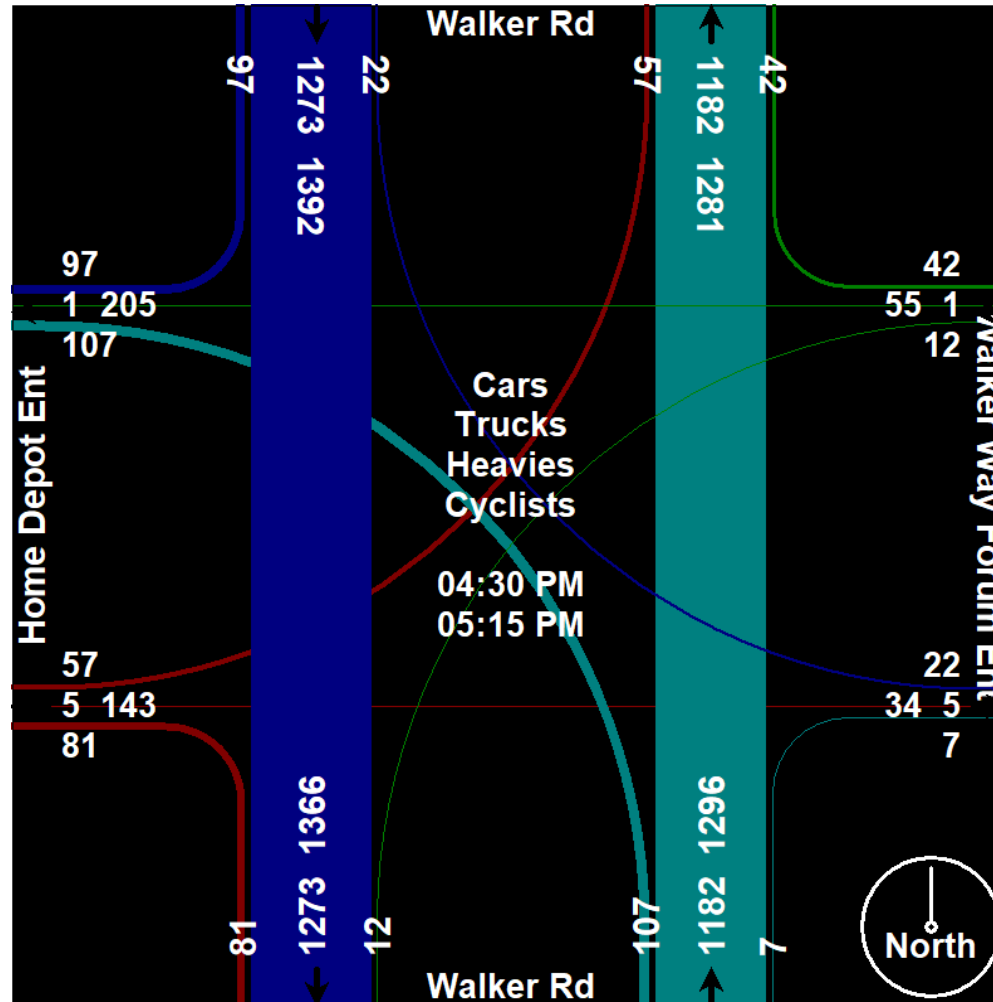
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road

Site Code : Loc-14

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Walkers Place N Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	179	0	0	179	1	0	0	0	1	0	189	0	0	189	0	0	0	0	0	369
07:15 AM	0	200	2	0	202	0	0	0	0	0	0	199	0	0	199	0	0	0	0	0	401
07:30 AM	0	199	3	0	202	3	0	0	0	3	0	191	0	0	191	0	0	0	0	0	396
07:45 AM	0	215	4	0	219	0	0	0	1	1	0	268	0	0	268	0	0	0	0	0	488
Total	0	793	9	0	802	4	0	0	1	5	0	847	0	0	847	0	0	0	0	0	1654
08:00 AM	0	189	2	0	191	0	0	0	1	1	1	212	0	0	213	0	0	0	0	0	405
08:15 AM	0	191	3	0	194	1	0	0	0	1	0	217	0	0	217	0	0	0	0	0	412
08:30 AM	0	219	6	1	226	2	0	0	1	3	0	238	0	0	238	0	0	0	0	0	467
08:45 AM	0	245	7	0	252	1	0	0	1	2	4	243	0	0	247	0	0	0	0	0	501
Total	0	844	18	1	863	4	0	0	3	7	5	910	0	0	915	0	0	0	0	0	1785
04:00 PM	0	341	10	0	351	8	0	0	0	8	6	332	0	0	338	0	0	0	0	0	697
04:15 PM	0	348	15	0	363	3	0	1	0	4	2	306	0	0	308	0	0	0	0	0	675
04:30 PM	0	340	11	2	353	8	0	0	3	11	1	335	0	0	336	0	0	0	0	0	700
04:45 PM	0	348	15	0	363	6	0	1	0	7	4	309	0	0	313	0	0	0	0	0	683
Total	0	1377	51	2	1430	25	0	2	3	30	13	1282	0	0	1295	0	0	0	0	0	2755
05:00 PM	0	345	11	0	356	8	0	0	0	8	5	325	0	0	330	0	0	0	0	0	694
05:15 PM	0	353	16	0	369	9	0	0	0	9	4	295	0	1	300	0	0	0	0	0	678
05:30 PM	0	275	8	1	284	5	0	0	0	5	4	309	0	1	314	0	0	0	0	0	603
05:45 PM	0	286	9	0	295	6	0	0	0	6	4	252	0	0	256	0	0	0	0	0	557
Total	0	1259	44	1	1304	28	0	0	0	28	17	1181	0	2	1200	0	0	0	0	0	2532
Grand Total	0	4273	122	4	4399	61	0	2	7	70	35	4220	0	2	4257	0	0	0	0	0	8726
Apprch %	0	97.1	2.8	0.1		87.1	0	2.9	10		0.8	99.1	0	0		0	0	0	0		
Total %	0	49	1.4	0	50.4	0.7	0	0	0.1	0.8	0.4	48.4	0	0	48.8	0	0	0	0	0	
Cars	0	4067	121	4	4192	60	0	2	7	69	34	3974	0	2	4010	0	0	0	0	0	8271
% Cars	0	95.2	99.2	100	95.3	98.4	0	100	100	98.6	97.1	94.2	0	100	94.2	0	0	0	0	0	94.8
Trucks	0	44	1	0	45	0	0	0	0	0	1	67	0	0	68	0	0	0	0	0	113
% Trucks	0	1	0.8	0	1	0	0	0	0	0	2.9	1.6	0	0	1.6	0	0	0	0	0	1.3
Heavies	0	161	0	0	161	1	0	0	0	1	0	179	0	0	179	0	0	0	0	0	341
% Heavies	0	3.8	0	0	3.7	1.6	0	0	0	1.4	0	4.2	0	0	4.2	0	0	0	0	0	3.9
Cyclists	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

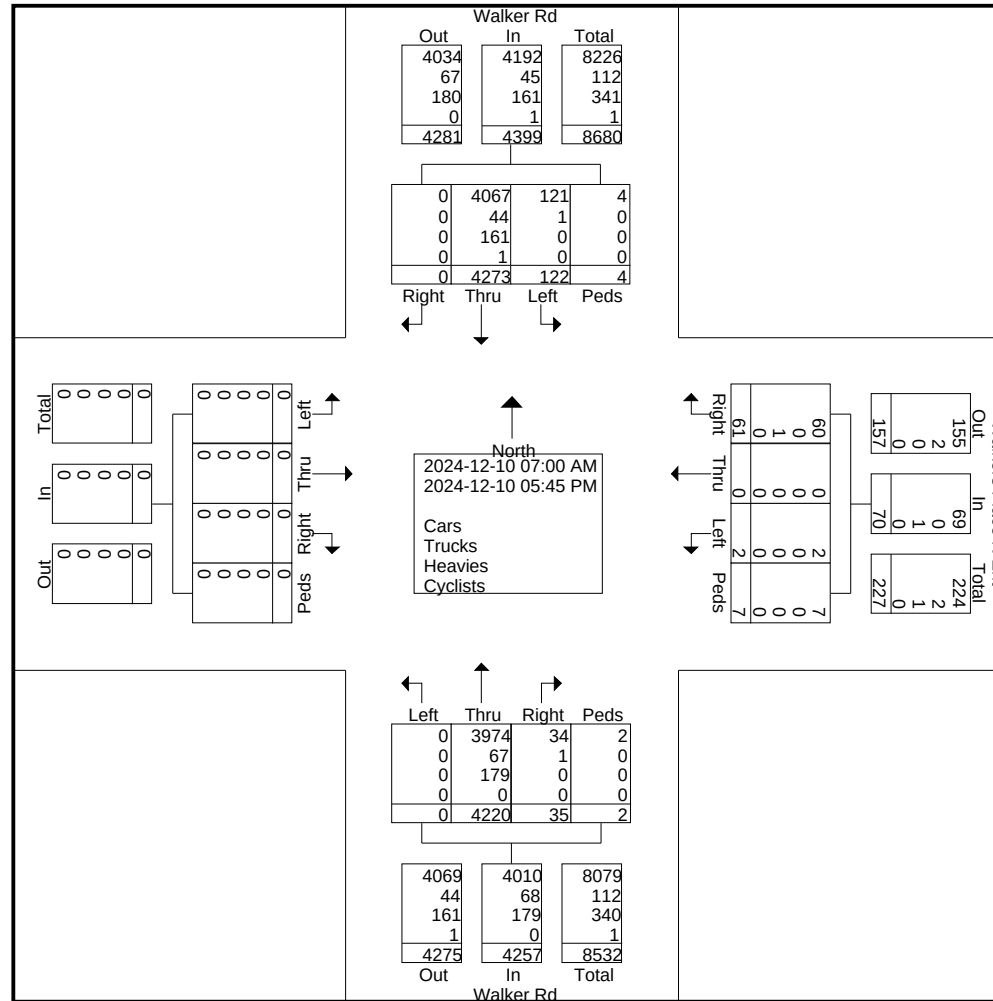
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road

Site Code : Loc-17

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

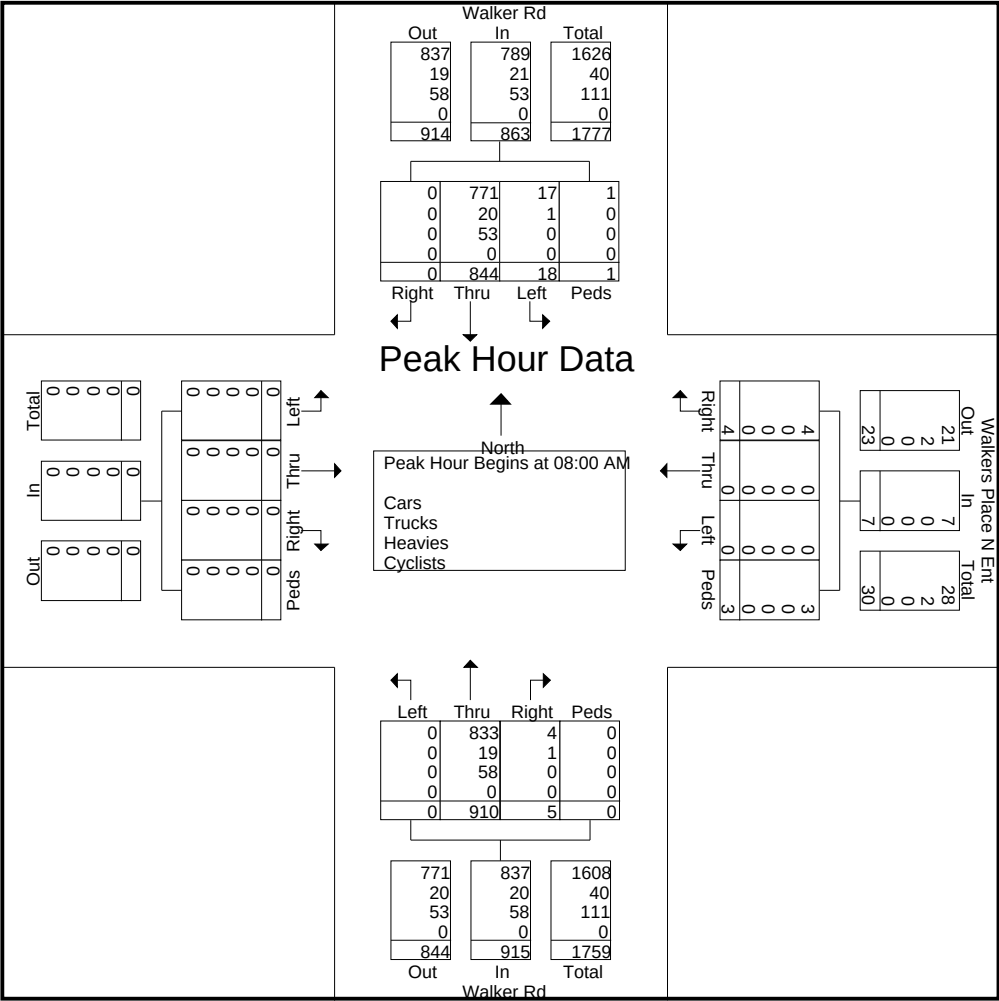
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road

Site Code : Loc-17

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

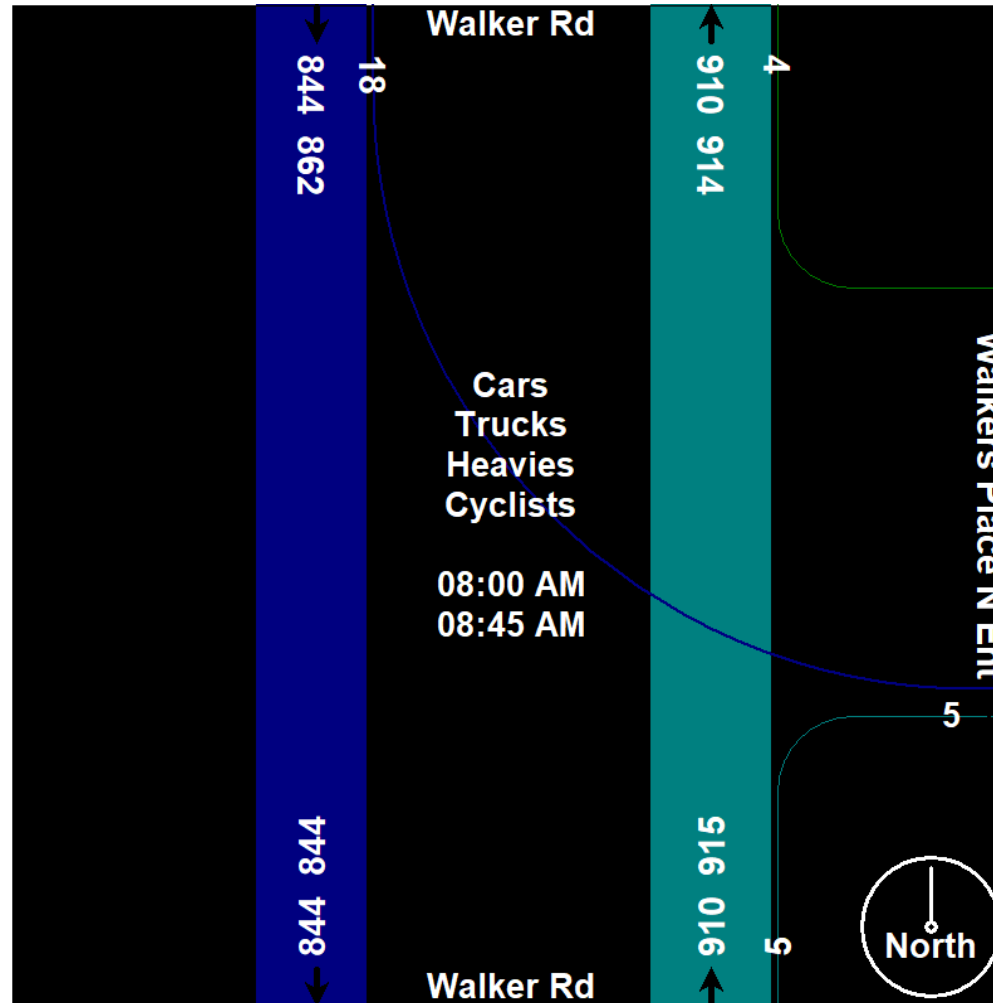
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road

Site Code : Loc-17

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

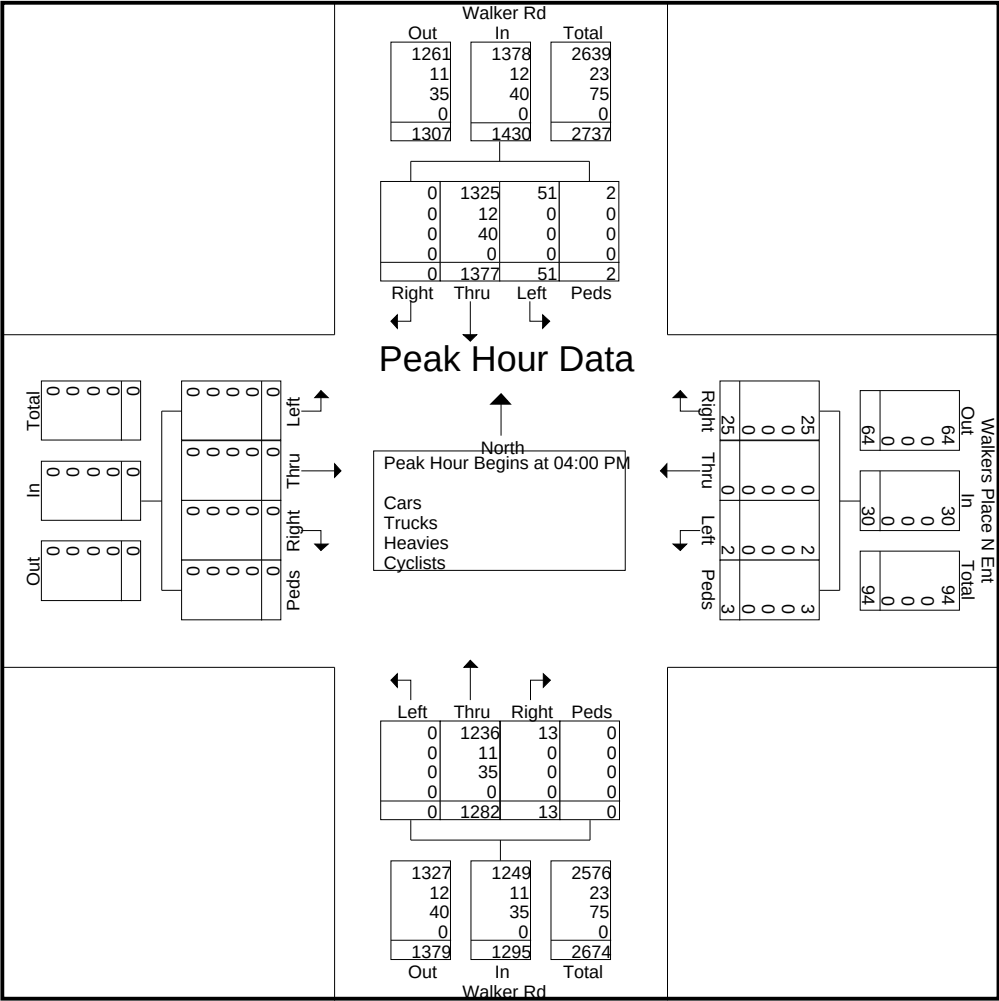
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road

Site Code : Loc-17

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

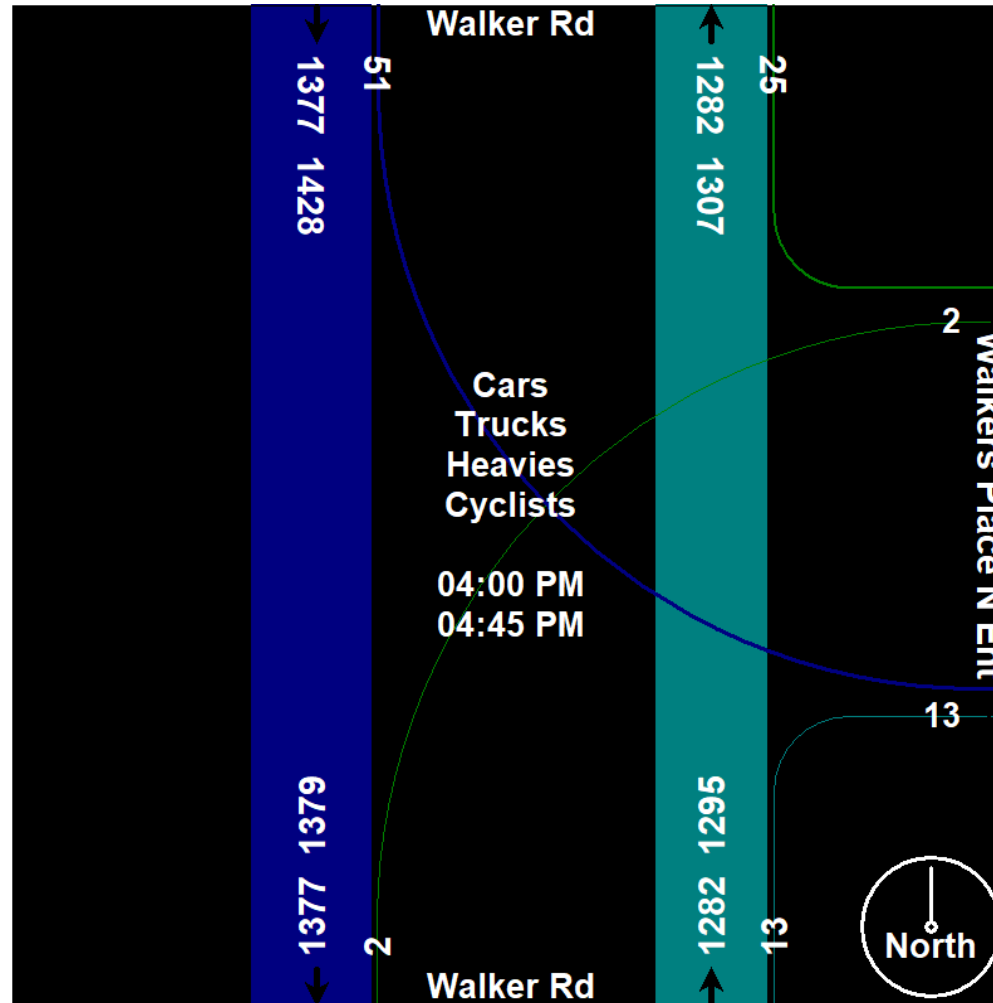
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road

Site Code : Loc-17

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Walkers Place S Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	180	0	0	180	1	0	0	0	1	0	186	0	0	186	0	0	0	0	0	367
07:15 AM	0	199	0	0	199	3	0	0	0	3	1	200	0	0	201	0	0	0	0	0	403
07:30 AM	0	194	0	1	195	0	0	0	0	0	0	191	0	1	192	0	0	0	0	0	387
07:45 AM	0	217	0	0	217	0	0	0	1	1	0	267	0	0	267	0	0	0	0	0	485
Total	0	790	0	1	791	4	0	0	1	5	1	844	0	1	846	0	0	0	0	0	1642
08:00 AM	0	189	0	0	189	3	0	0	1	4	1	211	0	0	212	0	0	0	0	0	405
08:15 AM	0	188	0	0	188	1	0	0	0	1	0	219	0	0	219	0	0	0	0	0	408
08:30 AM	0	218	0	0	218	1	0	0	0	1	0	233	0	0	233	0	0	0	0	0	452
08:45 AM	0	247	0	0	247	3	0	0	0	3	1	243	0	0	244	0	0	0	0	0	494
Total	0	842	0	0	842	8	0	0	1	9	2	906	0	0	908	0	0	0	0	0	1759
04:00 PM	0	339	0	0	339	20	0	0	0	20	3	316	0	0	319	0	0	0	0	0	678
04:15 PM	0	353	0	0	353	13	0	0	0	13	1	299	0	0	300	0	0	0	0	0	666
04:30 PM	0	339	0	1	340	7	0	0	3	10	2	328	0	1	331	0	0	0	0	0	681
04:45 PM	0	351	1	0	352	13	0	0	0	13	7	301	0	0	308	0	0	0	0	0	673
Total	0	1382	1	1	1384	53	0	0	3	56	13	1244	0	1	1258	0	0	0	0	0	2698
05:00 PM	0	352	0	1	353	11	0	1	0	12	0	319	0	1	320	0	0	0	0	0	685
05:15 PM	0	352	1	0	353	12	0	0	0	12	2	284	0	0	286	0	0	0	0	0	651
05:30 PM	0	278	0	0	278	9	0	0	0	9	2	304	0	0	306	0	0	0	0	0	593
05:45 PM	0	291	1	0	292	9	0	0	0	9	1	250	0	0	251	0	0	0	0	0	552
Total	0	1273	2	1	1276	41	0	1	0	42	5	1157	0	1	1163	0	0	0	0	0	2481
Grand Total	0	4287	3	3	4293	106	0	1	5	112	21	4151	0	3	4175	0	0	0	0	0	8580
Apprch %	0	99.9	0.1	0.1		94.6	0	0.9	4.5		0.5	99.4	0	0.1		0	0	0	0		
Total %	0	50	0	0	50	1.2	0	0	0.1	1.3	0.2	48.4	0	0	48.7	0	0	0	0	0	
Cars	0	4076	3	3	4082	104	0	1	5	110	20	3908	0	3	3931	0	0	0	0	0	8123
% Cars	0	95.1	100	100	95.1	98.1	0	100	100	98.2	95.2	94.1	0	100	94.2	0	0	0	0	0	94.7
Trucks	0	50	0	0	50	2	0	0	0	2	0	65	0	0	65	0	0	0	0	0	117
% Trucks	0	1.2	0	0	1.2	1.9	0	0	0	1.8	0	1.6	0	0	1.6	0	0	0	0	0	1.4
Heavies	0	160	0	0	160	0	0	0	0	0	0	178	0	0	178	0	0	0	0	0	338
% Heavies	0	3.7	0	0	3.7	0	0	0	0	0	0	4.3	0	0	4.3	0	0	0	0	0	3.9
Cyclists	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	4.8	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

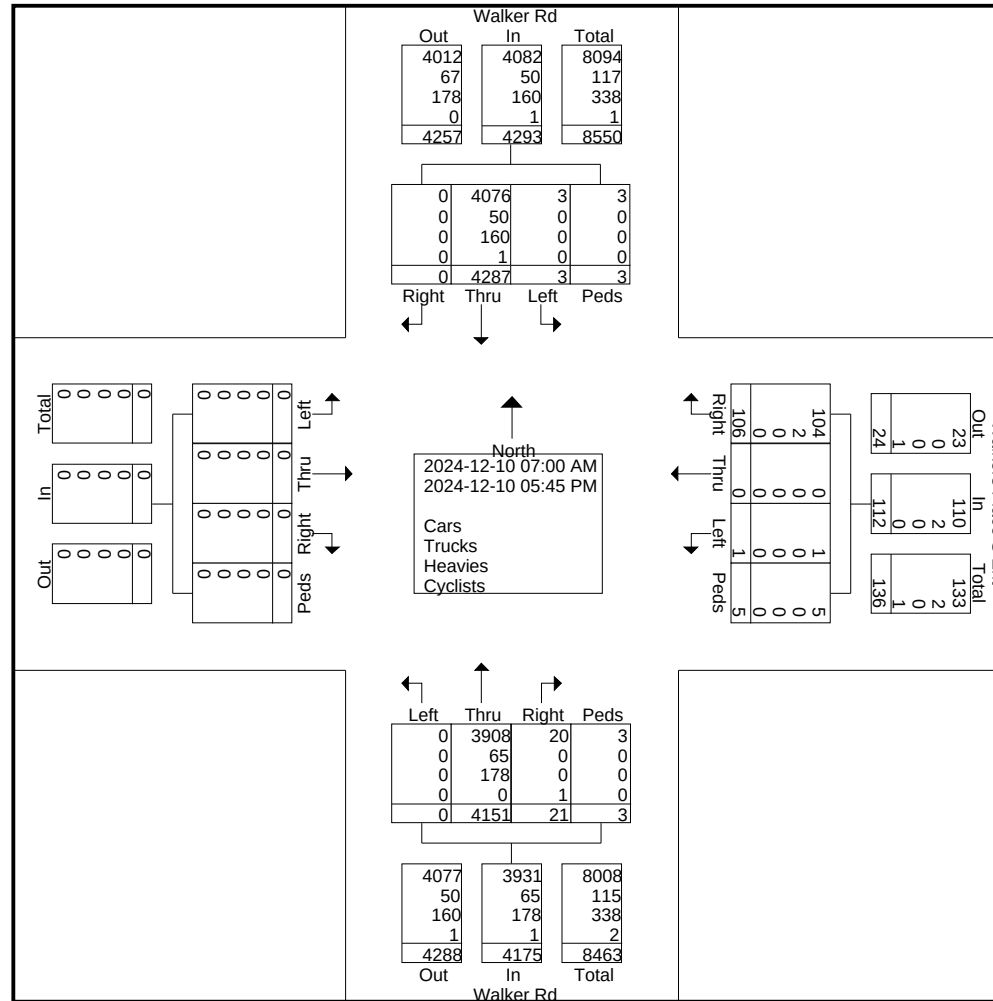
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

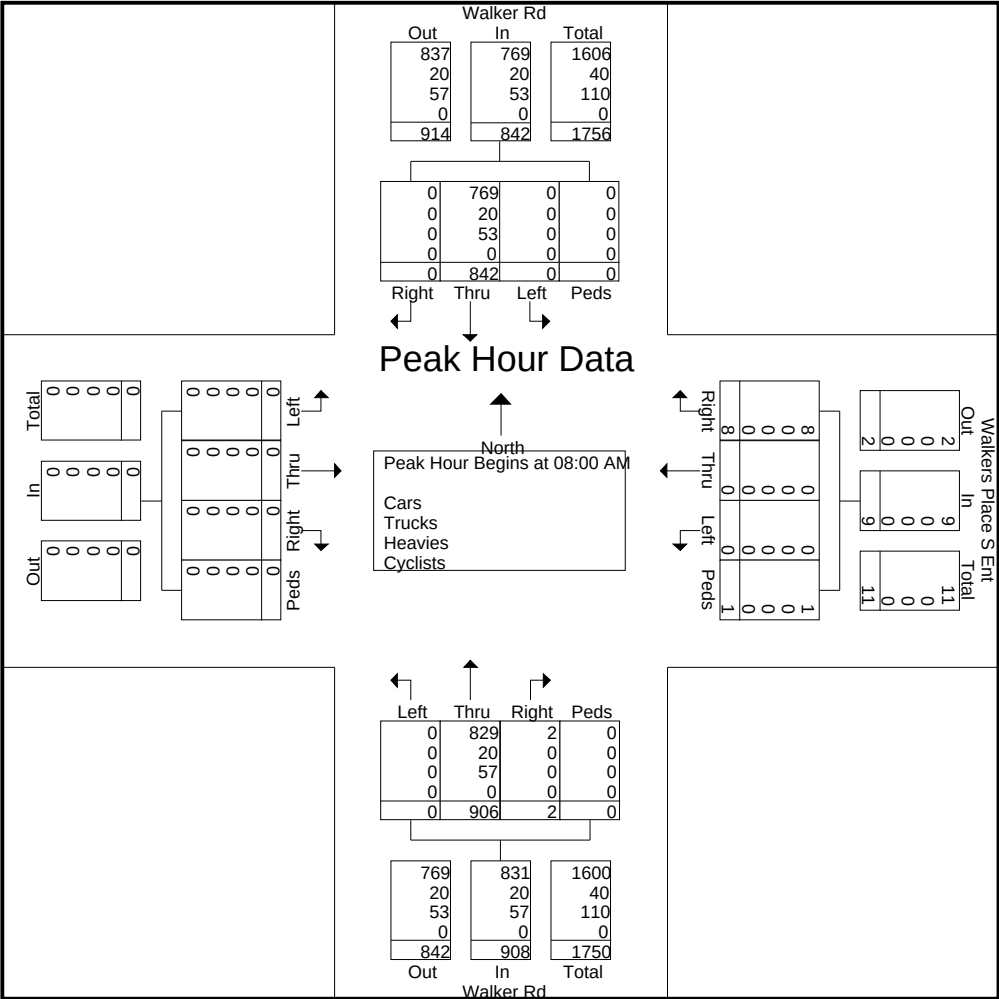
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

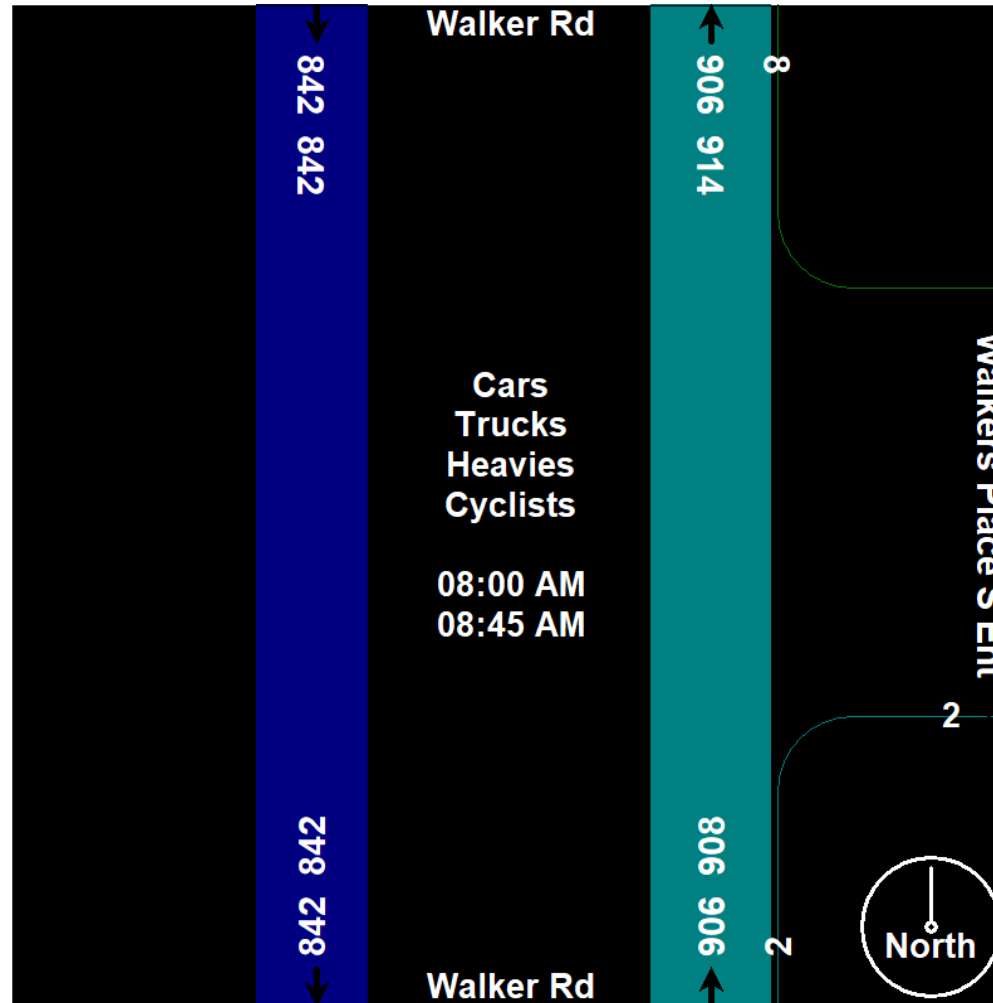
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 6

	Walker Rd From North					Walkers Place S Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	353	0	0	353	13	0	0	0	13	1	299	0	0	300	0	0	0	0	0	666
04:30 PM	0	339	0	1	340	7	0	0	3	10	2	328	0	1	331	0	0	0	0	0	681
04:45 PM	0	351	1	0	352	13	0	0	0	13	7	301	0	0	308	0	0	0	0	0	673
05:00 PM	0	352	0	1	353	11	0	1	0	12	0	319	0	1	320	0	0	0	0	0	685
Total Volume	0	1395	1	2	1398	44	0	1	3	48	10	1247	0	2	1259	0	0	0	0	0	2705
% App. Total	0	99.8	0.1	0.1		91.7	0	2.1	6.2		0.8	99	0	0.2		0	0	0	0		
PHF	.000	.988	.250	.500	.990	.846	.000	.250	.250	.923	.357	.950	.000	.500	.951	.000	.000	.000	.000	.000	.987
Cars	0	1344	1	2	1347	44	0	1	3	48	9	1208	0	2	1219	0	0	0	0	0	2614
% Cars	0	96.3	100	100	96.4	100	0	100	100	100	90.0	96.9	0	100	96.8	0	0	0	0	0	96.6
Trucks	0	15	0	0	15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	21
% Trucks	0	1.1	0	0	1.1	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.8
Heavies	0	36	0	0	36	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	69
% Heavies	0	2.6	0	0	2.6	0	0	0	0	0	0	2.6	0	0	2.6	0	0	0	0	0	2.6
Cyclists	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	10.0	0	0	0	0.1	0	0	0	0	0	0.0

Horizon Data Services Ltd

(416) 840-6619

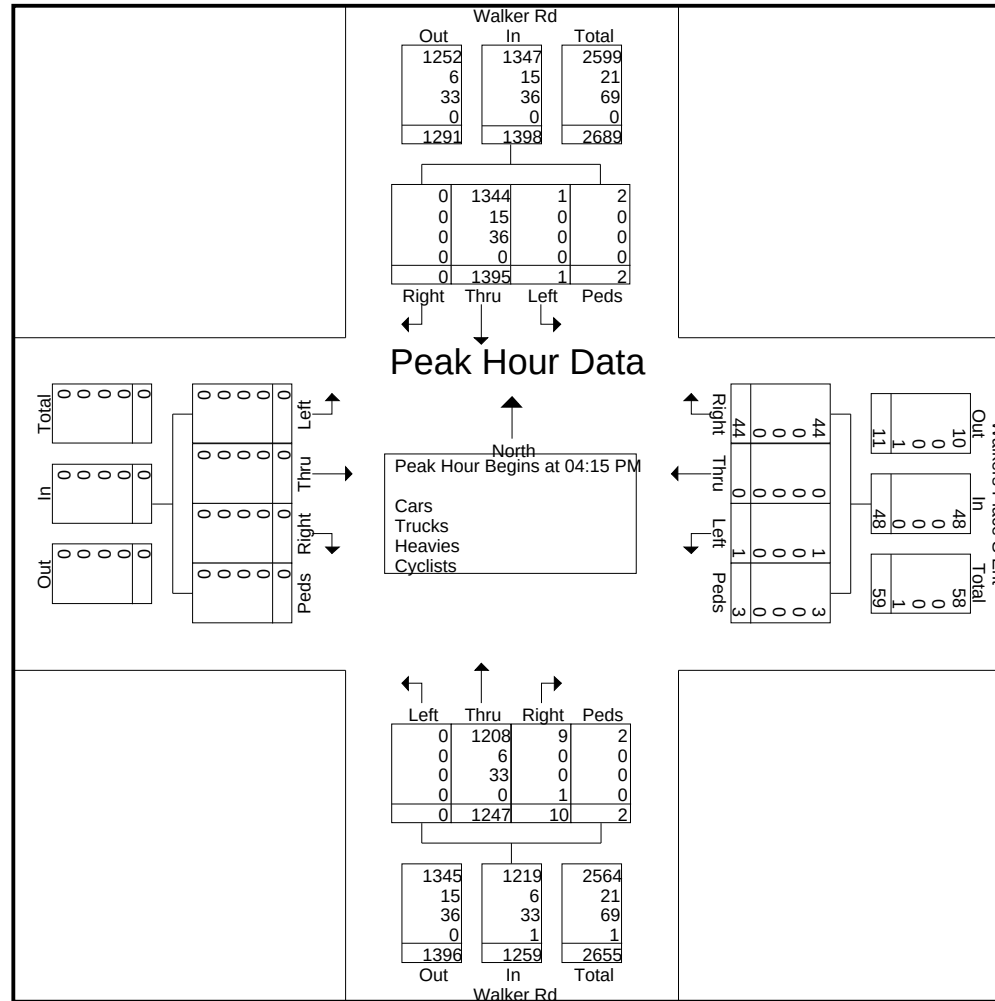
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

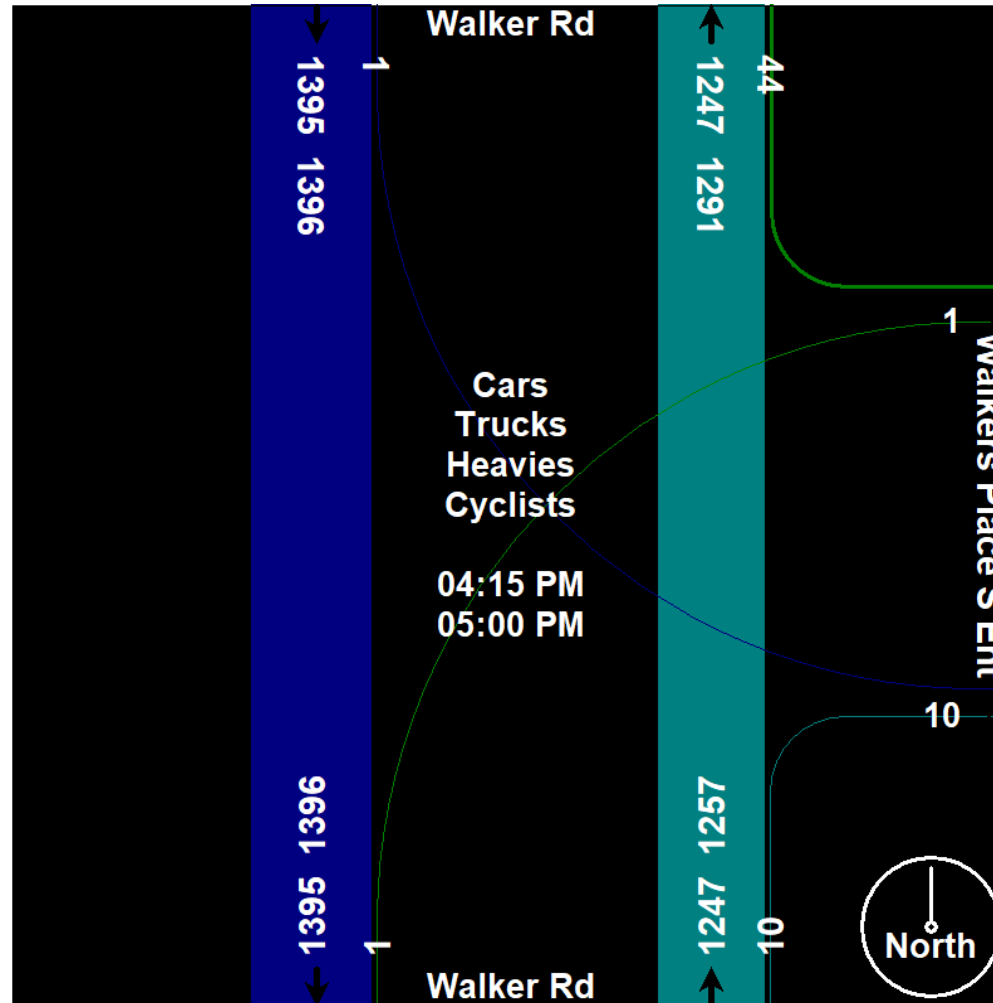
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road

Site Code : Loc-18

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Canadian Tire Ent From East					Walker Rd From South					Winners Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	9	160	5	0	174	4	1	3	0	8	0	163	5	2	170	4	0	14	2	20	372
07:15 AM	9	166	7	0	182	2	0	1	1	4	4	165	2	0	171	1	0	12	1	14	371
07:30 AM	15	162	4	0	181	4	0	1	0	5	2	200	6	0	208	0	0	17	0	17	411
07:45 AM	16	215	10	0	241	2	2	3	0	7	8	221	4	0	233	3	2	14	0	19	500
Total	49	703	26	0	778	12	3	8	1	24	14	749	17	2	782	8	2	57	3	70	1654
08:00 AM	18	163	9	0	190	3	1	2	2	8	5	192	4	1	202	3	3	10	0	16	416
08:15 AM	16	182	11	0	209	3	1	4	1	9	6	210	11	0	227	4	0	18	0	22	467
08:30 AM	25	187	11	0	223	9	4	2	0	15	7	270	3	0	280	1	6	15	0	22	540
08:45 AM	39	230	27	0	296	7	5	8	0	20	11	199	8	0	218	4	6	19	1	30	564
Total	98	762	58	0	918	22	11	16	3	52	29	871	26	1	927	12	15	62	1	90	1987
04:00 PM	66	257	27	2	352	22	10	31	1	64	21	231	21	2	275	24	14	46	2	86	777
04:15 PM	63	245	37	0	345	24	12	36	0	72	15	233	7	0	255	24	19	50	0	93	765
04:30 PM	74	261	40	0	375	27	14	32	0	73	24	282	18	2	326	21	17	39	0	77	851
04:45 PM	71	244	47	3	365	26	12	28	0	66	19	256	17	1	293	27	16	46	0	89	813
Total	274	1007	151	5	1437	99	48	127	1	275	79	1002	63	5	1149	96	66	181	2	345	3206
05:00 PM	83	289	31	1	404	23	8	33	1	65	14	273	17	0	304	22	12	46	1	81	854
05:15 PM	67	259	36	4	366	28	10	33	0	71	19	210	20	0	249	31	10	52	1	94	780
05:30 PM	56	255	38	2	351	18	8	30	0	56	21	257	22	0	300	26	5	52	2	85	792
05:45 PM	49	225	31	0	305	22	13	25	2	62	24	218	16	1	259	24	8	53	1	86	712
Total	255	1028	136	7	1426	91	39	121	3	254	78	958	75	1	1112	103	35	203	5	346	3138
Grand Total	676	3500	371	12	4559	224	101	272	8	605	200	3580	181	9	3970	219	118	503	11	851	9985
Apprch %	14.8	76.8	8.1	0.3		37	16.7	45	1.3		5	90.2	4.6	0.2		25.7	13.9	59.1	1.3		
Total %	6.8	35.1	3.7	0.1	45.7	2.2	1	2.7	0.1	6.1	2	35.9	1.8	0.1	39.8	2.2	1.2	5	0.1	8.5	
Cars	660	3298	371	12	4341	222	100	272	8	602	200	3327	176	9	3712	213	118	494	11	836	9491

Horizon Data Services Ltd

(416) 840-6619

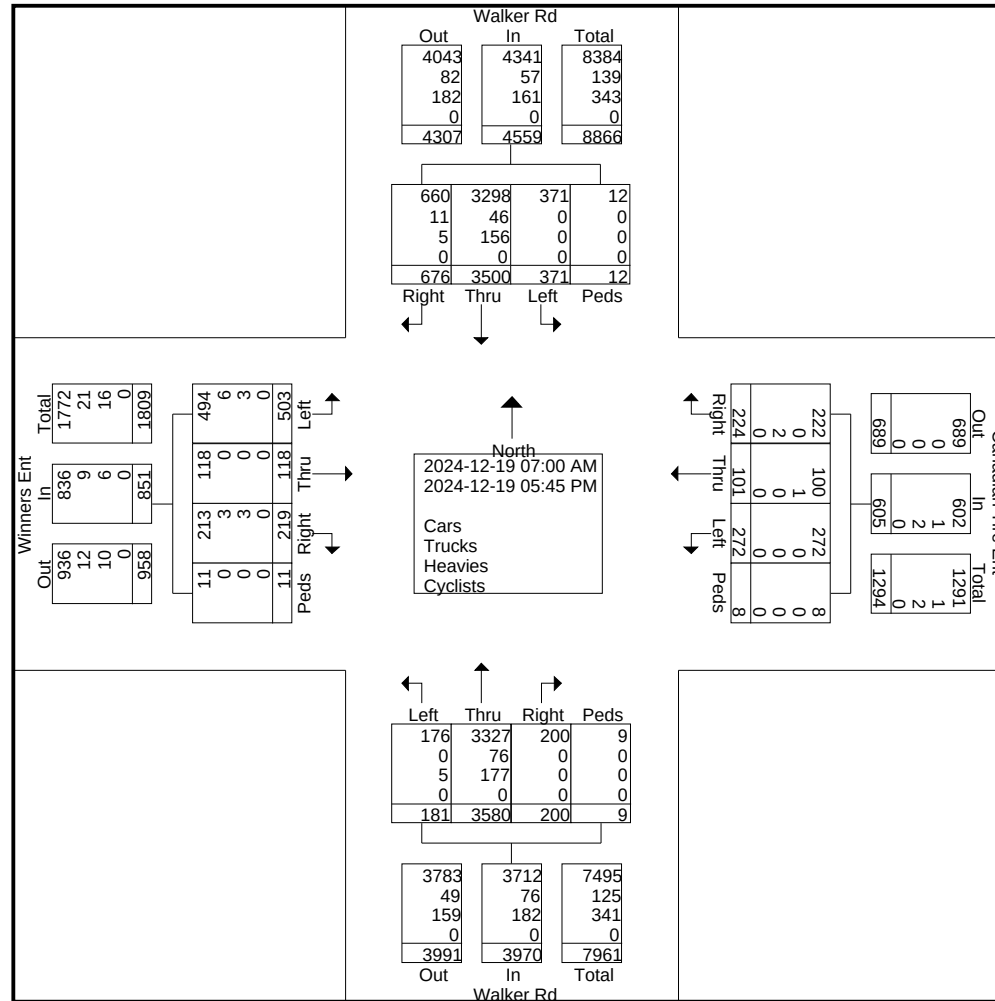
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road

Site Code : Loc-15

Start Date : 2024-12-19

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

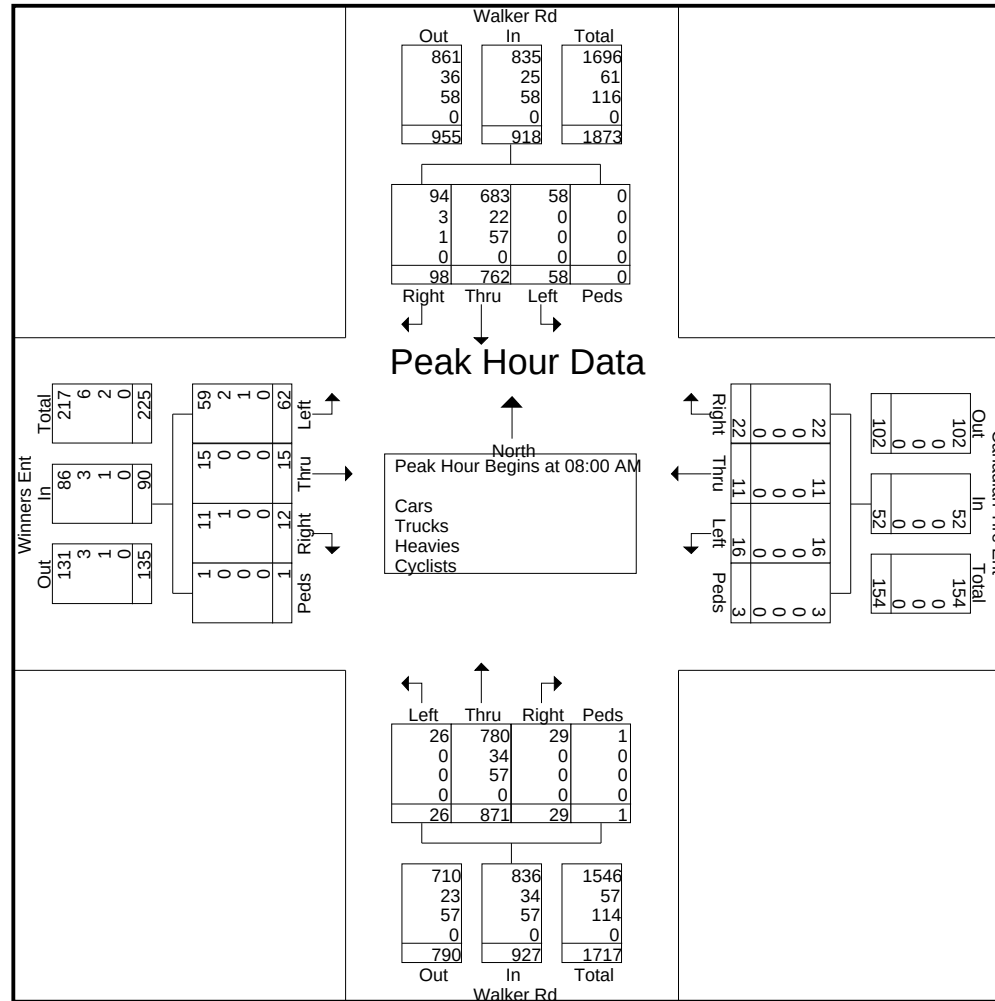
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road

Site Code : Loc-15

Start Date : 2024-12-19

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

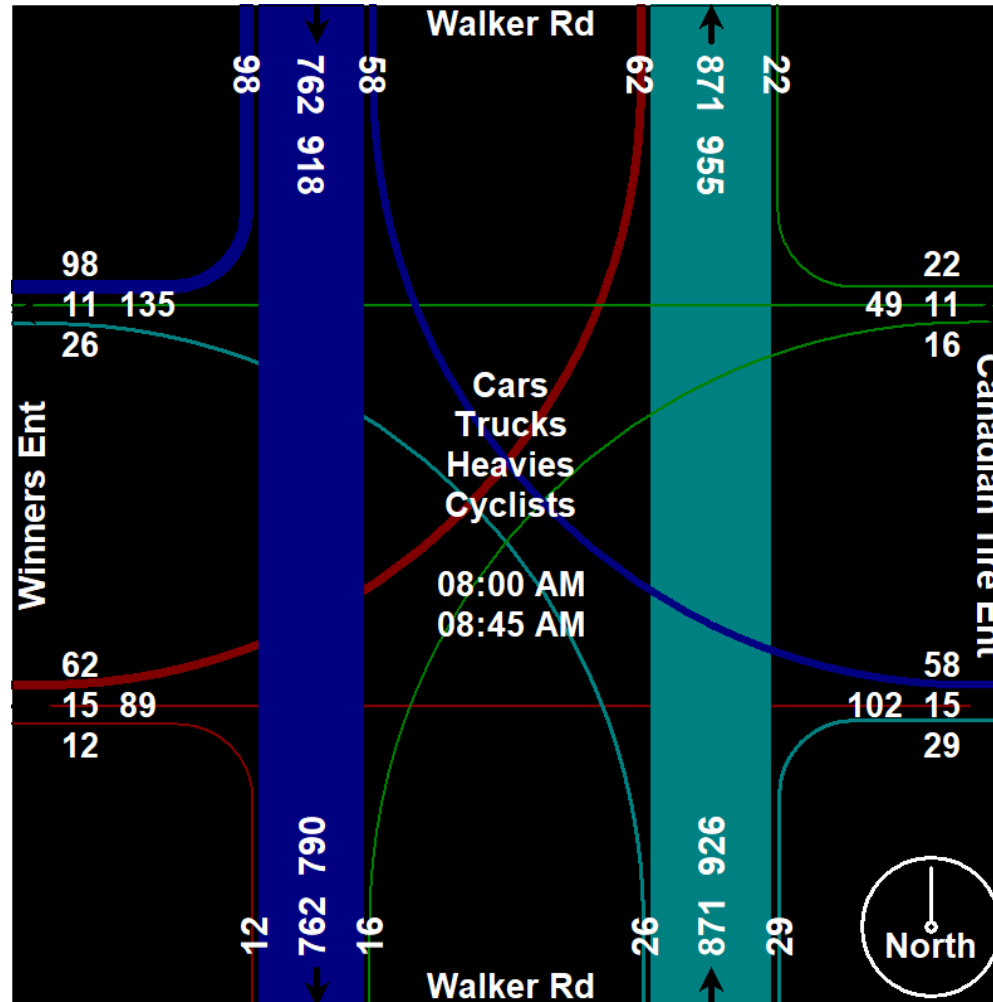
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road

Site Code : Loc-15

Start Date : 2024-12-19

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

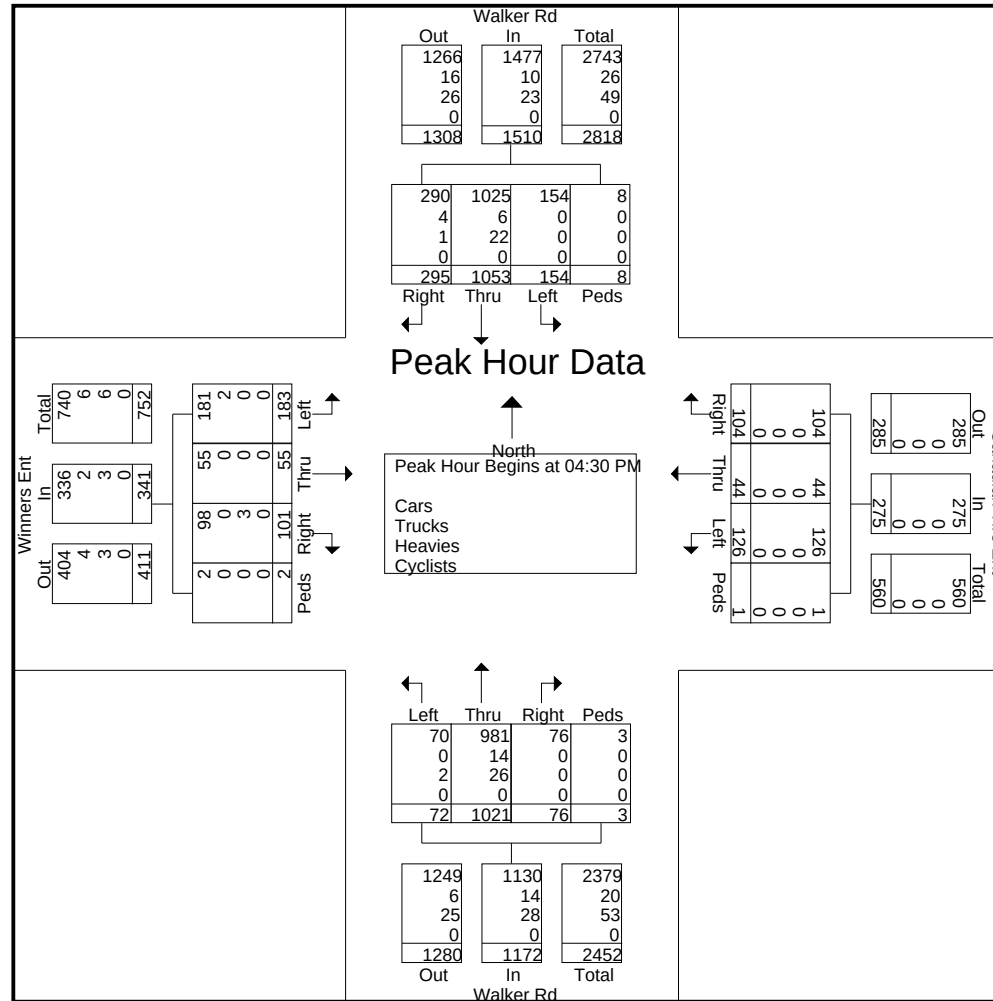
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road

Site Code : Loc-15

Start Date : 2024-12-19

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

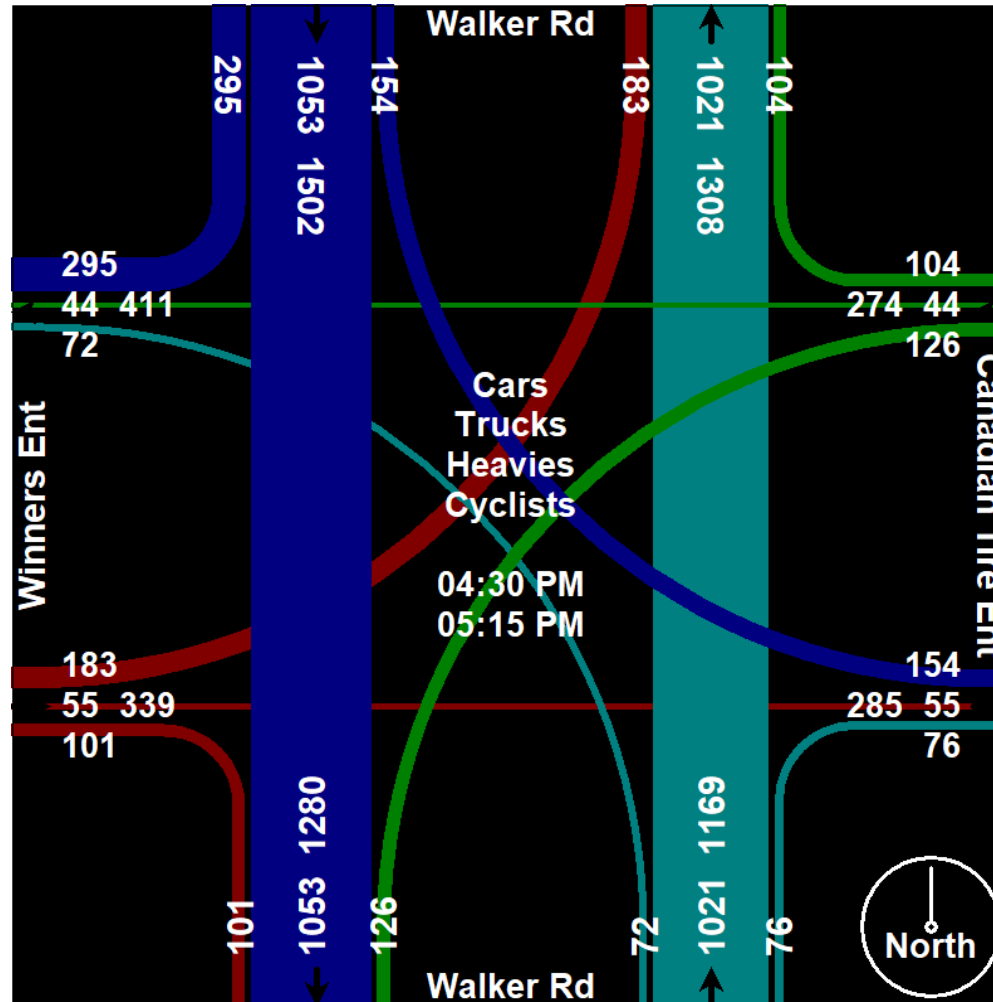
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road

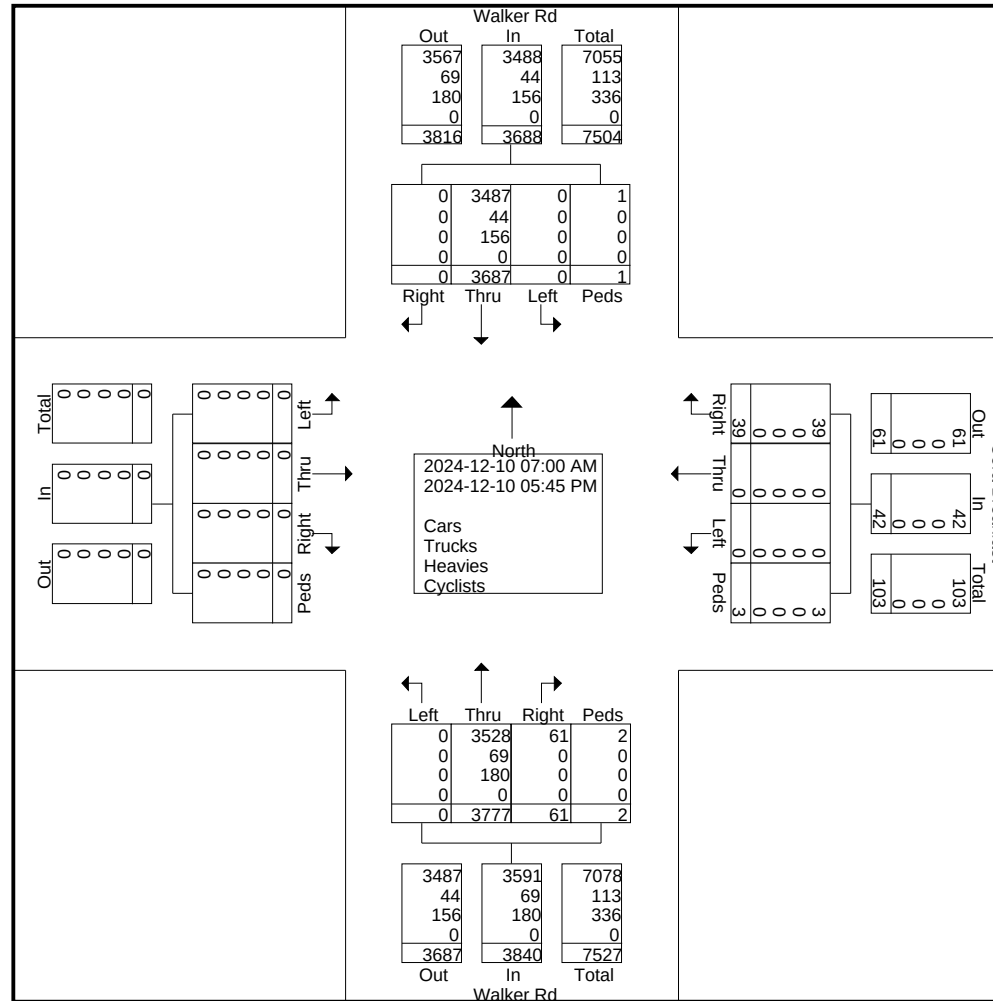
Site Code : Loc-15

Start Date : 2024-12-19

Page No : 8



	Walker Rd From North					Cora Breakfast From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	164	0	0	164	2	0	0	0	2	1	172	0	0	173	0	0	0	0	0	339
07:15 AM	0	186	0	0	186	0	0	0	0	0	0	193	0	0	193	0	0	0	0	0	379
07:30 AM	0	157	0	0	157	0	0	0	0	0	0	187	0	0	187	0	0	0	0	0	344
07:45 AM	0	193	0	0	193	3	0	0	0	3	1	274	0	0	275	0	0	0	0	0	471
Total	0	700	0	0	700	5	0	0	0	5	2	826	0	0	828	0	0	0	0	0	1533
08:00 AM	0	157	0	0	157	2	0	0	0	2	2	208	0	0	210	0	0	0	0	0	369
08:15 AM	0	153	0	0	153	3	0	0	0	3	1	223	0	0	224	0	0	0	0	0	380
08:30 AM	0	199	0	0	199	0	0	0	0	0	1	224	0	0	225	0	0	0	0	0	424
08:45 AM	0	212	0	0	212	2	0	0	1	3	1	235	0	0	236	0	0	0	0	0	451
Total	0	721	0	0	721	7	0	0	1	8	5	890	0	0	895	0	0	0	0	0	1624
04:00 PM	0	305	0	1	306	4	0	0	0	4	9	265	0	1	275	0	0	0	0	0	585
04:15 PM	0	284	0	0	284	7	0	0	2	9	13	252	0	0	265	0	0	0	0	0	558
04:30 PM	0	304	0	0	304	1	0	0	0	1	6	292	0	0	298	0	0	0	0	0	603
04:45 PM	0	299	0	0	299	1	0	0	0	1	8	253	0	0	261	0	0	0	0	0	561
Total	0	1192	0	1	1193	13	0	0	2	15	36	1062	0	1	1099	0	0	0	0	0	2307
05:00 PM	0	318	0	0	318	6	0	0	0	6	5	278	0	0	283	0	0	0	0	0	607
05:15 PM	0	283	0	0	283	3	0	0	0	3	9	252	0	0	261	0	0	0	0	0	547
05:30 PM	0	247	0	0	247	2	0	0	0	2	3	262	0	0	265	0	0	0	0	0	514
05:45 PM	0	226	0	0	226	3	0	0	0	3	1	207	0	1	209	0	0	0	0	0	438
Total	0	1074	0	0	1074	14	0	0	0	14	18	999	0	1	1018	0	0	0	0	0	2106
Grand Total	0	3687	0	1	3688	39	0	0	3	42	61	3777	0	2	3840	0	0	0	0	0	7570
Apprch %	0	100	0	0		92.9	0	0	7.1		1.6	98.4	0	0.1		0	0	0	0		
Total %	0	48.7	0	0	48.7	0.5	0	0	0	0.6	0.8	49.9	0	0	50.7	0	0	0	0	0	
Cars	0	3487	0	1	3488	39	0	0	3	42	61	3528	0	2	3591	0	0	0	0	0	7121
% Cars	0	94.6	0	100	94.6	100	0	0	100	100	100	93.4	0	100	93.5	0	0	0	0	0	94.1
Trucks	0	44	0	0	44	0	0	0	0	0	0	69	0	0	69	0	0	0	0	0	113
% Trucks	0	1.2	0	0	1.2	0	0	0	0	0	0	1.8	0	0	1.8	0	0	0	0	0	1.5
Heavies	0	156	0	0	156	0	0	0	0	0	0	180	0	0	180	0	0	0	0	0	336
% Heavies	0	4.2	0	0	4.2	0	0	0	0	0	0	4.8	0	0	4.7	0	0	0	0	0	4.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



[illegible]

Horizon Data Services Ltd

(416) 840-6619

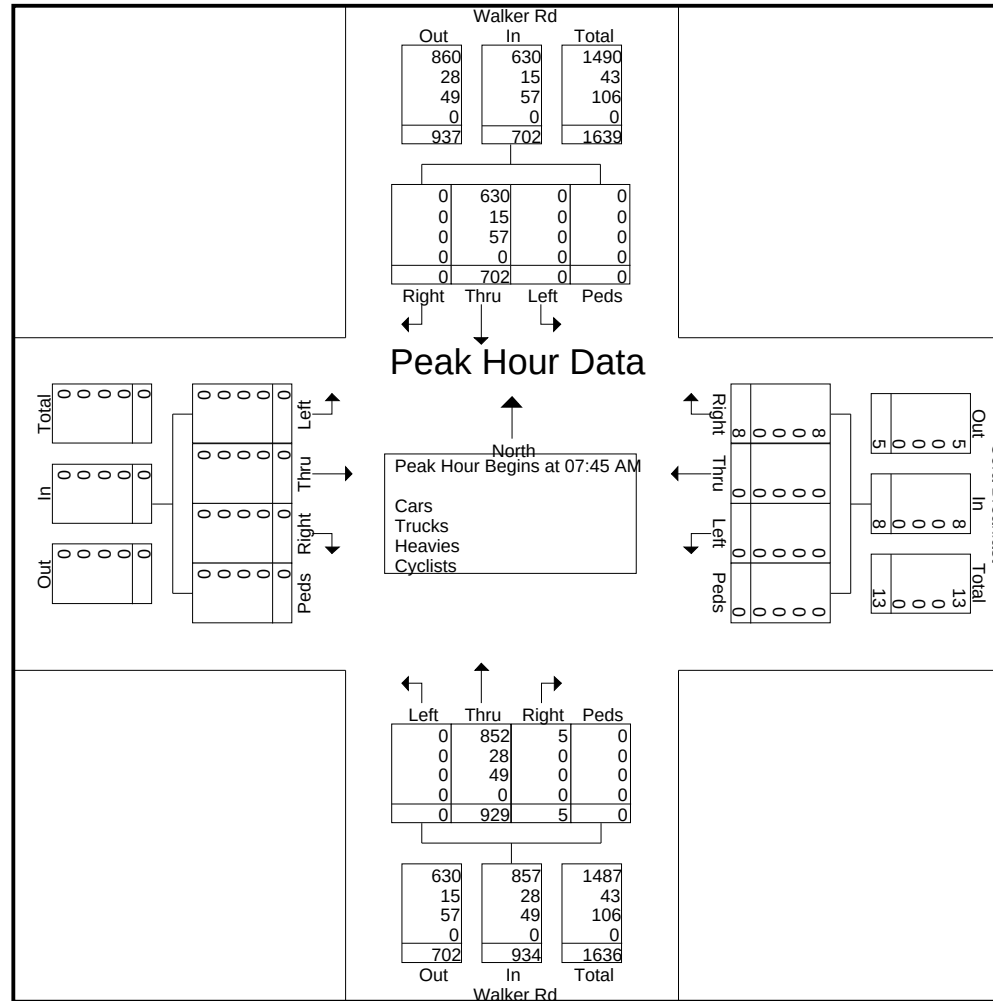
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road

Site Code : Loc-19

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

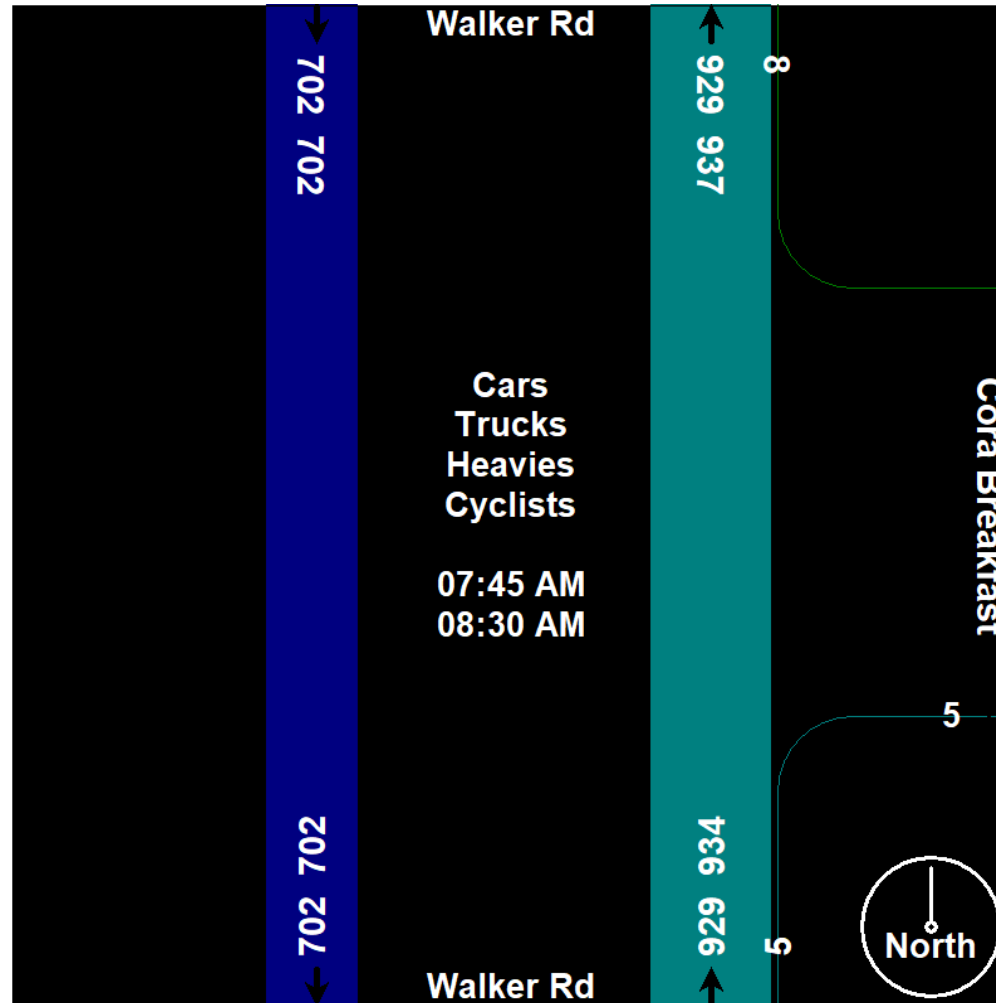
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road

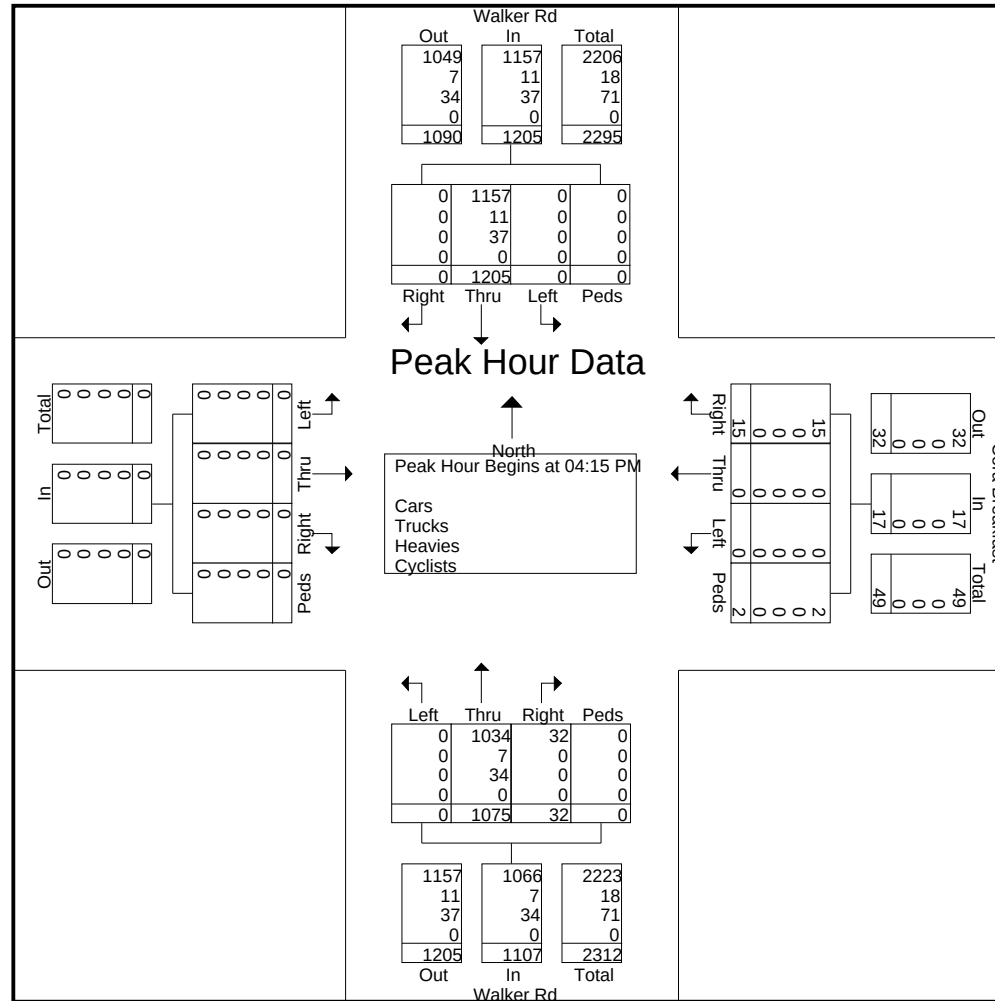
Site Code : Loc-19

Start Date : 2024-12-10

Page No : 5



[illegible]



Horizon Data Services Ltd

(416) 840-6619

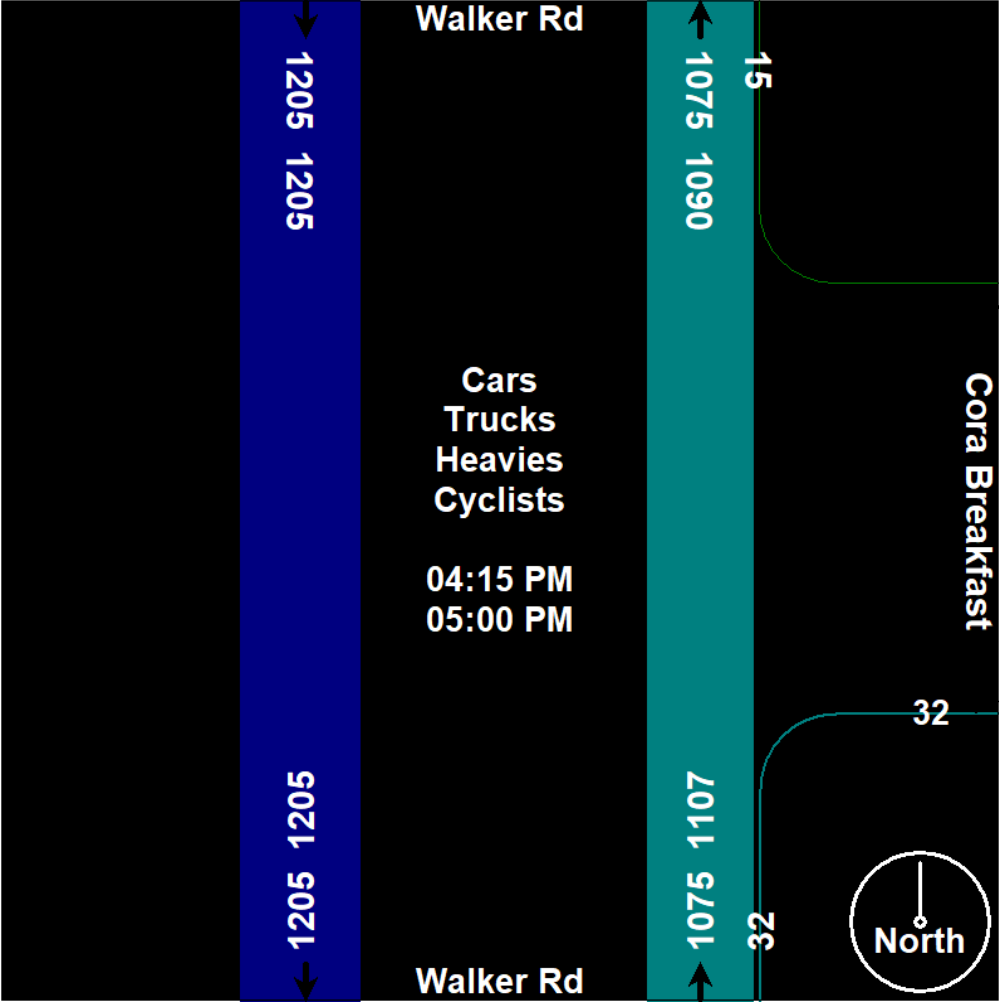
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road

Site Code : Loc-19

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Petro Canada N Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	175	0	2	177	4	0	0	2	6	1	165	0	0	166	0	0	0	0	0	349
07:15 AM	0	174	0	0	174	2	0	0	0	2	2	193	0	0	195	0	0	0	0	0	371
07:30 AM	0	169	0	0	169	5	0	0	0	5	1	185	0	1	187	0	0	0	0	0	361
07:45 AM	0	195	0	0	195	2	0	0	0	2	2	263	0	1	266	0	0	0	0	0	463
Total	0	713	0	2	715	13	0	0	2	15	6	806	0	2	814	0	0	0	0	0	1544
08:00 AM	0	154	0	0	154	5	0	0	1	6	2	211	0	2	215	0	0	0	0	0	375
08:15 AM	0	163	0	0	163	4	0	0	0	4	0	221	0	0	221	0	0	0	0	0	388
08:30 AM	0	199	0	0	199	4	0	0	0	4	2	210	0	0	212	0	0	0	0	0	415
08:45 AM	0	198	0	0	198	9	0	0	2	11	3	241	0	2	246	0	0	0	0	0	455
Total	0	714	0	0	714	22	0	0	3	25	7	883	0	4	894	0	0	0	0	0	1633
04:00 PM	0	324	0	0	324	7	0	0	0	7	3	271	0	4	278	0	0	0	0	0	609
04:15 PM	0	299	0	0	299	4	0	0	2	6	4	266	0	7	277	0	0	0	0	0	582
04:30 PM	0	305	0	0	305	3	0	0	0	3	7	285	0	5	297	0	0	0	0	0	605
04:45 PM	0	307	0	0	307	6	0	0	1	7	1	270	0	4	275	0	0	0	0	0	589
Total	0	1235	0	0	1235	20	0	0	3	23	15	1092	0	20	1127	0	0	0	0	0	2385
05:00 PM	0	311	0	0	311	10	0	0	0	10	1	260	0	6	267	0	0	0	0	0	588
05:15 PM	0	308	0	0	308	7	0	0	0	7	3	269	0	7	279	0	0	0	0	0	594
05:30 PM	0	260	0	0	260	7	0	0	2	9	6	246	0	2	254	0	0	0	0	0	523
05:45 PM	0	233	0	0	233	3	0	0	0	3	2	208	0	1	211	0	0	0	0	0	447
Total	0	1112	0	0	1112	27	0	0	2	29	12	983	0	16	1011	0	0	0	0	0	2152
Grand Total	0	3774	0	2	3776	82	0	0	10	92	40	3764	0	42	3846	0	0	0	0	0	7714
Apprch %	0	99.9	0	0.1		89.1	0	0	10.9		1	97.9	0	1.1		0	0	0	0		
Total %	0	48.9	0	0	48.9	1.1	0	0	0.1	1.2	0.5	48.8	0	0.5	49.9	0	0	0	0	0	
Cars	0	3577	0	2	3579	81	0	0	10	91	40	3516	0	42	3598	0	0	0	0	0	7268
% Cars	0	94.8	0	100	94.8	98.8	0	0	100	98.9	100	93.4	0	100	93.6	0	0	0	0	0	94.2
Trucks	0	41	0	0	41	1	0	0	0	1	0	69	0	0	69	0	0	0	0	0	111
% Trucks	0	1.1	0	0	1.1	1.2	0	0	0	1.1	0	1.8	0	0	1.8	0	0	0	0	0	1.4
Heavies	0	156	0	0	156	0	0	0	0	0	0	179	0	0	179	0	0	0	0	0	335
% Heavies	0	4.1	0	0	4.1	0	0	0	0	0	0	4.8	0	0	4.7	0	0	0	0	0	4.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

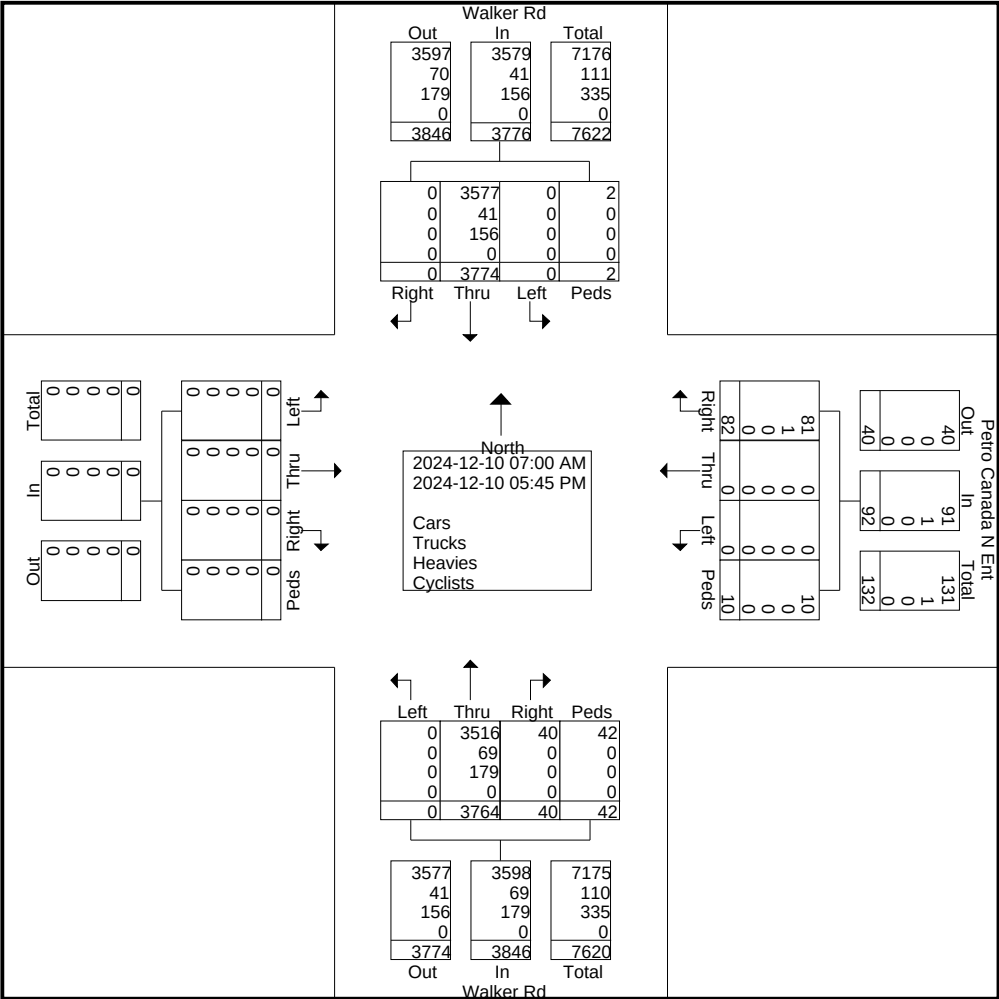
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road

Site Code : Loc-20

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

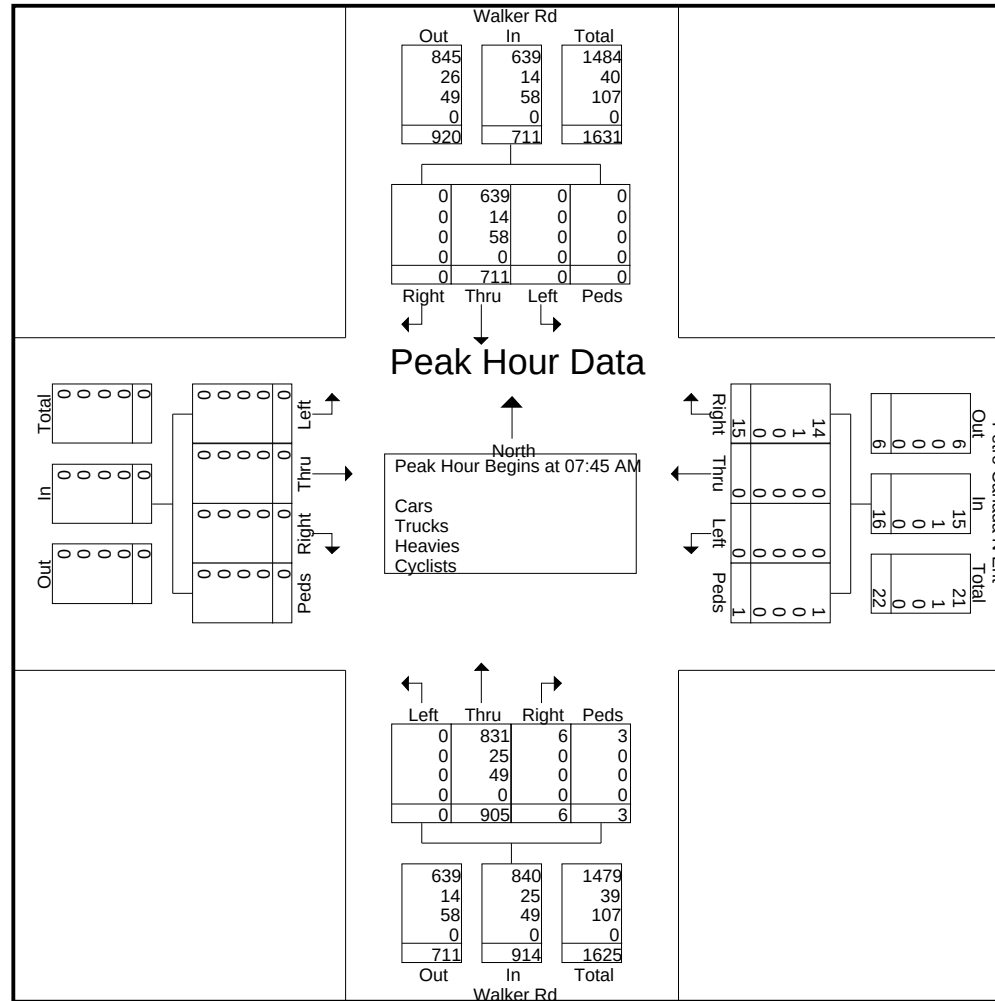
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road

Site Code : Loc-20

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

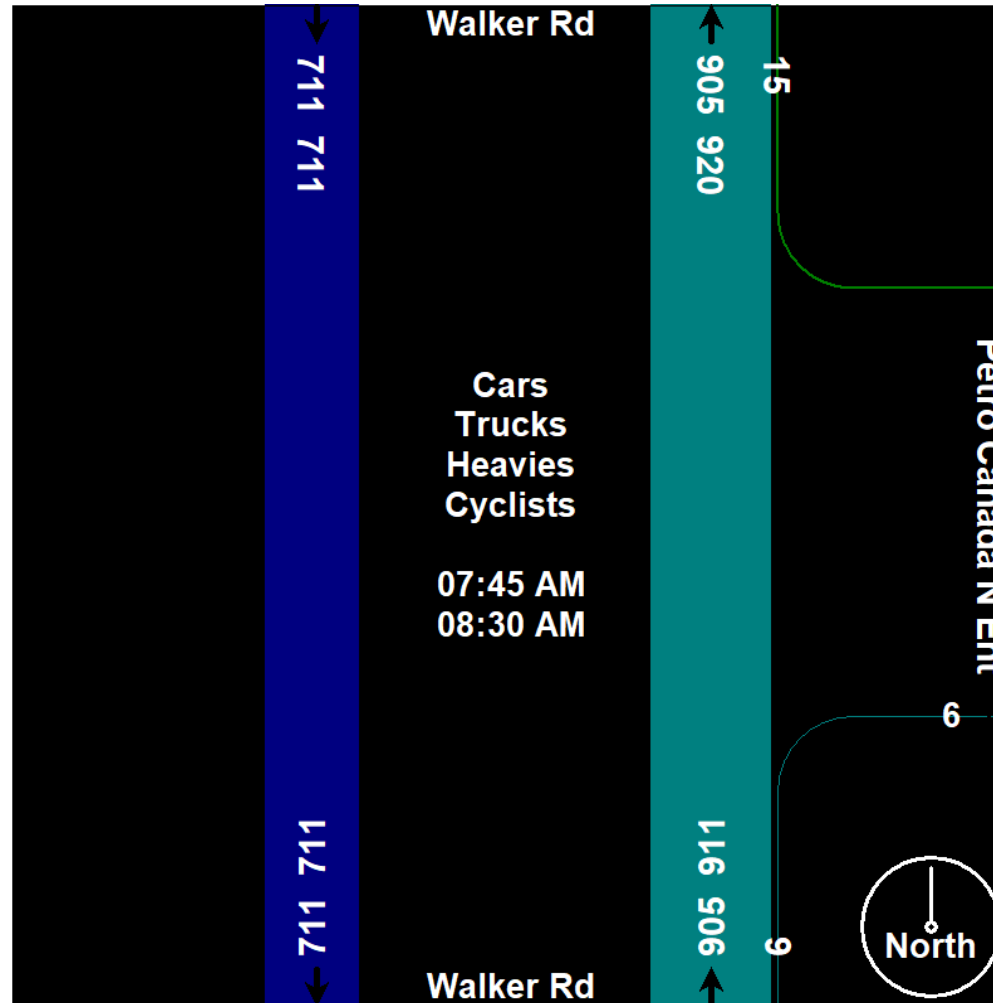
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road

Site Code : Loc-20

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

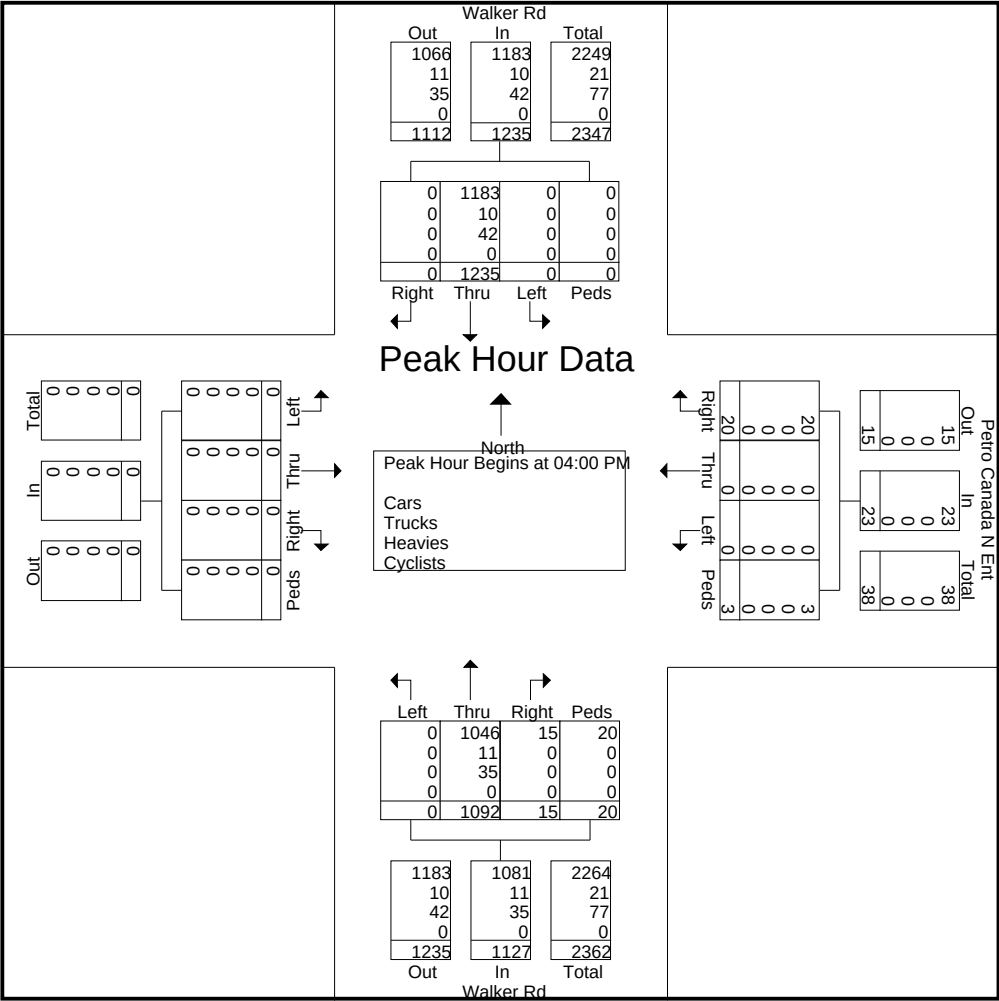
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road

Site Code : Loc-20

Start Date : 2024-12-10

Page No : 7

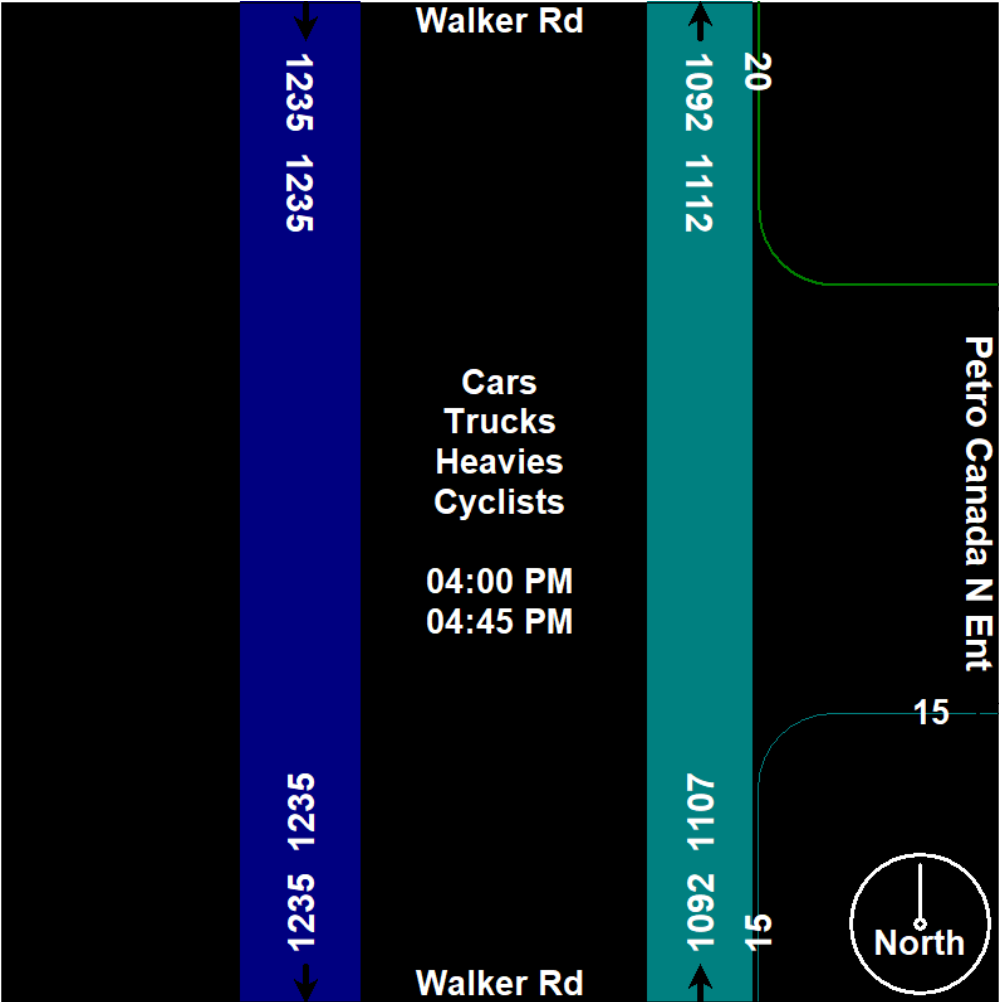


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road
Site Code : Loc-20
Start Date : 2024-12-10
Page No : 8



	Walker Rd From North					Petro Canada From East					Walker Rd From South					Best Buy Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	6	154	5	0	165	1	0	6	0	7	3	164	10	0	177	16	0	5	0	21	370
07:15 AM	6	177	2	0	185	2	1	1	0	4	3	193	18	0	214	20	0	3	0	23	426
07:30 AM	6	154	3	3	166	0	1	4	0	5	5	187	11	0	203	20	0	2	2	24	398
07:45 AM	7	176	3	1	187	3	4	7	0	14	5	245	13	0	263	12	3	12	0	27	491
Total	25	661	13	4	703	6	6	18	0	30	16	789	52	0	857	68	3	22	2	95	1685
08:00 AM	5	153	2	2	162	0	0	4	0	4	4	208	16	0	228	11	1	6	0	18	412
08:15 AM	7	151	6	0	164	1	1	4	0	6	6	221	12	0	239	14	2	7	0	23	432
08:30 AM	8	183	4	0	195	1	3	5	0	9	8	203	23	0	234	16	1	10	0	27	465
08:45 AM	9	206	4	2	221	2	0	2	1	5	9	234	19	0	262	21	1	7	1	30	518
Total	29	693	16	4	742	4	4	15	1	24	27	866	70	0	963	62	5	30	1	98	1827
04:00 PM	16	295	10	2	323	7	3	12	0	22	9	255	25	0	289	38	2	10	0	50	684
04:15 PM	8	298	6	5	317	4	2	8	3	17	11	266	26	0	303	31	5	12	2	50	687
04:30 PM	10	274	12	5	301	6	1	15	0	22	15	280	29	1	325	38	2	10	0	50	698
04:45 PM	10	291	8	2	311	7	5	13	0	25	13	254	22	0	289	50	6	5	0	61	686
Total	44	1158	36	14	1252	24	11	48	3	86	48	1055	102	1	1206	157	15	37	2	211	2755
05:00 PM	11	296	13	7	327	3	1	20	0	24	11	240	33	0	284	41	5	16	0	62	697
05:15 PM	7	279	13	1	300	4	1	11	0	16	11	249	21	0	281	29	2	8	2	41	638
05:30 PM	9	234	11	1	255	10	1	17	3	31	16	225	32	1	274	27	2	13	1	43	603
05:45 PM	9	221	10	1	241	3	2	10	0	15	10	202	13	0	225	34	2	8	1	45	526
Total	36	1030	47	10	1123	20	5	58	3	86	48	916	99	1	1064	131	11	45	4	191	2464
Grand Total	134	3542	112	32	3820	54	26	139	7	226	139	3626	323	2	4090	418	34	134	9	595	8731
Apprch %	3.5	92.7	2.9	0.8		23.9	11.5	61.5	3.1		3.4	88.7	7.9	0		70.3	5.7	22.5	1.5		
Total %	1.5	40.6	1.3	0.4	43.8	0.6	0.3	1.6	0.1	2.6	1.6	41.5	3.7	0	46.8	4.8	0.4	1.5	0.1	6.8	
Cars	134	3345	112	32	3623	54	26	138	7	225	137	3378	319	2	3836	414	34	133	9	590	8274
% Cars	100	94.4	100	100	94.8	100	100	99.3	100	99.6	98.6	93.2	98.8	100	93.8	99	100	99.3	100	99.2	94.8
Trucks	0	40	0	0	40	0	0	1	0	1	2	68	0	0	70	2	0	0	0	2	113
% Trucks	0	1.1	0	0	1	0	0	0.7	0	0.4	1.4	1.9	0	0	1.7	0.5	0	0	0	0.3	1.3
Heavies	0	157	0	0	157	0	0	0	0	0	0	180	4	0	184	2	0	1	0	3	344
% Heavies	0	4.4	0	0	4.1	0	0	0	0	0	0	5	1.2	0	4.5	0.5	0	0.7	0	0.5	3.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

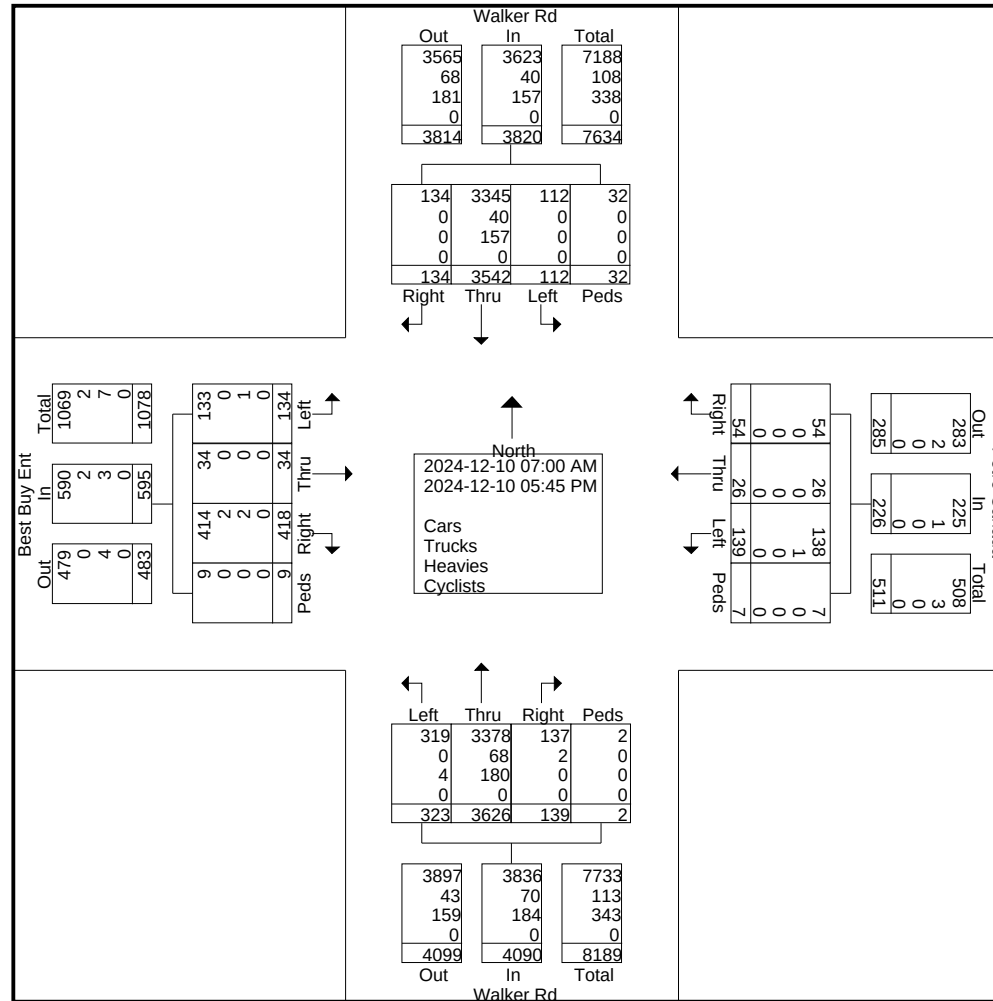
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road

Site Code : Loc-16

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

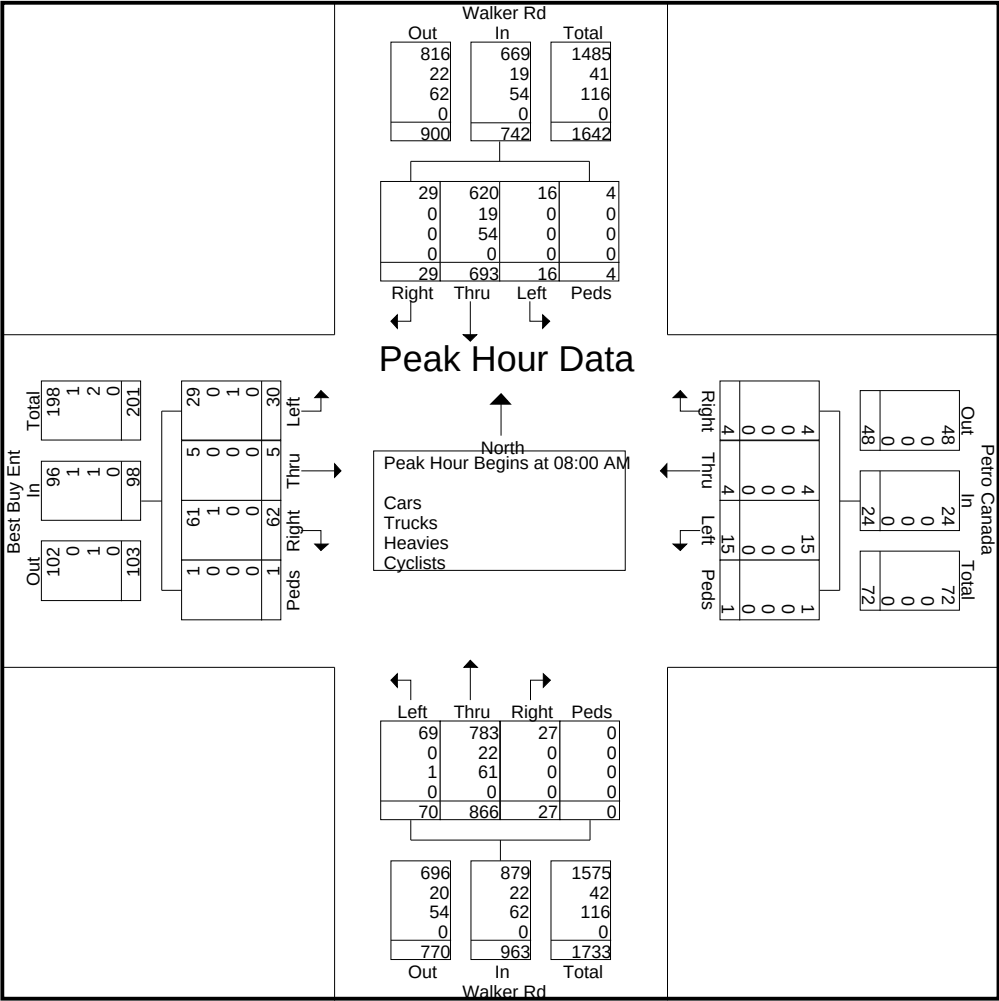
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road

Site Code : Loc-16

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

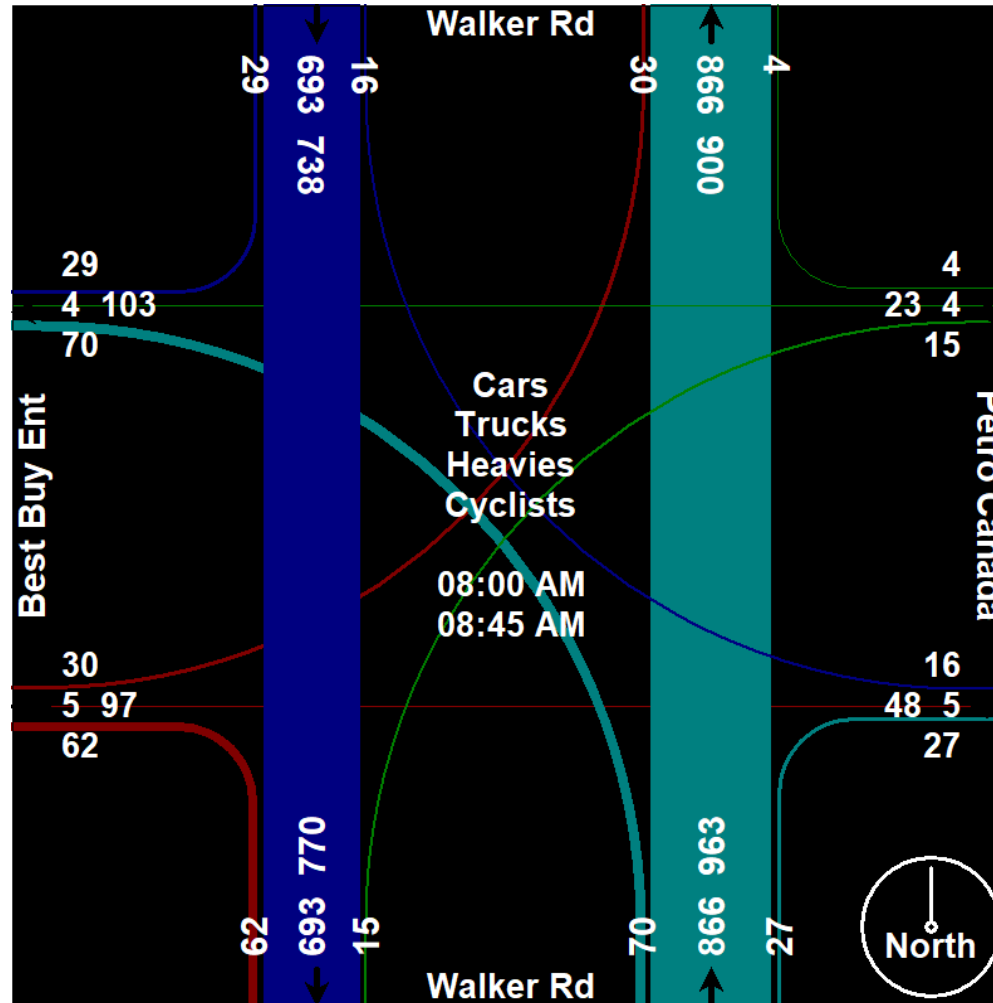
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road

Site Code : Loc-16

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

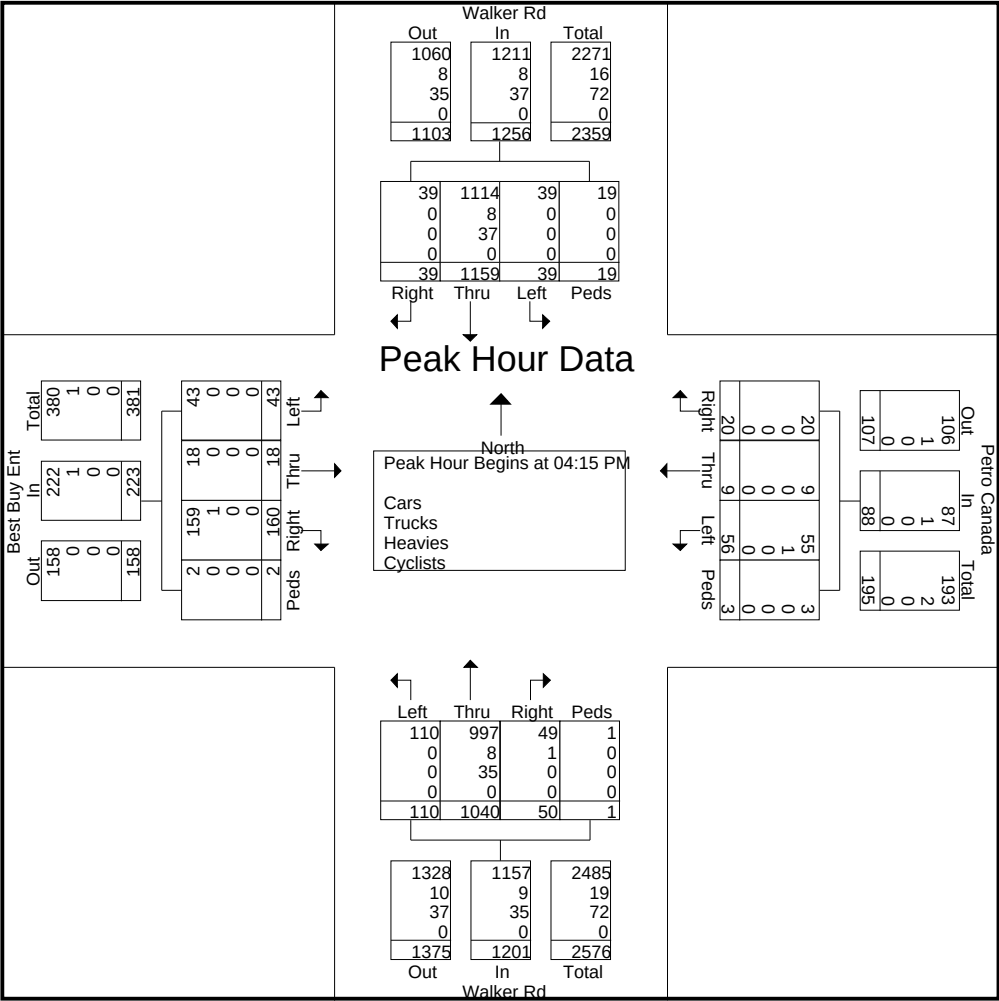
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road

Site Code : Loc-16

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

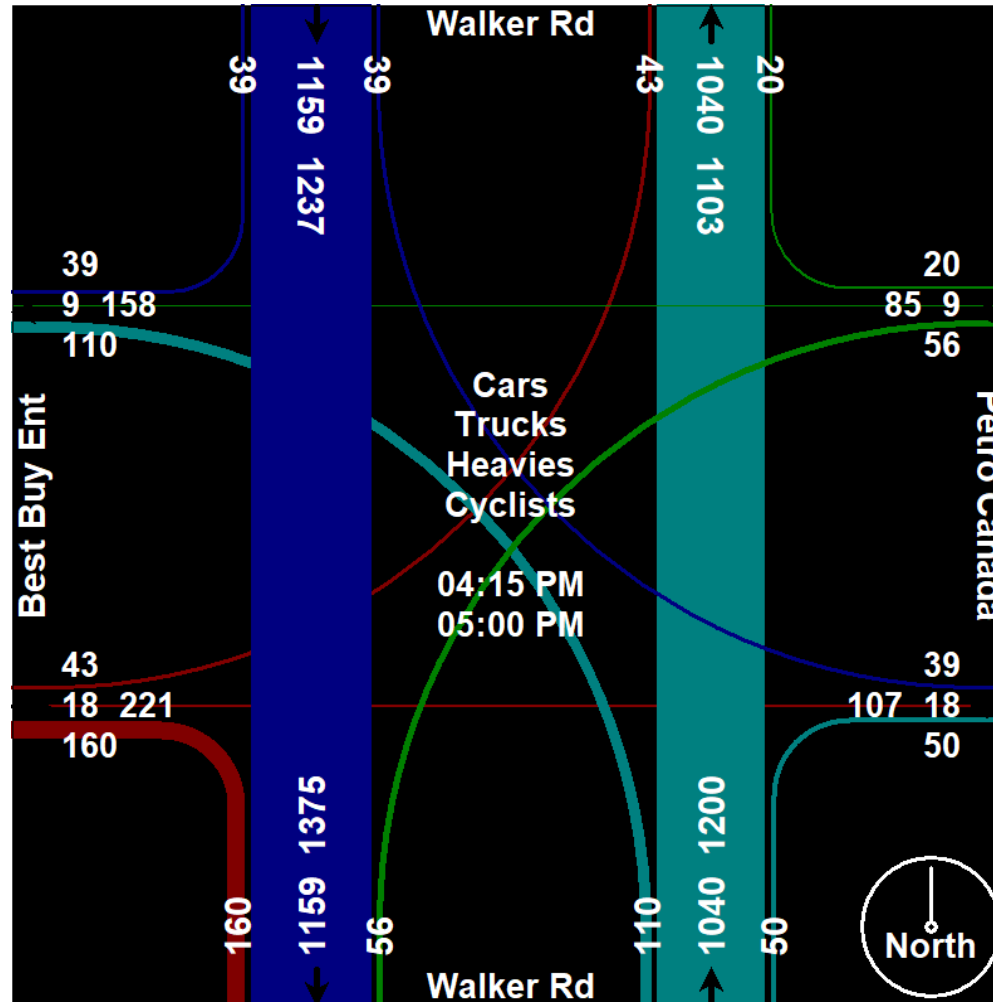
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road

Site Code : Loc-16

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Swiss Chalet Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	176	0	0	176	2	0	1	0	3	2	177	0	0	179	0	0	0	0	0	358
07:15 AM	0	193	1	0	194	2	0	4	0	6	9	213	0	0	222	0	0	0	0	0	422
07:30 AM	0	171	2	0	173	7	0	1	0	8	8	196	0	0	204	0	0	0	0	0	385
07:45 AM	0	198	4	0	202	8	0	1	0	9	6	262	0	0	268	0	0	0	0	0	479
Total	0	738	7	0	745	19	0	7	0	26	25	848	0	0	873	0	0	0	0	0	1644
08:00 AM	0	163	3	0	166	6	0	4	0	10	10	223	0	0	233	0	0	0	0	0	409
08:15 AM	0	149	3	0	152	6	0	5	0	11	14	231	0	0	245	0	0	0	0	0	408
08:30 AM	0	178	4	1	183	5	0	5	0	10	8	230	0	0	238	0	0	0	0	0	431
08:45 AM	0	184	3	0	187	12	0	5	1	18	7	250	0	0	257	0	0	0	0	0	462
Total	0	674	13	1	688	29	0	19	1	49	39	934	0	0	973	0	0	0	0	0	1710
04:00 PM	0	307	10	0	317	15	0	6	0	21	14	282	0	1	297	0	0	0	0	0	635
04:15 PM	0	284	8	0	292	15	0	8	2	25	14	279	0	0	293	0	0	0	0	0	610
04:30 PM	0	283	16	0	299	17	0	2	0	19	9	313	0	0	322	0	0	0	0	0	640
04:45 PM	0	303	8	0	311	15	0	5	0	20	17	274	0	0	291	0	0	0	0	0	622
Total	0	1177	42	0	1219	62	0	21	2	85	54	1148	0	1	1203	0	0	0	0	0	2507
05:00 PM	0	331	12	0	343	21	0	10	0	31	21	279	0	1	301	0	0	0	0	0	675
05:15 PM	0	278	12	0	290	18	0	4	0	22	17	256	0	0	273	0	0	0	0	0	585
05:30 PM	0	249	9	0	258	22	0	2	0	24	23	252	0	0	275	0	0	0	0	0	557
05:45 PM	0	209	14	0	223	19	0	6	2	27	24	205	0	0	229	0	0	0	0	0	479
Total	0	1067	47	0	1114	80	0	22	2	104	85	992	0	1	1078	0	0	0	0	0	2296
Grand Total	0	3656	109	1	3766	190	0	69	5	264	203	3922	0	2	4127	0	0	0	0	0	8157
Apprch %	0	97.1	2.9	0		72	0	26.1	1.9		4.9	95	0	0		0	0	0	0		
Total %	0	44.8	1.3	0	46.2	2.3	0	0.8	0.1	3.2	2.5	48.1	0	0	50.6	0	0	0	0	0	
Cars	0	3457	109	1	3567	189	0	68	5	262	202	3667	0	2	3871	0	0	0	0	0	7700
% Cars	0	94.6	100	100	94.7	99.5	0	98.6	100	99.2	99.5	93.5	0	100	93.8	0	0	0	0	0	94.4
Trucks	0	39	0	0	39	1	0	0	0	1	0	72	0	0	72	0	0	0	0	0	112
% Trucks	0	1.1	0	0	1	0.5	0	0	0	0.4	0	1.8	0	0	1.7	0	0	0	0	0	1.4
Heavies	0	160	0	0	160	0	0	0	0	0	1	183	0	0	184	0	0	0	0	0	344
% Heavies	0	4.4	0	0	4.2	0	0	0	0	0	0.5	4.7	0	0	4.5	0	0	0	0	0	4.2
Cyclists	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	1.4	0	0.4	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

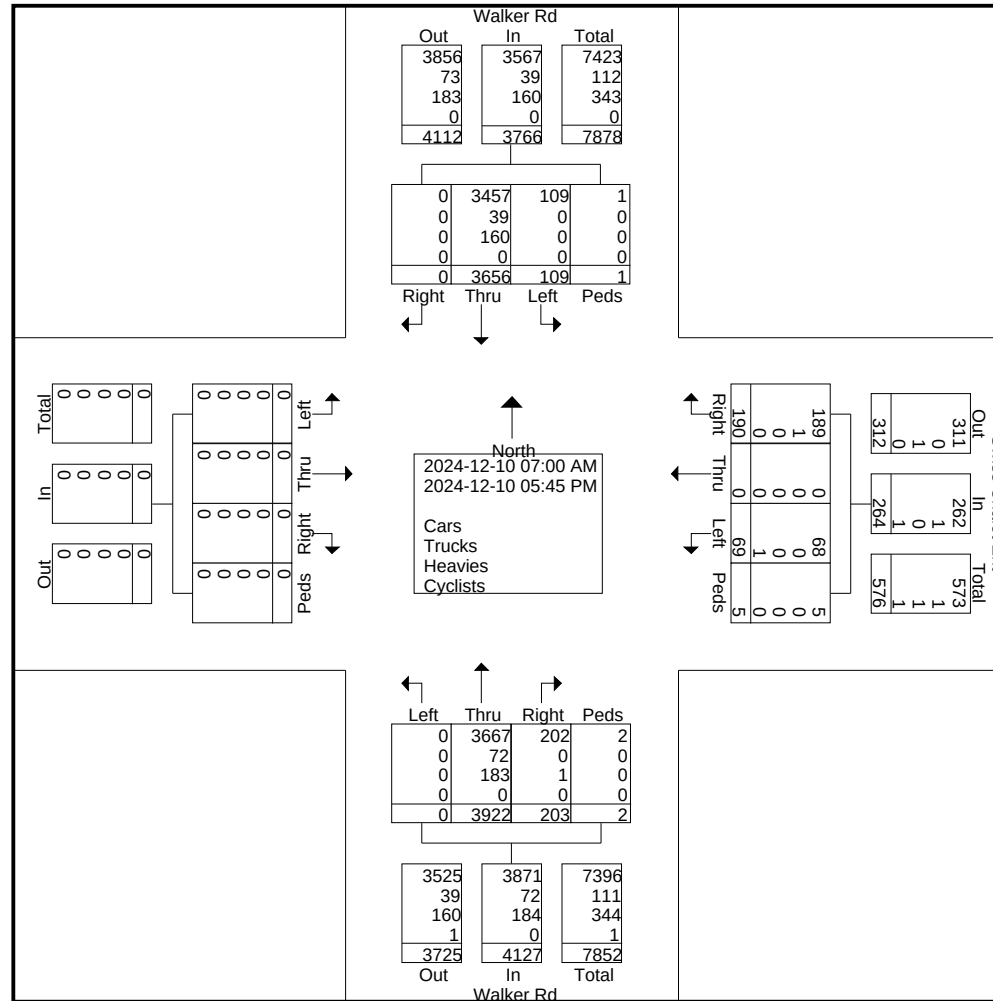
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road

Site Code : Loc-21

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

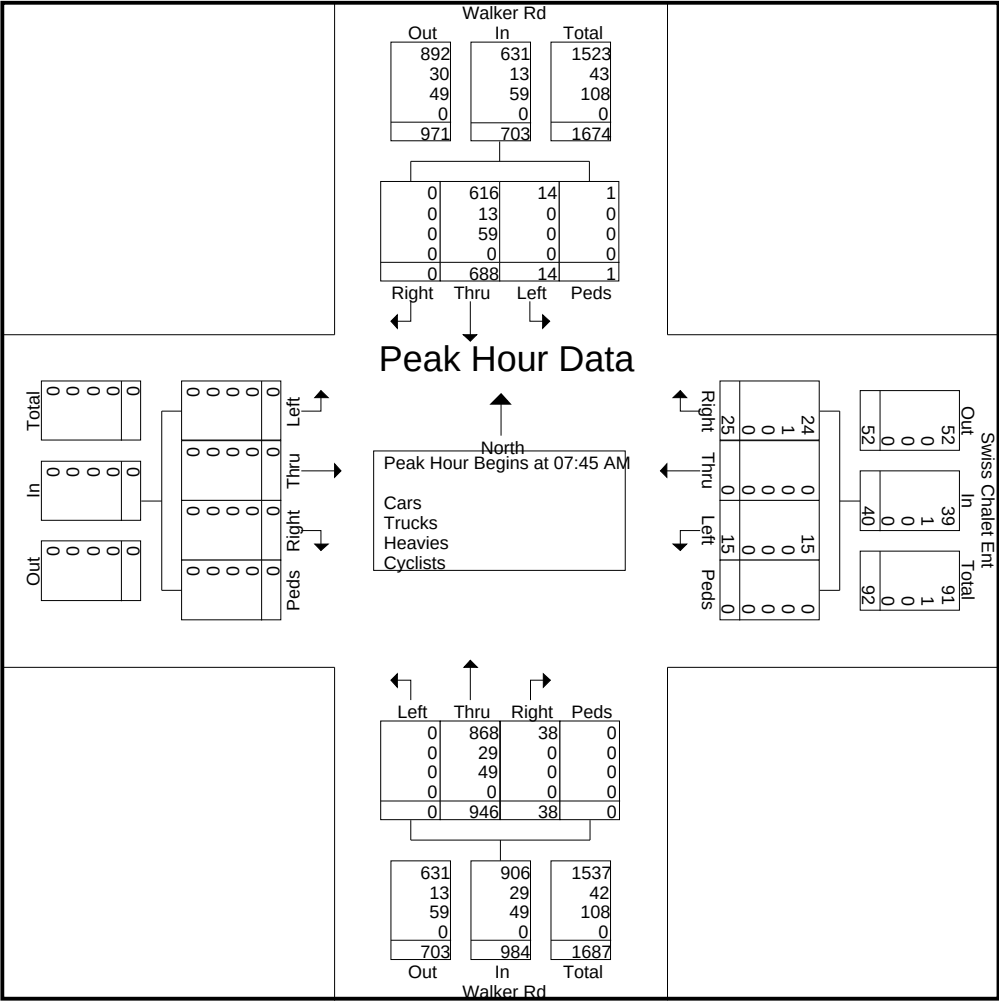
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road

Site Code : Loc-21

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

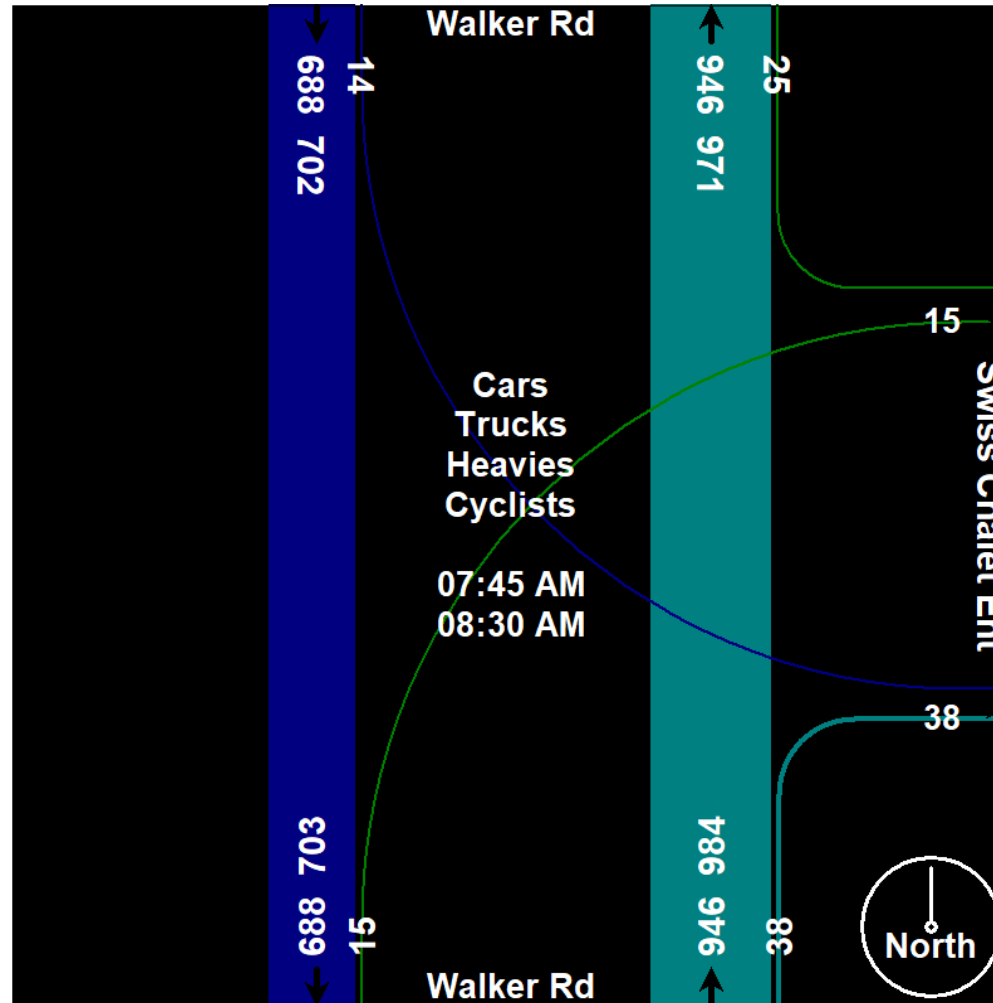
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road

Site Code : Loc-21

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

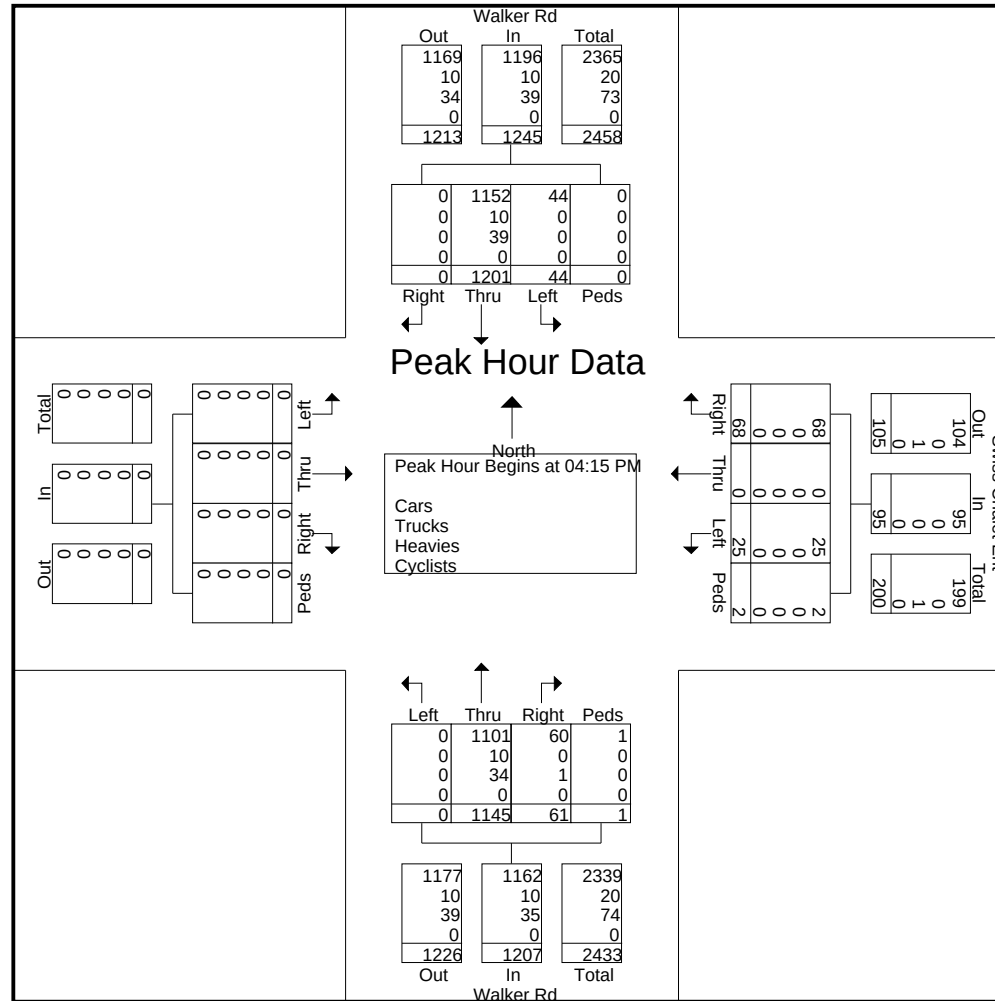
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road

Site Code : Loc-21

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

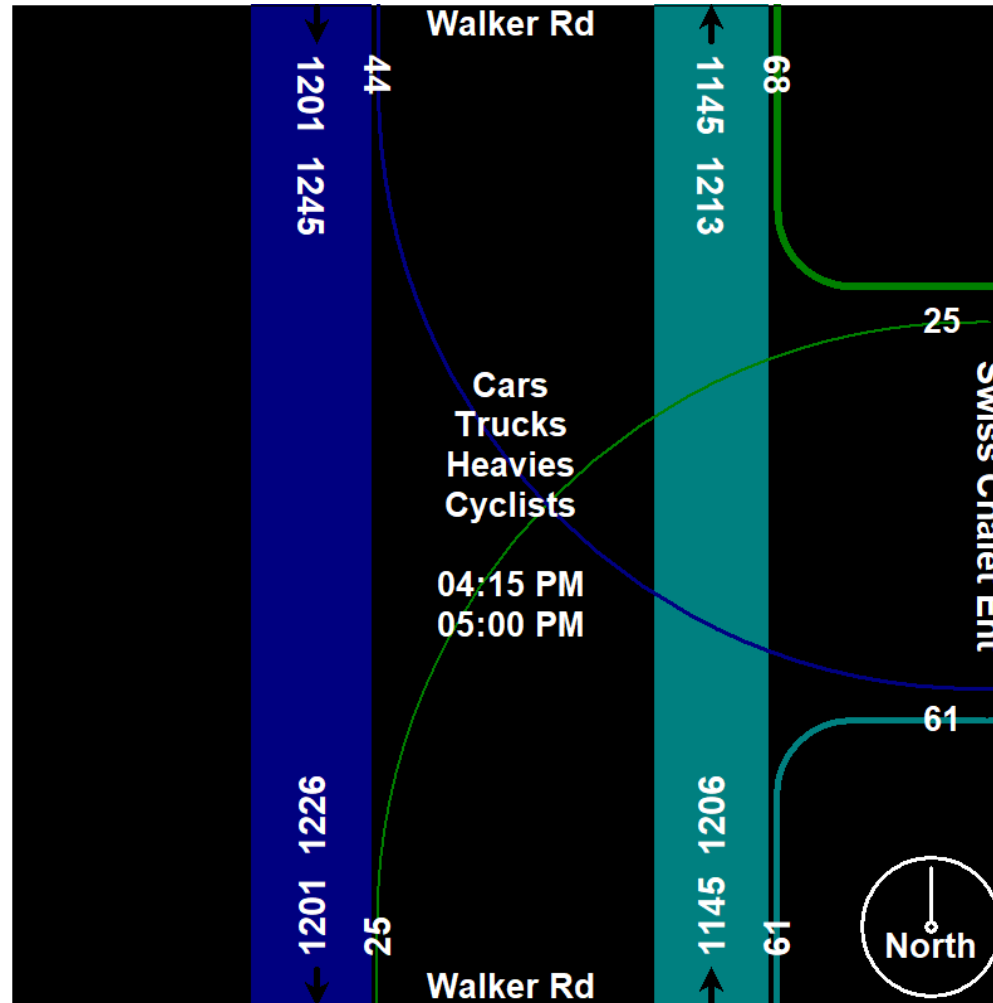
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road

Site Code : Loc-21

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					7th Conc From East					Walker Rd From South					Legacy Park Dr From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	174	2	0	178	1	0	12	0	13	28	171	2	1	202	0	0	8	0	8	401
07:15 AM	2	184	1	0	187	1	7	18	0	26	24	217	5	0	246	4	2	5	0	11	470
07:30 AM	4	171	3	0	178	1	0	12	0	13	26	204	4	0	234	1	3	5	1	10	435
07:45 AM	7	201	1	0	209	1	4	25	0	30	35	245	6	0	286	2	1	4	0	7	532
Total	15	730	7	0	752	4	11	67	0	82	113	837	17	1	968	7	6	22	1	36	1838
08:00 AM	5	151	2	1	159	4	5	16	0	25	26	223	2	5	256	4	3	7	1	15	455
08:15 AM	2	144	3	0	149	3	11	20	0	34	23	220	8	0	251	4	4	7	0	15	449
08:30 AM	5	154	7	0	166	11	10	12	0	33	33	242	20	4	299	1	3	8	0	12	510
08:45 AM	10	144	6	0	160	10	18	11	0	39	32	239	38	0	309	3	6	14	0	23	531
Total	22	593	18	1	634	28	44	59	0	131	114	924	68	9	1115	12	16	36	1	65	1945
04:00 PM	27	267	12	0	306	1	17	22	0	40	30	254	51	0	335	45	17	43	0	105	786
04:15 PM	20	256	8	0	284	9	23	22	1	55	26	231	45	0	302	33	27	53	0	113	754
04:30 PM	23	261	6	0	290	7	17	26	0	50	31	292	48	0	371	38	25	36	0	99	810
04:45 PM	23	266	10	2	301	4	17	27	0	48	24	226	40	0	290	25	31	53	1	110	749
Total	93	1050	36	2	1181	21	74	97	1	193	111	1003	184	0	1298	141	100	185	1	427	3099
05:00 PM	27	274	5	0	306	7	17	29	0	53	39	253	32	0	324	41	20	43	0	104	787
05:15 PM	27	262	10	0	299	5	28	46	1	80	26	217	36	0	279	30	22	48	0	100	758
05:30 PM	22	237	6	1	266	5	15	25	0	45	29	221	31	0	281	30	22	53	2	107	699
05:45 PM	14	187	12	4	217	3	18	23	0	44	19	168	60	0	247	32	14	46	2	94	602
Total	90	960	33	5	1088	20	78	123	1	222	113	859	159	0	1131	133	78	190	4	405	2846
Grand Total	220	3333	94	8	3655	73	207	346	2	628	451	3623	428	10	4512	293	200	433	7	933	9728
Apprch %	6	91.2	2.6	0.2		11.6	33	55.1	0.3		10	80.3	9.5	0.2		31.4	21.4	46.4	0.8		
Total %	2.3	34.3	1	0.1	37.6	0.8	2.1	3.6	0	6.5	4.6	37.2	4.4	0.1	46.4	3	2.1	4.5	0.1	9.6	
Cars	219	3136	93	8	3456	73	206	334	2	615	433	3382	424	10	4249	289	199	419	7	914	9234
% Cars	99.5	94.1	98.9	100	94.6	100	99.5	96.5	100	97.9	96	93.3	99.1	100	94.2	98.6	99.5	96.8	100	98	94.9
Trucks	1	42	0	0	43	0	0	8	0	8	8	67	4	0	79	2	1	5	0	8	138
% Trucks	0.5	1.3	0	0	1.2	0	0	2.3	0	1.3	1.8	1.8	0.9	0	1.8	0.7	0.5	1.2	0	0.9	1.4
Heavies	0	155	1	0	156	0	1	4	0	5	10	174	0	0	184	2	0	9	0	11	356
% Heavies	0	4.7	1.1	0	4.3	0	0.5	1.2	0	0.8	2.2	4.8	0	0	4.1	0.7	0	2.1	0	1.2	3.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

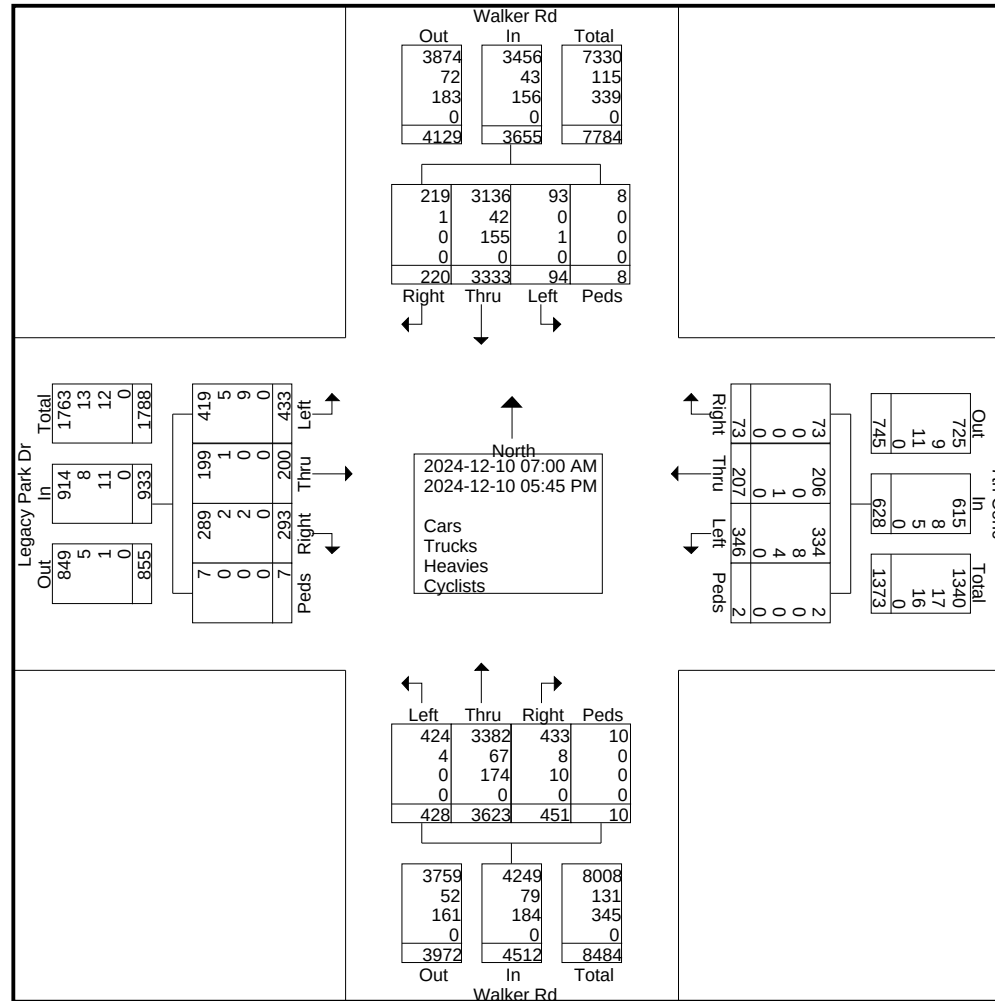
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road

Site Code : Loc-10

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

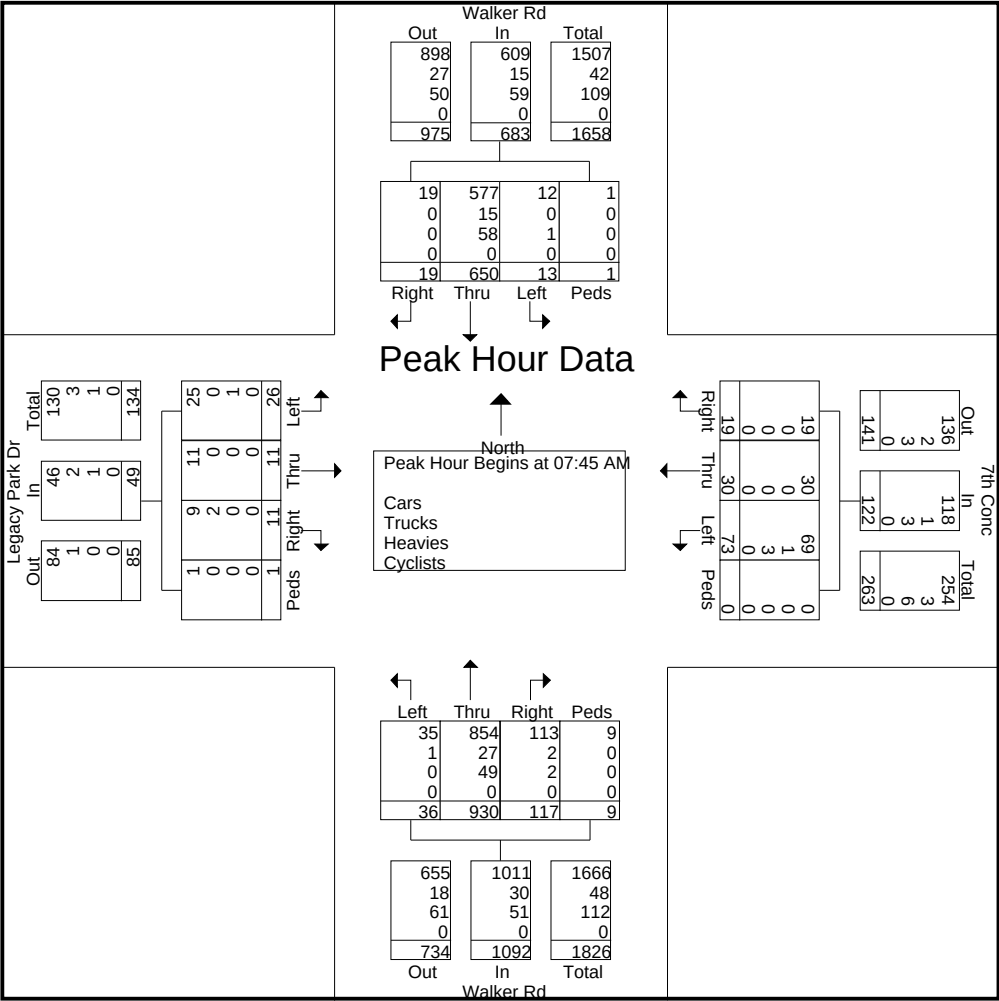
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road

Site Code : Loc-10

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

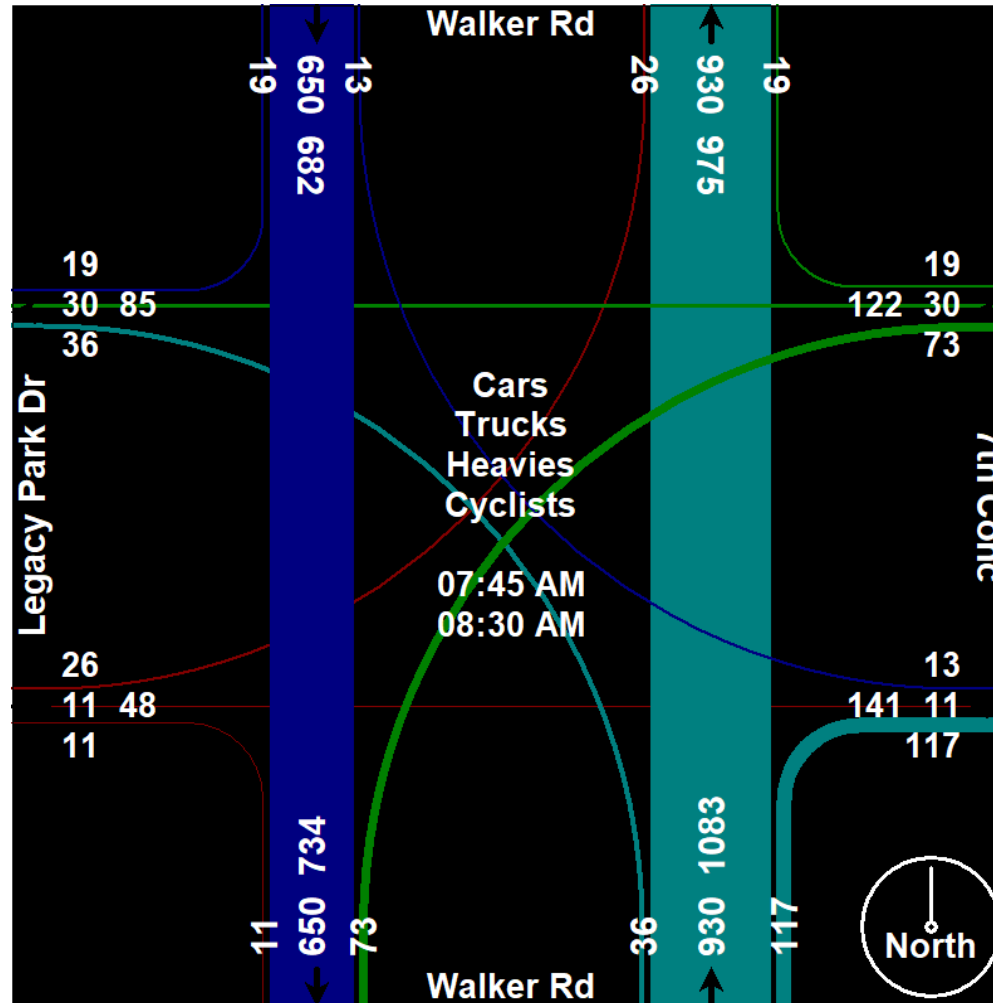
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road

Site Code : Loc-10

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

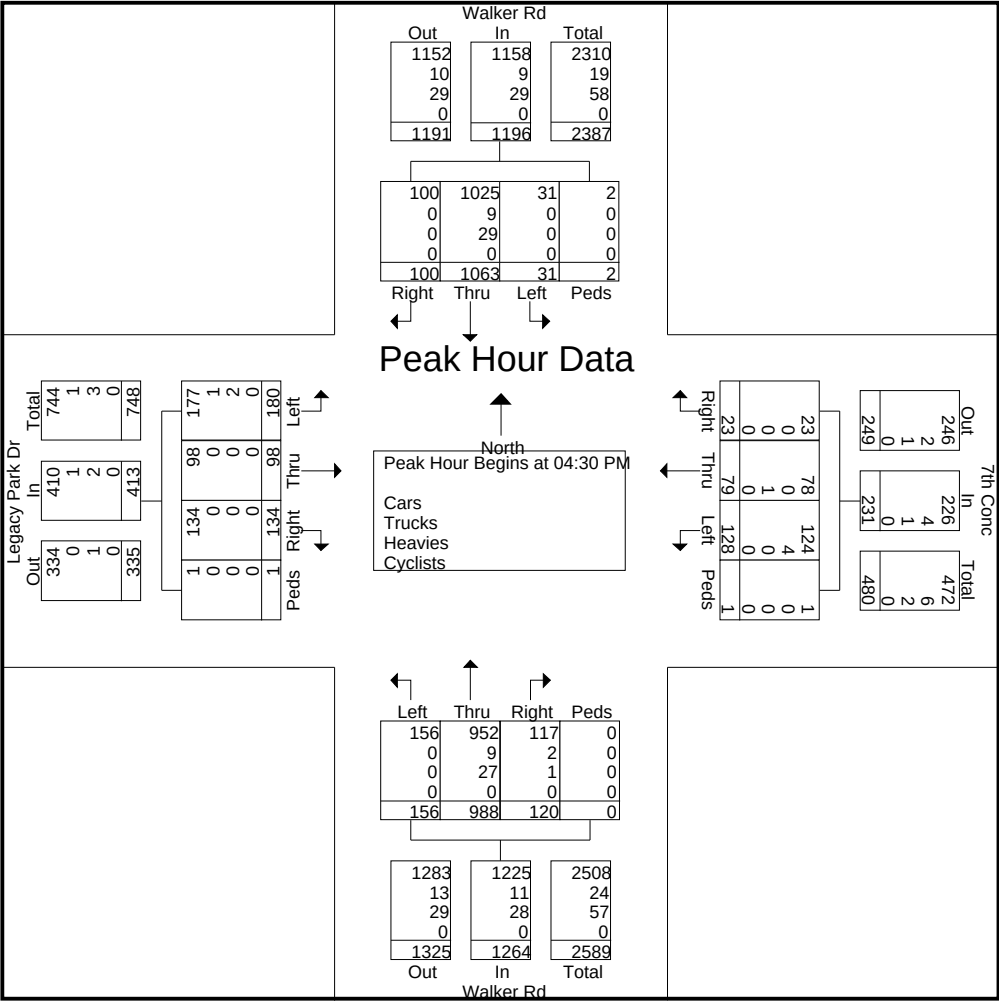
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road

Site Code : Loc-10

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

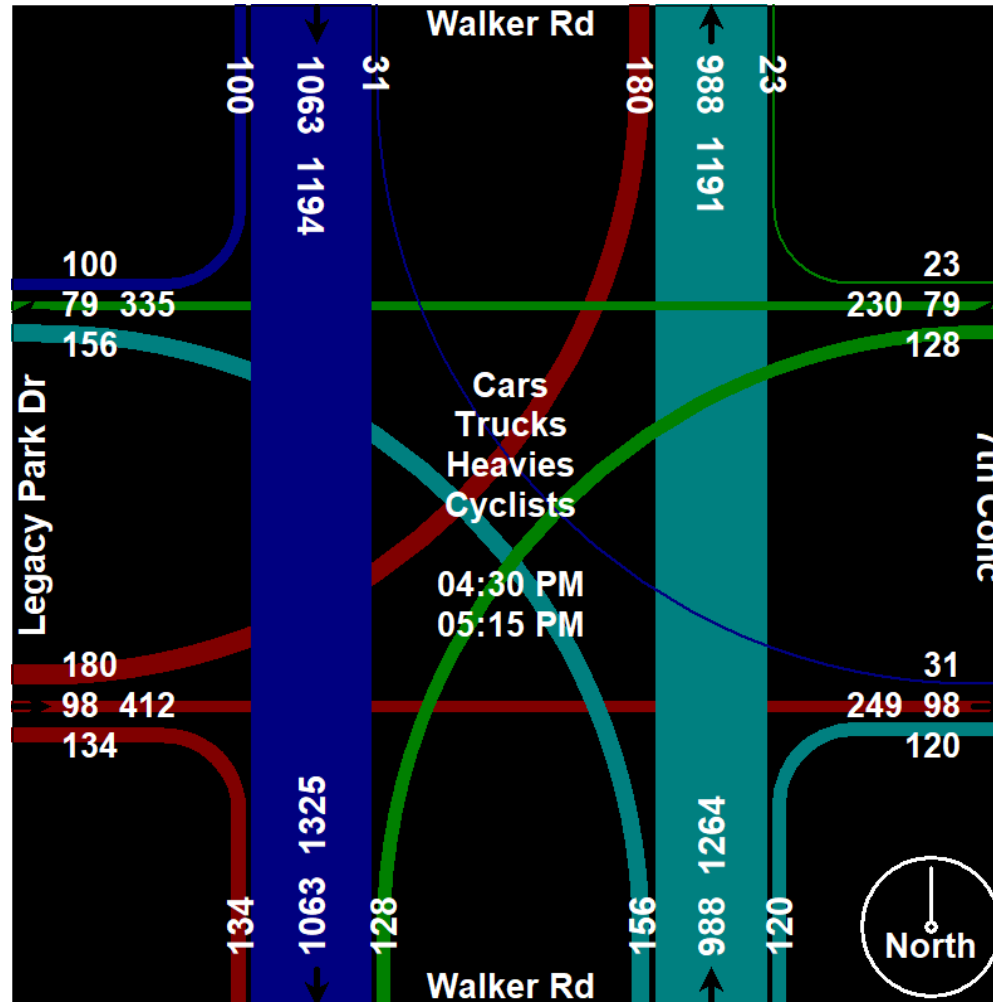
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road

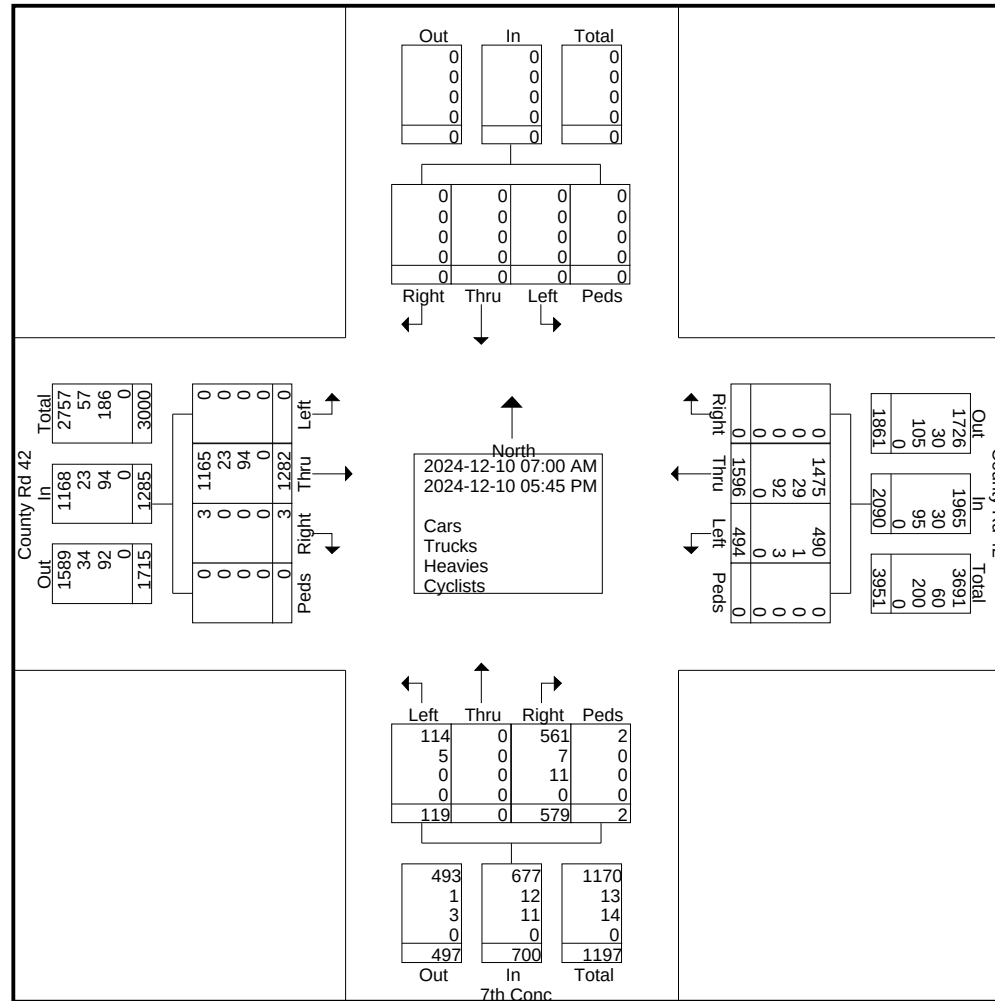
Site Code : Loc-10

Start Date : 2024-12-10

Page No : 8



	County Rd 42 From North					County Rd 42 From East					7th Conc From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	51	14	0	65	28	0	0	0	28	0	46	0	0	46	139
07:15 AM	0	0	0	0	0	0	67	22	0	89	19	0	6	0	25	0	62	0	0	62	176
07:30 AM	0	0	0	0	0	0	79	17	0	96	28	0	9	1	38	0	70	0	0	70	204
07:45 AM	0	0	0	0	0	0	94	22	0	116	27	0	11	0	38	0	86	0	0	86	240
Total	0	0	0	0	0	0	291	75	0	366	102	0	26	1	129	0	264	0	0	264	759
08:00 AM	0	0	0	0	0	0	103	23	0	126	19	0	7	0	26	0	75	0	0	75	227
08:15 AM	0	0	0	0	0	0	100	24	0	124	25	0	5	0	30	0	74	0	0	74	228
08:30 AM	0	0	0	0	0	0	74	31	0	105	27	0	9	0	36	0	66	0	0	66	207
08:45 AM	0	0	0	0	0	0	108	40	0	148	27	0	4	0	31	1	63	0	0	64	243
Total	0	0	0	0	0	0	385	118	0	503	98	0	25	0	123	1	278	0	0	279	905
04:00 PM	0	0	0	0	0	0	99	27	0	126	54	0	14	0	68	0	102	0	0	102	296
04:15 PM	0	0	0	0	0	0	95	36	0	131	45	0	6	0	51	0	103	0	0	103	285
04:30 PM	0	0	0	0	0	0	142	48	0	190	45	0	8	0	53	0	114	0	0	114	357
04:45 PM	0	0	0	0	0	0	123	34	0	157	56	0	5	0	61	0	86	0	0	86	304
Total	0	0	0	0	0	0	459	145	0	604	200	0	33	0	233	0	405	0	0	405	1242
05:00 PM	0	0	0	0	0	0	129	42	0	171	50	0	8	0	58	0	98	0	0	98	327
05:15 PM	0	0	0	0	0	0	139	62	0	201	49	0	10	1	60	0	105	0	0	105	366
05:30 PM	0	0	0	0	0	0	118	30	0	148	47	0	8	0	55	1	54	0	0	55	258
05:45 PM	0	0	0	0	0	0	75	22	0	97	33	0	9	0	42	1	78	0	0	79	218
Total	0	0	0	0	0	0	461	156	0	617	179	0	35	1	215	2	335	0	0	337	1169
Grand Total	0	0	0	0	0	0	1596	494	0	2090	579	0	119	2	700	3	1282	0	0	1285	4075
Apprch %	0	0	0	0	0	0	76.4	23.6	0		82.7	0	17	0.3		0.2	99.8	0	0		
Total %	0	0	0	0	0	0	39.2	12.1	0	51.3	14.2	0	2.9	0	17.2	0.1	31.5	0	0	31.5	
Cars	0	0	0	0	0	0	1475	490	0	1965	561	0	114	2	677	3	1165	0	0	1168	3810
% Cars	0	0	0	0	0	0	92.4	99.2	0	94	96.9	0	95.8	100	96.7	100	90.9	0	0	90.9	93.5
Trucks	0	0	0	0	0	0	29	1	0	30	7	0	5	0	12	0	23	0	0	23	65
% Trucks	0	0	0	0	0	0	1.8	0.2	0	1.4	1.2	0	4.2	0	1.7	0	1.8	0	0	1.8	1.6
Heavies	0	0	0	0	0	0	92	3	0	95	11	0	0	0	11	0	94	0	0	94	200
% Heavies	0	0	0	0	0	0	5.8	0.6	0	4.5	1.9	0	0	0	1.6	0	7.3	0	0	7.3	4.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



[illegible]

Horizon Data Services Ltd

(416) 840-6619

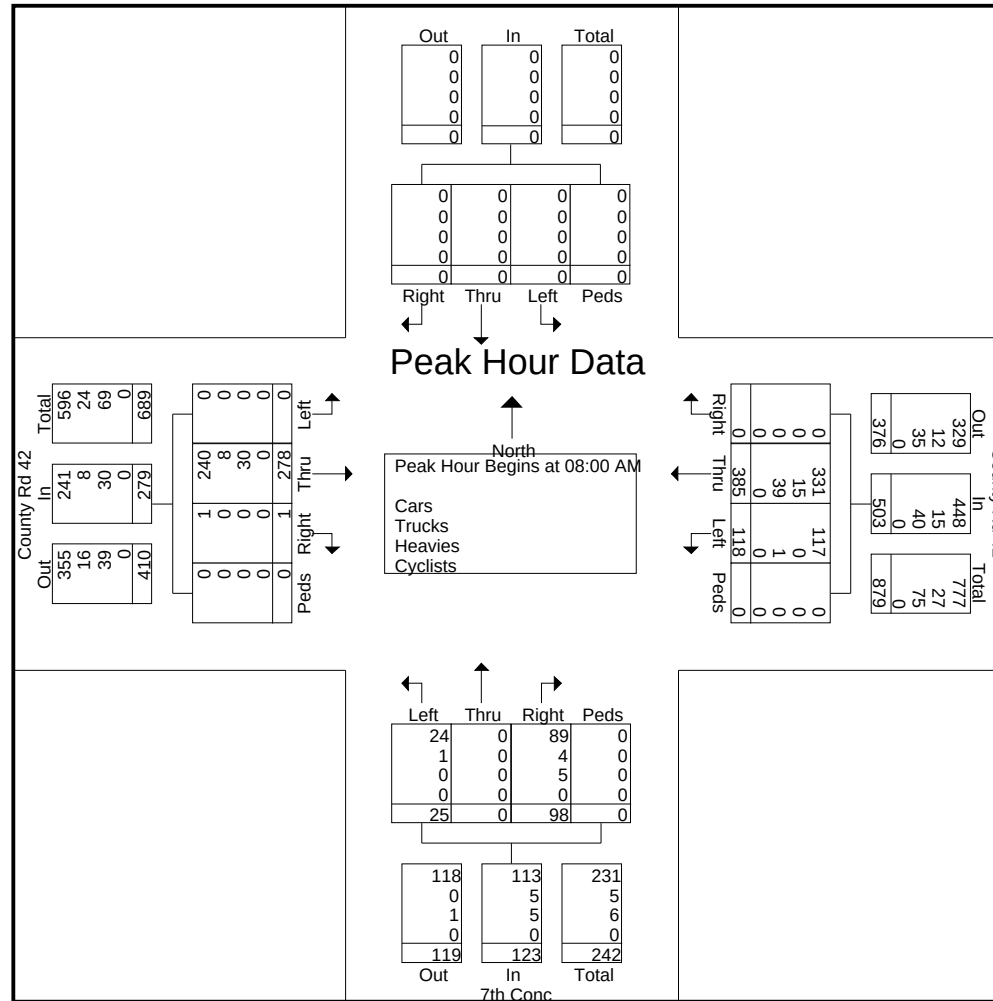
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road

Site Code : Loc-11

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

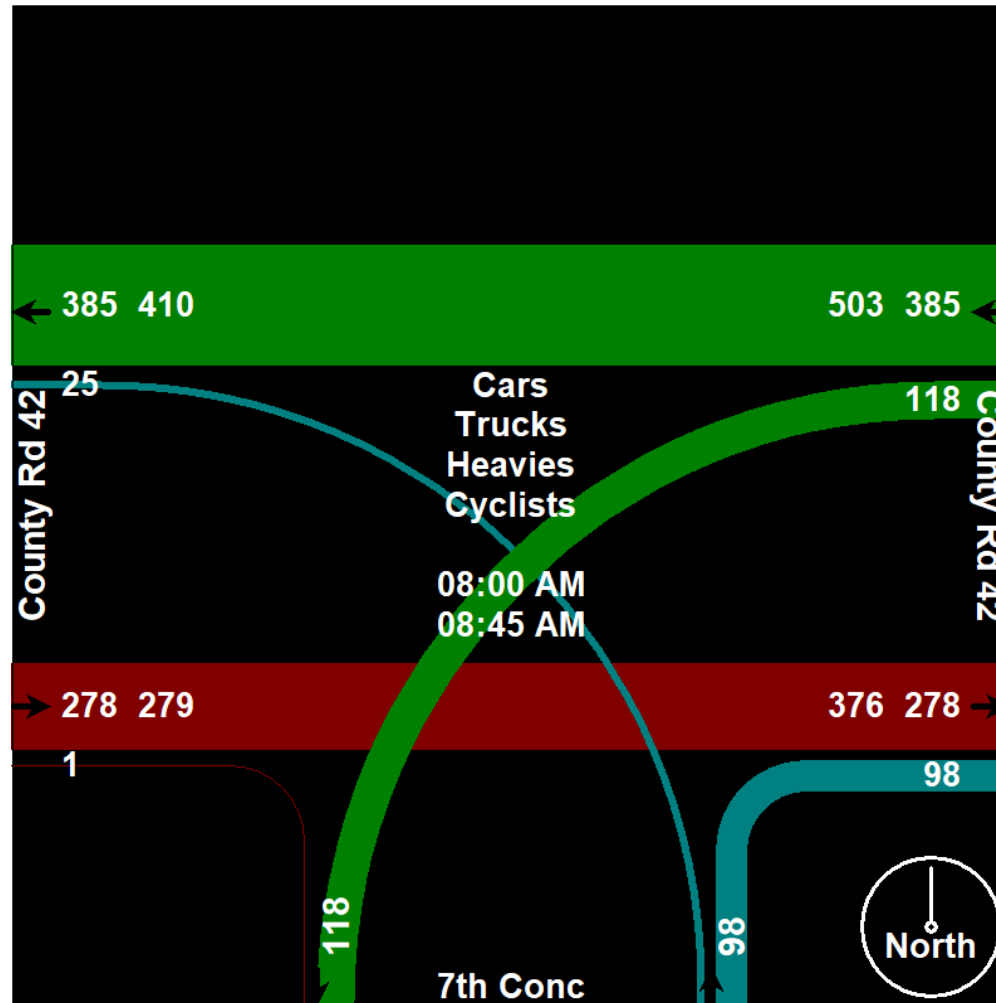
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road

Site Code : Loc-11

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

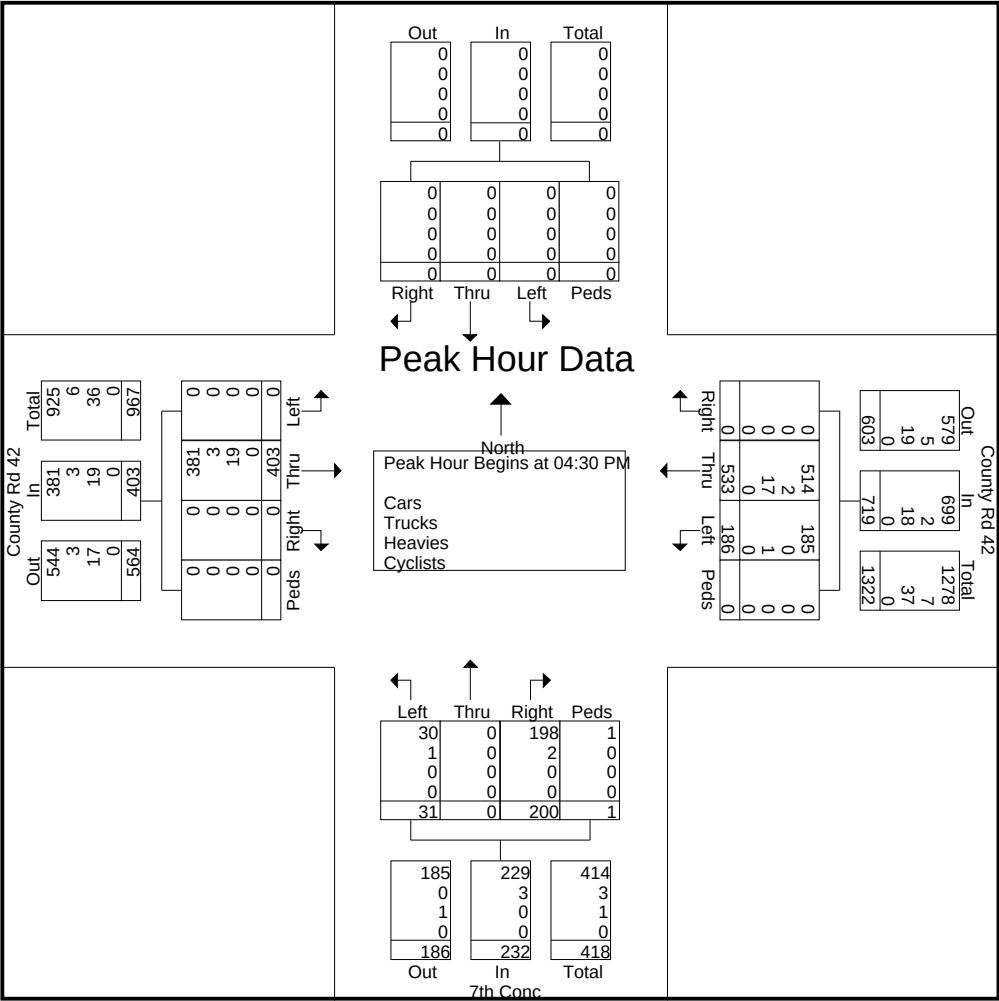
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road

Site Code : Loc-11

Start Date : 2024-12-10

Page No : 7



Horizon Data Services Ltd

(416) 840-6619

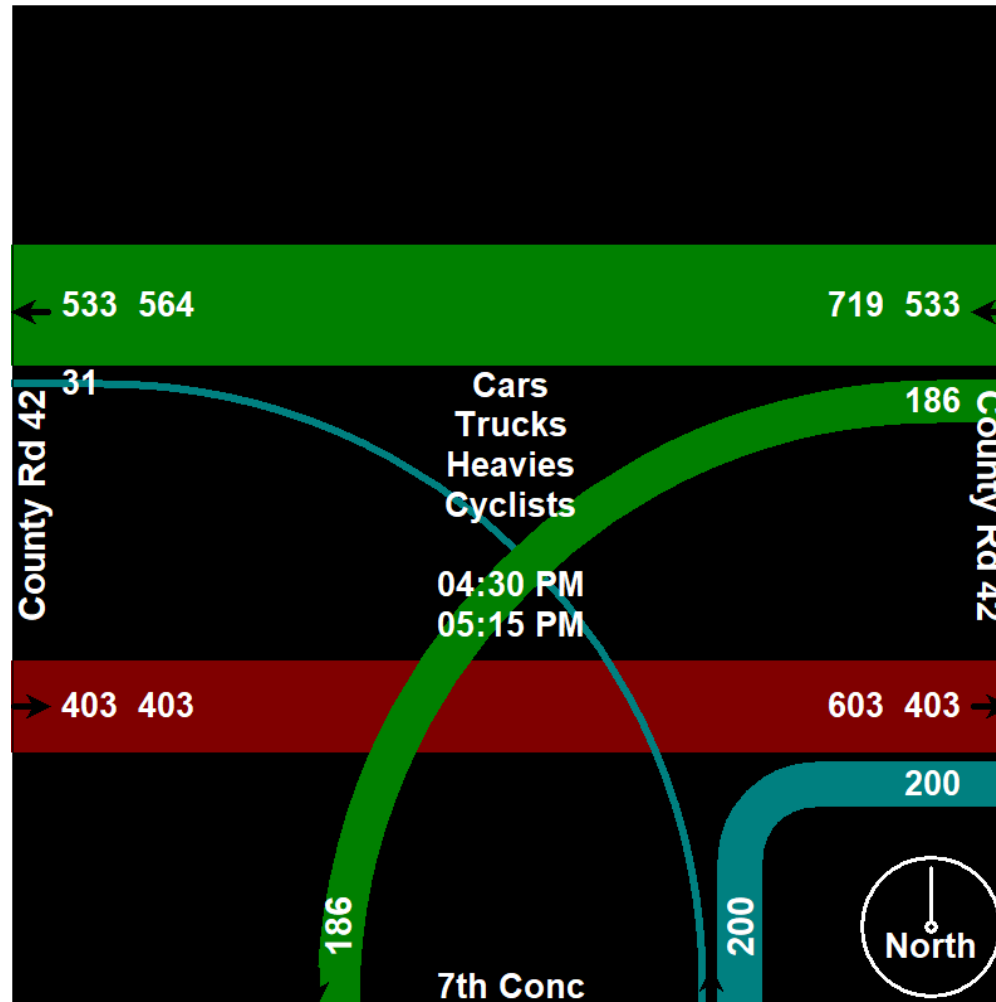
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road

Site Code : Loc-11

Start Date : 2024-12-10

Page No : 8



	Walker Rd From North					Site Driveway From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	197	0	0	197	0	0	0	0	0	0	189	0	0	189	0	0	0	0	0	386
07:15 AM	0	194	0	0	194	0	0	0	0	0	0	191	0	0	191	0	0	0	0	0	385
07:30 AM	0	209	0	0	209	0	0	0	0	0	0	198	0	0	198	0	0	0	0	0	407
07:45 AM	0	226	0	0	226	0	0	0	3	3	1	261	0	0	262	0	0	0	0	0	491
Total	0	826	0	0	826	0	0	0	3	3	1	839	0	0	840	0	0	0	0	0	1669
08:00 AM	0	195	0	0	195	0	0	0	0	0	0	206	0	0	206	0	0	0	0	0	401
08:15 AM	0	185	0	0	185	0	0	0	0	0	1	208	0	0	209	0	0	0	0	0	394
08:30 AM	0	241	0	0	241	0	0	0	1	1	1	212	0	0	213	0	0	0	0	0	455
08:45 AM	0	255	0	0	255	0	0	0	1	1	0	232	0	0	232	0	0	0	0	0	488
Total	0	876	0	0	876	0	0	0	2	2	2	858	0	0	860	0	0	0	0	0	1738
04:00 PM	0	320	0	0	320	0	0	0	0	0	2	329	0	0	331	0	0	0	0	0	651
04:15 PM	0	335	0	0	335	0	0	0	0	0	3	298	0	0	301	0	0	0	0	0	636
04:30 PM	0	324	0	0	324	0	0	0	3	3	1	314	0	0	315	0	0	0	0	0	642
04:45 PM	0	356	0	0	356	0	0	0	0	0	1	317	0	0	318	0	0	0	0	0	674
Total	0	1335	0	0	1335	0	0	0	3	3	7	1258	0	0	1265	0	0	0	0	0	2603
05:00 PM	0	360	0	0	360	0	0	0	0	0	0	324	0	0	324	0	0	0	0	0	684
05:15 PM	0	351	0	0	351	0	0	0	0	0	2	308	0	0	310	0	0	0	0	0	661
05:30 PM	0	300	0	0	300	0	0	0	0	0	0	311	0	0	311	0	0	0	0	0	611
05:45 PM	0	261	0	0	261	0	0	0	0	0	1	273	0	0	274	0	0	0	0	0	535
Total	0	1272	0	0	1272	0	0	0	0	0	3	1216	0	0	1219	0	0	0	0	0	2491
Grand Total	0	4309	0	0	4309	0	0	0	8	8	13	4171	0	0	4184	0	0	0	0	0	8501
Apprch %	0	100	0	0		0	0	0	100		0.3	99.7	0	0		0	0	0	0		
Total %	0	50.7	0	0	50.7	0	0	0	0.1	0.1	0.2	49.1	0	0	49.2	0	0	0	0	0	
Cars	0	4113	0	0	4113	0	0	0	8	8	13	3930	0	0	3943	0	0	0	0	0	8064
% Cars	0	95.5	0	0	95.5	0	0	0	100	100	100	94.2	0	0	94.2	0	0	0	0	0	94.9
Trucks	0	38	0	0	38	0	0	0	0	0	0	63	0	0	63	0	0	0	0	0	101
% Trucks	0	0.9	0	0	0.9	0	0	0	0	0	0	1.5	0	0	1.5	0	0	0	0	0	1.2
Heavies	0	158	0	0	158	0	0	0	0	0	0	178	0	0	178	0	0	0	0	0	336
% Heavies	0	3.7	0	0	3.7	0	0	0	0	0	0	4.3	0	0	4.3	0	0	0	0	0	4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

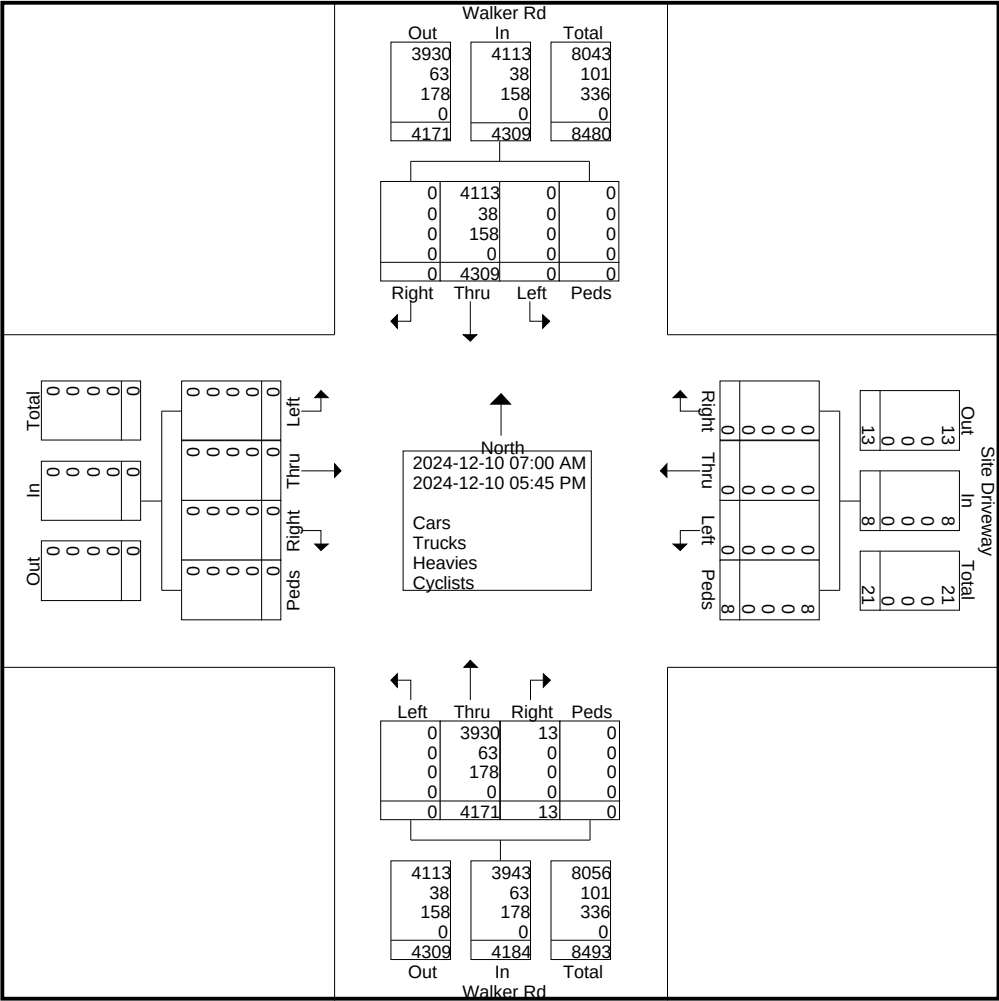
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway

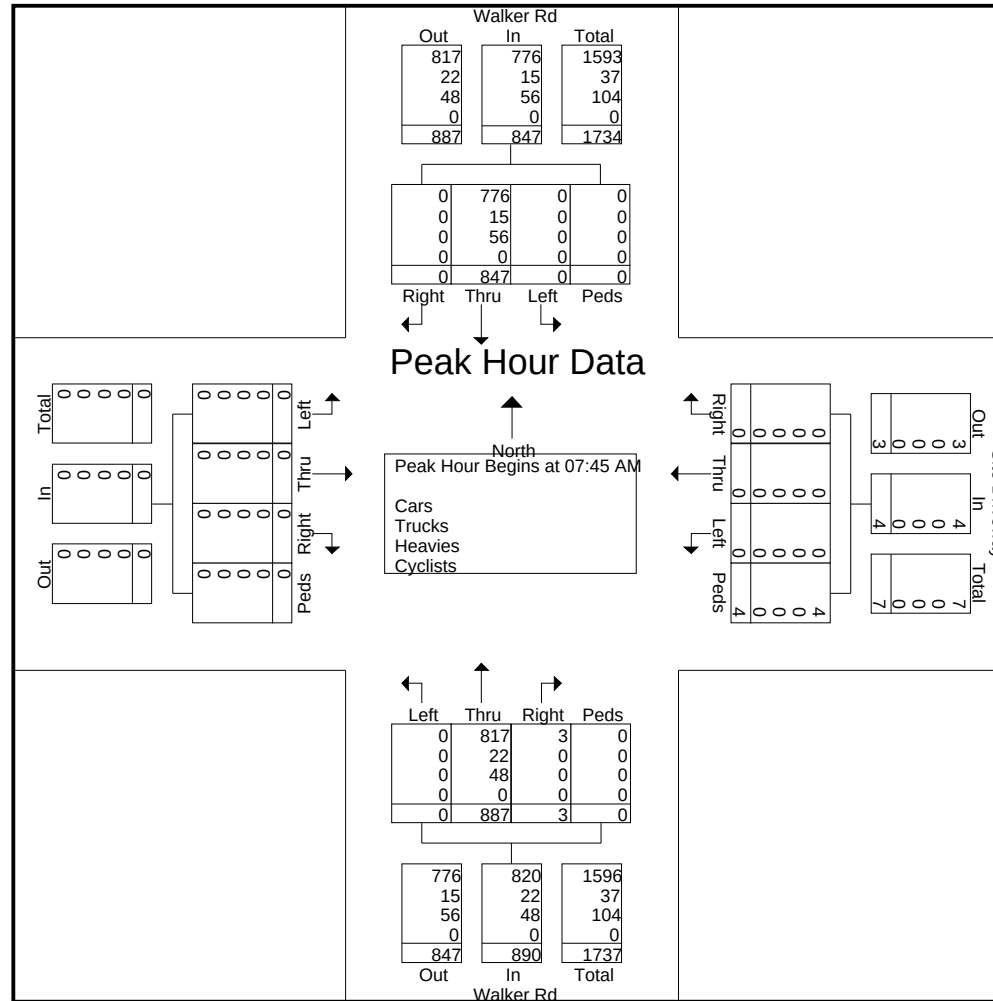
Site Code : Loc-13

Start Date : 2024-12-10

Page No : 2



[illegible]

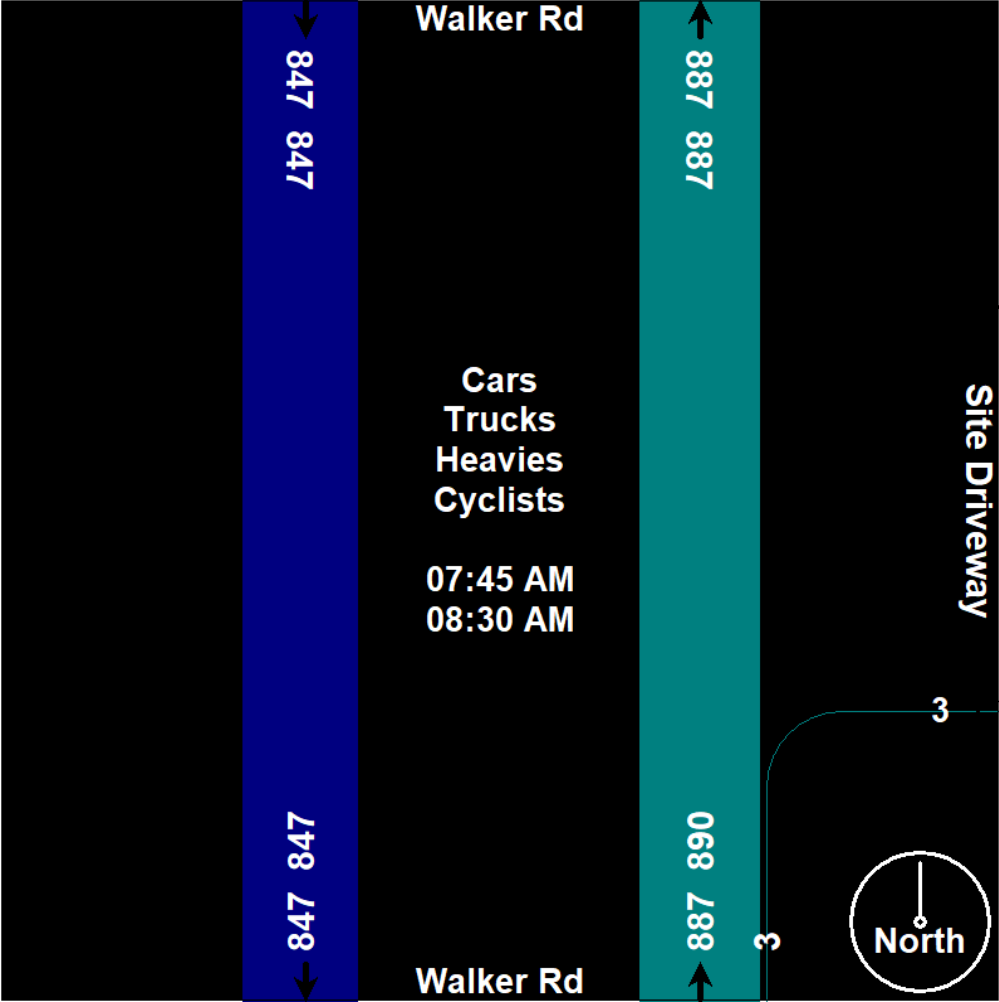


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Site Driveway
Site Code : Loc-13
Start Date : 2024-12-10
Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

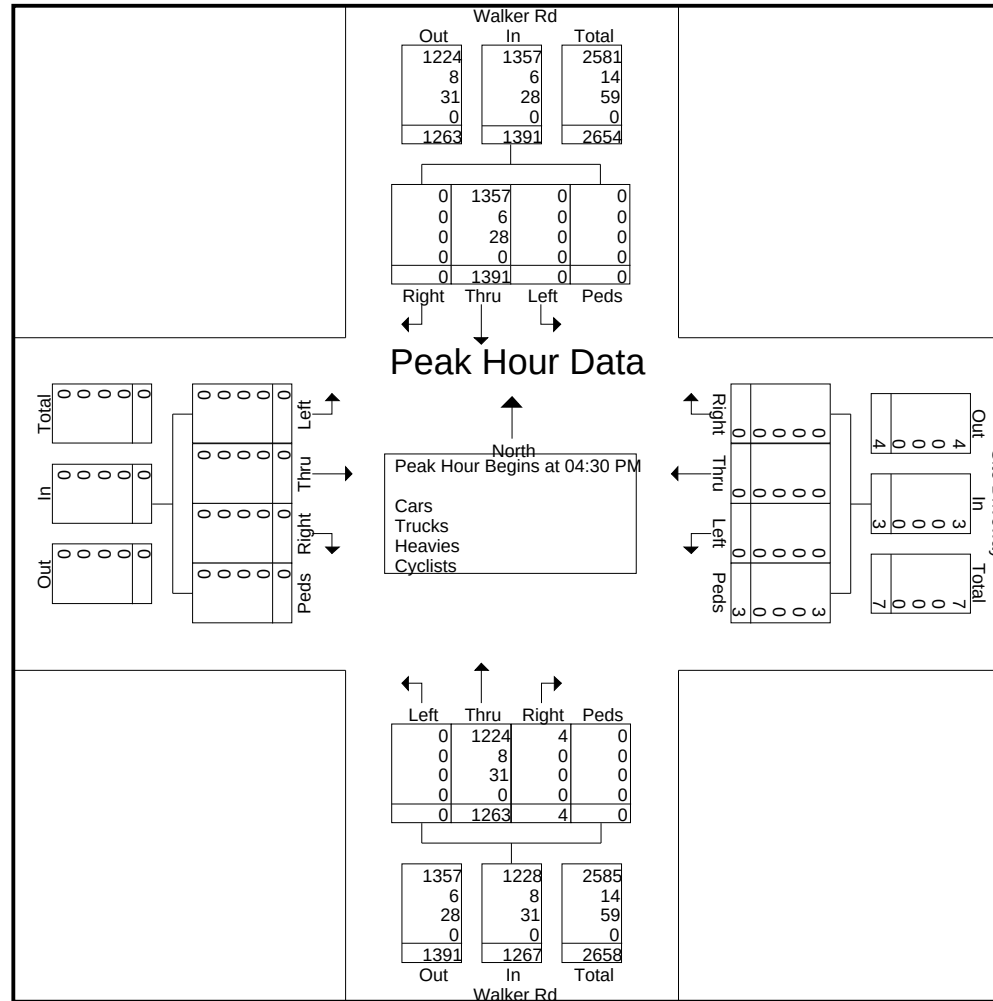
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway

Site Code : Loc-13

Start Date : 2024-12-10

Page No : 7

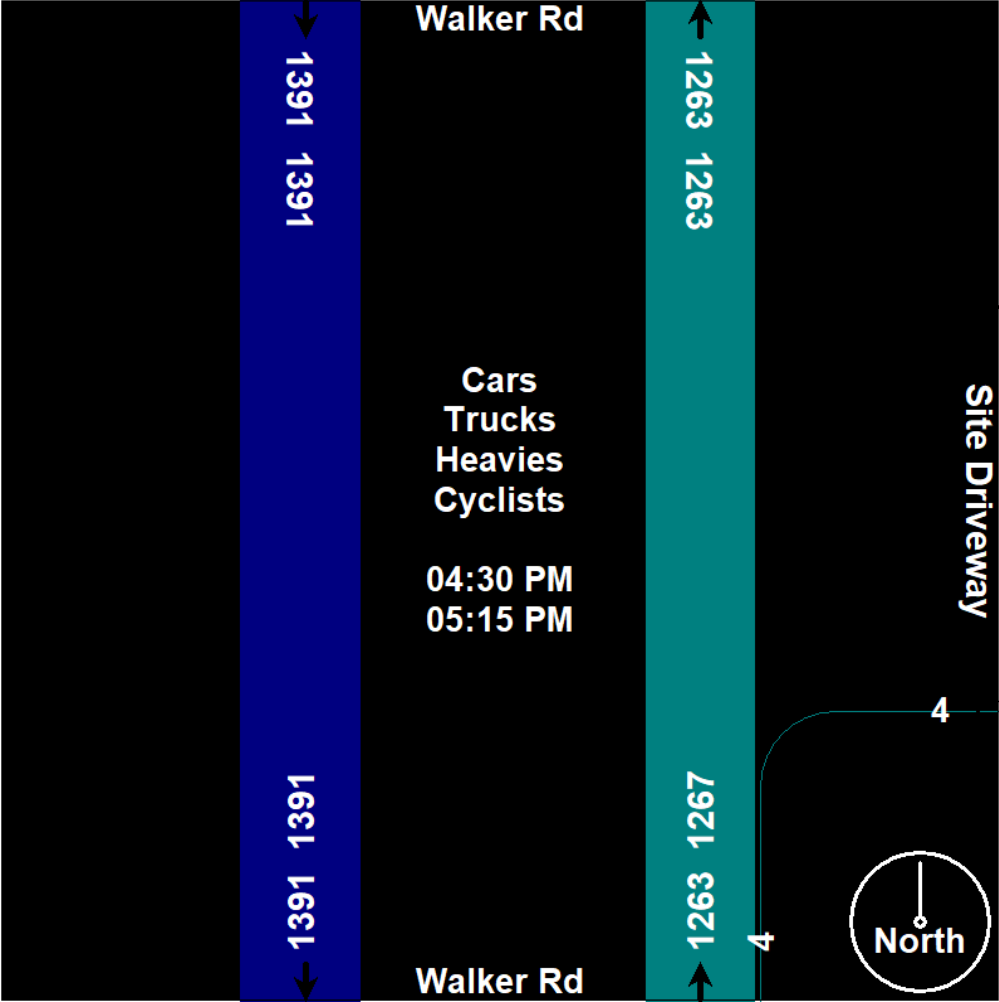


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Site Driveway
Site Code : Loc-13
Start Date : 2024-12-10
Page No : 8



	From North					County Rd 42 From East					Site Driveway From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	54	0	0	54	1	0	0	0	1	0	56	0	0	56	111
07:15 AM	0	0	0	0	0	0	78	1	0	79	0	0	1	0	1	0	66	0	0	66	146
07:30 AM	0	0	0	0	0	0	88	0	0	88	0	0	0	1	1	0	77	0	0	77	166
07:45 AM	0	0	0	0	0	0	116	0	0	116	1	0	0	0	1	0	88	0	1	89	206
Total	0	0	0	0	0	0	336	1	0	337	2	0	1	1	4	0	287	0	1	288	629
08:00 AM	0	0	0	0	0	0	112	0	0	112	0	0	0	0	0	0	85	0	1	86	198
08:15 AM	0	0	0	0	0	0	111	1	0	112	2	0	0	0	2	0	81	0	0	81	195
08:30 AM	0	0	0	0	0	0	106	0	0	106	1	0	0	0	1	0	75	0	0	75	182
08:45 AM	0	0	0	0	0	0	126	0	0	126	0	0	0	0	0	0	83	0	0	83	209
Total	0	0	0	0	0	0	455	1	0	456	3	0	0	0	3	0	324	0	1	325	784
04:00 PM	0	0	0	0	0	0	126	0	1	127	2	0	0	1	3	1	116	0	1	118	248
04:15 PM	0	0	0	0	0	0	115	0	0	115	3	0	1	0	4	0	105	0	0	105	224
04:30 PM	0	0	0	0	0	0	167	0	2	169	0	0	1	0	1	0	118	0	0	118	288
04:45 PM	0	0	0	0	0	0	131	0	0	131	1	0	0	1	2	0	91	0	0	91	224
Total	0	0	0	0	0	0	539	0	3	542	6	0	2	2	10	1	430	0	1	432	984
05:00 PM	0	0	0	0	0	0	186	0	0	186	0	0	0	0	0	0	117	0	0	117	303
05:15 PM	0	0	0	0	0	0	158	0	0	158	3	0	1	0	4	1	112	0	0	113	275
05:30 PM	0	0	0	0	0	0	140	0	0	140	0	0	1	0	1	0	60	0	0	60	201
05:45 PM	0	0	0	0	0	0	89	0	1	90	1	0	0	0	1	0	90	0	0	90	181
Total	0	0	0	0	0	0	573	0	1	574	4	0	2	0	6	1	379	0	0	380	960
Grand Total	0	0	0	0	0	0	1903	2	4	1909	15	0	5	3	23	2	1420	0	3	1425	3357
Apprch %	0	0	0	0		0	99.7	0.1	0.2		65.2	0	21.7	13		0.1	99.6	0	0.2		
Total %	0	0	0	0	0	0	56.7	0.1	0.1	56.9	0.4	0	0.1	0.1	0.7	0.1	42.3	0	0.1	42.4	
Cars	0	0	0	0	0	0	1756	2	4	1762	15	0	5	3	23	2	1289	0	3	1294	3079
% Cars	0	0	0	0	0	0	92.3	100	100	92.3	100	0	100	100	100	100	90.8	0	100	90.8	91.7
Trucks	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	29	0	0	29	66
% Trucks	0	0	0	0	0	0	1.9	0	0	1.9	0	0	0	0	0	0	2	0	0	2	2
Heavies	0	0	0	0	0	0	110	0	0	110	0	0	0	0	0	0	102	0	0	102	212
% Heavies	0	0	0	0	0	0	5.8	0	0	5.8	0	0	0	0	0	0	7.2	0	0	7.2	6.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

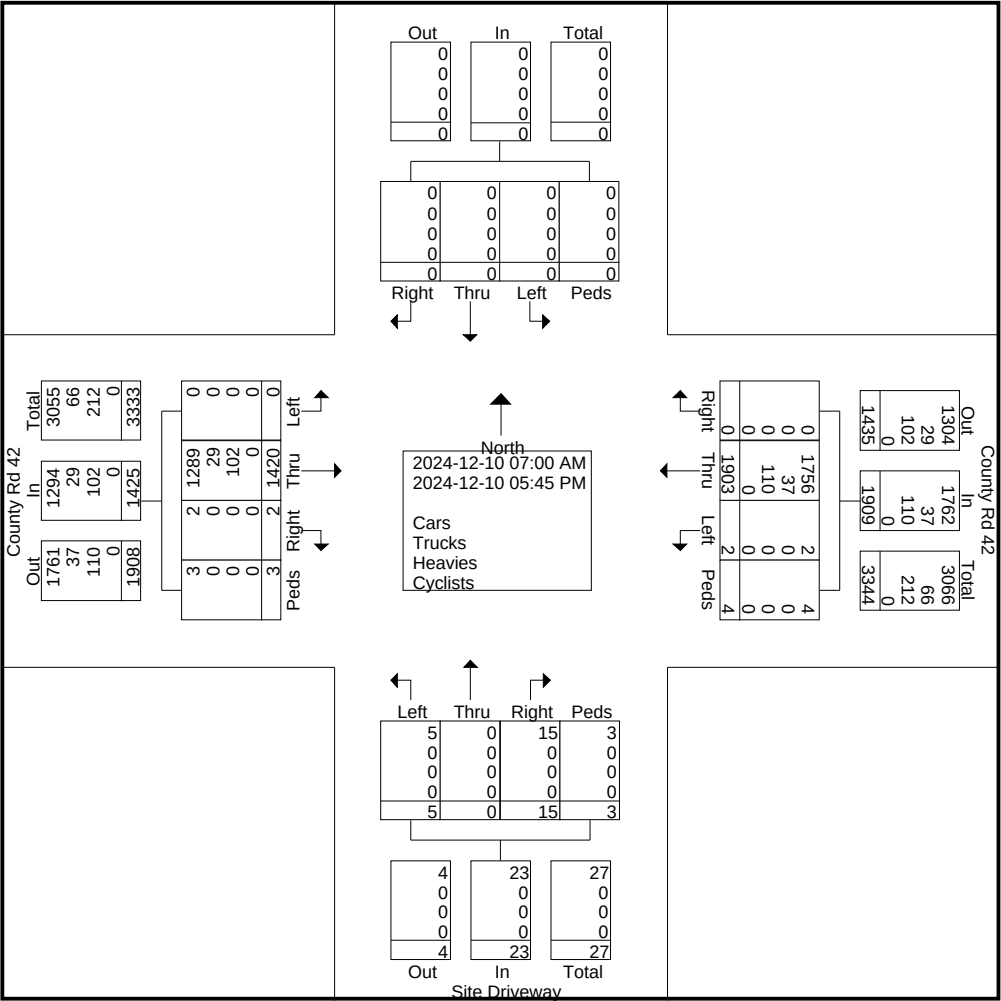
Your Traffic Count Specialist

File Name : Division Road at Site Driveway

Site Code : Loc-12

Start Date : 2024-12-10

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

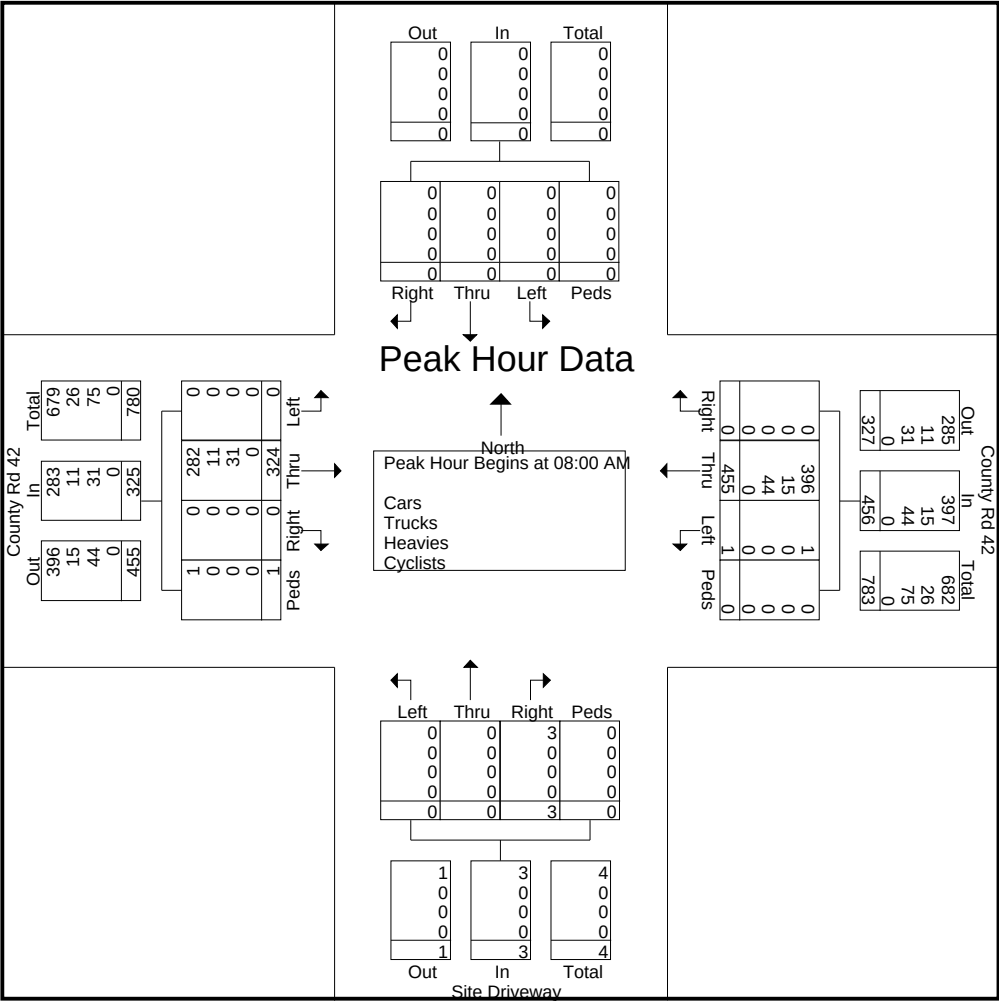
Your Traffic Count Specialist

File Name : Division Road at Site Driveway

Site Code : Loc-12

Start Date : 2024-12-10

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

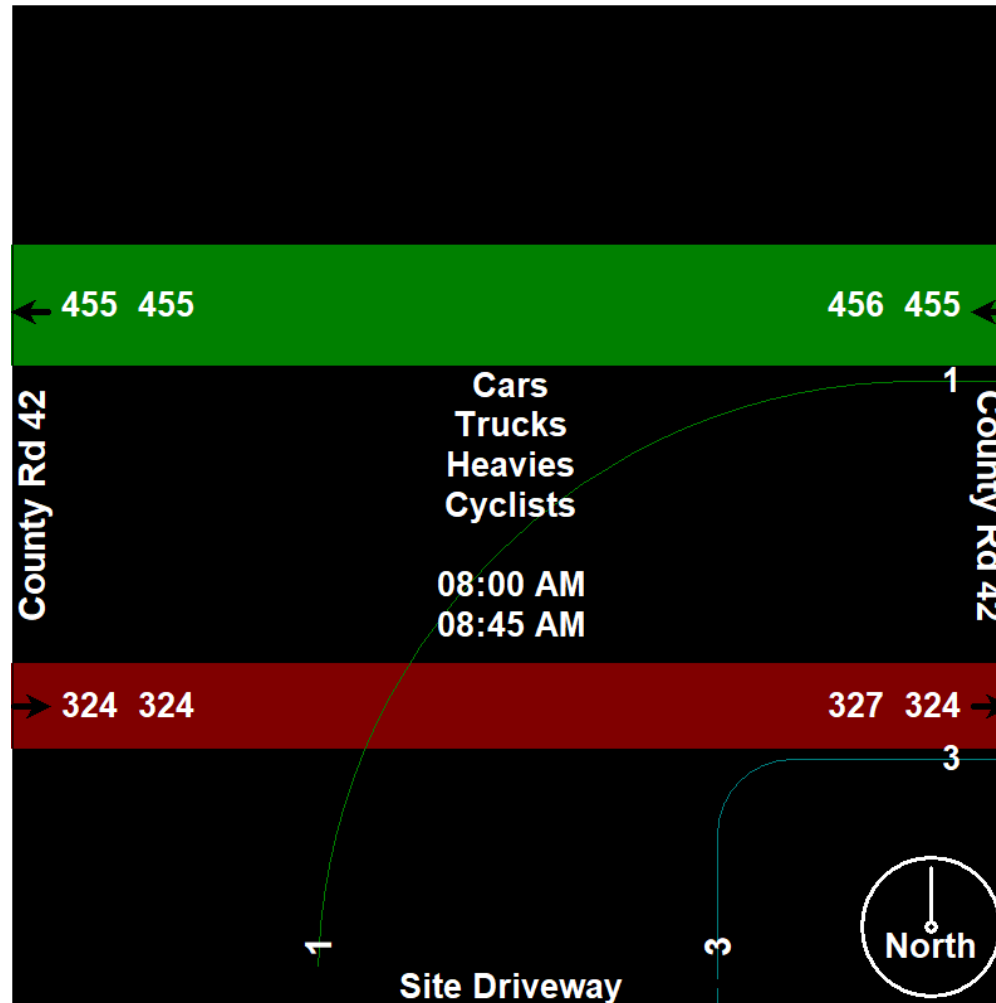
Your Traffic Count Specialist

File Name : Division Road at Site Driveway

Site Code : Loc-12

Start Date : 2024-12-10

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

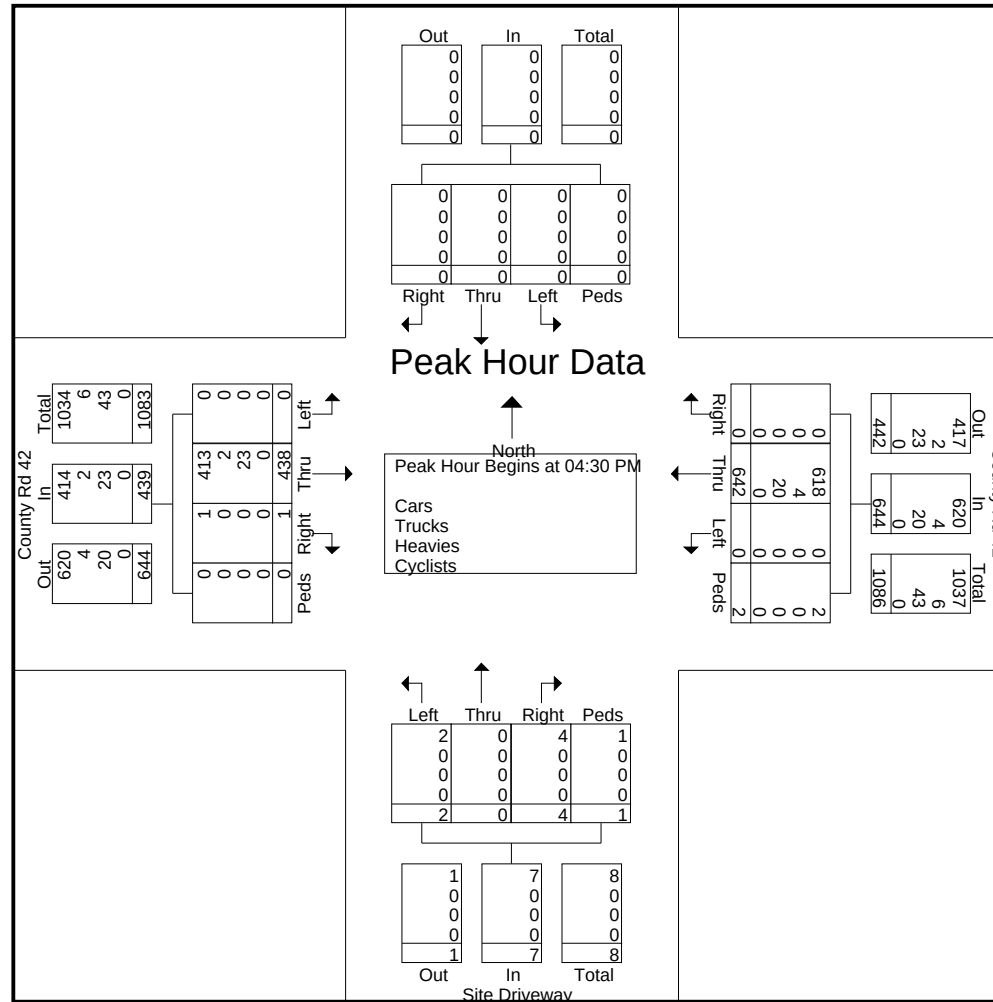
Your Traffic Count Specialist

File Name : Division Road at Site Driveway

Site Code : Loc-12

Start Date : 2024-12-10

Page No : 7

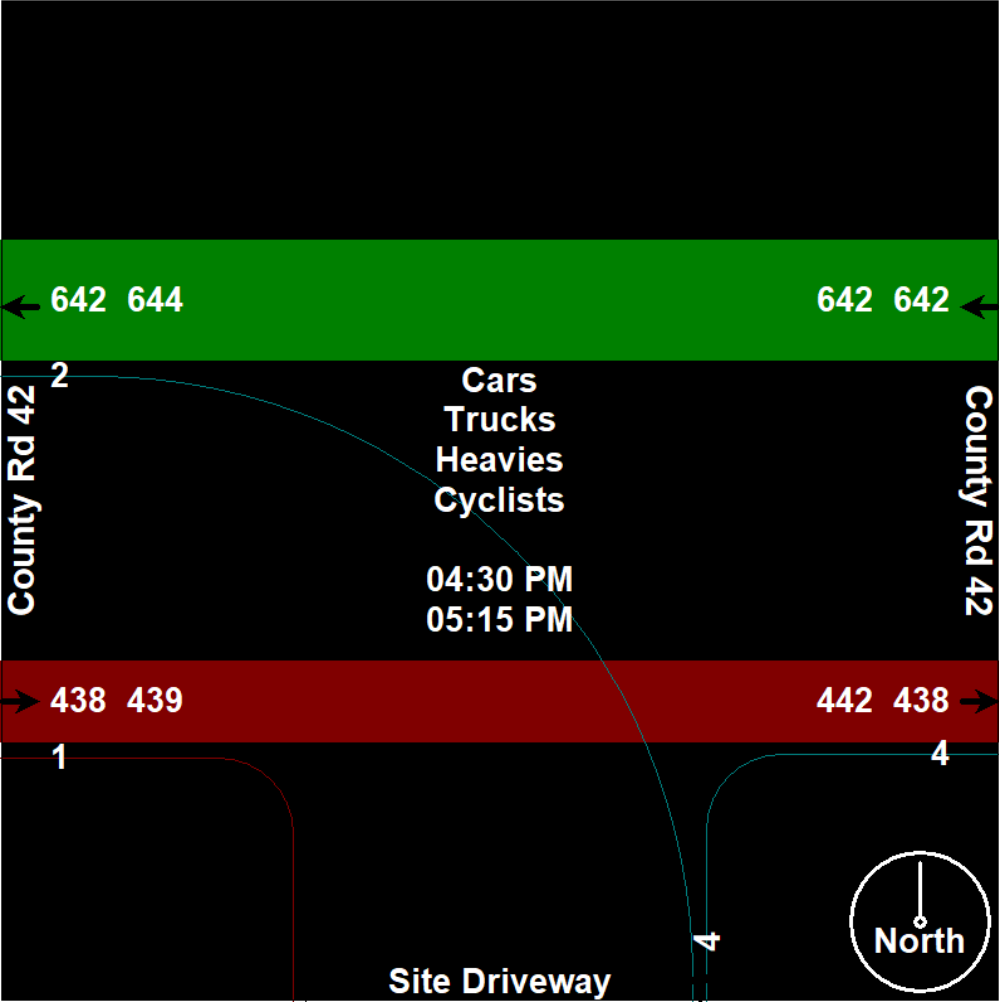


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway
Site Code : Loc-12
Start Date : 2024-12-10
Page No : 8



Saturday Traffic Counts

Signalized Driveway #1 on Walker Road	=	Walker Road at Home Depot Entrance/Walker Way Forum Entrance
Unsignalized Driveway #1 on Walker Road	=	Walker Road at Walker Place North Entrance
Unsignalized Driveway #2 on Walker Road	=	Walker Road at Walker Place South Entrance
Signalized Driveway #2 on Walker Road	=	Walker Road at Winners Entrance/ Canadian Tire Entrance
Unsignalized Driveway #3 on Walker Road	=	Walker Road at Cora Breakfast and Planet Fitness Entrance
Unsignalized Driveway #4 on Walker Road	=	Walker Road at Petro Canada & Car Wash North Entrance
Signalized Driveway #3 on Walker Road	=	Walker Road at Best Buy Entrance/ Petro Canada & Car Wash South Entrance
Unsignalized Driveway #5 on Walker Road	=	Walker Road at Swiss Chalet and Starbucks Entrance

	Walker Rd From North					Division Rd From East					Walker Rd From South					Cabana Rd E From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	21	221	21	1	264	18	47	41	0	106	30	177	43	0	250	43	29	47	1	120	740
11:15 AM	17	215	18	1	251	19	54	51	0	124	29	163	39	0	231	41	41	44	1	127	733
11:30 AM	21	193	22	2	238	26	52	44	0	122	23	198	53	0	274	50	47	59	0	156	790
11:45 AM	31	238	19	0	288	13	50	48	1	112	15	189	27	0	231	39	42	42	0	123	754
Total	90	867	80	4	1041	76	203	184	1	464	97	727	162	0	986	173	159	192	2	526	3017
12:00 PM	36	233	21	2	292	20	75	57	0	152	37	180	55	0	272	59	45	47	0	151	867
12:15 PM	23	202	12	3	240	25	56	59	3	143	37	173	50	0	260	63	51	55	0	169	812
12:30 PM	88	188	17	1	294	10	51	44	1	106	38	180	44	1	263	54	27	38	1	120	783
12:45 PM	17	278	15	0	310	13	64	48	0	125	38	217	61	0	316	60	48	43	0	151	902
Total	164	901	65	6	1136	68	246	208	4	526	150	750	210	1	1111	236	171	183	1	591	3364
01:00 PM	37	214	11	0	262	12	53	35	0	100	36	190	55	0	281	40	30	41	1	112	755
01:15 PM	27	233	13	2	275	20	50	36	0	106	42	178	61	0	281	51	47	45	0	143	805
01:30 PM	21	223	24	3	271	26	50	31	1	108	39	198	57	0	294	69	55	49	2	175	848
01:45 PM	28	226	8	2	264	22	62	47	0	131	32	201	60	0	293	62	39	39	0	140	828
Total	113	896	56	7	1072	80	215	149	1	445	149	767	233	0	1149	222	171	174	3	570	3236
Grand Total	367	2664	201	17	3249	224	664	541	6	1435	396	2244	605	1	3246	631	501	549	6	1687	9617
Apprch %	11.3	82	6.2	0.5		15.6	46.3	37.7	0.4		12.2	69.1	18.6	0		37.4	29.7	32.5	0.4		
Total %	3.8	27.7	2.1	0.2	33.8	2.3	6.9	5.6	0.1	14.9	4.1	23.3	6.3	0	33.8	6.6	5.2	5.7	0.1	17.5	
Cars	366	2620	188	17	3191	213	652	531	6	1402	386	2207	599	1	3193	630	497	545	6	1678	9464
% Cars	99.7	98.3	93.5	100	98.2	95.1	98.2	98.2	100	97.7	97.5	98.4	99	100	98.4	99.8	99.2	99.3	100	99.5	98.4
Trucks	1	20	5	0	26	4	6	0	0	10	0	10	1	0	11	1	1	4	0	6	53
% Trucks	0.3	0.8	2.5	0	0.8	1.8	0.9	0	0	0.7	0	0.4	0.2	0	0.3	0.2	0.2	0.7	0	0.4	0.6
Heavies	0	24	8	0	32	6	6	10	0	22	10	27	5	0	42	0	3	0	0	3	99
% Heavies	0	0.9	4	0	1	2.7	0.9	1.8	0	1.5	2.5	1.2	0.8	0	1.3	0	0.6	0	0	0.2	1
Cyclists	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0.4	0	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

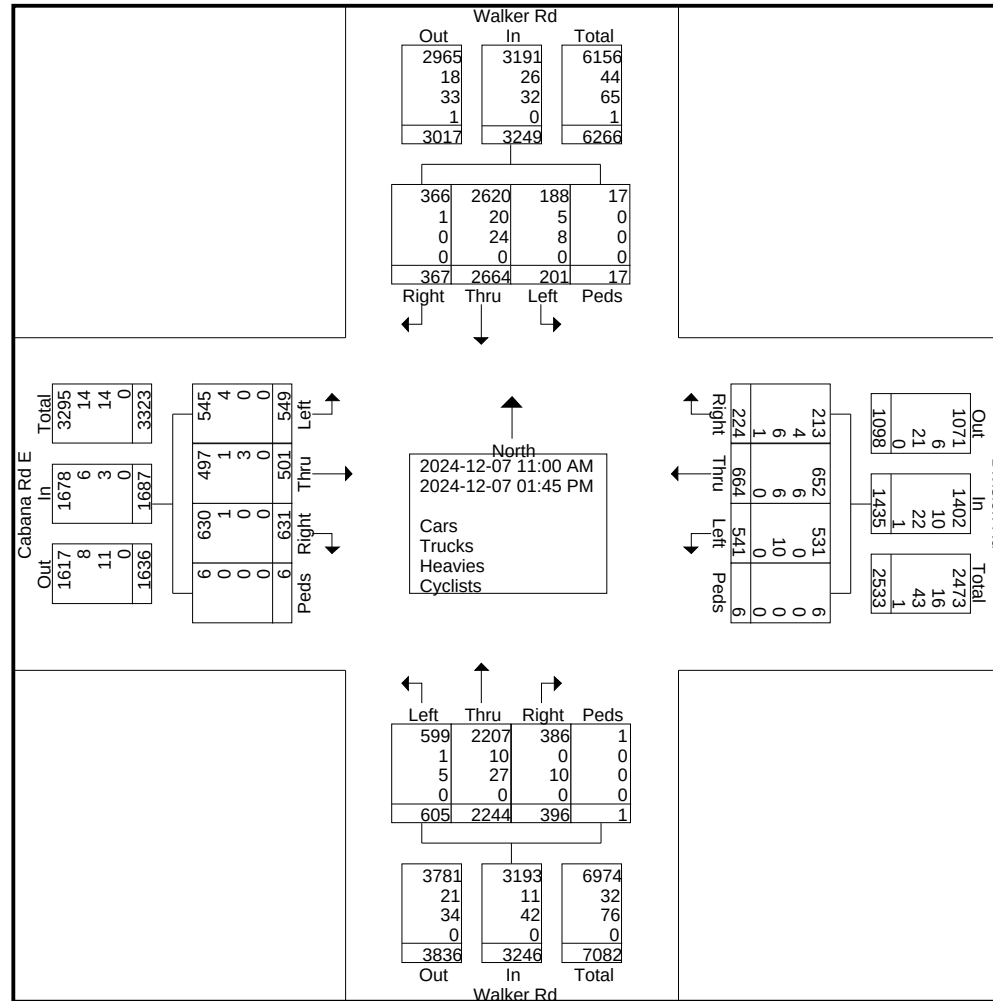
Your Traffic Count Specialist

File Name : Walker Road at Division Road-SAT

Site Code : Loc-9

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

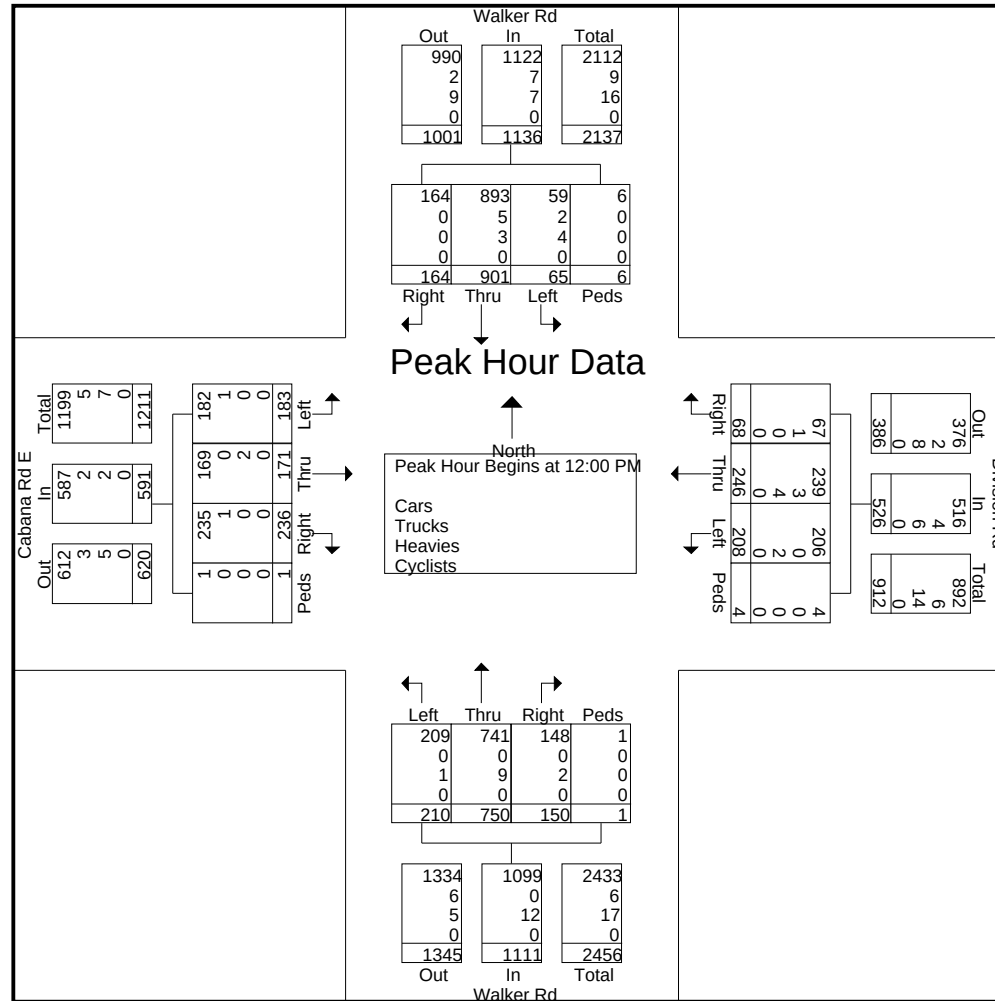
Your Traffic Count Specialist

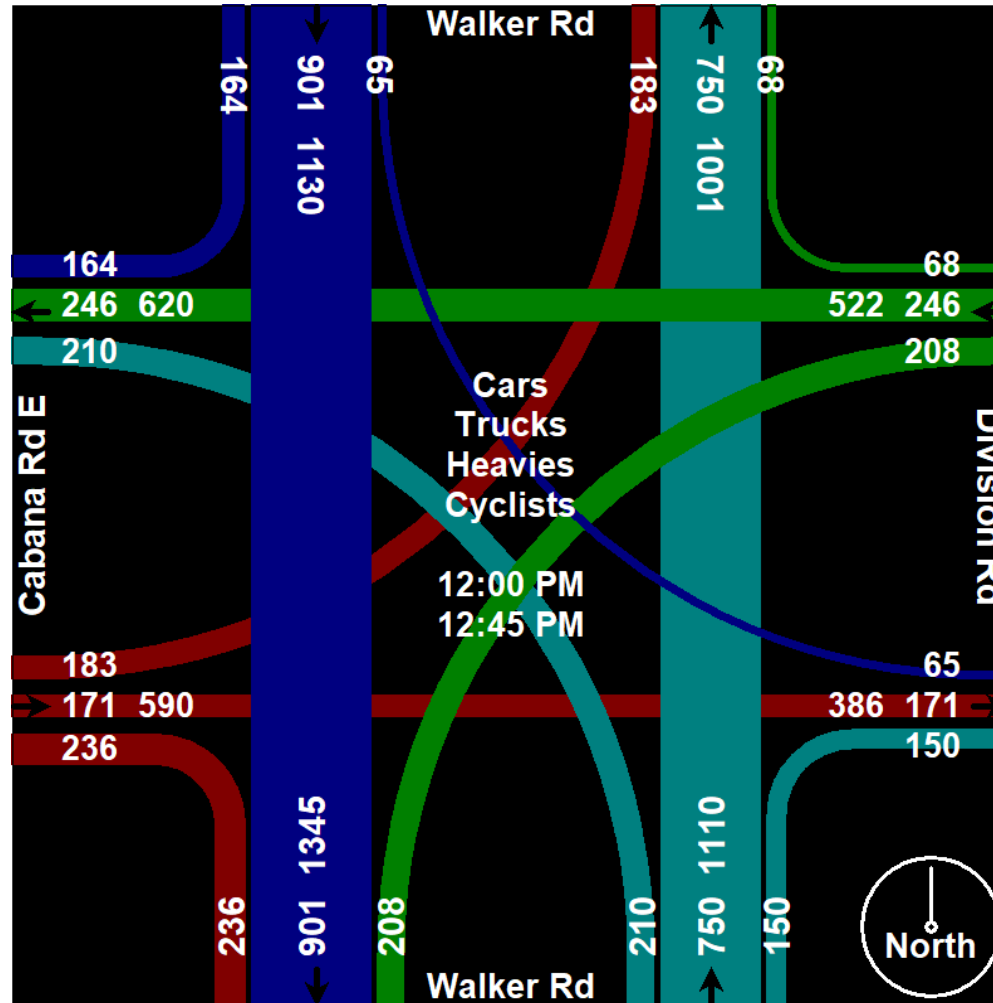
File Name : Walker Road at Division Road-SAT

Site Code : Loc-9

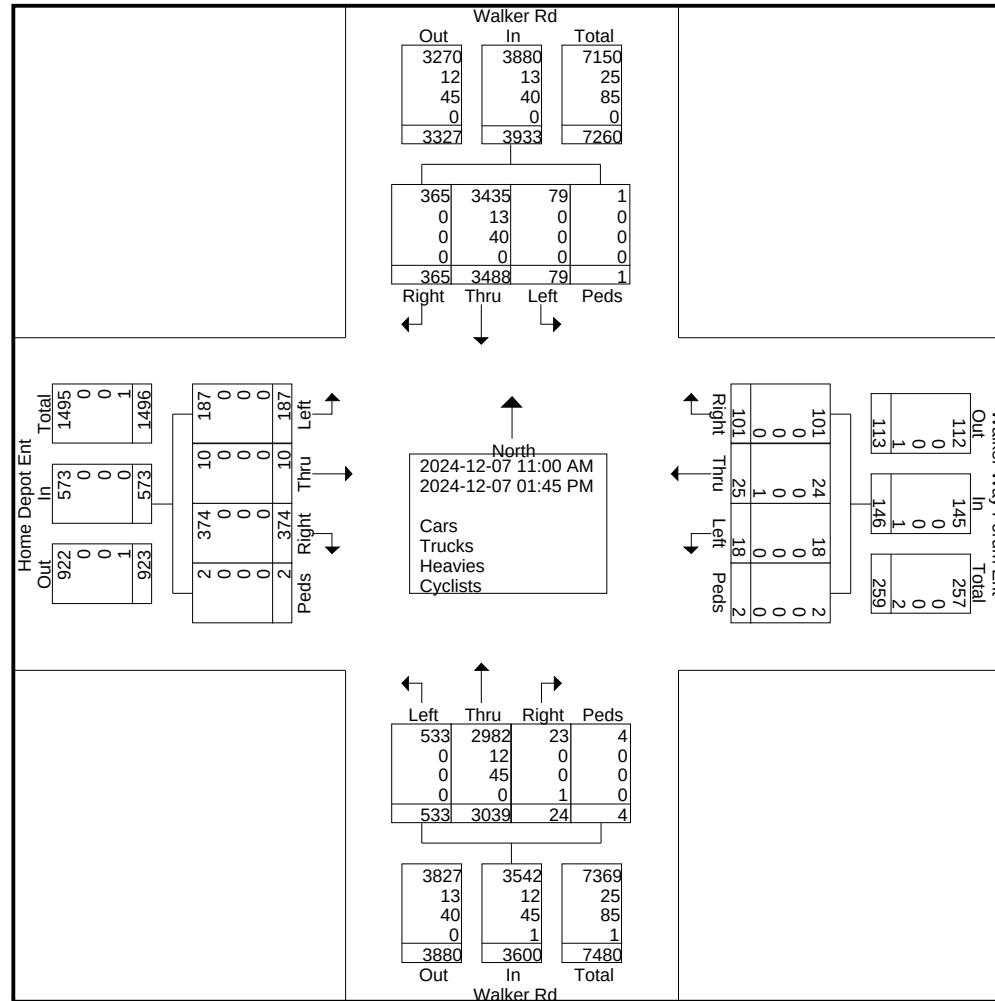
Start Date : 2024-12-07

Page No : 4





	Walker Rd From North					Walker Way Forum Ent From East					Walker Rd From South					Home Depot Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	29	272	4	0	305	8	2	2	0	12	1	241	50	0	292	31	1	8	0	40	649
11:15 AM	36	273	7	0	316	9	3	0	0	12	0	210	37	1	248	22	0	11	1	34	610
11:30 AM	33	266	6	0	305	5	1	1	0	7	2	269	58	0	329	34	0	14	0	48	689
11:45 AM	31	287	6	0	324	4	2	1	0	7	1	232	43	0	276	31	2	23	0	56	663
Total	129	1098	23	0	1250	26	8	4	0	38	4	952	188	1	1145	118	3	56	1	178	2611
12:00 PM	29	319	12	0	360	5	1	2	0	8	5	253	42	0	300	31	2	15	0	48	716
12:15 PM	39	275	11	0	325	13	1	2	1	17	3	246	41	0	290	28	1	13	1	43	675
12:30 PM	30	266	4	0	300	12	3	0	0	15	2	235	64	0	301	32	1	21	0	54	670
12:45 PM	31	354	9	1	395	9	2	0	0	11	2	285	37	1	325	35	1	21	0	57	788
Total	129	1214	36	1	1380	39	7	4	1	51	12	1019	184	1	1216	126	5	70	1	202	2849
01:00 PM	22	282	3	0	307	12	1	3	0	16	2	254	37	0	293	33	1	13	0	47	663
01:15 PM	26	273	8	0	307	11	4	2	0	17	2	260	45	0	307	25	1	15	0	41	672
01:30 PM	35	310	6	0	351	6	3	4	1	14	2	280	41	2	325	37	0	22	0	59	749
01:45 PM	24	311	3	0	338	7	2	1	0	10	2	274	38	0	314	35	0	11	0	46	708
Total	107	1176	20	0	1303	36	10	10	1	57	8	1068	161	2	1239	130	2	61	0	193	2792
Grand Total	365	3488	79	1	3933	101	25	18	2	146	24	3039	533	4	3600	374	10	187	2	573	8252
Apprch %	9.3	88.7	2	0		69.2	17.1	12.3	1.4		0.7	84.4	14.8	0.1		65.3	1.7	32.6	0.3		
Total %	4.4	42.3	1	0	47.7	1.2	0.3	0.2	0	1.8	0.3	36.8	6.5	0	43.6	4.5	0.1	2.3	0	6.9	
Cars	365	3435	79	1	3880	101	24	18	2	145	23	2982	533	4	3542	374	10	187	2	573	8140
% Cars	100	98.5	100	100	98.7	100	96	100	100	99.3	95.8	98.1	100	100	98.4	100	100	100	100	100	98.6
Trucks	0	13	0	0	13	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	25
% Trucks	0	0.4	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0.3
Heavies	0	40	0	0	40	0	0	0	0	0	0	45	0	0	45	0	0	0	0	0	85
% Heavies	0	1.1	0	0	1	0	0	0	0	0	0	1.5	0	0	1.2	0	0	0	0	0	1
Cyclists	0	0	0	0	0	0	1	0	0	1											



[illegible]

Horizon Data Services Ltd

(416) 840-6619

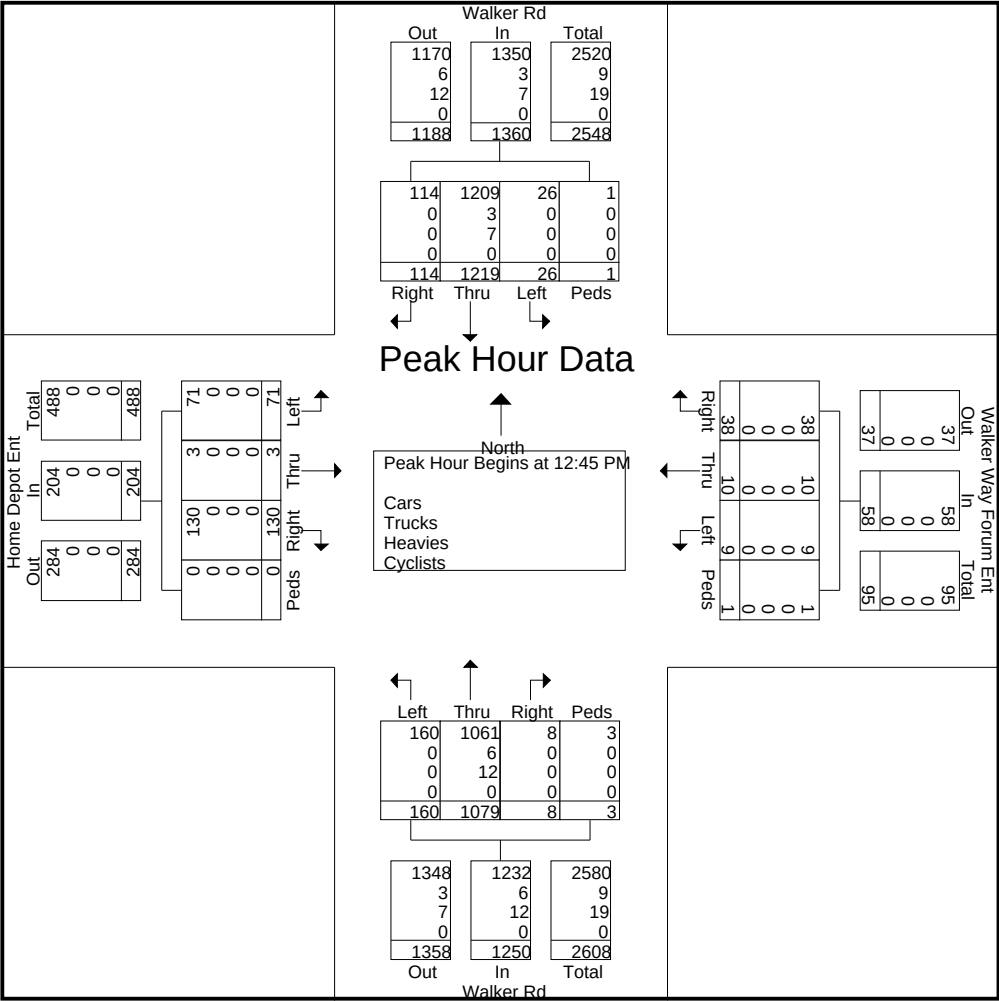
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road-SAT

Site Code : Loc-14

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

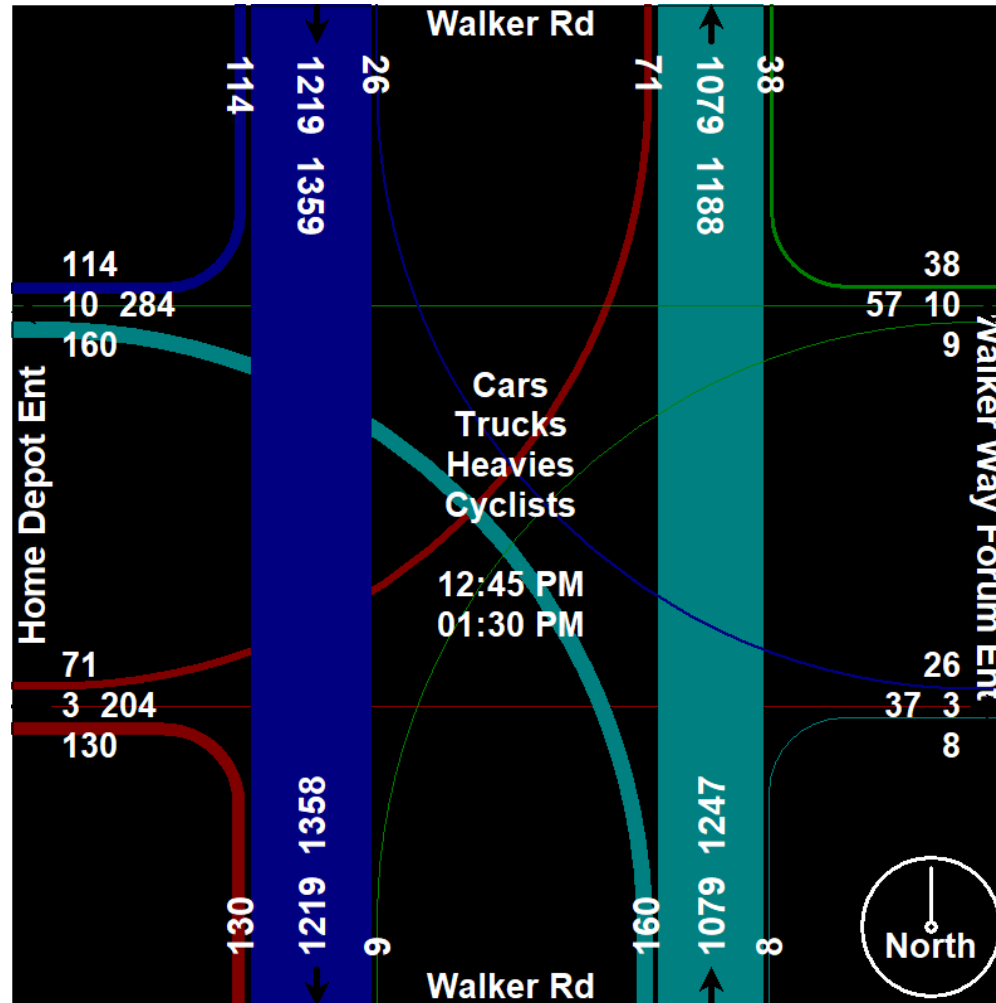
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road-SAT

Site Code : Loc-14

Start Date : 2024-12-07

Page No : 5



	Walker Rd From North					Walkers Place N Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	325	12	0	337	13	0	1	0	14	4	270	0	0	274	0	0	0	0	0	625
11:15 AM	0	309	17	0	326	4	0	0	0	4	4	247	0	0	251	0	0	0	0	0	581
11:30 AM	0	308	8	0	316	15	0	1	0	16	9	320	0	0	329	0	0	0	0	0	661
11:45 AM	0	316	13	0	329	11	0	0	0	11	0	260	0	0	260	0	0	0	0	0	600
Total	0	1258	50	0	1308	43	0	2	0	45	17	1097	0	0	1114	0	0	0	0	0	2467
12:00 PM	0	354	14	0	368	6	0	0	0	6	9	286	0	0	295	0	0	0	0	0	669
12:15 PM	0	317	18	0	335	11	0	1	0	12	2	271	0	0	273	0	0	0	0	0	620
12:30 PM	0	303	15	0	318	12	0	0	0	12	5	300	0	0	305	0	0	0	0	0	635
12:45 PM	0	382	18	0	400	15	0	0	0	15	6	309	0	0	315	0	0	0	0	0	730
Total	0	1356	65	0	1421	44	0	1	0	45	22	1166	0	0	1188	0	0	0	0	0	2654
01:00 PM	0	329	16	0	345	11	0	1	0	12	3	283	0	0	286	0	0	0	0	0	643
01:15 PM	0	331	13	0	344	8	0	0	0	8	8	293	0	0	301	0	0	0	0	0	653
01:30 PM	0	370	14	0	384	5	0	1	0	6	1	322	0	0	323	0	0	0	0	0	713
01:45 PM	0	343	20	0	363	12	0	1	0	13	8	308	0	0	316	0	0	0	0	0	692
Total	0	1373	63	0	1436	36	0	3	0	39	20	1206	0	0	1226	0	0	0	0	0	2701
Grand Total	0	3987	178	0	4165	123	0	6	0	129	59	3469	0	0	3528	0	0	0	0	0	7822
Apprch %	0	95.7	4.3	0		95.3	0	4.7	0		1.7	98.3	0	0		0	0	0	0		
Total %	0	51	2.3	0	53.2	1.6	0	0.1	0	1.6	0.8	44.3	0	0	45.1	0	0	0	0	0	
Cars	0	3934	178	0	4112	123	0	6	0	129	59	3410	0	0	3469	0	0	0	0	0	7710
% Cars	0	98.7	100	0	98.7	100	0	100	0	100	100	98.3	0	0	98.3	0	0	0	0	0	98.6
Trucks	0	13	0	0	13	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	27
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.3
Heavies	0	40	0	0	40	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	84
% Heavies	0	1	0	0	1	0	0	0	0	0	0	1.3	0	0	1.2	0	0	0	0	0	1.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

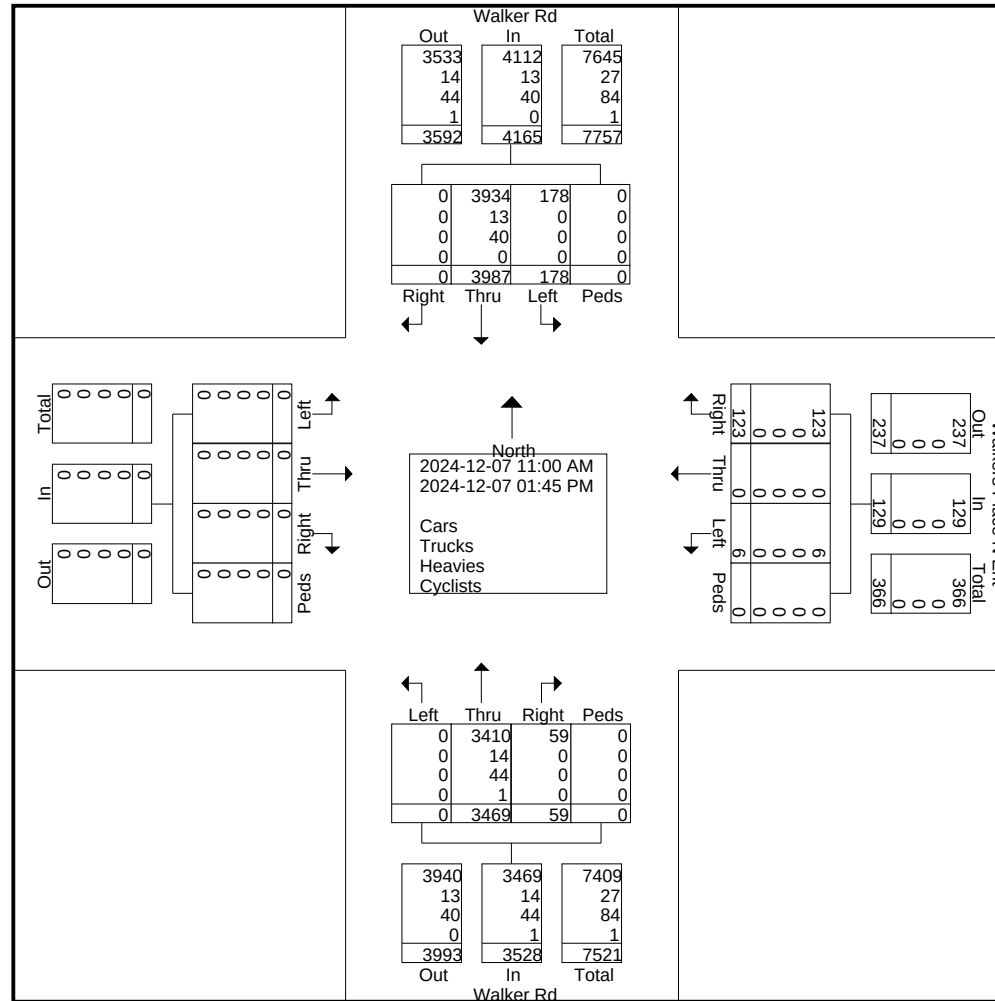
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road-SAT

Site Code : Loc-17

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

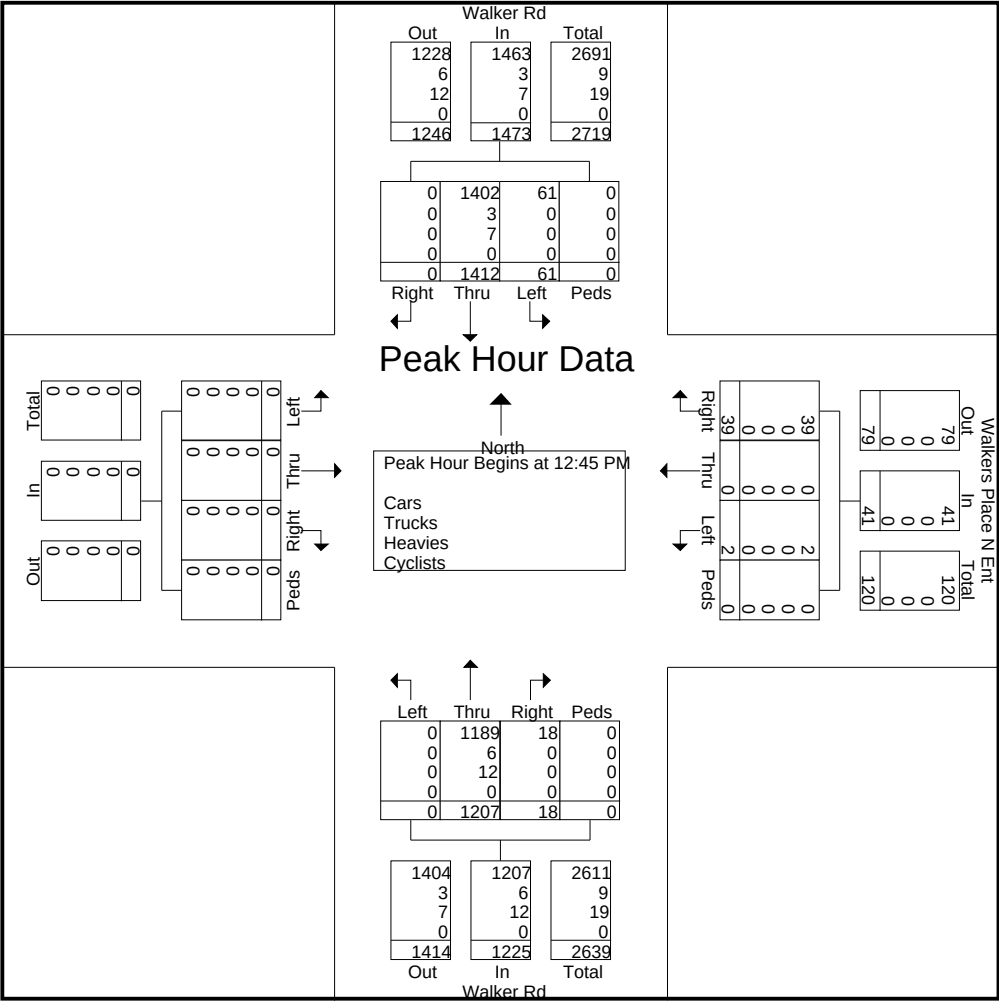
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road-SAT

Site Code : Loc-17

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

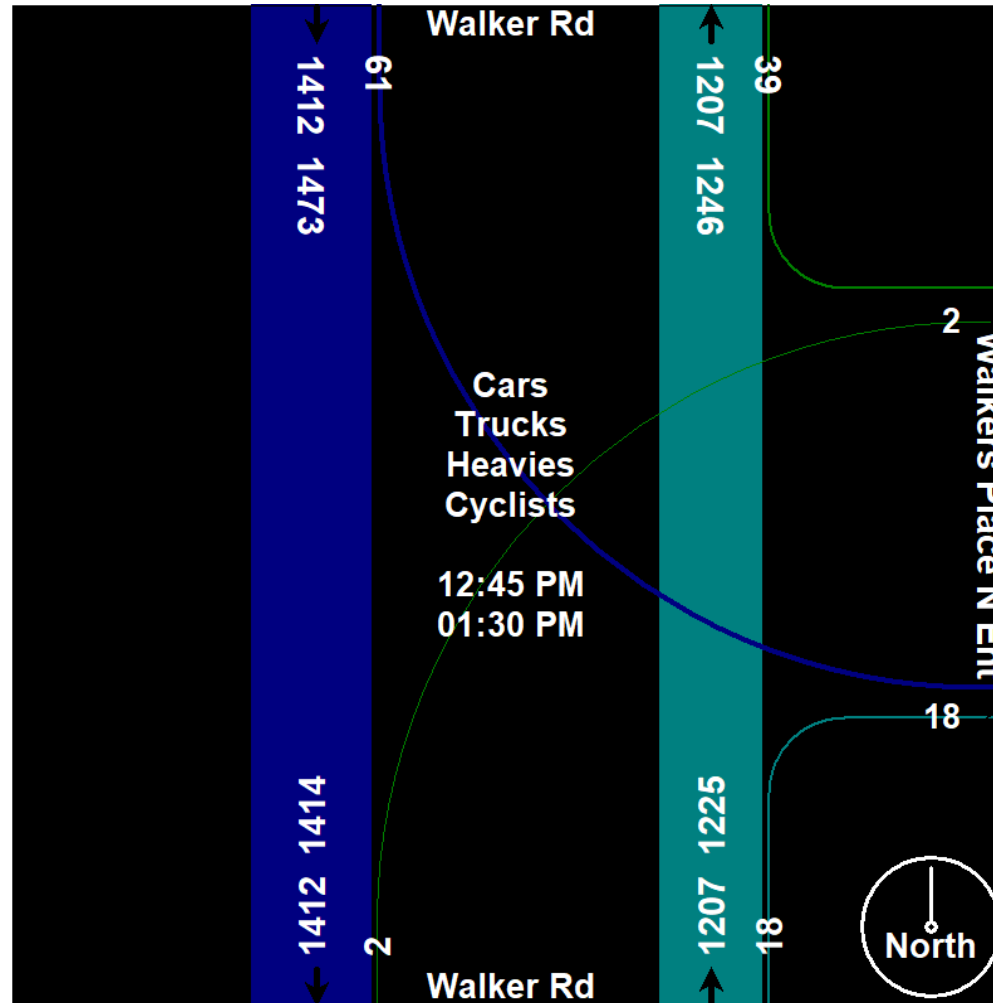
Your Traffic Count Specialist

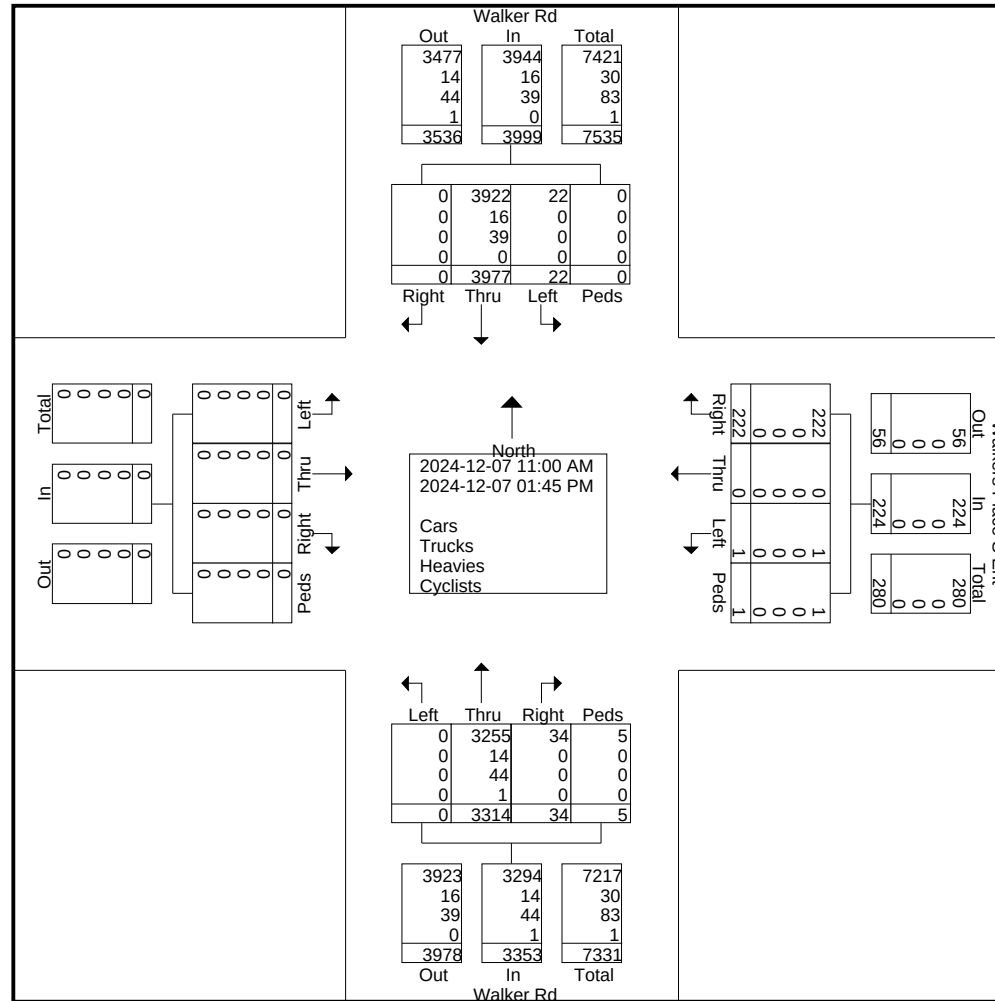
File Name : UnSignalized Driveway #1 on Walker Road-SAT

Site Code : Loc-17

Start Date : 2024-12-07

Page No : 5





[illegible]

Horizon Data Services Ltd

(416) 840-6619

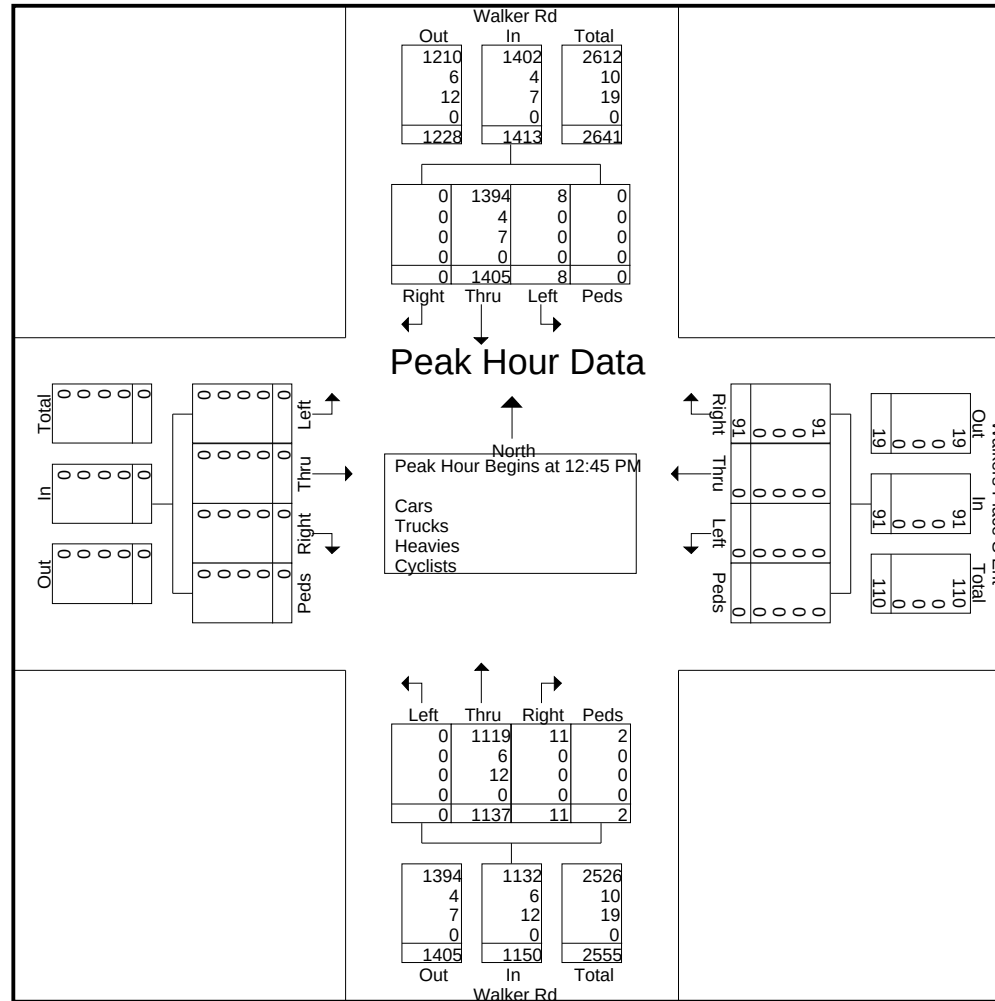
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road-SAT

Site Code : Loc-18

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

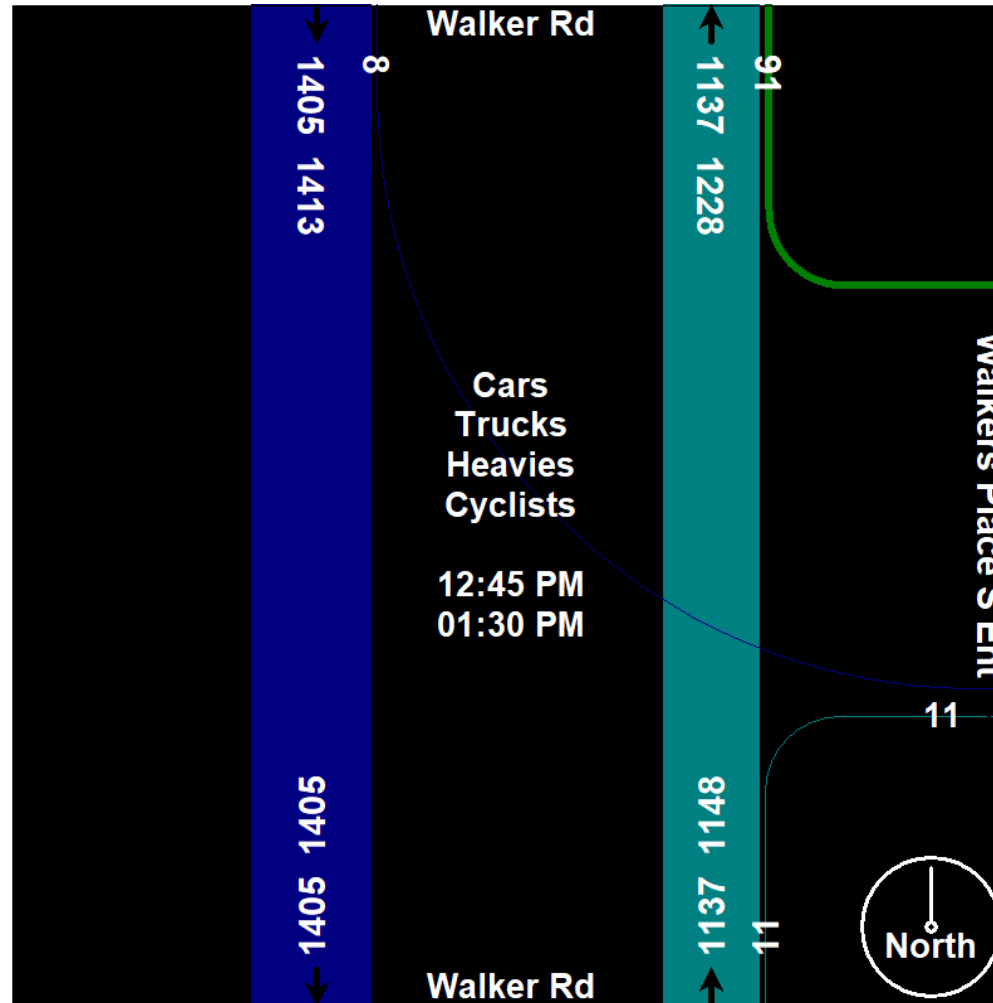
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road-SAT

Site Code : Loc-18

Start Date : 2024-12-07

Page No : 5



	Walker Rd From North					Canadian Tire Ent From East					Walker Rd From South					Winners Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	69	223	35	0	327	23	10	20	0	53	31	191	16	0	238	7	15	47	0	69	687
11:15 AM	65	196	35	0	296	27	19	32	0	78	25	166	20	0	211	30	28	49	1	108	693
11:30 AM	62	213	29	1	305	30	16	27	0	73	26	234	23	1	284	23	17	51	2	93	755
11:45 AM	61	226	36	1	324	25	15	23	0	63	16	183	22	0	221	19	12	34	0	65	673
Total	257	858	135	2	1252	105	60	102	0	267	98	774	81	1	954	79	72	181	3	335	2808
12:00 PM	72	226	50	0	348	29	11	33	0	73	30	205	14	0	249	25	23	52	1	101	771
12:15 PM	67	199	33	1	300	28	14	29	0	71	39	175	29	0	243	25	28	52	0	105	719
12:30 PM	67	198	51	0	316	38	17	47	0	102	32	209	19	0	260	28	25	42	0	95	773
12:45 PM	88	250	49	0	387	50	14	33	0	97	27	220	19	1	267	23	27	36	0	86	837
Total	294	873	183	1	1351	145	56	142	0	343	128	809	81	1	1019	101	103	182	1	387	3100
01:00 PM	68	218	42	0	328	27	16	37	0	80	34	193	21	0	248	24	30	47	1	102	758
01:15 PM	61	215	38	1	315	32	22	39	1	94	36	186	21	0	243	25	34	49	1	109	761
01:30 PM	89	238	36	0	363	32	23	40	0	95	26	228	28	2	284	26	29	45	0	100	842
01:45 PM	69	226	56	0	351	27	22	32	0	81	16	223	20	1	260	35	32	44	0	111	803
Total	287	897	172	1	1357	118	83	148	1	350	112	830	90	3	1035	110	125	185	2	422	3164
Grand Total	838	2628	490	4	3960	368	199	392	1	960	338	2413	252	5	3008	290	300	548	6	1144	9072
Apprch %	21.2	66.4	12.4	0.1		38.3	20.7	40.8	0.1		11.2	80.2	8.4	0.2		25.3	26.2	47.9	0.5		
Total %	9.2	29	5.4	0	43.7	4.1	2.2	4.3	0	10.6	3.7	26.6	2.8	0.1	33.2	3.2	3.3	6	0.1	12.6	
Cars	838	2577	488	4	3907	365	199	392	1	957	337	2357	251	5	2950	290	300	548	6	1144	8958
% Cars	100	98.1	99.6	100	98.7	99.2	100	100	100	99.7	99.7	97.7	99.6	100	98.1	100	100	100	100	100	98.7
Trucks	0	15	2	0	17	3	0	0	0	3	1	10	0	0	11	0	0	0	0	0	31
% Trucks	0	0.6	0.4	0	0.4	0.8	0	0	0	0.3	0.3	0.4	0	0	0.4	0	0	0	0	0	0.3
Heavies	0	36	0	0	36	0	0	0	0	0	0	45	1	0	46	0	0	0	0	0	82
% Heavies	0	1.4	0	0	0.9	0	0	0	0	0	0	1.9	0.4	0	1.5	0	0	0	0	0	0.9
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

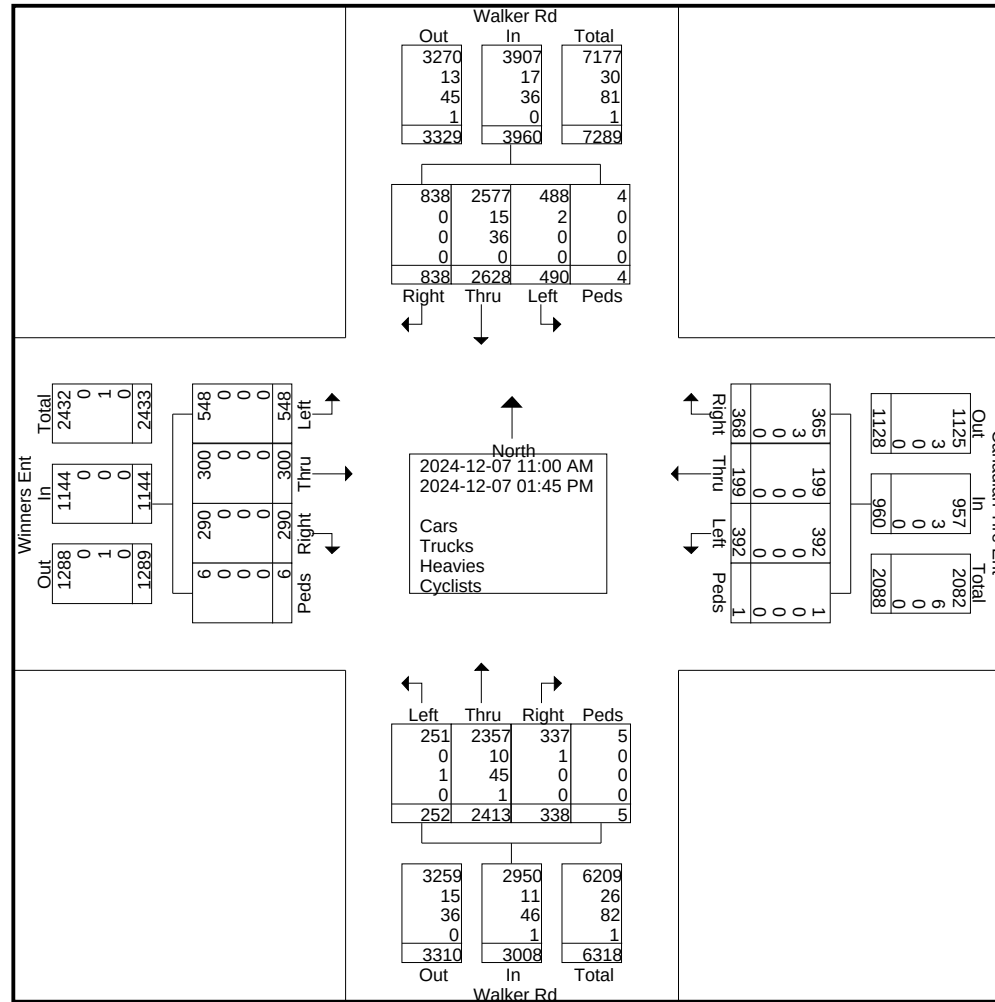
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SAT

Site Code : Loc-15

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

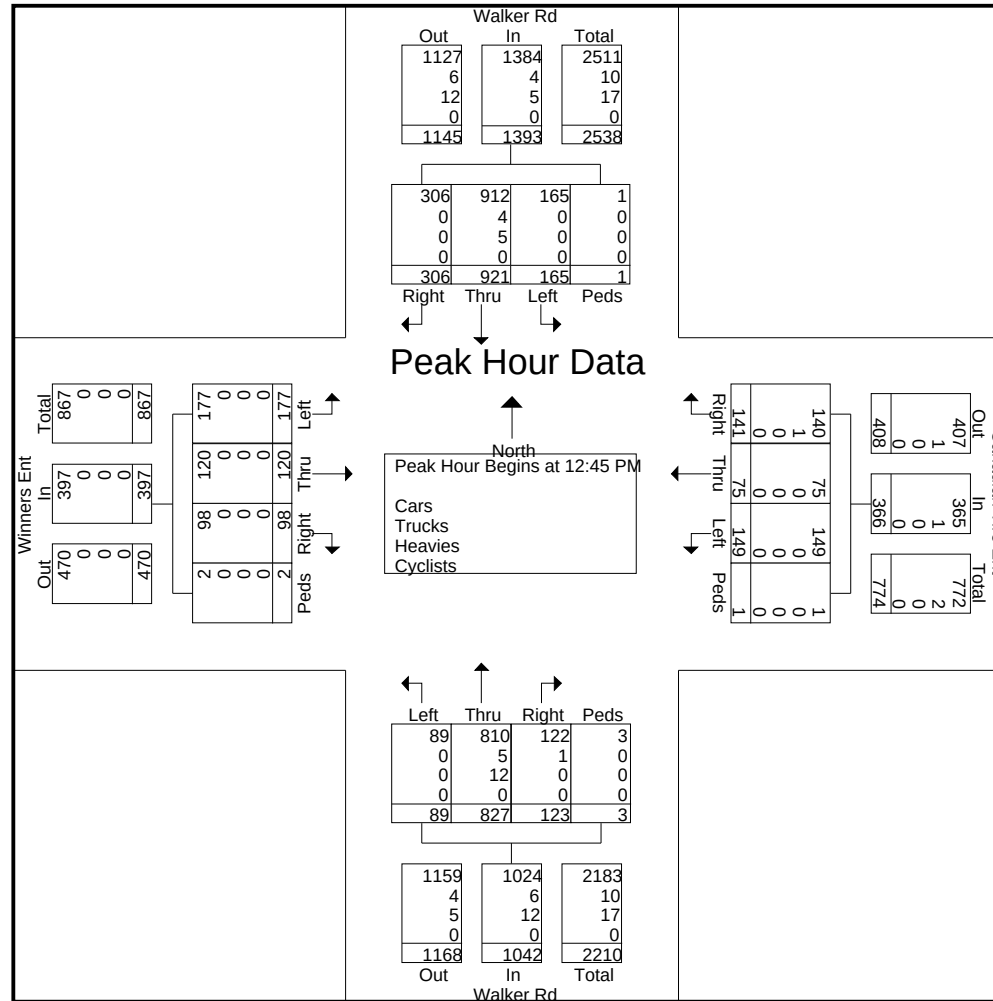
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SAT

Site Code : Loc-15

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

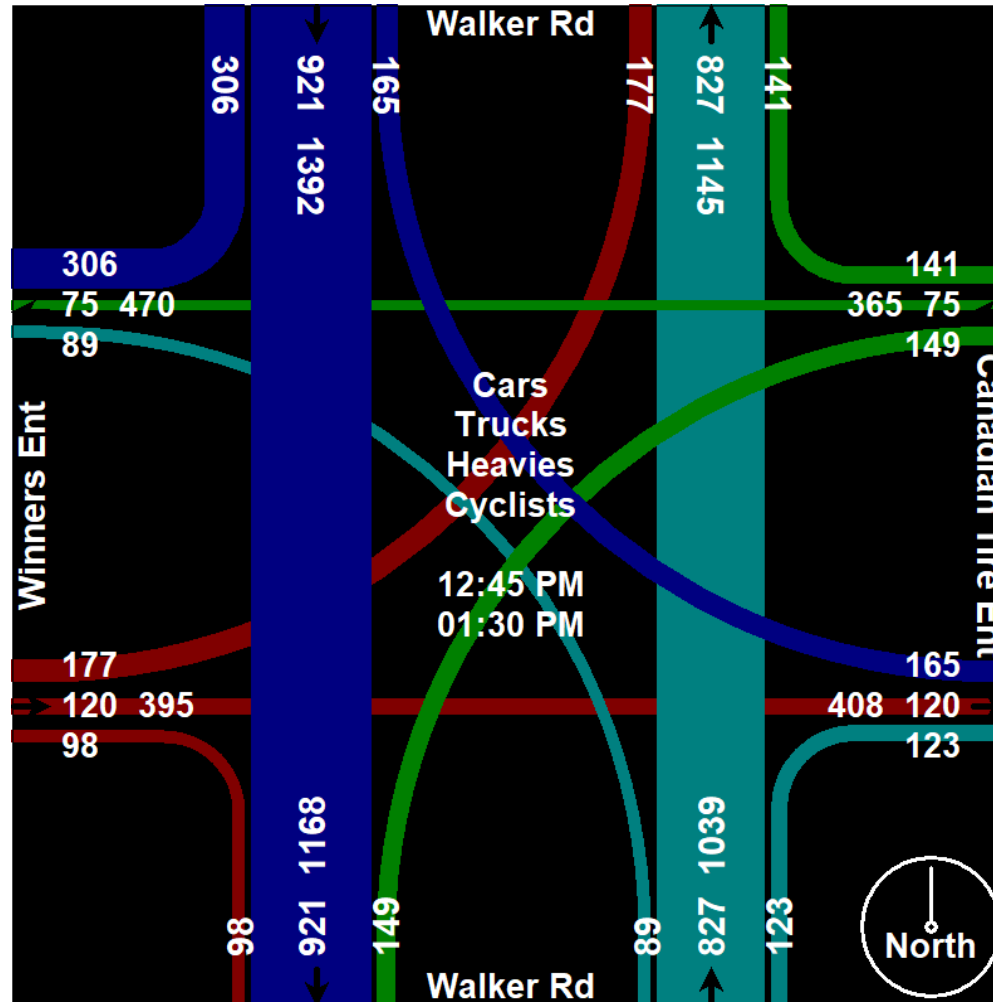
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SAT

Site Code : Loc-15

Start Date : 2024-12-07

Page No : 5



	Walker Rd From North					Cora Breakfast From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	222	0	0	222	8	0	0	0	8	12	237	0	0	249	0	0	0	0	0	479
11:15 AM	0	238	0	0	238	6	0	0	0	6	7	204	0	0	211	0	0	0	0	0	455
11:30 AM	0	249	0	0	249	9	0	0	1	10	7	273	0	0	280	0	0	0	0	0	539
11:45 AM	0	251	0	0	251	8	0	0	0	8	12	212	0	0	224	0	0	0	0	0	483
Total	0	960	0	0	960	31	0	0	1	32	38	926	0	0	964	0	0	0	0	0	1956
12:00 PM	0	278	0	0	278	6	0	0	0	6	16	245	0	1	262	0	0	0	0	0	546
12:15 PM	0	235	0	0	235	12	0	0	0	12	9	243	0	0	252	0	0	0	0	0	499
12:30 PM	0	261	0	0	261	7	0	0	0	7	14	255	0	1	270	0	0	0	0	0	538
12:45 PM	0	292	0	0	292	5	0	0	0	5	9	251	0	0	260	0	0	0	0	0	557
Total	0	1066	0	0	1066	30	0	0	0	30	48	994	0	2	1044	0	0	0	0	0	2140
01:00 PM	0	257	0	0	257	10	0	0	0	10	11	246	0	0	257	0	0	0	0	0	524
01:15 PM	0	262	0	0	262	13	0	0	1	14	17	229	0	2	248	0	0	0	0	0	524
01:30 PM	0	289	0	0	289	10	0	0	0	10	10	273	0	0	283	0	0	0	0	0	582
01:45 PM	0	278	0	0	278	8	0	0	0	8	8	250	0	1	259	0	0	0	0	0	545
Total	0	1086	0	0	1086	41	0	0	1	42	46	998	0	3	1047	0	0	0	0	0	2175
Grand Total	0	3112	0	0	3112	102	0	0	2	104	132	2918	0	5	3055	0	0	0	0	0	6271
Apprch %	0	100	0	0		98.1	0	0	1.9		4.3	95.5	0	0.2		0	0	0	0		
Total %	0	49.6	0	0	49.6	1.6	0	0	0	1.7	2.1	46.5	0	0.1	48.7	0	0	0	0	0	
Cars	0	3062	0	0	3062	101	0	0	2	103	132	2861	0	5	2998	0	0	0	0	0	6163
% Cars	0	98.4	0	0	98.4	99	0	0	100	99	100	98	0	100	98.1	0	0	0	0	0	98.3
Trucks	0	12	0	0	12	1	0	0	0	1	0	10	0	0	10	0	0	0	0	0	23
% Trucks	0	0.4	0	0	0.4	1	0	0	0	1	0	0.3	0	0	0.3	0	0	0	0	0	0.4
Heavies	0	38	0	0	38	0	0	0	0	0	0	46	0	0	46	0	0	0	0	0	84
% Heavies	0	1.2	0	0	1.2	0	0	0	0	0	0	1.6	0	0	1.5	0					

Horizon Data Services Ltd

(416) 840-6619

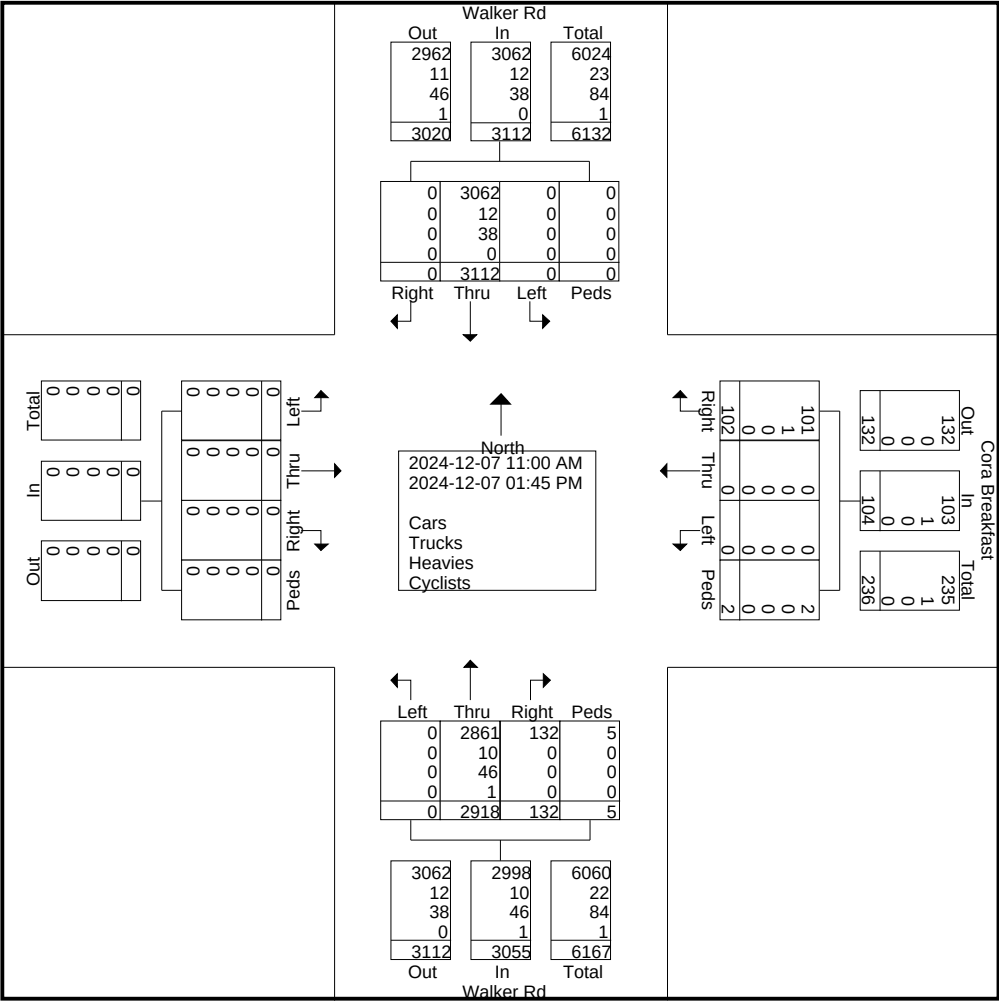
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SAT

Site Code : Loc-19

Start Date : 2024-12-07

Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SAT

Site Code : Loc-19

Start Date : 2024-12-07

Page No : 3

[illegible]

Horizon Data Services Ltd

(416) 840-6619

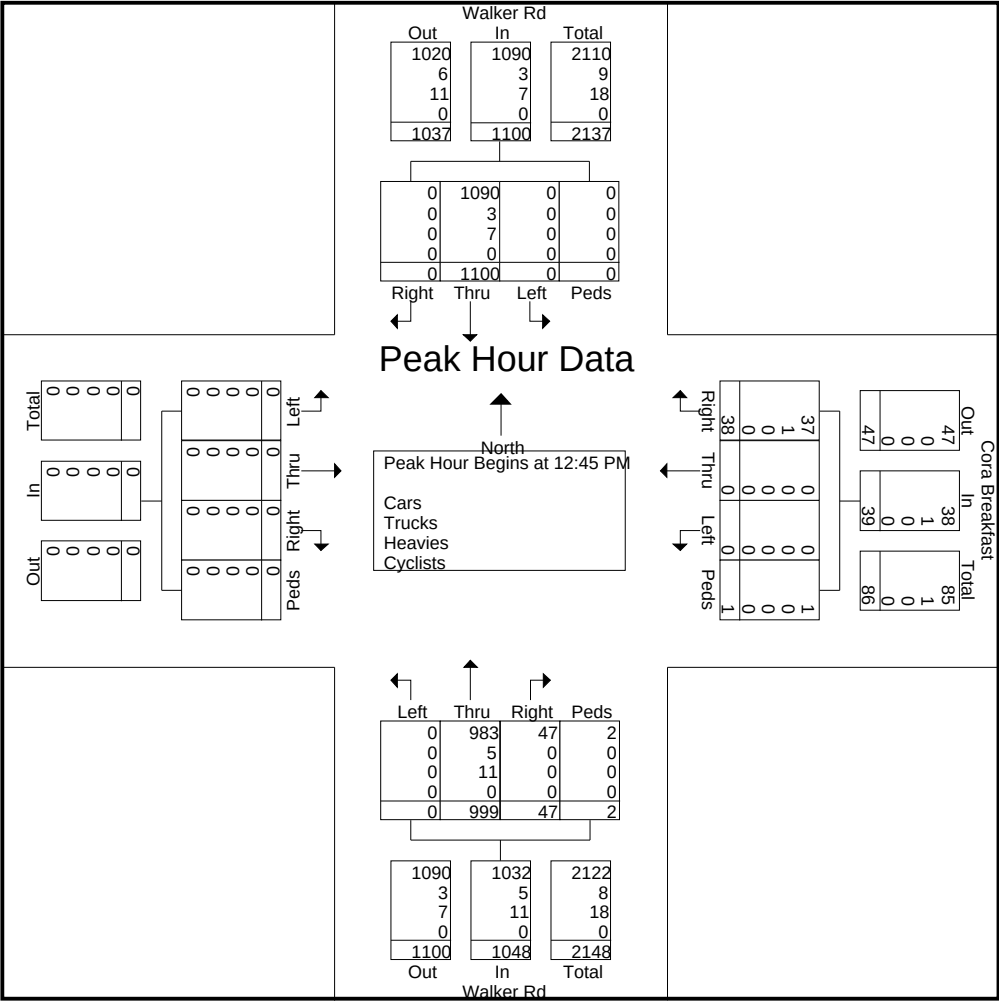
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SAT

Site Code : Loc-19

Start Date : 2024-12-07

Page No : 4

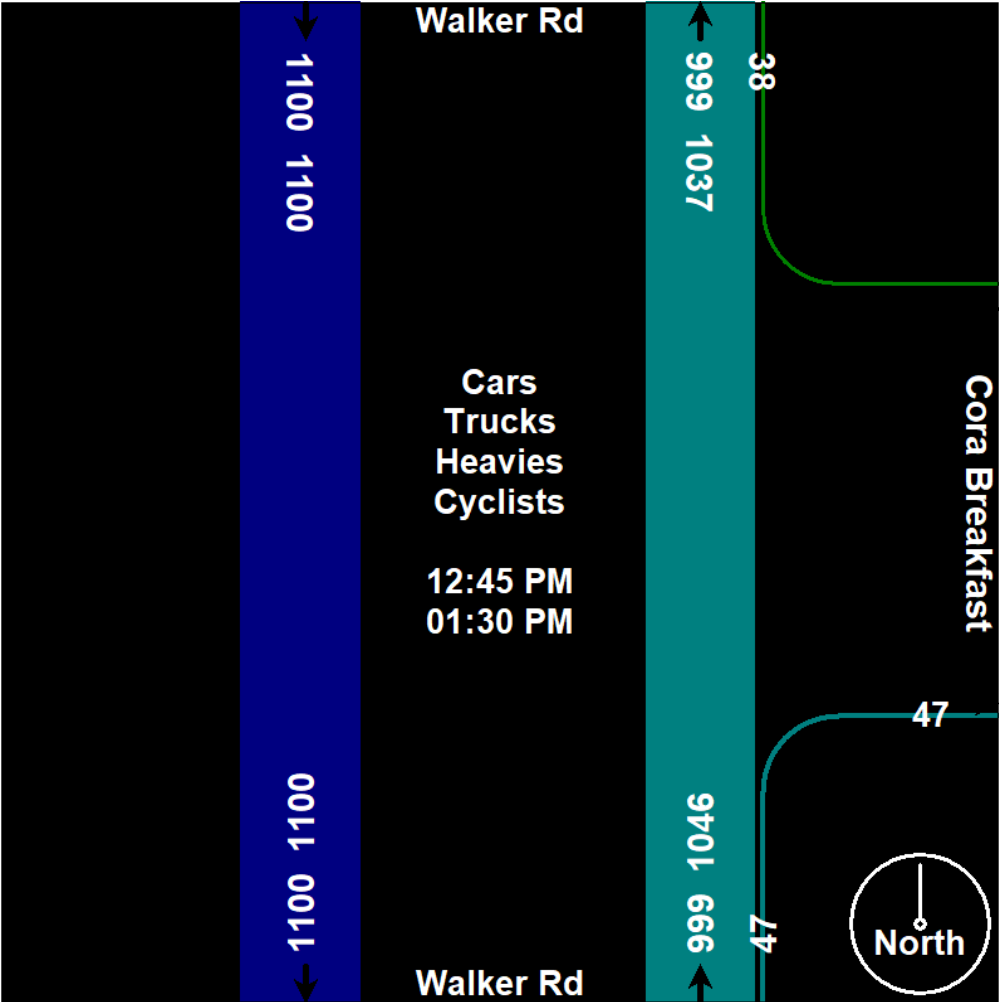


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SAT
Site Code : Loc-19
Start Date : 2024-12-07
Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

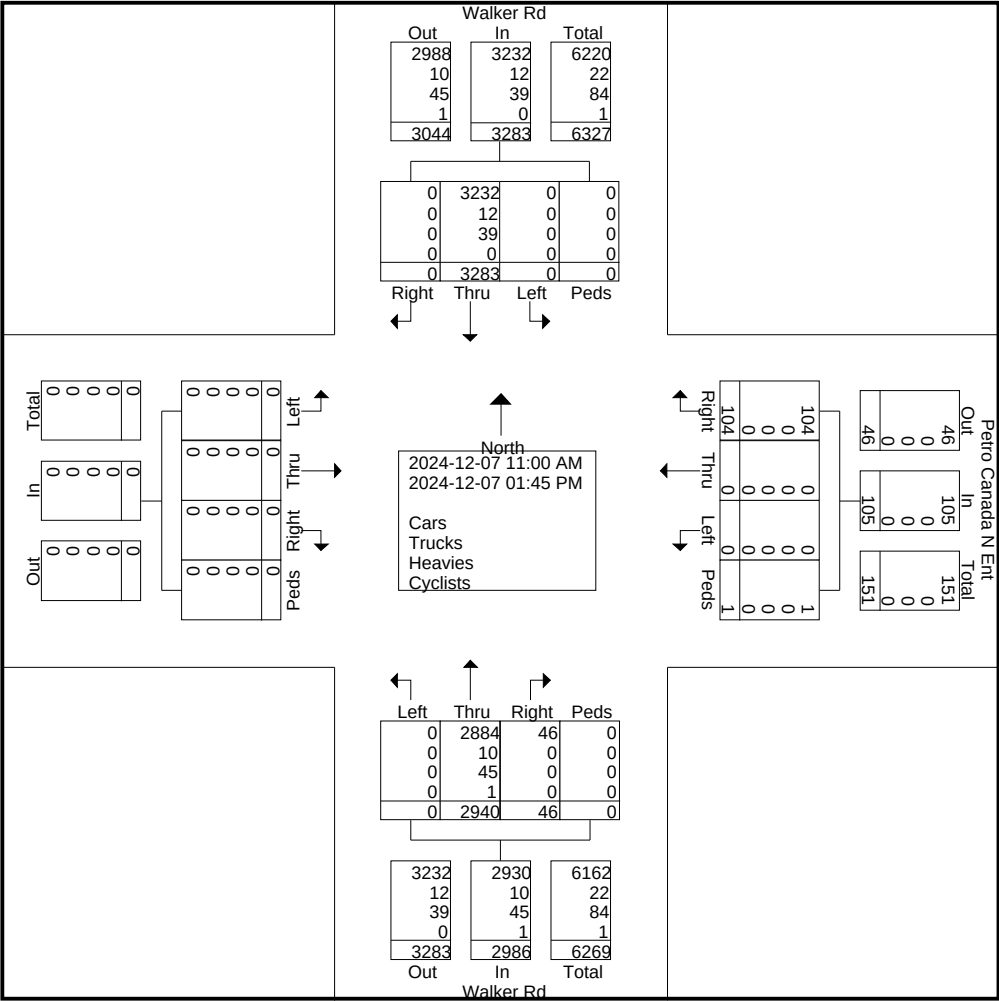
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SAT

Site Code : Loc-20

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

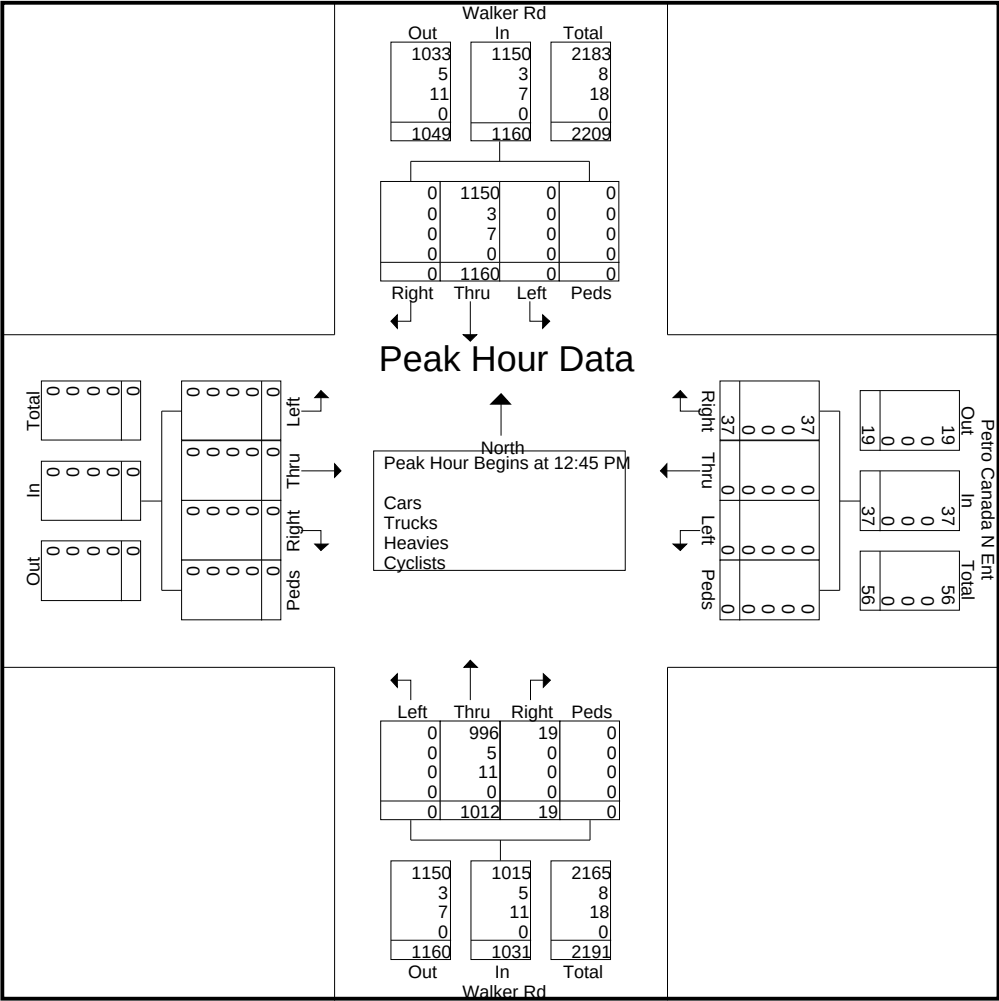
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SAT

Site Code : Loc-20

Start Date : 2024-12-07

Page No : 4

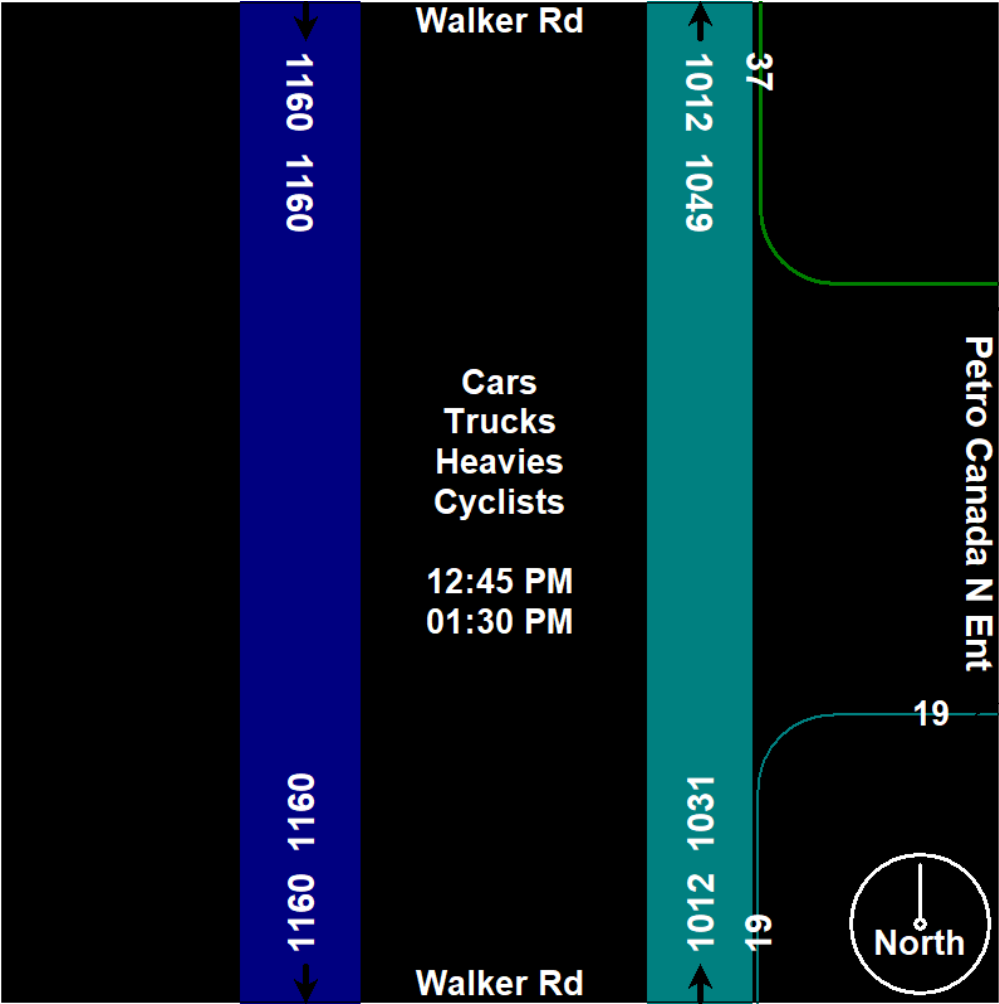


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SAT
Site Code : Loc-20
Start Date : 2024-12-07
Page No : 5



Groups Printed- Cars - Trucks - Heavies - Cyclists																						
	Walker Rd From North					Petro Canada From East					Walker Rd From South					Best Buy Ent From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	12	213	7	0	232	6	3	16	0	25	12	239	39	2	292	40	6	10	2	58	607	
11:15 AM	15	222	7	0	244	6	3	10	0	19	12	189	35	0	236	47	3	15	2	67	566	
11:30 AM	10	224	17	1	252	8	5	10	1	24	10	245	38	2	295	42	6	16	0	64	635	
11:45 AM	11	237	13	2	263	4	1	13	0	18	12	200	32	0	244	47	2	14	0	63	588	
Total	48	896	44	3	991	24	12	49	1	86	46	873	144	4	1067	176	17	55	4	252	2396	
12:00 PM	14	261	14	1	290	15	2	7	1	25	20	238	35	0	293	41	3	13	0	57	665	
12:15 PM	13	224	14	3	254	4	3	15	0	22	6	220	42	0	268	32	3	28	3	66	610	
12:30 PM	19	234	23	0	276	6	1	21	0	28	12	226	35	0	273	41	6	21	0	68	645	
12:45 PM	15	283	19	5	322	8	4	19	0	31	13	222	30	2	267	32	4	16	2	54	674	
Total	61	1002	70	9	1142	33	10	62	1	106	51	906	142	2	1101	146	16	78	5	245	2594	
01:00 PM	17	234	17	1	269	10	4	19	0	33	15	229	30	3	277	40	10	15	0	65	644	
01:15 PM	19	256	11	1	287	12	5	12	1	30	10	220	27	3	260	39	5	23	2	69	646	
01:30 PM	11	273	15	0	299	18	4	19	0	41	13	223	38	2	276	42	5	17	2	66	682	
01:45 PM	13	249	24	1	287	5	3	10	0	18	10	216	39	2	267	37	9	28	3	77	649	
Total	60	1012	67	3	1142	45	16	60	1	122	48	888	134	10	1080	158	29	83	7	277	2621	
Grand Total	169	2910	181	15	3275	102	38	171	3	314	145	2667	420	16	3248	480	62	216	16	774	7611	
Apprch %	5.2	88.9	5.5	0.5		32.5	12.1	54.5	1		4.5	82.1	12.9	0.5		62	8	27.9	2.1			
Total %	2.2	38.2	2.4	0.2	43	1.3	0.5	2.2	0	4.1	1.9	35	5.5	0.2	42.7	6.3	0.8	2.8	0.2	10.2		
Cars	167	2862	181	15	3225	102	37	171	3	313	145	2610	420	16	3191	477	62	216	16	771	7500	
% Cars	98.8	98.4	100	100	98.5	100	97.4	100	100	99.7	100	97.9	100	100	98.2	99.4	100	100	100	99.6	98.5	
Trucks	2	10	0	0	12	0	0	0	0	0	0	10	0	0	10	2	0	0	0	2	24	
% Trucks	1.2	0.3	0	0	0.4	0	0	0	0	0	0	0.4	0	0	0.3	0.4	0	0	0	0.3	0.3	
Heavies	0	38	0	0	38	0	0	0	0	0	0	46	0	0	46	1	0	0	0	1	85	
% Heavies	0	1.3	0	0	1.2	0	0	0	0	0	0	1.7	0	0	1.4	0.2	0	0	0	0.1	1.1	
Cyclists	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2	
% Cyclists	0	0	0	0	0	0	2.6	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	

Horizon Data Services Ltd

(416) 840-6619

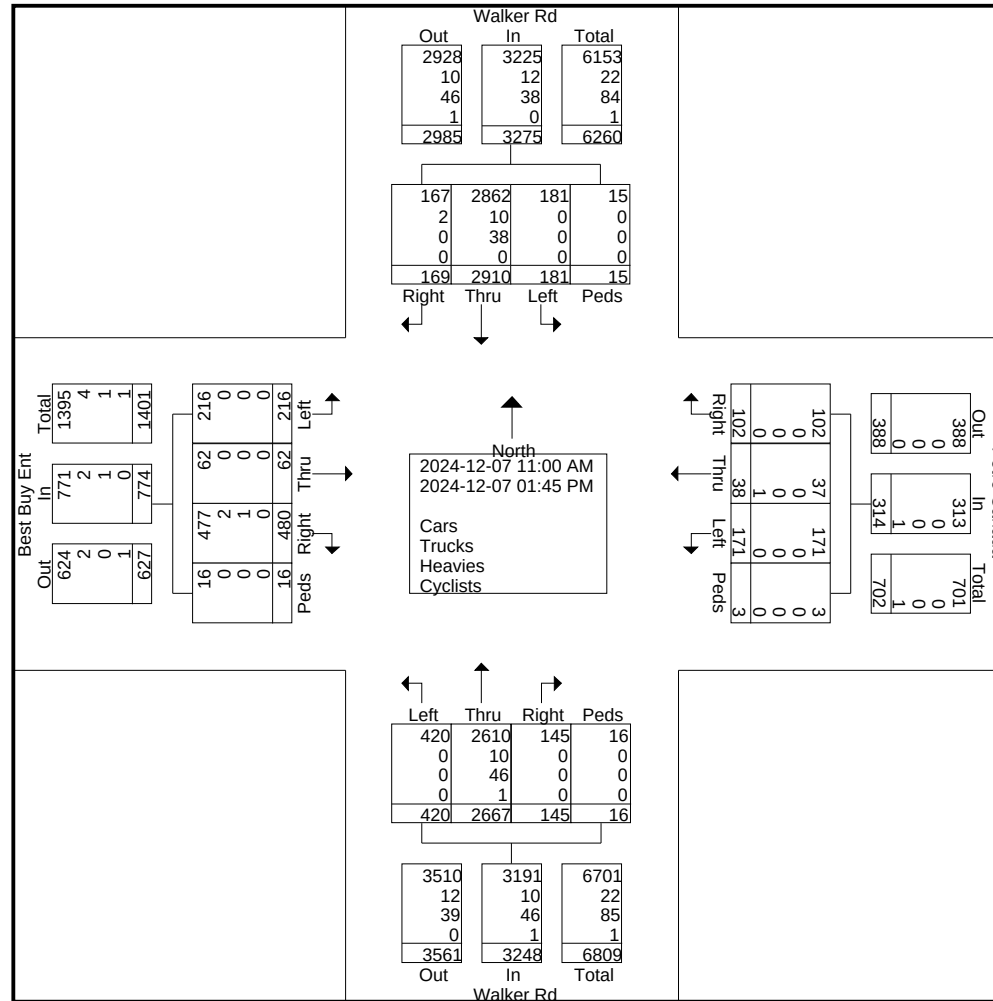
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SAT

Site Code : Loc-16

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

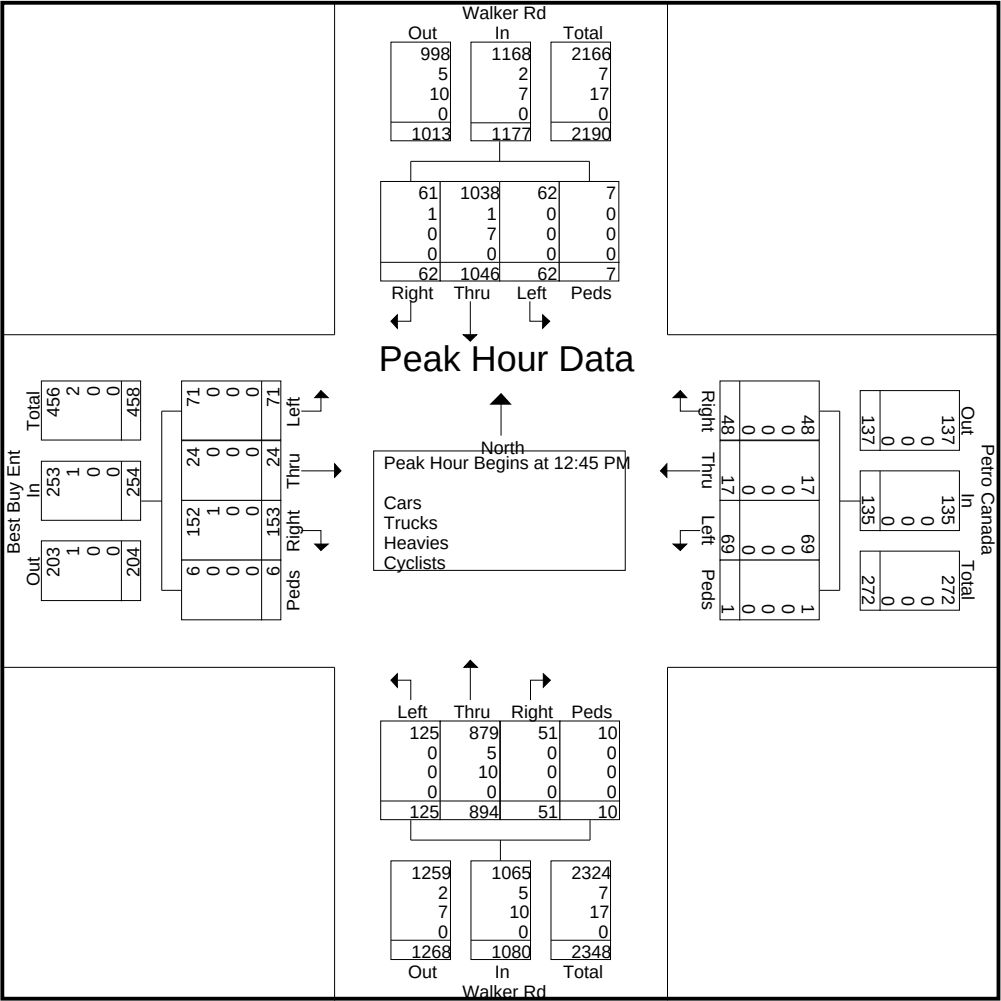
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SAT

Site Code : Loc-16

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

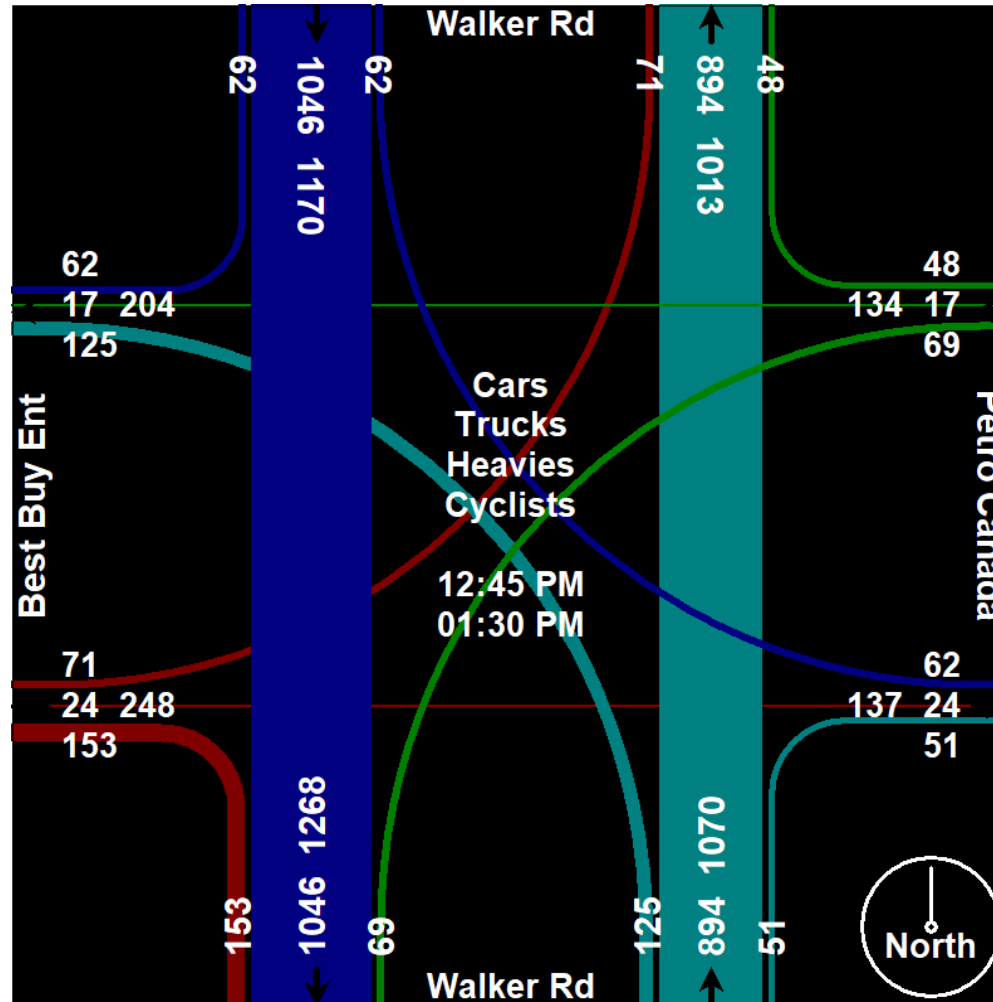
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SAT

Site Code : Loc-16

Start Date : 2024-12-07

Page No : 5



	Walker Rd From North					Swiss Chalet Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	217	11	0	228	12	0	9	0	21	9	282	0	0	291	0	0	0	0	0	540
11:15 AM	0	226	14	0	240	14	0	6	0	20	19	222	0	0	241	0	0	0	0	0	501
11:30 AM	0	218	20	0	238	28	0	4	0	32	16	270	0	0	286	0	0	0	0	0	556
11:45 AM	0	240	10	0	250	13	0	9	0	22	18	228	0	0	246	0	0	0	0	0	518
Total	0	901	55	0	956	67	0	28	0	95	62	1002	0	0	1064	0	0	0	0	0	2115
12:00 PM	0	243	17	0	260	26	0	9	0	35	28	267	0	0	295	0	0	0	0	0	590
12:15 PM	0	215	21	0	236	26	0	5	0	31	28	241	0	0	269	0	0	0	0	0	536
12:30 PM	0	253	21	0	274	24	0	7	0	31	24	248	0	0	272	0	0	0	0	0	577
12:45 PM	0	279	14	0	293	35	0	8	0	43	19	230	0	0	249	0	0	0	0	0	585
Total	0	990	73	0	1063	111	0	29	0	140	99	986	0	0	1085	0	0	0	0	0	2288
01:00 PM	0	229	17	0	246	30	0	5	0	35	29	241	0	0	270	0	0	0	0	0	551
01:15 PM	0	253	12	0	265	28	0	6	0	34	24	228	0	0	252	0	0	0	0	0	551
01:30 PM	0	261	24	0	285	30	0	6	0	36	19	241	0	0	260	0	0	0	0	0	581
01:45 PM	0	257	15	0	272	32	0	8	0	40	28	240	0	0	268	0	0	0	0	0	580
Total	0	1000	68	0	1068	120	0	25	0	145	100	950	0	0	1050	0	0	0	0	0	2263
Grand Total	0	2891	196	0	3087	298	0	82	0	380	261	2938	0	0	3199	0	0	0	0	0	6666
Apprch %	0	93.7	6.3	0		78.4	0	21.6	0		8.2	91.8	0	0		0	0	0	0		
Total %	0	43.4	2.9	0	46.3	4.5	0	1.2	0	5.7	3.9	44.1	0	0	48	0	0	0	0	0	
Cars	0	2839	196	0	3035	298	0	82	0	380	261	2881	0	0	3142	0	0	0	0	0	6557
% Cars	0	98.2	100	0	98.3	100	0	100	0	100	100	98.1	0	0	98.2	0	0	0	0	0	98.4
Trucks	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	22
% Trucks	0	0.4	0	0	0.4	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.3
Heavies	0	40	0	0	40	0	0	0	0	0	0	46	0	0	46	0	0	0	0	0	86
% Heavies	0	1.4	0	0	1.3	0	0	0	0	0	0	1.6	0	0	1.4	0	0	0	0	0	1.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

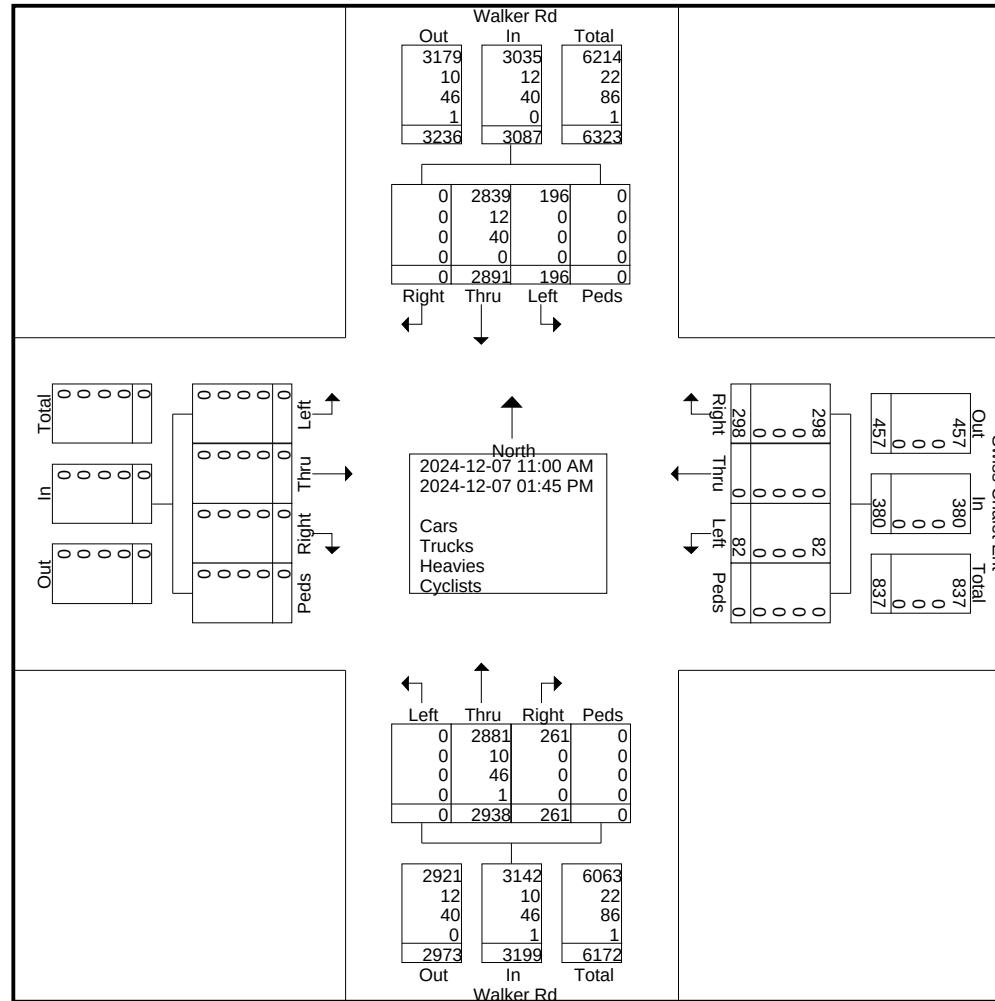
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SAT

Site Code : Loc-21

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

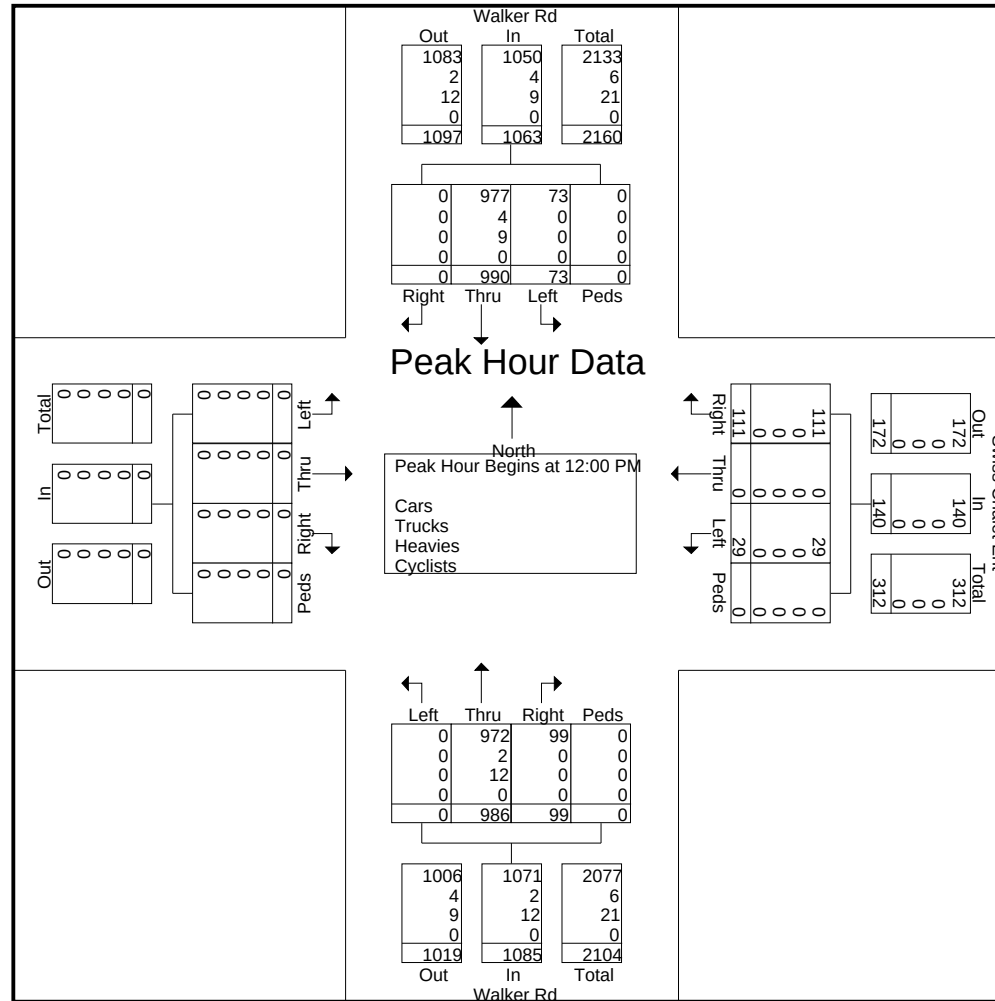
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SAT

Site Code : Loc-21

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

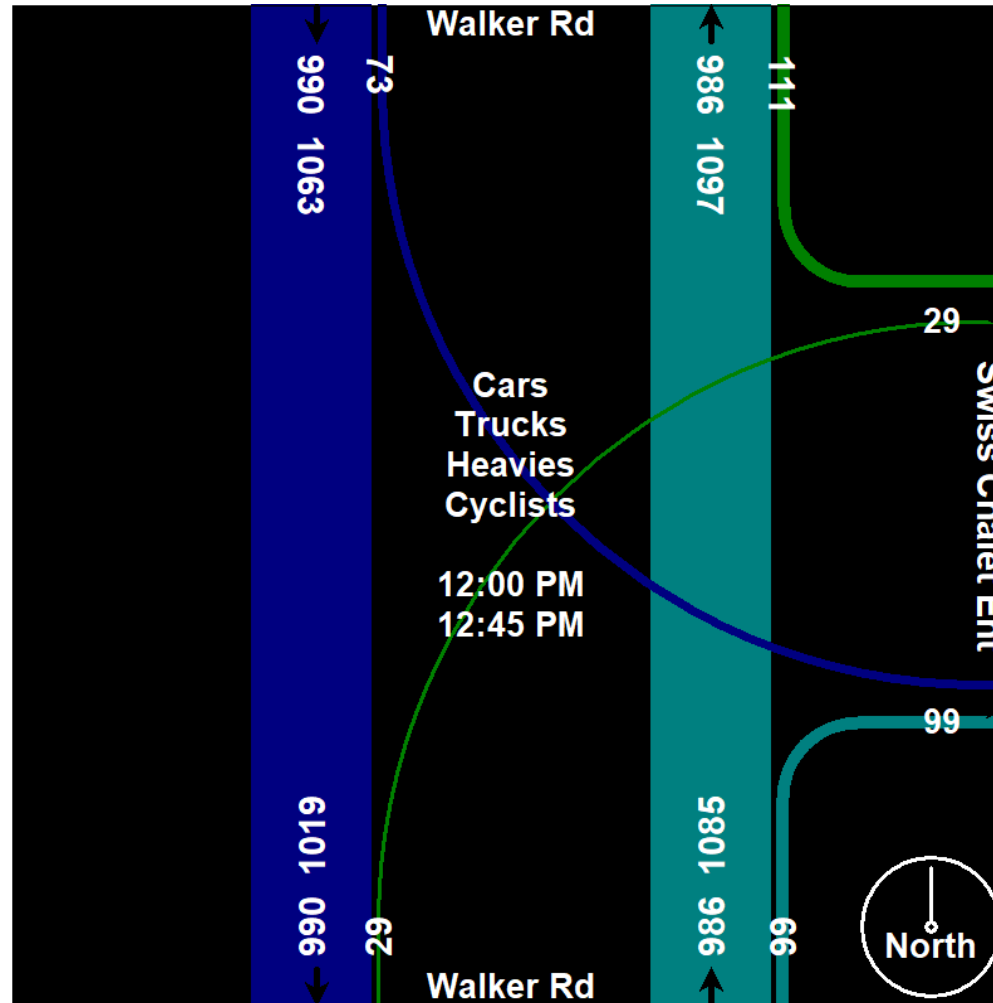
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SAT

Site Code : Loc-21

Start Date : 2024-12-07

Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SAT

Site Code : Loc-10

Start Date : 2024-12-07

Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists																						
	Walker Rd From North					7th Conc From East					Walker Rd From South					Legacy Park Dr From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	18	173	10	1	202	3	19	21	0	43	28	226	37	0	291	27	20	49	0	96	632	
11:15 AM	20	189	9	0	218	3	16	11	0	30	18	191	40	0	249	20	15	47	0	82	579	
11:30 AM	16	211	7	0	234	7	13	18	0	38	18	221	53	0	292	25	22	60	0	107	671	
11:45 AM	24	203	8	0	235	1	14	21	0	36	23	192	42	0	257	18	10	54	0	82	610	
Total	78	776	34	1	889	14	62	71	0	147	87	830	172	0	1089	90	67	210	0	367	2492	
12:00 PM	27	194	11	0	232	8	20	20	0	48	21	226	46	0	293	22	26	58	0	106	679	
12:15 PM	23	199	8	0	230	7	22	25	0	54	20	190	42	0	252	25	23	68	0	116	652	
12:30 PM	22	226	14	1	263	9	17	17	0	43	18	223	42	0	283	27	30	49	1	107	696	
12:45 PM	30	233	10	0	273	2	17	22	1	42	25	182	38	1	246	21	22	58	0	101	662	
Total	102	852	43	1	998	26	76	84	1	187	84	821	168	1	1074	95	101	233	1	430	2689	
01:00 PM	15	194	6	1	216	9	25	35	0	69	18	188	40	0	246	29	23	71	0	123	654	
01:15 PM	29	223	9	0	261	4	24	27	1	56	13	184	46	0	243	33	13	62	0	108	668	
01:30 PM	29	235	9	1	274	2	21	29	0	52	30	195	38	0	263	45	12	66	0	123	712	
01:45 PM	31	208	22	0	261	6	20	26	0	52	15	196	36	0	247	27	8	60	0	95	655	
Total	104	860	46	2	1012	21	90	117	1	229	76	763	160	0	999	134	56	259	0	449	2689	
Grand Total	284	2488	123	4	2899	61	228	272	2	563	247	2414	500	1	3162	319	224	702	1	1246	7870	
Apprch %	9.8	85.8	4.2	0.1		10.8	40.5	48.3	0.4		7.8	76.3	15.8	0		25.6	18	56.3	0.1			
Total %	3.6	31.6	1.6	0.1	36.8	0.8	2.9	3.5	0	7.2	3.1	30.7	6.4	0	40.2	4.1	2.8	8.9	0	15.8		
Cars	283	2436	123	4	2846	61	227	270	2	560	242	2363	498	1	3104	318	222	698	1	1239	7749	
% Cars	99.6	97.9	100	100	98.2	100	99.6	99.3	100	99.5	98	97.9	99.6	100	98.2	99.7	99.1	99.4	100	99.4	98.5	
Trucks	1	12	0	0	13	0	1	1	0	2	4	15	2	0	21	1	1	0	0	2	38	
% Trucks	0.4	0.5	0	0	0.4	0	0.4	0.4	0	0.4	1.6	0.6	0.4	0	0.7	0.3	0.4	0	0	0.2	0.5	
Heavies	0	40	0	0	40	0	0	1	0	1	1	36	0	0	37	0	0	4	0	4	82	
% Heavies	0	1.6	0	0	1.4	0	0	0.4	0	0.2	0.4	1.5	0	0	1.2	0	0	0.6	0	0.3	1	
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.1	0	

Horizon Data Services Ltd

(416) 840-6619

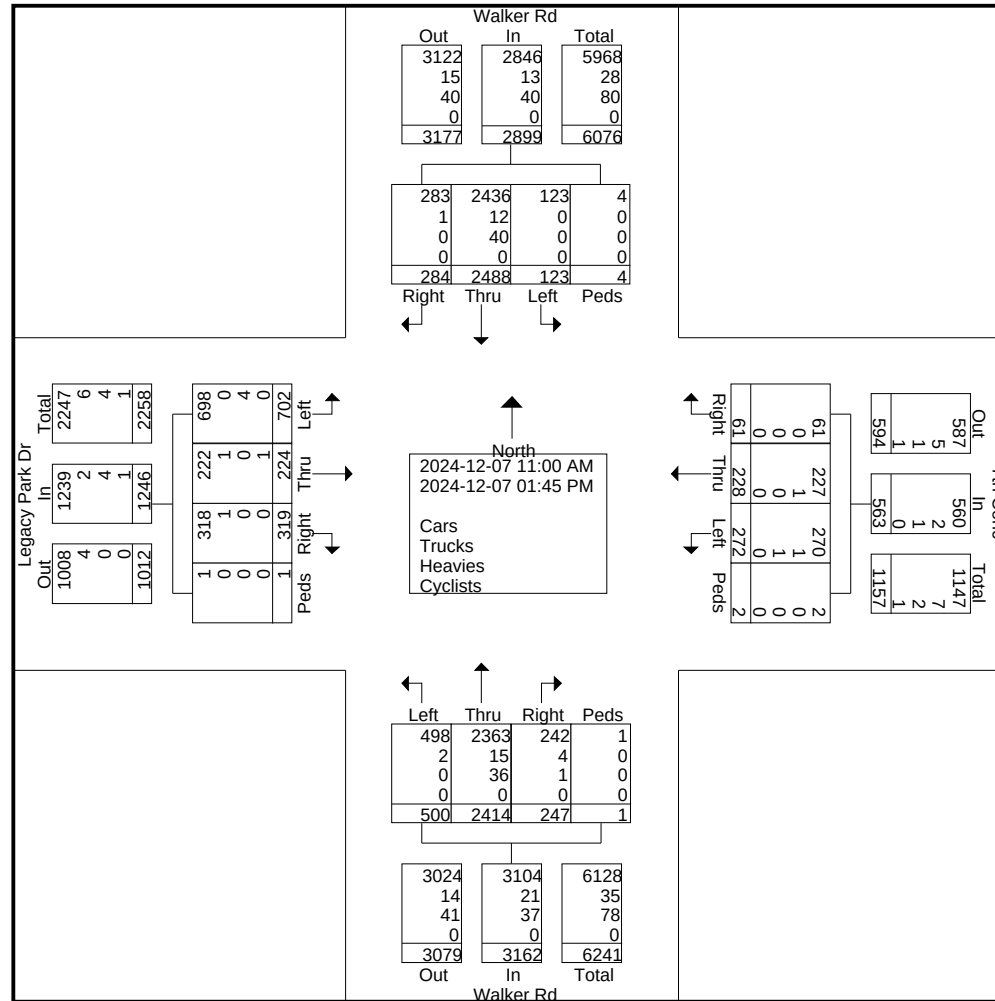
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SAT

Site Code : Loc-10

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

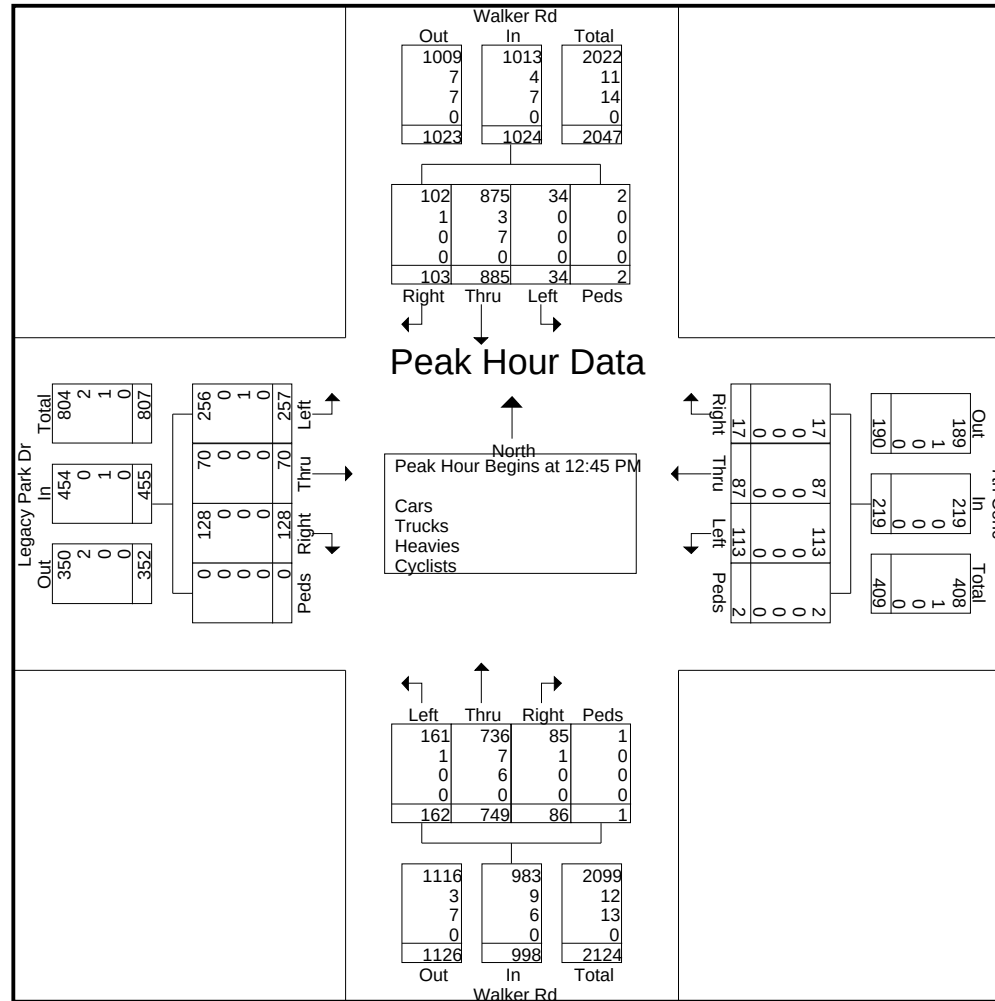
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SAT

Site Code : Loc-10

Start Date : 2024-12-07

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

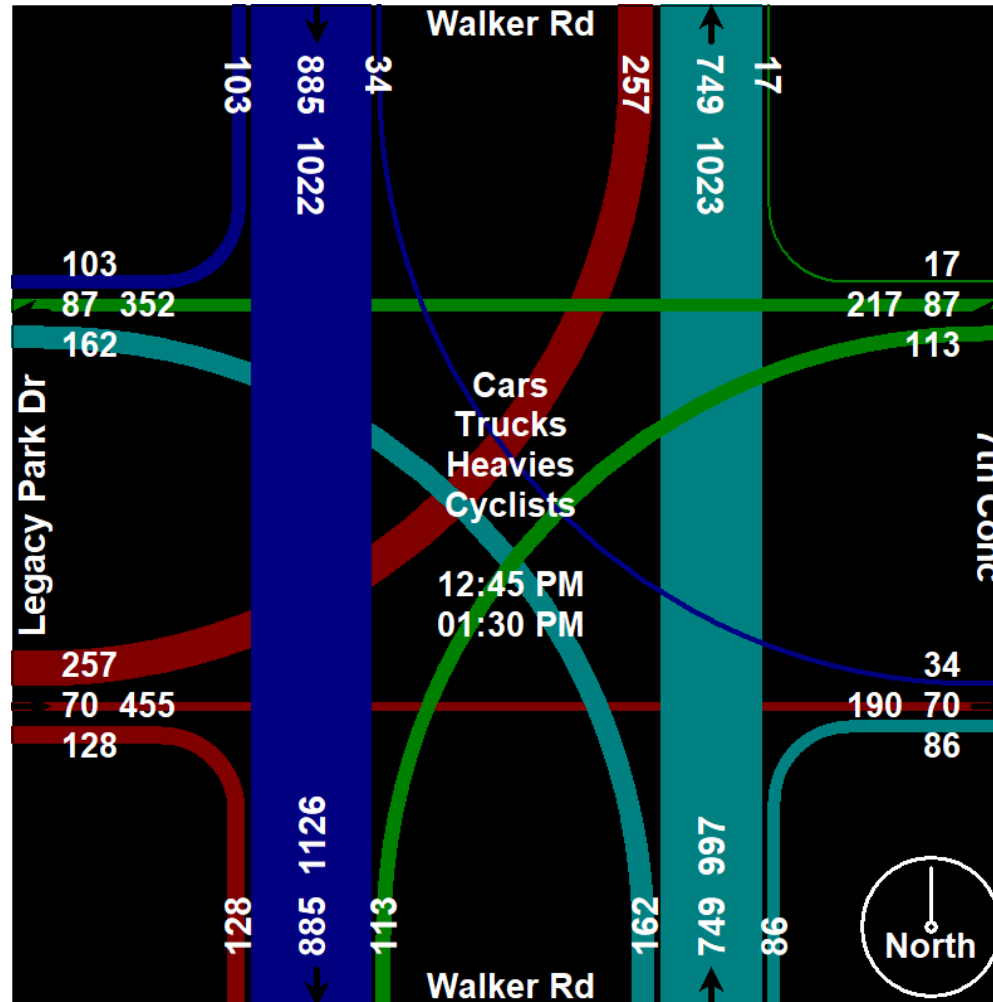
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SAT

Site Code : Loc-10

Start Date : 2024-12-07

Page No : 5



	County Rd 42 From North					County Rd 42 From East					7th Conc From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	71	33	0	104	44	0	7	0	51	0	80	0	0	80	235
11:15 AM	0	0	0	0	0	0	79	27	0	106	37	0	8	0	45	0	74	0	0	74	225
11:30 AM	0	0	0	0	0	0	80	22	0	102	42	0	8	0	50	0	72	0	0	72	224
11:45 AM	0	0	0	0	0	0	83	23	0	106	36	0	5	0	41	1	83	0	0	84	231
Total	0	0	0	0	0	0	313	105	0	418	159	0	28	0	187	1	309	0	0	310	915
12:00 PM	0	0	0	0	0	0	127	33	0	160	56	0	9	0	65	0	96	0	0	96	321
12:15 PM	0	0	0	0	0	0	110	39	0	149	49	0	4	0	53	1	95	0	0	96	298
12:30 PM	0	0	0	0	0	0	83	30	0	113	50	0	7	2	59	0	69	0	0	69	241
12:45 PM	0	0	0	0	0	0	87	32	0	119	55	0	8	0	63	0	88	0	0	88	270
Total	0	0	0	0	0	0	407	134	0	541	210	0	28	2	240	1	348	0	0	349	1130
01:00 PM	0	0	0	0	0	0	80	38	0	118	41	0	4	0	45	0	72	0	0	72	235
01:15 PM	0	0	0	0	0	0	74	37	0	111	26	0	5	0	31	0	89	0	0	89	231
01:30 PM	0	0	0	0	0	0	102	35	0	137	39	0	2	0	41	0	98	0	0	98	276
01:45 PM	0	0	0	0	0	0	96	34	0	130	36	0	12	0	48	0	93	0	0	93	271
Total	0	0	0	0	0	0	352	144	0	496	142	0	23	0	165	0	352	0	0	352	1013
Grand Total	0	0	0	0	0	0	1072	383	0	1455	511	0	79	2	592	2	1009	0	0	1011	3058
Apprch %	0	0	0	0		0	73.7	26.3	0		86.3	0	13.3	0.3		0.2	99.8	0	0		
Total %	0	0	0	0	0	0	35.1	12.5	0	47.6	16.7	0	2.6	0.1	19.4	0.1	33	0	0	33.1	
Cars	0	0	0	0	0	0	1045	379	0	1424	508	0	74	2	584	1	984	0	0	985	2993
% Cars	0	0	0	0	0	0	97.5	99	0	97.9	99.4	0	93.7	100	98.6	50	97.5	0	0	97.4	97.9
Trucks	0	0	0	0	0	0	9	2	0	11	1	0	1	0	2	0	5	0	0	5	18
% Trucks	0	0	0	0	0	0	0.8	0.5	0	0.8	0.2	0	1.3	0	0.3	0	0.5	0	0	0.5	0.6
Heavies	0	0	0	0	0	0	18	2	0	20	2	0	4	0	6	1	20	0	0	21	47
% Heavies	0	0	0	0	0	0	1.7	0.5	0	1.4	0.4	0	5.1	0	1	50	2	0	0	2.1	1.5
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

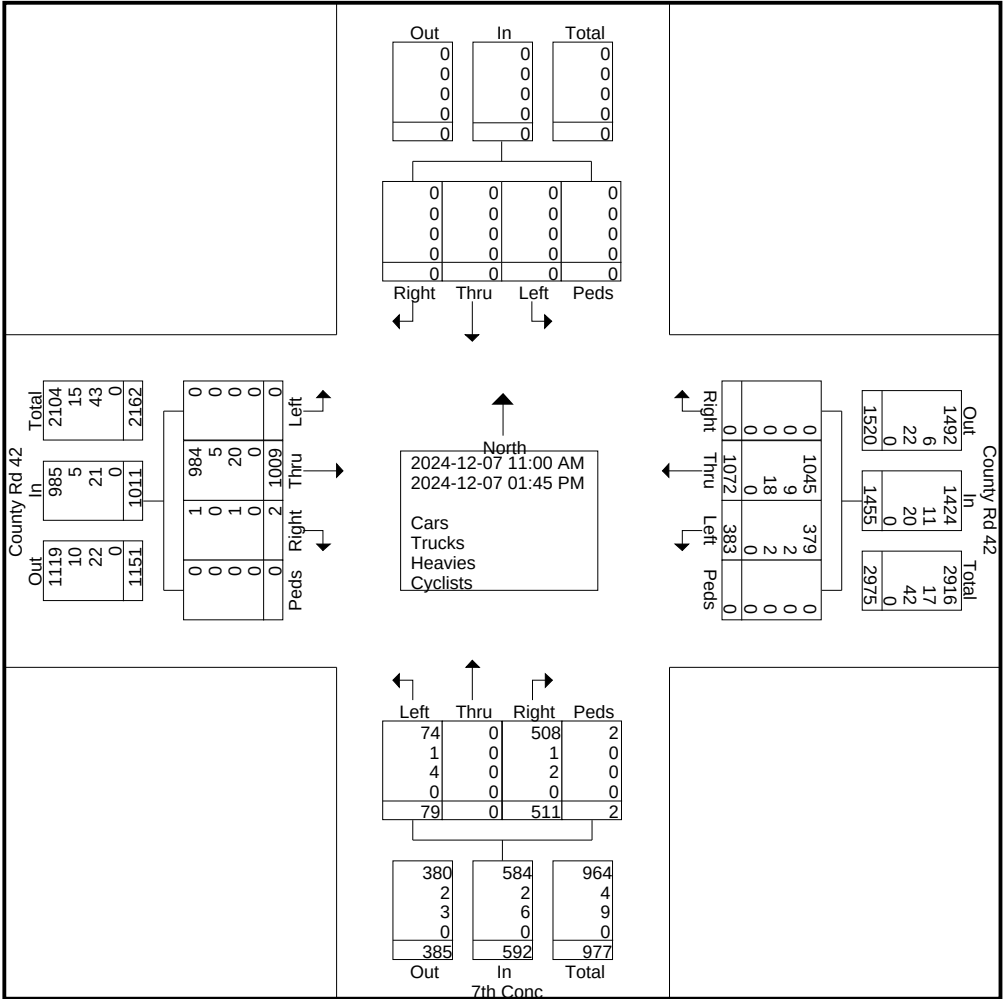
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road-SAT

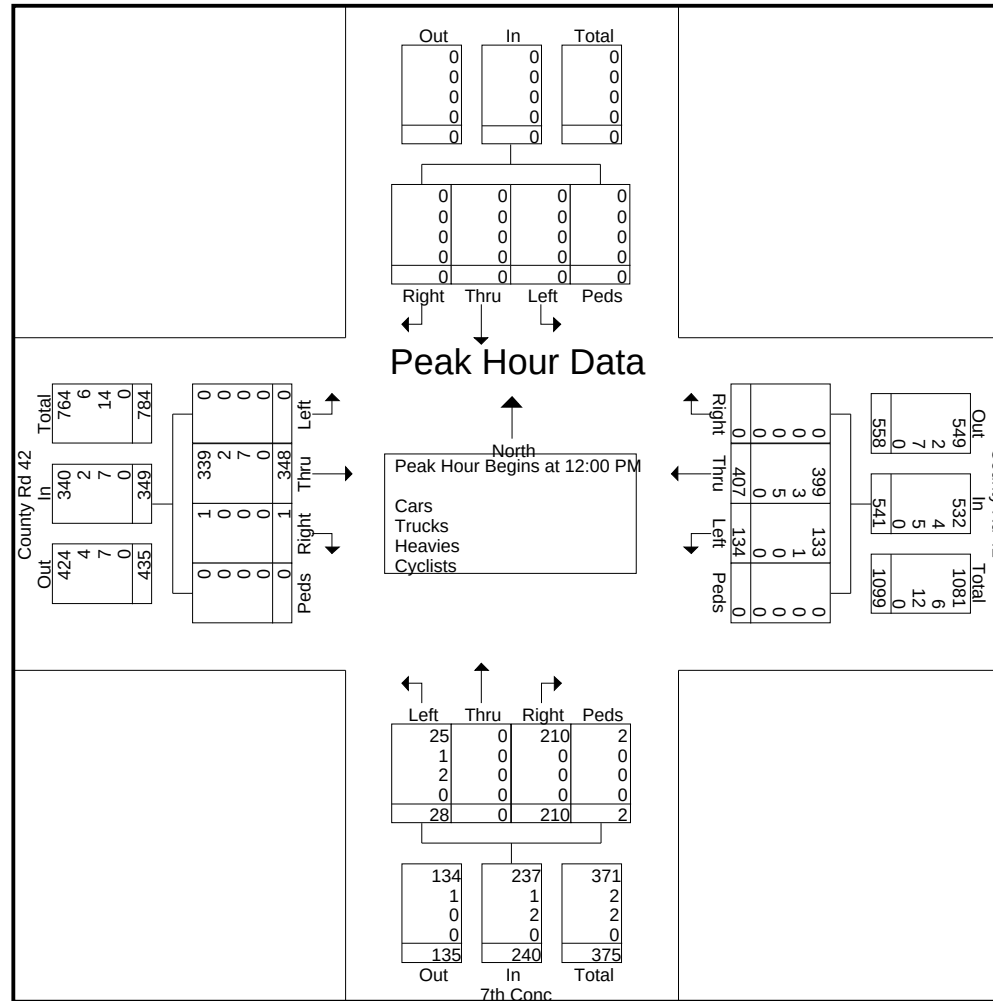
Site Code : Loc-11

Start Date : 2024-12-07

Page No : 2



[illegible]



Horizon Data Services Ltd

(416) 840-6619

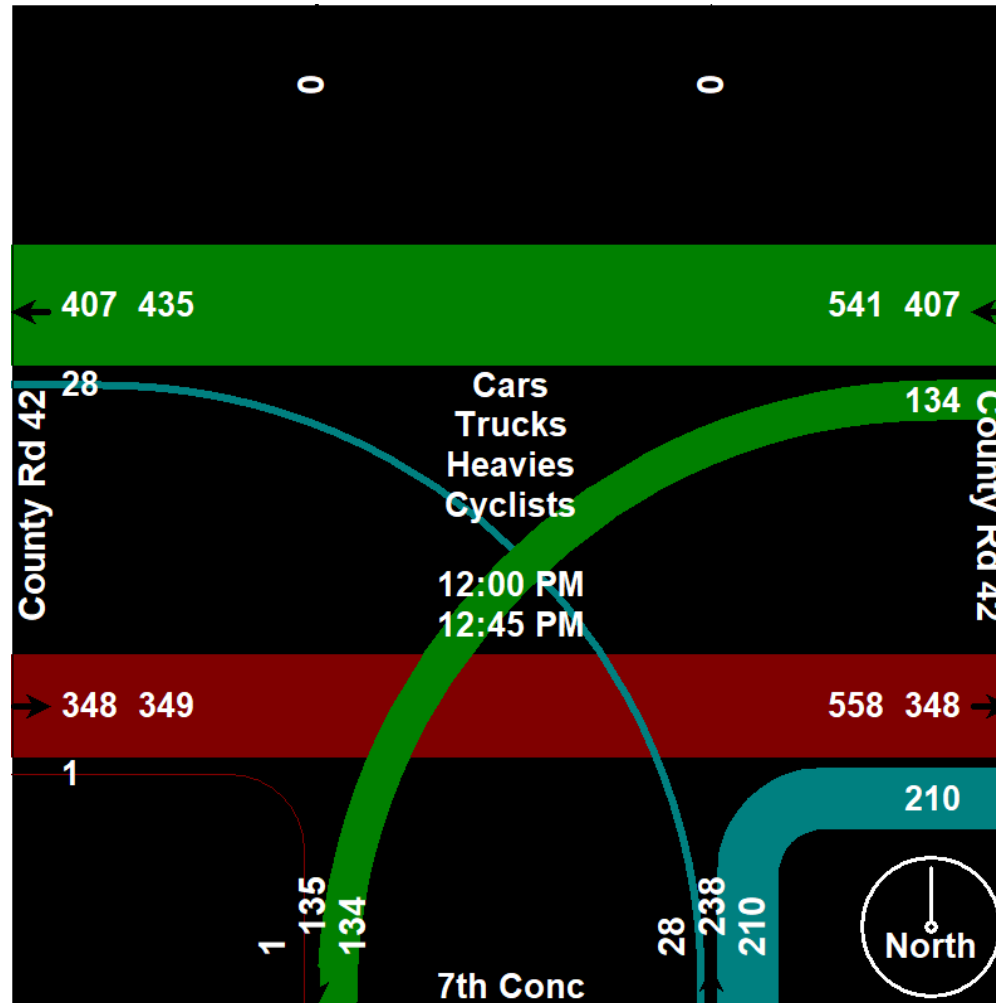
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road-SAT

Site Code : Loc-11

Start Date : 2024-12-07

Page No : 5



	Walker Rd From North					Site Driveway From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	304	0	0	304	0	0	0	0	0	2	253	0	0	255	0	0	0	0	0	559
11:15 AM	0	321	0	0	321	2	0	0	0	2	1	229	0	0	230	0	0	0	0	0	553
11:30 AM	0	307	0	0	307	0	0	0	0	0	3	294	0	0	297	0	0	0	0	0	604
11:45 AM	0	309	0	0	309	1	0	0	1	2	0	253	0	0	253	0	0	0	0	0	564
Total	0	1241	0	0	1241	3	0	0	1	4	6	1029	0	0	1035	0	0	0	0	0	2280
12:00 PM	0	360	0	0	360	1	0	0	0	1	5	242	0	0	247	0	0	0	0	0	608
12:15 PM	0	325	0	0	325	0	0	1	1	2	2	282	0	0	284	0	0	0	0	0	611
12:30 PM	0	307	0	1	308	0	0	1	0	1	1	278	0	0	279	0	0	0	0	0	588
12:45 PM	0	384	0	0	384	0	0	0	0	0	3	307	0	0	310	0	0	0	0	0	694
Total	0	1376	0	1	1377	1	0	2	1	4	11	1109	0	0	1120	0	0	0	0	0	2501
01:00 PM	0	276	0	0	276	0	0	0	0	0	1	277	0	0	278	0	0	0	0	0	554
01:15 PM	0	329	0	0	329	1	0	0	0	1	2	283	0	0	285	0	0	0	0	0	615
01:30 PM	0	347	0	0	347	0	0	0	1	1	2	309	0	0	311	0	0	0	0	0	659
01:45 PM	0	343	0	0	343	1	0	2	0	3	3	299	0	0	302	0	0	0	0	0	648
Total	0	1295	0	0	1295	2	0	2	1	5	8	1168	0	0	1176	0	0	0	0	0	2476
Grand Total	0	3912	0	1	3913	6	0	4	3	13	25	3306	0	0	3331	0	0	0	0	0	7257
Apprch %	0	100	0	0		46.2	0	30.8	23.1		0.8	99.2	0	0		0	0	0	0		
Total %	0	53.9	0	0	53.9	0.1	0	0.1	0	0.2	0.3	45.6	0	0	45.9	0	0	0	0	0	
Cars	0	3859	0	1	3860	6	0	3	3	12	25	3249	0	0	3274	0	0	0	0	0	7146
% Cars	0	98.6	0	100	98.6	100	0	75	100	92.3	100	98.3	0	0	98.3	0	0	0	0	0	98.5
Trucks	0	14	0	0	14	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	27
% Trucks	0	0.4	0	0	0.4	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.4
Heavies	0	39	0	0	39	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	83
% Heavies	0	1	0	0	1	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	1.1
Cyclists	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% Cyclists	0	0	0	0	0	0	0	25	0	7.7	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

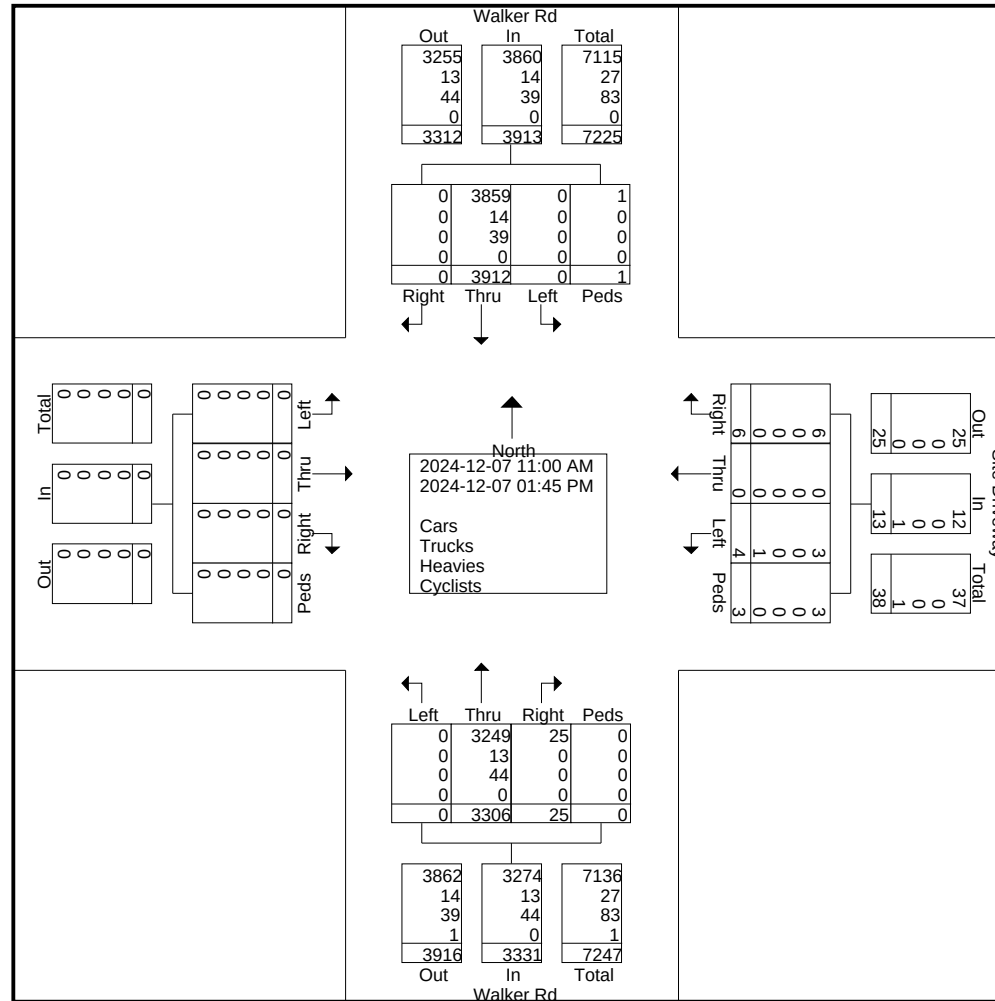
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SAT

Site Code : Loc-13

Start Date : 2024-12-07

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

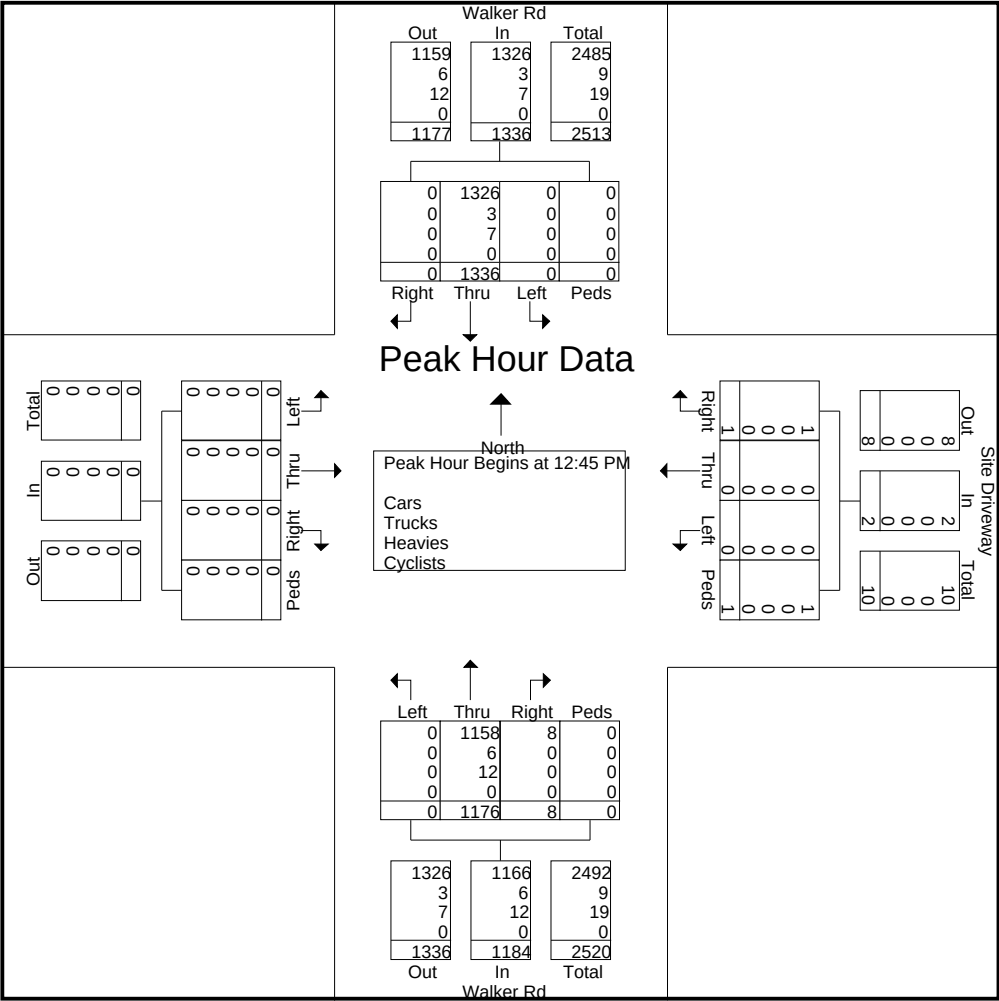
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SAT

Site Code : Loc-13

Start Date : 2024-12-07

Page No : 4

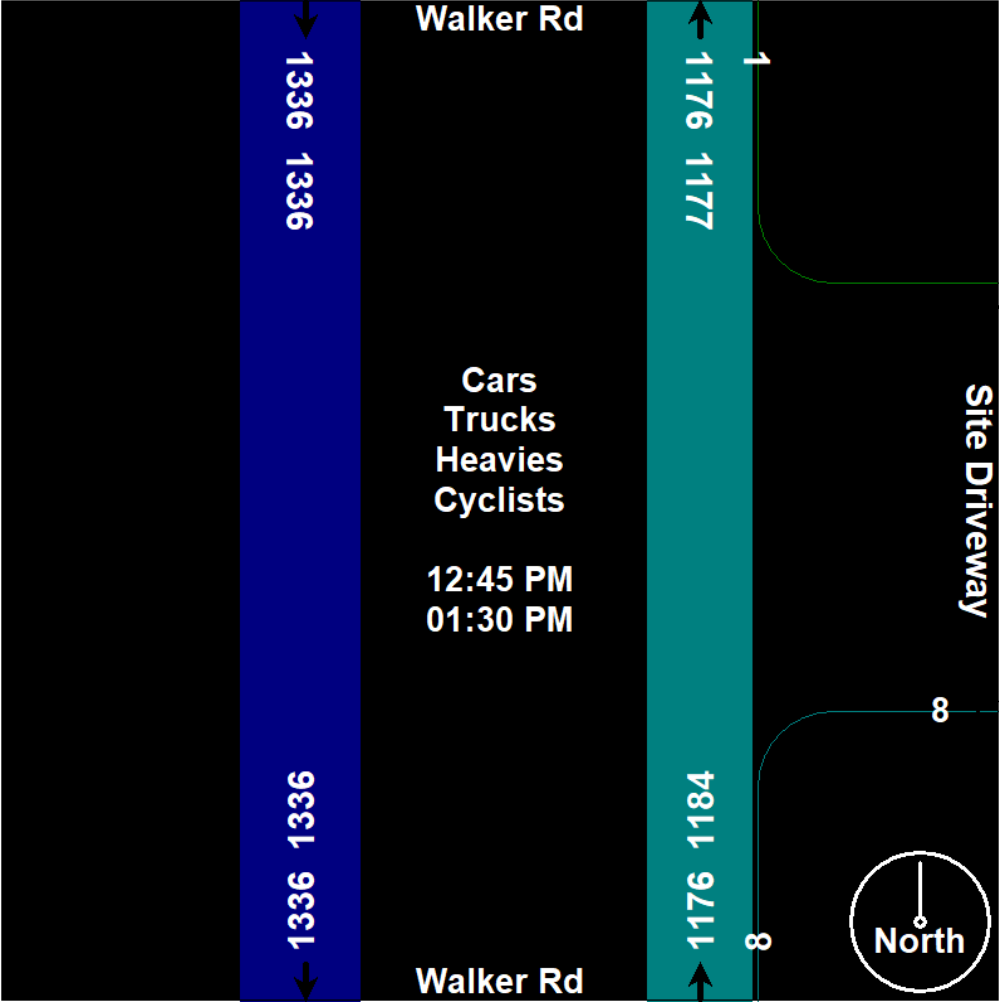


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SAT
Site Code : Loc-13
Start Date : 2024-12-07
Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SAT

Site Code : Loc-12

Start Date : 2024-12-07

Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists																						
	From North					County Rd 42 From East					Site Driveway From South					County Rd 42 From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	0	0	0	0	0	0	101	0	0	101	2	0	2	0	4	2	77	0	0	79	184	
11:15 AM	0	0	0	0	0	0	106	0	0	106	1	0	0	0	1	1	86	0	0	87	194	
11:30 AM	0	0	0	0	0	0	118	0	2	120	3	0	1	0	4	2	89	0	0	91	215	
11:45 AM	0	0	0	0	0	0	110	3	0	113	1	0	1	0	2	2	87	0	0	89	204	
Total	0	0	0	0	0	0	435	3	2	440	7	0	4	0	11	7	339	0	0	346	797	
12:00 PM	0	0	0	0	0	0	148	0	0	148	4	0	1	0	5	1	104	0	0	105	258	
12:15 PM	0	0	0	0	0	0	122	3	0	125	2	0	1	0	3	0	98	0	2	100	228	
12:30 PM	0	0	0	0	0	0	95	0	0	95	2	0	0	0	2	1	86	0	0	87	184	
12:45 PM	0	0	0	0	0	0	115	0	0	115	1	0	1	0	2	3	95	0	0	98	215	
Total	0	0	0	0	0	0	480	3	0	483	9	0	3	0	12	5	383	0	2	390	885	
01:00 PM	0	0	0	0	0	0	97	0	0	97	1	0	3	0	4	0	83	0	0	83	184	
01:15 PM	0	0	0	0	0	0	90	1	1	92	1	0	1	0	2	2	100	0	0	102	196	
01:30 PM	0	0	0	0	0	0	101	2	0	103	2	0	7	0	9	5	111	0	0	116	228	
01:45 PM	0	0	0	0	0	0	116	2	0	118	3	0	1	0	4	1	95	0	0	96	218	
Total	0	0	0	0	0	0	404	5	1	410	7	0	12	0	19	8	389	0	0	397	826	
Grand Total	0	0	0	0	0	0	1319	11	3	1333	23	0	19	0	42	20	1111	0	2	1133	2508	
Apprch %	0	0	0	0		0	98.9	0.8	0.2		54.8	0	45.2	0		1.8	98.1	0	0.2			
Total %	0	0	0	0	0	0	52.6	0.4	0.1	53.1	0.9	0	0.8	0	1.7	0.8	44.3	0	0.1	45.2		
Cars	0	0	0	0	0	0	1288	10	3	1301	23	0	19	0	42	20	1081	0	2	1103	2446	
% Cars	0	0	0	0	0	0	97.6	90.9	100	97.6	100	0	100	0	100	100	97.3	0	100	97.4	97.5	
Trucks	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	5	0	0	5	13	
% Trucks	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0	0.5	0	0	0.4	0.5	
Heavies	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	24	0	0	24	46	
% Heavies	0	0	0	0	0	0	1.7	0	0	1.7	0	0	0	0	0	0	2.2	0	0	2.1	1.8	
Cyclists	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3	
% Cyclists	0	0	0	0	0	0	0.1	9.1	0	0.2	0	0	0	0	0	0	0.1	0	0	0.1	0.1	

Horizon Data Services Ltd

(416) 840-6619

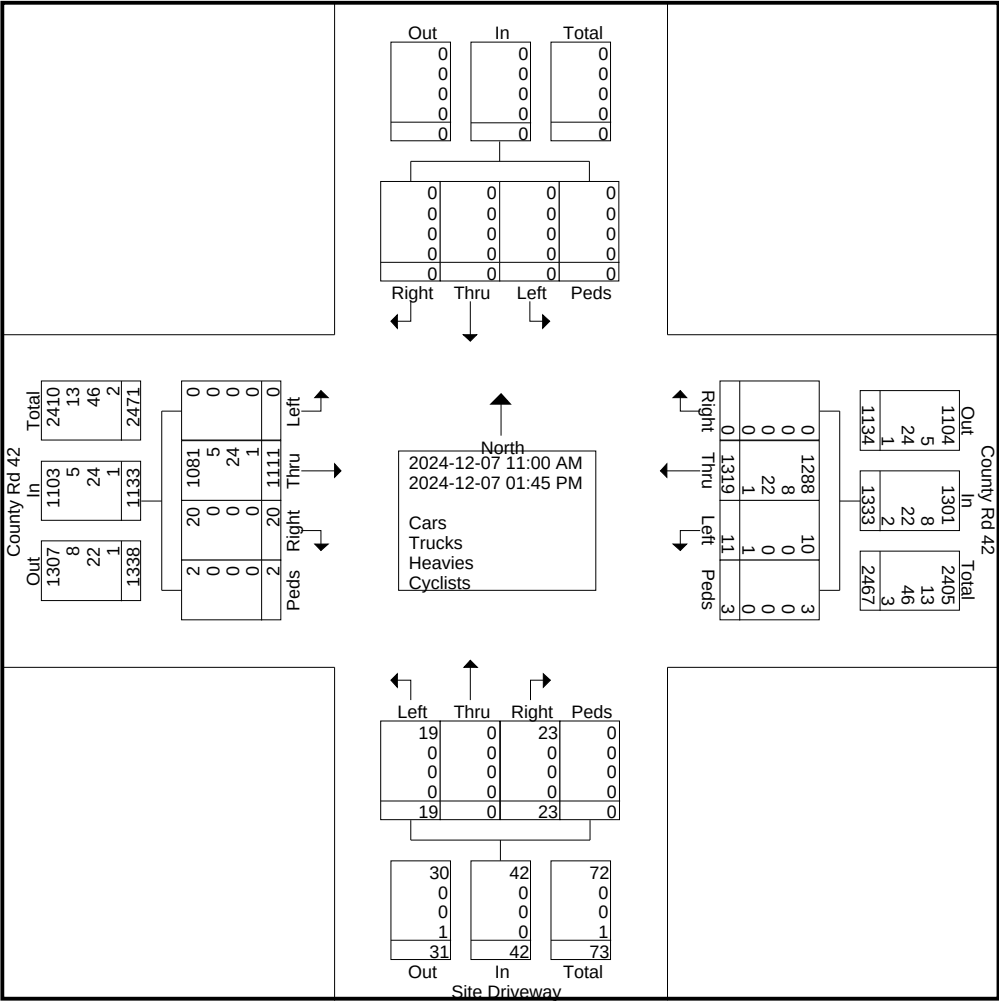
Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SAT

Site Code : Loc-12

Start Date : 2024-12-07

Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SAT

Site Code : Loc-12

Start Date : 2024-12-07

Page No : 3

	From North					County Rd 42 From East					Site Driveway From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	0	0	0	0	0	0	118	0	2	120	3	0	1	0	4	2	89	0	0	91	215
11:45 AM	0	0	0	0	0	0	110	3	0	113	1	0	1	0	2	2	87	0	0	89	204
12:00 PM	0	0	0	0	0	0	148	0	0	148	4	0	1	0	5	1	104	0	0	105	258
12:15 PM	0	0	0	0	0	0	122	3	0	125	2	0	1	0	3	0	98	0	2	100	228
Total Volume	0	0	0	0	0	0	498	6	2	506	10	0	4	0	14	5	378	0	2	385	905
% App. Total	0	0	0	0		0	98.4	1.2	0.4		71.4	0	28.6	0		1.3	98.2	0	0.5		
PHF	.000	.000	.000	.000	.000	.000	.841	.500	.250	.855	.625	.000	1.00	.000	.700	.625	.909	.000	.250	.917	.877
Cars	0	0	0	0	0	0	481	6	2	489	10	0	4	0	14	5	368	0	2	375	878
% Cars	0	0	0	0	0	0	96.6	100	100	96.6	100	0	100	0	100	100	97.4	0	100	97.4	97.0
Trucks	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
% Trucks	0	0	0	0	0	0	0.8	0	0	0.8	0	0	0	0	0	0	0.8	0	0	0.8	0.8
Heavies	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	6	0	0	6	19
% Heavies	0	0	0	0	0	0	2.6	0	0	2.6	0	0	0	0	0	0	1.6	0	0	1.6	2.1
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0.1

Horizon Data Services Ltd

(416) 840-6619

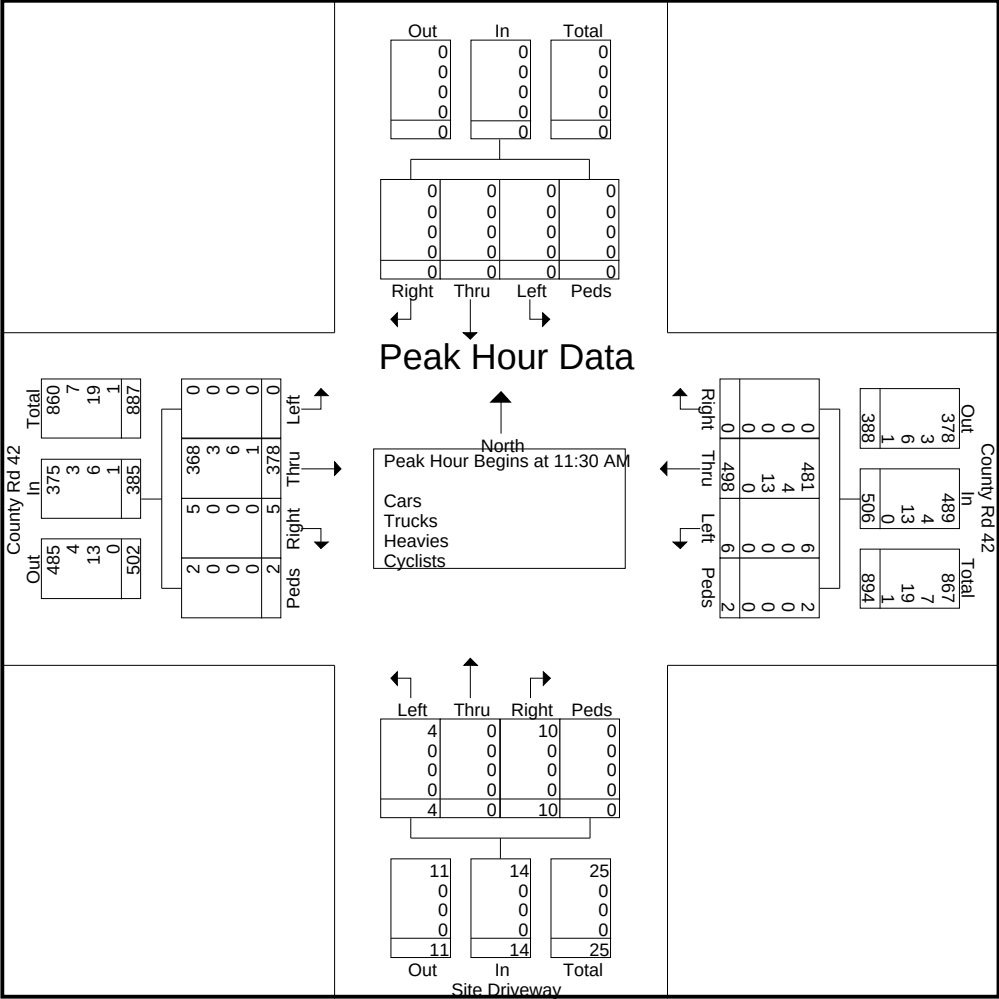
Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SAT

Site Code : Loc-12

Start Date : 2024-12-07

Page No : 4

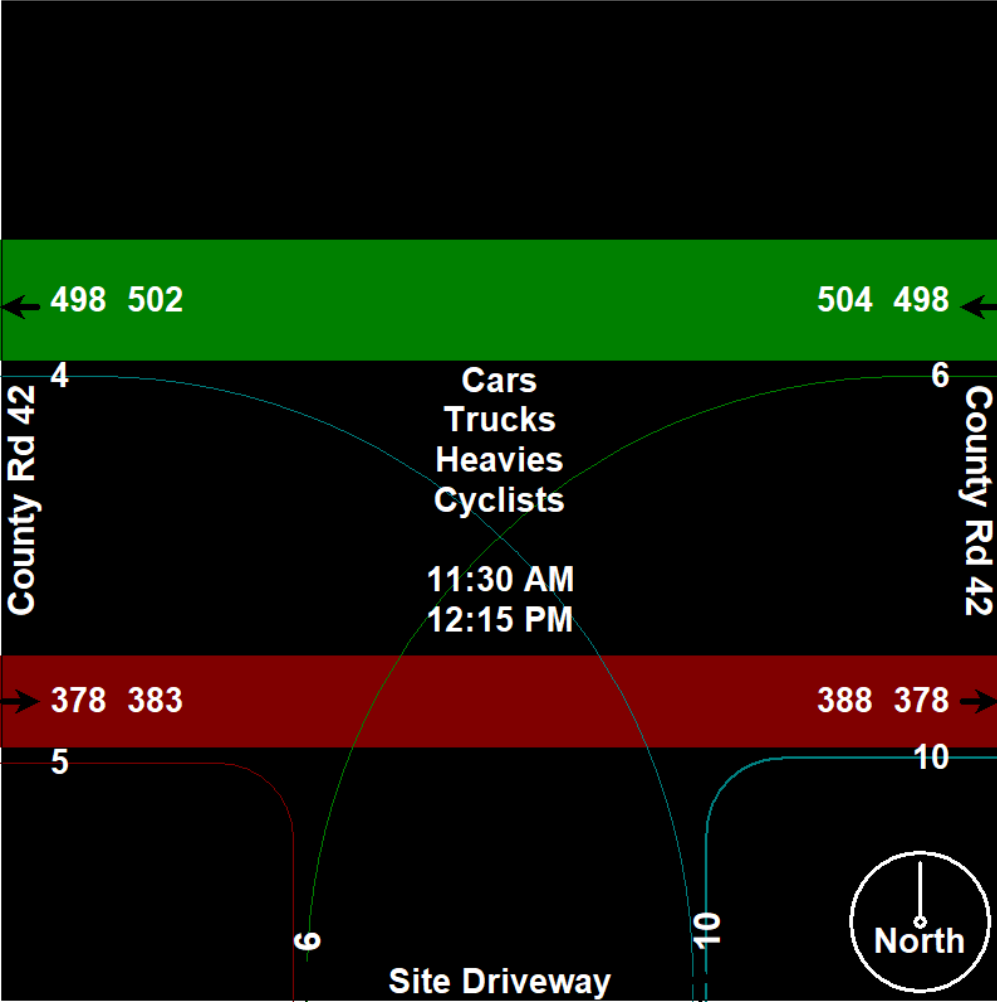


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SAT
Site Code : Loc-12
Start Date : 2024-12-07
Page No : 5



Sunday Traffic Counts

Signalized Driveway #1 on Walker Road	=	Walker Road at Home Depot Entrance/Walker Way Forum Entrance
Unsignalized Driveway #1 on Walker Road	=	Walker Road at Walker Place North Entrance
Unsignalized Driveway #2 on Walker Road	=	Walker Road at Walker Place South Entrance
Signalized Driveway #2 on Walker Road	=	Walker Road at Winners Entrance/ Canadian Tire Entrance
Unsignalized Driveway #3 on Walker Road	=	Walker Road at Cora Breakfast and Planet Fitness Entrance
Unsignalized Driveway #4 on Walker Road	=	Walker Road at Petro Canada & Car Wash North Entrance
Signalized Driveway #3 on Walker Road	=	Walker Road at Best Buy Entrance/ Petro Canada & Car Wash South Entrance
Unsignalized Driveway #5 on Walker Road	=	Walker Road at Swiss Chalet and Starbucks Entrance

	Walker Rd From North					Division Rd From East					Walker Rd From South					Cabana Rd E From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	26	221	20	5	272	8	32	42	2	84	25	170	29	0	224	42	19	37	2	100	680
11:15 AM	15	202	17	3	237	15	36	48	0	99	31	171	40	0	242	46	36	36	3	121	699
11:30 AM	22	175	9	1	207	14	56	38	0	108	21	148	37	1	207	51	32	34	0	117	639
11:45 AM	19	232	11	0	262	11	38	51	0	100	25	164	44	0	233	43	38	40	1	122	717
Total	82	830	57	9	978	48	162	179	2	391	102	653	150	1	906	182	125	147	6	460	2735
12:00 PM	23	198	7	0	228	14	59	48	1	122	35	186	47	0	268	50	40	41	0	131	749
12:15 PM	16	209	16	2	243	20	61	42	2	125	28	147	41	2	218	54	41	42	0	137	723
12:30 PM	24	229	19	4	276	19	51	49	0	119	40	206	60	0	306	54	39	42	0	135	836
12:45 PM	23	234	18	0	275	18	52	52	2	124	42	207	57	0	306	66	47	41	0	154	859
Total	86	870	60	6	1022	71	223	191	5	490	145	746	205	2	1098	224	167	166	0	557	3167
01:00 PM	34	195	21	4	254	25	64	47	1	137	32	195	51	1	279	50	50	41	0	141	811
01:15 PM	35	213	15	2	265	12	53	50	2	117	43	219	51	2	315	64	40	29	1	134	831
01:30 PM	26	227	18	2	273	19	43	40	2	104	22	199	48	1	270	73	48	32	1	154	801
01:45 PM	33	213	15	0	261	18	46	32	2	98	23	175	51	2	251	60	35	44	0	139	749
Total	128	848	69	8	1053	74	206	169	7	456	120	788	201	6	1115	247	173	146	2	568	3192
Grand Total	296	2548	186	23	3053	193	591	539	14	1337	367	2187	556	9	3119	653	465	459	8	1585	9094
Apprch %	9.7	83.5	6.1	0.8		14.4	44.2	40.3	1		11.8	70.1	17.8	0.3		41.2	29.3	29	0.5		
Total %	3.3	28	2	0.3	33.6	2.1	6.5	5.9	0.2	14.7	4	24	6.1	0.1	34.3	7.2	5.1	5	0.1	17.4	
Cars	295	2532	182	23	3032	188	588	535	14	1325	364	2172	554	9	3099	652	458	455	8	1573	9029
% Cars	99.7	99.4	97.8	100	99.3	97.4	99.5	99.3	100	99.1	99.2	99.3	99.6	100	99.4	99.8	98.5	99.1	100	99.2	99.3
Trucks	1	8	1	0	10	2	1	2	0	5	1	5	2	0	8	1	1	3	0	5	28
% Trucks	0.3	0.3	0.5	0	0.3	1	0.2	0.4	0	0.4	0.3	0.2	0.4	0	0.3	0.2	0.2	0.7	0	0.3	0.3
Heavies	0	8	3	0	11	3	2	2	0	7	2	10	0	0	12	0	6	1	0	7	37
% Heavies	0	0.3	1.6	0	0.4	1.6	0.3	0.4	0	0.5	0.5	0.5	0	0	0.4	0	1.3	0.2	0	0.4	0.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

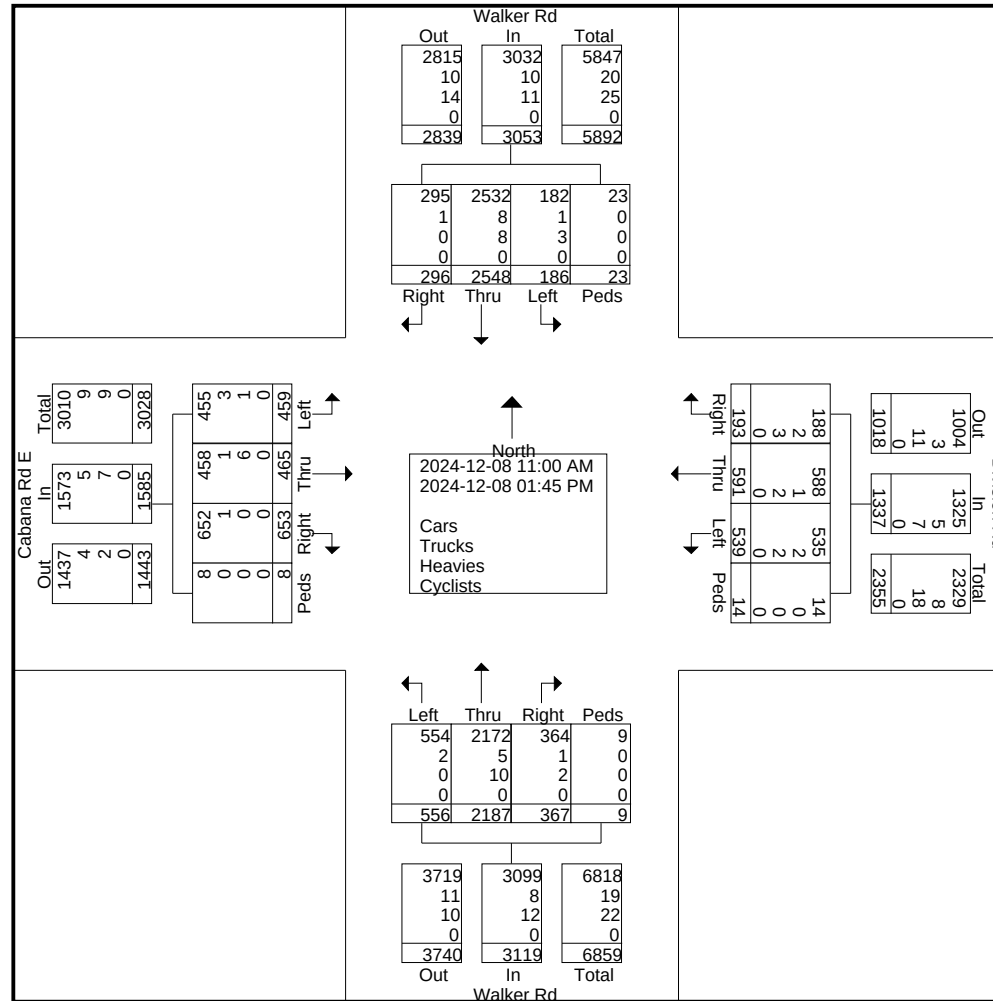
Your Traffic Count Specialist

File Name : Walker Road at Division Road-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

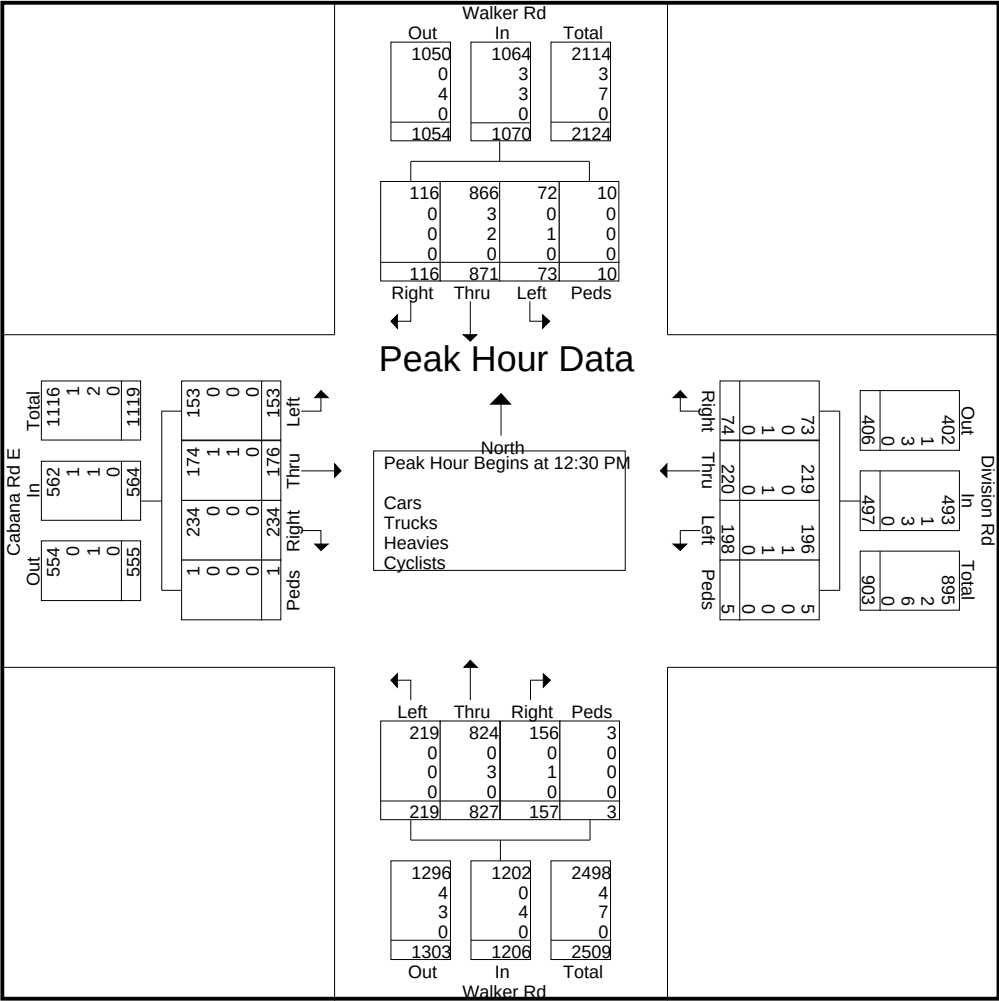
Your Traffic Count Specialist

File Name : Walker Road at Division Road-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

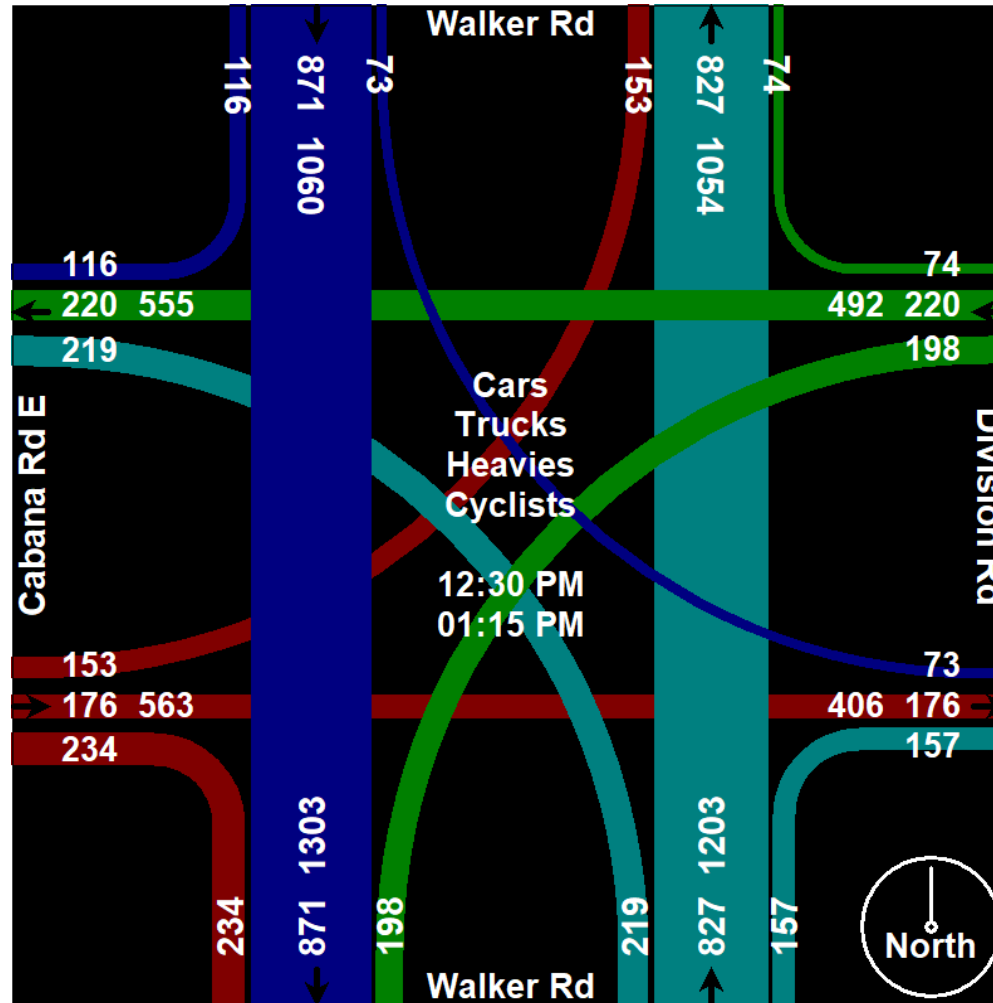
Your Traffic Count Specialist

File Name : Walker Road at Division Road-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Walker Way Forum Ent From East					Walker Rd From South					Home Depot Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	25	272	3	1	301	1	0	3	1	5	1	216	30	0	247	22	0	7	1	30	583
11:15 AM	33	278	1	0	312	6	0	0	1	7	2	224	35	1	262	30	0	14	3	47	628
11:30 AM	18	245	9	0	272	5	1	1	0	7	3	197	37	0	237	25	0	16	1	42	558
11:45 AM	20	302	3	0	325	5	1	3	0	9	1	219	45	0	265	25	0	9	0	34	633
Total	96	1097	16	1	1210	17	2	7	2	28	7	856	147	1	1011	102	0	46	5	153	2402
12:00 PM	31	265	7	0	303	6	2	3	1	12	2	251	32	1	286	25	2	14	1	42	643
12:15 PM	27	293	6	0	326	7	2	2	0	11	4	226	34	0	264	37	0	13	2	52	653
12:30 PM	34	297	6	1	338	5	0	3	1	9	4	275	32	0	311	38	1	11	1	51	709
12:45 PM	31	327	5	0	363	7	3	0	0	10	1	308	42	0	351	32	1	8	0	41	765
Total	123	1182	24	1	1330	25	7	8	2	42	11	1060	140	1	1212	132	4	46	4	186	2770
01:00 PM	38	259	7	0	304	8	6	1	0	15	2	267	45	0	314	36	0	16	1	53	686
01:15 PM	28	303	7	0	338	5	2	1	1	9	1	280	47	1	329	33	1	20	0	54	730
01:30 PM	27	318	6	0	351	9	1	5	2	17	0	259	48	0	307	37	2	10	0	49	724
01:45 PM	22	276	8	0	306	6	2	5	0	13	3	237	39	0	279	40	0	17	3	60	658
Total	115	1156	28	0	1299	28	11	12	3	54	6	1043	179	1	1229	146	3	63	4	216	2798
Grand Total	334	3435	68	2	3839	70	20	27	7	124	24	2959	466	3	3452	380	7	155	13	555	7970
Apprch %	8.7	89.5	1.8	0.1		56.5	16.1	21.8	5.6		0.7	85.7	13.5	0.1		68.5	1.3	27.9	2.3		
Total %	4.2	43.1	0.9	0	48.2	0.9	0.3	0.3	0.1	1.6	0.3	37.1	5.8	0	43.3	4.8	0.1	1.9	0.2	7	
Cars	334	3416	67	2	3819	68	19	27	7	121	24	2941	465	3	3433	380	6	155	13	554	7927
% Cars	100	99.4	98.5	100	99.5	97.1	95	100	100	97.6	100	99.4	99.8	100	99.4	100	85.7	100	100	99.8	99.5
Trucks	0	9	1	0	10	2	1	0	0	3	0	6	1	0	7	0	1	0	0	1	21
% Trucks	0	0.3	1.5	0	0.3	2.9	5	0	0	2.4	0	0.2	0.2	0	0.2	0	14.3	0	0	0.2	0.3
Heavies	0	10	0	0	10	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	22
% Heavies	0	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

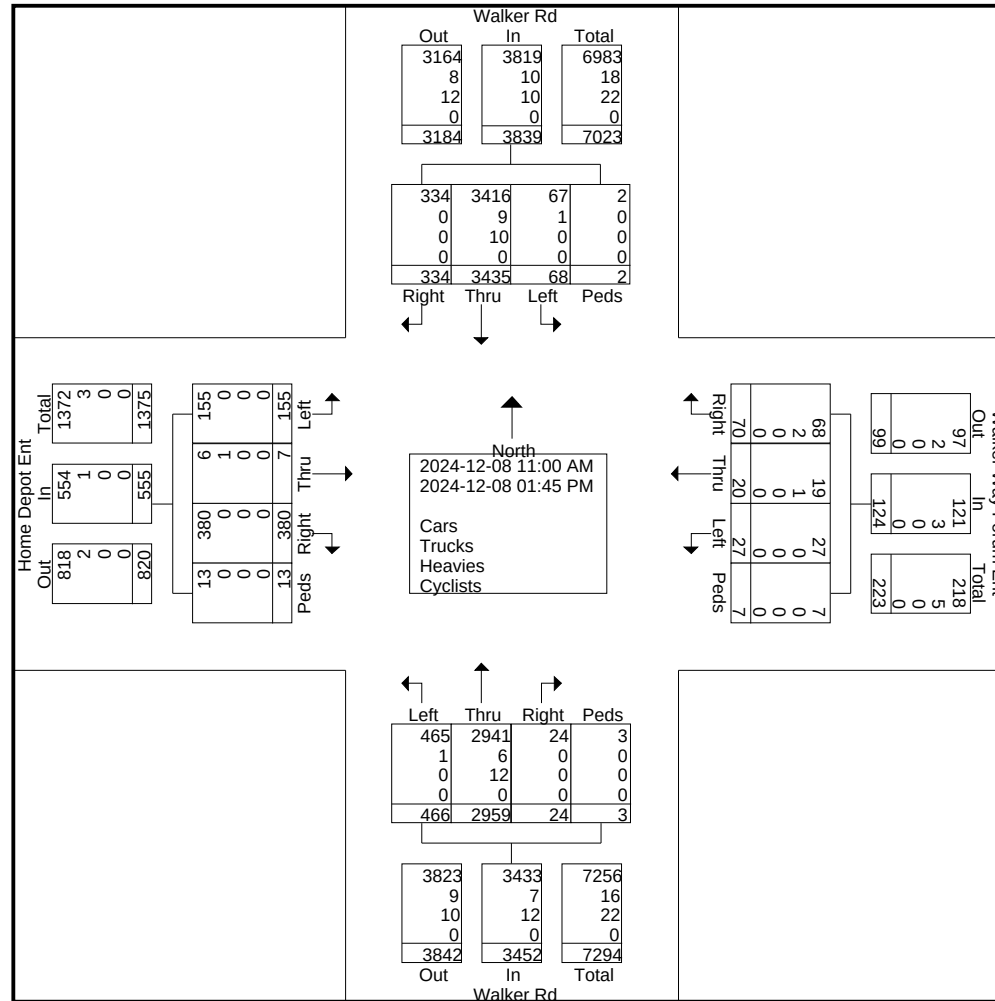
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road-SUN

Site Code : Loc-14

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

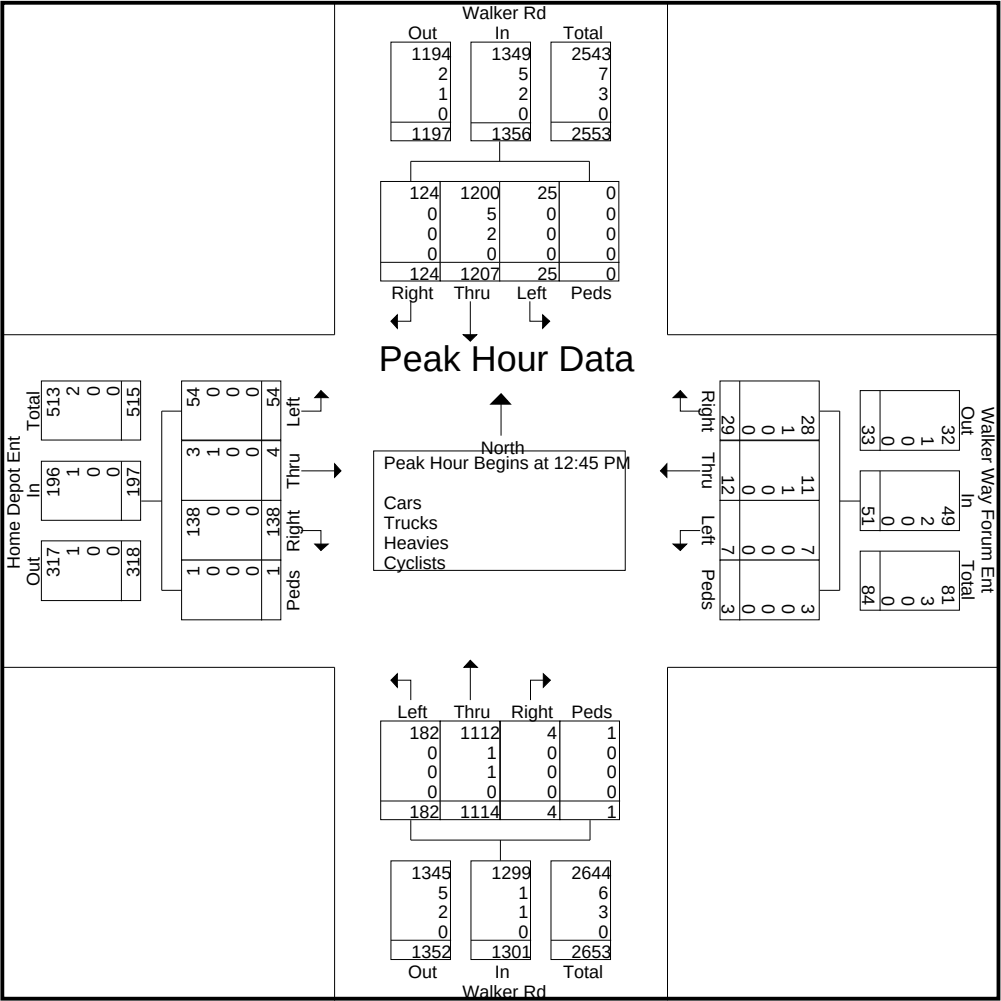
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road-SUN

Site Code : Loc-14

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

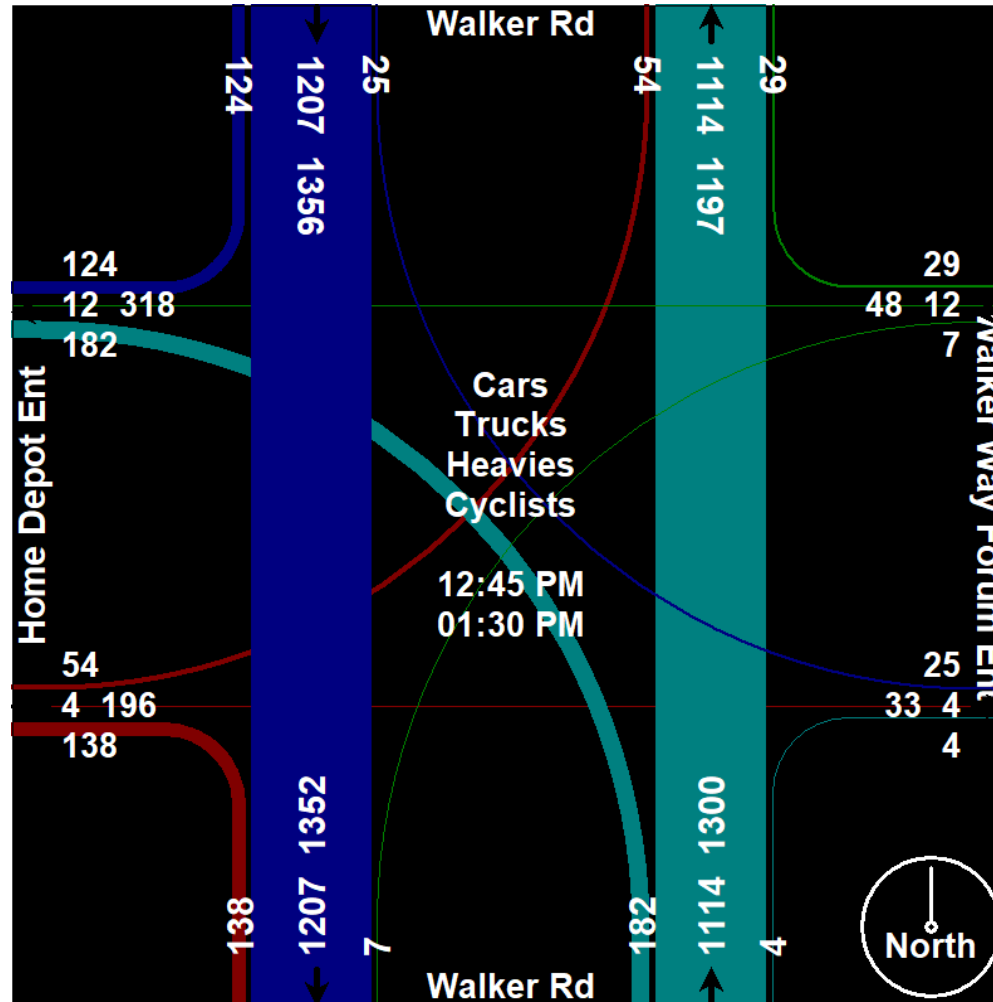
Your Traffic Count Specialist

File Name : Signalized Driveway #1 on Walker Road-SUN

Site Code : Loc-14

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Walkers Place N Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	293	13	0	306	5	0	2	1	8	3	241	0	0	244	0	0	0	0	0	558
11:15 AM	0	291	14	1	306	9	0	1	0	10	0	244	0	0	244	0	0	0	0	0	560
11:30 AM	0	292	14	0	306	7	0	1	0	8	5	237	0	0	242	0	0	0	0	0	556
11:45 AM	0	345	13	0	358	3	0	2	0	5	4	258	0	0	262	0	0	0	0	0	625
Total	0	1221	54	1	1276	24	0	6	1	31	12	980	0	0	992	0	0	0	0	0	2299
12:00 PM	0	272	15	0	287	9	0	3	0	12	4	269	0	0	273	0	0	0	0	0	572
12:15 PM	0	349	8	0	357	8	0	0	0	8	1	267	0	0	268	0	0	0	0	0	633
12:30 PM	0	346	13	0	359	12	0	0	0	12	7	300	0	0	307	0	0	0	0	0	678
12:45 PM	0	353	18	0	371	11	0	1	0	12	5	324	0	0	329	0	0	0	0	0	712
Total	0	1320	54	0	1374	40	0	4	0	44	17	1160	0	0	1177	0	0	0	0	0	2595
01:00 PM	0	318	11	0	329	9	0	0	0	9	0	322	0	0	322	0	0	0	0	0	660
01:15 PM	0	344	17	0	361	8	0	2	0	10	1	304	0	0	305	0	0	0	0	0	676
01:30 PM	0	369	14	0	383	12	0	1	1	14	5	289	0	0	294	0	0	0	0	0	691
01:45 PM	0	323	12	0	335	14	0	0	1	15	2	278	0	0	280	0	0	0	0	0	630
Total	0	1354	54	0	1408	43	0	3	2	48	8	1193	0	0	1201	0	0	0	0	0	2657
Grand Total	0	3895	162	1	4058	107	0	13	3	123	37	3333	0	0	3370	0	0	0	0	0	7551
Apprch %	0	96	4	0		87	0	10.6	2.4		1.1	98.9	0	0		0	0	0	0		
Total %	0	51.6	2.1	0	53.7	1.4	0	0.2	0	1.6	0.5	44.1	0	0	44.6	0	0	0	0	0	
Cars	0	3876	161	1	4038	107	0	13	3	123	37	3314	0	0	3351	0	0	0	0	0	7512
% Cars	0	99.5	99.4	100	99.5	100	0	100	100	100	100	99.4	0	0	99.4	0	0	0	0	0	99.5
Trucks	0	9	1	0	10	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	17
% Trucks	0	0.2	0.6	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2
Heavies	0	10	0	0	10	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	22
% Heavies	0	0.3	0	0	0.2	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

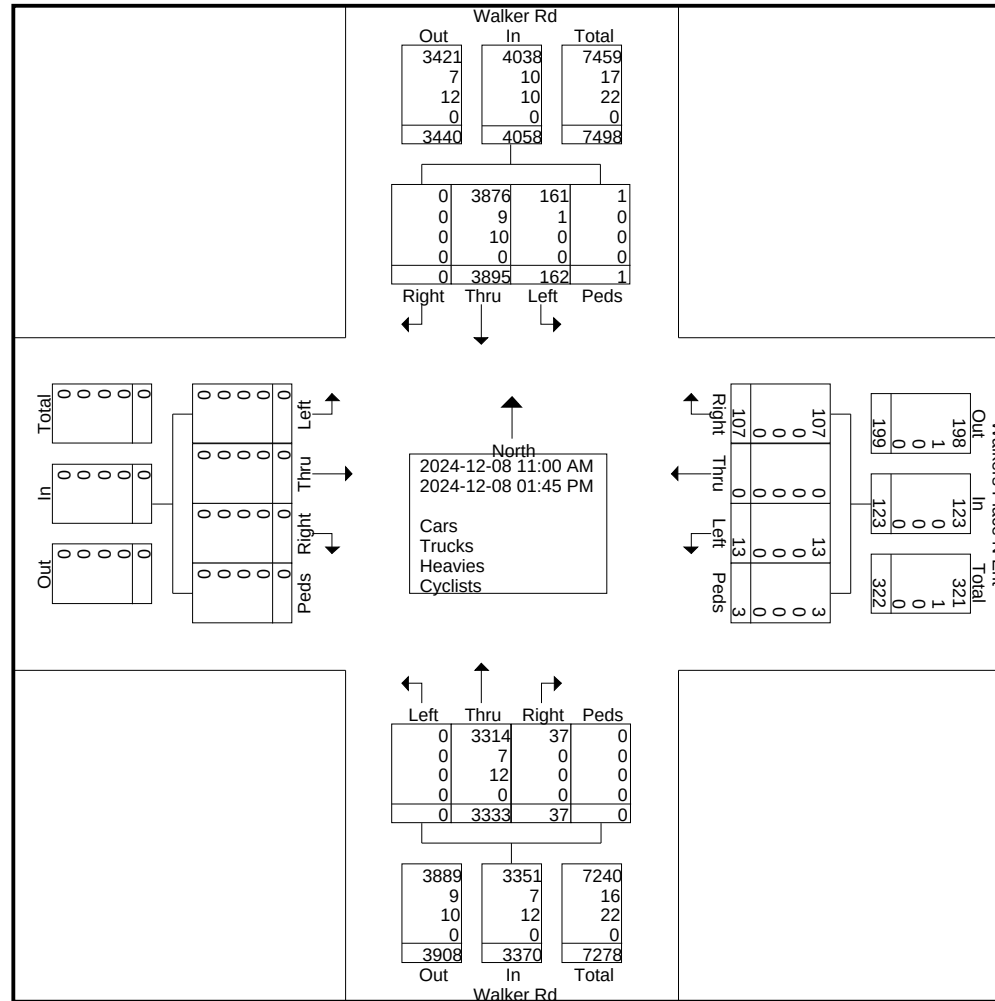
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road-SUN

Site Code : Loc-17

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

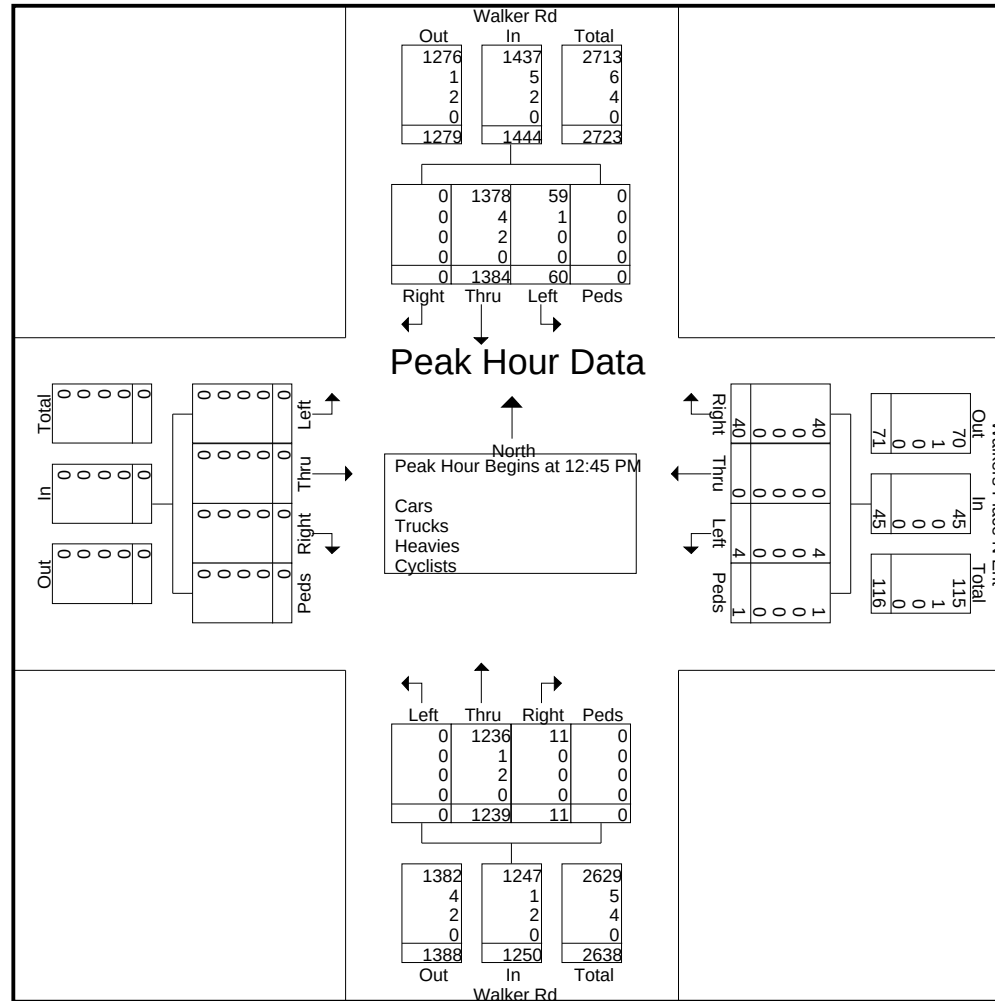
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road-SUN

Site Code : Loc-17

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

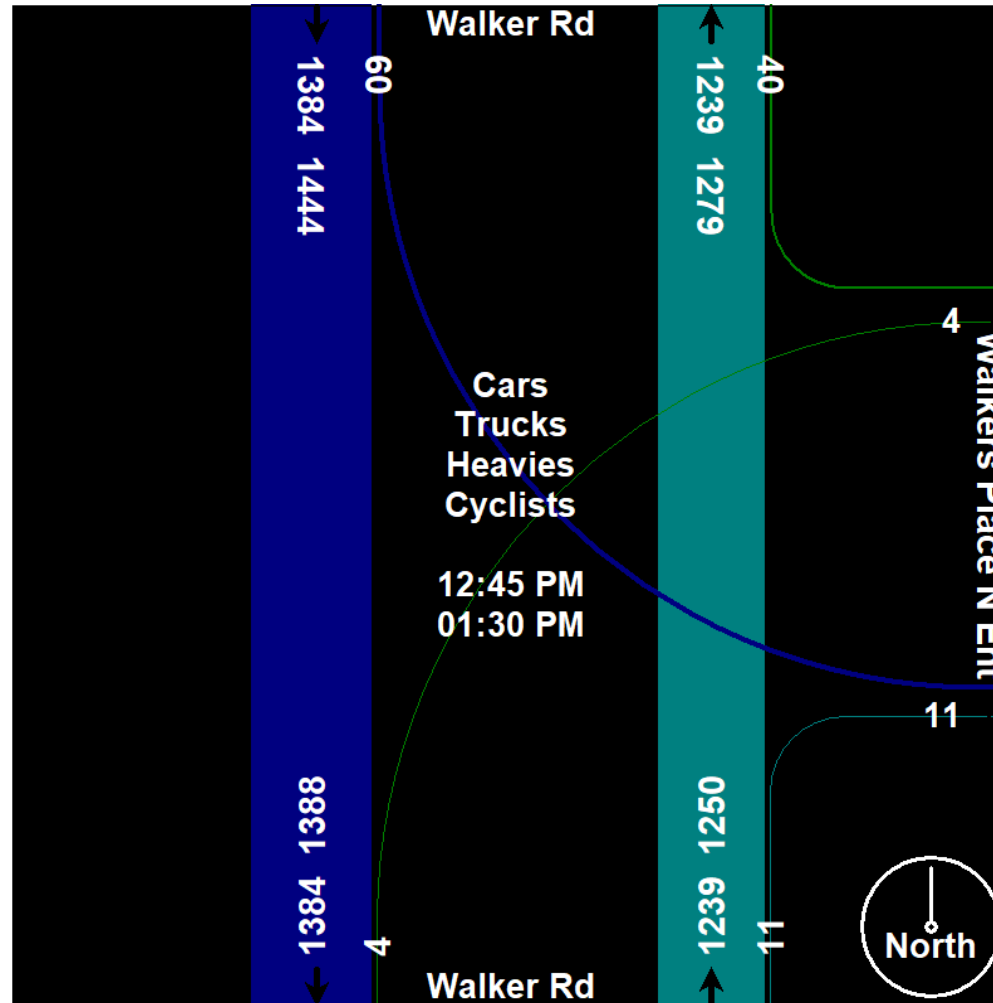
Your Traffic Count Specialist

File Name : UnSignalized Driveway #1 on Walker Road-SUN

Site Code : Loc-17

Start Date : 2024-12-08

Page No : 5



Horizon Data Services Ltd

(416) 840-6619

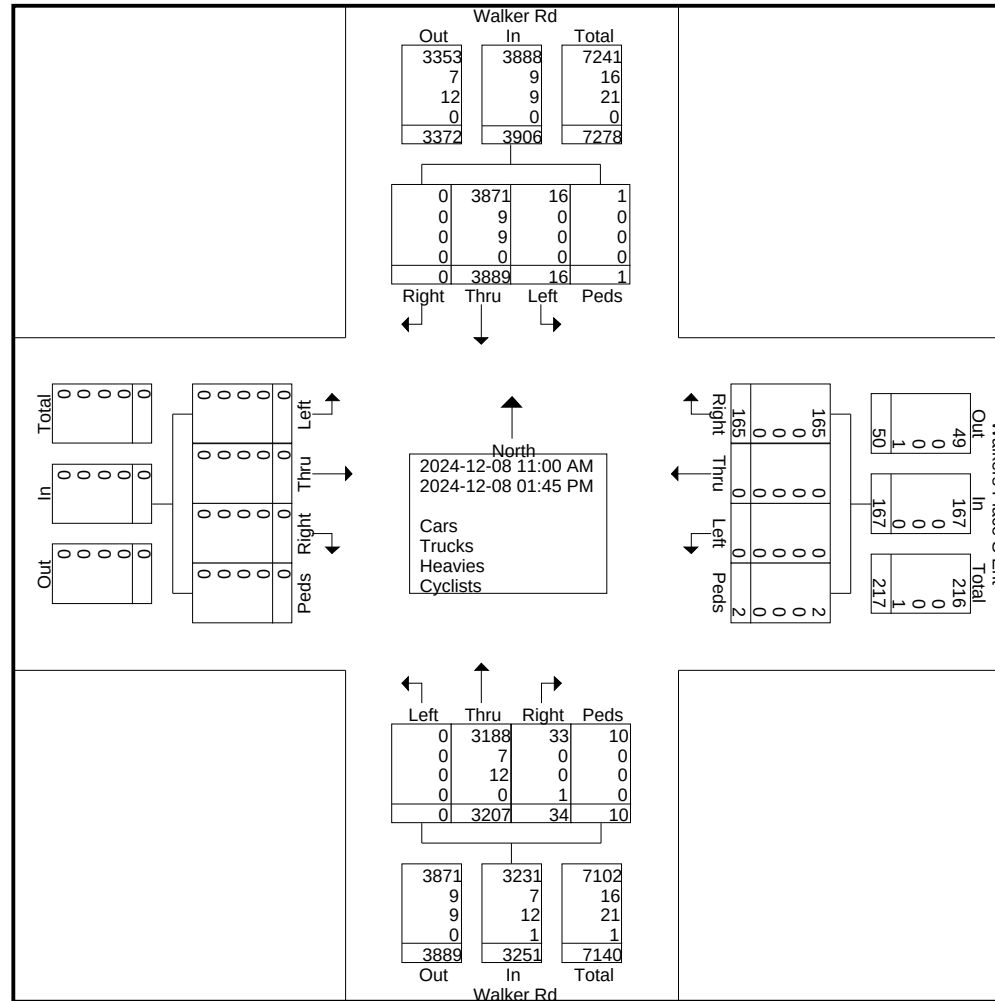
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road-SUN

Site Code : Loc-18

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

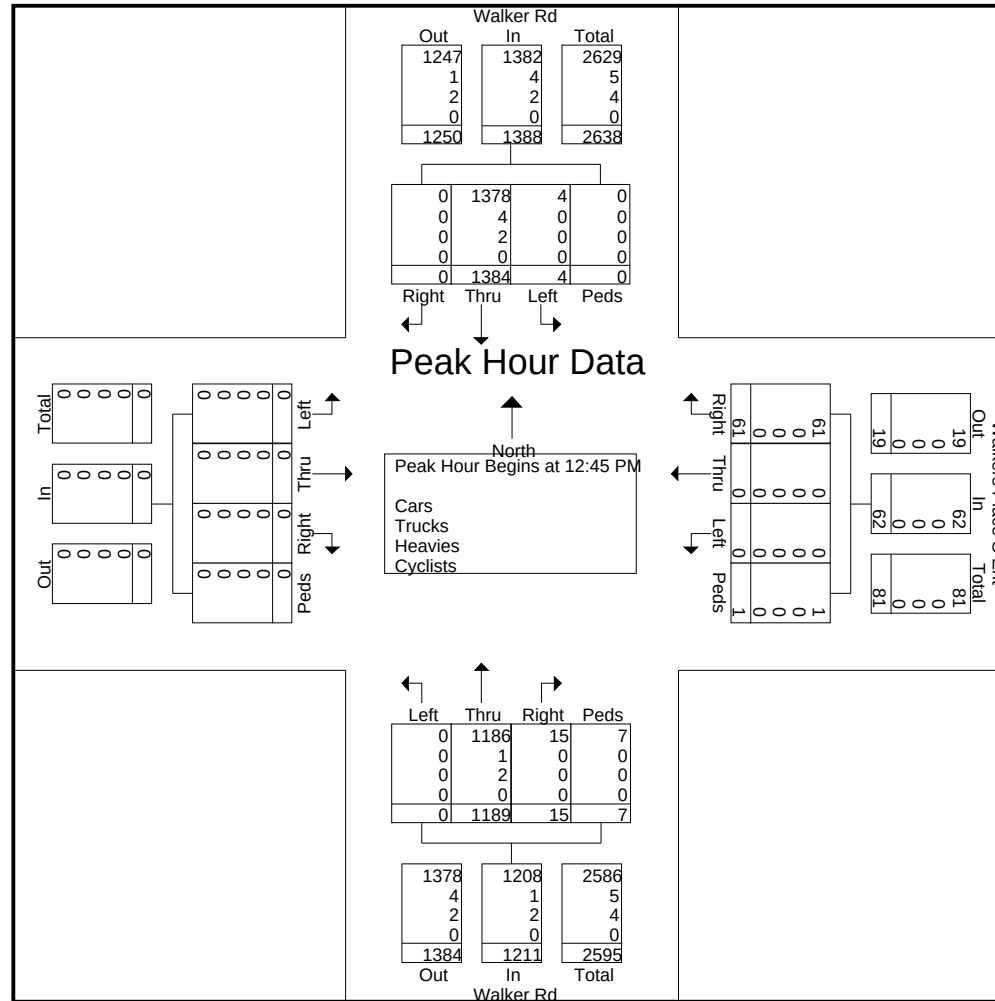
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road-SUN

Site Code : Loc-18

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

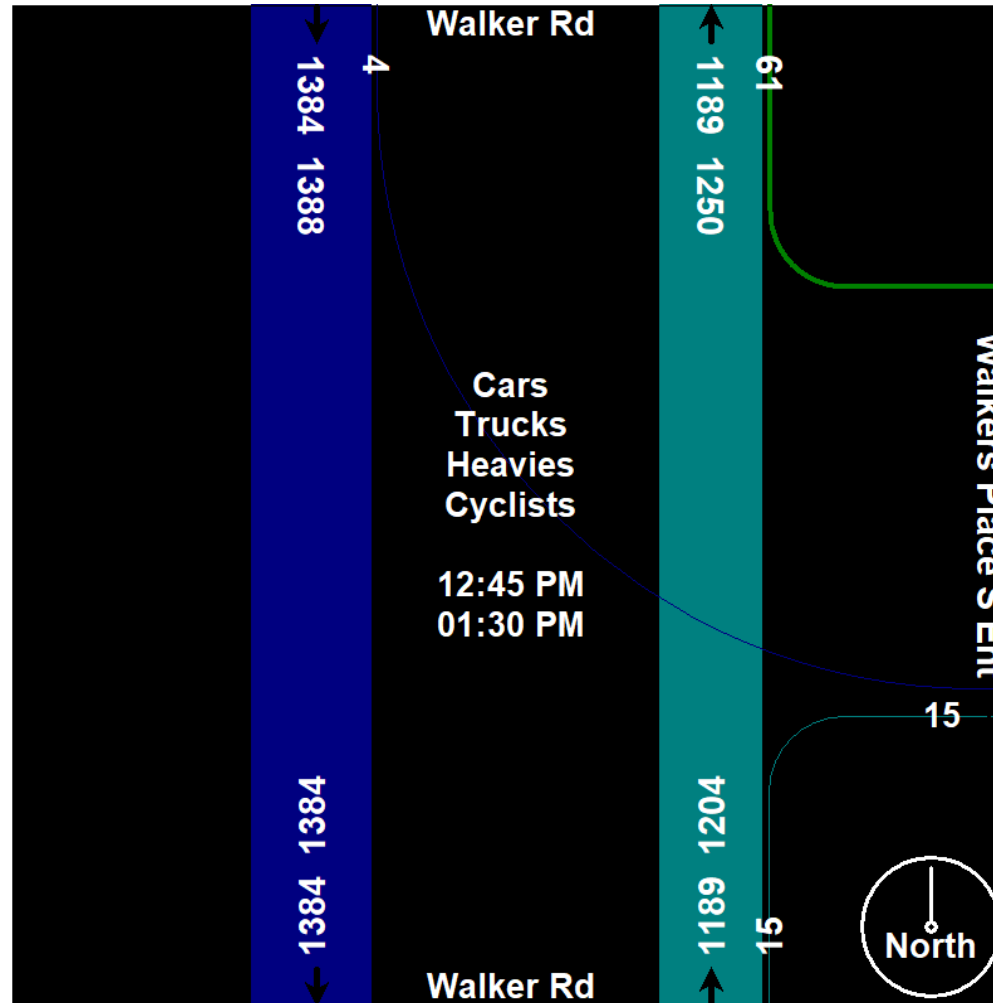
Your Traffic Count Specialist

File Name : UnSignalized Driveway #2 on Walker Road-SUN

Site Code : Loc-18

Start Date : 2024-12-08

Page No : 5



Groups Printed- Cars - Trucks - Heavies - Cyclists																						
	Walker Rd From North					Canadian Tire Ent From East					Walker Rd From South					Winners Ent From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	57	237	26	0	320	27	13	18	1	59	24	192	19	1	236	22	19	50	0	91	706	
11:15 AM	94	218	28	3	343	14	12	34	0	60	24	161	25	0	210	19	20	50	0	89	702	
11:30 AM	58	198	34	0	290	22	11	30	1	64	16	145	16	0	177	18	17	60	0	95	626	
11:45 AM	81	193	38	0	312	26	13	19	1	59	26	174	18	1	219	25	23	50	0	98	688	
Total	290	846	126	3	1265	89	49	101	3	242	90	672	78	2	842	84	79	210	0	373	2722	
12:00 PM	70	214	40	3	327	28	18	27	1	74	25	171	19	1	216	30	23	53	1	107	724	
12:15 PM	99	196	43	0	338	32	16	36	0	84	18	183	18	0	219	23	21	63	0	107	748	
12:30 PM	98	244	41	0	383	31	15	34	0	80	19	193	24	0	236	29	23	59	1	112	811	
12:45 PM	86	211	42	0	339	32	13	21	1	67	21	198	19	0	238	21	25	63	0	109	753	
Total	353	865	166	3	1387	123	62	118	2	305	83	745	80	1	909	103	92	238	2	435	3036	
01:00 PM	61	227	43	0	331	40	20	31	0	91	24	187	27	0	238	33	30	50	0	113	773	
01:15 PM	86	205	46	1	338	26	16	22	2	66	28	165	18	0	211	28	31	59	2	120	735	
01:30 PM	64	240	38	7	349	31	19	34	0	84	19	227	18	0	264	28	36	53	2	119	816	
01:45 PM	81	204	46	0	331	38	25	26	0	89	25	163	28	0	216	32	23	53	2	110	746	
Total	292	876	173	8	1349	135	80	113	2	330	96	742	91	0	929	121	120	215	6	462	3070	
Grand Total	935	2587	465	14	4001	347	191	332	7	877	269	2159	249	3	2680	308	291	663	8	1270	8828	
Apprch %	23.4	64.7	11.6	0.3		39.6	21.8	37.9	0.8		10	80.6	9.3	0.1		24.3	22.9	52.2	0.6			
Total %	10.6	29.3	5.3	0.2	45.3	3.9	2.2	3.8	0.1	9.9	3	24.5	2.8	0	30.4	3.5	3.3	7.5	0.1	14.4		
Cars	934	2567	465	14	3980	347	191	331	7	876	268	2142	248	3	2661	308	291	663	8	1270	8787	
% Cars	99.9	99.2	100	100	99.5	100	100	99.7	100	99.9	99.6	99.2	99.6	100	99.3	100	100	100	100	100	99.5	
Trucks	0	9	0	0	9	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	18	
% Trucks	0	0.3	0	0	0.2	0	0	0.3	0	0.1	0	0.3	0.4	0	0.3	0	0	0	0	0	0.2	
Heavies	0	11	0	0	11	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	22	
% Heavies	0	0.4	0	0	0.3	0	0	0	0	0	0.4	0.5	0	0	0.4	0	0	0	0	0	0.2	
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Cyclists	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Horizon Data Services Ltd

(416) 840-6619

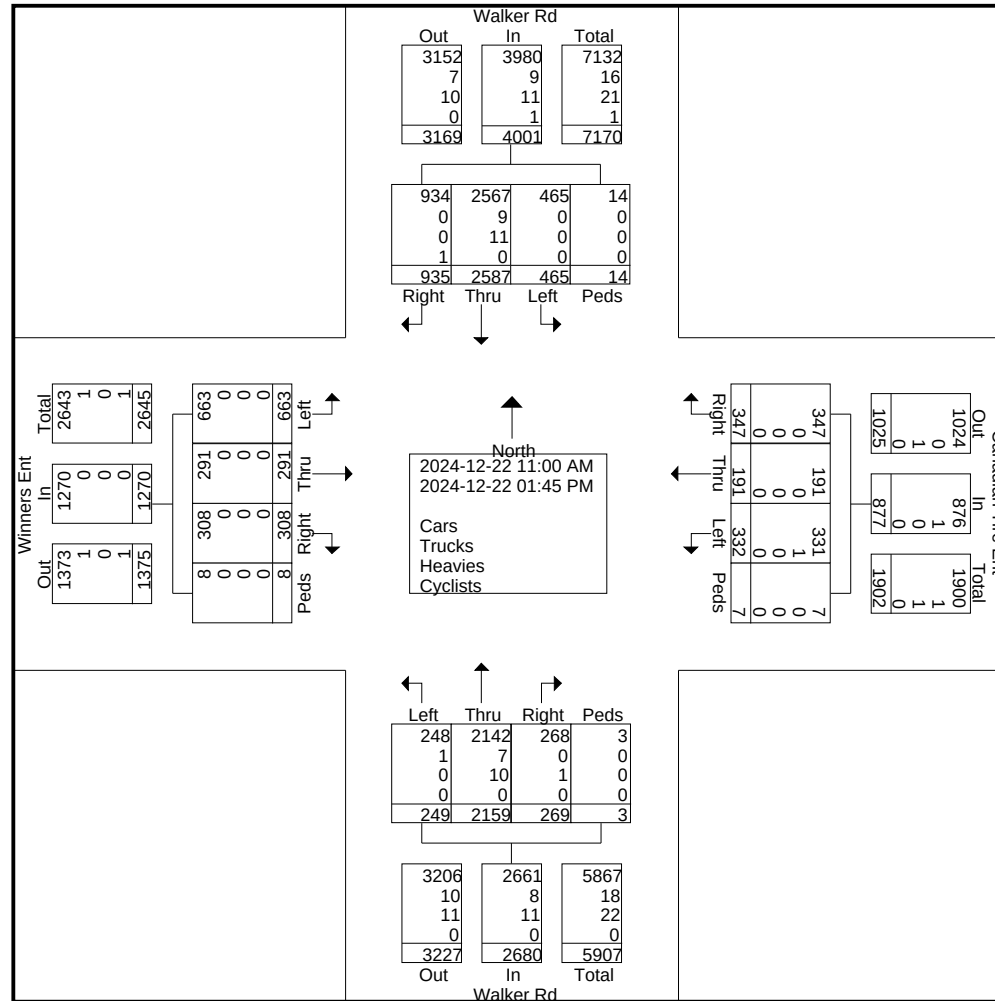
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SUN

Site Code : Loc-15

Start Date : 2024-12-22

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

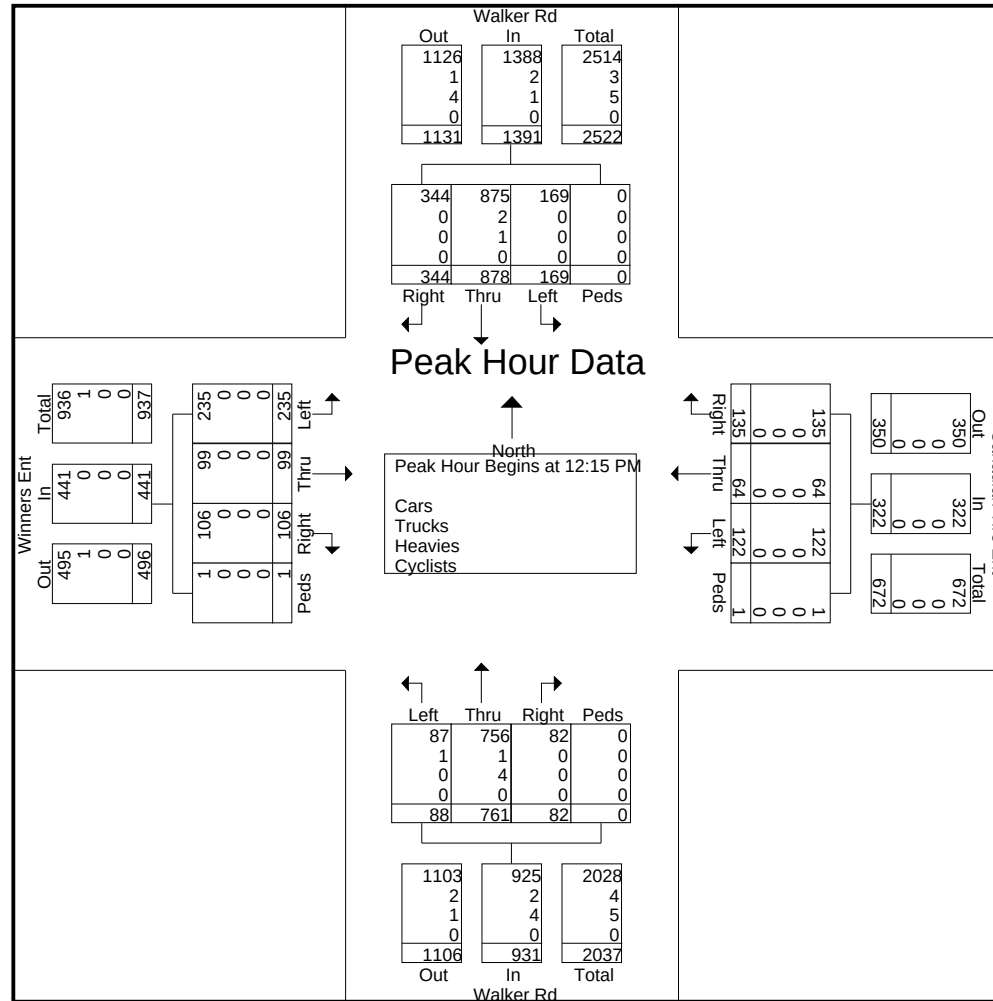
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SUN

Site Code : Loc-15

Start Date : 2024-12-22

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

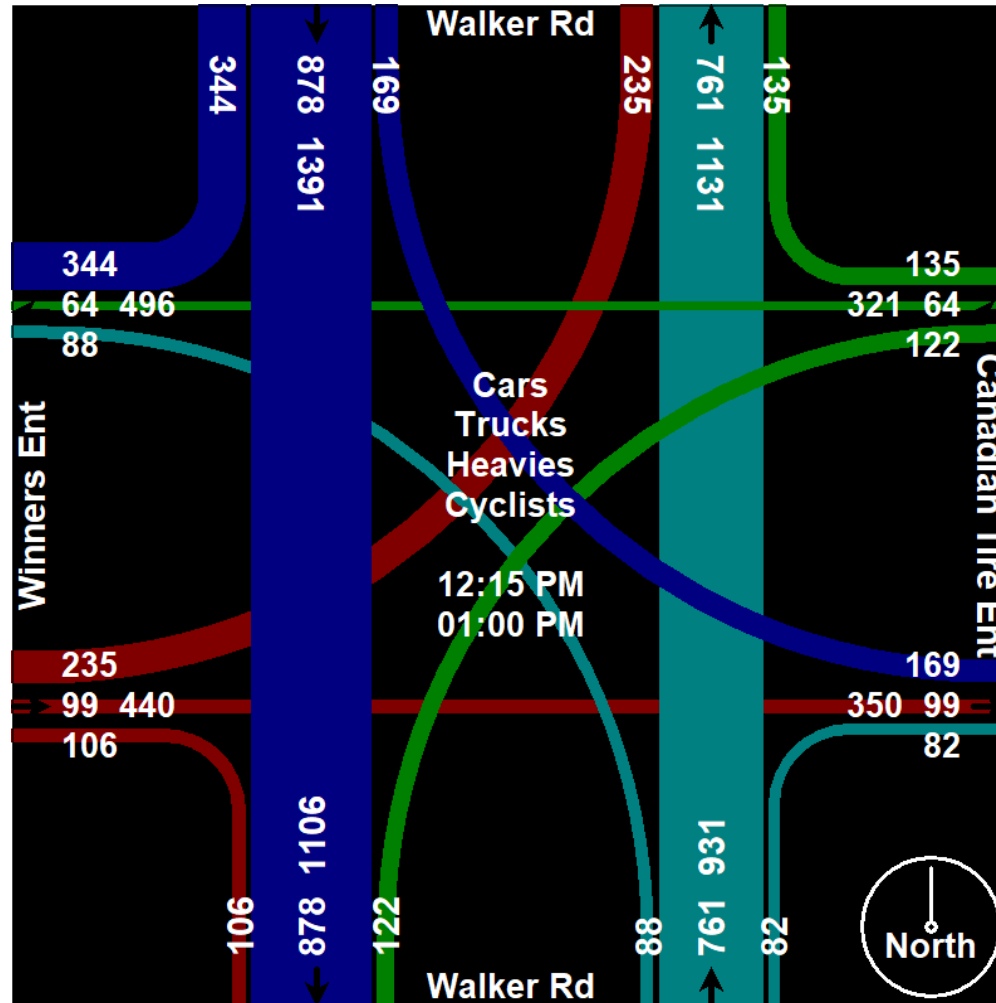
Your Traffic Count Specialist

File Name : Signalized Driveway #2 on Walker Road-SUN

Site Code : Loc-15

Start Date : 2024-12-22

Page No : 5



[illegible]

Horizon Data Services Ltd

(416) 840-6619

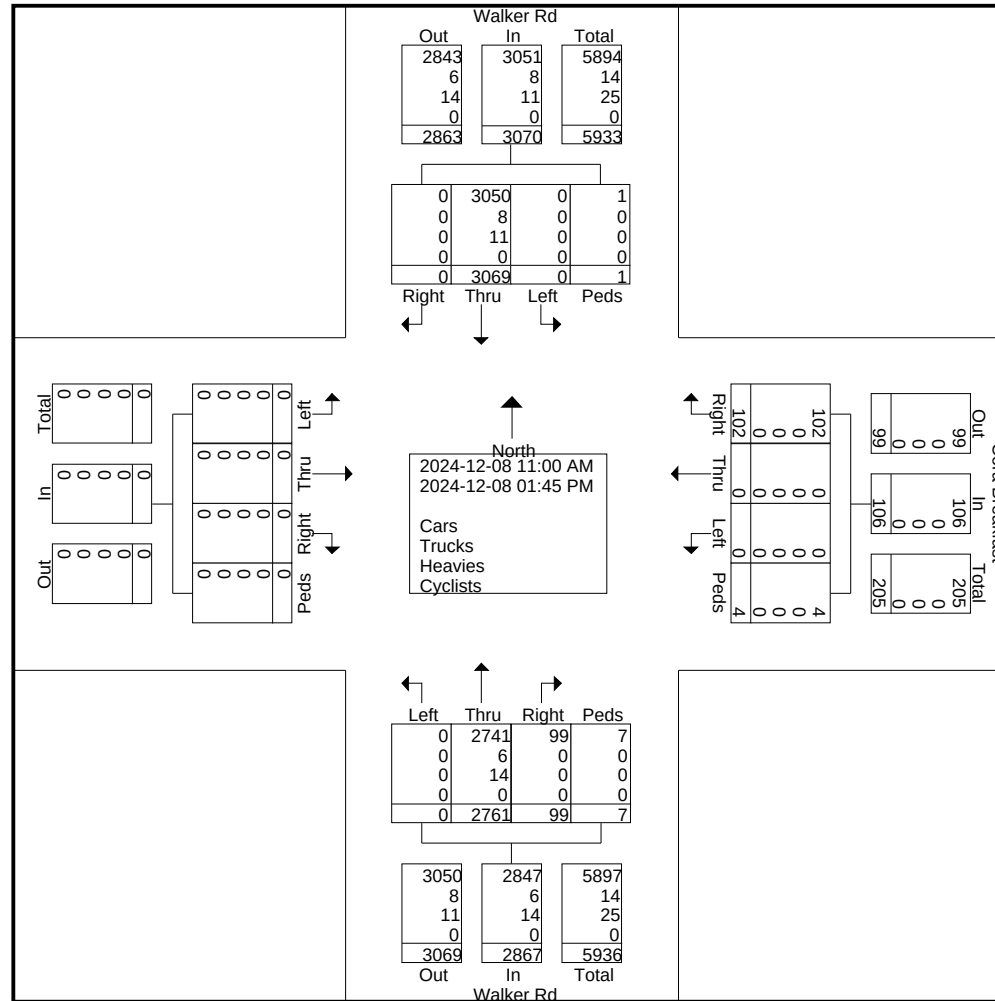
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SUN

Site Code : Loc-19

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

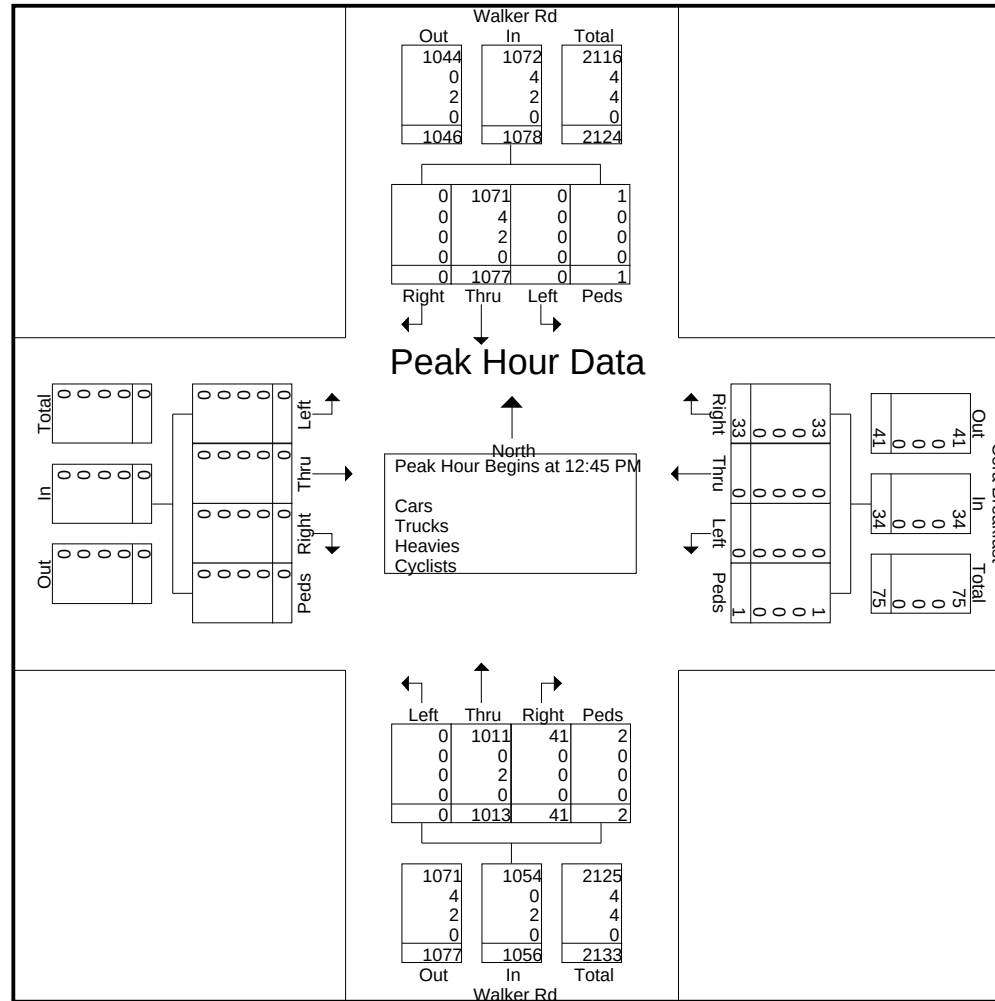
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SUN

Site Code : Loc-19

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

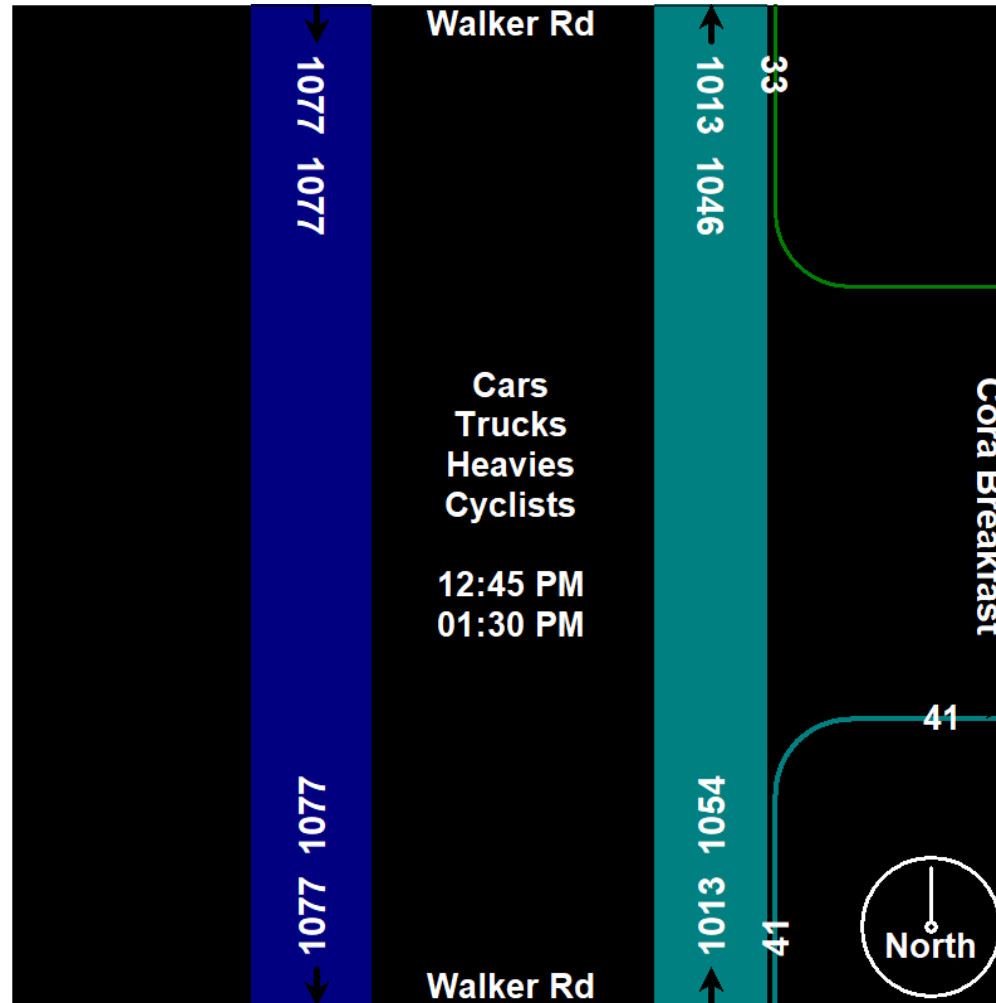
Your Traffic Count Specialist

File Name : UnSignalized Driveway #3 on Walker Road-SUN

Site Code : Loc-19

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Petro Canada N Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	275	0	0	275	6	0	0	0	6	1	203	0	0	204	0	0	0	0	0	485
11:15 AM	0	246	0	0	246	7	0	0	1	8	4	194	0	0	198	0	0	0	0	0	452
11:30 AM	0	220	0	0	220	7	0	0	1	8	5	206	0	0	211	0	0	0	0	0	439
11:45 AM	0	294	0	0	294	12	0	0	0	12	8	213	0	0	221	0	0	0	0	0	527
Total	0	1035	0	0	1035	32	0	0	2	34	18	816	0	0	834	0	0	0	0	0	1903
12:00 PM	0	238	0	0	238	10	0	0	0	10	1	240	0	0	241	0	0	0	0	0	489
12:15 PM	0	290	0	1	291	11	0	0	1	12	5	201	0	1	207	0	0	0	0	0	510
12:30 PM	0	267	0	0	267	7	0	0	0	7	5	248	0	0	253	0	0	0	0	0	527
12:45 PM	0	274	0	0	274	10	0	0	0	10	4	273	0	0	277	0	0	0	0	0	561
Total	0	1069	0	1	1070	38	0	0	1	39	15	962	0	1	978	0	0	0	0	0	2087
01:00 PM	0	278	0	0	278	7	0	0	0	7	8	254	0	0	262	0	0	0	0	0	547
01:15 PM	0	308	0	0	308	8	0	0	0	8	2	268	0	0	270	0	0	0	0	0	586
01:30 PM	0	269	0	0	269	9	0	0	0	9	5	231	0	0	236	0	0	0	0	0	514
01:45 PM	0	282	0	0	282	9	0	0	0	9	4	229	0	0	233	0	0	0	0	0	524
Total	0	1137	0	0	1137	33	0	0	0	33	19	982	0	0	1001	0	0	0	0	0	2171
Grand Total	0	3241	0	1	3242	103	0	0	3	106	52	2760	0	1	2813	0	0	0	0	0	6161
Apprch %	0	100	0	0		97.2	0	0	2.8		1.8	98.1	0	0		0	0	0	0		
Total %	0	52.6	0	0	52.6	1.7	0	0	0	1.7	0.8	44.8	0	0	45.7	0	0	0	0	0	
Cars	0	3221	0	1	3222	103	0	0	3	106	52	2740	0	1	2793	0	0	0	0	0	6121
% Cars	0	99.4	0	100	99.4	100	0	0	100	100	100	99.3	0	100	99.3	0	0	0	0	0	99.4
Trucks	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	15
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2
Heavies	0	11	0	0	11	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	25
% Heavies	0	0.3	0	0	0.3	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0			

Horizon Data Services Ltd

(416) 840-6619

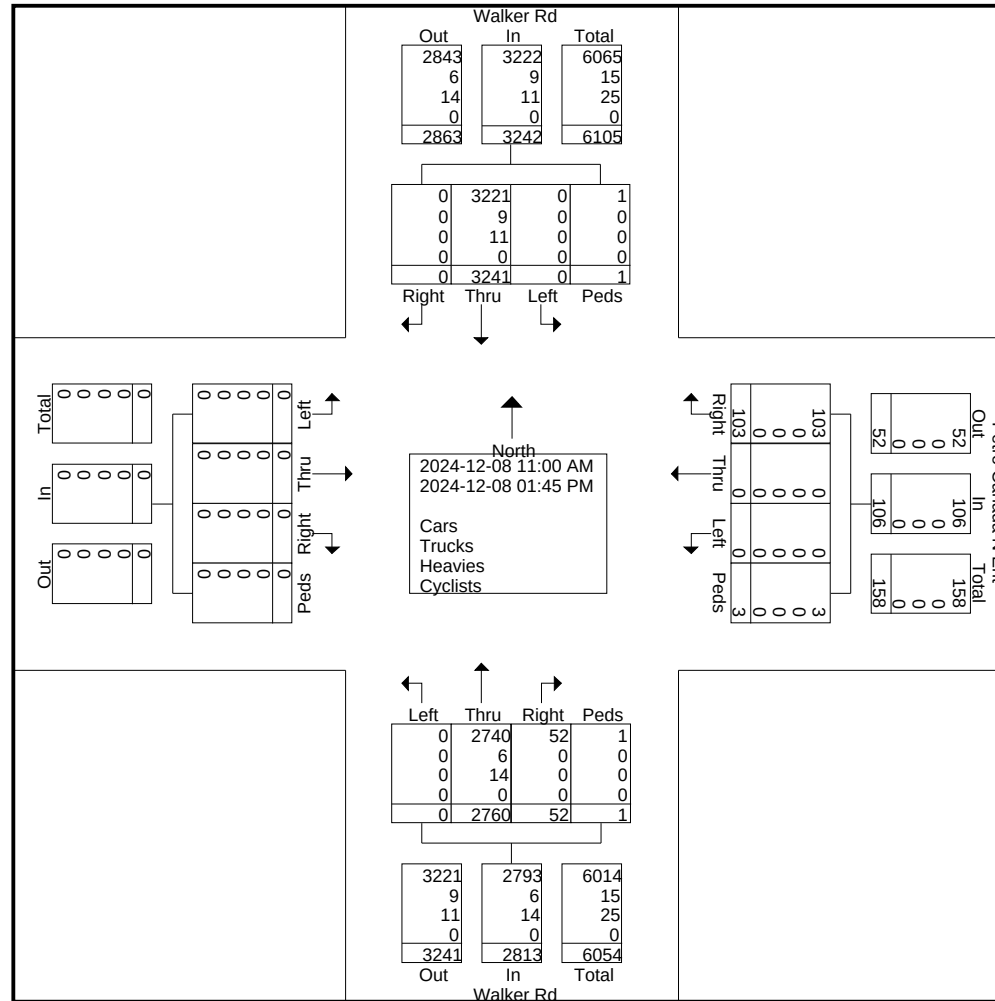
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SUN

Site Code : Loc-20

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

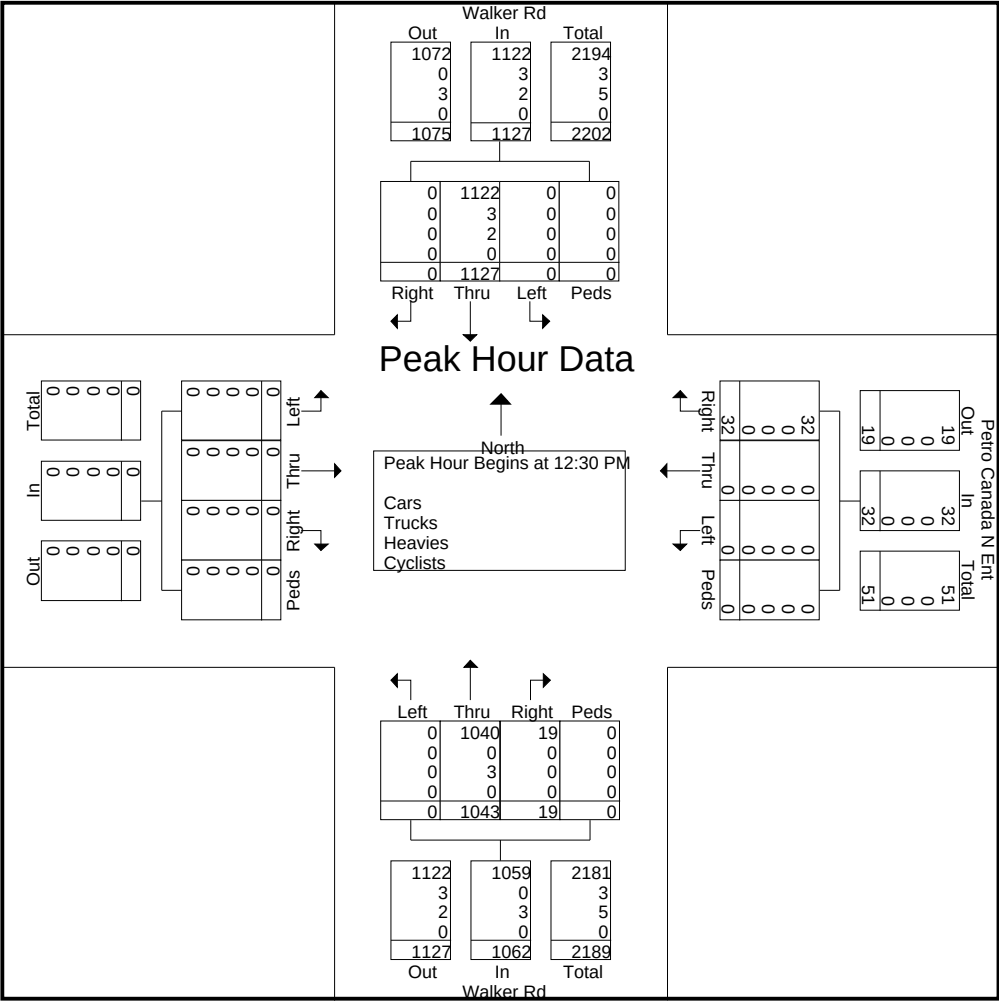
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SUN

Site Code : Loc-20

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

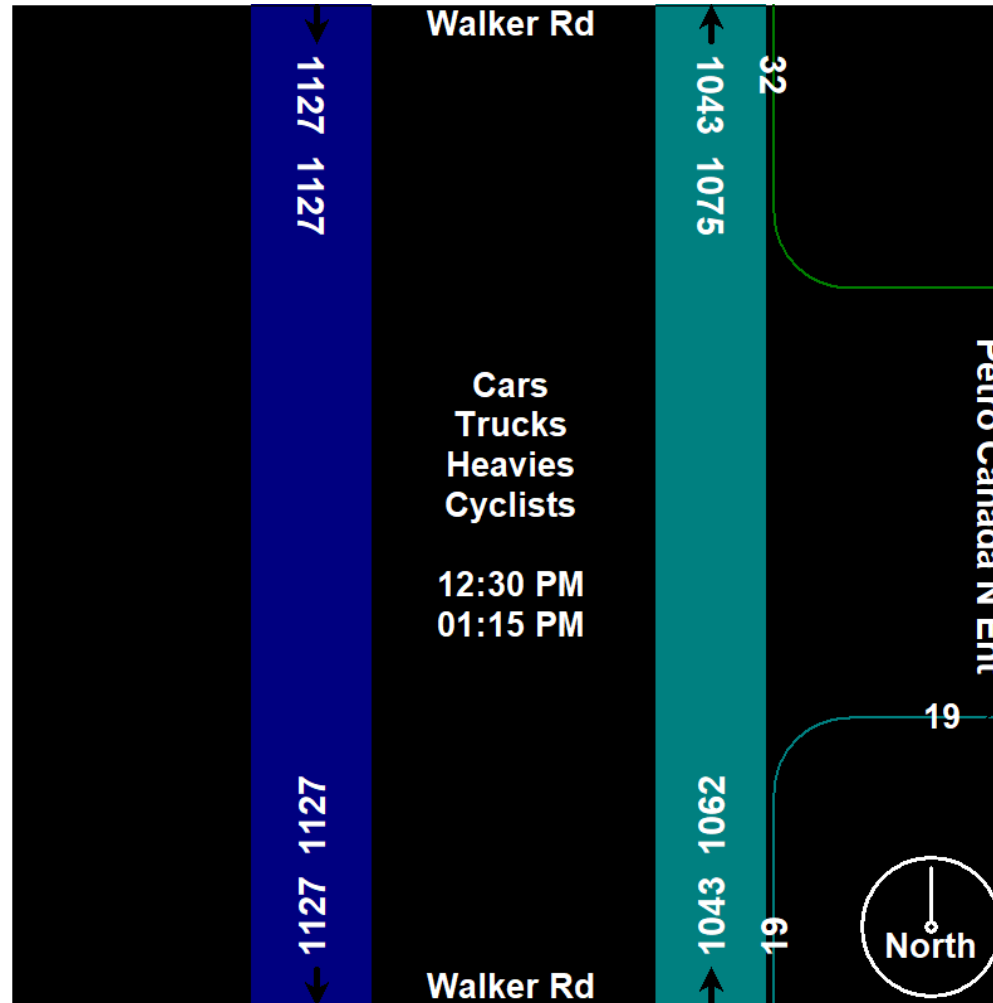
Your Traffic Count Specialist

File Name : UnSignalized Driveway #4 on Walker Road-SUN

Site Code : Loc-20

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Petro Canada From East					Walker Rd From South					Best Buy Ent From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	11	231	14	3	259	6	3	7	1	17	14	191	30	1	236	22	2	7	2	33	545
11:15 AM	11	229	14	4	258	7	3	11	0	21	18	175	30	0	223	36	1	13	1	51	553
11:30 AM	18	192	11	0	221	5	6	16	1	28	19	179	29	0	227	34	3	18	0	55	531
11:45 AM	12	250	22	1	285	5	1	11	0	17	13	214	24	0	251	31	3	10	0	44	597
Total	52	902	61	8	1023	23	13	45	2	83	64	759	113	1	937	123	9	48	3	183	2226
12:00 PM	8	222	15	0	245	6	6	11	0	23	7	227	28	0	262	37	2	11	0	50	580
12:15 PM	13	262	17	0	292	9	7	17	0	33	15	171	26	1	213	44	3	17	1	65	603
12:30 PM	8	215	24	1	248	16	7	11	0	34	16	231	40	0	287	31	6	19	0	56	625
12:45 PM	9	263	20	4	296	11	7	22	2	42	11	239	39	1	290	40	2	24	4	70	698
Total	38	962	76	5	1081	42	27	61	2	132	49	868	133	2	1052	152	13	71	5	241	2506
01:00 PM	11	228	26	1	266	7	4	14	2	27	13	232	36	2	283	51	3	14	2	70	646
01:15 PM	17	258	26	0	301	10	2	15	0	27	11	232	33	3	279	39	6	19	0	64	671
01:30 PM	19	243	17	2	281	6	1	13	0	20	11	223	36	0	270	44	3	16	2	65	636
01:45 PM	18	238	18	2	276	8	6	18	1	33	15	203	35	1	254	52	2	16	2	72	635
Total	65	967	87	5	1124	31	13	60	3	107	50	890	140	6	1086	186	14	65	6	271	2588
Grand Total	155	2831	224	18	3228	96	53	166	7	322	163	2517	386	9	3075	461	36	184	14	695	7320
Apprch %	4.8	87.7	6.9	0.6		29.8	16.5	51.6	2.2		5.3	81.9	12.6	0.3		66.3	5.2	26.5	2		
Total %	2.1	38.7	3.1	0.2	44.1	1.3	0.7	2.3	0.1	4.4	2.2	34.4	5.3	0.1	42	6.3	0.5	2.5	0.2	9.5	
Cars	155	2812	224	18	3209	96	53	166	7	322	163	2497	386	9	3055	461	36	184	14	695	7281
% Cars	100	99.3	100	100	99.4	100	100	100	100	100	100	99.2	100	100	99.3	100	100	100	100	100	99.5
Trucks	0	8	0	0	8	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	14
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2
Heavies	0	11	0	0	11	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	25
% Heavies	0	0.4	0	0	0.3	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0.3
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

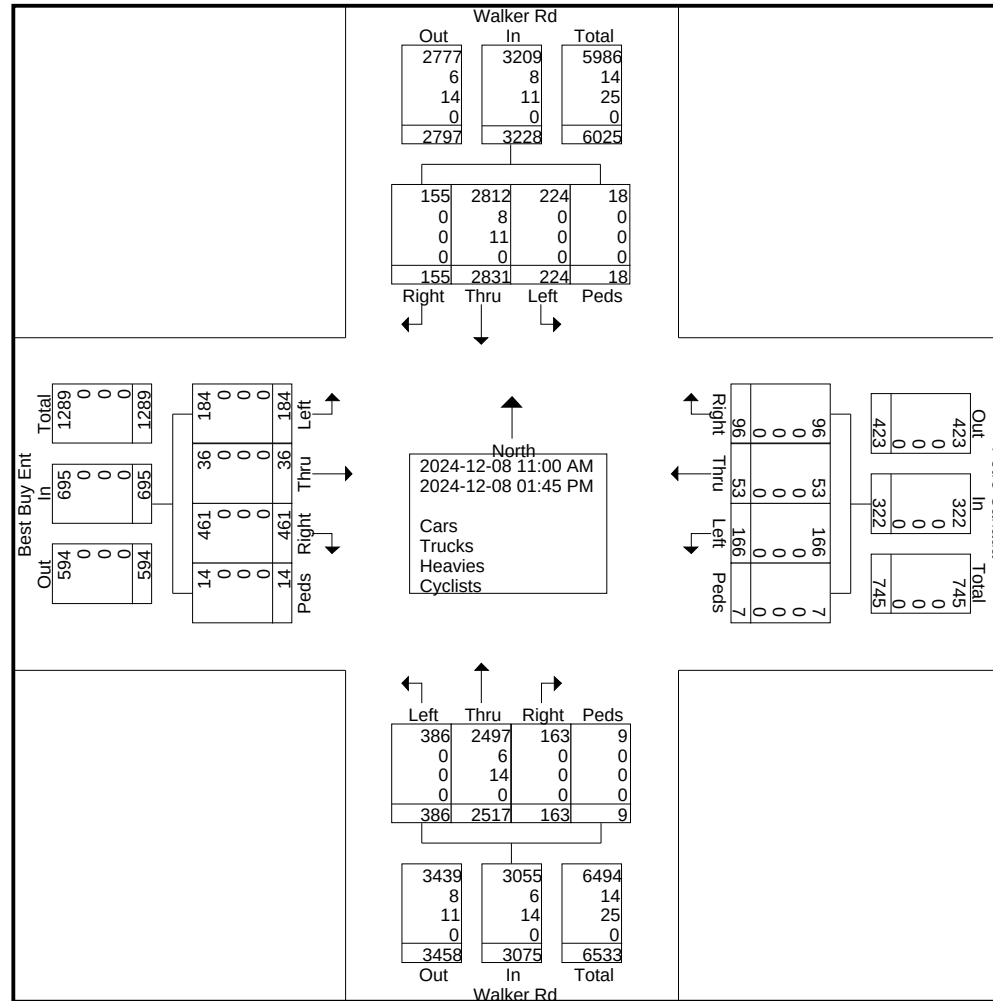
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SUN

Site Code : Loc-16

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

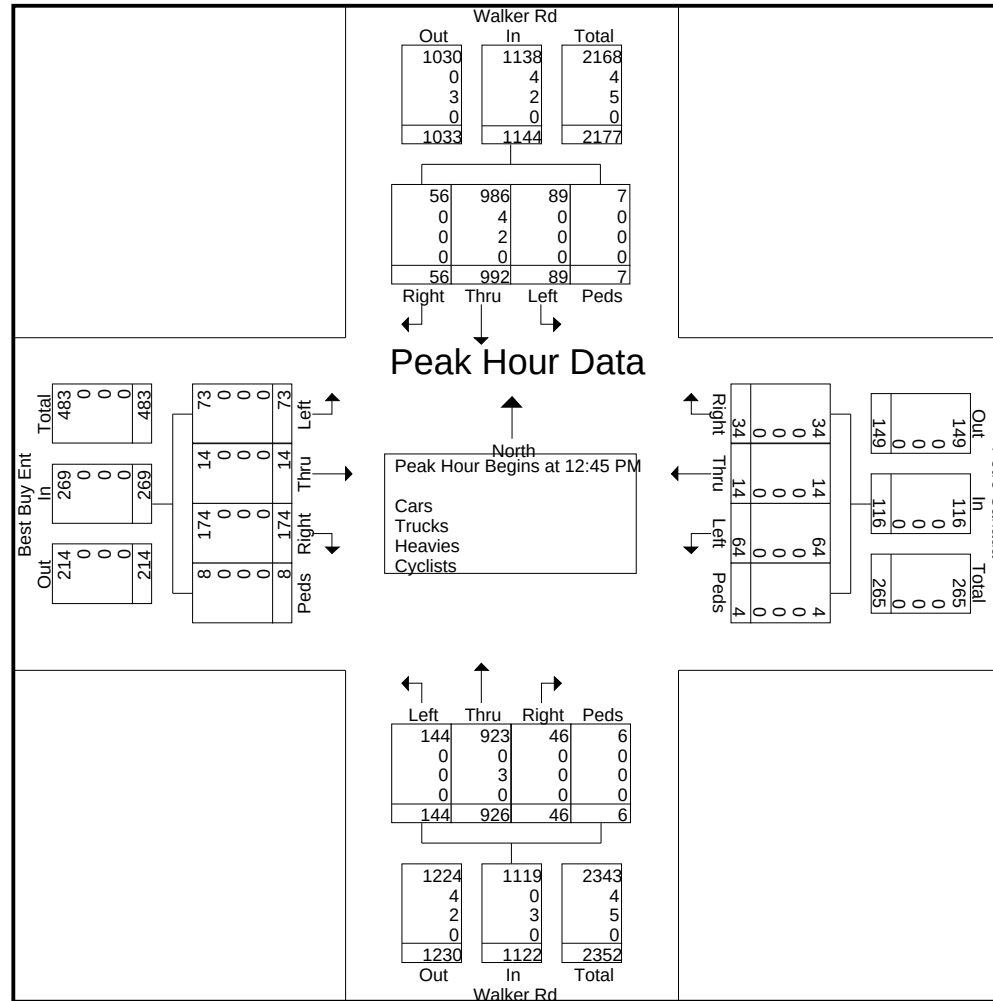
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SUN

Site Code : Loc-16

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

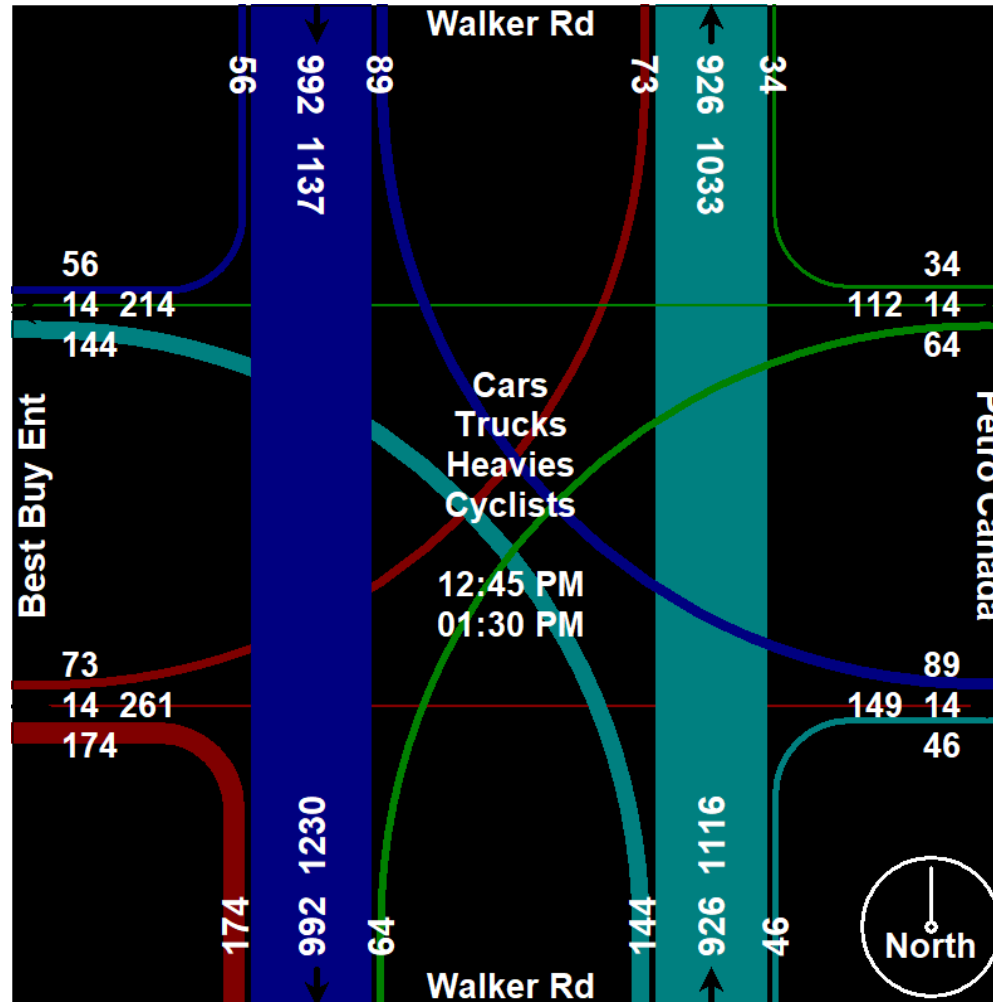
Your Traffic Count Specialist

File Name : Signalized Driveway #3 on Walker Road -SUN

Site Code : Loc-16

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Swiss Chalet Ent From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	231	11	0	242	9	0	3	0	12	12	225	0	0	237	0	0	0	0	0	491
11:15 AM	0	222	10	0	232	20	0	10	0	30	14	202	0	4	220	0	0	0	0	0	482
11:30 AM	0	190	18	0	208	16	0	7	0	23	16	216	0	0	232	0	0	0	0	0	463
11:45 AM	0	223	17	0	240	18	0	4	0	22	20	224	0	0	244	0	0	0	0	0	506
Total	0	866	56	0	922	63	0	24	0	87	62	867	0	4	933	0	0	0	0	0	1942
12:00 PM	0	217	21	0	238	18	0	10	0	28	25	246	0	0	271	0	0	0	0	0	537
12:15 PM	0	254	19	0	273	23	0	10	0	33	17	192	0	0	209	0	0	0	0	0	515
12:30 PM	0	217	15	0	232	21	0	13	0	34	22	264	0	0	286	0	0	0	0	0	552
12:45 PM	0	258	22	0	280	27	0	12	0	39	25	263	0	0	288	0	0	0	0	0	607
Total	0	946	77	0	1023	89	0	45	0	134	89	965	0	0	1054	0	0	0	0	0	2211
01:00 PM	0	244	20	0	264	28	0	12	0	40	10	251	0	0	261	0	0	0	0	0	565
01:15 PM	0	246	10	0	256	26	0	12	0	38	26	248	0	0	274	0	0	0	0	0	568
01:30 PM	0	245	22	0	267	32	0	7	0	39	20	241	0	0	261	0	0	0	0	0	567
01:45 PM	0	251	29	0	280	26	0	12	0	38	24	230	0	0	254	0	0	0	0	0	572
Total	0	986	81	0	1067	112	0	43	0	155	80	970	0	0	1050	0	0	0	0	0	2272
Grand Total	0	2798	214	0	3012	264	0	112	0	376	231	2802	0	4	3037	0	0	0	0	0	6425
Apprch %	0	92.9	7.1	0		70.2	0	29.8	0		7.6	92.3	0	0.1		0	0	0	0		
Total %	0	43.5	3.3	0	46.9	4.1	0	1.7	0	5.9	3.6	43.6	0	0.1	47.3	0	0	0	0	0	
Cars	0	2780	213	0	2993	264	0	111	0	375	231	2782	0	4	3017	0	0	0	0	0	6385
% Cars	0	99.4	99.5	0	99.4	100	0	99.1	0	99.7	100	99.3	0	100	99.3	0	0	0	0	0	99.4
Trucks	0	7	1	0	8	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	15
% Trucks	0	0.3	0.5	0	0.3	0	0	0.9	0	0.3	0	0.2	0	0	0.2	0	0	0	0	0	0.2
Heavies	0	11	0	0	11	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	25
% Heavies	0	0.4	0	0	0.4	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.4
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

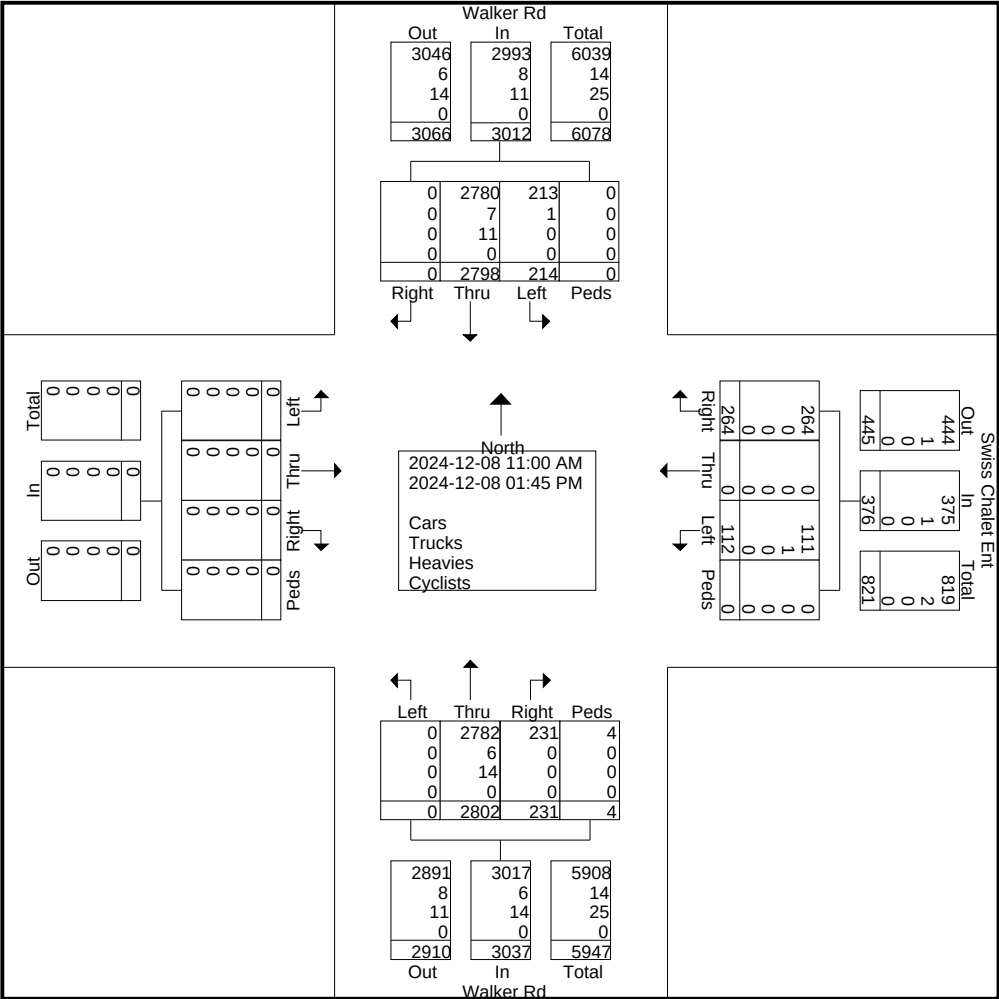
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SUN

Site Code : Loc-21

Start Date : 2024-12-08

Page No : 2



[illegible]

Horizon Data Services Ltd

(416) 840-6619

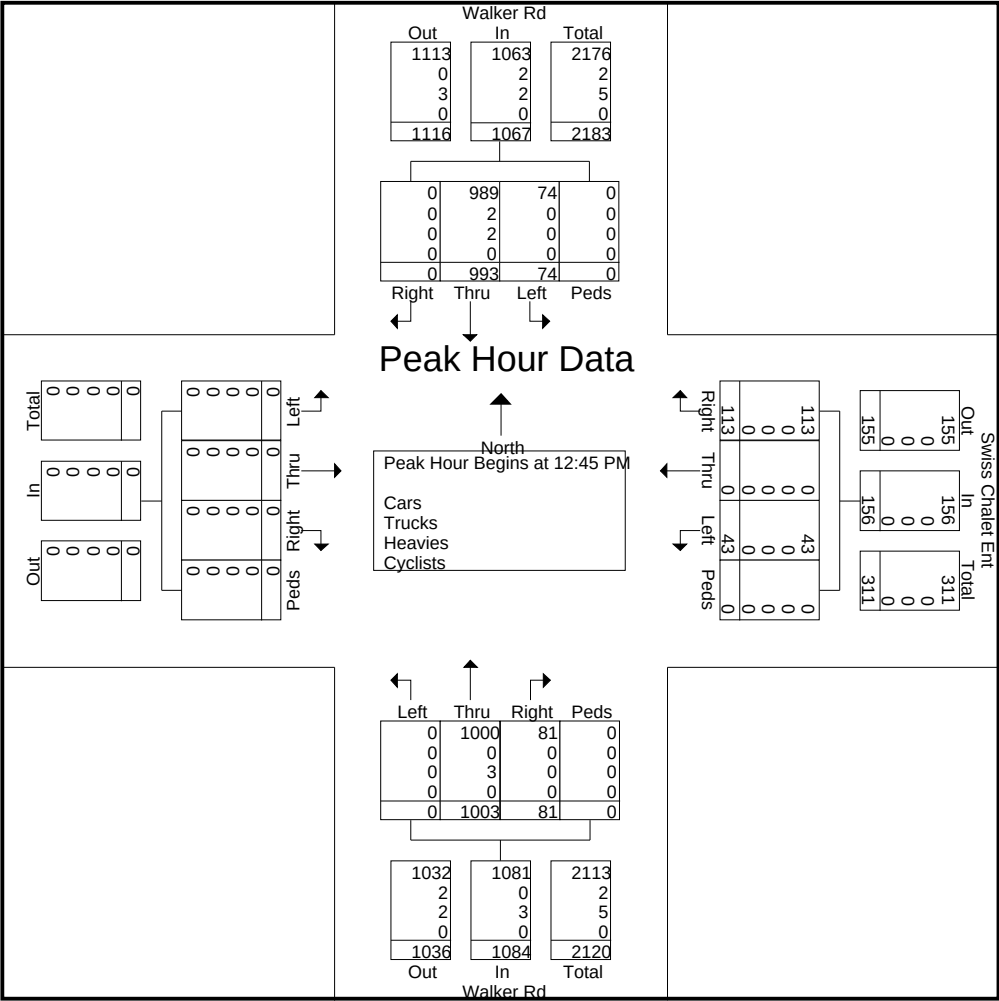
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SUN

Site Code : Loc-21

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

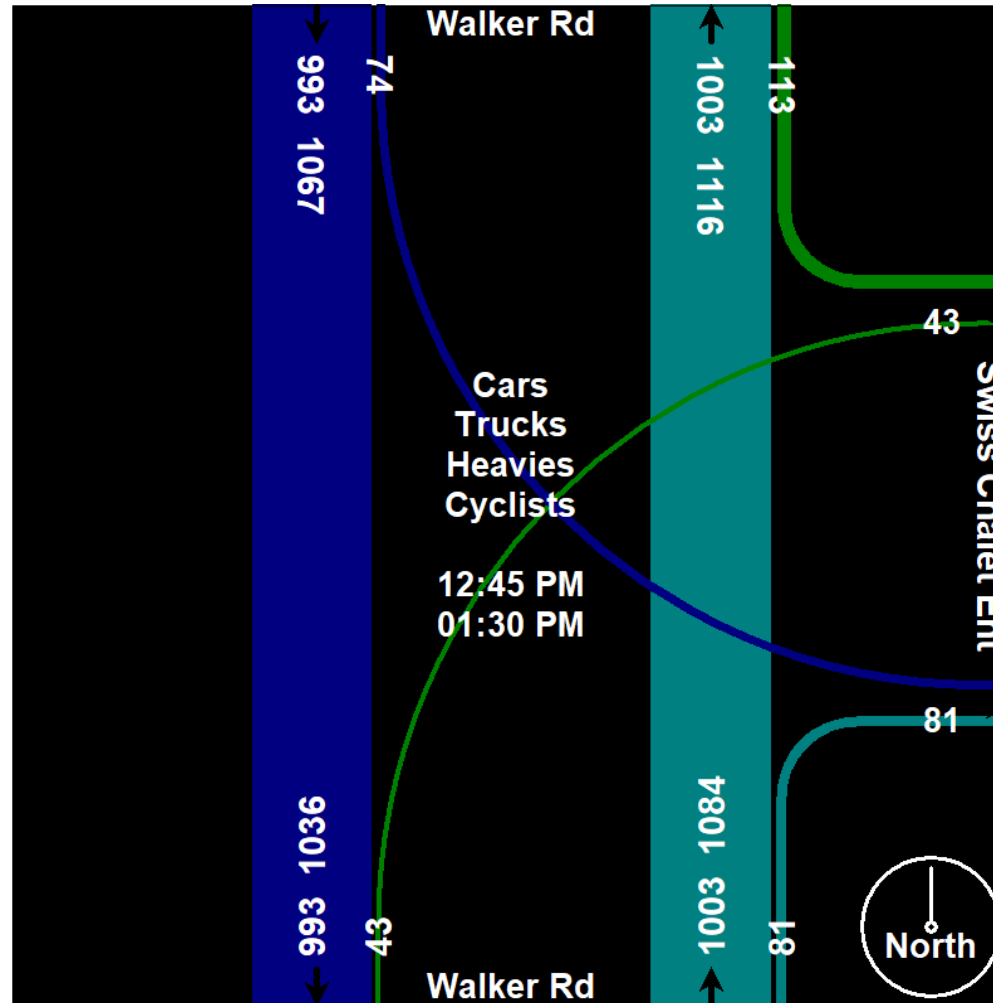
Your Traffic Count Specialist

File Name : UnSignalized Driveway #5 on Walker Road-SUN

Site Code : Loc-21

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					7th Conc From East					Walker Rd From South					Legacy Park Dr From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	28	181	21	2	232	14	22	11	0	47	34	172	62	0	268	24	21	43	2	90	637
11:15 AM	20	201	15	0	236	4	22	17	0	43	29	165	42	0	236	35	20	54	0	109	624
11:30 AM	31	150	6	0	187	10	13	18	0	41	20	178	52	0	250	28	11	53	0	92	570
11:45 AM	20	191	10	0	221	4	22	18	0	44	28	166	60	0	254	29	23	67	0	119	638
Total	99	723	52	2	876	32	79	64	0	175	111	681	216	0	1008	116	75	217	2	410	2469
12:00 PM	26	198	10	0	234	6	15	15	0	36	19	219	33	0	271	29	12	55	0	96	637
12:15 PM	25	219	12	0	256	10	17	29	0	56	28	170	35	0	233	32	24	38	0	94	639
12:30 PM	30	180	9	0	219	34	25	38	0	97	14	197	35	0	246	28	17	59	0	104	666
12:45 PM	24	227	15	0	266	12	28	26	0	66	22	226	52	0	300	29	21	59	0	109	741
Total	105	824	46	0	975	62	85	108	0	255	83	812	155	0	1050	118	74	211	0	403	2683
01:00 PM	29	222	12	0	263	16	20	16	0	52	16	174	52	0	242	31	23	70	0	124	681
01:15 PM	30	198	7	0	235	15	20	26	0	61	15	199	44	0	258	27	26	61	0	114	668
01:30 PM	30	211	15	0	256	9	26	17	0	52	24	200	51	2	277	35	29	51	1	116	701
01:45 PM	30	227	12	0	269	5	17	21	0	43	25	197	48	0	270	38	30	57	1	126	708
Total	119	858	46	0	1023	45	83	80	0	208	80	770	195	2	1047	131	108	239	2	480	2758
Grand Total	323	2405	144	2	2874	139	247	252	0	638	274	2263	566	2	3105	365	257	667	4	1293	7910
Apprch %	11.2	83.7	5	0.1		21.8	38.7	39.5	0		8.8	72.9	18.2	0.1		28.2	19.9	51.6	0.3		
Total %	4.1	30.4	1.8	0	36.3	1.8	3.1	3.2	0	8.1	3.5	28.6	7.2	0	39.3	4.6	3.2	8.4	0.1	16.3	
Cars	323	2386	144	2	2855	138	247	251	0	636	270	2243	564	2	3079	364	257	667	4	1292	7862
% Cars	100	99.2	100	100	99.3	99.3	100	99.6	0	99.7	98.5	99.1	99.6	100	99.2	99.7	100	100	100	99.9	99.4
Trucks	0	8	0	0	8	1	0	0	0	1	3	6	1	0	10	0	0	0	0	0	19
% Trucks	0	0.3	0	0	0.3	0.7	0	0	0	0.2	1.1	0.3	0.2	0	0.3	0	0	0	0	0	0.2
Heavies	0	11	0	0	11	0	0	1	0	1	1	14	1	0	16	1	0	0	0	1	29
% Heavies	0	0.5	0	0	0.4	0	0	0.4	0	0.2	0.4	0.6	0.2								

Horizon Data Services Ltd

(416) 840-6619

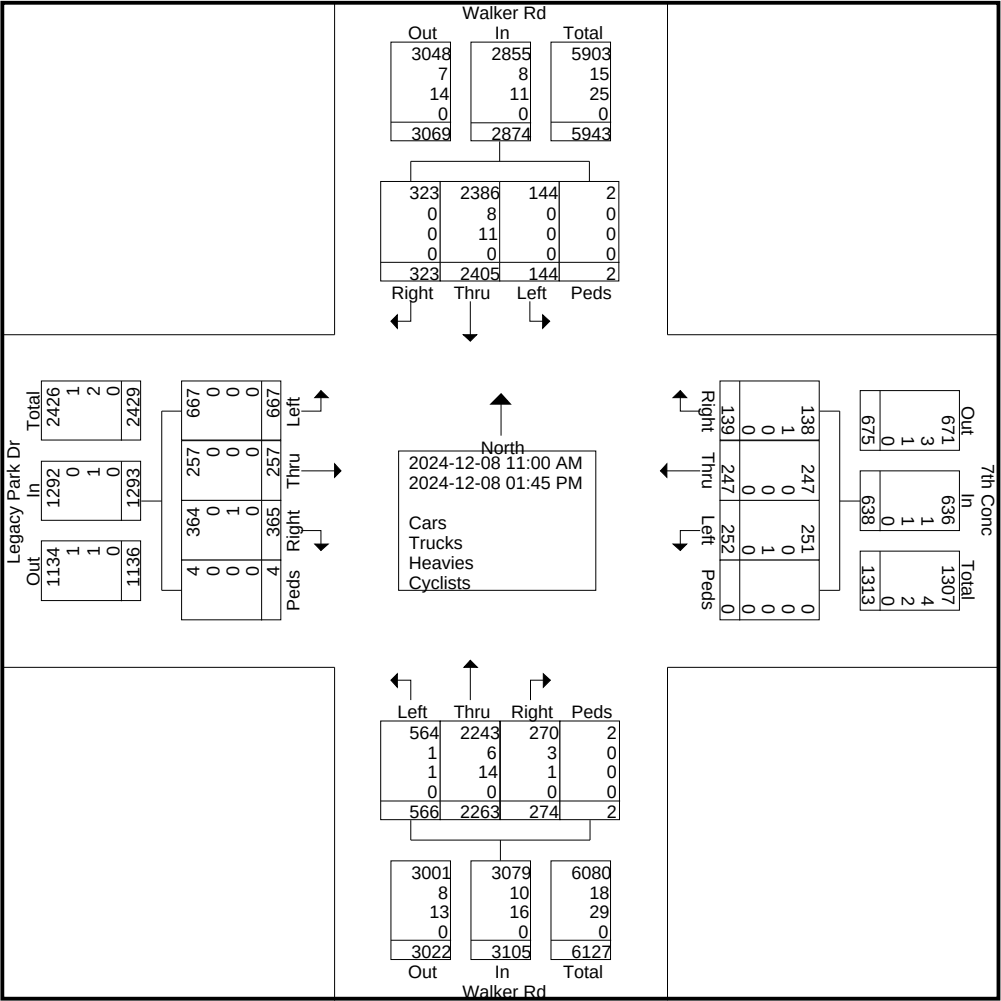
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SUN

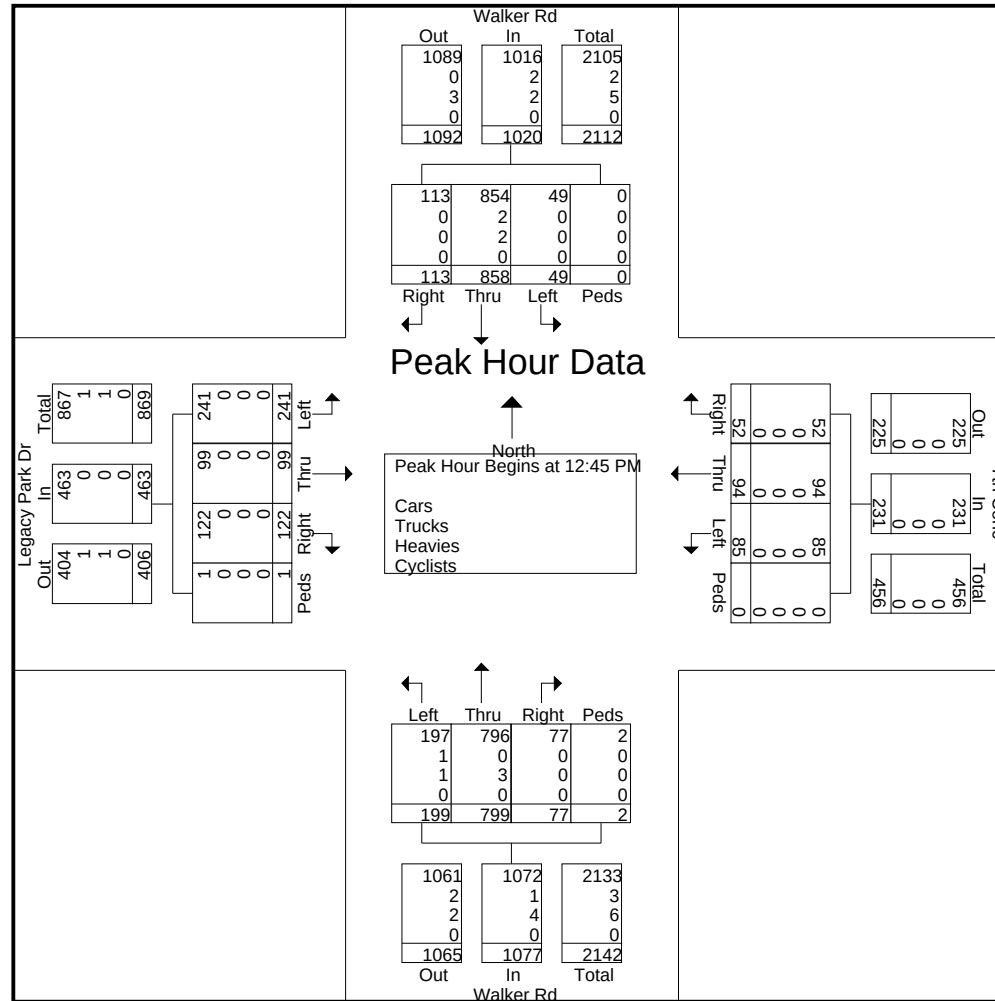
Site Code : Loc-10

Start Date : 2024-12-08

Page No : 2



[illegible]



Horizon Data Services Ltd

(416) 840-6619

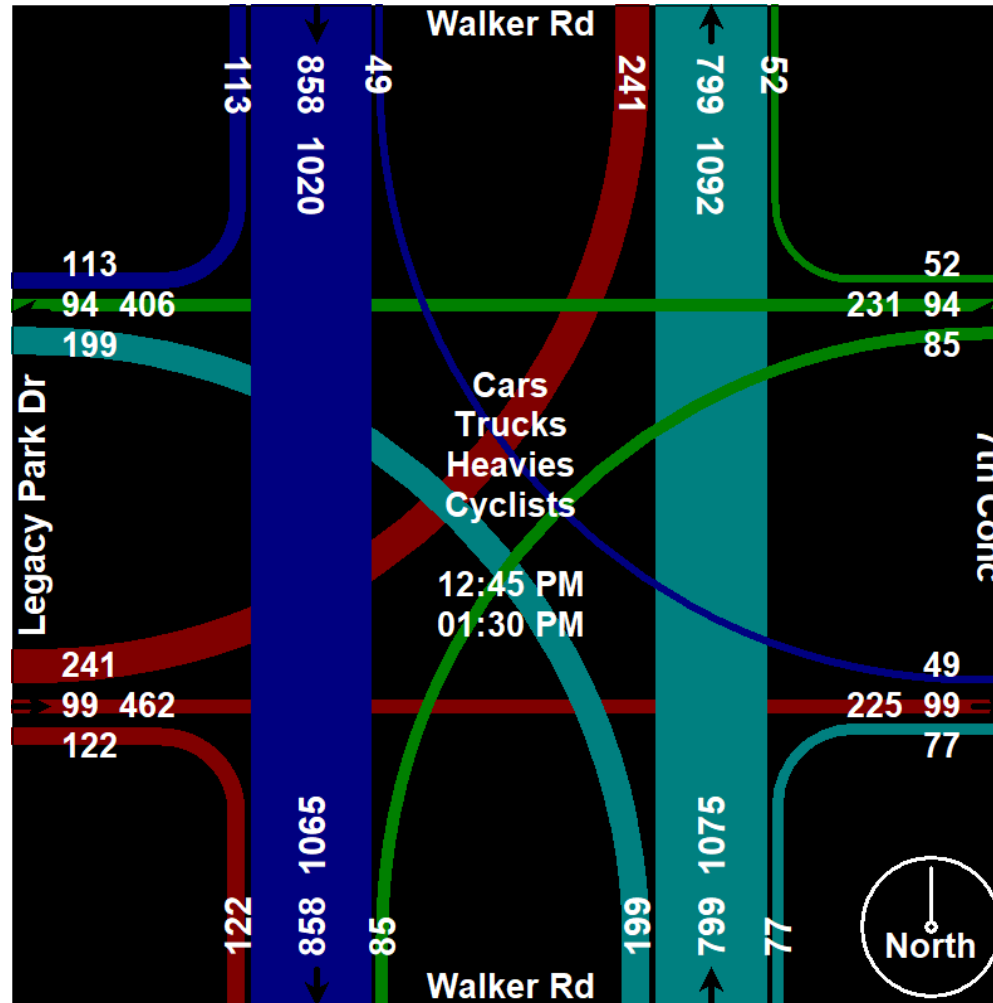
Your Traffic Count Specialist

File Name : Walker Road at 7th Concession Road-SUN

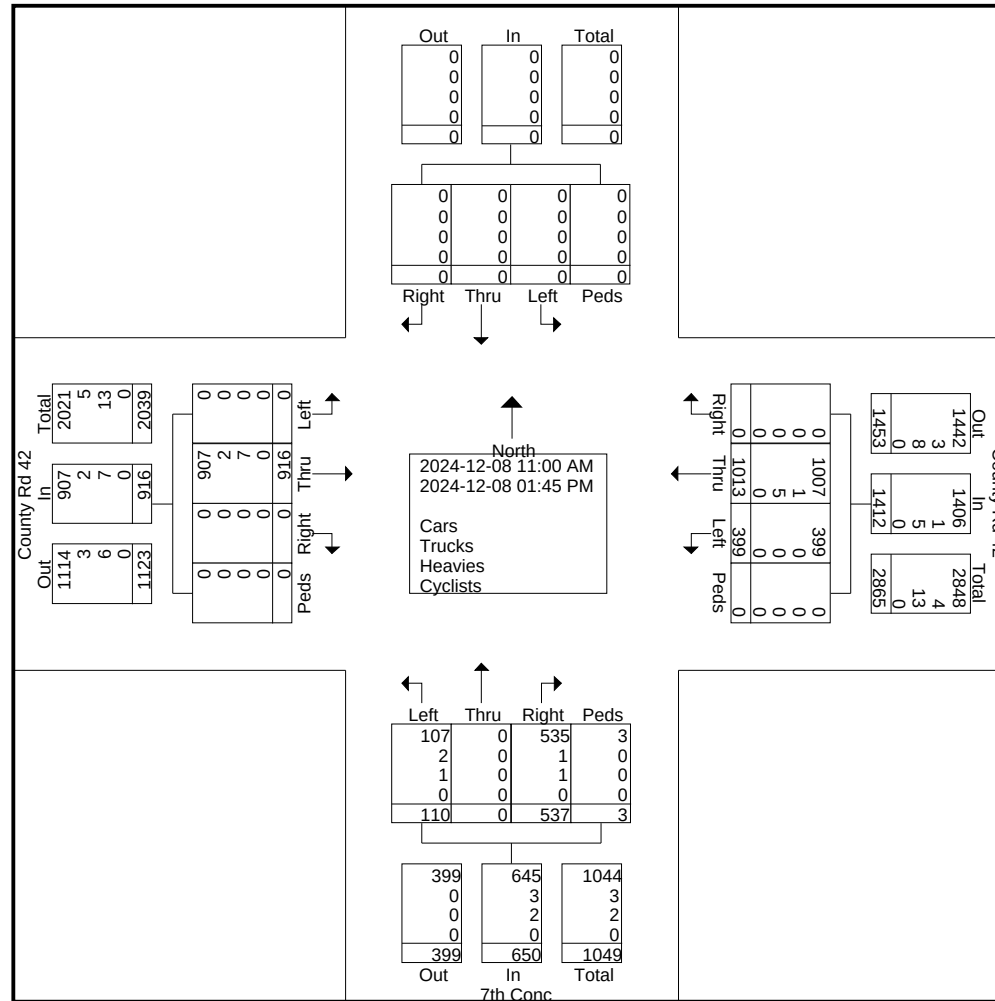
Site Code : Loc-10

Start Date : 2024-12-08

Page No : 5



	County Rd 42 From North						County Rd 42 From East					7th Conc From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	0	0	0	0	0	0	60	37	0	97	30	0	10	0	40	0	54	0	0	54	191	
11:15 AM	0	0	0	0	0	0	88	27	0	115	44	0	6	1	51	0	68	0	0	68	234	
11:30 AM	0	0	0	0	0	0	81	33	0	114	31	0	3	0	34	0	52	0	0	52	200	
11:45 AM	0	0	0	0	0	0	81	35	0	116	55	0	3	0	58	0	65	0	0	65	239	
Total	0	0	0	0	0	0	310	132	0	442	160	0	22	1	183	0	239	0	0	239	864	
12:00 PM	0	0	0	0	0	0	92	32	0	124	32	0	10	0	42	0	79	0	0	79	245	
12:15 PM	0	0	0	0	0	0	93	35	0	128	55	0	16	0	71	0	92	0	0	92	291	
12:30 PM	0	0	0	0	0	0	85	28	0	113	41	0	15	0	56	0	88	0	0	88	257	
12:45 PM	0	0	0	0	0	0	89	21	0	110	52	0	13	0	65	0	90	0	0	90	265	
Total	0	0	0	0	0	0	359	116	0	475	180	0	54	0	234	0	349	0	0	349	1058	
01:00 PM	0	0	0	0	0	0	100	33	0	133	44	0	9	0	53	0	99	0	0	99	285	
01:15 PM	0	0	0	0	0	0	96	41	0	137	44	0	11	0	55	0	86	0	0	86	278	
01:30 PM	0	0	0	0	0	0	69	36	0	105	50	0	7	0	57	0	75	0	0	75	237	
01:45 PM	0	0	0	0	0	0	79	41	0	120	59	0	7	2	68	0	68	0	0	68	256	
Total	0	0	0	0	0	0	344	151	0	495	197	0	34	2	233	0	328	0	0	328	1056	
Grand Total	0	0	0	0	0	0	1013	399	0	1412	537	0	110	3	650	0	916	0	0	916	2978	
Apprch %	0	0	0	0	0	0	71.7	28.3	0		82.6	0	16.9	0.5		0	100	0	0			
Total %	0	0	0	0	0	0	34	13.4	0	47.4	18	0	3.7	0.1	21.8	0	30.8	0	0	30.8		
Cars	0	0	0	0	0	0	1007	399	0	1406	535	0	107	3	645	0	907	0	0	907	2958	
% Cars	0	0	0	0	0	0	99.4	100	0	99.6	99.6	0	97.3	100	99.2	0	99	0	0	99	99.3	
Trucks	0	0	0	0	0	0	1	0	0	1	1	0	2	0	3	0	2	0	0	2	6	
% Trucks	0	0	0	0	0	0	0.1	0	0	0.1	0.2	0	1.8	0	0.5	0	0.2	0	0	0.2	0.2	
Heavies	0	0	0	0	0	0	5	0	0	5	1	0	1	0	2	0	7	0	0	7	14	
% Heavies	0	0	0	0	0	0	0.5	0	0	0.4	0.2	0	0.9	0								



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road-SUN

Site Code : Loc-11

Start Date : 2024-12-08

Page No : 3

[illegible]

Horizon Data Services Ltd

(416) 840-6619

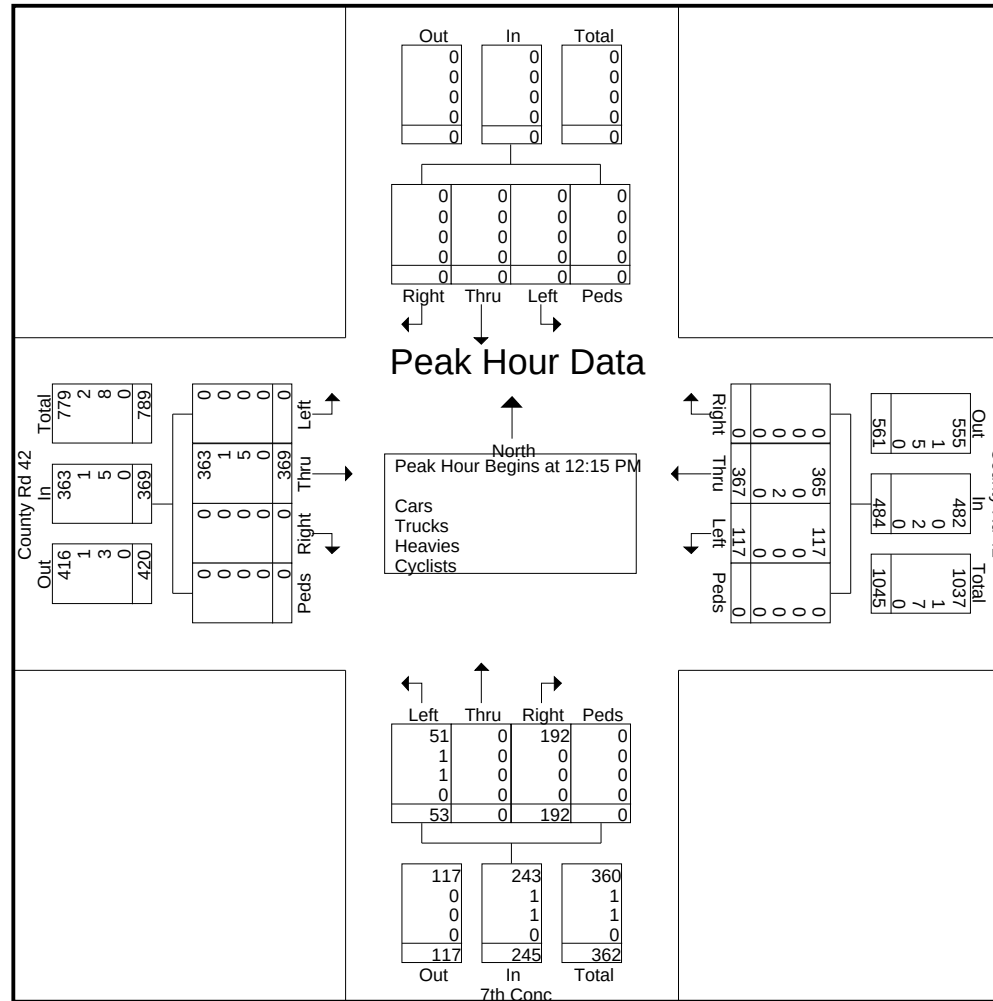
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road-SUN

Site Code : Loc-11

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

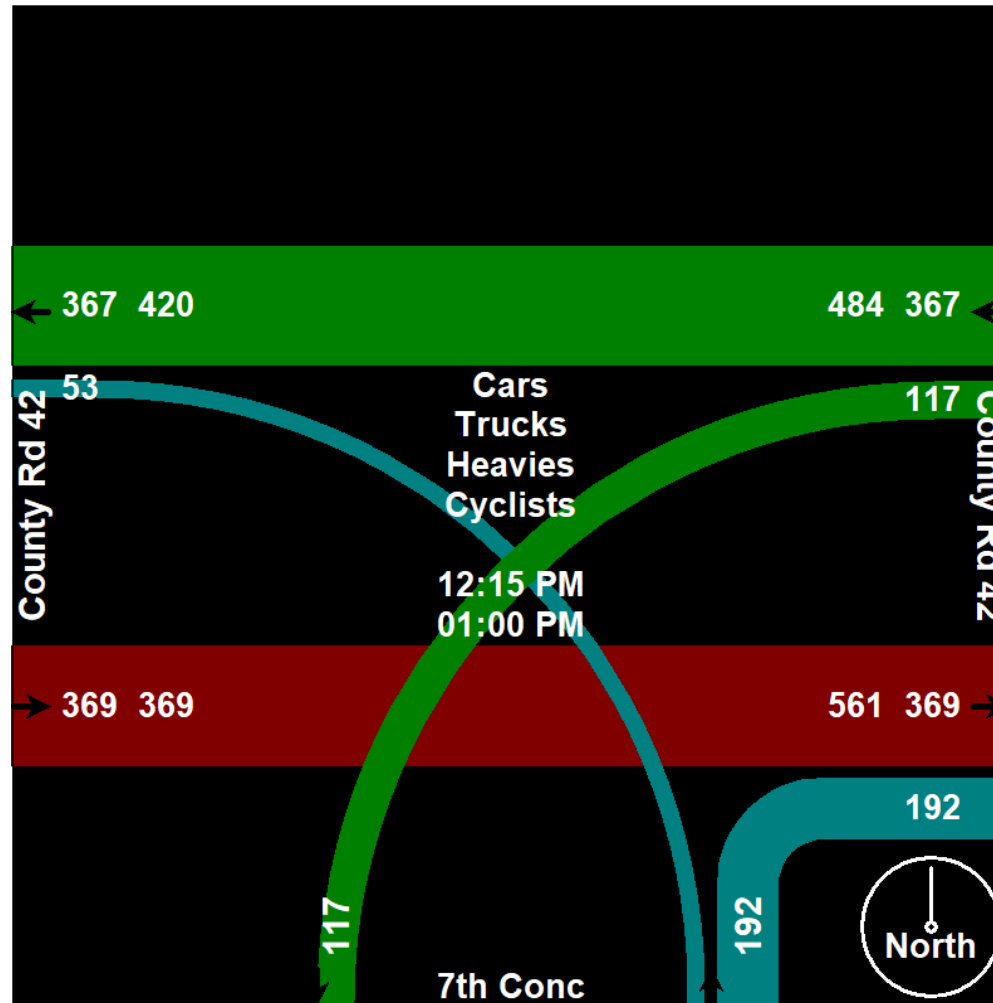
Your Traffic Count Specialist

File Name : County Road 42 at 7th Concession Road-SUN

Site Code : Loc-11

Start Date : 2024-12-08

Page No : 5



	Walker Rd From North					Site Driveway From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	298	0	0	298	0	0	0	0	0	0	221	0	0	221	0	0	0	0	0	519
11:15 AM	0	289	0	0	289	0	0	0	1	1	1	232	0	0	233	0	0	0	0	0	523
11:30 AM	0	285	0	0	285	2	0	0	1	3	3	216	0	1	220	0	0	0	0	0	508
11:45 AM	0	325	0	0	325	1	0	0	0	1	3	220	0	0	223	0	0	0	0	0	549
Total	0	1197	0	0	1197	3	0	0	2	5	7	889	0	1	897	0	0	0	0	0	2099
12:00 PM	0	282	0	0	282	0	0	0	1	1	2	268	0	0	270	0	0	0	0	0	553
12:15 PM	0	322	0	0	322	1	0	0	0	1	5	235	0	0	240	0	0	0	0	0	563
12:30 PM	0	325	0	0	325	0	0	0	0	0	1	306	0	0	307	0	0	0	0	0	632
12:45 PM	0	338	0	0	338	0	0	0	2	2	2	290	0	0	292	0	0	0	0	0	632
Total	0	1267	0	0	1267	1	0	0	3	4	10	1099	0	0	1109	0	0	0	0	0	2380
01:00 PM	0	322	0	0	322	0	0	0	0	0	5	301	0	0	306	0	0	0	0	0	628
01:15 PM	0	329	0	0	329	2	0	0	0	2	2	299	0	0	301	0	0	0	0	0	632
01:30 PM	0	336	0	0	336	1	0	0	2	3	3	258	0	0	261	0	0	0	0	0	600
01:45 PM	0	314	0	0	314	3	0	0	0	3	1	267	0	0	268	0	0	0	0	0	585
Total	0	1301	0	0	1301	6	0	0	2	8	11	1125	0	0	1136	0	0	0	0	0	2445
Grand Total	0	3765	0	0	3765	10	0	0	7	17	28	3113	0	1	3142	0	0	0	0	0	6924
Apprch %	0	100	0	0		58.8	0	0	41.2		0.9	99.1	0	0		0	0	0	0		
Total %	0	54.4	0	0	54.4	0.1	0	0	0.1	0.2	0.4	45	0	0	45.4	0	0	0	0	0	
Cars	0	3743	0	0	3743	10	0	0	7	17	28	3092	0	1	3121	0	0	0	0	0	6881
% Cars	0	99.4	0	0	99.4	100	0	0	100	100	100	99.3	0	100	99.3	0	0	0	0	0	99.4
Trucks	0	11	0	0	11	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	19
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.3
Heavies	0	10	0	0	10	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	22
% Heavies	0	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Horizon Data Services Ltd

(416) 840-6619

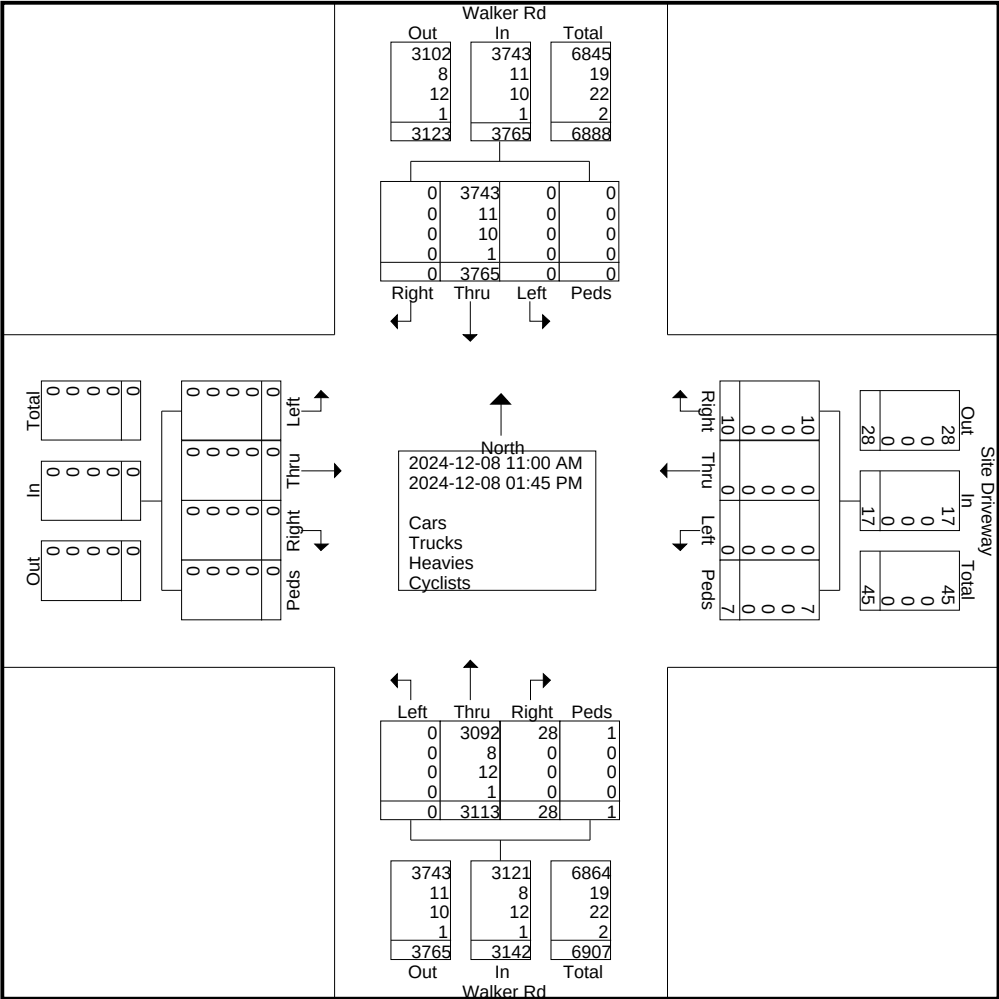
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 3

	Walker Rd From North					Site Driveway From East					Walker Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	0	325	0	0	325	0	0	0	0	0	1	306	0	0	307	0	0	0	0	0	632
12:45 PM	0	338	0	0	338	0	0	0	2	2	2	290	0	0	292	0	0	0	0	0	632
01:00 PM	0	322	0	0	322	0	0	0	0	0	5	301	0	0	306	0	0	0	0	0	628
01:15 PM	0	329	0	0	329	2	0	0	0	2	2	299	0	0	301	0	0	0	0	0	632
Total Volume	0	1314	0	0	1314	2	0	0	2	4	10	1196	0	0	1206	0	0	0	0	0	2524
% App. Total	0	100	0	0		50	0	0	50		0.8	99.2	0	0		0	0	0	0		
PHF	.000	.972	.000	.000	.972	.250	.000	.000	.250	.500	.500	.977	.000	.000	.982	.000	.000	.000	.000	.000	.998
Cars	0	1306	0	0	1306	2	0	0	2	4	10	1191	0	0	1201	0	0	0	0	0	2511
% Cars	0	99.4	0	0	99.4	100	0	0	100	100	100	99.6	0	0	99.6	0	0	0	0	0	99.5
Trucks	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
Heavies	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
% Heavies	0	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0.3
Cyclists	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Cyclists	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1

Horizon Data Services Ltd

(416) 840-6619

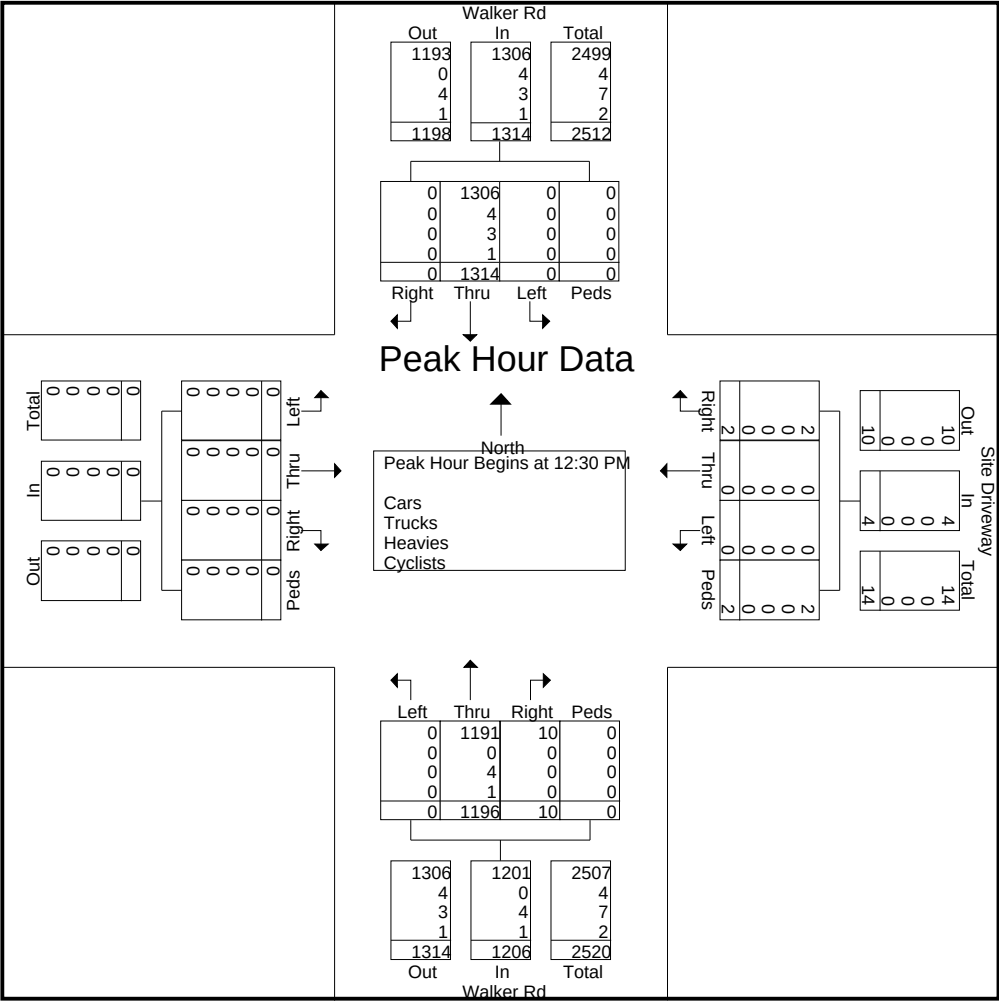
Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SUN

Site Code : Loc-9

Start Date : 2024-12-08

Page No : 4

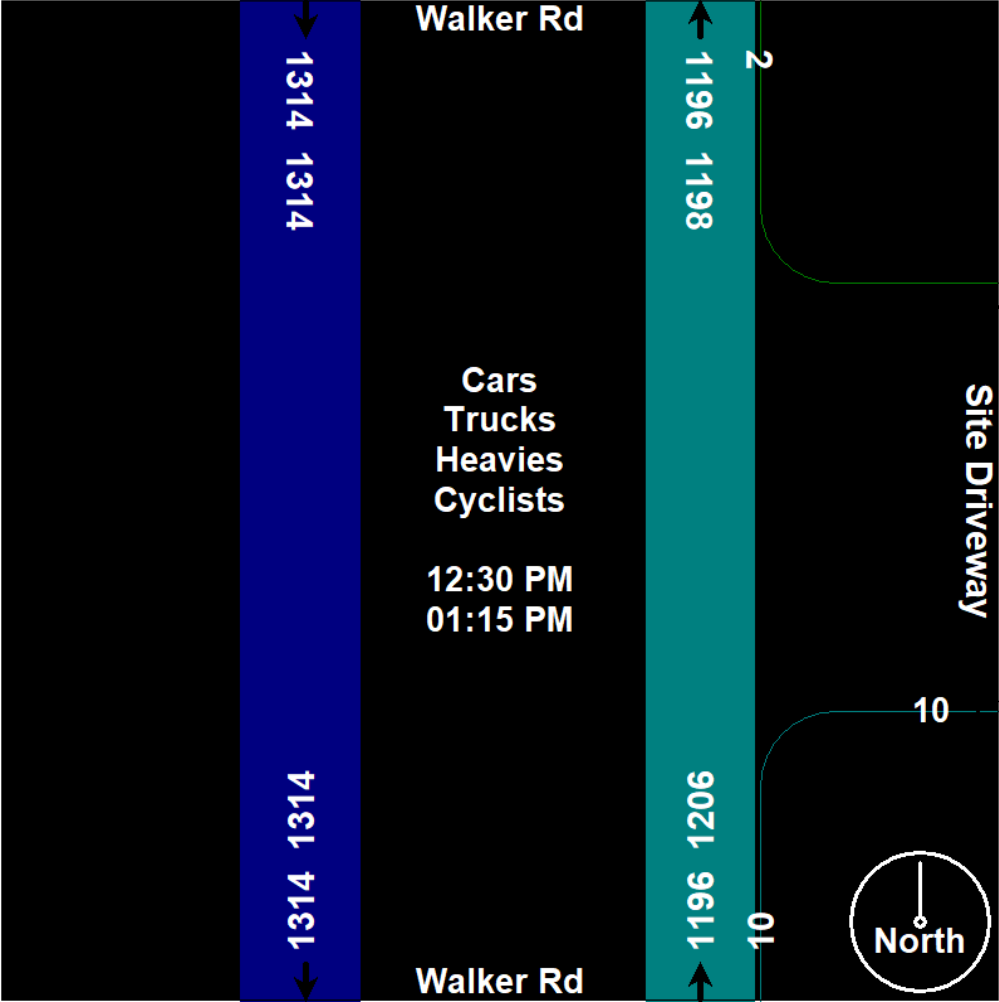


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Walker Road at Site Driveway-SUN
Site Code : Loc-9
Start Date : 2024-12-08
Page No : 5



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SUN

Site Code : Loc-12

Start Date : 2024-12-08

Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	From North					County Rd 42 From East					Site Driveway From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	73	0	1	74	0	0	2	2	4	0	64	0	0	64	142
11:15 AM	0	0	0	0	0	0	96	0	0	96	1	0	1	1	3	5	78	0	0	83	182
11:30 AM	0	0	0	0	0	0	93	1	1	95	2	0	2	0	4	0	62	0	0	62	161
11:45 AM	0	0	0	0	0	0	91	1	0	92	2	0	1	0	3	0	73	0	0	73	168
Total	0	0	0	0	0	0	353	2	2	357	5	0	6	3	14	5	277	0	0	282	653
12:00 PM	0	0	0	0	0	0	115	0	0	115	0	0	2	0	2	1	82	0	0	83	200
12:15 PM	0	0	0	0	0	0	111	3	2	116	3	0	1	0	4	3	82	0	0	85	205
12:30 PM	0	0	0	0	0	0	101	0	1	102	1	0	6	0	7	0	96	0	0	96	205
12:45 PM	0	0	0	0	0	0	120	3	1	124	5	0	4	0	9	6	102	0	1	109	242
Total	0	0	0	0	0	0	447	6	4	457	9	0	13	0	22	10	362	0	1	373	852
01:00 PM	0	0	0	0	0	0	119	1	0	120	3	0	7	0	10	4	99	0	0	103	233
01:15 PM	0	0	0	0	0	0	110	1	0	111	3	0	2	0	5	5	92	0	0	97	213
01:30 PM	0	0	0	0	0	0	91	3	1	95	2	0	2	0	4	5	84	0	0	89	188
01:45 PM	0	0	0	0	0	0	86	0	1	87	2	0	2	0	4	3	71	0	0	74	165
Total	0	0	0	0	0	0	406	5	2	413	10	0	13	0	23	17	346	0	0	363	799
Grand Total	0	0	0	0	0	0	1206	13	8	1227	24	0	32	3	59	32	985	0	1	1018	2304
Apprch %	0	0	0	0	0	0	98.3	1.1	0.7		40.7	0	54.2	5.1		3.1	96.8	0	0.1		
Total %	0	0	0	0	0	0	52.3	0.6	0.3	53.3	1	0	1.4	0.1	2.6	1.4	42.8	0	0	44.2	
Cars	0	0	0	0	0	0	1194	13	8	1215	24	0	32	3	59	32	970	0	1	1003	2277
% Cars	0	0	0	0	0	0	99	100	100	99	100	0	100	100	100	100	98.5	0	100	98.5	98.8
Trucks	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	8
% Trucks	0	0	0	0	0	0	0.4	0	0	0.4	0	0	0	0	0	0	0.3	0	0	0.3	0.3
Heavies	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	11	0	0	11	18
% Heavies	0	0	0	0	0	0	0.6	0	0	0.6	0	0	0	0	0	0	1.1	0	0	1.1	0.8
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0

Horizon Data Services Ltd

(416) 840-6619

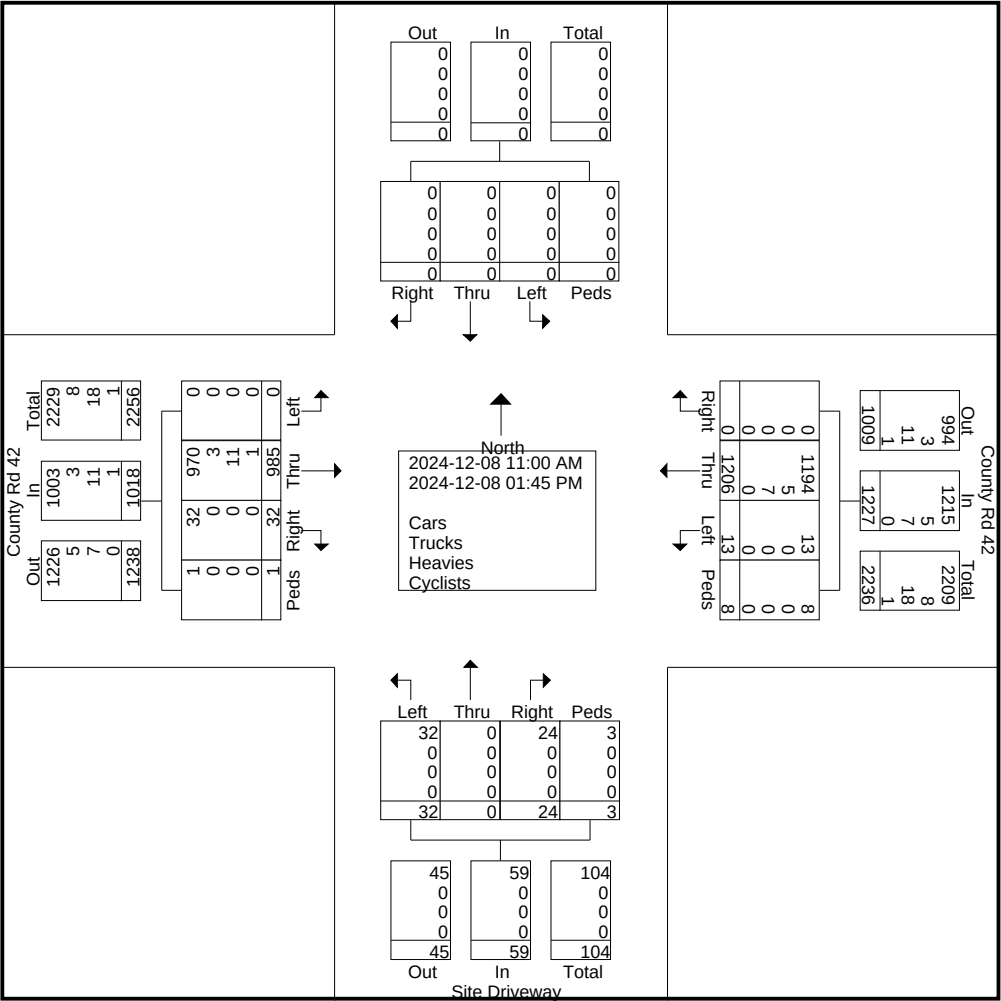
Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SUN

Site Code : Loc-12

Start Date : 2024-12-08

Page No : 2



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SUN

Site Code : Loc-12

Start Date : 2024-12-08

Page No : 3

	From North					County Rd 42 From East					Site Driveway From South					County Rd 42 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:30 PM																					
12:30 PM	0	0	0	0	0	0	101	0	1	102	1	0	6	0	7	0	96	0	0	96	205
12:45 PM	0	0	0	0	0	0	120	3	1	124	5	0	4	0	9	6	102	0	1	109	242
01:00 PM	0	0	0	0	0	0	119	1	0	120	3	0	7	0	10	4	99	0	0	103	233
01:15 PM	0	0	0	0	0	0	110	1	0	111	3	0	2	0	5	5	92	0	0	97	213
Total Volume	0	0	0	0	0	0	450	5	2	457	12	0	19	0	31	15	389	0	1	405	893
% App. Total	0	0	0	0		0	98.5	1.1	0.4		38.7	0	61.3	0		3.7	96	0	0.2		
PHF	.000	.000	.000	.000	.000	.000	.938	.417	.500	.921	.600	.000	.679	.000	.775	.625	.953	.000	.250	.929	.923
Cars	0	0	0	0	0	0	446	5	2	453	12	0	19	0	31	15	384	0	1	400	884
% Cars	0	0	0	0	0	0	99.1	100	100	99.1	100	0	100	0	100	100	98.7	0	100	98.8	99.0
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Trucks	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.2	0.2
Heavies	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Heavies	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0	0.8	0	0	0.7	0.7
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0.1

Horizon Data Services Ltd

(416) 840-6619

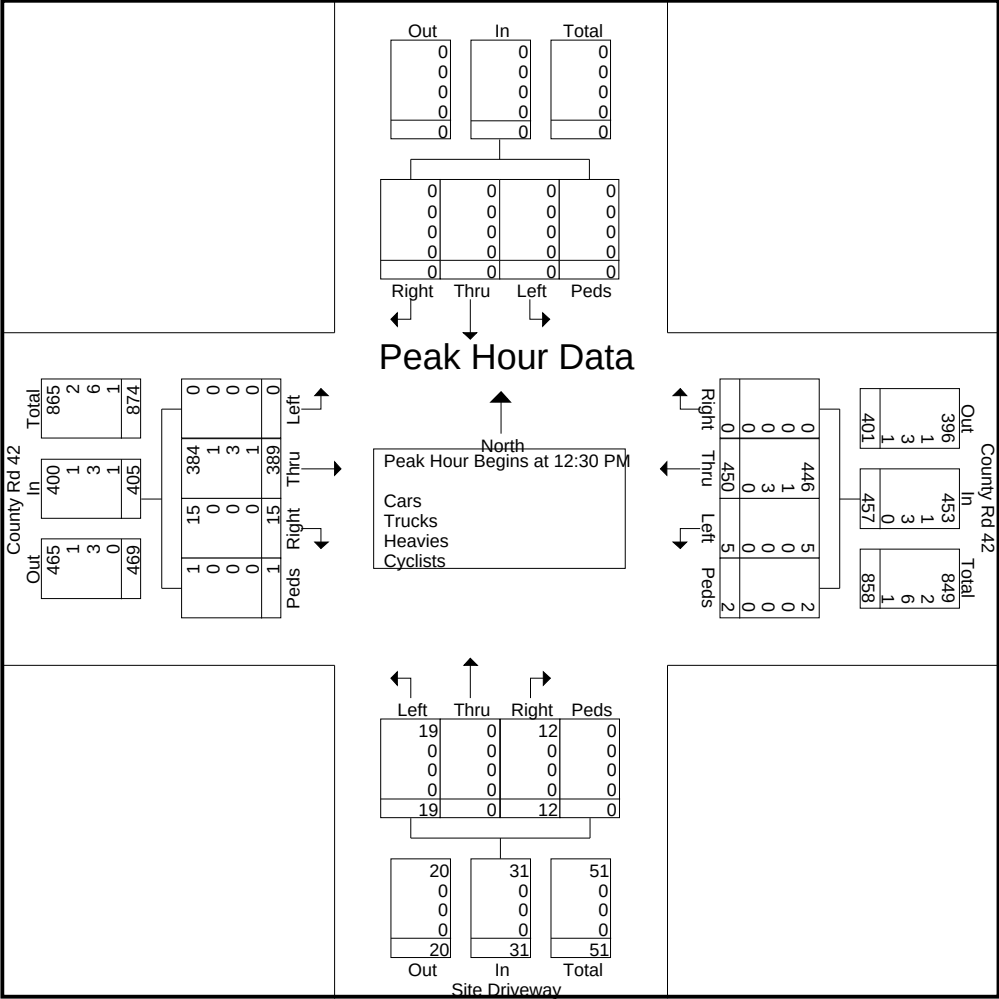
Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SUN

Site Code : Loc-12

Start Date : 2024-12-08

Page No : 4



Horizon Data Services Ltd

(416) 840-6619

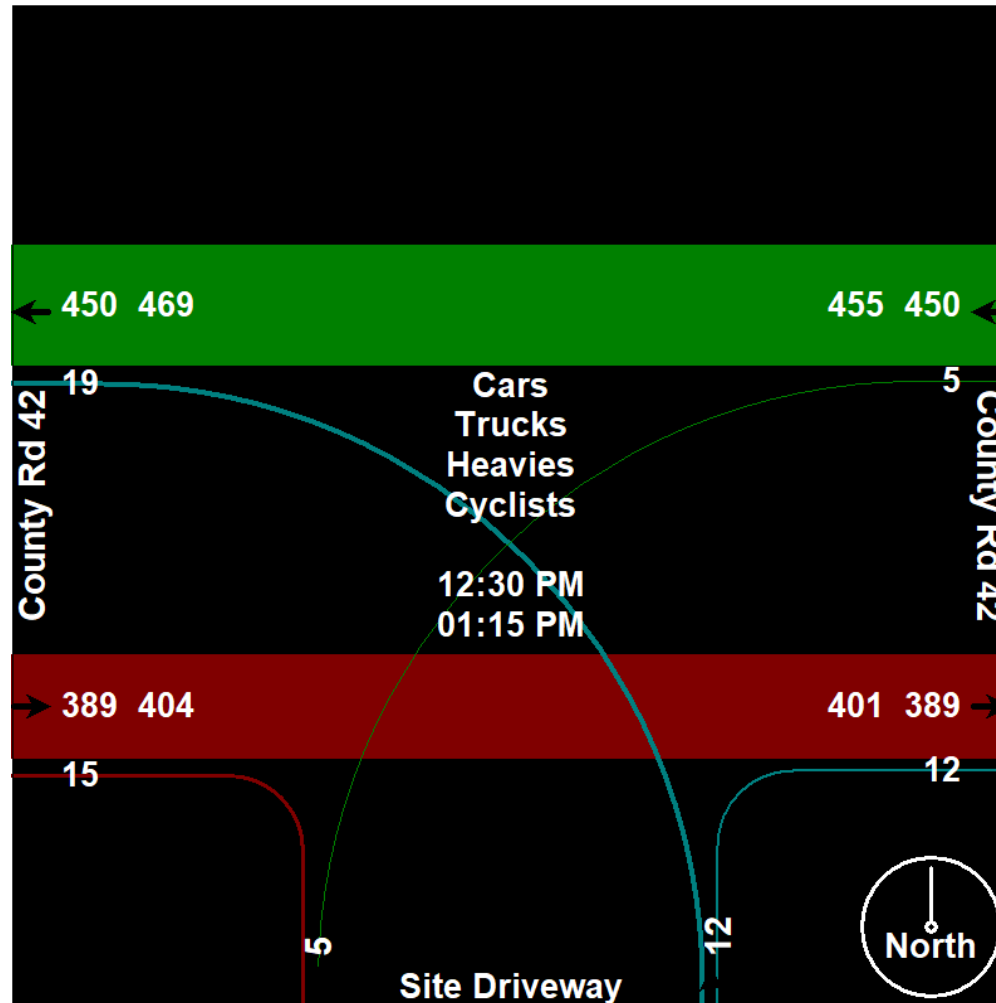
Your Traffic Count Specialist

File Name : Division Road at Site Driveway-SUN

Site Code : Loc-12

Start Date : 2024-12-08

Page No : 5



APPENDIX C

Trip Generation Rates

Land Use: 220

Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.
- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.
- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.
- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

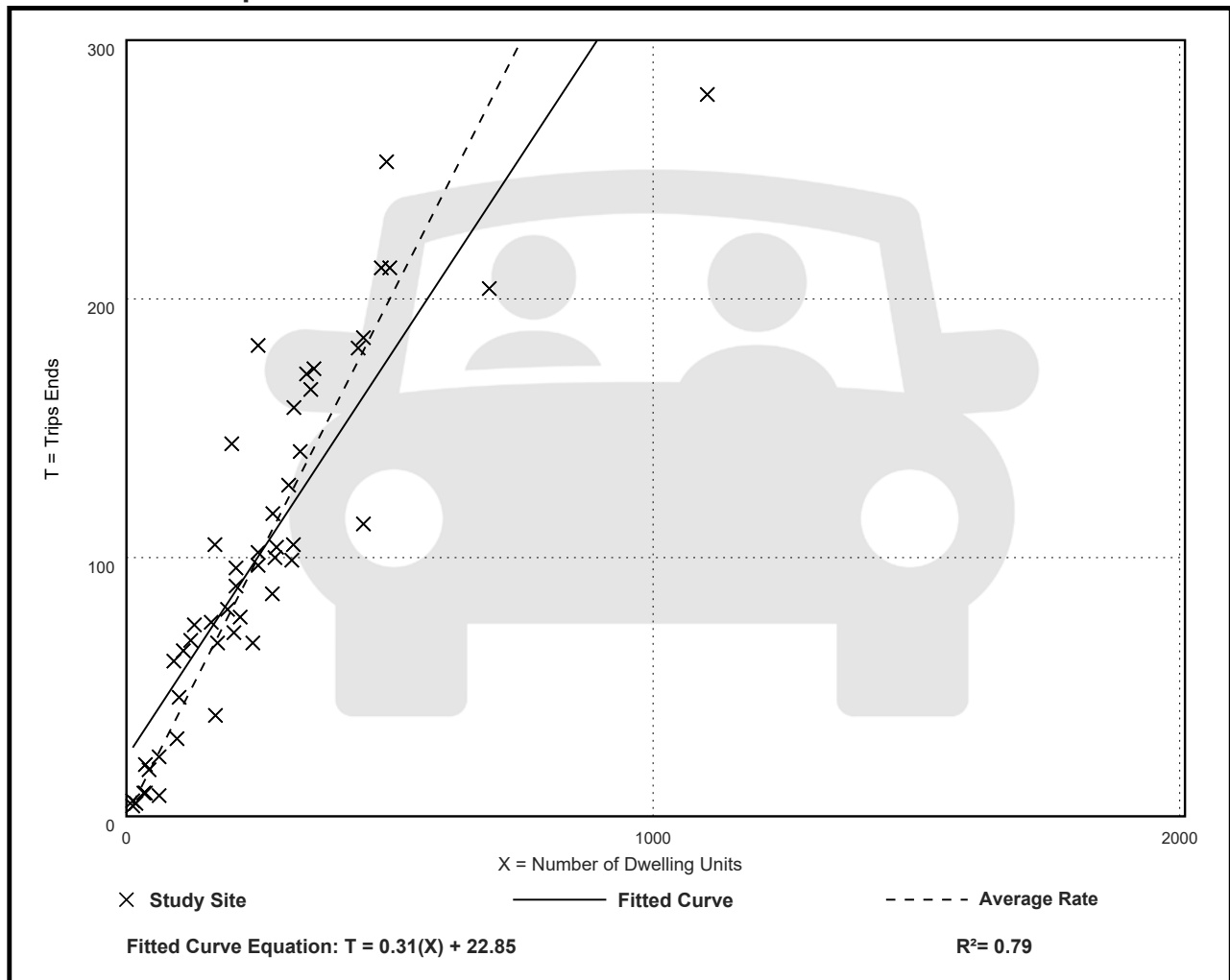
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

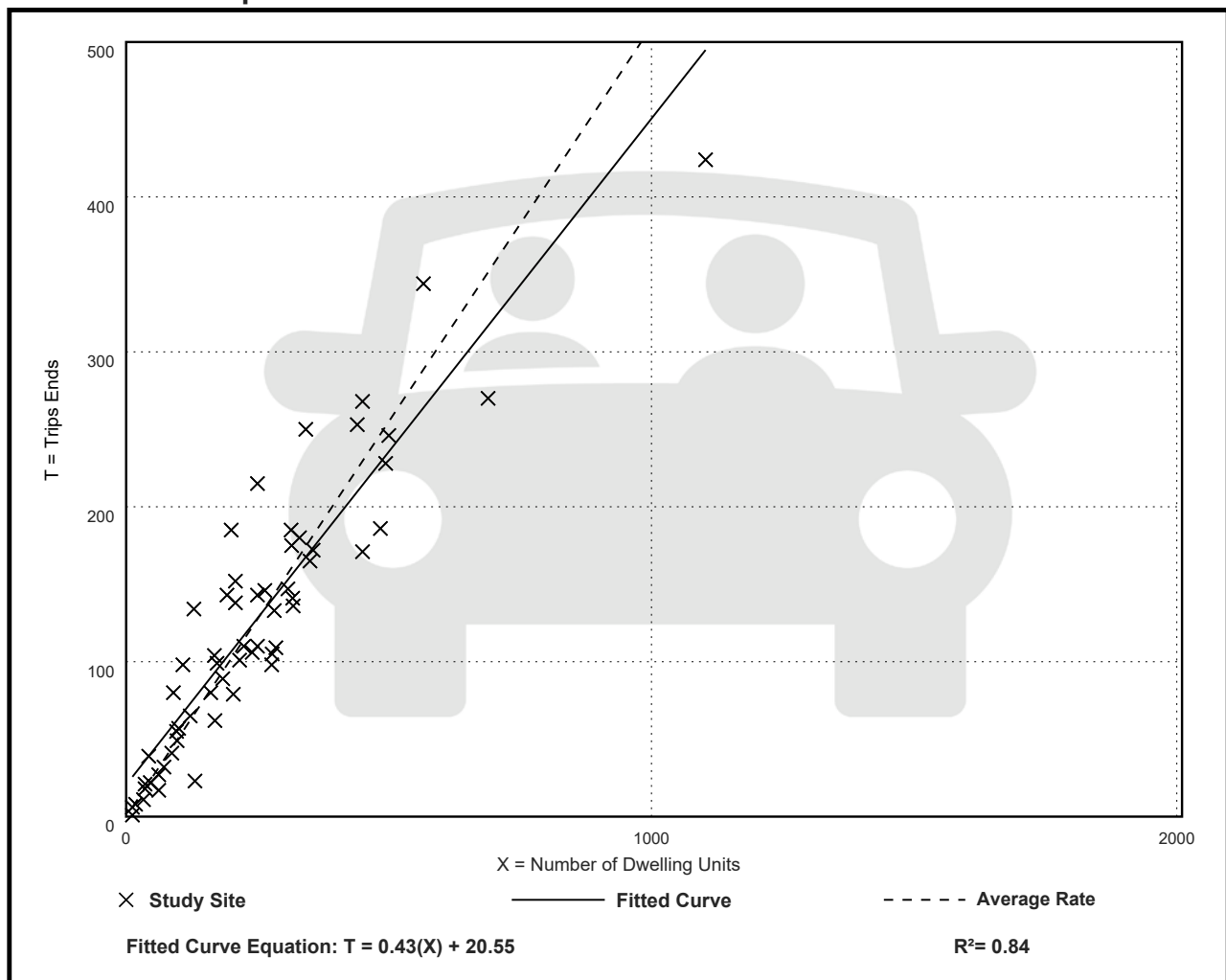
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Land Use: 221

Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (mid-rise) (Land Use 226), and mid-rise residential with ground-floor commercial (Land Use 231) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.5 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Utah, and Virginia.

Source Numbers

168, 188, 204, 305, 306, 321, 818, 857, 862, 866, 901, 904, 910, 949, 951, 959, 963, 964, 966, 967, 969, 970, 1004, 1014, 1022, 1023, 1025, 1031, 1032, 1035, 1047, 1056, 1057, 1058, 1071, 1076

Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

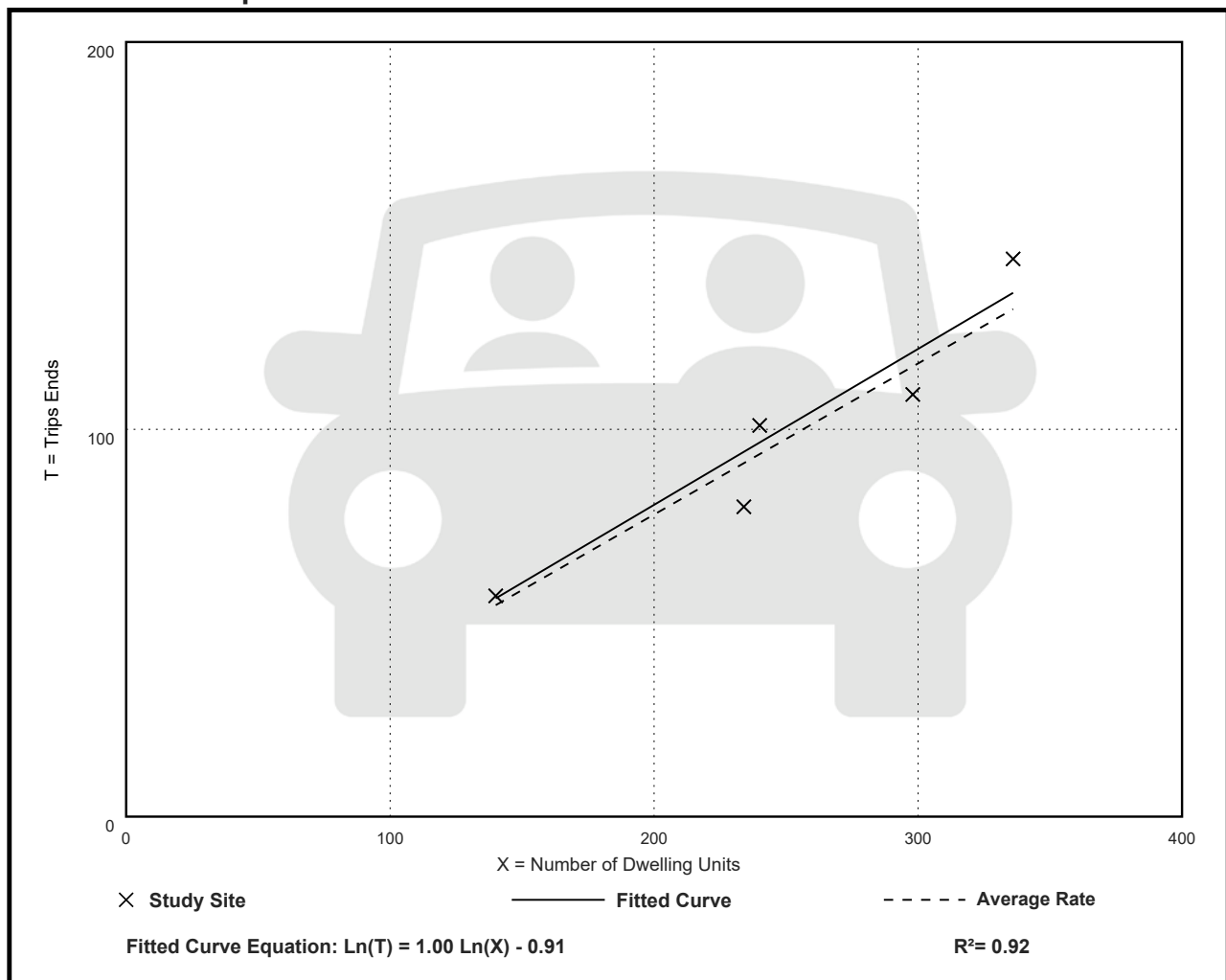
Avg. Num. of Dwelling Units: 250

Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.34 - 0.43	0.04

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

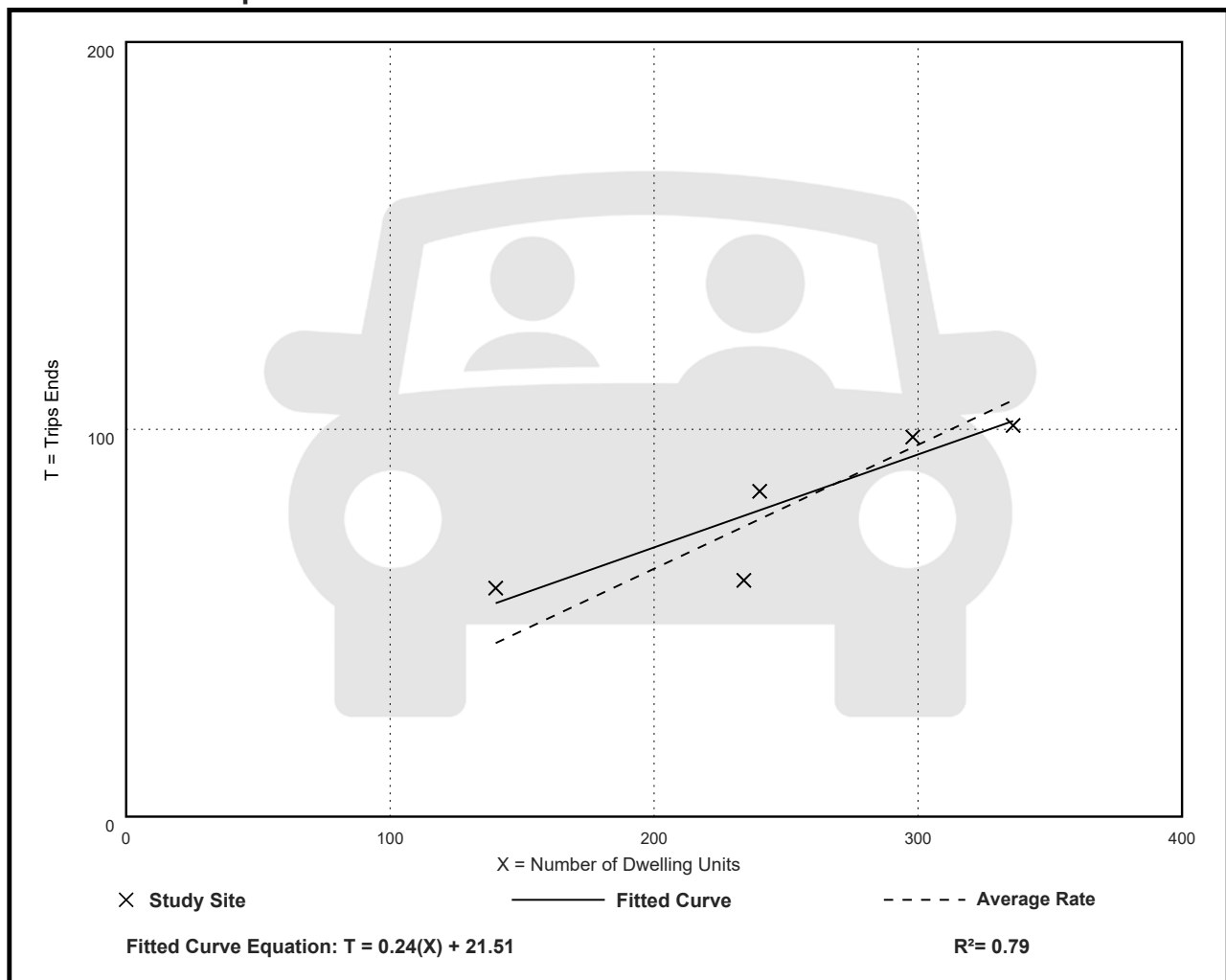
Avg. Num. of Dwelling Units: 250

Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.26 - 0.42	0.05

Data Plot and Equation



Land Use: 820

Shopping Center (>150k)

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has at least 150,000 square feet of gross leasable area (GLA). It often has more than one anchor store. Various names can be assigned to a shopping center within this size range, depending on its specific size and tenants, such as community center, regional center, superregional center, fashion center, and power center.

A shopping center of this size typically contains more than retail merchandising facilities. Office space, a movie theater, restaurants, a post office, banks, a health club, and recreational facilities are common tenants.

A shopping center of this size can be enclosed or open-air. The vehicle trips generated at a shopping center are based upon the total GLA of the center. In the case of a smaller center without an enclosed mall or peripheral buildings, the GLA is the same as the gross floor area of the building.

The 150,000 square feet GLA threshold value between community/regional shopping center and shopping plaza (Land Use 821) is based on an examination of trip generation data. For a shopping plaza that is smaller than the threshold value, the presence or absence of a supermarket within the plaza has a measurable effect on site trip generation. For a shopping center that is larger than the threshold value, the trips generated by its other major tenants mask any effects of the presence or absence of an on-site supermarket.

Shopping plaza (40-150k) (Land Use 821), strip retail plaza (<40k) (Land Use 822), and factory outlet center (Land Use 823) are related uses.

Additional Data

Many shopping centers—in addition to the integrated unit of shops in one building or enclosed around a mall—include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied include peripheral buildings, it can be assumed that some of the data show their effect.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky,

Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Source Numbers

77, 110, 154, 156, 159, 190, 199, 202, 204, 213, 251, 269, 294, 295, 299, 304, 305, 307, 308, 309, 311, 314, 315, 316, 317, 319, 365, 385, 404, 414, 423, 442, 446, 562, 629, 702, 715, 728, 868, 871, 880, 899, 912, 926, 946, 962, 973, 974, 978, 1034, 1040, 1067

Shopping Center (>150k) (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 44

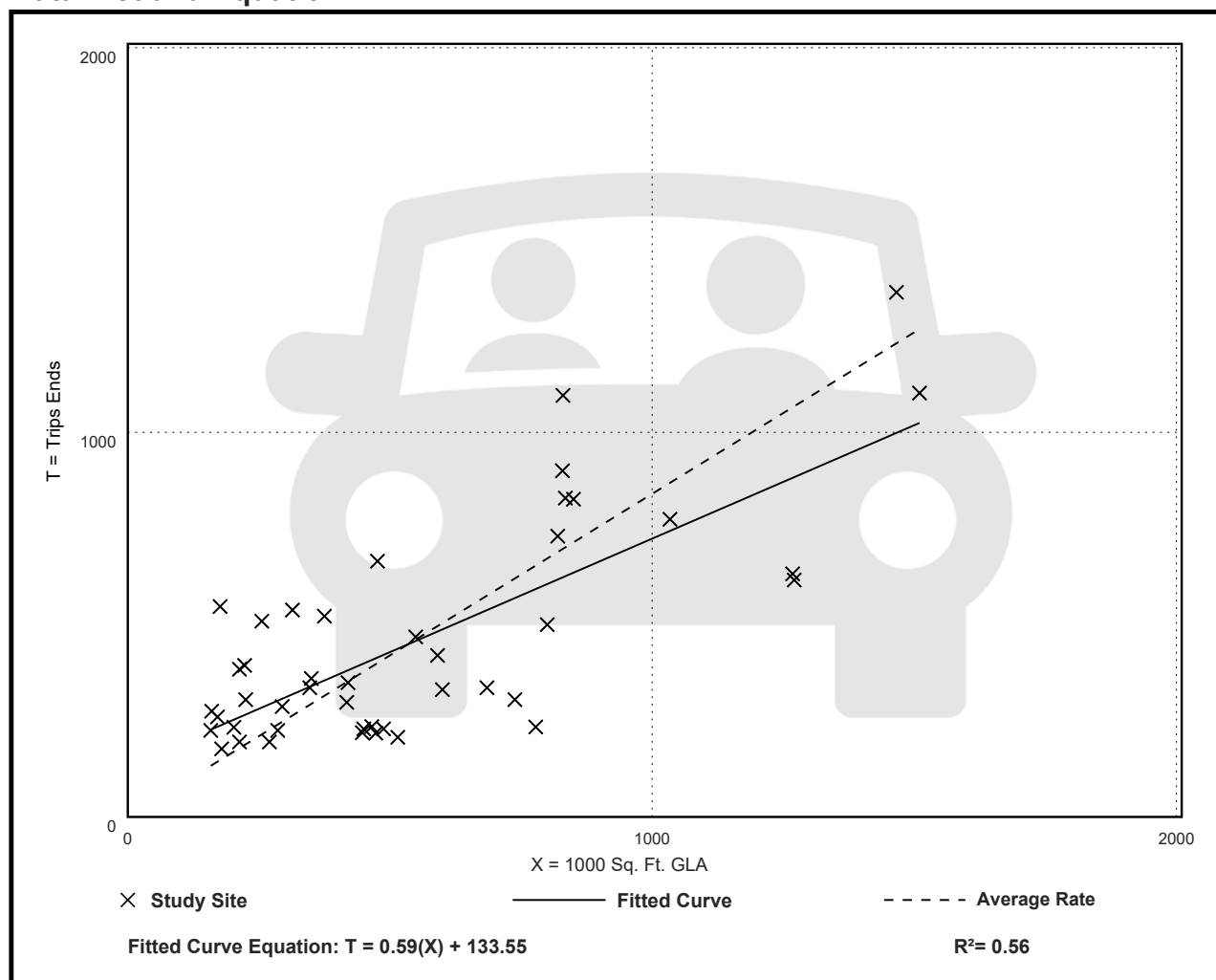
Avg. 1000 Sq. Ft. GLA: 546

Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.84	0.30 - 3.11	0.42

Data Plot and Equation



Shopping Center (>150k) (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 126

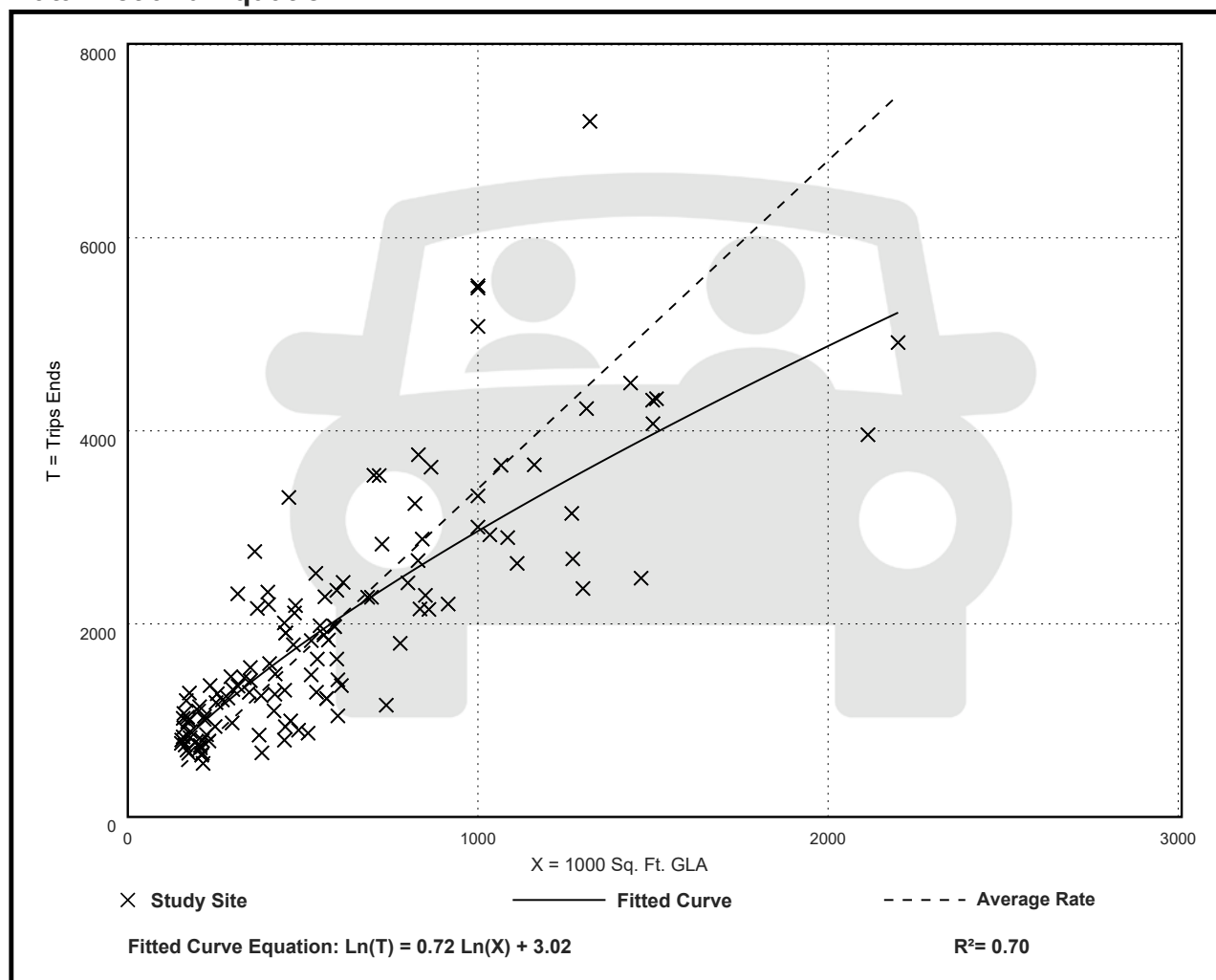
Avg. 1000 Sq. Ft. GLA: 581

Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.40	1.57 - 7.58	1.26

Data Plot and Equation



Shopping Center (>150k) (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 81

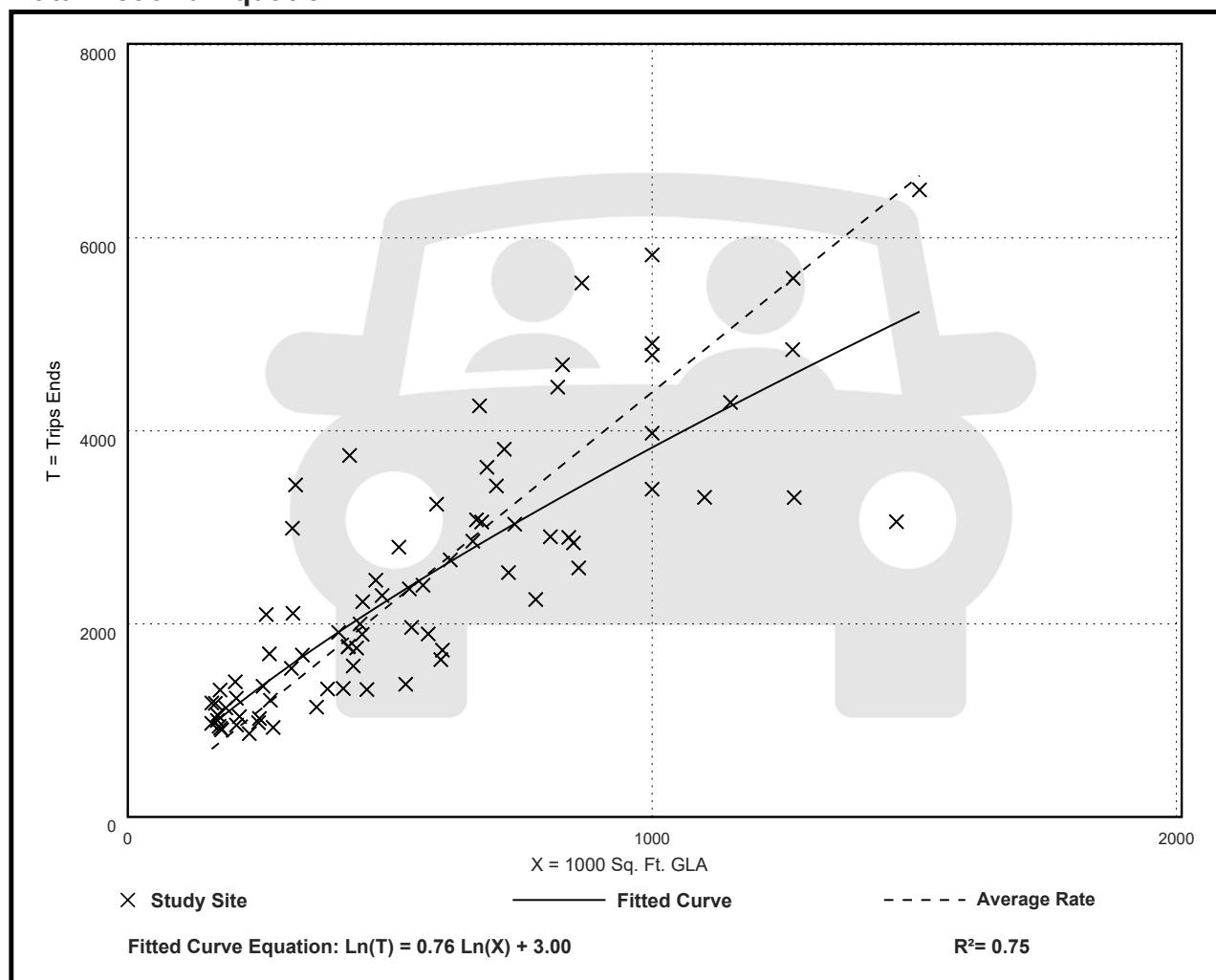
Avg. 1000 Sq. Ft. GLA: 559

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.40	2.09 - 10.75	1.41

Data Plot and Equation



Shopping Center (>150k) (820)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Sunday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 16

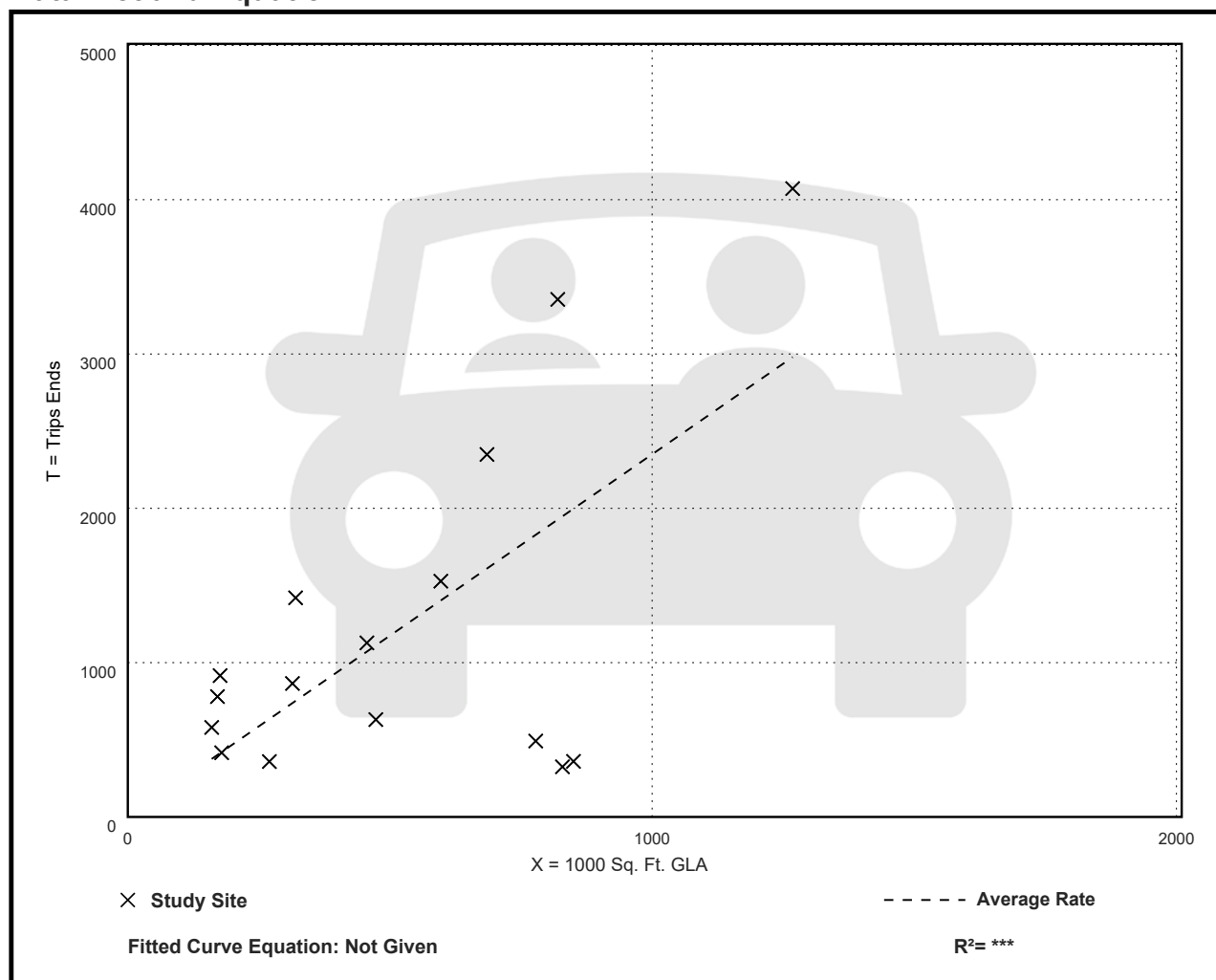
Avg. 1000 Sq. Ft. GLA: 522

Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.35	0.39 - 5.20	1.50

Data Plot and Equation



APPENDIX D

Level of Service Definitions

Highway Capacity Manual 2010

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 2010* (Transportation Research Board, 2010).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F ¹	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Unsignalized intersection LOS criteria can be further reduced into three intersection types: all-way stop, two-way stop, and roundabout control. All-way stop and roundabout control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F ¹	>50

Source: *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.

APPENDIX E

Synchro Analysis Worksheets

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	243	159	75	157	210	93	57	740	61	103	632	101
Future Volume (vph)	243	159	75	157	210	93	57	740	61	103	632	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*0.75	0.95	1.00	*0.85	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		1.00	1.00		1.00	1.00	
Frt		0.952			0.954			0.989			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	2561	0	1566	2727	0	1601	3198	0	1601	3279	0
Flt Permitted	0.350			0.555			0.278			0.213		
Satd. Flow (perm)	635	2561	0	913	2727	0	468	3198	0	359	3279	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			54			8			18	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			364.5	
Travel Time (s)		7.9			4.6			3.5			21.9	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	267	175	82	173	231	102	63	813	67	113	695	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	267	257	0	173	333	0	63	880	0	113	806	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	15.0	40.0		12.0	37.0		14.0	38.0		14.0	38.0	
Total Split (%)	14.4%	38.5%		11.5%	35.6%		13.5%	36.5%		13.5%	36.5%	
Maximum Green (s)	11.0	34.0		8.0	31.0		10.0	32.0		10.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	34.8	21.8		28.8	18.8		55.3	45.8		57.9	48.7	
Actuated g/C Ratio	0.33	0.21		0.28	0.18		0.53	0.44		0.56	0.47	
v/c Ratio	0.81	0.45		0.57	0.62		0.19	0.62		0.38	0.52	
Control Delay (s/veh)	46.1	30.3		33.1	36.9		8.9	17.5		15.5	23.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	46.1	30.3		33.1	36.9		8.9	17.5		15.5	23.0	
LOS	D	C		C	D		A	B		B	C	
Approach Delay (s/veh)		38.4			35.6			16.9			22.1	
Approach LOS		D			D			B			C	
Queue Length 50th (m)	44.9	26.4		27.6	33.1		3.2	27.1		9.8	60.0	
Queue Length 95th (m)	54.7	35.4		36.3	42.1		6.8	#39.8		24.6	104.7	
Internal Link Dist (m)		85.7			39.9			33.7			340.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	328	868		303	850		368	1411		321	1544	
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	0.30		0.57	0.39		0.17	0.62		0.35	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay (s/veh): 25.7

Intersection LOS: C

Intersection Capacity Utilization 74.5%

ICU Level of Service D

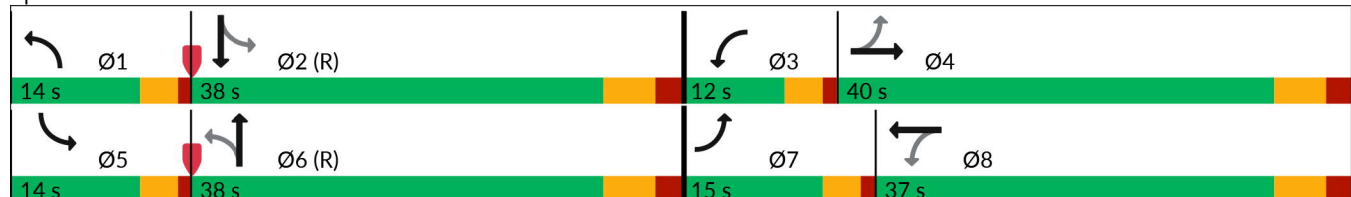
Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1	23	1	0	3	52	865	2	13	803	46
Future Volume (vph)	13	1	23	1	0	3	52	865	2	13	803	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	2		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.899						0.992	
Flt Protected		0.955			0.988		0.950			0.950		
Satd. Flow (prot)	0	1814	1482	0	1123	0	1697	3312	0	1597	3324	0
Flt Permitted		0.737			0.935		0.254			0.284		
Satd. Flow (perm)	0	1400	1448	0	1062	0	454	3312	0	477	3324	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		63						7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.2			74.7			176.3			144.1	
Travel Time (s)		8.2			5.4			10.6			8.6	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	1	27	1	0	3	60	1006	2	15	934	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	27	0	4	0	60	1008	0	15	987	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			7.2			7.2	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.0	12.0		12.0		89.0	90.0		80.6	80.6	
Actuated g/C Ratio		0.12	0.12		0.12		0.86	0.87		0.78	0.78	
v/c Ratio		0.10	0.12		0.02		0.13	0.35		0.04	0.38	
Control Delay (s/veh)		40.4	1.8		0.3		1.4	1.9		4.9	3.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		40.4	1.8		0.3		1.4	1.9		4.9	3.7	
LOS		D	A		A		A	A		A	A	
Approach Delay (s/veh)		16.2			0.3			1.9			3.7	
Approach LOS		B			A			A			A	
Queue Length 50th (m)		3.2	0.0		0.0		1.8	35.4		0.0	16.8	
Queue Length 95th (m)		8.5	0.5		0.0		0.5	2.8		m0.0	26.4	
Internal Link Dist (m)		89.2			50.7			152.3			120.1	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		403	462		351		531	2866		369	2577	
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		0.04	0.06		0.01		0.11	0.35		0.04	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay (s/veh): 3.0

Intersection LOS: A

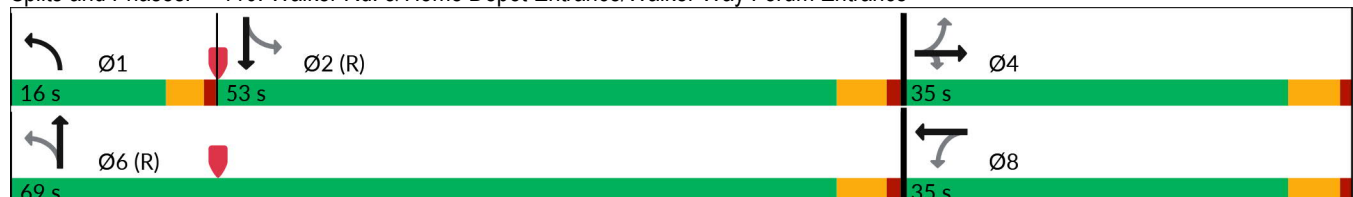
Intersection Capacity Utilization 53.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	0	4	910	5	18	844
Future Volume (Veh/h)	0	4	910	5	18	844
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	4	1022	6	20	948
Pedestrians	3					1
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)			183			176
pX, platoon unblocked	0.93	0.88			0.88	
vC, conflicting volume	1542	518			1031	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948	169			754	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	99			97	
cM capacity (veh/h)	236	744			722	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	4	681	347	20	474	474
Volume Left	0	0	0	20	0	0
Volume Right	4	0	6	0	0	0
cSH	744	1700	1700	722	1700	1700
Volume to Capacity	0.00*	0.40	0.20	0.03	0.28	0.28
Queue Length 95th (m)	0.1	0.0	0.0	0.7	0.0	0.0
Control Delay (s/veh)	9.9	0.0	0.0	10.1	0.0	0.0
Lane LOS	A			B		
Approach Delay (s/veh)	9.9	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			35.6%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	906	2	0	842
Future Volume (Veh/h)	0	8	906	2	0	842
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	9	1018	2	0	946
Pedestrians	1					
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)			95			265
pX, platoon unblocked	0.92	0.87			0.87	
vC, conflicting volume	1493	511			1021	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	919	145			730	
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	99			100	
cM capacity (veh/h)	251	768			769	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	679	341	473	473	
Volume Left	0	0	0	0	0	
Volume Right	9	0	2	0	0	
cSH	768	1700	1700	1700	1700	
Volume to Capacity	0.01	0.40	0.20	0.28	0.28	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	9.7	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	9.7	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			35.1%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	15	12	16	11	22	26	844	29	58	686	98
Future Volume (vph)	42	15	12	16	11	22	26	844	29	58	686	98
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor			0.99	1.00			1.00	1.00		1.00		0.98
Frt			0.850		0.901			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1975	1921	1562	1805	1712	0	1805	3280	0	1765	3295	1536
Flt Permitted	0.732			0.746			0.352			0.247		
Satd. Flow (perm)	1522	1921	1541	1416	1712	0	668	3280	0	458	3295	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		25			5				111
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.1			77.1			85.4			94.7	
Travel Time (s)		10.6			5.6			5.1			5.7	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	8%	0%	0%	0%	0%	11%	0%	0%	12%	4%
Adj. Flow (vph)	48	17	14	18	13	25	30	959	33	66	780	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	17	14	18	38	0	30	992	0	66	780	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0		11.0	61.0		11.0	61.0	61.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%		10.6%	58.7%		10.6%	58.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		7.0	56.0		5.5	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	1
Act Effect Green (s)	13.4	13.4	13.4	13.4	13.4		80.1	75.1		80.8	78.4	78.4
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13		0.77	0.72		0.78	0.75	0.75
v/c Ratio	0.24	0.07	0.05	0.10	0.16		0.05	0.42		0.15	0.31	0.10
Control Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.3	5.6		9.3	16.4	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.3	5.6		9.3	16.4	9.3
LOS	D	D	A	D	C		A	A		A	B	A
Approach Delay (s/veh)		33.2			25.8			5.5			15.1	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	9.7	3.4	0.0	3.6	2.6		0.9	26.2		6.6	56.3	5.0
Queue Length 95th (m)	17.3	8.2	0.0	8.7	10.1		3.4	31.2		18.7	110.5	27.2
Internal Link Dist (m)		123.1			53.1			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	395	498	458	367	462		595	2371		434	2484	1159
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.03	0.03	0.05	0.08		0.05	0.42		0.15	0.31	0.10

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 69 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay (s/veh): 11.4

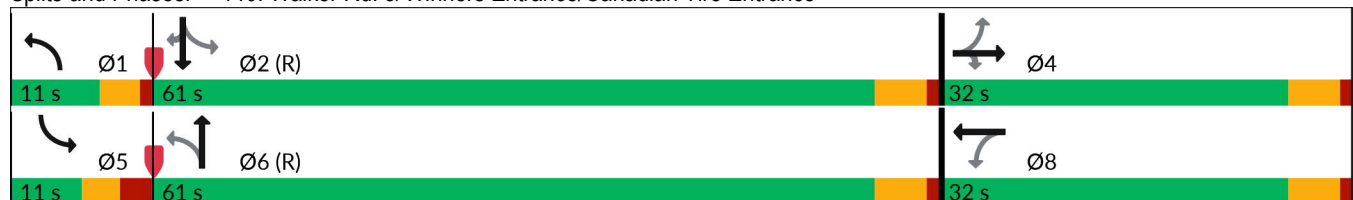
Intersection LOS: B

Intersection Capacity Utilization 52.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	891	5	0	714
Future Volume (Veh/h)	0	8	891	5	0	714
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	9	1024	6	0	821
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.96	0.92			0.92	
vC, conflicting volume	1438	515			1030	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	990	299			859	
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	99			100	
cM capacity (veh/h)	236	647			728	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	683	347	411	411	
Volume Left	0	0	0	0	0	
Volume Right	9	0	6	0	0	
cSH	647	1700	1700	1700	1700	
Volume to Capacity	0.01	0.40	0.20	0.24	0.24	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			34.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
160: Walker Rd. & Petro Canada North Entrance

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	881	6	0	714
Future Volume (Veh/h)	0	15	881	6	0	714
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	990	7	0	802
Pedestrians	1					
Lane Width (m)	4.8					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.95	0.91			0.91	
vC, conflicting volume	1396	500			998	
vC1, stage 1 conf vol	995					
vC2, stage 2 conf vol	401					
vCu, unblocked vol	954	254			801	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	317	665			756	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	17	660	337	401	401	
Volume Left	0	0	0	0	0	
Volume Right	17	0	7	0	0	
cSH	665	1700	1700	1700	1700	
Volume to Capacity	0.03	0.39	0.20	0.24	0.24	
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			34.5%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	62	15	4	4	70	853	27	16	669	29
Future Volume (vph)	30	5	62	15	4	4	70	853	27	16	669	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	1.00					0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.994	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1694	1879	1619	0	1830	1615	1668	3163	0	1785	4608	0
Flt Permitted	0.743				0.804		0.311			0.287		
Satd. Flow (perm)	1319	1879	1619	0	1528	1588	546	3163	0	539	4608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			79		6			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		117.3			60.3			164.4			75.4	
Travel Time (s)		8.4			4.3			9.9			4.5	
Confl. Peds. (#/hr)	4					4	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	1%	10%	0%	0%	11%	0%
Adj. Flow (vph)	34	6	70	17	5	5	80	969	31	18	760	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	70	0	22	5	80	1000	0	18	793	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	72.0		61.0	61.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	10.6%	69.2%		58.7%	58.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	5.5	67.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	4	4	4		1		1	1	
Act Effect Green (s)	13.5	13.5	13.5		13.5	13.5	83.0	84.5		75.1	75.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.80	0.81		0.72	0.72	
v/c Ratio	0.20	0.02	0.25		0.11	0.02	0.16	0.39		0.05	0.24	
Control Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.6	2.0		3.4	3.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.6	2.0		3.4	3.5	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		20.0			30.9			2.1			3.5	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	6.8	1.2	0.0		4.4	0.0	1.8	11.0		0.9	14.4	
Queue Length 95th (m)	13.3	4.2	8.8		9.7	0.0	3.8	14.7		0.5	3.1	
Internal Link Dist (m)		93.3			36.3			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	342	487	478		396	470	502	2571		389	3331	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.15		0.06	0.01	0.16	0.39		0.05	0.24	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 73 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay (s/veh): 4.0

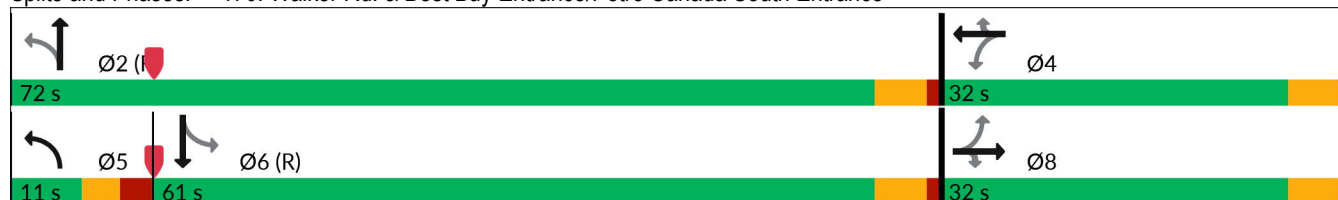
Intersection LOS: A

Intersection Capacity Utilization 55.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	25	946	38	14	688
Future Volume (Veh/h)	15	25	946	38	14	688
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	28	1051	42	16	764
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.94	0.90			0.90	
vC, conflicting volume	1486	548			1093	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1057	281			886	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	96			98	
cM capacity (veh/h)	205	640			697	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	28	701	392	271	509
Volume Left	17	0	0	0	16	0
Volume Right	0	28	0	42	0	0
cSH	205	640	1700	1700	697	1700
Volume to Capacity	0.08	0.04	0.41	0.23	0.02	0.30
Queue Length 95th (m)	2.2	1.1	0.0	0.0	0.6	0.0
Control Delay (s/veh)	24.2	10.9	0.0	0.0	0.9	0.0
Lane LOS	C	B			A	
Approach Delay (s/veh)	15.9		0.0		0.3	
Approach LOS	C					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			39.3%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	11	11	73	30	19	36	930	117	13	650	19
Future Volume (vph)	26	11	11	73	30	19	36	930	117	13	650	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		0.99	0.99		1.00				1.00	
Frt		0.925			0.942			0.983			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1629	0	1662	1781	0	1694	3450	0	1616	3246	0
Flt Permitted	0.722			0.742			0.336			0.247		
Satd. Flow (perm)	1274	1629	0	1284	1781	0	599	3450	0	420	3246	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			21			27			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.5			289.7			641.2			169.2	
Travel Time (s)		8.4			20.9			38.5			10.2	
Confl. Peds. (#/hr)	1		9	9		1	1					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
Heavy Vehicles (%)	4%	0%	18%	5%	0%	0%	3%	8%	3%	8%	11%	0%
Adj. Flow (vph)	29	12	12	80	33	21	40	1022	129	14	714	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	24	0	80	54	0	40	1151	0	14	735	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		24.0	73.0		49.0	49.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		23.1%	70.2%		47.1%	47.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		20.0	68.0		44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

AM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	9	9		1	1			0		1	1	
Act Effect Green (s)	14.6	14.6		14.6	14.6		83.4	83.4		76.7	76.7	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.80	0.80		0.74	0.74	
v/c Ratio	0.16	0.10		0.44	0.20		0.07	0.42		0.05	0.31	
Control Delay (s/veh)	38.5	23.7		47.0	26.6		4.2	5.1		13.6	8.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	38.5	23.7		47.0	26.6		4.2	5.1		13.6	8.8	
LOS	D	C		D	C		A	A		B	A	
Approach Delay (s/veh)		31.8			38.8			5.0			8.9	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	5.6	2.3		16.2	6.4		1.4	32.7		0.3	8.9	
Queue Length 95th (m)	12.6	8.7		27.6	15.7		6.0	71.8		6.6	71.7	
Internal Link Dist (m)		92.5			265.7			617.2			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	318	416		321	461		690	2770		309	2394	
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	0.09	0.06		0.25	0.12		0.06	0.42		0.05	0.31	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 70 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay (s/veh): 9.2

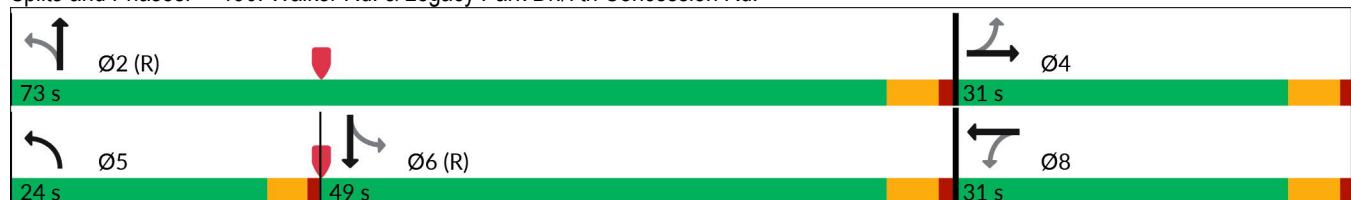
Intersection LOS: A

Intersection Capacity Utilization 49.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	278	1	118	385	25	98
Future Volume (Veh/h)	278	1	118	385	25	98
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	299	1	127	414	27	105
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			300			968
vC1, stage 1 conf vol						300
vC2, stage 2 conf vol						
vCu, unblocked vol			300			968
tC, single (s)			4.1			6.4
tC, 2 stage (s)						6.3
tF (s)			2.2			3.5
p0 queue free %			90			89
cM capacity (veh/h)			1267			251
						724
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	300	541	132			
Volume Left	0	127	27			
Volume Right	1	0	105			
cSH	1700	1267	523			
Volume to Capacity	0.18	0.10	0.25			
Queue Length 95th (m)	0.0	2.7	7.9			
Control Delay (s/veh)	0.0	2.7	14.2			
Lane LOS			A	B		
Approach Delay (s/veh)	0.0	2.7	14.2			
Approach LOS			B			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			58.9%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

AM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	858	3	0	864
Future Volume (Veh/h)	0	0	858	3	0	864
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	964	3	0	971
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)			144			58
pX, platoon unblocked	0.87	0.93			0.93	
vC, conflicting volume	1455	488			971	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	875	310			828	
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	100			100	
cM capacity (veh/h)	253	644			756	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	643	324	486	486	
Volume Left	0	0	0	0	0	
Volume Right	0	0	3	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.38	0.19	0.29	0.29	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			27.2%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	324	0	1	455	0	3
Future Volume (Veh/h)	324	0	1	455	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	345	0	1	484	0	3
Pedestrians	1					
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)	64					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			345		590	345
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			195		472	195
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1230		465	725
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	345	0	162	323	3	
Volume Left	0	0	1	0	0	
Volume Right	0	0	0	0	3	
cSH	1700	1700	1230	1700	725	
Volume to Capacity	0.20	0.00	0.00*	0.19	0.00*	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.1	
Control Delay (s/veh)	0.0	0.0	0.1	0.0	10.0	
Lane LOS			A		A	
Approach Delay (s/veh)	0.0		0.0		10.0	
Approach LOS					A	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			27.1%	ICU Level of Service		A
Analysis Period (min)			15			
* Value less than 0.01.						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	186	203	188	198	329	115	176	942	138	99	989	101
Future Volume (vph)	186	203	188	198	329	115	176	942	138	99	989	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*0.75	0.95	1.00	*0.85	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00	0.99			1.00			1.00	
Frt		0.928			0.961			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	2601	0	1684	2993	0	1728	3358	0	1601	3471	0
Flt Permitted	0.248			0.243			0.102			0.140		
Satd. Flow (perm)	446	2601	0	430	2993	0	185	3358	0	236	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		106			32			14			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			364.4	
Travel Time (s)		7.9			4.6			3.5			21.9	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	194	211	196	206	343	120	183	981	144	103	1030	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	407	0	206	463	0	183	1125	0	103	1135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

PM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	38.3	23.7		38.5	23.9		68.7	54.2		62.0	50.6	
Actuated g/C Ratio	0.32	0.20		0.32	0.20		0.57	0.45		0.52	0.42	
v/c Ratio	0.71	0.68		0.76	0.75		0.67	0.74		0.45	0.77	
Control Delay (s/veh)	42.1	38.0		47.0	49.4		43.3	21.2		19.8	35.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay (s/veh)	42.1	38.0		47.0	49.4		43.3	21.2		19.8	35.8	
LOS	D	D		D	D		D	C		B	D	
Approach Delay (s/veh)		39.3			48.7			24.3			34.5	
Approach LOS		D			D			C			C	
Queue Length 50th (m)	34.7	46.7		37.2	60.0		27.5	70.6		10.9	125.3	
Queue Length 95th (m)	49.1	64.3		#52.8	75.2		57.7	#179.3		22.7	#197.5	
Internal Link Dist (m)		85.7			39.9			33.7			340.4	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	281	750		275	796		325	1524		339	1468	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	28	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.69	0.54		0.75	0.58		0.56	0.74		0.30	0.79	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay (s/veh): 34.2

Intersection LOS: C

Intersection Capacity Utilization 84.6%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	5	81	12	1	42	107	1182	7	22	1273	97
Future Volume (vph)	57	5	81	12	1	42	107	1182	7	22	1273	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.896			0.999			0.989	
Flt Protected		0.956			0.989		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1684	0	1765	3501	0	1725	3468	0
Flt Permitted		0.746			0.930		0.143			0.232		
Satd. Flow (perm)	0	1417	1584	0	1581	0	266	3501	0	420	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		43			1			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.7			75.8			176.3			144.1	
Travel Time (s)		8.4			5.5			10.6			8.6	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	5	83	12	1	43	109	1206	7	22	1299	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	83	0	56	0	109	1213	0	22	1398	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	85.0		66.0	66.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		15.8%	70.8%		55.0%	55.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	80.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3		1	1	
Act Effect Green (s)		13.1	13.1		13.1		97.9	96.9		85.2	85.2	
Actuated g/C Ratio		0.11	0.11		0.11		0.82	0.81		0.71	0.71	
v/c Ratio		0.41	0.34		0.27		0.35	0.43		0.07	0.57	
Control Delay (s/veh)		56.6	13.4		21.6		7.5	6.7		3.6	4.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.6	
Total Delay (s/veh)		56.6	13.4		21.6		7.5	6.7		3.6	4.8	
LOS		E	B		C		A	A		A	A	
Approach Delay (s/veh)		32.0			21.6			6.7			4.8	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		15.0	0.0		3.0		5.5	37.8		0.4	15.0	
Queue Length 95th (m)		27.9	14.4		14.9		m21.1	123.1		m1.0	27.0	
Internal Link Dist (m)		92.7			51.8			152.3			120.1	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		354	458		427		404	2827		298	2465	
Starvation Cap Reductn		0	0		0		0	0		0	616	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.18		0.13		0.27	0.43		0.07	0.76	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay (s/veh): 7.3

Intersection LOS: A

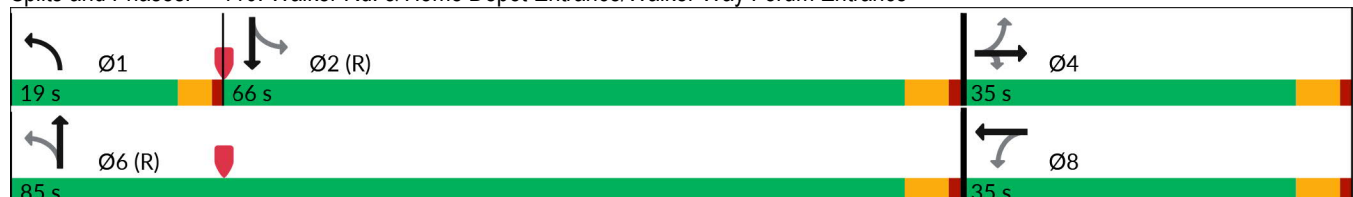
Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	25	1282	13	52	1377
Future Volume (Veh/h)	2	25	1282	13	52	1377
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	2	26	1308	13	53	1405
Pedestrians	3					2
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)			183			176
pX, platoon unblocked	0.90	0.83			0.83	
vC, conflicting volume	2126	666			1324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1144	170			969	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	96			91	
cM capacity (veh/h)	160	698			592	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	872	449	53	703	703
Volume Left	2	0	0	53	0	0
Volume Right	26	0	13	0	0	0
cSH	563	1700	1700	592	1700	1700
Volume to Capacity	0.05	0.51	0.26	0.09	0.41	0.41
Queue Length 95th (m)	1.3	0.0	0.0	2.3	0.0	0.0
Control Delay (s/veh)	11.7	0.0	0.0	11.7	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.7	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			53.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	44	1247	10	1	1395
Future Volume (Veh/h)	1	44	1247	10	1	1395
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1	44	1260	10	1	1409
Pedestrians	3		2			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)			95			265
pX, platoon unblocked	0.90	0.81			0.81	
vC, conflicting volume	1977	640			1273	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	921	85			867	
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	94			100	
cM capacity (veh/h)	246	777			634	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	45	840	430	471	939	
Volume Left	1	0	0	1	0	
Volume Right	44	0	10	0	0	
cSH	742	1700	1700	634	1700	
Volume to Capacity	0.06	0.49	0.25	0.00*	0.55	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.2	0.0	0.0	0.0	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	55	101	126	44	104	72	991	76	154	946	295
Future Volume (vph)	162	55	101	126	44	104	72	991	76	154	946	295
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	0.99		0.98	1.00	0.98		1.00	1.00				0.98
Frt			0.850		0.894			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2092	1921	1638	1805	1671	0	1752	3475	0	1765	3583	1566
Flt Permitted	0.532			0.720			0.273			0.184		
Satd. Flow (perm)	1162	1921	1611	1363	1671	0	503	3475	0	342	3583	1528
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		91			7				304
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		148.9			77.8			85.4			94.7	
Travel Time (s)		10.7			5.6			5.1			5.7	
Confl. Peds. (#/hr)	8		3	3		8	2		1	1		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
Heavy Vehicles (%)	1%	0%	3%	0%	0%	0%	3%	4%	0%	0%	3%	2%
Adj. Flow (vph)	167	57	104	130	45	107	74	1022	78	159	975	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	57	104	130	152	0	74	1100	0	159	975	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	50.0		39.0	75.0	75.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		11.7%	41.7%		32.5%	62.5%	62.5%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	45.0		33.5	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

Lanes, Volumes, Timings

140: Walker Rd. & Winners Entrance/Canadian Tire Entrance

PM Peak Hour

Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	8	8			1			2	2
Act Effect Green (s)	21.2	21.2	21.2	21.2	21.2		80.8	72.8		87.5	79.8	79.8
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.67	0.61		0.73	0.67	0.67
v/c Ratio	0.81	0.17	0.28	0.54	0.41		0.18	0.52		0.43	0.41	0.27
Control Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		6.2	13.1		5.7	7.0	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		6.2	13.1		5.7	7.0	2.1
LOS	E	D	A	D	C		A	B		A	A	A
Approach Delay (s/veh)		48.7			35.6			12.6			5.8	
Approach LOS		D			D			B			A	
Queue Length 50th (m)	39.8	12.0	0.0	29.3	12.9		3.6	53.6		4.2	76.3	9.2
Queue Length 95th (m)	#65.0	23.5	14.5	48.6	31.9		11.0	79.3		8.0	62.8	12.2
Internal Link Dist (m)		124.9			53.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	251	416	431	295	433		455	2110		649	2383	1118
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.14	0.24	0.44	0.35		0.16	0.52		0.24	0.41	0.27

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay (s/veh): 15.3

Intersection LOS: B

Intersection Capacity Utilization 76.0%

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: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1124	32	0	1173
Future Volume (Veh/h)	0	15	1124	32	0	1173
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	16	1171	33	0	1222
Pedestrians	2					
Lane Width (m)	4.0					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.93	0.89			0.89	
vC, conflicting volume	1801	604			1206	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156	297			976	
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	97			100	
cM capacity (veh/h)	179	624			632	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	781	423	611	611	
Volume Left	0	0	0	0	0	
Volume Right	16	0	33	0	0	
cSH	624	1700	1700	1700	1700	
Volume to Capacity	0.03	0.46	0.25	0.36	0.36	
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			42.1%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	1136	15	0	1173
Future Volume (Veh/h)	0	20	1136	15	0	1173
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	20	1159	15	0	1197
Pedestrians	3		20			
Lane Width (m)	4.8		3.9			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	0		2			
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.93	0.88			0.88	
vC, conflicting volume	1788	590			1177	
vC1, stage 1 conf vol	1170					
vC2, stage 2 conf vol	619					
vCu, unblocked vol	1128	269			934	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	257	646			652	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	20	773	401	599	599	
Volume Left	0	0	0	0	0	
Volume Right	20	0	15	0	0	
cSH	646	1700	1700	1700	1700	
Volume to Capacity	0.03	0.45	0.24	0.35	0.35	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.7	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.7	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			41.9%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	18	160	56	9	20	110	1088	50	39	1095	39
Future Volume (vph)	43	18	160	56	9	20	110	1088	50	39	1095	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.98		0.99		1.00	0.96	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.993			0.995	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1791	1615	1685	3331	0	1785	4910	0
Flt Permitted	0.714				0.742		0.200			0.247		
Satd. Flow (perm)	1281	1879	1613	0	1384	1556	354	3331	0	463	4910	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			68		9			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		112.7			64.1			164.4			75.4	
Travel Time (s)		8.1			4.6			9.9			4.5	
Confl. Peds. (#/hr)	19		1	1		19	2		3	3		2
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
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	0%	4%	2%	0%	4%	0%
Adj. Flow (vph)	43	18	162	57	9	20	111	1099	51	39	1106	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	18	162	0	66	20	111	1150	0	39	1145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	87.0		67.0	67.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	16.7%	72.5%		55.8%	55.8%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	14.5	82.0		62.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	1	1	1	19	19	19		3		2	2	
Act Effect Green (s)	17.2	17.2	17.2		17.2	17.2	92.3	92.8		79.6	79.6	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.77	0.77		0.66	0.66	
v/c Ratio	0.23	0.07	0.44		0.33	0.07	0.31	0.45		0.13	0.35	
Control Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	5.6	4.2		8.3	8.9	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	5.6	4.2		8.3	8.9	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		19.0			37.0			4.4			8.9	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	10.1	4.1	0.0		15.7	0.0	3.3	18.6		0.5	6.1	
Queue Length 95th (m)	19.2	9.9	17.8		26.6	0.0	10.1	46.6		13.3	95.8	
Internal Link Dist (m)		88.7			40.1			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	298	438	500		322	415	433	2579		307	3260	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.04	0.32		0.20	0.05	0.26	0.45		0.13	0.35	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay (s/veh): 8.5

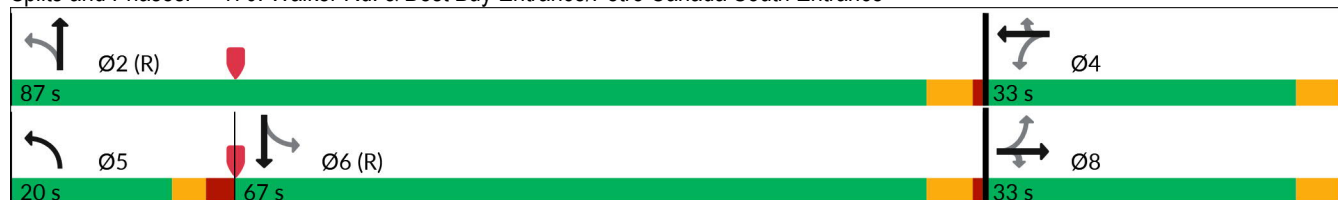
Intersection LOS: A

Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	68	1145	61	44	1201
Future Volume (Veh/h)	25	68	1145	61	44	1201
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	72	1218	65	47	1278
Pedestrians	2		1			
Lane Width (m)	3.6		3.8			
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)			169			164
pX, platoon unblocked	0.93	0.86			0.86	
vC, conflicting volume	1987	644			1285	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1307	275			1017	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	89			92	
cM capacity (veh/h)	131	629			596	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	72	812	471	473	852
Volume Left	27	0	0	0	47	0
Volume Right	0	72	0	65	0	0
cSH	131	629	1700	1700	596	1700
Volume to Capacity	0.21	0.11	0.48	0.28	0.08	0.50
Queue Length 95th (m)	5.9	3.1	0.0	0.0	2.0	0.0
Control Delay (s/veh)	39.5	11.5	0.0	0.0	2.2	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	19.1		0.0		0.8	
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			75.2%		ICU Level of Service	D
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

PM Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	98	134	128	79	23	156	988	120	31	1068	100
Future Volume (vph)	180	98	134	128	79	23	156	988	120	31	1068	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	2		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00				1.00			1.00		1.00	1.00	
Frt		0.913			0.966			0.984			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1773	0	1694	1815	0	1745	3563	0	1745	3431	0
Flt Permitted	0.663			0.374			0.152			0.246		
Satd. Flow (perm)	1191	1773	0	667	1815	0	279	3563	0	452	3431	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			12			22			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.3			288.9			640.2			169.2	
Travel Time (s)		8.0			20.8			38.4			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	188	102	140	133	82	24	163	1029	125	32	1113	104
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	242	0	133	106	0	163	1154	0	32	1217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	82.0		66.0	66.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		13.3%	68.3%		55.0%	55.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		12.0	77.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

PM Peak Hour
Existing Conditions

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		2	2			1		1	1	
Act Effect Green (s)	25.2	25.2		25.2	25.2		85.8	84.8		71.5	71.5	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.72	0.71		0.60	0.60	
v/c Ratio	0.76	0.58		0.95	0.27		0.52	0.46		0.12	0.59	
Control Delay (s/veh)	62.3	36.8		110.6	34.9		12.6	8.9		8.0	9.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	62.3	36.8		110.6	34.9		12.6	8.9		8.0	9.6	
LOS	E	D		F	C		B	A		A	A	
Approach Delay (s/veh)		48.0			77.0			9.4			9.5	
Approach LOS		D			E			A			A	
Queue Length 50th (m)	43.7	41.1		32.5	19.4		11.6	58.2		1.7	33.2	
Queue Length 95th (m)	66.2	63.2		#62.6	33.2		23.4	88.4		4.7	45.3	
Internal Link Dist (m)		87.3			264.9			616.2			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	327	528		183	507		346	2524		269	2050	
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	0.57	0.46		0.73	0.21		0.47	0.46		0.12	0.59	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 19.6

Intersection LOS: B

Intersection Capacity Utilization 78.9%

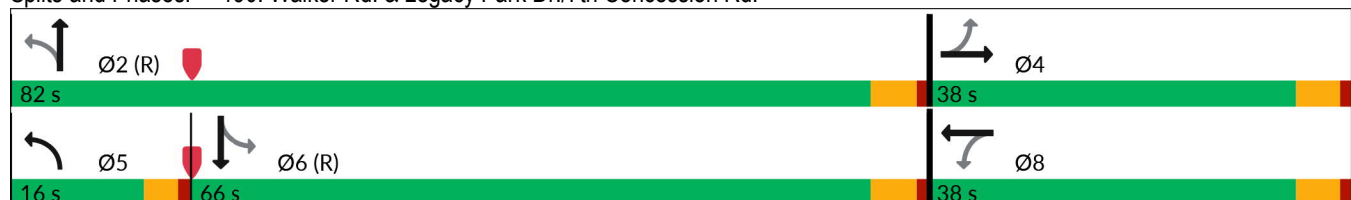
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	403	0	186	533	31	200
Future Volume (Veh/h)	403	0	186	533	31	200
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	433	0	200	573	33	215
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			434		1407	434
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			434		1407	434
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			82		74	66
cM capacity (veh/h)			1130		125	624
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	433	773	248			
Volume Left	0	200	33			
Volume Right	0	0	215			
cSH	1700	1130	408			
Volume to Capacity	0.25	0.18	0.61			
Queue Length 95th (m)	0.0	5.1	31.2			
Control Delay (s/veh)	0.0	4.1	26.6			
Lane LOS		A	D			
Approach Delay (s/veh)	0.0	4.1	26.6			
Approach LOS			D			
Intersection Summary						
Average Delay			6.7			
Intersection Capacity Utilization			83.6%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

PM Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1256	4	0	1375
Future Volume (Veh/h)	0	0	1256	4	0	1375
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	0	1295	4	0	1418
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)			144			58
pX, platoon unblocked	0.77	0.89			0.89	
vC, conflicting volume	2009	653			1302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1108	375			1102	
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	100			100	
cM capacity (veh/h)	160	560			572	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	863	436	709	709	
Volume Left	0	0	0	0	0	
Volume Right	0	0	4	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.51	0.26	0.42	0.42	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		41.3%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	438	1	0	642	2	4
Future Volume (Veh/h)	438	1	0	642	2	4
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)	487	1	0	713	2	4
Pedestrians				2	1	
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)	64					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			489		845	490
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			285		712	286
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1072		309	595
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	487	1	357	357	6	
Volume Left	0	0	0	0	2	
Volume Right	0	1	0	0	4	
cSH	1700	1700	1700	1700	454	
Volume to Capacity	0.29	0.00*	0.21	0.21	0.01	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.3	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	13.0	
Lane LOS						B
Approach Delay (s/veh)	0.0		0.0		13.0	
Approach LOS						B
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			33.7%	ICU Level of Service	A	
Analysis Period (min)			15			

* Value less than 0.01.

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Saturday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	171	236	208	246	68	210	821	150	65	915	164
Future Volume (vph)	183	171	236	208	246	68	210	821	150	65	915	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*0.75	0.95	1.00	*0.85	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		1.00	1.00		1.00	1.00	
Frt		0.913			0.968			0.977			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	2572	0	1767	3036	0	1745	3406	0	1601	3490	0
Flt Permitted	0.334			0.240			0.120			0.218		
Satd. Flow (perm)	619	2572	0	446	3036	0	220	3406	0	367	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		246			21			23			22	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			365.5	
Travel Time (s)		7.9			4.6			3.5			21.9	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	197	184	254	224	265	73	226	883	161	70	984	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	197	438	0	224	338	0	226	1044	0	70	1160	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	16.0	24.0		16.0	24.0		20.0	57.0		19.0	56.0	
Total Split (%)	13.8%	20.7%		13.8%	20.7%		17.2%	49.1%		16.4%	48.3%	
Maximum Green (s)	12.0	18.0		12.0	18.0		16.0	51.0		15.0	50.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Saturday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	30.2	16.4		30.7	16.7		73.6	62.0		63.9	54.3	
Actuated g/C Ratio	0.26	0.14		0.26	0.14		0.63	0.53		0.55	0.47	
v/c Ratio	0.71	0.76		0.88	0.74		0.72	0.57		0.25	0.70	
Control Delay (s/veh)	47.7	29.8		67.7	55.0		43.4	10.0		11.5	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay (s/veh)	47.7	29.8		67.7	55.0		43.4	10.0		11.5	27.9	
LOS	D	C		E	E		D	A		B	C	
Approach Delay (s/veh)		35.3			60.1			15.9			27.0	
Approach LOS		D			E			B			C	
Queue Length 50th (m)	36.5	28.9		42.2	42.7		23.1	98.0		6.2	116.0	
Queue Length 95th (m)	#58.8	53.2		#77.3	61.2		57.3	26.5		12.2	147.3	
Internal Link Dist (m)		85.7			39.9			33.7			341.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	281	606		254	488		349	1831		383	1646	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	1		0	0		0	0		0	47	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.70	0.72		0.88	0.69		0.65	0.57		0.18	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 29.6

Intersection LOS: C

Intersection Capacity Utilization 83.2%

ICU Level of Service E

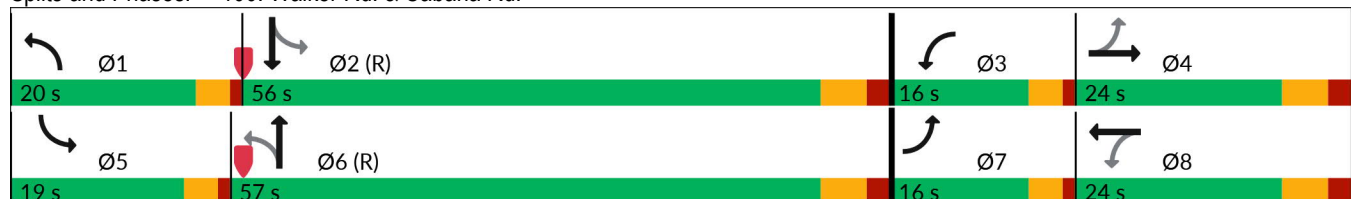
Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	3	130	9	10	38	160	1079	8	26	1219	114
Future Volume (vph)	71	3	130	9	10	38	160	1079	8	26	1219	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00		1.00		
Frt			0.850		0.910			0.999			0.987	
Flt Protected		0.954			0.992		0.950			0.950		
Satd. Flow (prot)	0	1813	1615	0	1699	0	1765	3536	0	1725	3531	0
Flt Permitted		0.716			0.948		0.115			0.236		
Satd. Flow (perm)	0	1358	1587	0	1623	0	214	3536	0	428	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		42			1			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.5			75.7			176.3			144.1	
Travel Time (s)		8.2			5.5			10.6			8.6	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	3	143	10	11	42	176	1186	9	29	1340	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	143	0	63	0	176	1195	0	29	1465	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	81.0		62.0	62.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		16.4%	69.8%		53.4%	53.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	76.0		57.0	57.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1		0	0	
Act Effect Green (s)		14.0	14.0		14.0		93.0	92.0		76.3	76.3	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.66	0.66	
v/c Ratio		0.50	0.45		0.27		0.54	0.43		0.10	0.63	
Control Delay (s/veh)		57.2	11.8		22.5		12.7	9.3		8.9	10.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.3	
Total Delay (s/veh)		57.2	11.8		22.5		12.7	9.3		8.9	10.3	
LOS		E	B		C		B	A		A	B	
Approach Delay (s/veh)		28.2			22.5			9.8			10.2	
Approach LOS		C			C			A			B	
Queue Length 50th (m)		18.5	0.0		4.6		16.6	68.1		1.8	50.2	
Queue Length 95th (m)		33.0	18.0		16.8		m25.5	m122.5		m2.8	109.4	
Internal Link Dist (m)		89.5			51.7			152.3			120.1	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		351	516		450		379	2804		281	2327	
Starvation Cap Reductn		0	0		0		0	0		0	283	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.23	0.28		0.14		0.46	0.43		0.10	0.72	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 90 (78%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 11.6

Intersection LOS: B

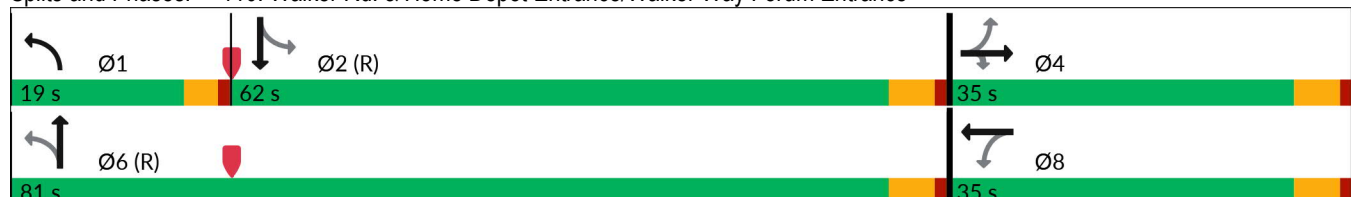
Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Saturday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	39	1207	18	61	1412
Future Volume (Veh/h)	2	39	1207	18	61	1412
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	41	1284	19	65	1502
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	183			176		
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	2175	652	1303			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1140	188	968			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	94	89			
cM capacity (veh/h)	149	692	601			
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	856	447	65	751	751
Volume Left	2	0	0	65	0	0
Volume Right	41	0	19	0	0	0
cSH	591	1700	1700	601	1700	1700
Volume to Capacity	0.07	0.50	0.26	0.11	0.44	0.44
Queue Length 95th (m)	1.9	0.0	0.0	2.9	0.0	0.0
Control Delay (s/veh)	11.6	0.0	0.0	11.7	0.0	0.0
Lane LOS	B		B			
Approach Delay (s/veh)	11.6	0.0	0.5			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			50.6%		ICU Level of Service	
					A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Saturday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	91	1137	11	8	1405
Future Volume (Veh/h)	0	91	1137	11	8	1405
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	97	1210	12	9	1495
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)			95			265
pX, platoon unblocked	0.86	0.80			0.80	
vC, conflicting volume	1984	611			1222	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	780	17			780	
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	89			99	
cM capacity (veh/h)	285	852			678	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	97	807	415	507	997	
Volume Left	0	0	0	9	0	
Volume Right	97	0	12	0	0	
cSH	852	1700	1700	678	1700	
Volume to Capacity	0.11	0.47	0.24	0.01	0.59	
Queue Length 95th (m)	3.1	0.0	0.0	0.3	0.0	
Control Delay (s/veh)	9.8	0.0	0.0	0.4	0.0	
Lane LOS	A			A		
Approach Delay (s/veh)	9.8	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			47.8%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	120	98	149	75	141	89	830	123	165	934	306
Future Volume (vph)	177	120	98	149	75	141	89	830	123	165	934	306
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	1.00		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.902			0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1688	0	1805	3505	0	1765	3654	1597
Flt Permitted	0.415			0.626			0.253			0.197		
Satd. Flow (perm)	922	1921	1660	1186	1688	0	480	3505	0	366	3654	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108		75			15				322
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		146.9			80.8			85.4			94.7	
Travel Time (s)		10.6			5.8			5.1			5.7	
Confl. Peds. (#/hr)	1		3	3		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%	1%	0%
Adj. Flow (vph)	186	126	103	157	79	148	94	874	129	174	983	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	126	103	157	227	0	94	1003	0	174	983	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	45.0		40.0	71.0	71.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		12.1%	38.8%		34.5%	61.2%	61.2%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	40.0		34.5	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

Lanes, Volumes, Timings

140: Walker Rd. & Winners Entrance/Canadian Tire Entrance

Saturday Peak Hour

Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	1	1			1			2	2
Act Effect Green (s)	24.9	24.9	24.9	24.9	24.9		72.9	64.5		79.3	69.7	69.7
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.63	0.56		0.68	0.60	0.60
v/c Ratio	0.94	0.31	0.23	0.62	0.54		0.24	0.51		0.45	0.45	0.30
Control Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		6.1	11.5		7.0	11.2	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		6.1	11.5		7.0	11.2	3.1
LOS	F	D	A	D	C		A	B		A	B	A
Approach Delay (s/veh)		57.2			40.1			11.0			8.9	
Approach LOS		E			D			B			A	
Queue Length 50th (m)	43.5	25.2	0.0	33.8	31.6		4.8	45.9		11.2	88.6	7.6
Queue Length 95th (m)	#88.0	43.1	13.2	57.7	57.7		8.5	55.2		9.3	63.7	13.4
Internal Link Dist (m)		122.9			56.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	206	430	455	265	436		426	1954		669	2194	1064
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.29	0.23	0.59	0.52		0.22	0.51		0.26	0.45	0.30

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 30 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 19.1

Intersection LOS: B

Intersection Capacity Utilization 74.5%

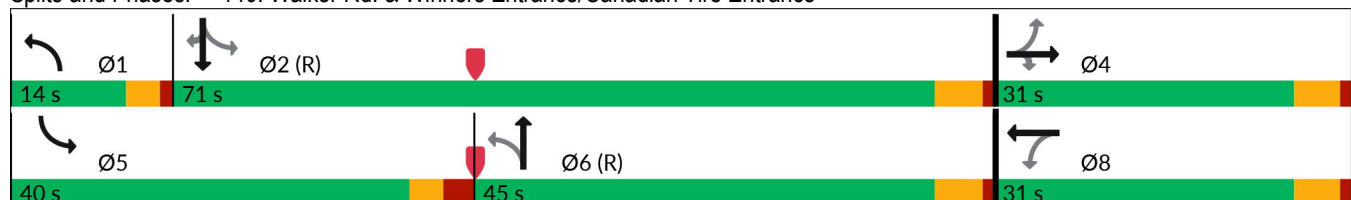
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Saturday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	38	1004	47	0	1181
Future Volume (Veh/h)	0	38	1004	47	0	1181
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	40	1068	50	0	1256
Pedestrians	1		2			
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.89	0.92			0.92	
vC, conflicting volume	1724	560			1119	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156	343			952	
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	93			100	
cM capacity (veh/h)	171	596			670	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	40	712	406	628	628	
Volume Left	0	0	0	0	0	
Volume Right	40	0	50	0	0	
cSH	596	1700	1700	1700	1700	
Volume to Capacity	0.07	0.42	0.24	0.37	0.37	
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			39.3%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1014	19	0	1181
Future Volume (Veh/h)	0	37	1014	19	0	1181
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	39	1079	20	0	1256
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.89	0.91			0.91	
vC, conflicting volume	1717	550			1099	
vC1, stage 1 conf vol	1089					
vC2, stage 2 conf vol	628					
vCu, unblocked vol	1117	312			915	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			100	
cM capacity (veh/h)	270	629			687	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	39	719	380	628	628	
Volume Left	0	0	0	0	0	
Volume Right	39	0	20	0	0	
cSH	629	1700	1700	1700	1700	
Volume to Capacity	0.06	0.42	0.22	0.37	0.37	
Queue Length 95th (m)	1.6	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			38.6%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance

Saturday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	24	153	69	17	48	125	914	51	62	1057	62
Future Volume (vph)	71	24	153	69	17	48	125	914	51	62	1057	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.992			0.992	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1828	1615	1685	3393	0	1785	5026	0
Flt Permitted	0.689				0.752		0.198			0.288		
Satd. Flow (perm)	1255	1879	1594	0	1415	1581	350	3393	0	541	5026	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			71		11			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.3			56.8			164.4			75.4	
Travel Time (s)		8.4			4.1			9.9			4.5	
Confl. Peds. (#/hr)	7		10	10		7	6		1	1		6
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
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	2%
Adj. Flow (vph)	73	25	158	71	18	49	129	942	53	64	1090	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	25	158	0	89	49	129	995	0	64	1154	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	18.0	84.0		66.0	66.0	
Total Split (%)	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	15.5%	72.4%		56.9%	56.9%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	12.5	79.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	7	7	7		1		6	6	
Act Effect Green (s)	15.5	15.5	15.5		15.5	15.5	90.0	90.5		77.2	77.2	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.78	0.78		0.67	0.67	
v/c Ratio	0.44	0.10	0.45		0.47	0.18	0.36	0.38		0.18	0.34	
Control Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	6.1	4.2		7.8	6.3	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	6.1	4.2		7.8	6.3	
LOS	D	D	B		D	A	A	A		A	A	
Approach Delay (s/veh)		25.5			36.1			4.4			6.4	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	16.6	5.4	0.0		20.4	0.0	4.3	22.6		2.1	13.6	
Queue Length 95th (m)	28.2	12.2	17.2		32.8	5.8	m13.7	m50.8		m18.9	89.2	
Internal Link Dist (m)		92.3			32.8			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	292	437	492		329	422	415	2650		359	3347	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.06	0.32		0.27	0.12	0.31	0.38		0.18	0.34	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 8.8

Intersection LOS: A

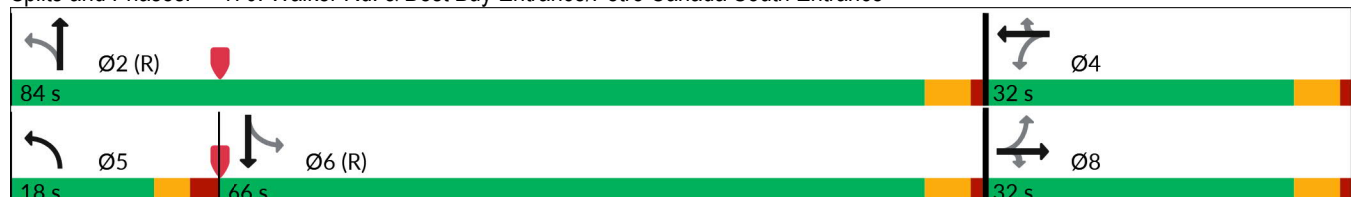
Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Saturday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	111	986	99	73	990
Future Volume (Veh/h)	29	111	986	99	73	990
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)	30	114	1016	102	75	1021
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.94	0.90			0.90	
vC, conflicting volume	1728	559			1118	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1189	301			919	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	82			89	
cM capacity (veh/h)	154	634			679	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	114	677	441	415	681
Volume Left	30	0	0	0	75	0
Volume Right	0	114	0	102	0	0
cSH	154	634	1700	1700	679	1700
Volume to Capacity	0.20	0.18	0.40	0.26	0.11	0.40
Queue Length 95th (m)	5.6	5.2	0.0	0.0	3.0	0.0
Control Delay (s/veh)	34.0	11.9	0.0	0.0	3.2	0.0
Lane LOS	D	B			A	
Approach Delay (s/veh)	16.5		0.0		1.2	
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			73.2%		ICU Level of Service	D
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Saturday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	70	128	113	87	17	162	749	86	34	885	103
Future Volume (vph)	257	70	128	113	87	17	162	749	86	34	885	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	2		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		1.00	1.00			1.00		1.00		
Frt		0.903			0.975			0.984			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1739	0	1745	1848	0	1728	3632	0	1745	3517	0
Flt Permitted	0.667			0.475			0.190			0.323		
Satd. Flow (perm)	1222	1739	0	872	1848	0	346	3632	0	593	3517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			8			23			13	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.6			281.7			641.3			169.2	
Travel Time (s)		8.3			20.3			38.5			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	271	74	135	119	92	18	171	788	91	36	932	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	271	209	0	119	110	0	171	879	0	36	1040	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	33.0	33.0		33.0	33.0		29.0	83.0		54.0	54.0	
Total Split (%)	28.4%	28.4%		28.4%	28.4%		25.0%	71.6%		46.6%	46.6%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	78.0		49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Saturday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	1	1		2	2			2		0	0	
Act Effect Green (s)	27.4	27.4		27.4	27.4		79.6	78.6		64.8	64.8	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.69	0.68		0.56	0.56	
v/c Ratio	0.94	0.45		0.58	0.25		0.48	0.36		0.11	0.53	
Control Delay (s/veh)	84.3	27.0		51.6	34.7		11.2	8.3		6.6	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	84.3	27.0		51.6	34.7		11.2	8.3		6.6	7.2	
LOS	F	C		D	C		B	A		A	A	
Approach Delay (s/veh)		59.3			43.5			8.7			7.2	
Approach LOS		E			D			A			A	
Queue Length 50th (m)	63.5	26.6		25.1	19.7		13.1	42.1		1.8	27.3	
Queue Length 95th (m)	#115.8	50.1		46.4	35.7		21.3	52.8		4.8	38.1	
Internal Link Dist (m)		91.6			257.7			617.3			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	294	476		210	452		535	2468		330	1969	
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	0.92	0.44		0.57	0.24		0.32	0.36		0.11	0.53	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 19.5

Intersection LOS: B

Intersection Capacity Utilization 75.9%

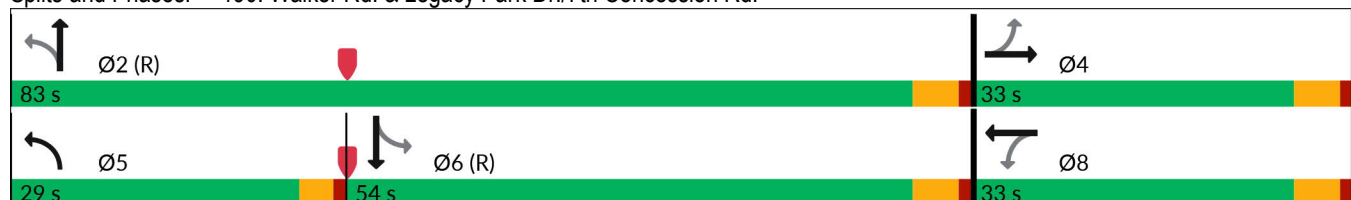
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	348	1	134	407	28	210
Future Volume (Veh/h)	348	1	134	407	28	210
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)	395	1	152	463	32	239
Pedestrians						2
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			398		1165	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			398		1165	398
tC, single (s)			4.1		6.5	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.3
p0 queue free %			87		82	64
cM capacity (veh/h)			1164		179	655
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	396	615	271			
Volume Left	0	152	32			
Volume Right	1	0	239			
cSH	1700	1164	499			
Volume to Capacity	0.23	0.13	0.54			
Queue Length 95th (m)	0.0	3.6	25.7			
Control Delay (s/veh)	0.0	3.3	20.5			
Lane LOS		A	C			
Approach Delay (s/veh)	0.0	3.3	20.5			
Approach LOS			C			
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			71.7%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Saturday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	1180	8	0	1359
Future Volume (Veh/h)	0	1	1180	8	0	1359
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)	0	1	1297	9	0	1493
Pedestrians	1					
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)			144			58
pX, platoon unblocked	0.80	0.89			0.89	
vC, conflicting volume	2049	654			1307	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1183	364			1098	
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	100			100	
cM capacity (veh/h)	147	568			572	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	865	441	747	747	
Volume Left	0	0	0	0	0	
Volume Right	1	0	9	0	0	
cSH	568	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.51	0.26	0.44	0.44	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.4	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.4	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			42.9%	ICU Level of Service		A
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	378	5	6	498	4	10
Future Volume (Veh/h)	378	5	6	498	4	10
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)	430	6	7	566	5	11
Pedestrians	2			2		
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)	64					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			436		729	432
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			266		606	262
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1129		371	640
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	430	6	196	377	16	
Volume Left	0	0	7	0	5	
Volume Right	0	6	0	0	11	
cSH	1700	1700	1129	1700	521	
Volume to Capacity	0.25	0.00*	0.00*	0.22	0.03	
Queue Length 95th (m)	0.0	0.0	0.1	0.0	0.8	
Control Delay (s/veh)	0.0	0.0	0.3	0.0	12.1	
Lane LOS			A		B	
Approach Delay (s/veh)	0.0		0.1		12.1	
Approach LOS					B	
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			30.5%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	176	234	198	220	74	219	813	157	73	924	116
Future Volume (vph)	153	176	234	198	220	74	219	813	157	73	924	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*0.75	0.95	1.00	*0.85	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Frt		0.914			0.962			0.976			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	2572	0	1767	3082	0	1745	3430	0	1728	3512	0
Flt Permitted	0.451			0.223			0.120			0.223		
Satd. Flow (perm)	842	2572	0	414	3082	0	220	3430	0	405	3512	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		241			34			21			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			365.7	
Travel Time (s)		7.9			4.6			3.5			21.9	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	158	181	241	204	227	76	226	838	162	75	953	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	422	0	204	303	0	226	1000	0	75	1073	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	36.0		17.0	36.0		19.0	36.0		19.0	36.0	
Total Split (%)	15.7%	33.3%		15.7%	33.3%		17.6%	33.3%		17.6%	33.3%	
Maximum Green (s)	13.0	30.0		13.0	30.0		15.0	30.0		15.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	30.6	17.0		32.3	17.8		64.6	52.8		54.7	45.0	
Actuated g/C Ratio	0.28	0.16		0.30	0.16		0.60	0.49		0.51	0.42	
v/c Ratio	0.46	0.70		0.73	0.57		0.70	0.59		0.25	0.73	
Control Delay (s/veh)	29.8	23.4		41.8	39.9		43.7	22.8		14.2	32.1	
Queue Delay	0.0	0.0		0.5	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	29.8	23.4		42.3	39.9		43.7	22.8		14.2	32.1	
LOS	C	C		D	D		D	C		B	C	
Approach Delay (s/veh)		25.1			40.9			26.6			31.0	
Approach LOS		C			D			C			C	
Queue Length 50th (m)	26.0	25.2		34.7	33.4		38.0	47.9		6.4	102.3	
Queue Length 95th (m)	34.1	40.0		43.6	41.9		#72.1	#140.5		17.4	#183.6	
Internal Link Dist (m)		85.7			39.9			33.7			341.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	362	888		288	880		350	1688		414	1469	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	23		7	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.49		0.73	0.34		0.65	0.59		0.18	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 29.9

Intersection LOS: C

Intersection Capacity Utilization 82.9%

ICU Level of Service E

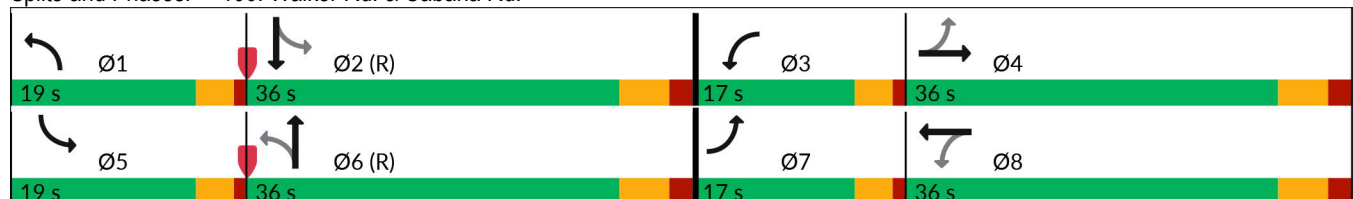
Analysis Period (min) 15

* User Entered Value

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	4	138	7	12	29	182	1114	4	25	1207	124
Future Volume (vph)	54	4	138	7	12	29	182	1114	4	25	1207	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.918			0.999			0.986	
Flt Protected		0.955			0.993		0.950			0.950		
Satd. Flow (prot)	0	1785	1615	0	1668	0	1765	3606	0	1725	3520	0
Flt Permitted		0.791			0.960		0.125			0.240		
Satd. Flow (perm)	0	1479	1593	0	1612	0	232	3606	0	435	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		31			1			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.0			80.0			176.3			144.1	
Travel Time (s)		8.1			5.8			10.6			8.6	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	4	145	7	13	31	192	1173	4	26	1271	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	145	0	51	0	192	1177	0	26	1402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		17.0	78.0		61.0	61.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		15.7%	72.2%		56.5%	56.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		13.0	73.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3		1	1	
Act Effect Green (s)		12.8	12.8		12.8		86.2	85.2		69.9	69.9	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.65	0.65	
v/c Ratio		0.35	0.46		0.23		0.56	0.41		0.09	0.61	
Control Delay (s/veh)		48.0	11.5		23.6		12.1	9.8		5.8	13.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.5	
Total Delay (s/veh)		48.0	11.5		23.6		12.1	9.8		5.8	14.1	
LOS		D	B		C		B	A		A	B	
Approach Delay (s/veh)		22.3			23.6			10.1			14.0	
Approach LOS		C			C			B			B	
Queue Length 50th (m)		12.8	0.0		4.1		16.7	80.8		1.5	120.0	
Queue Length 95th (m)		24.3	17.0		14.6		m29.5	m108.2		m3.6	171.3	
Internal Link Dist (m)		89.0			56.0			152.3			120.1	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		342	480		396		383	2844		281	2282	
Starvation Cap Reductn		0	0		0		0	0		0	413	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.30		0.13		0.50	0.41		0.09	0.75	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 106 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay (s/veh): 13.0

Intersection LOS: B

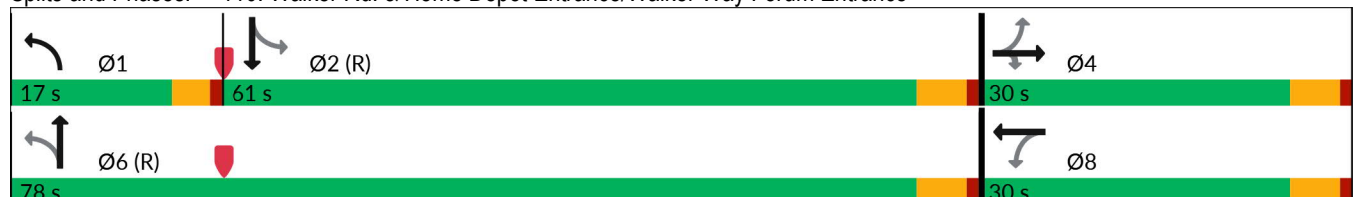
Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Sunday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	40	1239	11	60	1384
Future Volume (Veh/h)	4	40	1239	11	60	1384
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)	4	42	1291	11	63	1442
Pedestrians	1					
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)			183			176
pX, platoon unblocked	0.86	0.83			0.83	
vC, conflicting volume	2145	652			1303	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1115	175			958	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			89	
cM capacity (veh/h)	157	701			593	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	861	441	63	721	721
Volume Left	4	0	0	63	0	0
Volume Right	42	0	11	0	0	0
cSH	539	1700	1700	593	1700	1700
Volume to Capacity	0.09	0.51	0.26	0.11	0.42	0.42
Queue Length 95th (m)	2.2	0.0	0.0	2.8	0.0	0.0
Control Delay (s/veh)	12.3	0.0	0.0	11.8	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	12.3	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			51.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Sunday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1189	15	4	1384
Future Volume (Veh/h)	0	61	1189	15	4	1384
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	64	1239	16	4	1442
Pedestrians	1		7			
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)			95			265
pX, platoon unblocked	0.89	0.78			0.78	
vC, conflicting volume	1984	629			1256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	738	0			766	
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	92			99	
cM capacity (veh/h)	313	851			668	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	64	826	429	485	961	
Volume Left	0	0	0	4	0	
Volume Right	64	0	16	0	0	
cSH	851	1700	1700	668	1700	
Volume to Capacity	0.08	0.49	0.25	0.00*	0.57	
Queue Length 95th (m)	1.9	0.0	0.0	0.1	0.0	
Control Delay (s/veh)	9.6	0.0	0.0	0.2	0.0	
Lane LOS	A			A		
Approach Delay (s/veh)	9.6	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			44.4%	ICU Level of Service		A
Analysis Period (min)			15			

* Value less than 0.01.

Lanes, Volumes, Timings
140: Walker Rd. & Winners Entrance/Canadian Tire Entrance

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	99	106	122	64	135	88	834	82	169	871	344
Future Volume (vph)	235	99	106	122	64	135	88	834	82	169	871	344
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor							1.00	1.00				0.98
Frt			0.850		0.898			0.987				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1706	0	1787	3563	0	1765	3690	1597
Flt Permitted	0.486			0.689			0.282			0.197		
Satd. Flow (perm)	1081	1921	1687	1309	1706	0	530	3563	0	366	3690	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		93			10				362
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		151.2			79.9			85.4			94.7	
Travel Time (s)		10.9			5.8			5.1			5.7	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	247	104	112	128	67	142	93	878	86	178	917	362
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	104	112	128	209	0	93	964	0	178	917	362
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		11.0	38.0		39.0	66.0	66.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%		10.2%	35.2%		36.1%	61.1%	61.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		7.0	33.0		33.5	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

Lanes, Volumes, Timings

140: Walker Rd. & Winners Entrance/Canadian Tire Entrance

Sunday Peak Hour

Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0			1			1	1
Act Effect Green (s)	25.8	25.8	25.8	25.8	25.8		63.9	56.2		70.9	63.4	63.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.59	0.52		0.66	0.59	0.59
v/c Ratio	0.96	0.23	0.23	0.41	0.44		0.24	0.52		0.47	0.42	0.34
Control Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		5.8	12.3		8.7	12.2	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		5.8	12.3		8.7	12.2	4.8
LOS	F	C	A	D	C		A	B		A	B	A
Approach Delay (s/veh)		56.3			28.6			11.7			9.9	
Approach LOS		E			C			B			A	
Queue Length 50th (m)	54.0	18.6	0.0	24.0	21.0		4.4	62.3		13.0	87.8	33.7
Queue Length 95th (m)	#104.5	33.8	13.4	42.8	43.6		7.7	42.4		10.6	40.2	9.1
Internal Link Dist (m)		127.2			55.9			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	260	462	494	315	481		396	1857		677	2167	1066
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.95	0.23	0.23	0.41	0.43		0.23	0.52		0.26	0.42	0.34

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 58 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 18.9

Intersection LOS: B

Intersection Capacity Utilization 75.0%

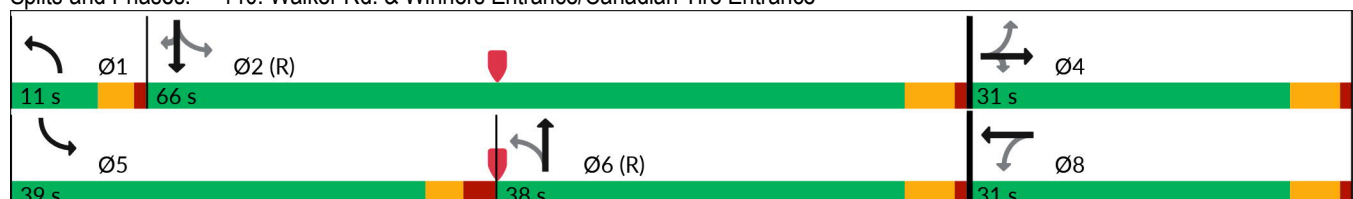
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Sunday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	33	971	41	0	1099
Future Volume (Veh/h)	0	33	971	41	0	1099
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	34	1011	43	0	1145
Pedestrians	1		2			1
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.90	0.92			0.92	
vC, conflicting volume	1608	529			1055	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1042	307			880	
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	95			100	
cM capacity (veh/h)	205	636			712	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	674	380	573	573	
Volume Left	0	0	0	0	0	
Volume Right	34	0	43	0	0	
cSH	636	1700	1700	1700	1700	
Volume to Capacity	0.05	0.40	0.22	0.34	0.34	
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			40.7%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	32	980	19	0	1099
Future Volume (Veh/h)	0	32	980	19	0	1099
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)	0	34	1032	20	0	1157
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.90	0.91			0.91	
vC, conflicting volume	1621	526			1052	
vC1, stage 1 conf vol	1042					
vC2, stage 2 conf vol	579					
vCu, unblocked vol	1023	282			860	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	293	657			719	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	688	364	579	579	
Volume Left	0	0	0	0	0	
Volume Right	34	0	20	0	0	
cSH	657	1700	1700	1700	1700	
Volume to Capacity	0.05	0.40	0.21	0.34	0.34	
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			37.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	14	174	64	14	34	144	892	46	89	954	56
Future Volume (vph)	73	14	174	64	14	34	144	892	46	89	954	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.993			0.992	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1745	1879	1651	0	1826	1615	1685	3460	0	1785	5031	0
Flt Permitted	0.704				0.755		0.218			0.290		
Satd. Flow (perm)	1283	1879	1619	0	1426	1582	386	3460	0	544	5031	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			76		10			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		119.5			60.0			164.4			75.4	
Travel Time (s)		8.6			4.3			9.9			4.5	
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	77	15	183	67	15	36	152	939	48	94	1004	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	15	183	0	82	36	152	987	0	94	1063	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	18.0	77.0		59.0	59.0	
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	28.7%	16.7%	71.3%		54.6%	54.6%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	12.5	72.0		54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	6	6	6	7	7	7		4		8	8	
Act Effect Green (s)	14.9	14.9	14.9		14.9	14.9	82.6	83.1		69.4	69.4	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.76	0.77		0.64	0.64	
v/c Ratio	0.44	0.06	0.48		0.42	0.13	0.39	0.37		0.27	0.33	
Control Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	6.4	4.0		7.9	5.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	6.4	4.0		7.9	5.1	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		22.2			33.3			4.3			5.3	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	16.2	3.0	0.0		17.2	0.0	5.7	23.7		3.2	13.2	
Queue Length 95th (m)	27.4	8.2	17.4		28.5	1.4	m14.2	42.2		22.8	33.1	
Internal Link Dist (m)		95.5			36.0			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	308	452	528		343	438	445	2666		349	3236	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.03	0.35		0.24	0.08	0.34	0.37		0.27	0.33	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 50 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 7.8

Intersection LOS: A

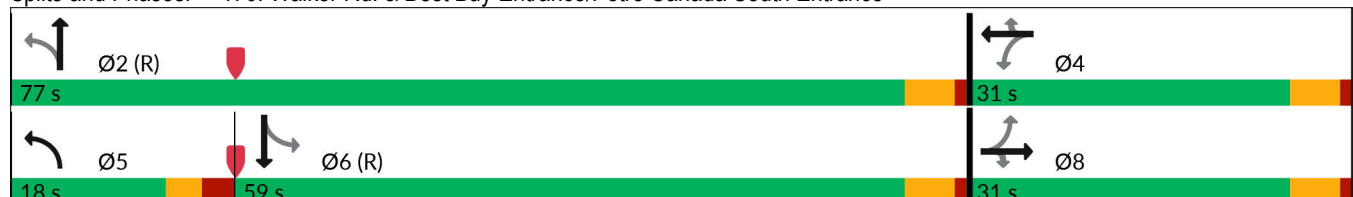
Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Sunday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	113	1003	81	74	993
Future Volume (Veh/h)	43	113	1003	81	74	993
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)	45	119	1056	85	78	1045
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.94	0.89			0.89	
vC, conflicting volume	1777	571			1141	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1181	258			902	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	82			88	
cM capacity (veh/h)	155	662			675	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	45	119	704	437	426	697
Volume Left	45	0	0	0	78	0
Volume Right	0	119	0	85	0	0
cSH	155	662	1700	1700	675	1700
Volume to Capacity	0.29	0.18	0.41	0.26	0.12	0.41
Queue Length 95th (m)	9.1	5.2	0.0	0.0	3.1	0.0
Control Delay (s/veh)	37.6	11.6	0.0	0.0	3.3	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	18.7		0.0		1.3	
Approach LOS	C					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			73.2%		ICU Level of Service	D
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	99	122	85	94	52	199	799	77	49	858	113
Future Volume (vph)	241	99	122	85	94	52	199	799	77	49	858	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	2		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00				1.00	
Frt		0.917			0.947			0.987			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1767	0	1745	1799	0	1728	3721	0	1745	3540	0
Flt Permitted	0.601			0.463			0.172			0.307		
Satd. Flow (perm)	1104	1767	0	849	1799	0	313	3721	0	564	3540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			26			17			17	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		110.2			294.7			640.5			169.2	
Travel Time (s)		7.9			21.2			38.4			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	256	105	130	90	100	55	212	850	82	52	913	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	235	0	90	155	0	212	932	0	52	1033	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		19.0	71.0		52.0	52.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		17.6%	65.7%		48.1%	48.1%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	66.0		47.0	47.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Sunday Peak Hour
Existing Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	2	2		0	0			0		1	1	
Act Effect Green (s)	28.5	28.5		28.5	28.5		70.5	69.5		54.4	54.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.65	0.64		0.50	0.50	
v/c Ratio	0.88	0.46		0.40	0.31		0.61	0.39		0.18	0.58	
Control Delay (s/veh)	67.8	26.9		37.4	27.1		16.1	10.0		17.1	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	67.8	26.9		37.4	27.1		16.1	10.0		17.1	16.1	
LOS	E	C		D	C		B	B		B	B	
Approach Delay (s/veh)		48.2			30.9			11.2			16.1	
Approach LOS		D			C			B			B	
Queue Length 50th (m)	52.5	31.1		15.9	21.9		18.4	49.9		4.0	43.2	
Queue Length 95th (m)	#94.1	53.9		31.2	39.3		30.3	64.5		12.4	78.0	
Internal Link Dist (m)		86.2			270.7			616.5			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	327	565		251	551		400	2401		284	1792	
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	0.42		0.36	0.28		0.53	0.39		0.18	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 39 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 20.8

Intersection LOS: C

Intersection Capacity Utilization 75.9%

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	369	0	117	367	53	192
Future Volume (Veh/h)	369	0	117	367	53	192
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	393	0	124	390	56	204
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			393		1031	393
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			393		1031	393
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		76	69
cM capacity (veh/h)			1177		229	660
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	393	514	260			
Volume Left	0	124	56			
Volume Right	0	0	204			
cSH	1700	1177	470			
Volume to Capacity	0.23	0.11	0.55			
Queue Length 95th (m)	0.0	2.8	26.4			
Control Delay (s/veh)	0.0	2.9	21.7			
Lane LOS		A	C			
Approach Delay (s/veh)	0.0	2.9	21.7			
Approach LOS			C			
Intersection Summary						
Average Delay			6.1			
Intersection Capacity Utilization			70.0%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Sunday Peak Hour
Existing Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1187	10	0	1356
Future Volume (Veh/h)	0	2	1187	10	0	1356
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	2	1187	10	0	1356
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)			144			58
pX, platoon unblocked	0.80	0.90			0.90	
vC, conflicting volume	1872	601			1199	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008	324			991	
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	100			100	
cM capacity (veh/h)	192	607			632	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	2	791	406	678	678	
Volume Left	0	0	0	0	0	
Volume Right	2	0	10	0	0	
cSH	607	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.47	0.24	0.40	0.40	
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			43.1%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	389	15	5	450	19	12
Future Volume (Veh/h)	389	15	5	450	19	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	423	16	5	489	21	13
Pedestrians	1			2		
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)	64					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			439		679	425
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			264		543	248
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		95	98
cM capacity (veh/h)			1126		405	650
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	423	16	168	326	34	
Volume Left	0	0	5	0	21	
Volume Right	0	16	0	0	13	
cSH	1700	1700	1126	1700	473	
Volume to Capacity	0.25	0.00*	0.00*	0.19	0.07	
Queue Length 95th (m)	0.0	0.0	0.1	0.0	1.8	
Control Delay (s/veh)	0.0	0.0	0.3	0.0	13.2	
Lane LOS			A	B		
Approach Delay (s/veh)	0.0		0.1		13.2	
Approach LOS	B					
Intersection Summary						
Average Delay	0.5					
Intersection Capacity Utilization	31.1%			ICU Level of Service		A
Analysis Period (min)	15					

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	407	84	178	324	124	64	873	64	278	746	113
Future Volume (vph)	272	407	84	178	324	124	64	873	64	278	746	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.974			0.959			0.990			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	3289	0	1566	3077	0	1601	3208	0	1601	3284	0
Flt Permitted	0.271			0.334			0.259			0.111		
Satd. Flow (perm)	492	3289	0	550	3077	0	436	3208	0	187	3284	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			55			7			17	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			358.7	
Travel Time (s)		7.9			4.6			3.5			21.5	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	299	447	92	196	356	136	70	959	70	305	820	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	539	0	196	492	0	70	1029	0	305	944	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	15.0	40.0		12.0	37.0		14.0	38.0		14.0	38.0	
Total Split (%)	14.4%	38.5%		11.5%	35.6%		13.5%	36.5%		13.5%	36.5%	
Maximum Green (s)	11.0	34.0		8.0	31.0		10.0	32.0		10.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	38.2	25.2		32.2	22.2		41.8	32.0		56.0	45.0	
Actuated g/C Ratio	0.37	0.24		0.31	0.21		0.40	0.31		0.54	0.43	
v/c Ratio	0.96	0.66		0.79	0.70		0.27	1.04		0.86	0.66	
Control Delay (s/veh)	69.2	37.3		47.7	38.6		13.3	65.9		50.4	28.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	69.2	37.3		47.7	38.6		13.3	65.9		50.4	28.2	
LOS	E	D		D	D		B	E		D	C	
Approach Delay (s/veh)		48.7			41.2			62.6			33.6	
Approach LOS		D			D			E			C	
Queue Length 50th (m)	48.1	52.8		29.8	46.2		3.6	~125.2		46.0	81.6	
Queue Length 95th (m)	#68.3	62.5		#41.7	56.8		8.7	#160.2		#129.8	#140.7	
Internal Link Dist (m)		85.7			39.9			33.7			334.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	311	1092		248	955		296	991		356	1431	
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	0.49		0.79	0.52		0.24	1.04		0.86	0.66	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay (s/veh): 46.4

Intersection LOS: D

Intersection Capacity Utilization 90.0%

ICU Level of Service E

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: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1	23	1	0	3	52	1008	2	13	947	46
Future Volume (vph)	13	1	23	1	0	3	52	1008	2	13	947	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.899						0.993	
Flt Protected		0.955			0.988		0.950			0.950		
Satd. Flow (prot)	0	1814	1482	0	1123	0	1697	3312	0	1597	3326	0
Flt Permitted		0.737			0.935		0.207			0.241		
Satd. Flow (perm)	0	1400	1462	0	1063	0	370	3312	0	405	3326	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		63						6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.5			74.7			176.3			85.4	
Travel Time (s)		8.0			5.4			10.6			5.1	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	1	27	1	0	3	60	1172	2	15	1101	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	27	0	4	0	60	1174	0	15	1154	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.0	12.0		12.0		89.0	90.0		80.6	80.6	
Actuated g/C Ratio		0.12	0.12		0.12		0.86	0.87		0.78	0.78	
v/c Ratio		0.10	0.12		0.02		0.15	0.41		0.05	0.45	
Control Delay (s/veh)		40.4	1.8		0.3		1.5	2.1		4.6	3.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		40.4	1.8		0.3		1.5	2.1		4.6	3.6	
LOS		D	A		A		A	A		A	A	
Approach Delay (s/veh)		16.2			0.3			2.0			3.6	
Approach LOS		B			A			A			A	
Queue Length 50th (m)		3.2	0.0		0.0		1.5	41.5		0.0	22.3	
Queue Length 95th (m)		8.5	0.5		0.0		0.5	2.9		m0.0	31.7	
Internal Link Dist (m)		87.5			50.7			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		403	466		351		469	2866		313	2578	
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		0.04	0.06		0.01		0.13	0.41		0.05	0.45	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay (s/veh): 3.0

Intersection LOS: A

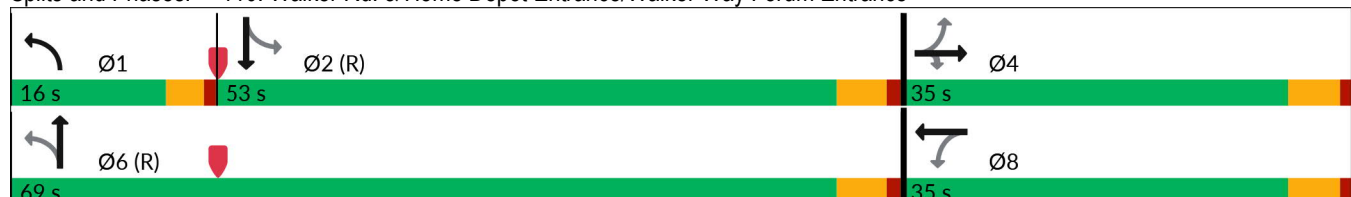
Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

AM Peak Hour
2030 Future Background Conditions

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Volume (veh/h)	0	4	1053	5	18	988
Future Volume (Veh/h)	0	4	1053	5	18	988
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	4	1183	6	20	1110
Pedestrians	3					1
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)			183			176
pX, platoon unblocked	0.90	0.84			0.84	
vC, conflicting volume	1784	599			1192	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1003	138			845	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	99			97	
cM capacity (veh/h)	212	746			638	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	4	789	400	20	555	555
Volume Left	0	0	0	20	0	0
Volume Right	4	0	6	0	0	0
cSH	746	1700	1700	638	1700	1700
Volume to Capacity	0.00*	0.46	0.24	0.03	0.33	0.33
Queue Length 95th (m)	0.1	0.0	0.0	0.8	0.0	0.0
Control Delay (s/veh)	9.9	0.0	0.0	10.8	0.0	0.0
Lane LOS	A			B		
Approach Delay (s/veh)	9.9	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			39.6%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

AM Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1049	2	0	986
Future Volume (Veh/h)	0	8	1049	2	0	986
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	9	1179	2	0	1108
Pedestrians	1					
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)			95			265
pX, platoon unblocked	0.90	0.84			0.84	
vC, conflicting volume	1735	592			1182	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	965	120			826	
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	99			100	
cM capacity (veh/h)	230	765			680	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	786	395	554	554	
Volume Left	0	0	0	0	0	
Volume Right	9	0	2	0	0	
cSH	765	1700	1700	1700	1700	
Volume to Capacity	0.01	0.46	0.23	0.33	0.33	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	9.8	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	9.8	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			39.1%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	15	12	16	11	22	26	987	29	58	830	98
Future Volume (vph)	42	15	12	16	11	22	26	987	29	58	830	98
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor			0.99	1.00			1.00	1.00		1.00		0.98
Frt			0.850		0.901			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1975	1921	1562	1805	1712	0	1805	3282	0	1765	3295	1536
Flt Permitted	0.732			0.746			0.289			0.199		
Satd. Flow (perm)	1522	1921	1541	1416	1712	0	549	3282	0	369	3295	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		25			4				111
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.1			83.4			85.4			94.7	
Travel Time (s)		10.6			6.0			5.1			5.7	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	8%	0%	0%	0%	0%	11%	0%	0%	12%	4%
Adj. Flow (vph)	48	17	14	18	13	25	30	1122	33	66	943	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	17	14	18	38	0	30	1155	0	66	943	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0		11.0	61.0		11.0	61.0	61.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%		10.6%	58.7%		10.6%	58.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		7.0	56.0		5.5	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	1
Act Effect Green (s)	13.4	13.4	13.4	13.4	13.4		80.1	75.1		80.8	78.4	78.4
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13		0.77	0.72		0.78	0.75	0.75
v/c Ratio	0.24	0.07	0.05	0.10	0.16		0.06	0.49		0.18	0.38	0.10
Control Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.3	5.8		8.5	17.3	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.3	5.8		8.5	17.3	8.6
LOS	D	D	A	D	C		A	A		A	B	A
Approach Delay (s/veh)		33.2			25.8			5.8			15.9	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	9.7	3.4	0.0	3.6	2.6		0.8	30.2		4.6	79.3	7.0
Queue Length 95th (m)	17.3	8.2	0.0	8.7	10.1		m3.1	35.1		19.1	131.4	27.8
Internal Link Dist (m)		123.1			59.4			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	395	498	458	367	462		510	2372		370	2484	1159
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.03	0.03	0.05	0.08		0.06	0.49		0.18	0.38	0.10

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 69 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay (s/veh): 11.8

Intersection LOS: B

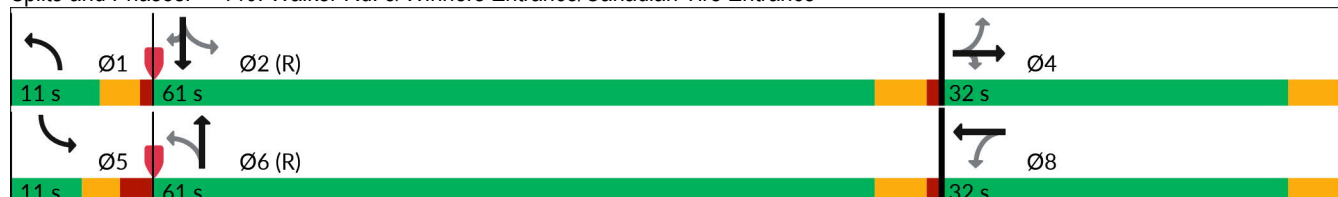
Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1034	5	0	858
Future Volume (Veh/h)	0	8	1034	5	0	858
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	9	1189	6	0	986
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.94	0.89			0.89	
vC, conflicting volume	1685	598			1195	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1088	303			974	
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	99			100	
cM capacity (veh/h)	202	622			638	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	793	402	493	493	
Volume Left	0	0	0	0	0	
Volume Right	9	0	6	0	0	
cSH	622	1700	1700	1700	1700	
Volume to Capacity	0.01	0.47	0.24	0.29	0.29	
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			38.7%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1024	6	0	858
Future Volume (Veh/h)	0	15	1024	6	0	858
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	1151	7	0	964
Pedestrians	1					
Lane Width (m)	4.8					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.94	0.88			0.88	
vC, conflicting volume	1638	580			1159	
vC1, stage 1 conf vol	1156					
vC2, stage 2 conf vol	482					
vCu, unblocked vol	1046	264			918	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	272	636			664	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	17	767	391	482	482	
Volume Left	0	0	0	0	0	
Volume Right	17	0	7	0	0	
cSH	636	1700	1700	1700	1700	
Volume to Capacity	0.03	0.45	0.23	0.28	0.28	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			38.5%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	62	15	4	4	70	996	27	16	813	29
Future Volume (vph)	30	5	62	15	4	4	70	996	27	16	813	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	1.00					0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.996			0.995	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1694	1879	1619	0	1830	1615	1668	3166	0	1785	4610	0
Flt Permitted	0.743				0.804		0.256			0.244		
Satd. Flow (perm)	1319	1879	1619	0	1528	1588	449	3166	0	458	4610	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			79		5			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		117.3			55.6			164.4			75.4	
Travel Time (s)		8.4			4.0			9.9			4.5	
Confl. Peds. (#/hr)	4					4	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	1%	10%	0%	0%	11%	0%
Adj. Flow (vph)	34	6	70	17	5	5	80	1132	31	18	924	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	70	0	22	5	80	1163	0	18	957	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	72.0		61.0	61.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	10.6%	69.2%		58.7%	58.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	5.5	67.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	4	4	4		1		1	1	
Act Effect Green (s)	13.5	13.5	13.5		13.5	13.5	83.0	84.5		75.1	75.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.80	0.81		0.72	0.72	
v/c Ratio	0.20	0.02	0.25		0.11	0.02	0.19	0.45		0.05	0.29	
Control Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.8	2.2		3.3	2.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.8	2.2		3.3	2.8	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		20.0			30.9			2.2			2.8	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	6.8	1.2	0.0		4.4	0.0	1.7	12.7		0.7	14.7	
Queue Length 95th (m)	13.3	4.2	8.8		9.7	0.0	3.7	17.0		m0.4	3.2	
Internal Link Dist (m)		93.3			31.6			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	342	487	478		396	470	430	2574		330	3332	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.15		0.06	0.01	0.19	0.45		0.05	0.29	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 73 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay (s/veh): 3.6

Intersection LOS: A

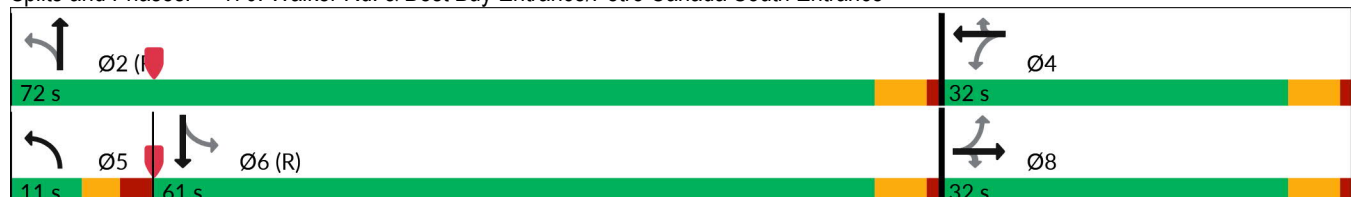
Intersection Capacity Utilization 59.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	25	1089	38	14	832
Future Volume (Veh/h)	15	25	1089	38	14	832
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	28	1210	42	16	924
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.89	0.85			0.85	
vC, conflicting volume	1725	627			1252	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1119	200			938	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	96			97	
cM capacity (veh/h)	177	678			626	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	28	807	445	324	616
Volume Left	17	0	0	0	16	0
Volume Right	0	28	0	42	0	0
cSH	177	678	1700	1700	626	1700
Volume to Capacity	0.10	0.04	0.47	0.26	0.03	0.36
Queue Length 95th (m)	2.5	1.0	0.0	0.0	0.6	0.0
Control Delay (s/veh)	27.4	10.5	0.0	0.0	0.9	0.0
Lane LOS	D	B			A	
Approach Delay (s/veh)	16.9		0.0		0.3	
Approach LOS	C					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			43.3%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	14	12	99	37	26	40	1072	159	18	808	21
Future Volume (vph)	29	14	12	99	37	26	40	1072	159	18	808	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		0.99	0.99		1.00				1.00	
Frt		0.930			0.938			0.981			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1649	0	1662	1772	0	1694	3445	0	1616	3246	0
Flt Permitted	0.711			0.739			0.264			0.190		
Satd. Flow (perm)	1254	1649	0	1279	1772	0	471	3445	0	323	3246	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			29			33			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			290.2			642.6			169.2	
Travel Time (s)		8.4			20.9			38.6			10.2	
Confl. Peds. (#/hr)	1		9	9		1	1					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
Heavy Vehicles (%)	4%	0%	18%	5%	0%	0%	3%	8%	3%	8%	11%	0%
Adj. Flow (vph)	32	15	13	109	41	29	44	1178	175	20	888	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	28	0	109	70	0	44	1353	0	20	911	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		24.0	73.0		49.0	49.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		23.1%	70.2%		47.1%	47.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		20.0	68.0		44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	9	9		1	1			0		1	1	
Act Effect Green (s)	16.0	16.0		16.0	16.0		79.0	78.0		71.3	71.3	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.76	0.75		0.69	0.69	
v/c Ratio	0.17	0.11		0.55	0.24		0.10	0.52		0.09	0.41	
Control Delay (s/veh)	37.4	23.3		50.1	24.8		4.7	6.8		14.4	9.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	37.4	23.3		50.1	24.8		4.7	6.8		14.4	9.8	
LOS	D	C		D	C		A	A		B	A	
Approach Delay (s/veh)		30.8			40.2			6.7			9.9	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	6.1	2.8		21.9	7.7		1.8	48.3		0.4	10.1	
Queue Length 95th (m)	13.5	9.8		36.0	18.5		6.4	91.9		9.2	93.5	
Internal Link Dist (m)		92.1			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	313	422		319	464		592	2590		221	2225	
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	0.10	0.07		0.34	0.15		0.07	0.52		0.09	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 70 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay (s/veh): 10.7

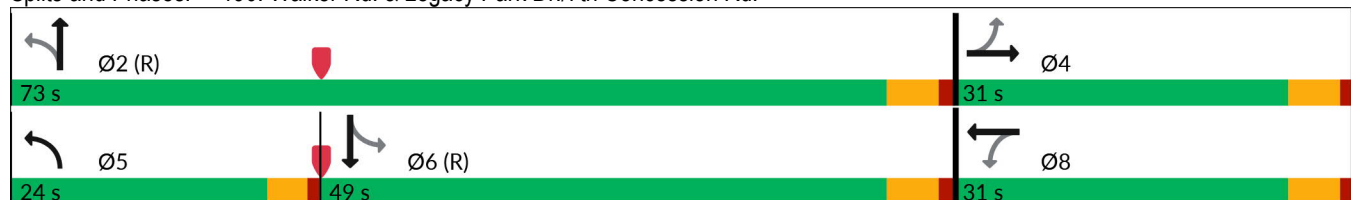
Intersection LOS: B

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	633	68	125	499	81	104
Future Volume (vph)	633	68	125	499	81	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3167	1615	1787	3096	3404	1482
Flt Permitted			0.324		0.950	
Satd. Flow (perm)	3167	1615	610	3096	3404	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		73				112
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			315.0	940.8	
Travel Time (s)	31.8			22.7	67.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	14%	0%	1%	14%	4%	9%
Adj. Flow (vph)	681	73	134	537	87	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	681	73	134	537	87	112
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	64.0	64.0	19.0	83.0	37.0	37.0
Total Split (%)	53.3%	53.3%	15.8%	69.2%	30.8%	30.8%
Maximum Green (s)	58.0	58.0	15.0	77.0	31.0	31.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	64.1	64.1	79.0	77.0	31.0	31.0
Actuated g/C Ratio	0.53	0.53	0.66	0.64	0.26	0.26
v/c Ratio	0.40	0.08	0.27	0.27	0.10	0.24
Control Delay (s/veh)	17.7	3.5	9.1	9.8	34.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.7	3.5	9.1	9.8	34.3	7.6
LOS	B	A	A	A	C	A
Approach Delay (s/veh)	16.3			9.6	19.3	
Approach LOS	B			A	B	
Queue Length 50th (m)	50.5	0.0	11.3	28.1	8.5	0.0
Queue Length 95th (m)	67.8	7.5	18.9	37.1	15.3	14.4
Internal Link Dist (m)	417.3			291.0	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1691	896	548	1986	879	465
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	0.40	0.08	0.24	0.27	0.10	0.24

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay (s/veh): 13.9

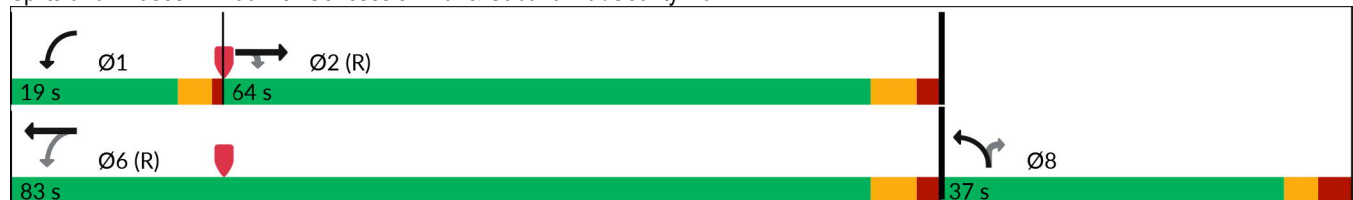
Intersection LOS: B

Intersection Capacity Utilization 46.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1001	3	0	1008
Future Volume (Veh/h)	0	0	1001	3	0	1008
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	0	1088	3	0	1096
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.82	0.91			0.91	
vC, conflicting volume	1638	546			1091	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	869	316			913	
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	100			100	
cM capacity (veh/h)	242	627			691	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	725	366	548	548	
Volume Left	0	0	0	0	0	
Volume Right	0	0	3	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.43	0.22	0.32	0.32	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			31.2%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	749	0	1	626	0	3
Future Volume (Veh/h)	749	0	1	626	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	814	0	1	680	0	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.87		0.87	0.87
vC, conflicting volume			814		1156	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			478		873	9
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			949		254	933
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	543	271	228	453	3	
Volume Left	0	0	1	0	0	
Volume Right	0	0	0	0	3	
cSH	1700	1700	949	1700	933	
Volume to Capacity	0.32	0.16	0.00*	0.27	0.00*	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.1	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	8.9	
Lane LOS			A		A	
Approach Delay (s/veh)	0.0		0.0		8.9	
Approach LOS					A	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			30.7%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	366	211	223	659	221	197	1112	197	194	1167	113
Future Volume (vph)	208	366	211	223	659	221	197	1112	197	194	1167	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.945			0.962			0.977			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	3360	0	1684	3351	0	1728	3338	0	1601	3475	0
Flt Permitted	0.128			0.250			0.097			0.095		
Satd. Flow (perm)	231	3360	0	443	3351	0	176	3338	0	160	3475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		93			37			18			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			362.9	
Travel Time (s)		7.9			4.6			3.5			21.8	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	217	381	220	232	686	230	205	1158	205	202	1216	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	601	0	232	916	0	205	1363	0	202	1334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	46.2	31.2		45.8	31.0		57.4	41.3		58.6	41.9	
Actuated g/C Ratio	0.39	0.26		0.38	0.26		0.48	0.34		0.49	0.35	
v/c Ratio	0.87	0.64		0.77	1.03		0.77	1.17		0.80	1.09	
Control Delay (s/veh)	60.7	36.6		49.3	69.0		55.3	115.9		49.8	92.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	2.7	
Total Delay (s/veh)	60.7	36.6		49.3	69.0		55.3	115.9		49.8	95.3	
LOS	E	D		D	E		E	F		D	F	
Approach Delay (s/veh)		43.0			65.0			108.0			89.3	
Approach LOS		D			E			F			F	
Queue Length 50th (m)	36.3	59.2		28.6	~124.1		37.1	~215.4		33.0	~200.0	
Queue Length 95th (m)	#81.8	79.6		#63.0	#166.3		65.3	#263.8		#60.6	#253.1	
Internal Link Dist (m)		85.7			39.9			33.7			338.9	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	249	943		304	893		306	1161		296	1219	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	1		0	0		0	0		0	86	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.87	0.64		0.76	1.03		0.67	1.17		0.68	1.18	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.17

Intersection Signal Delay (s/veh): 82.1

Intersection LOS: F

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	5	81	12	1	42	107	1431	7	22	1499	97
Future Volume (vph)	57	5	81	12	1	42	107	1431	7	22	1499	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.896			0.999			0.991	
Flt Protected		0.956			0.989		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1684	0	1765	3501	0	1725	3474	0
Flt Permitted		0.746			0.930		0.099			0.179		
Satd. Flow (perm)	0	1417	1584	0	1581	0	184	3501	0	325	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		43			1			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			77.6			176.3			85.4	
Travel Time (s)		8.4			5.6			10.6			5.1	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	5	83	12	1	43	109	1460	7	22	1530	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	83	0	56	0	109	1467	0	22	1629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	85.0		66.0	66.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		15.8%	70.8%		55.0%	55.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	80.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3		1	1	
Act Effect Green (s)		13.1	13.1		13.1		97.9	96.9		84.6	84.6	
Actuated g/C Ratio		0.11	0.11		0.11		0.82	0.81		0.71	0.71	
v/c Ratio		0.41	0.34		0.27		0.42	0.52		0.10	0.66	
Control Delay (s/veh)		56.6	13.4		21.6		10.7	9.3		4.4	6.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	1.7	
Total Delay (s/veh)		56.6	13.4		21.6		10.7	9.3		4.4	7.9	
LOS		E	B		C		B	A		A	A	
Approach Delay (s/veh)		32.0			21.6			9.4			7.9	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		15.0	0.0		3.0		8.3	55.2		0.8	30.3	
Queue Length 95th (m)		27.9	14.4		14.9		m21.6	173.6		m0.9	m30.9	
Internal Link Dist (m)		92.1			53.6			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		354	458		427		347	2827		229	2452	
Starvation Cap Reductn		0	0		0		0	0		0	606	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.18		0.13		0.31	0.52		0.10	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay (s/veh): 9.8

Intersection LOS: A

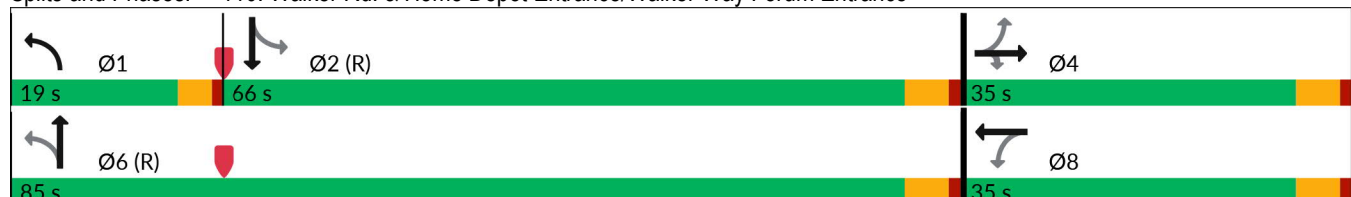
Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

PM Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	2	25	1531	13	52	1603
Future Volume (Veh/h)	2	25	1531	13	52	1603
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	2	26	1562	13	53	1636
Pedestrians	3					2
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)			183			176
pX, platoon unblocked	0.86	0.75			0.75	
vC, conflicting volume	2496	793			1578	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1105	57			1104	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			89	
cM capacity (veh/h)	159	750			479	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1041	534	53	818	818
Volume Left	2	0	0	53	0	0
Volume Right	26	0	13	0	0	0
cSH	592	1700	1700	479	1700	1700
Volume to Capacity	0.05	0.61	0.31	0.11	0.48	0.48
Queue Length 95th (m)	1.2	0.0	0.0	3.0	0.0	0.0
Control Delay (s/veh)	11.4	0.0	0.0	13.5	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.4	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			55.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

PM Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	1	44	1496	10	1	1621
Future Volume (Veh/h)	1	44	1496	10	1	1621
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1	44	1511	10	1	1637
Pedestrians	3		2			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)			95			265
pX, platoon unblocked	0.86	0.74			0.74	
vC, conflicting volume	2342	766			1524	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	870	0			998	
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	95			100	
cM capacity (veh/h)	253	801			516	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	45	1007	514	547	1091	
Volume Left	1	0	0	1	0	
Volume Right	44	0	10	0	0	
cSH	764	1700	1700	516	1700	
Volume to Capacity	0.06	0.59	0.30	0.00*	0.64	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.0	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	55	101	126	44	104	72	1240	76	154	1172	295
Future Volume (vph)	162	55	101	126	44	104	72	1240	76	154	1172	295
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	0.99		0.98	1.00	0.98		1.00	1.00				0.98
Frt			0.850		0.894			0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2092	1921	1638	1805	1671	0	1752	3481	0	1765	3583	1566
Flt Permitted	0.532			0.720			0.197			0.120		
Satd. Flow (perm)	1162	1921	1611	1363	1671	0	363	3481	0	223	3583	1528
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		91			6				304
Link Speed (k/h)		50			50			60				60
Link Distance (m)		147.4			79.3			85.4				94.7
Travel Time (s)		10.6			5.7			5.1				5.7
Confl. Peds. (#/hr)	8		3	3		8	2		1	1		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
Heavy Vehicles (%)	1%	0%	3%	0%	0%	0%	3%	4%	0%	0%	3%	2%
Adj. Flow (vph)	167	57	104	130	45	107	74	1278	78	159	1208	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	57	104	130	152	0	74	1356	0	159	1208	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	50.0		39.0	75.0	75.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		11.7%	41.7%		32.5%	62.5%	62.5%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	45.0		33.5	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	8	8			1			2	2
Act Effect Green (s)	21.2	21.2	21.2	21.2	21.2		80.8	72.8		87.5	79.8	79.8
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.67	0.61		0.73	0.67	0.67
v/c Ratio	0.81	0.17	0.28	0.54	0.41		0.23	0.64		0.54	0.51	0.27
Control Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		8.7	18.9		17.4	6.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		8.7	18.9		17.4	6.1	1.3
LOS	E	D	A	D	C		A	B		B	A	A
Approach Delay (s/veh)		48.7			35.6			18.3			6.3	
Approach LOS		D			D			B			A	
Queue Length 50th (m)	39.8	12.0	0.0	29.3	12.9		5.5	86.7		7.1	75.8	1.4
Queue Length 95th (m)	#65.0	23.5	14.5	48.6	31.9		m13.1	107.3		m18.6	67.8	7.8
Internal Link Dist (m)		123.4			55.3			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	251	416	431	295	433		369	2114		594	2383	1118
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.14	0.24	0.44	0.35		0.20	0.64		0.27	0.51	0.27

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay (s/veh): 16.9

Intersection LOS: B

Intersection Capacity Utilization 82.8%

ICU Level of Service E

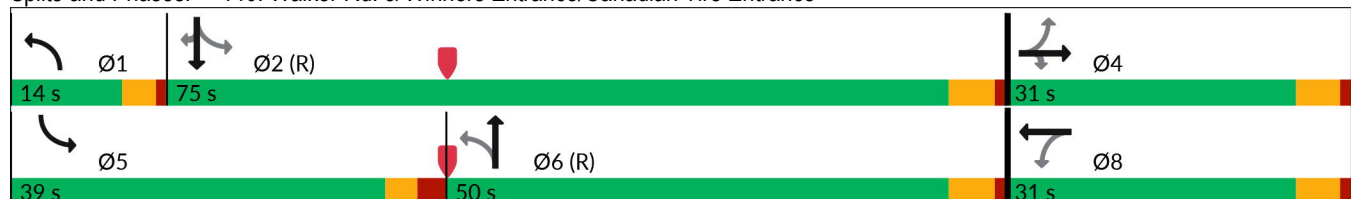
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1373	32	0	1399
Future Volume (Veh/h)	0	15	1373	32	0	1399
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	16	1430	33	0	1457
Pedestrians	2					
Lane Width (m)	4.0					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.90	0.84			0.84	
vC, conflicting volume	2177	734			1465	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1270	286			1162	
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	97			100	
cM capacity (veh/h)	147	598			507	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	953	510	729	729	
Volume Left	0	0	0	0	0	
Volume Right	16	0	33	0	0	
cSH	598	1700	1700	1700	1700	
Volume to Capacity	0.03	0.56	0.30	0.43	0.43	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			49.0%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	1385	15	0	1399
Future Volume (Veh/h)	0	20	1385	15	0	1399
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	20	1413	15	0	1428
Pedestrians	3		20			
Lane Width (m)	4.8		3.9			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	0		2			
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.90	0.83			0.83	
vC, conflicting volume	2158	717			1431	
vC1, stage 1 conf vol	1424					
vC2, stage 2 conf vol	734					
vCu, unblocked vol	1243	265			1120	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	202	615			525	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	20	942	486	714	714	
Volume Left	0	0	0	0	0	
Volume Right	20	0	15	0	0	
cSH	615	1700	1700	1700	1700	
Volume to Capacity	0.03	0.55	0.29	0.42	0.42	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			48.8%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	18	160	56	9	20	110	1337	50	39	1321	39
Future Volume (vph)	43	18	160	56	9	20	110	1337	50	39	1321	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.98		0.99		1.00	0.96	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.996	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1791	1615	1685	3338	0	1785	4914	0
Flt Permitted	0.714				0.742		0.150			0.190		
Satd. Flow (perm)	1281	1879	1613	0	1384	1556	266	3338	0	357	4914	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			68		7			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.5			57.5			164.4			75.4	
Travel Time (s)		8.4			4.1			9.9			4.5	
Confl. Peds. (#/hr)	19		1	1		19	2		3	3		2
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
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	0%	4%	2%	0%	4%	0%
Adj. Flow (vph)	43	18	162	57	9	20	111	1351	51	39	1334	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	18	162	0	66	20	111	1402	0	39	1373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	87.0		67.0	67.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	16.7%	72.5%		55.8%	55.8%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	14.5	82.0		62.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	1	1	1	19	19	19		3		2	2	
Act Effect Green (s)	17.2	17.2	17.2		17.2	17.2	92.3	92.8		79.6	79.6	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.77	0.77		0.66	0.66	
v/c Ratio	0.23	0.07	0.44		0.33	0.07	0.38	0.54		0.17	0.42	
Control Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	7.1	4.4		8.1	8.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	7.1	4.4		8.1	8.1	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		19.0			37.0			4.6			8.1	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	10.1	4.1	0.0		15.7	0.0	3.3	25.5		0.5	6.2	
Queue Length 95th (m)	19.2	9.9	17.8		26.6	0.0	m8.9	52.2		m10.6	105.1	
Internal Link Dist (m)		92.5			33.5			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	298	438	500		322	415	376	2583		236	3262	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.04	0.32		0.20	0.05	0.30	0.54		0.17	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 8.0

Intersection LOS: A

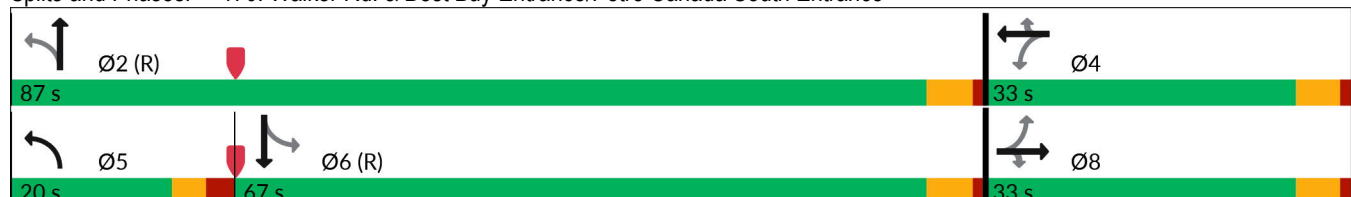
Intersection Capacity Utilization 75.4%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	68	1394	61	44	1427
Future Volume (Veh/h)	25	68	1394	61	44	1427
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	72	1483	65	47	1518
Pedestrians	2		1			
Lane Width (m)	3.6		3.8			
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)			169			164
pX, platoon unblocked	0.84	0.76			0.76	
vC, conflicting volume	2372	776			1550	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1399	67			1088	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	90			90	
cM capacity (veh/h)	101	749			491	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	72	989	559	553	1012
Volume Left	27	0	0	0	47	0
Volume Right	0	72	0	65	0	0
cSH	101	749	1700	1700	491	1700
Volume to Capacity	0.27	0.10	0.58	0.33	0.10	0.60
Queue Length 95th (m)	7.9	2.5	0.0	0.0	2.5	0.0
Control Delay (s/veh)	53.1	10.3	0.0	0.0	2.7	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	22.0		0.0		1.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			81.3%		ICU Level of Service	D
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	122	150	174	98	31	175	1223	163	42	1298	112
Future Volume (vph)	202	122	150	174	98	31	175	1223	163	42	1298	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00				1.00			1.00		1.00	1.00	
Frt		0.917			0.964			0.982			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1781	0	1694	1811	0	1745	3559	0	1745	3434	0
Flt Permitted	0.630			0.385			0.064			0.150		
Satd. Flow (perm)	1132	1781	0	687	1811	0	118	3559	0	275	3434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			13			24			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.3			290.2			642.6			169.2	
Travel Time (s)		8.3			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	210	127	156	181	102	32	182	1274	170	44	1352	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	283	0	181	134	0	182	1444	0	44	1469	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	82.0		66.0	66.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		13.3%	68.3%		55.0%	55.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		12.0	77.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		2	2			1		1	1	
Act Effect Green (s)	32.8	32.8		32.8	32.8		78.2	77.2		62.1	62.1	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.65	0.64		0.52	0.52	
v/c Ratio	0.68	0.54		0.97	0.27		0.80	0.63		0.31	0.82	
Control Delay (s/veh)	51.5	34.5		95.0	24.1		51.1	14.1		12.7	19.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	51.5	34.5		95.0	24.1		51.1	14.1		12.7	19.0	
LOS	D	C		F	C		D	B		B	B	
Approach Delay (s/veh)		41.8			64.9			18.3			18.8	
Approach LOS		D			E			B			B	
Queue Length 50th (m)	46.4	48.9		44.8	23.5		26.7	103.2		2.1	175.3	
Queue Length 95th (m)	75.8	77.8		#93.0	41.4		#62.6	124.6		5.1	56.7	
Internal Link Dist (m)		91.3			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	311	526		188	507		239	2298		142	1783	
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	0.68	0.54		0.96	0.26		0.76	0.63		0.31	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 25.1

Intersection LOS: C

Intersection Capacity Utilization 90.2%

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↓	↑
Traffic Volume (vph)	608	110	197	953	73	212
Future Volume (vph)	608	110	197	953	73	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3438	1615	1787	3394	3437	1599
Flt Permitted			0.326		0.950	
Satd. Flow (perm)	3438	1593	613	3394	3437	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		118				228
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			318.8	940.8	
Travel Time (s)	31.8			23.0	67.7	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	0%	1%	4%	3%	1%
Adj. Flow (vph)	654	118	212	1025	78	228
Shared Lane Traffic (%)						
Lane Group Flow (vph)	654	118	212	1025	78	228
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	55.0	55.0	26.0	81.0	39.0	39.0
Total Split (%)	45.8%	45.8%	21.7%	67.5%	32.5%	32.5%
Maximum Green (s)	49.0	49.0	22.0	75.0	33.0	33.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	59.7	59.7	77.0	75.0	33.0	33.0
Actuated g/C Ratio	0.50	0.50	0.64	0.63	0.28	0.28
v/c Ratio	0.38	0.14	0.42	0.48	0.08	0.38
Control Delay (s/veh)	19.1	7.3	11.4	13.0	29.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.1	7.3	11.4	13.0	29.6	7.4
LOS	B	A	B	B	C	A
Approach Delay (s/veh)	17.3			12.8	13.1	
Approach LOS	B			B	B	
Queue Length 50th (m)	57.7	5.1	19.8	66.9	6.7	6.9
Queue Length 95th (m)	m69.4	m9.6	30.7	82.7	m12.6	18.5
Internal Link Dist (m)	417.3			294.8	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1709	851	608	2121	945	605
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	0.38	0.14	0.35	0.48	0.08	0.38

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 14.3

Intersection LOS: B

Intersection Capacity Utilization 54.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1505	4	0	1601
Future Volume (Veh/h)	0	0	1505	4	0	1601
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	0	1636	4	0	1740
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.73	0.85			0.85	
vC, conflicting volume	2508	820			1640	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1403	437			1401	
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	100			100	
cM capacity (veh/h)	97	487			420	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	1091	549	870	870	
Volume Left	0	0	0	0	0	
Volume Right	0	0	4	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.64	0.32	0.51	0.51	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			47.6%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	757	1	0	1104	2	4
Future Volume (Veh/h)	757	1	0	1104	2	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	823	1	0	1200	2	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.88		0.88	0.88
vC, conflicting volume			824		1424	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			516		1200	46
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			929		158	894
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	549	275	600	600	6	
Volume Left	0	0	0	0	2	
Volume Right	0	1	0	0	4	
cSH	1700	1700	1700	1700	350	
Volume to Capacity	0.32	0.16	0.35	0.35	0.02	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.4	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	15.5	
Lane LOS					C	
Approach Delay (s/veh)	0.0		0.0		15.5	
Approach LOS					C	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	404	264	244	499	156	235	969	105	155	1080	184
Future Volume (vph)	205	404	264	244	499	156	235	969	105	155	1080	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			1.00		1.00	1.00	
Frt		0.941			0.964			0.985			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	3359	0	1767	3380	0	1745	3437	0	1601	3494	0
Flt Permitted	0.222			0.222			0.073			0.142		
Satd. Flow (perm)	412	3359	0	413	3380	0	134	3437	0	239	3494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		111			30			13			21	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			370.0	
Travel Time (s)		7.9			4.6			3.5			22.2	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	220	434	284	262	537	168	253	1042	113	167	1161	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	220	718	0	262	705	0	253	1155	0	167	1359	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	16.0	24.0		16.0	24.0		20.0	57.0		19.0	56.0	
Total Split (%)	13.8%	20.7%		13.8%	20.7%		17.2%	49.1%		16.4%	48.3%	
Maximum Green (s)	12.0	18.0		12.0	18.0		16.0	51.0		15.0	50.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Saturday Peak Hour
2030 Future Background Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	32.0	18.0		32.0	18.0		71.0	54.7		64.3	51.0	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.61	0.47		0.55	0.44	
v/c Ratio	0.87	1.17		1.03	1.28		0.87	0.71		0.63	0.88	
Control Delay (s/veh)	65.3	129.0		100.4	179.7		70.4	15.9		23.5	37.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	2.7	
Total Delay (s/veh)	65.3	129.0		100.4	179.7		70.4	16.0		23.5	40.1	
LOS	E	F		F	F		E	B		C	D	
Approach Delay (s/veh)		114.1			158.2			25.8			38.3	
Approach LOS		F			F			C			D	
Queue Length 50th (m)	41.3	~95.3		~52.8	~110.0		39.4	121.9		15.8	153.4	
Queue Length 95th (m)	#77.8	#135.3		#101.9	#149.4		#91.1	81.1		31.8	#189.8	
Internal Link Dist (m)		85.7			39.9			33.7			346.0	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	253	615		254	549		304	1628		316	1546	
Starvation Cap Reductn	0	0		0	0		0	48		0	0	
Spillback Cap Reductn	0	1		0	0		0	0		0	104	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.87	1.17		1.03	1.28		0.83	0.73		0.53	0.94	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.28

Intersection Signal Delay (s/veh): 73.3

Intersection LOS: E

Intersection Capacity Utilization 98.8%

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: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	3	130	9	10	38	160	1207	8	26	1448	114
Future Volume (vph)	71	3	130	9	10	38	160	1207	8	26	1448	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00		1.00		
Frt			0.850		0.910			0.999			0.989	
Flt Protected		0.954			0.992		0.950			0.950		
Satd. Flow (prot)	0	1813	1615	0	1699	0	1765	3536	0	1725	3537	0
Flt Permitted		0.716			0.948		0.072			0.205		
Satd. Flow (perm)	0	1358	1587	0	1623	0	134	3536	0	372	3537	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		42			1			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		114.2			77.1			176.3			85.4	
Travel Time (s)		8.2			5.6			10.6			5.1	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	3	143	10	11	42	176	1326	9	29	1591	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	143	0	63	0	176	1335	0	29	1716	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	81.0		62.0	62.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		16.4%	69.8%		53.4%	53.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	76.0		57.0	57.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1		0	0	
Act Effect Green (s)		14.0	14.0		14.0		93.0	92.0		76.3	76.3	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.66	0.66	
v/c Ratio		0.50	0.45		0.27		0.65	0.48		0.12	0.74	
Control Delay (s/veh)		57.2	11.8		22.5		22.9	10.3		9.2	11.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.8	
Total Delay (s/veh)		57.2	11.8		22.5		22.9	10.3		9.2	12.5	
LOS		E	B		C		C	B		A	B	
Approach Delay (s/veh)		28.2			22.5			11.8			12.5	
Approach LOS		C			C			B			B	
Queue Length 50th (m)		18.5	0.0		4.6		17.5	90.4		2.1	67.5	
Queue Length 95th (m)		33.0	18.0		16.8		m32.8	m147.4		m2.4	m152.0	
Internal Link Dist (m)		90.2			53.1			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		351	516		450		326	2804		244	2331	
Starvation Cap Reductn		0	0		0		0	0		0	300	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.23	0.28		0.14		0.54	0.48		0.12	0.84	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 90 (78%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay (s/veh): 13.3

Intersection LOS: B

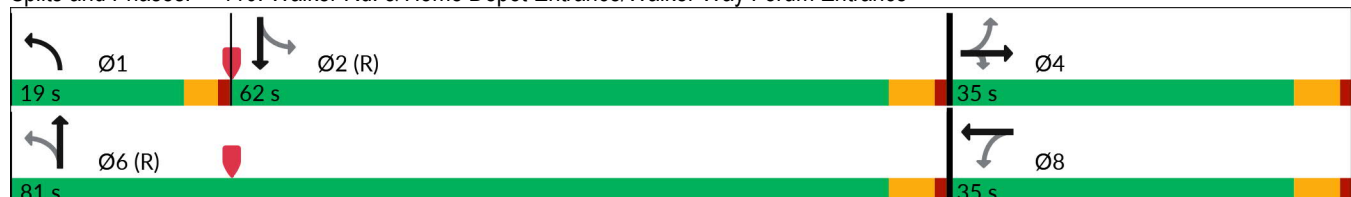
Intersection Capacity Utilization 75.5%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Saturday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	2	39	1335	18	61	1641
Future Volume (Veh/h)	2	39	1335	18	61	1641
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	41	1420	19	65	1746
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			183			176
pX, platoon unblocked	0.77	0.80			0.80	
vC, conflicting volume	2433	720			1439	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1081	138			1041	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			88	
cM capacity (veh/h)	147	711			539	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	947	492	65	873	873
Volume Left	2	0	0	65	0	0
Volume Right	41	0	19	0	0	0
cSH	603	1700	1700	539	1700	1700
Volume to Capacity	0.07	0.56	0.29	0.12	0.51	0.51
Queue Length 95th (m)	1.8	0.0	0.0	3.3	0.0	0.0
Control Delay (s/veh)	11.4	0.0	0.0	12.6	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.4	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.4%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Saturday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	91	1265	11	8	1634
Future Volume (Veh/h)	0	91	1265	11	8	1634
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	97	1346	12	9	1738
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)			95			265
pX, platoon unblocked	0.79	0.76			0.76	
vC, conflicting volume	2241	679			1358	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	684	0			852	
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			99	
cM capacity (veh/h)	299	834			608	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	97	897	461	588	1159	
Volume Left	0	0	0	9	0	
Volume Right	97	0	12	0	0	
cSH	834	1700	1700	608	1700	
Volume to Capacity	0.12	0.53	0.27	0.01	0.68	
Queue Length 95th (m)	3.1	0.0	0.0	0.4	0.0	
Control Delay (s/veh)	9.9	0.0	0.0	0.4	0.0	
Lane LOS	A			A		
Approach Delay (s/veh)	9.9	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			54.1%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	120	98	149	75	141	89	958	123	165	1163	306
Future Volume (vph)	177	120	98	149	75	141	89	958	123	165	1163	306
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	1.00		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.902			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1688	0	1805	3513	0	1765	3654	1597
Flt Permitted	0.415			0.626			0.174			0.157		
Satd. Flow (perm)	922	1921	1660	1186	1688	0	330	3513	0	292	3654	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108		75			13				322
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		151.2			75.8			85.4			94.7	
Travel Time (s)		10.9			5.5			5.1			5.7	
Confl. Peds. (#/hr)	1		3	3		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%	1%	0%
Adj. Flow (vph)	186	126	103	157	79	148	94	1008	129	174	1224	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	126	103	157	227	0	94	1137	0	174	1224	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	45.0		40.0	71.0	71.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		12.1%	38.8%		34.5%	61.2%	61.2%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	40.0		34.5	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	1	1			1			2	2
Act Effect Green (s)	24.9	24.9	24.9	24.9	24.9		72.9	64.5		79.3	69.7	69.7
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.63	0.56		0.68	0.60	0.60
v/c Ratio	0.94	0.31	0.23	0.62	0.54		0.31	0.58		0.51	0.56	0.30
Control Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		7.4	12.0		10.8	11.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		7.4	12.0		10.8	11.8	2.5
LOS	F	D	A	D	C		A	B		B	B	A
Approach Delay (s/veh)		57.2			40.1			11.7			9.9	
Approach LOS		E			D			B			A	
Queue Length 50th (m)	43.5	25.2	0.0	33.8	31.6		4.8	51.3		9.5	118.1	8.7
Queue Length 95th (m)	#88.0	43.1	13.2	57.7	57.7		8.5	60.7		m10.4	80.7	10.5
Internal Link Dist (m)		127.2			51.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	206	430	455	265	436		341	1958		641	2194	1064
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.29	0.23	0.59	0.52		0.28	0.58		0.27	0.56	0.30

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 30 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 18.8

Intersection LOS: B

Intersection Capacity Utilization 78.1%

ICU Level of Service D

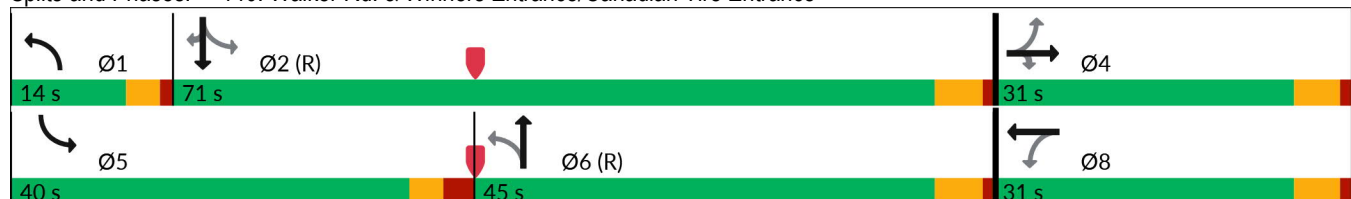
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Saturday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	38	1132	47	0	1410
Future Volume (Veh/h)	0	38	1132	47	0	1410
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	40	1204	50	0	1500
Pedestrians	1		2			
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.85	0.90			0.90	
vC, conflicting volume	1982	628			1255	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1246	355			1054	
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	93			100	
cM capacity (veh/h)	142	572			599	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	40	803	451	750	750	
Volume Left	0	0	0	0	0	
Volume Right	40	0	50	0	0	
cSH	572	1700	1700	1700	1700	
Volume to Capacity	0.07	0.47	0.27	0.44	0.44	
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			42.8%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1142	19	0	1410
Future Volume (Veh/h)	0	37	1142	19	0	1410
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	39	1215	20	0	1500
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised		Raised	
Median storage veh			1		1	
Upstream signal (m)			75		192	
pX, platoon unblocked	0.84	0.89			0.89	
vC, conflicting volume	1975	618			1235	
vC1, stage 1 conf vol	1225					
vC2, stage 2 conf vol	750					
vCu, unblocked vol	1209	330			1022	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	234	599			613	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	39	810	425	750	750	
Volume Left	0	0	0	0	0	
Volume Right	39	0	20	0	0	
cSH	599	1700	1700	1700	1700	
Volume to Capacity	0.07	0.48	0.25	0.44	0.44	
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.4	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.4	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			42.3%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	24	153	69	17	48	125	1042	51	62	1286	62
Future Volume (vph)	71	24	153	69	17	48	125	1042	51	62	1286	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.993			0.993	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1828	1615	1685	3397	0	1785	5033	0
Flt Permitted	0.689				0.752		0.147			0.253		
Satd. Flow (perm)	1255	1879	1594	0	1415	1581	260	3397	0	475	5033	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			71		10			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		122.3			55.8			164.4			75.4	
Travel Time (s)		8.8			4.0			9.9			4.5	
Confl. Peds. (#/hr)	7		10	10		7	6		1	1		6
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
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	2%
Adj. Flow (vph)	73	25	158	71	18	49	129	1074	53	64	1326	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	25	158	0	89	49	129	1127	0	64	1390	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	18.0	84.0		66.0	66.0	
Total Split (%)	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	15.5%	72.4%		56.9%	56.9%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	12.5	79.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	7	7	7		1		6	6	
Act Effect Green (s)	15.5	15.5	15.5		15.5	15.5	90.0	90.5		77.2	77.2	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.78	0.78		0.67	0.67	
v/c Ratio	0.44	0.10	0.45		0.47	0.18	0.43	0.42		0.20	0.41	
Control Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	8.3	4.2		7.0	5.6	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	8.3	4.2		7.0	5.6	
LOS	D	D	B		D	A	A	A		A	A	
Approach Delay (s/veh)		25.5			36.1			4.6			5.7	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	16.6	5.4	0.0		20.4	0.0	4.0	24.6		1.8	13.8	
Queue Length 95th (m)	28.2	12.2	17.2		32.8	5.8	m12.7	m52.9		m13.9	96.3	
Internal Link Dist (m)		98.3			31.8			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	292	437	492		329	422	355	2653		315	3351	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.06	0.32		0.27	0.12	0.36	0.42		0.20	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 8.2

Intersection LOS: A

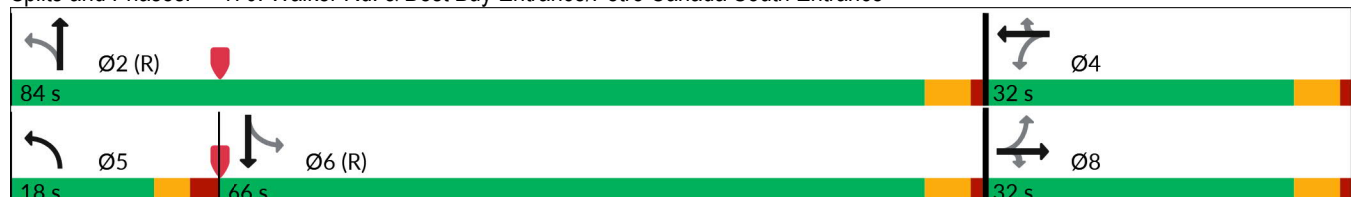
Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Saturday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	111	1114	99	73	1219
Future Volume (Veh/h)	29	111	1114	99	73	1219
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)	30	114	1148	102	75	1257
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.92	0.87			0.87	
vC, conflicting volume	1978	625			1250	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1259	272			990	
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	82			88	
cM capacity (veh/h)	134	637			615	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	114	765	485	494	838
Volume Left	30	0	0	0	75	0
Volume Right	0	114	0	102	0	0
cSH	134	637	1700	1700	615	1700
Volume to Capacity	0.22	0.18	0.45	0.29	0.12	0.49
Queue Length 95th (m)	6.5	5.2	0.0	0.0	3.3	0.0
Control Delay (s/veh)	39.5	11.9	0.0	0.0	3.4	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	17.6		0.0		1.3	
Approach LOS	C					
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			83.1%		ICU Level of Service	E
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	87	143	154	108	23	181	902	117	46	1086	115
Future Volume (vph)	288	87	143	154	108	23	181	902	117	46	1086	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		1.00	1.00			1.00		1.00		
Frt		0.907			0.974			0.983			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1747	0	1745	1846	0	1728	3632	0	1745	3524	0
Flt Permitted	0.614			0.418			0.115			0.267		
Satd. Flow (perm)	1125	1747	0	767	1846	0	209	3632	0	490	3524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			9			26			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		108.5			290.2			642.6			169.2	
Travel Time (s)		7.8			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	303	92	151	162	114	24	191	949	123	48	1143	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	303	243	0	162	138	0	191	1072	0	48	1264	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	33.0	33.0		33.0	33.0		29.0	83.0		54.0	54.0	
Total Split (%)	28.4%	28.4%		28.4%	28.4%		25.0%	71.6%		46.6%	46.6%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	78.0		49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	1	1		2	2			2		0	0	
Act Effect Green (s)	28.0	28.0		28.0	28.0		79.0	78.0		61.1	61.1	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.68	0.67		0.53	0.53	
v/c Ratio	1.12	0.51		0.88	0.31		0.61	0.44		0.19	0.68	
Control Delay (s/veh)	131.5	31.6		84.0	35.8		19.7	9.2		9.8	11.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	131.5	31.6		84.0	35.8		19.7	9.2		9.8	11.0	
LOS	F	C		F	D		B	A		A	B	
Approach Delay (s/veh)		87.0			61.8			10.8			11.0	
Approach LOS		F			E			B			B	
Queue Length 50th (m)	~83.3	36.2		37.4	25.3		14.8	55.3		2.1	29.4	
Queue Length 95th (m)	#140.1	62.6		#78.9	43.7		35.8	68.4		7.5	64.6	
Internal Link Dist (m)		84.5			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	271	472		185	452		469	2450		257	1860	
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	1.12	0.51		0.88	0.31		0.41	0.44		0.19	0.68	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay (s/veh): 27.5

Intersection LOS: C

Intersection Capacity Utilization 84.6%

ICU Level of Service E

Analysis Period (min) 15

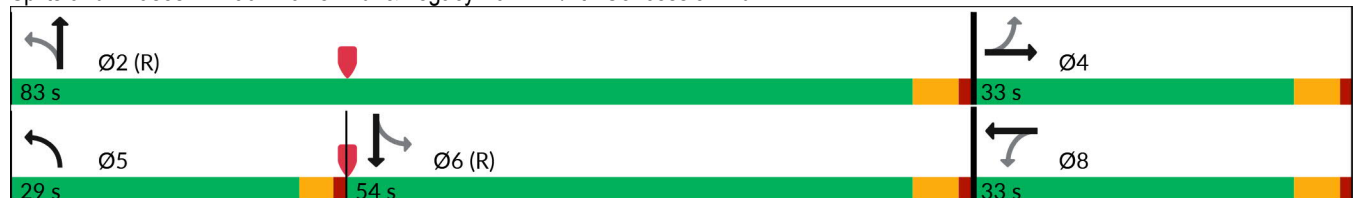
~ Volume exceeds capacity, queue is theoretically infinite.

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↑	↑
Traffic Volume (vph)	603	22	142	659	170	223
Future Volume (vph)	603	22	142	659	170	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1615	1787	3461	3190	1615
Flt Permitted			0.309		0.950	
Satd. Flow (perm)	3505	1591	581	3461	3190	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		25				253
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			311.4	940.8	
Travel Time (s)	31.8			22.4	67.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	1%	2%	11%	0%
Adj. Flow (vph)	685	25	161	749	193	253
Shared Lane Traffic (%)						
Lane Group Flow (vph)	685	25	161	749	193	253
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	57.0	57.0	22.0	79.0	41.0	41.0
Total Split (%)	47.5%	47.5%	18.3%	65.8%	34.2%	34.2%
Maximum Green (s)	51.0	51.0	18.0	73.0	35.0	35.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	59.0	59.0	75.0	73.0	35.0	35.0
Actuated g/C Ratio	0.49	0.49	0.63	0.61	0.29	0.29
v/c Ratio	0.40	0.03	0.35	0.36	0.21	0.39
Control Delay (s/veh)	20.4	6.2	11.5	12.3	32.8	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.4	6.2	11.5	12.3	32.8	5.8
LOS	C	A	B	B	C	A
Approach Delay (s/veh)	19.9			12.2	17.5	
Approach LOS	B			B	B	
Queue Length 50th (m)	54.6	0.0	15.3	45.8	18.6	0.0
Queue Length 95th (m)	71.2	4.9	24.3	56.3	27.7	17.7
Internal Link Dist (m)	417.3			287.4	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1724	795	544	2105	930	650
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	0.40	0.03	0.30	0.36	0.21	0.39

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay (s/veh): 16.0

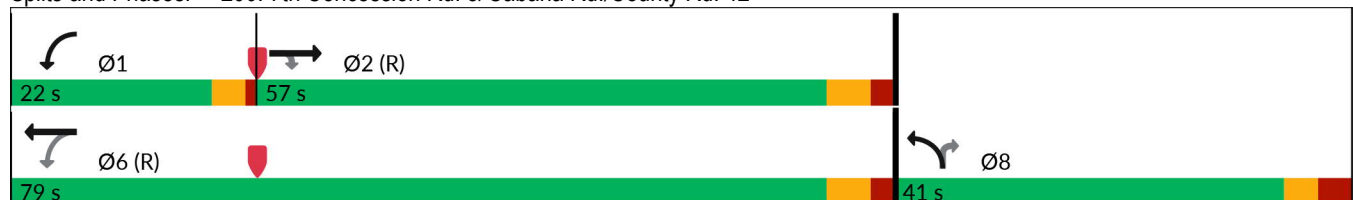
Intersection LOS: B

Intersection Capacity Utilization 51.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Saturday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	1308	8	0	1588
Future Volume (Veh/h)	0	1	1308	8	0	1588
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	1	1422	9	0	1726
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.71	0.87			0.87	
vC, conflicting volume	2290	716			1431	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1171	368			1192	
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	100			100	
cM capacity (veh/h)	135	551			514	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	948	483	863	863	
Volume Left	0	0	0	0	0	
Volume Right	1	0	9	0	0	
cSH	551	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.56	0.28	0.51	0.51	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			47.2%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	664	5	6	898	4	10
Future Volume (Veh/h)	664	5	6	898	4	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	722	5	7	976	4	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			727		1227	364
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			350		933	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 %			99		98	99
cM capacity (veh/h)			1046		229	936
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	481	246	332	651	15	
Volume Left	0	0	7	0	4	
Volume Right	0	5	0	0	11	
cSH	1700	1700	1046	1700	513	
Volume to Capacity	0.28	0.14	0.00*	0.38	0.03	
Queue Length 95th (m)	0.0	0.0	0.2	0.0	0.7	
Control Delay (s/veh)	0.0	0.0	0.2	0.0	12.2	
Lane LOS			A		B	
Approach Delay (s/veh)	0.0		0.1		12.2	
Approach LOS					B	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			39.0%	ICU Level of Service		A
Analysis Period (min)			15			
* Value less than 0.01.						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	400	262	241	446	159	245	959	139	160	1090	130
Future Volume (vph)	171	400	262	241	446	159	245	959	139	160	1090	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.941			0.961			0.981			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3357	0	1767	3440	0	1745	3451	0	1728	3516	0
Flt Permitted	0.228			0.154			0.102			0.111		
Satd. Flow (perm)	427	3357	0	286	3440	0	187	3451	0	202	3516	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		140			46			15			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			369.5	
Travel Time (s)		7.9			4.6			3.5			22.2	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	176	412	270	248	460	164	253	989	143	165	1124	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	682	0	248	624	0	253	1132	0	165	1258	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	36.0		17.0	36.0		19.0	36.0		19.0	36.0	
Total Split (%)	15.7%	33.3%		15.7%	33.3%		17.6%	33.3%		17.6%	33.3%	
Maximum Green (s)	13.0	30.0		13.0	30.0		15.0	30.0		15.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	38.4	24.7		40.7	25.9		55.3	39.3		49.0	35.9	
Actuated g/C Ratio	0.36	0.23		0.38	0.24		0.51	0.36		0.45	0.33	
v/c Ratio	0.59	0.78		0.88	0.73		0.83	0.90		0.66	1.07	
Control Delay (s/veh)	29.1	37.0		55.7	39.9		61.7	40.8		33.6	83.3	
Queue Delay	0.0	0.2		53.9	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	29.1	37.2		109.6	39.9		61.7	40.8		33.6	83.3	
LOS	C	D		F	D		E	D		C	F	
Approach Delay (s/veh)		35.5			59.7			44.6			77.6	
Approach LOS		D			E			D			E	
Queue Length 50th (m)	25.2	60.0		37.2	62.8		47.2	72.6		19.5	~174.2	
Queue Length 95th (m)	37.8	76.8		#77.0	78.8		#87.9	#194.1		41.8	#230.5	
Internal Link Dist (m)		85.7			39.9			33.7			345.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	320	1033		286	988		323	1264		310	1175	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	43		72	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.55	0.69		1.16	0.63		0.78	0.90		0.53	1.07	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay (s/veh): 56.1

Intersection LOS: E

Intersection Capacity Utilization 98.1%

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.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	4	138	7	12	29	182	1268	4	25	1445	124
Future Volume (vph)	54	4	138	7	12	29	182	1268	4	25	1445	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.918						0.988	
Flt Protected		0.955			0.993		0.950			0.950		
Satd. Flow (prot)	0	1785	1615	0	1668	0	1765	3610	0	1725	3527	0
Flt Permitted		0.791			0.960		0.077			0.204		
Satd. Flow (perm)	0	1479	1593	0	1612	0	143	3610	0	370	3527	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		31			1			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		120.1			77.3			176.3			85.4	
Travel Time (s)		8.6			5.6			10.6			5.1	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	4	145	7	13	31	192	1335	4	26	1521	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	145	0	51	0	192	1339	0	26	1652	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		17.0	78.0		61.0	61.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		15.7%	72.2%		56.5%	56.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		13.0	73.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3		1	1	
Act Effect Green (s)		12.8	12.8		12.8		86.2	85.2		69.1	69.1	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.64	0.64	
v/c Ratio		0.35	0.46		0.23		0.65	0.47		0.11	0.73	
Control Delay (s/veh)		48.0	11.5		23.6		18.3	10.5		5.4	11.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	1.6	
Total Delay (s/veh)		48.0	11.5		23.6		18.3	10.5		5.4	13.4	
LOS		D	B		C		B	B		A	B	
Approach Delay (s/veh)		22.3			23.6			11.5			13.3	
Approach LOS		C			C			B			B	
Queue Length 50th (m)		12.8	0.0		4.1		17.1	104.8		0.3	149.2	
Queue Length 95th (m)		24.3	17.0		14.6		m31.9	m134.1		m2.7	m178.3	
Internal Link Dist (m)		96.1			53.3			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		342	480		396		328	2847		236	2260	
Starvation Cap Reductn		0	0		0		0	0		0	406	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.30		0.13		0.59	0.47		0.11	0.89	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 106 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 13.2

Intersection LOS: B

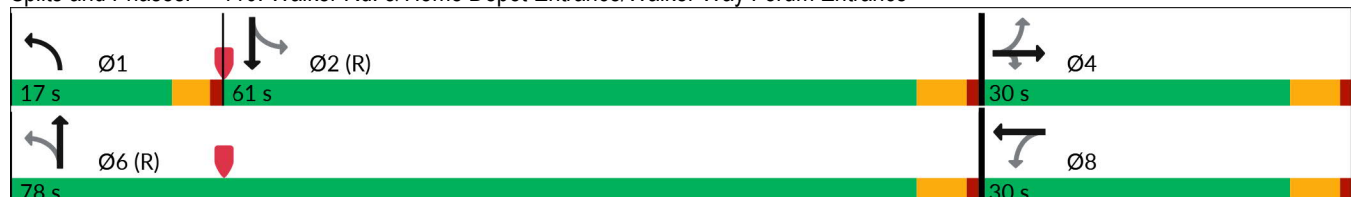
Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Sunday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	40	1393	11	60	1622
Future Volume (Veh/h)	4	40	1393	11	60	1622
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)	4	42	1451	11	63	1690
Pedestrians	1					
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)			183			176
pX, platoon unblocked	0.79	0.78			0.78	
vC, conflicting volume	2429	732			1463	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1039	107			1039	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			88	
cM capacity (veh/h)	159	731			521	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	967	495	63	845	845
Volume Left	4	0	0	63	0	0
Volume Right	42	0	11	0	0	0
cSH	556	1700	1700	521	1700	1700
Volume to Capacity	0.08	0.57	0.29	0.12	0.50	0.50
Queue Length 95th (m)	2.2	0.0	0.0	3.3	0.0	0.0
Control Delay (s/veh)	12.1	0.0	0.0	12.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	12.1	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.5%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Sunday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1343	15	4	1622
Future Volume (Veh/h)	0	61	1343	15	4	1622
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	64	1399	16	4	1690
Pedestrians	1		7			
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)			95			265
pX, platoon unblocked	0.81	0.74			0.74	
vC, conflicting volume	2268	709			1416	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	627	0			847	
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	92			99	
cM capacity (veh/h)	336	802			587	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	64	933	482	567	1127	
Volume Left	0	0	0	4	0	
Volume Right	64	0	16	0	0	
cSH	802	1700	1700	587	1700	
Volume to Capacity	0.08	0.55	0.28	0.00*	0.66	
Queue Length 95th (m)	2.1	0.0	0.0	0.2	0.0	
Control Delay (s/veh)	9.9	0.0	0.0	0.2	0.0	
Lane LOS	A			A		
Approach Delay (s/veh)	9.9	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			50.9%	ICU Level of Service		A
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	99	106	122	64	135	88	988	82	169	1109	344
Future Volume (vph)	235	99	106	122	64	135	88	988	82	169	1109	344
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor							1.00	1.00				0.98
Frt			0.850		0.898			0.989				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1706	0	1787	3571	0	1765	3690	1597
Flt Permitted	0.486			0.689			0.190			0.147		
Satd. Flow (perm)	1081	1921	1687	1309	1706	0	357	3571	0	273	3690	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		93			8				362
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		146.0			74.9			85.4			94.7	
Travel Time (s)		10.5			5.4			5.1			5.7	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	247	104	112	128	67	142	93	1040	86	178	1167	362
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	104	112	128	209	0	93	1126	0	178	1167	362
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		11.0	38.0		39.0	66.0	66.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%		10.2%	35.2%		36.1%	61.1%	61.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		7.0	33.0		33.5	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0			1			1	1
Act Effect Green (s)	25.8	25.8	25.8	25.8	25.8		63.9	56.2		70.9	63.4	63.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.59	0.52		0.66	0.59	0.59
v/c Ratio	0.96	0.23	0.23	0.41	0.44		0.31	0.61		0.55	0.54	0.34
Control Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		6.9	12.9		14.2	12.2	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		6.9	12.9		14.2	12.2	3.4
LOS	F	C	A	D	C		A	B		B	B	A
Approach Delay (s/veh)		56.3			28.6			12.4			10.6	
Approach LOS		E			C			B			B	
Queue Length 50th (m)	54.0	18.6	0.0	24.0	21.0		4.4	70.4		9.9	118.2	19.6
Queue Length 95th (m)	#104.5	33.8	13.4	42.8	43.6		7.7	46.7		m14.0	54.3	7.3
Internal Link Dist (m)		122.0			50.9			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	260	462	494	315	481		304	1860		643	2167	1066
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.95	0.23	0.23	0.41	0.43		0.31	0.61		0.28	0.54	0.34

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 58 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 18.5

Intersection LOS: B

Intersection Capacity Utilization 79.3%

ICU Level of Service D

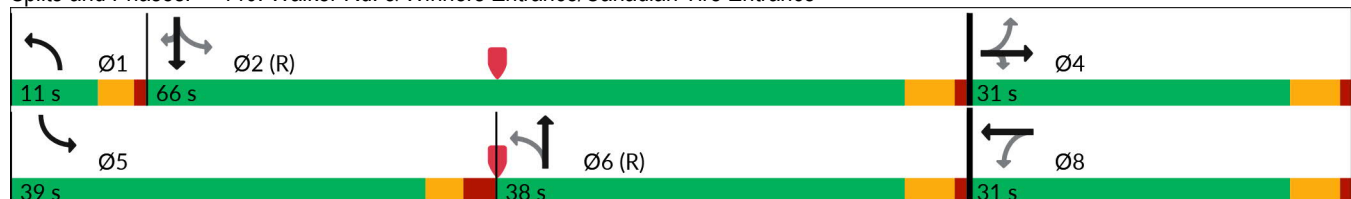
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Sunday Peak Hour
2030 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	33	1125	41	0	1337
Future Volume (Veh/h)	0	33	1125	41	0	1337
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	34	1172	43	0	1393
Pedestrians	1		2			1
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.86	0.89			0.89	
vC, conflicting volume	1893	610			1216	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1130	315			996	
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	94			100	
cM capacity (veh/h)	171	610			625	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	781	434	697	697	
Volume Left	0	0	0	0	0	
Volume Right	34	0	43	0	0	
cSH	610	1700	1700	1700	1700	
Volume to Capacity	0.06	0.46	0.26	0.41	0.41	
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			47.3%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	32	1134	19	0	1337
Future Volume (Veh/h)	0	32	1134	19	0	1337
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)	0	34	1194	20	0	1407
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised		Raised	
Median storage veh			1		1	
Upstream signal (m)			75		192	
pX, platoon unblocked	0.85	0.89			0.89	
vC, conflicting volume	1908	607			1214	
vC1, stage 1 conf vol	1204					
vC2, stage 2 conf vol	704					
vCu, unblocked vol	1118	299			984	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	249	623			629	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	796	418	704	704	
Volume Left	0	0	0	0	0	
Volume Right	34	0	20	0	0	
cSH	623	1700	1700	1700	1700	
Volume to Capacity	0.05	0.47	0.25	0.41	0.41	
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			42.0%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	14	174	64	14	34	144	1046	46	89	1192	56
Future Volume (vph)	73	14	174	64	14	34	144	1046	46	89	1192	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.994			0.993	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1745	1879	1651	0	1826	1615	1685	3465	0	1785	5037	0
Flt Permitted	0.704				0.755		0.159			0.247		
Satd. Flow (perm)	1283	1879	1619	0	1426	1582	281	3465	0	463	5037	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			76		9			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.7			62.9			164.4			75.4	
Travel Time (s)		8.0			4.5			9.9			4.5	
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	77	15	183	67	15	36	152	1101	48	94	1255	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	15	183	0	82	36	152	1149	0	94	1314	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	18.0	77.0		59.0	59.0	
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	28.7%	16.7%	71.3%		54.6%	54.6%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	12.5	72.0		54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	6	6	6	7	7	7		4		8	8	
Act Effect Green (s)	14.9	14.9	14.9		14.9	14.9	82.6	83.1		69.3	69.3	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.76	0.77		0.64	0.64	
v/c Ratio	0.44	0.06	0.48		0.42	0.13	0.47	0.43		0.32	0.41	
Control Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	9.4	4.2		7.9	4.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	9.4	4.2		7.9	4.5	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		22.2			33.3			4.8			4.7	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	16.2	3.0	0.0		17.2	0.0	5.2	25.3		2.7	13.6	
Queue Length 95th (m)	27.4	8.2	17.4		28.5	1.4	m14.1	m48.6		20.3	38.4	
Internal Link Dist (m)		87.7			38.9			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	308	452	528		343	438	377	2669		296	3233	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.03	0.35		0.24	0.08	0.40	0.43		0.32	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 50 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 7.4

Intersection LOS: A

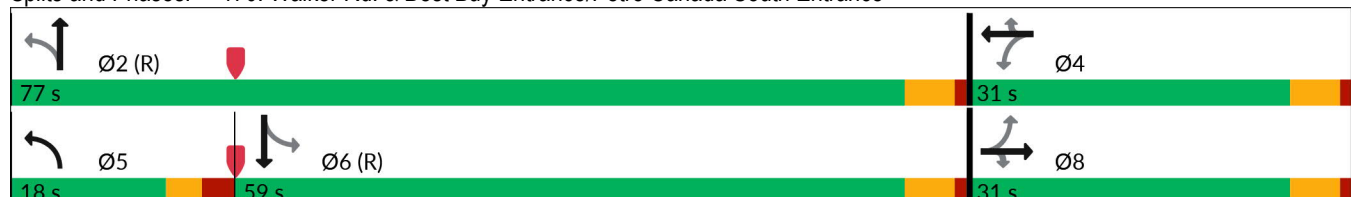
Intersection Capacity Utilization 65.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	113	1157	81	74	1231
Future Volume (Veh/h)	43	113	1157	81	74	1231
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)	45	119	1218	85	78	1296
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.92	0.85			0.85	
vC, conflicting volume	2065	652			1303	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1266	228			997	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	82			87	
cM capacity (veh/h)	131	661			595	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	45	119	812	491	510	864
Volume Left	45	0	0	0	78	0
Volume Right	0	119	0	85	0	0
cSH	131	661	1700	1700	595	1700
Volume to Capacity	0.34	0.18	0.48	0.29	0.13	0.51
Queue Length 95th (m)	11.1	5.2	0.0	0.0	3.6	0.0
Control Delay (s/veh)	46.3	11.6	0.0	0.0	3.6	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	21.1		0.0		1.3	
Approach LOS	C					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			84.1%		ICU Level of Service	E
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	123	137	116	117	71	223	898	105	67	1080	127
Future Volume (vph)	270	123	137	116	117	71	223	898	105	67	1080	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00							1.00	
Frt		0.921			0.943			0.984			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1775	0	1745	1792	0	1728	3710	0	1745	3544	0
Flt Permitted	0.543			0.427			0.076			0.268		
Satd. Flow (perm)	997	1775	0	783	1792	0	138	3710	0	492	3544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			29			21			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.8			290.2			642.6			169.2	
Travel Time (s)		8.2			20.9			38.6			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	287	131	146	123	124	76	237	955	112	71	1149	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	277	0	123	200	0	237	1067	0	71	1284	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		19.0	71.0		52.0	52.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		17.6%	65.7%		48.1%	48.1%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	66.0		47.0	47.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	2	2		0	0			0		1	1	
Act Effect Green (s)	32.0	32.0		32.0	32.0		67.0	66.0		48.5	48.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.62	0.61		0.45	0.45	
v/c Ratio	0.97	0.49		0.53	0.36		0.84	0.47		0.32	0.80	
Control Delay (s/veh)	85.1	28.5		41.6	27.7		50.0	12.0		26.5	27.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	85.1	28.5		41.6	27.7		50.0	12.0		26.5	27.6	
LOS	F	C		D	C		D	B		C	C	
Approach Delay (s/veh)		57.3			33.0			18.9			27.5	
Approach LOS		E			C			B			C	
Queue Length 50th (m)	62.7	40.5		22.7	29.5		34.6	61.6		7.3	71.6	
Queue Length 95th (m)	#118.1	66.8		43.2	50.4		#73.1	76.8		18.9	114.6	
Internal Link Dist (m)		89.8			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	295	563		232	551		306	2275		221	1601	
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	0.97	0.49		0.53	0.36		0.77	0.47		0.32	0.80	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 39 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 29.6

Intersection LOS: C

Intersection Capacity Utilization 87.5%

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	627	40	124	592	219	204
Future Volume (vph)	627	40	124	592	219	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1615	1805	3495	3404	1615
Flt Permitted			0.317		0.950	
Satd. Flow (perm)	3539	1615	602	3495	3404	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		43				217
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			314.3	940.8	
Travel Time (s)	31.8			22.6	67.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	0%	1%	4%	0%
Adj. Flow (vph)	667	43	132	630	233	217
Shared Lane Traffic (%)						
Lane Group Flow (vph)	667	43	132	630	233	217
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	59.0	59.0	19.0	78.0	42.0	42.0
Total Split (%)	49.2%	49.2%	15.8%	65.0%	35.0%	35.0%
Maximum Green (s)	53.0	53.0	15.0	72.0	36.0	36.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	58.8	58.8	74.0	72.0	36.0	36.0
Actuated g/C Ratio	0.49	0.49	0.62	0.60	0.30	0.30
v/c Ratio	0.38	0.05	0.29	0.30	0.23	0.34
Control Delay (s/veh)	20.3	5.2	11.2	12.2	32.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.3	5.2	11.2	12.2	32.3	5.6
LOS	C	A	B	B	C	A
Approach Delay (s/veh)	19.4			12.0	19.5	
Approach LOS	B			B	B	
Queue Length 50th (m)	52.9	0.0	12.7	37.7	22.3	0.0
Queue Length 95th (m)	70.8	6.5	21.4	48.4	33.1	18.1
Internal Link Dist (m)	417.3			290.3	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1734	813	521	2097	1021	636
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	0.38	0.05	0.25	0.30	0.23	0.34

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay (s/veh): 16.5

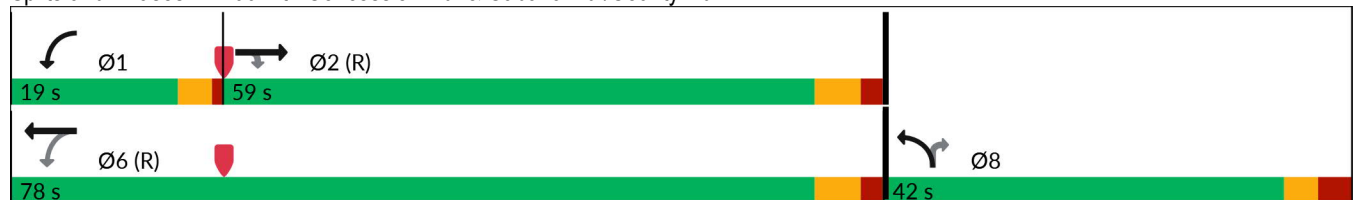
Intersection LOS: B

Intersection Capacity Utilization 45.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1341	10	0	1594
Future Volume (Veh/h)	0	2	1341	10	0	1594
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	2	1458	11	0	1733
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.74	0.87			0.87	
vC, conflicting volume	2330	735			1469	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1275	382			1231	
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	100			100	
cM capacity (veh/h)	119	538			496	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	2	972	497	867	867	
Volume Left	0	0	0	0	0	
Volume Right	2	0	11	0	0	
cSH	538	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.57	0.29	0.51	0.51	
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.7	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.7	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			47.4%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	698	15	5	846	19	12
Future Volume (Veh/h)	698	15	5	846	19	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	759	16	5	920	21	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.87		0.87	0.87
vC, conflicting volume			775		1237	388
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			437		969	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 %			99		90	99
cM capacity (veh/h)			984		220	947
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	506	269	312	613	34	
Volume Left	0	0	5	0	21	
Volume Right	0	16	0	0	13	
cSH	1700	1700	984	1700	311	
Volume to Capacity	0.30	0.16	0.00*	0.36	0.11	
Queue Length 95th (m)	0.0	0.0	0.1	0.0	2.9	
Control Delay (s/veh)	0.0	0.0	0.2	0.0	18.0	
Lane LOS			A		C	
Approach Delay (s/veh)	0.0		0.1		18.0	
Approach LOS					C	
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			36.9%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	820	99	212	513	177	75	1095	70	570	935	133
Future Volume (vph)	321	820	99	212	513	177	75	1095	70	570	935	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.984			0.961			0.991			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	3310	0	1566	3092	0	1601	3218	0	1601	3288	0
Flt Permitted	0.171			0.130			0.125			0.114		
Satd. Flow (perm)	311	3310	0	214	3092	0	211	3218	0	192	3288	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			47			6			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			358.7	
Travel Time (s)		7.9			4.6			3.5			21.5	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	353	901	109	233	564	195	82	1203	77	626	1027	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	1010	0	233	759	0	82	1280	0	626	1173	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	15.0	40.0		12.0	37.0		14.0	38.0		14.0	38.0	
Total Split (%)	14.4%	38.5%		11.5%	35.6%		13.5%	36.5%		13.5%	36.5%	
Maximum Green (s)	11.0	34.0		8.0	31.0		10.0	32.0		10.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	46.8	33.8		40.8	30.8		42.3	32.0		45.9	35.9	
Actuated g/C Ratio	0.45	0.33		0.39	0.30		0.41	0.31		0.44	0.35	
v/c Ratio	1.22	0.93		1.24	0.80		0.42	1.29		2.81	1.02	
Control Delay (s/veh)	148.7	49.5		169.9	39.1		24.1	163.6		843.5	68.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	148.7	49.5		169.9	39.1		24.1	163.6		843.5	68.0	
LOS	F	D		F	D		C	F		F	E	
Approach Delay (s/veh)		75.2			69.8			155.2			337.8	
Approach LOS		E			E			F			F	
Queue Length 50th (m)	~68.0	107.3		~46.4	73.5		4.3	~183.0		~218.0	~148.6	
Queue Length 95th (m)	#126.4	#149.3		#96.3	97.4		19.7	#222.0		#289.6	#197.5	
Internal Link Dist (m)		85.7			39.9			33.7			334.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	289	1090		188	954		222	994		223	1145	
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	1.22	0.93		1.24	0.80		0.37	1.29		2.81	1.02	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.81

Intersection Signal Delay (s/veh): 179.6

Intersection LOS: F

Intersection Capacity Utilization 120.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1	23	1	0	3	52	1247	2	13	1186	46
Future Volume (vph)	13	1	23	1	0	3	52	1247	2	13	1186	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.899						0.994	
Flt Protected		0.955			0.988		0.950			0.950		
Satd. Flow (prot)	0	1814	1482	0	1123	0	1697	3312	0	1597	3328	0
Flt Permitted		0.737			0.935		0.143			0.182		
Satd. Flow (perm)	0	1400	1462	0	1063	0	255	3312	0	306	3328	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		63						5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.5			74.7			176.3			85.4	
Travel Time (s)		8.0			5.4			10.6			5.1	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	1	27	1	0	3	60	1450	2	15	1379	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	27	0	4	0	60	1452	0	15	1432	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.0	12.0		12.0		89.0	90.0		80.6	80.6	
Actuated g/C Ratio		0.12	0.12		0.12		0.86	0.87		0.78	0.78	
v/c Ratio		0.10	0.12		0.02		0.20	0.51		0.06	0.56	
Control Delay (s/veh)		40.4	1.8		0.3		1.8	2.3		3.2	3.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.2	
Total Delay (s/veh)		40.4	1.8		0.3		1.8	2.3		3.2	3.4	
LOS		D	A		A		A	A		A	A	
Approach Delay (s/veh)		16.2			0.3			2.3			3.4	
Approach LOS		B			A			A			A	
Queue Length 50th (m)		3.2	0.0		0.0		1.2	52.4		0.0	24.2	
Queue Length 95th (m)		8.5	0.5		0.0		m0.4	3.1		m0.0	m27.0	
Internal Link Dist (m)		87.5			50.7			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		403	466		351		384	2866		237	2579	
Starvation Cap Reductn		0	0		0		0	0		0	434	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.04	0.06		0.01		0.16	0.51		0.06	0.67	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay (s/veh): 3.0

Intersection LOS: A

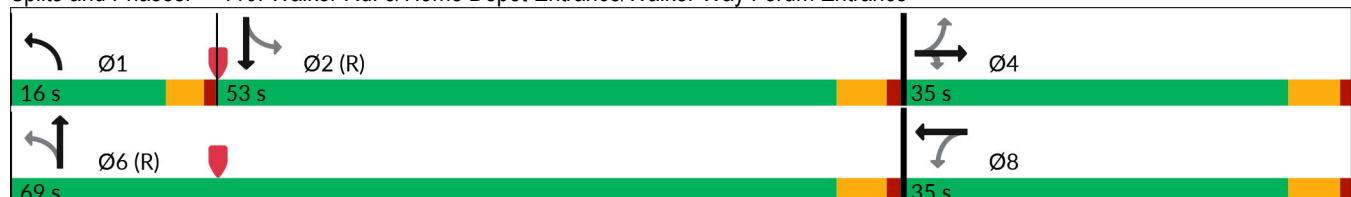
Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

AM Peak Hour
2040 Future Background Conditions

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Volume (veh/h)	0	4	1292	5	18	1227
Future Volume (Veh/h)	0	4	1292	5	18	1227
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	4	1452	6	20	1379
Pedestrians	3					1
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)			183			176
pX, platoon unblocked	0.86	0.76			0.76	
vC, conflicting volume	2188	733			1461	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1024	26			981	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	99			96	
cM capacity (veh/h)	194	798			514	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	4	968	490	20	690	690
Volume Left	0	0	0	20	0	0
Volume Right	4	0	6	0	0	0
cSH	798	1700	1700	514	1700	1700
Volume to Capacity	0.00*	0.57	0.29	0.04	0.41	0.41
Queue Length 95th (m)	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s/veh)	9.5	0.0	0.0	12.3	0.0	0.0
Lane LOS	A			B		
Approach Delay (s/veh)	9.5	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			46.2%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

AM Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1288	2	0	1225
Future Volume (Veh/h)	0	8	1288	2	0	1225
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	9	1447	2	0	1376
Pedestrians	1					
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)			95			265
pX, platoon unblocked	0.86	0.76			0.76	
vC, conflicting volume	2137	726			1450	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	972	18			968	
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	99			100	
cM capacity (veh/h)	218	810			549	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	965	484	688	688	
Volume Left	0	0	0	0	0	
Volume Right	9	0	2	0	0	
cSH	810	1700	1700	1700	1700	
Volume to Capacity	0.01	0.57	0.28	0.40	0.40	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	9.5	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	9.5	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			45.7%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	15	12	16	11	22	26	1226	29	58	1069	98
Future Volume (vph)	42	15	12	16	11	22	26	1226	29	58	1069	98
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor			0.99	1.00			1.00	1.00				0.98
Frt			0.850		0.901			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1975	1921	1562	1805	1712	0	1805	3284	0	1765	3295	1536
Flt Permitted	0.732			0.746			0.205			0.135		
Satd. Flow (perm)	1522	1921	1541	1416	1712	0	389	3284	0	251	3295	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		25			3				111
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.1			83.4			85.4			94.7	
Travel Time (s)		10.6			6.0			5.1			5.7	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	8%	0%	0%	0%	0%	11%	0%	0%	12%	4%
Adj. Flow (vph)	48	17	14	18	13	25	30	1393	33	66	1215	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	17	14	18	38	0	30	1426	0	66	1215	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0		11.0	61.0		11.0	61.0	61.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%		10.6%	58.7%		10.6%	58.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		7.0	56.0		5.5	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	1
Act Effect Green (s)	13.4	13.4	13.4	13.4	13.4		80.1	75.1		80.8	78.4	78.4
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13		0.77	0.72		0.78	0.75	0.75
v/c Ratio	0.24	0.07	0.05	0.10	0.16		0.08	0.60		0.23	0.49	0.10
Control Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.8	7.1		6.8	14.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	36.9	0.3	37.8	20.1		3.8	7.1		6.8	14.9	5.5
LOS	D	D	A	D	C		A	A		A	B	A
Approach Delay (s/veh)		33.2			25.8			7.0			13.8	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	9.7	3.4	0.0	3.6	2.6		0.8	36.4		0.5	106.8	3.5
Queue Length 95th (m)	17.3	8.2	0.0	8.7	10.1		m2.8	47.6		m14.1	165.2	22.2
Internal Link Dist (m)		123.1			59.4			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	395	498	458	367	462		397	2373		285	2484	1159
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.03	0.03	0.05	0.08		0.08	0.60		0.23	0.49	0.10

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 69 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 11.2

Intersection LOS: B

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1273	5	0	1097
Future Volume (Veh/h)	0	8	1273	5	0	1097
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	9	1463	6	0	1261
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.91	0.83			0.83	
vC, conflicting volume	2097	735			1469	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1201	276			1159	
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	99			100	
cM capacity (veh/h)	165	605			507	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	975	494	631	631	
Volume Left	0	0	0	0	0	
Volume Right	9	0	6	0	0	
cSH	605	1700	1700	1700	1700	
Volume to Capacity	0.01	0.57	0.29	0.37	0.37	
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			45.3%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1263	6	0	1097
Future Volume (Veh/h)	0	15	1263	6	0	1097
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	1419	7	0	1233
Pedestrians	1					
Lane Width (m)	4.8					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.91	0.83			0.83	
vC, conflicting volume	2040	714			1427	
vC1, stage 1 conf vol	1424					
vC2, stage 2 conf vol	617					
vCu, unblocked vol	1146	245			1104	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	210	614			530	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	17	946	480	617	617	
Volume Left	0	0	0	0	0	
Volume Right	17	0	7	0	0	
cSH	614	1700	1700	1700	1700	
Volume to Capacity	0.03	0.56	0.28	0.36	0.36	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			45.1%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	62	15	4	4	70	1235	27	16	1052	29
Future Volume (vph)	30	5	62	15	4	4	70	1235	27	16	1052	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	1.00					0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.997			0.996	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1694	1879	1619	0	1830	1615	1668	3168	0	1785	4612	0
Flt Permitted	0.743				0.804		0.185			0.185		
Satd. Flow (perm)	1319	1879	1619	0	1528	1588	325	3168	0	348	4612	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			79		4			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		117.3			55.6			164.4			75.4	
Travel Time (s)		8.4			4.0			9.9			4.5	
Confl. Peds. (#/hr)	4					4	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	1%	10%	0%	0%	11%	0%
Adj. Flow (vph)	34	6	70	17	5	5	80	1403	31	18	1195	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	70	0	22	5	80	1434	0	18	1228	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	72.0		61.0	61.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	10.6%	69.2%		58.7%	58.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	5.5	67.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	4	4	4		1		1	1	
Act Effect Green (s)	13.5	13.5	13.5		13.5	13.5	83.0	84.5		75.1	75.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.80	0.81		0.72	0.72	
v/c Ratio	0.20	0.02	0.25		0.11	0.02	0.24	0.56		0.07	0.37	
Control Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	3.2	2.4		3.8	3.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	3.2	2.4		3.8	3.0	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		20.0			30.9			2.4			3.0	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	6.8	1.2	0.0		4.4	0.0	1.7	16.0		0.7	17.9	
Queue Length 95th (m)	13.3	4.2	8.8		9.7	0.0	m3.0	21.0		m0.5	6.7	
Internal Link Dist (m)		93.3			31.6			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	342	487	478		396	470	339	2575		251	3333	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.15		0.06	0.01	0.24	0.56		0.07	0.37	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 73 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay (s/veh): 3.6

Intersection LOS: A

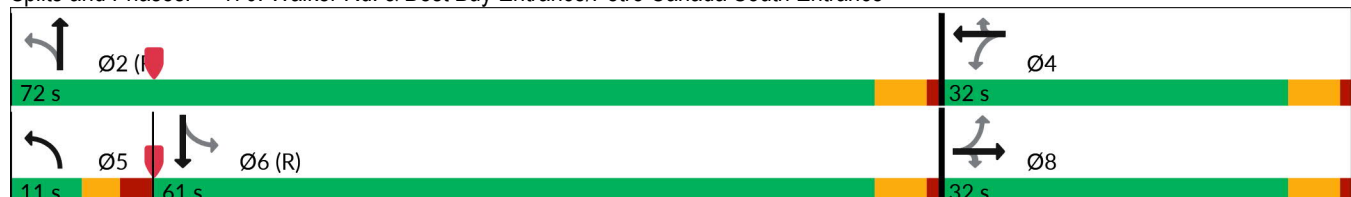
Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	25	1328	38	14	1071
Future Volume (Veh/h)	15	25	1328	38	14	1071
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	28	1476	42	16	1190
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.81	0.74			0.74	
vC, conflicting volume	2124	760			1518	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1194	0			1002	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	96			97	
cM capacity (veh/h)	142	799			519	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	28	984	534	413	793
Volume Left	17	0	0	0	16	0
Volume Right	0	28	0	42	0	0
cSH	142	799	1700	1700	519	1700
Volume to Capacity	0.12	0.04	0.58	0.31	0.03	0.47
Queue Length 95th (m)	3.2	0.9	0.0	0.0	0.8	0.0
Control Delay (s/veh)	33.7	9.7	0.0	0.0	0.9	0.0
Lane LOS	D	A			A	
Approach Delay (s/veh)	18.7		0.0		0.3	
Approach LOS	C					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			49.8%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	18	15	143	49	37	48	1295	229	25	1035	25
Future Volume (vph)	34	18	15	143	49	37	48	1295	229	25	1035	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		0.99	0.99						1.00	
Frt		0.933			0.935			0.977			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1661	0	1662	1766	0	1694	3435	0	1616	3248	0
Flt Permitted	0.695			0.734			0.177			0.116		
Satd. Flow (perm)	1226	1661	0	1270	1766	0	316	3435	0	197	3248	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			35			40			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			290.2			642.6			169.2	
Travel Time (s)		8.4			20.9			38.6			10.2	
Confl. Peds. (#/hr)	1		9	9		1	1					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
Heavy Vehicles (%)	4%	0%	18%	5%	0%	0%	3%	8%	3%	8%	11%	0%
Adj. Flow (vph)	37	20	16	157	54	41	53	1423	252	27	1137	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	36	0	157	95	0	53	1675	0	27	1164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		24.0	73.0		49.0	49.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		23.1%	70.2%		47.1%	47.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		20.0	68.0		44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	9	9		1	1			0		1	1	
Act Effect Green (s)	18.9	18.9		18.9	18.9		76.1	75.1		66.2	66.2	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.72		0.64	0.64	
v/c Ratio	0.17	0.11		0.68	0.27		0.16	0.67		0.22	0.56	
Control Delay (s/veh)	35.1	21.9		54.0	24.3		6.1	10.1		21.3	13.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.1	21.9		54.0	24.3		6.1	10.1		21.3	13.4	
LOS	D	C		D	C		A	B		C	B	
Approach Delay (s/veh)		28.6			42.8			10.0			13.6	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	6.7	3.6		31.5	10.9		2.7	85.5		0.9	22.4	
Queue Length 95th (m)	14.8	11.5		49.8	23.4		7.7	139.4		11.7	120.7	
Internal Link Dist (m)		92.1			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	306	427		317	467		496	2492		125	2067	
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	0.12	0.08		0.50	0.20		0.11	0.67		0.22	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 70 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 14.3

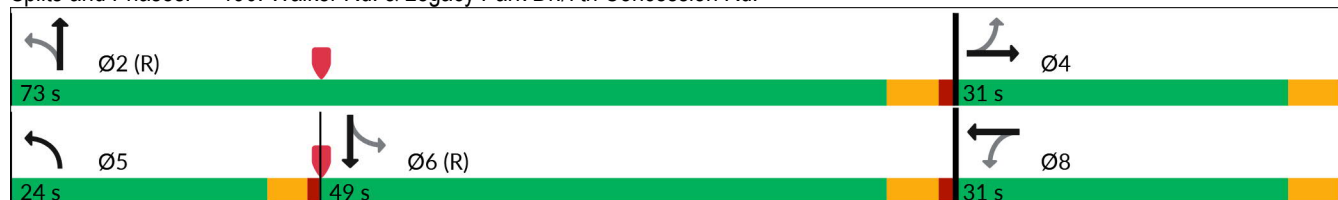
Intersection LOS: B

Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1225	187	137	688	168	114
Future Volume (vph)	1225	187	137	688	168	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3167	1615	1787	3096	3404	1482
Flt Permitted			0.130		0.950	
Satd. Flow (perm)	3167	1615	245	3096	3404	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		201				123
Link Speed (k/h)	50			50	50	
Link Distance (m)	439.7			315.0	940.8	
Travel Time (s)	31.7			22.7	67.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	14%	0%	1%	14%	4%	9%
Adj. Flow (vph)	1317	201	147	740	181	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1317	201	147	740	181	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	75.0	75.0	15.0	90.0	30.0	30.0
Total Split (%)	62.5%	62.5%	12.5%	75.0%	25.0%	25.0%
Maximum Green (s)	69.0	69.0	11.0	84.0	24.0	24.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	71.4	71.4	86.0	84.0	24.0	24.0
Actuated g/C Ratio	0.60	0.60	0.72	0.70	0.20	0.20
v/c Ratio	0.70	0.19	0.51	0.34	0.27	0.31
Control Delay (s/veh)	19.6	2.0	11.8	7.6	41.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.6	2.0	11.8	7.6	41.8	9.3
LOS	B	A	B	A	D	A
Approach Delay (s/veh)	17.3			8.3	28.6	
Approach LOS	B			A	C	
Queue Length 50th (m)	112.2	0.0	10.0	34.1	19.6	0.0
Queue Length 95th (m)	144.9	10.0	16.4	43.6	30.5	16.5
Internal Link Dist (m)	415.7			291.0	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1883	1042	316	2167	680	394
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	0.70	0.19	0.47	0.34	0.27	0.31

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 15.6

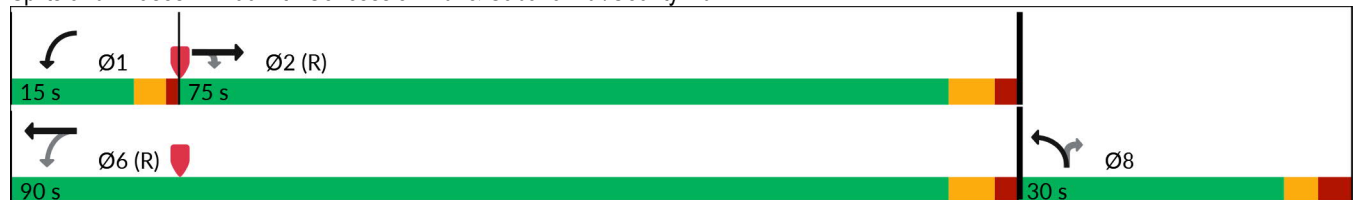
Intersection LOS: B

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1240	3	0	1247
Future Volume (Veh/h)	0	0	1240	3	0	1247
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	0	1348	3	0	1355
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.74	0.87			0.87	
vC, conflicting volume	2027	676			1351	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	877	323			1101	
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	100			100	
cM capacity (veh/h)	215	589			557	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	899	452	678	678	
Volume Left	0	0	0	0	0	
Volume Right	0	0	3	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.53	0.27	0.40	0.40	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			37.8%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1460	0	1	902	0	3
Future Volume (Veh/h)	1460	0	1	902	0	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1587	0	1	980	0	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.71		0.71	0.71
vC, conflicting volume			1587		2079	794
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1016		1707	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 %			100		100	100
cM capacity (veh/h)			492		60	777
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	1058	529	328	653	3	
Volume Left	0	0	1	0	0	
Volume Right	0	0	0	0	3	
cSH	1700	1700	492	1700	777	
Volume to Capacity	0.62	0.31	0.00*	0.38	0.00*	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.1	
Control Delay (s/veh)	0.0	0.0	0.1	0.0	9.7	
Lane LOS			A		A	
Approach Delay (s/veh)	0.0		0.0		9.7	
Approach LOS					A	
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			50.4%	ICU Level of Service		A
Analysis Period (min)			15			
* Value less than 0.01.						

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	637	248	266	1210	399	232	1394	295	353	1464	133
Future Volume (vph)	246	637	248	266	1210	399	232	1394	295	353	1464	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.958			0.963			0.974			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	3411	0	1684	3355	0	1728	3321	0	1601	3476	0
Flt Permitted	0.129			0.129			0.105			0.099		
Satd. Flow (perm)	233	3411	0	229	3355	0	191	3321	0	167	3476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			36			22			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			362.9	
Travel Time (s)		7.9			4.6			3.5			21.8	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	256	664	258	277	1260	416	242	1452	307	368	1525	139
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	922	0	277	1676	0	242	1759	0	368	1664	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	46.0	31.0		46.0	31.0		55.4	38.0		60.0	40.6	
Actuated g/C Ratio	0.38	0.26		0.38	0.26		0.46	0.32		0.50	0.34	
v/c Ratio	1.03	1.01		1.13	1.88		0.85	1.65		1.23	1.41	
Control Delay (s/veh)	95.7	73.9		129.4	424.2		61.7	322.1		162.4	221.8	
Queue Delay	0.0	0.3		0.0	0.0		0.0	0.0		0.0	0.6	
Total Delay (s/veh)	95.7	74.2		129.4	424.2		61.7	322.1		162.4	222.4	
LOS	F	E		F	F		E	F		F	F	
Approach Delay (s/veh)		78.9			382.4			290.6			211.6	
Approach LOS		E			F			F			F	
Queue Length 50th (m)	~50.5	~117.4		~65.6	~328.4		46.8	~330.3		~98.6	~299.3	
Queue Length 95th (m)	#105.1	#163.7		m#115.9	#375.3		#83.9	#374.8		#161.0	#344.8	
Internal Link Dist (m)		85.7			39.9			33.7			338.9	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	249	915		245	893		308	1066		298	1180	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	1		0	0		0	0		0	149	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.03	1.01		1.13	1.88		0.79	1.65		1.23	1.61	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.88

Intersection Signal Delay (s/veh): 258.4

Intersection LOS: F

Intersection Capacity Utilization 144.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

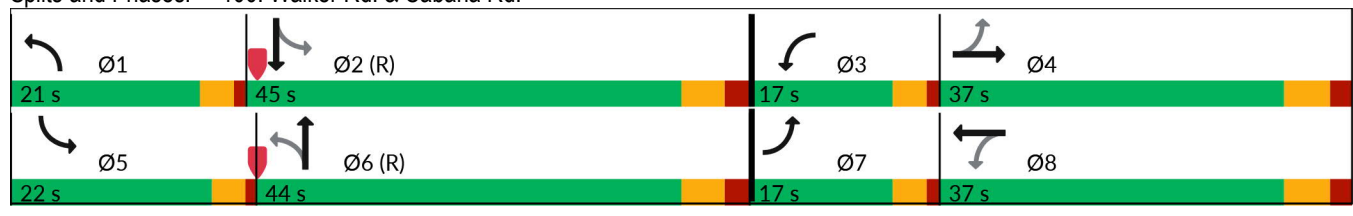
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	5	81	12	1	42	107	1847	7	22	1876	97
Future Volume (vph)	57	5	81	12	1	42	107	1847	7	22	1876	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00			1.00	
Frt			0.850		0.896			0.999			0.993	
Flt Protected		0.956			0.989		0.950			0.950		
Satd. Flow (prot)	0	1816	1615	0	1684	0	1765	3501	0	1725	3481	0
Flt Permitted		0.746			0.930		0.045			0.101		
Satd. Flow (perm)	0	1417	1584	0	1581	0	84	3501	0	183	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		23			1			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			77.6			176.3			85.4	
Travel Time (s)		8.4			5.6			10.6			5.1	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	5	83	12	1	43	109	1885	7	22	1914	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	83	0	56	0	109	1892	0	22	2013	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	85.0		66.0	66.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		15.8%	70.8%		55.0%	55.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	80.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3		1	1	
Act Effect Green (s)		13.1	13.1		13.1		97.9	96.9		84.6	84.6	
Actuated g/C Ratio		0.11	0.11		0.11		0.82	0.81		0.71	0.71	
v/c Ratio		0.41	0.34		0.29		0.59	0.67		0.17	0.82	
Control Delay (s/veh)		56.6	13.4		34.8		22.6	13.9		4.0	9.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	47.1	
Total Delay (s/veh)		56.6	13.4		34.8		22.6	13.9		4.0	56.7	
LOS		E	B		C		C	B		A	E	
Approach Delay (s/veh)		32.0			34.8			14.4			56.2	
Approach LOS		C			C			B			E	
Queue Length 50th (m)		15.0	0.0		7.7		11.6	159.9		0.8	46.1	
Queue Length 95th (m)		27.9	14.4		19.5		m16.8	249.8		m0.7	m28.5	
Internal Link Dist (m)		92.1			53.6			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		354	458		412		278	2827		129	2457	
Starvation Cap Reductn		0	0		0		0	0		0	636	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.18		0.14		0.39	0.67		0.17	1.11	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay (s/veh): 35.3

Intersection LOS: D

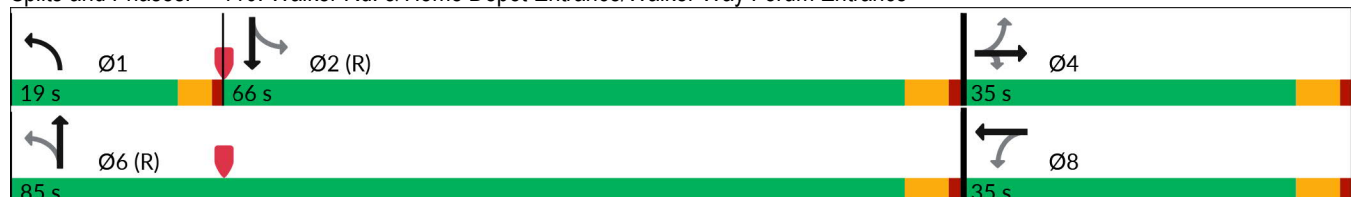
Intersection Capacity Utilization 85.2%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	2	25	1947	13	52	1980
Future Volume (Veh/h)	2	25	1947	13	52	1980
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	2	26	1987	13	53	2020
Pedestrians	3					2
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)			183			176
pX, platoon unblocked	0.77	0.57			0.57	
vC, conflicting volume	3113	1005			2003	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	652	0			1254	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	96			83	
cM capacity (veh/h)	261	620			320	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1325	675	53	1010	1010
Volume Left	2	0	0	53	0	0
Volume Right	26	0	13	0	0	0
cSH	565	1700	1700	320	1700	1700
Volume to Capacity	0.05	0.78	0.40	0.17	0.59	0.59
Queue Length 95th (m)	1.2	0.0	0.0	4.7	0.0	0.0
Control Delay (s/veh)	11.7	0.0	0.0	18.5	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	11.7	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			65.4%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

PM Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	44	1912	10	1	1998
Future Volume (Veh/h)	1	44	1912	10	1	1998
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1	44	1931	10	1	2018
Pedestrians	3		2			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)			95			265
pX, platoon unblocked	0.76	0.57			0.57	
vC, conflicting volume	2952	976			1944	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373	0			1134	
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	93			100	
cM capacity (veh/h)	459	615			352	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	45	1287	654	674	1345	
Volume Left	1	0	0	1	0	
Volume Right	44	0	10	0	0	
cSH	610	1700	1700	352	1700	
Volume to Capacity	0.07	0.76	0.38	0.00*	0.79	
Queue Length 95th (m)	1.9	0.0	0.0	0.1	0.0	
Control Delay (s/veh)	11.4	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	11.4	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	55	101	126	44	104	72	1656	76	154	1549	295
Future Volume (vph)	162	55	101	126	44	104	72	1656	76	154	1549	295
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	0.99		0.98	1.00	0.98		1.00	1.00				0.98
Frt			0.850		0.894			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2092	1921	1638	1805	1671	0	1752	3488	0	1765	3583	1566
Flt Permitted	0.532			0.720			0.103			0.051		
Satd. Flow (perm)	1162	1921	1611	1363	1671	0	190	3488	0	95	3583	1528
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		91			4				286
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.4			79.3			85.4			94.7	
Travel Time (s)		10.6			5.7			5.1			5.7	
Confl. Peds. (#/hr)	8		3	3		8	2		1	1		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
Heavy Vehicles (%)	1%	0%	3%	0%	0%	0%	3%	4%	0%	0%	3%	2%
Adj. Flow (vph)	167	57	104	130	45	107	74	1707	78	159	1597	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	57	104	130	152	0	74	1785	0	159	1597	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	50.0		39.0	75.0	75.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		11.7%	41.7%		32.5%	62.5%	62.5%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	45.0		33.5	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	8	8			1			2	2
Act Effct Green (s)	21.2	21.2	21.2	21.2	21.2		80.9	72.8		87.5	79.7	79.7
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.67	0.61		0.73	0.66	0.66
v/c Ratio	0.81	0.17	0.28	0.54	0.41		0.34	0.84		0.74	0.67	0.27
Control Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		10.7	27.0		52.6	7.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	75.8	41.1	9.2	52.5	21.1		10.7	27.0		52.6	7.4	1.1
LOS	E	D	A	D	C		B	C		D	A	A
Approach Delay (s/veh)		48.7			35.6			26.4			9.9	
Approach LOS		D			D			C			A	
Queue Length 50th (m)	39.8	12.0	0.0	29.3	12.9		6.7	185.7		24.5	98.7	1.6
Queue Length 95th (m)	#65.0	23.5	14.5	48.6	31.9		m9.6	#279.8		m28.5	124.4	m5.9
Internal Link Dist (m)		123.4			55.3			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	251	416	431	295	433		262	2117		536	2378	1110
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.67	0.14	0.24	0.44	0.35		0.28	0.84		0.30	0.67	0.27

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay (s/veh): 21.1

Intersection LOS: C

Intersection Capacity Utilization 94.3%

ICU Level of Service F

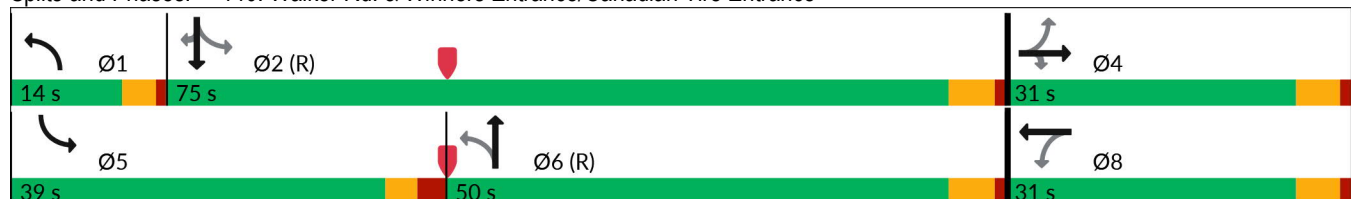
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

PM Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1789	32	0	1776
Future Volume (Veh/h)	0	15	1789	32	0	1776
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	16	1864	33	0	1850
Pedestrians	2					
Lane Width (m)	4.0					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.85	0.71			0.71	
vC, conflicting volume	2808	951			1899	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1252	95			1439	
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	98			100	
cM capacity (veh/h)	142	669			336	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	1243	654	925	925	
Volume Left	0	0	0	0	0	
Volume Right	16	0	33	0	0	
cSH	669	1700	1700	1700	1700	
Volume to Capacity	0.02	0.73	0.38	0.54	0.54	
Queue Length 95th (m)	0.6	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			60.5%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	1801	15	0	1776
Future Volume (Veh/h)	0	20	1801	15	0	1776
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	20	1838	15	0	1812
Pedestrians	3		20			
Lane Width (m)	4.8		3.9			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	0		2			
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.85	0.72			0.72	
vC, conflicting volume	2775	930			1856	
vC1, stage 1 conf vol	1849					
vC2, stage 2 conf vol	926					
vCu, unblocked vol	1226	108			1402	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	130	665			352	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	20	1225	628	906	906	
Volume Left	0	0	0	0	0	
Volume Right	20	0	15	0	0	
cSH	665	1700	1700	1700	1700	
Volume to Capacity	0.03	0.72	0.37	0.53	0.53	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			60.3%		ICU Level of Service	B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	18	160	56	9	20	110	1753	50	39	1698	39
Future Volume (vph)	43	18	160	56	9	20	110	1753	50	39	1698	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.98		0.99		1.00	0.96		1.00		1.00	1.00	
Frt			0.850			0.850		0.996			0.997	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1791	1615	1685	3341	0	1785	4919	0
Flt Permitted	0.714				0.742		0.089			0.106		
Satd. Flow (perm)	1281	1879	1613	0	1384	1556	158	3341	0	199	4919	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			68		5			4	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.5			57.5			164.4			75.4	
Travel Time (s)		8.4			4.1			9.9			4.5	
Confl. Peds. (#/hr)	19		1	1		19	2		3	3		2
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
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	0%	4%	2%	0%	4%	0%
Adj. Flow (vph)	43	18	162	57	9	20	111	1771	51	39	1715	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	18	162	0	66	20	111	1822	0	39	1754	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	87.0		67.0	67.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	16.7%	72.5%		55.8%	55.8%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	14.5	82.0		62.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	1	1	1	19	19	19		3		2	2	
Act Effect Green (s)	17.2	17.2	17.2		17.2	17.2	92.3	92.8		78.7	78.7	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.77	0.77		0.66	0.66	
v/c Ratio	0.23	0.07	0.44		0.33	0.07	0.48	0.70		0.30	0.54	
Control Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	17.3	5.4		13.8	8.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	17.3	5.4		13.8	8.5	
LOS	D	D	A		D	A	B	A		B	A	
Approach Delay (s/veh)		19.0			37.0			6.0			8.6	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	10.1	4.1	0.0		15.7	0.0	3.3	36.7		0.4	6.4	
Queue Length 95th (m)	19.2	9.9	17.8		26.6	0.0	m11.6	82.9		m8.9	139.3	
Internal Link Dist (m)		92.5			33.5			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	298	438	500		322	415	306	2586		130	3227	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.04	0.32		0.20	0.05	0.36	0.70		0.30	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay (s/veh): 8.6

Intersection LOS: A

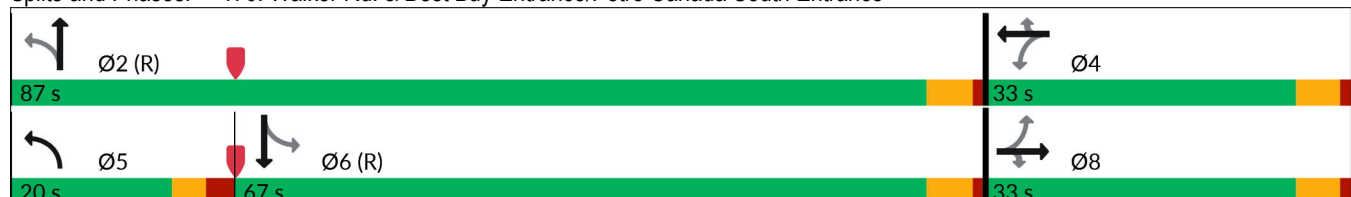
Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	68	1810	61	44	1804
Future Volume (Veh/h)	25	68	1810	61	44	1804
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	72	1926	65	47	1919
Pedestrians	2		1			
Lane Width (m)	3.6		3.8			
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)			169			164
pX, platoon unblocked	0.70	0.58			0.58	
vC, conflicting volume	3015	998			1993	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1490	0			1261	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	89			85	
cM capacity (veh/h)	69	631			323	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	72	1284	707	687	1279
Volume Left	27	0	0	0	47	0
Volume Right	0	72	0	65	0	0
cSH	69	631	1700	1700	323	1700
Volume to Capacity	0.39	0.11	0.76	0.42	0.15	0.75
Queue Length 95th (m)	11.9	3.1	0.0	0.0	4.0	0.0
Control Delay (s/veh)	86.6	11.4	0.0	0.0	5.2	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	31.9		0.0		1.8	
Approach LOS	D					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			91.4%		ICU Level of Service	F
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	161	177	251	130	45	206	1588	235	61	1636	132
Future Volume (vph)	238	161	177	251	130	45	206	1588	235	61	1636	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00				1.00			1.00			1.00	
Frt		0.922			0.961			0.981			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1791	0	1694	1806	0	1745	3555	0	1745	3437	0
Flt Permitted	0.549			0.281			0.061			0.065		
Satd. Flow (perm)	987	1791	0	501	1806	0	112	3555	0	119	3437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			14			27			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.3			290.2			642.6			169.2	
Travel Time (s)		8.3			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	248	168	184	261	135	47	215	1654	245	64	1704	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	352	0	261	182	0	215	1899	0	64	1842	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	82.0		66.0	66.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		13.3%	68.3%		55.0%	55.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		12.0	77.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		2	2			1		1	1	
Act Effect Green (s)	33.0	33.0		33.0	33.0		78.0	77.0		61.2	61.2	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.65	0.64		0.51	0.51	
v/c Ratio	0.92	0.67		1.91	0.36		0.92	0.83		1.07	1.05	
Control Delay (s/veh)	79.9	40.8		456.9	27.0		72.0	20.3		154.4	54.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	79.9	40.8		456.9	27.0		72.0	20.3		154.4	54.6	
LOS	E	D		F	C		E	C		F	D	
Approach Delay (s/veh)		56.9			280.3			25.6			57.9	
Approach LOS		E			F			C			E	
Queue Length 50th (m)	59.6	68.1		~101.3	34.9		36.9	173.5		~17.6	~265.2	
Queue Length 95th (m)	#111.0	102.7		#156.8	57.1		#84.3	209.6		m#44.7	#296.7	
Internal Link Dist (m)		91.3			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	271	525		137	506		236	2290		60	1756	
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	0.92	0.67		1.91	0.36		0.91	0.83		1.07	1.05	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.91

Intersection Signal Delay (s/veh): 63.8

Intersection LOS: E

Intersection Capacity Utilization 109.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

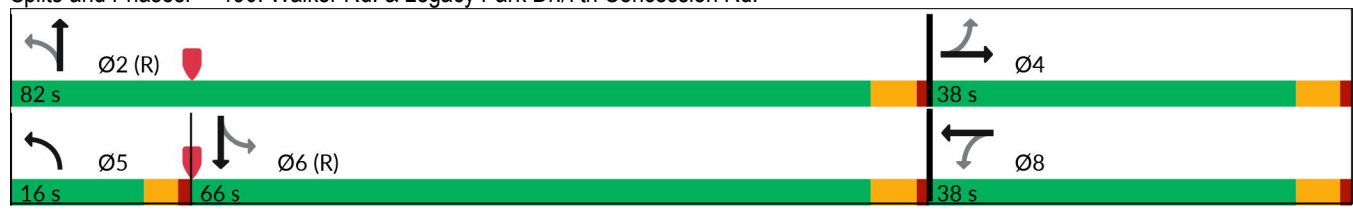
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	950	296	216	1654	143	232
Future Volume (vph)	950	296	216	1654	143	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3438	1615	1787	3394	3437	1599
Flt Permitted			0.206		0.950	
Satd. Flow (perm)	3438	1593	387	3394	3437	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		318				249
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			318.8	940.8	
Travel Time (s)	31.8			23.0	67.7	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	0%	1%	4%	3%	1%
Adj. Flow (vph)	1022	318	232	1778	154	249
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1022	318	232	1778	154	249
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	71.0	71.0	19.0	90.0	30.0	30.0
Total Split (%)	59.2%	59.2%	15.8%	75.0%	25.0%	25.0%
Maximum Green (s)	65.0	65.0	15.0	84.0	24.0	24.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	69.4	69.4	86.0	84.0	24.0	24.0
Actuated g/C Ratio	0.58	0.58	0.72	0.70	0.20	0.20
v/c Ratio	0.51	0.30	0.58	0.75	0.22	0.48
Control Delay (s/veh)	26.3	8.3	11.6	13.9	36.4	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.3	8.3	11.6	13.9	36.4	7.0
LOS	C	A	B	B	D	A
Approach Delay (s/veh)	22.0			13.6	18.2	
Approach LOS	C			B	B	
Queue Length 50th (m)	111.4	17.2	16.6	131.3	15.0	4.3
Queue Length 95th (m)	m95.7	m11.8	25.4	159.3	m20.2	m12.7
Internal Link Dist (m)	417.3			294.8	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1988	1055	452	2375	687	519
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	0.51	0.30	0.51	0.75	0.22	0.48

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay (s/veh): 17.1

Intersection LOS: B

Intersection Capacity Utilization 64.1%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1921	4	0	1978
Future Volume (Veh/h)	0	0	1921	4	0	1978
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	0	2088	4	0	2150
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.80	0.73			0.73	
vC, conflicting volume	3165	1046			2092	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1705	336			1762	
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	100			100	
cM capacity (veh/h)	67	488			263	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	1392	700	1075	1075	
Volume Left	0	0	0	0	0	
Volume Right	0	0	4	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.82	0.41	0.63	0.63	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			58.0%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1285	1	0	1875	2	4
Future Volume (Veh/h)	1285	1	0	1875	2	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1397	1	0	2038	2	4
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.76		0.76	0.76
vC, conflicting volume			1398		2417	699
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			889		2231	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 %			100		93	100
cM capacity (veh/h)			585		28	828
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	931	467	1019	1019	6	
Volume Left	0	0	0	0	2	
Volume Right	0	1	0	0	4	
cSH	1700	1700	1700	1700	79	
Volume to Capacity	0.55	0.27	0.60	0.60	0.08	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	1.9	
Control Delay (s/veh)	0.0	0.0	0.0	0.0	54.0	
Lane LOS					F	
Approach Delay (s/veh)	0.0		0.0		54.0	
Approach LOS					F	
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			61.8%		ICU Level of Service	B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	792	312	303	920	301	277	1215	30	305	1354	216
Future Volume (vph)	242	792	312	303	920	301	277	1215	30	305	1354	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			1.00			1.00	
Frt		0.958			0.963			0.996			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	3421	0	1767	3376	0	1745	3479	0	1601	3498	0
Flt Permitted	0.222			0.222			0.078			0.080		
Satd. Flow (perm)	413	3421	0	413	3376	0	143	3479	0	135	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			32			3			19	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			370.0	
Travel Time (s)		7.9			4.6			3.5			22.2	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	260	852	335	326	989	324	298	1306	32	328	1456	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	1187	0	326	1313	0	298	1338	0	328	1688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	16.0	24.0		16.0	24.0		20.0	57.0		19.0	56.0	
Total Split (%)	13.8%	20.7%		13.8%	20.7%		17.2%	49.1%		16.4%	48.3%	
Maximum Green (s)	12.0	18.0		12.0	18.0		16.0	51.0		15.0	50.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	32.0	18.0		32.0	18.0		69.0	51.0		67.0	50.0	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.59	0.44		0.58	0.43	
v/c Ratio	1.02	2.10		1.28	2.39		0.97	0.87		1.23	1.11	
Control Delay (s/veh)	98.4	525.0		185.3	652.6		88.2	23.6		162.3	92.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4		0.0	0.5	
Total Delay (s/veh)	98.4	525.0		185.3	652.6		88.2	24.1		162.3	92.6	
LOS	F	F		F	F		F	C		F	F	
Approach Delay (s/veh)		448.4			559.6			35.8			103.9	
Approach LOS		F			F			D			F	
Queue Length 50th (m)	~51.9	~234.9		~80.6	~271.7		50.8	154.2		~81.7	~242.7	
Queue Length 95th (m)	#100.9	#279.2		#140.2	#316.6		#115.2	111.4		#141.0	#288.3	
Internal Link Dist (m)		85.7			39.9			33.7			346.0	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	254	566		254	550		306	1531		267	1518	
Starvation Cap Reductn	0	0		0	0		0	30		0	0	
Spillback Cap Reductn	0	1		0	0		0	0		0	200	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.02	2.10		1.28	2.39		0.97	0.89		1.23	1.28	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.39

Intersection Signal Delay (s/veh): 272.2

Intersection LOS: F

Intersection Capacity Utilization 125.0%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	3	130	9	10	38	160	1420	8	26	1829	114
Future Volume (vph)	71	3	130	9	10	38	160	1420	8	26	1829	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00		1.00		
Frt			0.850		0.910			0.999			0.991	
Flt Protected		0.954			0.992		0.950			0.950		
Satd. Flow (prot)	0	1813	1615	0	1699	0	1765	3536	0	1725	3544	0
Flt Permitted		0.716			0.948		0.050			0.162		
Satd. Flow (perm)	0	1358	1587	0	1623	0	93	3536	0	294	3544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		42			1			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		114.2			77.1			176.3			85.4	
Travel Time (s)		8.2			5.6			10.6			5.1	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	3	143	10	11	42	176	1560	9	29	2010	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	81	143	0	63	0	176	1569	0	29	2135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	81.0		62.0	62.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		16.4%	69.8%		53.4%	53.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	76.0		57.0	57.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1		0	0	
Act Effect Green (s)		14.0	14.0		14.0		93.0	92.0		76.3	76.3	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.66	0.66	
v/c Ratio		0.50	0.45		0.27		0.72	0.56		0.15	0.91	
Control Delay (s/veh)		57.2	11.8		22.5		35.0	12.6		9.3	14.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	24.5	
Total Delay (s/veh)		57.2	11.8		22.5		35.0	12.6		9.3	39.4	
LOS		E	B		C		D	B		A	D	
Approach Delay (s/veh)		28.2			22.5			14.8			39.0	
Approach LOS		C			C			B			D	
Queue Length 50th (m)		18.5	0.0		4.6		25.0	140.3		2.1	85.4	
Queue Length 95th (m)		33.0	18.0		16.8		m38.9	191.1		m1.9	m140.8	
Internal Link Dist (m)		90.2			53.1			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		351	516		450		298	2804		193	2335	
Starvation Cap Reductn		0	0		0		0	0		0	300	
Spillback Cap Reductn		0	0		0		0	27		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.23	0.28		0.14		0.59	0.56		0.15	1.05	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 90 (78%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 28.1

Intersection LOS: C

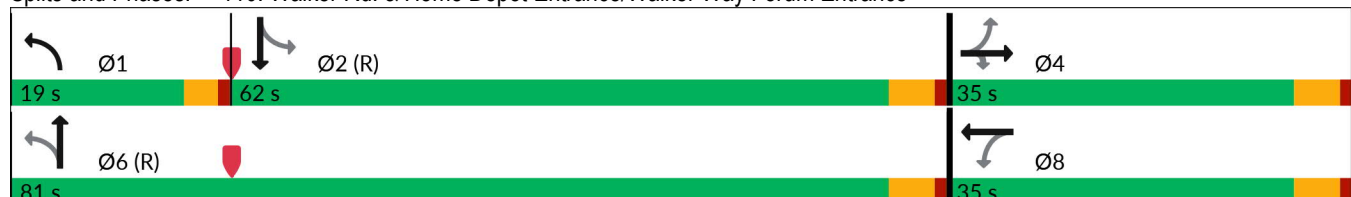
Intersection Capacity Utilization 86.0%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Saturday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	2	39	1548	18	61	2022
Future Volume (Veh/h)	2	39	1548	18	61	2022
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	41	1647	19	65	2151
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			183			176
pX, platoon unblocked	0.56	0.72			0.72	
vC, conflicting volume	2862	833			1666	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	508	2			1155	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	95			85	
cM capacity (veh/h)	237	786			443	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	1098	568	65	1076	1076
Volume Left	2	0	0	65	0	0
Volume Right	41	0	19	0	0	0
cSH	709	1700	1700	443	1700	1700
Volume to Capacity	0.06	0.65	0.33	0.15	0.63	0.63
Queue Length 95th (m)	1.5	0.0	0.0	4.1	0.0	0.0
Control Delay (s/veh)	10.4	0.0	0.0	14.5	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	10.4	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			65.9%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Saturday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	91	1478	11	8	2015
Future Volume (Veh/h)	0	91	1478	11	8	2015
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	97	1572	12	9	2144
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)			95			265
pX, platoon unblocked	0.54	0.69			0.69	
vC, conflicting volume	2670	792			1584	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			958	
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			98	
cM capacity (veh/h)	548	756			503	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	97	1048	536	724	1429	
Volume Left	0	0	0	9	0	
Volume Right	97	0	12	0	0	
cSH	756	1700	1700	503	1700	
Volume to Capacity	0.13	0.62	0.32	0.02	0.84	
Queue Length 95th (m)	3.5	0.0	0.0	0.4	0.0	
Control Delay (s/veh)	10.5	0.0	0.0	0.5	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.5	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			64.6%	ICU Level of Service		C
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	120	98	149	75	141	89	1171	123	165	1544	306
Future Volume (vph)	177	120	98	149	75	141	89	1171	123	165	1544	306
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	1.00		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.902			0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1688	0	1805	3524	0	1765	3654	1597
Flt Permitted	0.415			0.626			0.076			0.102		
Satd. Flow (perm)	922	1921	1660	1186	1688	0	144	3524	0	189	3654	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108		75			10				298
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		151.2			75.8			85.4			94.7	
Travel Time (s)		10.9			5.5			5.1			5.7	
Confl. Peds. (#/hr)	1		3	3		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%	1%	0%
Adj. Flow (vph)	186	126	103	157	79	148	94	1233	129	174	1625	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	126	103	157	227	0	94	1362	0	174	1625	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	45.0		40.0	71.0	71.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		12.1%	38.8%		34.5%	61.2%	61.2%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	40.0		34.5	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	1	1			1			2	2
Act Effect Green (s)	24.9	24.9	24.9	24.9	24.9		73.2	64.4		79.3	69.3	69.3
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21		0.63	0.56		0.68	0.60	0.60
v/c Ratio	0.94	0.31	0.23	0.62	0.54		0.47	0.69		0.62	0.74	0.31
Control Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		22.0	13.6		21.8	15.5	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	96.1	40.1	7.7	52.5	31.6		22.0	13.6		21.8	15.5	2.2
LOS	F	D	A	D	C		C	B		C	B	A
Approach Delay (s/veh)		57.2			40.1			14.2			14.0	
Approach LOS		E			D			B			B	
Queue Length 50th (m)	43.5	25.2	0.0	33.8	31.6		4.8	60.0		7.9	212.0	11.2
Queue Length 95th (m)	#88.0	43.1	13.2	57.7	57.7		24.9	74.7		m14.2	m233.5	m8.6
Internal Link Dist (m)		127.2			51.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	206	430	455	265	436		236	1961		600	2182	1051
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.90	0.29	0.23	0.59	0.52		0.40	0.69		0.29	0.74	0.31

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 30 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 20.4

Intersection LOS: C

Intersection Capacity Utilization 85.0%

ICU Level of Service E

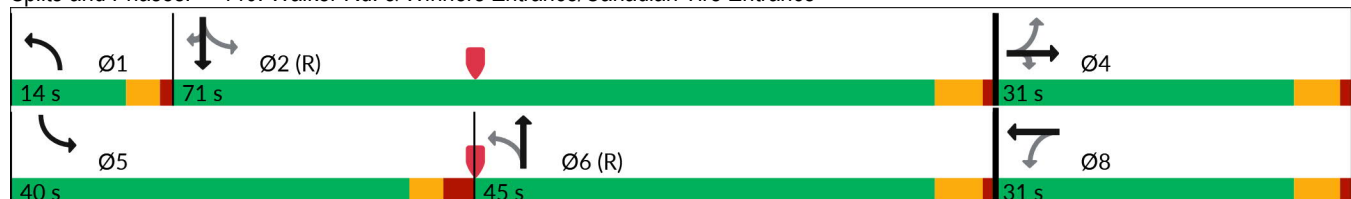
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Saturday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	38	1345	47	0	1791
Future Volume (Veh/h)	0	38	1345	47	0	1791
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	40	1431	50	0	1905
Pedestrians	1		2			
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.74	0.86			0.86	
vC, conflicting volume	2412	742			1482	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1317	360			1226	
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	93			100	
cM capacity (veh/h)	111	542			492	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	40	954	527	953	953	
Volume Left	0	0	0	0	0	
Volume Right	40	0	50	0	0	
cSH	542	1700	1700	1700	1700	
Volume to Capacity	0.07	0.56	0.31	0.56	0.56	
Queue Length 95th (m)	1.9	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	12.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	12.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			52.8%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1355	19	0	1791
Future Volume (Veh/h)	0	37	1355	19	0	1791
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	39	1441	20	0	1905
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.72	0.85			0.85	
vC, conflicting volume	2404	731			1461	
vC1, stage 1 conf vol	1451					
vC2, stage 2 conf vol	953					
vCu, unblocked vol	1272	345			1199	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	185	562			503	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	39	961	500	953	953	
Volume Left	0	0	0	0	0	
Volume Right	39	0	20	0	0	
cSH	562	1700	1700	1700	1700	
Volume to Capacity	0.07	0.57	0.29	0.56	0.56	
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			52.8%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	24	153	69	17	48	125	1255	51	62	1667	62
Future Volume (vph)	71	24	153	69	17	48	125	1255	51	62	1667	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98		1.00		1.00	1.00	
Frt			0.850			0.850		0.994			0.995	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1828	1615	1685	3400	0	1785	5045	0
Flt Permitted	0.689				0.752		0.086			0.202		
Satd. Flow (perm)	1255	1879	1594	0	1415	1581	153	3400	0	379	5045	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			71		8			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		122.3			55.8			164.4			75.4	
Travel Time (s)		8.8			4.0			9.9			4.5	
Confl. Peds. (#/hr)	7		10	10		7	6		1	1		6
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
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	2%
Adj. Flow (vph)	73	25	158	71	18	49	129	1294	53	64	1719	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	25	158	0	89	49	129	1347	0	64	1783	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	18.0	84.0		66.0	66.0	
Total Split (%)	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	15.5%	72.4%		56.9%	56.9%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	12.5	79.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	7	7	7		1		6	6	
Act Effect Green (s)	15.5	15.5	15.5		15.5	15.5	90.0	90.5		76.1	76.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.78	0.78		0.66	0.66	
v/c Ratio	0.44	0.10	0.45		0.47	0.18	0.54	0.51		0.26	0.54	
Control Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	19.7	4.7		6.7	5.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	19.7	4.7		6.7	5.1	
LOS	D	D	B		D	A	B	A		A	A	
Approach Delay (s/veh)		25.5			36.1			6.0			5.2	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	16.6	5.4	0.0		20.4	0.0	3.9	34.0		1.4	14.2	
Queue Length 95th (m)	28.2	12.2	17.2		32.8	5.8	m20.1	m61.2		m7.6	103.4	
Internal Link Dist (m)		98.3			31.8			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	292	437	492		329	422	283	2655		248	3310	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.06	0.32		0.27	0.12	0.46	0.51		0.26	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay (s/veh): 8.1

Intersection LOS: A

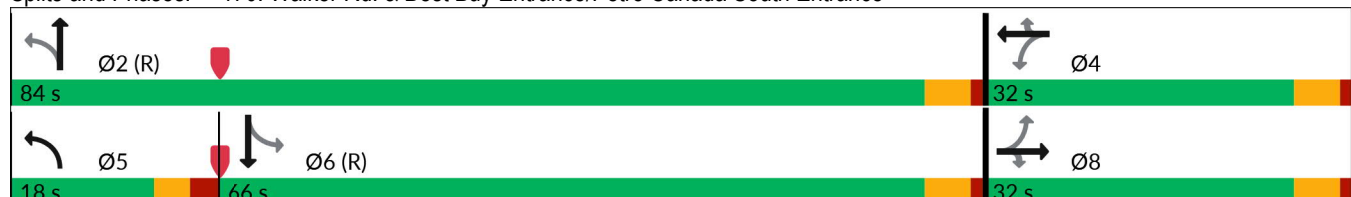
Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Saturday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	111	1327	99	73	1600
Future Volume (Veh/h)	29	111	1327	99	73	1600
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)	30	114	1368	102	75	1649
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.87	0.83			0.83	
vC, conflicting volume	2394	735			1470	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1406	262			1151	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	81			85	
cM capacity (veh/h)	98	614			508	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	114	912	558	625	1099
Volume Left	30	0	0	0	75	0
Volume Right	0	114	0	102	0	0
cSH	98	614	1700	1700	508	1700
Volume to Capacity	0.31	0.19	0.54	0.33	0.15	0.65
Queue Length 95th (m)	9.3	5.4	0.0	0.0	4.1	0.0
Control Delay (s/veh)	57.1	12.2	0.0	0.0	4.1	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	21.6		0.0		1.5	
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			99.5%		ICU Level of Service	F
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Saturday Peak Hour
2040 Future Background Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	115	169	221	143	33	214	1053	169	67	1426	136
Future Volume (vph)	339	115	169	221	143	33	214	1053	169	67	1426	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		1.00	1.00			1.00		1.00		
Frt		0.911			0.972			0.979			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1755	0	1745	1842	0	1728	3617	0	1745	3528	0
Flt Permitted	0.523			0.319			0.064			0.215		
Satd. Flow (perm)	959	1755	0	585	1842	0	116	3617	0	395	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			9			34			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		108.5			290.2			642.6			169.2	
Travel Time (s)		7.8			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	357	121	178	233	151	35	225	1108	178	71	1501	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	299	0	233	186	0	225	1286	0	71	1644	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	33.0	33.0		33.0	33.0		29.0	83.0		54.0	54.0	
Total Split (%)	28.4%	28.4%		28.4%	28.4%		25.0%	71.6%		46.6%	46.6%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	78.0		49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	1	1		2	2			2		0	0	
Act Effect Green (s)	28.0	28.0		28.0	28.0		79.0	78.0		58.9	58.9	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.68	0.67		0.51	0.51	
v/c Ratio	1.55	0.64		1.65	0.41		0.78	0.53		0.36	0.92	
Control Delay (s/veh)	298.0	38.3		353.5	38.5		45.0	10.3		19.9	23.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	298.0	38.3		353.5	38.5		45.0	10.3		19.9	23.4	
LOS	F	D		F	D		D	B		B	C	
Approach Delay (s/veh)		179.6			213.7			15.4			23.3	
Approach LOS		F			F			B			C	
Queue Length 50th (m)	~120.2	51.6		~80.9	35.8		35.6	72.4		4.1	50.0	
Queue Length 95th (m)	#179.9	82.5		#132.2	58.1		60.1	88.5		m15.6	#260.3	
Internal Link Dist (m)		84.5			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	231	469		141	451		426	2443		200	1795	
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	1.55	0.64		1.65	0.41		0.53	0.53		0.36	0.92	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.65

Intersection Signal Delay (s/veh): 62.9

Intersection LOS: E

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

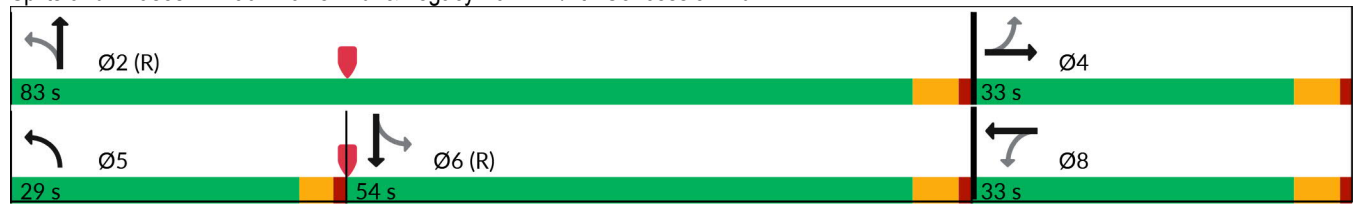
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↓	↑
Traffic Volume (vph)	1029	59	155	1078	377	244
Future Volume (vph)	1029	59	155	1078	377	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1615	1787	3461	3190	1615
Flt Permitted			0.153		0.950	
Satd. Flow (perm)	3505	1591	288	3461	3190	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67				243
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			311.4	940.8	
Travel Time (s)	31.8			22.4	67.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	1%	2%	11%	0%
Adj. Flow (vph)	1169	67	176	1225	428	277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1169	67	176	1225	428	277
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	68.0	68.0	18.0	86.0	34.0	34.0
Total Split (%)	56.7%	56.7%	15.0%	71.7%	28.3%	28.3%
Maximum Green (s)	62.0	62.0	14.0	80.0	28.0	28.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	66.3	66.3	82.0	80.0	28.0	28.0
Actuated g/C Ratio	0.55	0.55	0.68	0.67	0.23	0.23
v/c Ratio	0.60	0.07	0.55	0.53	0.58	0.49
Control Delay (s/veh)	20.0	3.4	13.6	11.4	44.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.0	3.4	13.6	11.4	44.3	10.5
LOS	C	A	B	B	D	B
Approach Delay (s/veh)	19.1			11.6	31.0	
Approach LOS	B			B	C	
Queue Length 50th (m)	97.6	0.0	13.9	75.5	48.7	6.7
Queue Length 95th (m)	122.3	6.7	21.7	88.6	64.0	28.9
Internal Link Dist (m)	417.3			287.4	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1935	908	371	2307	744	563
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	0.60	0.07	0.47	0.53	0.58	0.49

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 18.5

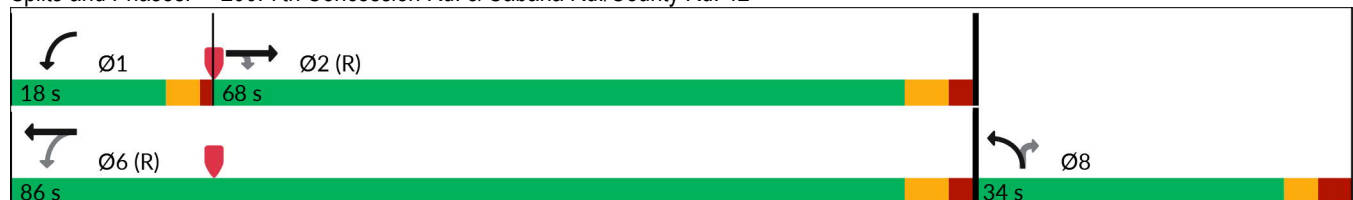
Intersection LOS: B

Intersection Capacity Utilization 61.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	1	1521	8	0	1969
Future Volume (Veh/h)	0	1	1521	8	0	1969
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	1	1653	9	0	2140
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.66	0.82			0.82	
vC, conflicting volume	2728	831			1662	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1375	359			1371	
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	100			100	
cM capacity (veh/h)	92	528			416	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	1102	560	1070	1070	
Volume Left	0	0	0	0	0	
Volume Right	1	0	9	0	0	
cSH	528	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.65	0.33	0.63	0.63	
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			57.8%	ICU Level of Service		B
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	1127	5	6	1524	4	10
Future Volume (Veh/h)	1127	5	6	1524	4	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1225	5	7	1657	4	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			1230		2070	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			917		1905	193
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		92	98
cM capacity (veh/h)			639		52	699
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	817	413	559	1105	15	
Volume Left	0	0	7	0	4	
Volume Right	0	5	0	0	11	
cSH	1700	1700	639	1700	162	
Volume to Capacity	0.48	0.24	0.01	0.65	0.09	
Queue Length 95th (m)	0.0	0.0	0.3	0.0	2.4	
Control Delay (s/veh)	0.0	0.0	0.3	0.0	29.5	
Lane LOS			A		D	
Approach Delay (s/veh)	0.0		0.1		29.5	
Approach LOS					D	
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			56.3%		ICU Level of Service	B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	773	309	313	823	300	289	1203	108	305	1368	153
Future Volume (vph)	202	773	309	313	823	300	289	1203	108	305	1368	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.957			0.960			0.988			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3416	0	1767	3436	0	1745	3480	0	1728	3520	0
Flt Permitted	0.133			0.129			0.133			0.133		
Satd. Flow (perm)	250	3416	0	240	3436	0	244	3480	0	242	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			48			9			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			57.7			369.5	
Travel Time (s)		7.9			4.6			3.5			22.2	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	208	797	319	323	848	309	298	1240	111	314	1410	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	208	1116	0	323	1157	0	298	1351	0	314	1568	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	36.0		17.0	36.0		19.0	36.0		19.0	36.0	
Total Split (%)	15.7%	33.3%		15.7%	33.3%		17.6%	33.3%		17.6%	33.3%	
Maximum Green (s)	13.0	30.0		13.0	30.0		15.0	30.0		15.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	44.1	30.0		45.9	30.9		47.0	30.0		47.0	30.0	
Actuated g/C Ratio	0.41	0.28		0.43	0.29		0.44	0.28		0.44	0.28	
v/c Ratio	0.76	1.13		1.13	1.14		0.95	1.39		1.01	1.59	
Control Delay (s/veh)	40.9	106.4		122.0	108.6		78.9	212.8		83.0	300.4	
Queue Delay	0.0	0.2		17.5	0.0		0.0	0.0		0.0	0.6	
Total Delay (s/veh)	40.9	106.6		139.5	108.6		78.9	212.8		83.0	301.0	
LOS	D	F		F	F		E	F		F	F	
Approach Delay (s/veh)		96.3			115.3			188.6			264.6	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	27.7	~146.8		~67.0	~157.6		55.8	~204.5		~53.9	~263.3	
Queue Length 95th (m)	#59.4	#190.0		#124.5	#201.0		#105.6	#250.3		#112.5	#308.5	
Internal Link Dist (m)		85.7			39.9			33.7			345.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	288	988		285	1018		314	973		311	985	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	45		181	0		0	0		0	112	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	1.18		3.11	1.14		0.95	1.39		1.01	1.80	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.59

Intersection Signal Delay (s/veh): 174.8

Intersection LOS: F

Intersection Capacity Utilization 124.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	4	138	7	12	29	182	1525	4	25	1840	124
Future Volume (vph)	54	4	138	7	12	29	182	1525	4	25	1840	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.918						0.990	
Flt Protected		0.955			0.993		0.950			0.950		
Satd. Flow (prot)	0	1785	1615	0	1668	0	1765	3610	0	1725	3535	0
Flt Permitted		0.791			0.960		0.055			0.155		
Satd. Flow (perm)	0	1479	1593	0	1612	0	102	3610	0	281	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		31						9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		120.1			77.3			176.3			85.4	
Travel Time (s)		8.6			5.6			10.6			5.1	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	4	145	7	13	31	192	1605	4	26	1937	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	145	0	51	0	192	1609	0	26	2068	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		17.0	78.0		61.0	61.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		15.7%	72.2%		56.5%	56.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		13.0	73.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3		1	1	
Act Effect Green (s)		12.8	12.8		12.8		86.2	85.2		69.1	69.1	
Actuated g/C Ratio		0.12	0.12		0.12		0.80	0.79		0.64	0.64	
v/c Ratio		0.35	0.46		0.23		0.72	0.57		0.15	0.91	
Control Delay (s/veh)		48.0	11.5		23.6		28.8	12.6		7.0	16.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	45.7	
Total Delay (s/veh)		48.0	11.5		23.6		28.8	12.6		7.0	62.3	
LOS		D	B		C		C	B		A	E	
Approach Delay (s/veh)		22.3			23.6			14.3			61.6	
Approach LOS		C			C			B			E	
Queue Length 50th (m)		12.8	0.0		4.1		20.4	145.8		0.5	228.8	
Queue Length 95th (m)		24.3	17.0		14.6		m33.4	m179.0		m1.8	m166.5	
Internal Link Dist (m)		96.1			53.3			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		342	480		396		301	2847		179	2265	
Starvation Cap Reductn		0	0		0		0	0		0	462	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.18	0.30		0.13		0.64	0.57		0.15	1.15	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 106 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 38.7

Intersection LOS: D

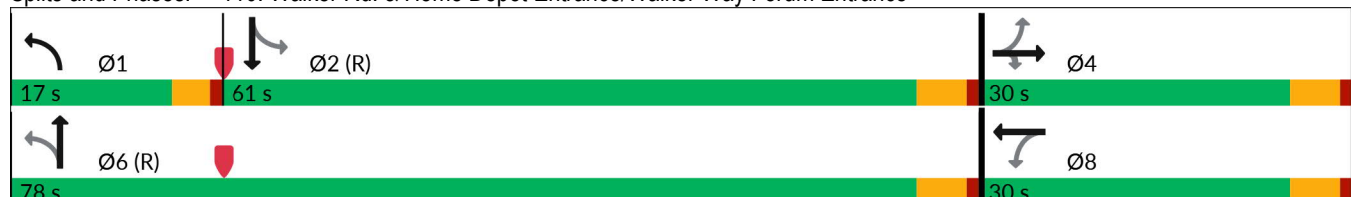
Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Sunday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	4	40	1650	11	60	2017
Future Volume (Veh/h)	4	40	1650	11	60	2017
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)	4	42	1719	11	63	2101
Pedestrians	1					
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)			183			176
pX, platoon unblocked	0.60	0.69			0.69	
vC, conflicting volume	2902	866			1731	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529	0			1161	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	94			85	
cM capacity (veh/h)	248	752			412	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	1146	584	63	1051	1051
Volume Left	4	0	0	63	0	0
Volume Right	42	0	11	0	0	0
cSH	639	1700	1700	412	1700	1700
Volume to Capacity	0.07	0.67	0.34	0.15	0.62	0.62
Queue Length 95th (m)	1.9	0.0	0.0	4.3	0.0	0.0
Control Delay (s/veh)	11.1	0.0	0.0	15.3	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	11.1	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			65.8%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Sunday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1600	15	4	2017
Future Volume (Veh/h)	0	61	1600	15	4	2017
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	64	1667	16	4	2101
Pedestrians	1		7			
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)			95			265
pX, platoon unblocked	0.61	0.64			0.64	
vC, conflicting volume	2742	843			1684	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			959	
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	91			99	
cM capacity (veh/h)	616	703			467	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	64	1111	572	704	1401	
Volume Left	0	0	0	4	0	
Volume Right	64	0	16	0	0	
cSH	703	1700	1700	467	1700	
Volume to Capacity	0.09	0.65	0.34	0.00*	0.82	
Queue Length 95th (m)	2.4	0.0	0.0	0.2	0.0	
Control Delay (s/veh)	10.6	0.0	0.0	0.3	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.6	0.0		0.1		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			61.9%	ICU Level of Service		B
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	99	106	122	64	135	88	1245	82	169	1504	344
Future Volume (vph)	235	99	106	122	64	135	88	1245	82	169	1504	344
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor							1.00	1.00				0.98
Frt			0.850		0.898			0.991				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1706	0	1787	3579	0	1765	3690	1597
Flt Permitted	0.486			0.689			0.081			0.079		
Satd. Flow (perm)	1081	1921	1687	1309	1706	0	152	3579	0	147	3690	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		93			6				362
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		146.0			74.9			85.4			94.7	
Travel Time (s)		10.5			5.4			5.1			5.7	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	247	104	112	128	67	142	93	1311	86	178	1583	362
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	104	112	128	209	0	93	1397	0	178	1583	362
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		11.0	38.0		39.0	66.0	66.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%		10.2%	35.2%		36.1%	61.1%	61.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		7.0	33.0		33.5	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0			1			1	1
Act Effect Green (s)	25.8	25.8	25.8	25.8	25.8		63.9	56.2		70.9	63.4	63.4
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.59	0.52		0.66	0.59	0.59
v/c Ratio	0.96	0.23	0.23	0.41	0.44		0.48	0.75		0.70	0.73	0.34
Control Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		22.6	14.8		31.9	14.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	87.9	34.6	7.0	39.3	22.1		22.6	14.8		31.9	14.9	2.1
LOS	F	C	A	D	C		C	B		C	B	A
Approach Delay (s/veh)		56.3			28.6			15.3			14.1	
Approach LOS		E			C			B			B	
Queue Length 50th (m)	54.0	18.6	0.0	24.0	21.0		4.3	92.9		15.7	184.7	11.5
Queue Length 95th (m)	#104.5	33.8	13.4	42.8	43.6		22.8	53.7		m19.4	m152.4	m4.8
Internal Link Dist (m)		122.0			50.9			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	260	462	494	315	481		196	1863		599	2167	1066
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.95	0.23	0.23	0.41	0.43		0.47	0.75		0.30	0.73	0.34

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 58 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 20.1

Intersection LOS: C

Intersection Capacity Utilization 86.4%

ICU Level of Service E

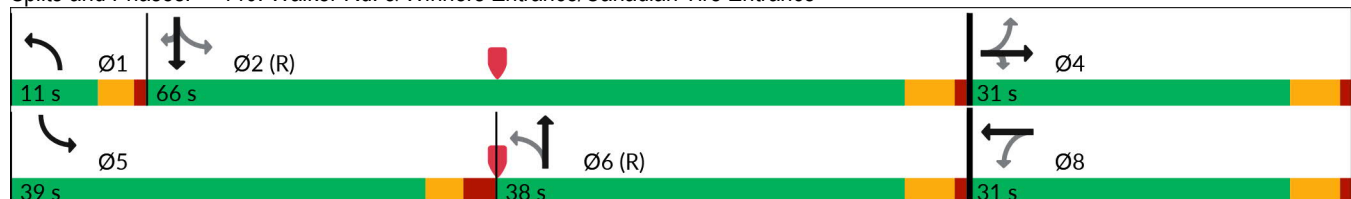
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Sunday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	33	1382	41	0	1732
Future Volume (Veh/h)	0	33	1382	41	0	1732
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	34	1440	43	0	1804
Pedestrians	1		2			1
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.75	0.84			0.84	
vC, conflicting volume	2367	744			1484	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1182	303			1188	
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	94			100	
cM capacity (veh/h)	139	584			497	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	960	523	902	902	
Volume Left	0	0	0	0	0	
Volume Right	34	0	43	0	0	
cSH	584	1700	1700	1700	1700	
Volume to Capacity	0.06	0.56	0.31	0.53	0.53	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			58.2%	ICU Level of Service		B
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	32	1391	19	0	1732
Future Volume (Veh/h)	0	32	1391	19	0	1732
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)	0	34	1464	20	0	1823
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.74	0.84			0.84	
vC, conflicting volume	2386	742			1484	
vC1, stage 1 conf vol	1474					
vC2, stage 2 conf vol	912					
vCu, unblocked vol	1179	301			1188	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			100	
cM capacity (veh/h)	189	586			498	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	976	508	912	912	
Volume Left	0	0	0	0	0	
Volume Right	34	0	20	0	0	
cSH	586	1700	1700	1700	1700	
Volume to Capacity	0.06	0.57	0.30	0.54	0.54	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.5	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.5	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			51.2%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	14	174	64	14	34	144	1303	46	89	1587	56
Future Volume (vph)	73	14	174	64	14	34	144	1303	46	89	1587	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98		1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.995	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1745	1879	1651	0	1826	1615	1685	3469	0	1785	5049	0
Flt Permitted	0.704				0.755		0.089			0.188		
Satd. Flow (perm)	1283	1879	1619	0	1426	1582	158	3469	0	353	5049	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			76		7			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.7			62.9			164.4			75.4	
Travel Time (s)		8.0			4.5			9.9			4.5	
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	77	15	183	67	15	36	152	1372	48	94	1671	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	15	183	0	82	36	152	1420	0	94	1730	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	18.0	77.0		59.0	59.0	
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	28.7%	16.7%	71.3%		54.6%	54.6%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	12.5	72.0		54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	6	6	6	7	7	7		4		8	8	
Act Effect Green (s)	14.9	14.9	14.9		14.9	14.9	82.6	83.1		68.2	68.2	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.76	0.77		0.63	0.63	
v/c Ratio	0.44	0.06	0.48		0.42	0.13	0.60	0.53		0.42	0.54	
Control Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	24.4	4.8		9.2	3.9	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	24.4	4.8		9.2	3.9	
LOS	D	D	A		D	A	C	A		A	A	
Approach Delay (s/veh)		22.2			33.3			6.7			4.2	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	16.2	3.0	0.0		17.2	0.0	8.4	35.1		2.2	14.3	
Queue Length 95th (m)	27.4	8.2	17.4		28.5	1.4	m26.4	m56.7		m8.2	41.9	
Internal Link Dist (m)		87.7			38.9			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	308	452	528		343	438	297	2672		222	3191	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.03	0.35		0.24	0.08	0.51	0.53		0.42	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 50 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay (s/veh): 7.4

Intersection LOS: A

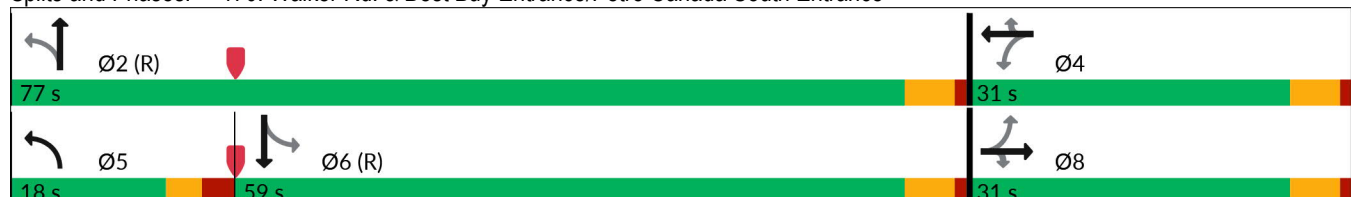
Intersection Capacity Utilization 72.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Sunday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	113	1414	81	74	1626
Future Volume (Veh/h)	43	113	1414	81	74	1626
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)	45	119	1488	85	78	1712
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.87	0.79			0.79	
vC, conflicting volume	2543	787			1573	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1403	202			1196	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	54	81			83	
cM capacity (veh/h)	97	642			467	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	45	119	992	581	649	1141
Volume Left	45	0	0	0	78	0
Volume Right	0	119	0	85	0	0
cSH	97	642	1700	1700	467	1700
Volume to Capacity	0.46	0.19	0.58	0.34	0.17	0.67
Queue Length 95th (m)	15.9	5.4	0.0	0.0	4.8	0.0
Control Delay (s/veh)	70.8	11.9	0.0	0.0	4.9	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	28.0		0.0		1.8	
Approach LOS	D					
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			102.1%		ICU Level of Service	G
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	162	161	167	154	102	263	1075	151	96	1424	149
Future Volume (vph)	318	162	161	167	154	102	263	1075	151	96	1424	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00							1.00	
Frt		0.925			0.940			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1784	0	1745	1786	0	1728	3699	0	1745	3552	0
Flt Permitted	0.433			0.331			0.078			0.201		
Satd. Flow (perm)	795	1784	0	607	1786	0	142	3699	0	369	3552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			31			26			13	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.8			290.2			642.6			169.2	
Travel Time (s)		8.2			20.9			38.6			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	338	172	171	178	164	109	280	1144	161	102	1515	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	343	0	178	273	0	280	1305	0	102	1674	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		19.0	71.0		52.0	52.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		17.6%	65.7%		48.1%	48.1%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	66.0		47.0	47.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	2	2		0	0			0		1	1	
Act Effect Green (s)	32.0	32.0		32.0	32.0		67.0	66.0		47.4	47.4	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.62	0.61		0.44	0.44	
v/c Ratio	1.44	0.61		0.99	0.50		0.93	0.57		0.63	1.07	
Control Delay (s/veh)	251.0	33.4		106.0	31.2		64.7	13.5		46.5	72.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	251.0	33.4		106.0	31.2		64.7	13.5		46.5	72.2	
LOS	F	C		F	C		E	B		D	E	
Approach Delay (s/veh)		141.4			60.7			22.6			70.7	
Approach LOS		F			E			C			E	
Queue Length 50th (m)	~101.9	56.3		39.2	43.9		45.0	83.0		13.4	~211.6	
Queue Length 95th (m)	#159.2	87.7		#85.6	70.2		#95.7	102.2		#43.1	#253.4	
Internal Link Dist (m)		89.8			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	235	561		179	551		308	2270		161	1565	
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	1.44	0.61		0.99	0.50		0.91	0.57		0.63	1.07	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 39 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.44

Intersection Signal Delay (s/veh): 63.5

Intersection LOS: E

Intersection Capacity Utilization 106.5%

ICU Level of Service G

Analysis Period (min) 15

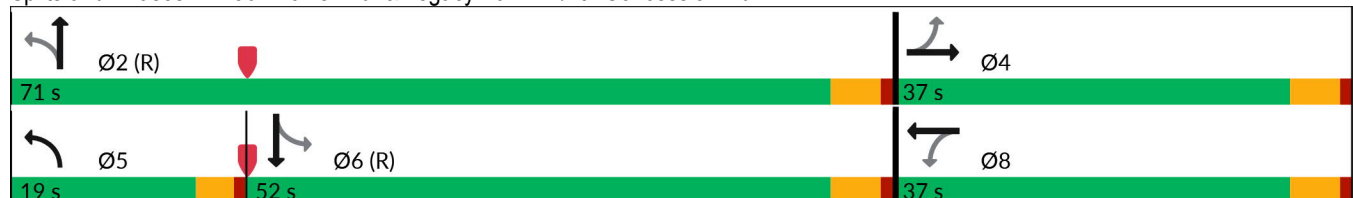
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1056	97	136	968	434	223
Future Volume (vph)	1056	97	136	968	434	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1615	1805	3495	3404	1615
Flt Permitted			0.162		0.950	
Satd. Flow (perm)	3539	1615	308	3495	3404	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		103				227
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			314.3	940.8	
Travel Time (s)	31.8			22.6	67.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	0%	1%	4%	0%
Adj. Flow (vph)	1123	103	145	1030	462	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1123	103	145	1030	462	237
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	68.0	68.0	16.0	84.0	36.0	36.0
Total Split (%)	56.7%	56.7%	13.3%	70.0%	30.0%	30.0%
Maximum Green (s)	62.0	62.0	12.0	78.0	30.0	30.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	65.0	65.0	80.0	78.0	30.0	30.0
Actuated g/C Ratio	0.54	0.54	0.67	0.65	0.25	0.25
v/c Ratio	0.59	0.11	0.46	0.45	0.54	0.41
Control Delay (s/veh)	20.3	3.0	12.0	11.2	41.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.3	3.0	12.0	11.2	41.9	7.7
LOS	C	A	B	B	D	A
Approach Delay (s/veh)	18.8			11.3	30.3	
Approach LOS	B			B	C	
Queue Length 50th (m)	94.1	0.0	11.9	61.5	51.4	1.9
Queue Length 95th (m)	120.7	8.6	19.8	75.8	68.7	22.4
Internal Link Dist (m)	417.3			290.3	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1916	921	355	2271	851	574
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	0.59	0.11	0.41	0.45	0.54	0.41

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 18.6

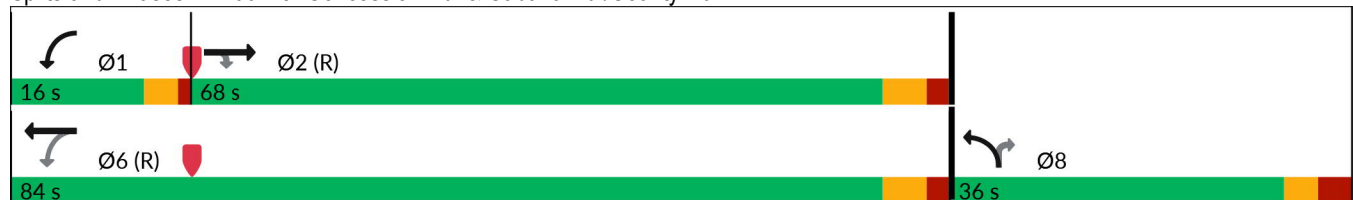
Intersection LOS: B

Intersection Capacity Utilization 62.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Sunday Peak Hour
2040 Future Background Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	1598	10	0	1989
Future Volume (Veh/h)	0	2	1598	10	0	1989
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	2	1737	11	0	2162
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			144			58
pX, platoon unblocked	0.82	0.81			0.81	
vC, conflicting volume	2824	874			1748	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1743	376			1454	
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	100			100	
cM capacity (veh/h)	65	509			382	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	2	1158	590	1081	1081	
Volume Left	0	0	0	0	0	
Volume Right	2	0	11	0	0	
cSH	509	1700	1700	1700	1700	
Volume to Capacity	0.00*	0.68	0.35	0.64	0.64	
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	12.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	12.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			58.3%		ICU Level of Service	B
Analysis Period (min)			15			

* Value less than 0.01.

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1186	15	5	1437	19	12
Future Volume (Veh/h)	1186	15	5	1437	19	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1289	16	5	1562	21	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	64					
pX, platoon unblocked			0.73		0.73	0.73
vC, conflicting volume			1305		2088	653
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			694		1759	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 %			99		63	98
cM capacity (veh/h)			670		56	802
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	859	446	526	1041	34	
Volume Left	0	0	5	0	21	
Volume Right	0	16	0	0	13	
cSH	1700	1700	670	1700	88	
Volume to Capacity	0.51	0.26	0.00*	0.61	0.39	
Queue Length 95th (m)	0.0	0.0	0.2	0.0	12.4	
Control Delay (s/veh)	0.0	0.0	0.2	0.0	70.1	
Lane LOS			A		F	
Approach Delay (s/veh)	0.0		0.1		70.1	
Approach LOS					F	
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			53.2%	ICU Level of Service		A
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	430	99	178	332	124	85	909	64	285	779	113
Future Volume (vph)	272	430	99	178	332	124	85	909	64	285	779	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.972			0.959			0.990			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	3286	0	1566	3079	0	1601	3210	0	1601	3288	0
Flt Permitted	0.266			0.296			0.230			0.111		
Satd. Flow (perm)	483	3286	0	487	3079	0	387	3210	0	187	3288	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			52			7			16	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			64.9			116.5			358.7	
Travel Time (s)		7.9			4.7			7.0			21.5	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	299	473	109	196	365	136	93	999	70	313	856	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	582	0	196	501	0	93	1069	0	313	980	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	15.0	40.0		12.0	37.0		14.0	38.0		14.0	38.0	
Total Split (%)	14.4%	38.5%		11.5%	35.6%		13.5%	36.5%		13.5%	36.5%	
Maximum Green (s)	11.0	34.0		8.0	31.0		10.0	32.0		10.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	38.5	25.5		32.5	22.5		42.2	32.0		55.7	44.3	
Actuated g/C Ratio	0.37	0.25		0.31	0.22		0.41	0.31		0.54	0.43	
v/c Ratio	0.96	0.70		0.83	0.71		0.37	1.08		0.89	0.70	
Control Delay (s/veh)	69.7	38.3		54.1	38.9		15.0	78.4		55.8	29.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	69.7	38.3		54.1	38.9		15.0	78.4		55.8	29.7	
LOS	E	D		D	D		B	E		E	C	
Approach Delay (s/veh)		49.0			43.2			73.4			36.0	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	47.8	57.5		29.6	47.5		4.8	~134.7		48.4	88.1	
Queue Length 95th (m)	#69.7	67.7		#46.8	58.4		11.6	#170.2		#133.9	#149.8	
Internal Link Dist (m)		85.7			40.9			92.5			334.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	311	1093		235	954		280	992		351	1408	
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	0.53		0.83	0.53		0.33	1.08		0.89	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay (s/veh): 50.8

Intersection LOS: D

Intersection Capacity Utilization 91.5%

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: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	8	23	19	4	29	52	1010	27	42	948	46
Future Volume (vph)	13	8	23	19	4	29	52	1010	27	42	948	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.925			0.996			0.993	
Flt Protected		0.970			0.982		0.950			0.950		
Satd. Flow (prot)	0	1843	1482	0	1257	0	1697	3303	0	1597	3326	0
Flt Permitted		0.855			0.875		0.202			0.234		
Satd. Flow (perm)	0	1624	1462	0	1119	0	361	3303	0	393	3326	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		34			5			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.5			74.7			176.3			85.4	
Travel Time (s)		8.0			5.4			10.6			5.1	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	9	27	22	5	34	60	1174	31	49	1102	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	27	0	61	0	60	1205	0	49	1155	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.2	12.2		12.2		85.8	85.8		77.4	77.4	
Actuated g/C Ratio		0.12	0.12		0.12		0.83	0.83		0.74	0.74	
v/c Ratio		0.13	0.12		0.38		0.16	0.44		0.17	0.47	
Control Delay (s/veh)		40.7	1.8		28.6		1.8	2.9		5.3	4.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		40.7	1.8		28.6		1.8	2.9		5.3	4.1	
LOS		D	A		C		A	A		A	A	
Approach Delay (s/veh)		20.1			28.6			2.8			4.2	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.8	0.0		5.4		1.5	43.0		0.0	23.2	
Queue Length 95th (m)		11.0	0.5		15.8		0.5	2.7		m0.0	31.3	
Internal Link Dist (m)		87.5			50.7			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		468	466		346		452	2725		292	2475	
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	0.06		0.18		0.13	0.44		0.17	0.47	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 4.4

Intersection LOS: A

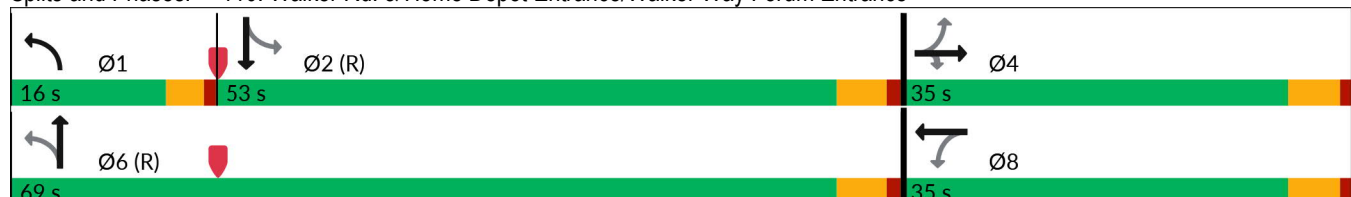
Intersection Capacity Utilization 59.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Volume (veh/h)	0	4	1081	10	18	1007
Future Volume (Veh/h)	0	4	1081	10	18	1007
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	4	1215	11	20	1131
Pedestrians	3					1
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)			183			176
pX, platoon unblocked	0.90	0.83			0.83	
vC, conflicting volume	1829	617			1229	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	985	125			863	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	99			97	
cM capacity (veh/h)	216	751			620	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	4	810	416	20	566	566
Volume Left	0	0	0	20	0	0
Volume Right	4	0	11	0	0	0
cSH	751	1700	1700	620	1700	1700
Volume to Capacity	0.00*	0.48	0.24	0.03	0.33	0.33
Queue Length 95th (m)	0.1	0.0	0.0	0.8	0.0	0.0
Control Delay (s/veh)	9.8	0.0	0.0	11.0	0.0	0.0
Lane LOS	A			B		
Approach Delay (s/veh)	9.8	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

AM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1082	2	0	1005
Future Volume (Veh/h)	0	8	1082	2	0	1005
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	9	1216	2	0	1129
Pedestrians	1					
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)			95			265
pX, platoon unblocked	0.89	0.83			0.83	
vC, conflicting volume	1783	610			1219	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	947	107			844	
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	99			100	
cM capacity (veh/h)	235	770			661	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	811	407	565	565	
Volume Left	0	0	0	0	0	
Volume Right	9	0	2	0	0	
cSH	770	1700	1700	1700	1700	
Volume to Capacity	0.01	0.48	0.24	0.33	0.33	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	9.7	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	9.7	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			40.0%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	22	12	21	15	22	26	1020	34	58	849	98
Future Volume (vph)	42	22	12	21	15	22	26	1020	34	58	849	98
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor			0.99	1.00			1.00	1.00		1.00		0.98
Frt			0.850		0.911			0.995				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1975	1921	1562	1805	1731	0	1805	3280	0	1765	3295	1536
Flt Permitted	0.730			0.741			0.282			0.188		
Satd. Flow (perm)	1518	1921	1541	1406	1731	0	536	3280	0	349	3295	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		25			5				111
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.1			83.4			85.4			94.7	
Travel Time (s)		10.6			6.0			5.1			5.7	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	8%	0%	0%	0%	0%	11%	0%	0%	12%	4%
Adj. Flow (vph)	48	25	14	24	17	25	30	1159	39	66	965	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	25	14	24	42	0	30	1198	0	66	965	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0		11.0	61.0		11.0	61.0	61.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%		10.6%	58.7%		10.6%	58.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		7.0	56.0		5.5	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	1
Act Effect Green (s)	13.4	13.4	13.4	13.4	13.4		80.1	75.1		80.8	78.4	78.4
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13		0.77	0.72		0.78	0.75	0.75
v/c Ratio	0.25	0.10	0.05	0.13	0.17		0.06	0.51		0.19	0.39	0.10
Control Delay (s/veh)	41.5	37.8	0.3	38.8	21.4		3.3	5.9		8.1	16.7	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	37.8	0.3	38.8	21.4		3.3	5.9		8.1	16.7	8.1
LOS	D	D	A	D	C		A	A		A	B	A
Approach Delay (s/veh)		33.8			27.7			5.8			15.4	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	9.7	5.0	0.0	4.8	3.4		0.8	31.0		4.0	80.5	7.0
Queue Length 95th (m)	17.3	10.6	0.0	10.4	11.2		m2.9	36.0		18.5	133.4	27.4
Internal Link Dist (m)		123.1			59.4			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	394	498	458	365	467		501	2371		356	2484	1159
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.05	0.03	0.07	0.09		0.06	0.51		0.19	0.39	0.10

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 69 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay (s/veh): 11.7

Intersection LOS: B

Intersection Capacity Utilization 56.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

AM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1073	5	0	882
Future Volume (Veh/h)	0	8	1073	5	0	882
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	9	1233	6	0	1014
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.94	0.88			0.88	
vC, conflicting volume	1743	620			1239	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1115	302			1004	
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	99			100	
cM capacity (veh/h)	193	617			616	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	822	417	507	507	
Volume Left	0	0	0	0	0	
Volume Right	9	0	6	0	0	
cSH	617	1700	1700	1700	1700	
Volume to Capacity	0.01	0.48	0.25	0.30	0.30	
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			39.8%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1063	6	0	882
Future Volume (Veh/h)	0	15	1063	6	0	882
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	1194	7	0	991
Pedestrians	1					
Lane Width (m)	4.8					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.93	0.88			0.88	
vC, conflicting volume	1694	602			1202	
vC1, stage 1 conf vol	1199					
vC2, stage 2 conf vol	496					
vCu, unblocked vol	1074	264			949	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	260	630			641	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	17	796	405	496	496	
Volume Left	0	0	0	0	0	
Volume Right	17	0	7	0	0	
cSH	630	1700	1700	1700	1700	
Volume to Capacity	0.03	0.47	0.24	0.29	0.29	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			39.6%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	62	15	4	4	70	1035	27	16	837	29
Future Volume (vph)	30	5	62	15	4	4	70	1035	27	16	837	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	1.00					0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.996			0.995	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1694	1879	1619	0	1830	1615	1668	3165	0	1785	4610	0
Flt Permitted	0.743				0.804		0.248			0.233		
Satd. Flow (perm)	1319	1879	1619	0	1528	1588	435	3165	0	438	4610	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			79		5			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		117.3			55.6			164.4			75.4	
Travel Time (s)		8.4			4.0			9.9			4.5	
Confl. Peds. (#/hr)	4					4	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	1%	10%	0%	0%	11%	0%
Adj. Flow (vph)	34	6	70	17	5	5	80	1176	31	18	951	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	70	0	22	5	80	1207	0	18	984	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	72.0		61.0	61.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	10.6%	69.2%		58.7%	58.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	5.5	67.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	4	4	4		1		1	1	
Act Effect Green (s)	13.5	13.5	13.5		13.5	13.5	83.0	84.5		75.1	75.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.80	0.81		0.72	0.72	
v/c Ratio	0.20	0.02	0.25		0.11	0.02	0.19	0.47		0.06	0.30	
Control Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.9	2.3		3.5	3.6	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	2.9	2.3		3.5	3.6	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		20.0			30.9			2.4			3.6	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	6.8	1.2	0.0		4.4	0.0	1.8	13.6		0.7	15.7	
Queue Length 95th (m)	13.3	4.2	8.8		9.7	0.0	4.0	18.6		m0.5	3.8	
Internal Link Dist (m)		93.3			31.6			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	342	487	478		396	470	420	2573		316	3332	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.15		0.06	0.01	0.19	0.47		0.06	0.30	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 73 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 4.0

Intersection LOS: A

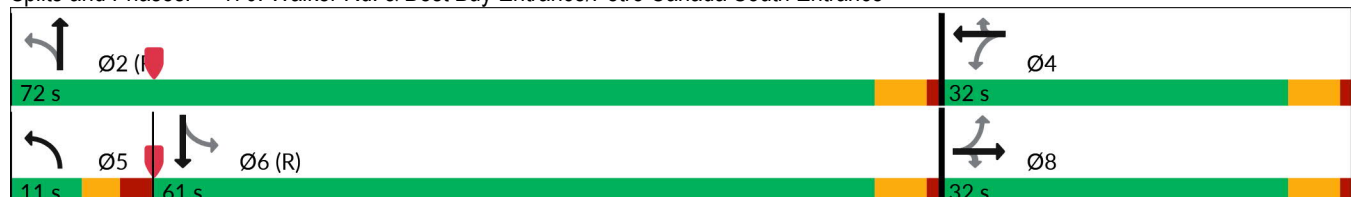
Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	25	1128	38	14	856
Future Volume (Veh/h)	15	25	1128	38	14	856
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	28	1253	42	16	951
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.89	0.84			0.84	
vC, conflicting volume	1782	649			1295	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1155	206			974	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	96			97	
cM capacity (veh/h)	167	668			603	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	28	835	460	333	634
Volume Left	17	0	0	0	16	0
Volume Right	0	28	0	42	0	0
cSH	167	668	1700	1700	603	1700
Volume to Capacity	0.10	0.04	0.49	0.27	0.03	0.37
Queue Length 95th (m)	2.7	1.0	0.0	0.0	0.7	0.0
Control Delay (s/veh)	29.0	10.6	0.0	0.0	0.9	0.0
Lane LOS	D	B			A	
Approach Delay (s/veh)	17.6		0.0		0.3	
Approach LOS	C					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			43.9%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	14	12	99	37	40	40	1096	159	22	828	21
Future Volume (vph)	29	14	12	99	37	40	40	1096	159	22	828	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		0.99	0.99		1.00				1.00	
Frt		0.930			0.922			0.981			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1649	0	1662	1740	0	1694	3445	0	1616	3245	0
Flt Permitted	0.702			0.739			0.257			0.184		
Satd. Flow (perm)	1238	1649	0	1279	1740	0	458	3445	0	313	3245	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			44			32			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			290.2			642.6			169.2	
Travel Time (s)		8.4			20.9			38.6			10.2	
Confl. Peds. (#/hr)	1		9	9		1	1					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
Heavy Vehicles (%)	4%	0%	18%	5%	0%	0%	3%	8%	3%	8%	11%	0%
Adj. Flow (vph)	32	15	13	109	41	44	44	1204	175	24	910	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	28	0	109	85	0	44	1379	0	24	933	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		24.0	73.0		49.0	49.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		23.1%	70.2%		47.1%	47.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		20.0	68.0		44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	9	9		1	1			0		1	1	
Act Effect Green (s)	16.0	16.0		16.0	16.0		79.0	78.0		71.3	71.3	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.76	0.75		0.69	0.69	
v/c Ratio	0.17	0.11		0.55	0.28		0.10	0.53		0.11	0.42	
Control Delay (s/veh)	37.4	23.3		50.1	21.7		4.7	6.9		14.4	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	37.4	23.3		50.1	21.7		4.7	6.9		14.4	9.9	
LOS	D	C		D	C		A	A		B	A	
Approach Delay (s/veh)		30.8			37.7			6.8			10.1	
Approach LOS		C			D			A			B	
Queue Length 50th (m)	6.1	2.8		21.9	7.8		1.8	49.9		0.5	10.7	
Queue Length 95th (m)	13.5	9.8		36.0	19.6		6.4	95.0		10.3	95.5	
Internal Link Dist (m)		92.1			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	309	422		319	468		585	2590		214	2224	
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	0.10	0.07		0.34	0.18		0.08	0.53		0.11	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 70 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay (s/veh): 10.8

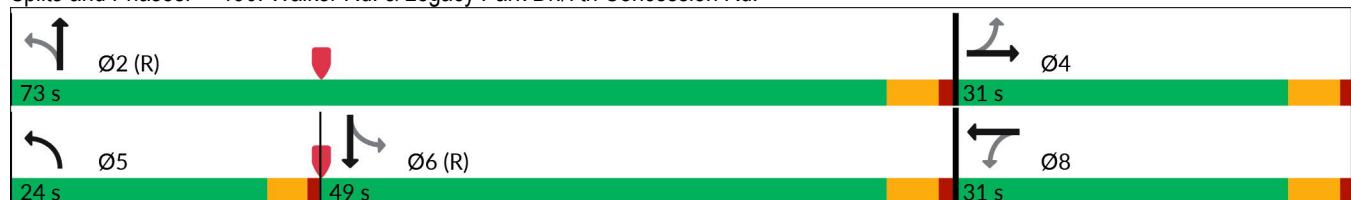
Intersection LOS: B

Intersection Capacity Utilization 56.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	649	77	125	515	88	104
Future Volume (vph)	649	77	125	515	88	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3167	1615	1787	3096	3404	1482
Flt Permitted			0.316		0.950	
Satd. Flow (perm)	3167	1615	594	3096	3404	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		83				112
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			315.0	940.8	
Travel Time (s)	31.8			22.7	67.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	14%	0%	1%	14%	4%	9%
Adj. Flow (vph)	698	83	134	554	95	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	698	83	134	554	95	112
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	64.0	64.0	19.0	83.0	37.0	37.0
Total Split (%)	53.3%	53.3%	15.8%	69.2%	30.8%	30.8%
Maximum Green (s)	58.0	58.0	15.0	77.0	31.0	31.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	64.1	64.1	79.0	77.0	31.0	31.0
Actuated g/C Ratio	0.53	0.53	0.66	0.64	0.26	0.26
v/c Ratio	0.41	0.09	0.28	0.28	0.11	0.24
Control Delay (s/veh)	17.8	3.3	9.1	9.8	34.4	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.8	3.3	9.1	9.8	34.4	7.6
LOS	B	A	A	A	C	A
Approach Delay (s/veh)	16.3			9.7	19.9	
Approach LOS	B			A	B	
Queue Length 50th (m)	52.1	0.0	11.3	29.2	9.2	0.0
Queue Length 95th (m)	70.0	8.0	18.9	38.4	16.4	14.4
Internal Link Dist (m)	417.3			291.0	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1691	901	540	1986	879	465
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	0.41	0.09	0.25	0.28	0.11	0.24

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay (s/veh): 14.0

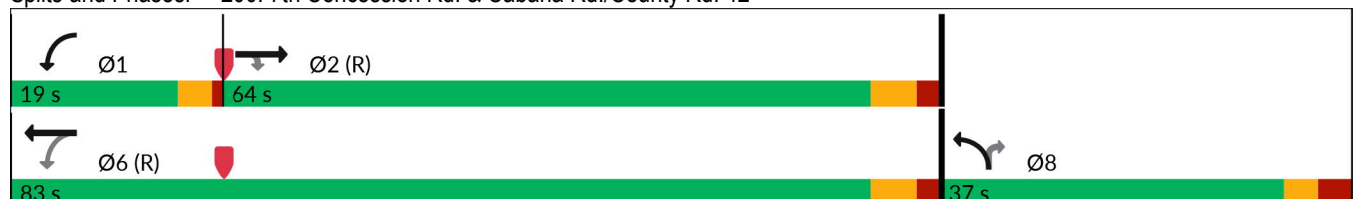
Intersection LOS: B

Intersection Capacity Utilization 46.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

AM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	31	1027	5	20	1037
Future Volume (Veh/h)	1	31	1027	5	20	1037
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	1	35	1154	6	22	1165
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)			85			116
pX, platoon unblocked	0.82	0.89			0.89	
vC, conflicting volume	1788	584			1164	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	940	295			945	
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	94			97	
cM capacity (veh/h)	210	629			654	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	36	769	391	22	583	583
Volume Left	1	0	0	22	0	0
Volume Right	35	0	6	0	0	0
cSH	596	1700	1700	654	1700	1700
Volume to Capacity	0.06	0.45	0.23	0.03	0.34	0.34
Queue Length 95th (m)	1.5	0.0	0.0	0.8	0.0	0.0
Control Delay (s/veh)	11.4	0.0	0.0	10.7	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.4	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			38.7%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	749	30	25	626	8	28
Future Volume (Veh/h)	749	30	25	626	8	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	814	33	27	680	9	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.88		0.88	0.88
vC, conflicting volume			847		1225	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			549		979	67
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		96	97
cM capacity (veh/h)			906		214	869
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	543	304	27	340	340	39
Volume Left	0	0	27	0	0	9
Volume Right	0	33	0	0	0	30
cSH	1700	1700	906	1700	1700	509
Volume to Capacity	0.32	0.18	0.03	0.20	0.20	0.08
Queue Length 95th (m)	0.0	0.0	0.7	0.0	0.0	2.0
Control Delay (s/veh)	0.0	0.0	9.1	0.0	0.0	12.7
Lane LOS			A			B
Approach Delay (s/veh)	0.0		0.3			12.7
Approach LOS						B
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			31.7%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	412	244	219	667	215	272	1206	192	208	1234	111
Future Volume (vph)	204	412	244	219	667	215	272	1206	192	208	1234	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.944			0.963			0.979			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	3356	0	1684	3357	0	1728	3349	0	1601	3480	0
Flt Permitted	0.129			0.189			0.099			0.102		
Satd. Flow (perm)	233	3356	0	335	3357	0	180	3349	0	172	3480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			35			16			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			362.9	
Travel Time (s)		7.9			4.6			7.0			21.8	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	213	429	254	228	695	224	283	1256	200	217	1285	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	213	683	0	228	919	0	283	1456	0	217	1401	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	46.1	31.1		45.9	31.0		58.9	40.4		56.9	39.3	
Actuated g/C Ratio	0.38	0.26		0.38	0.26		0.49	0.34		0.47	0.33	
v/c Ratio	0.86	0.73		0.84	1.03		0.93	1.28		0.82	1.22	
Control Delay (s/veh)	58.2	39.7		63.0	70.4		73.0	161.0		51.4	144.2	
Queue Delay	0.0	0.0		13.0	0.0		0.0	0.0		0.0	0.5	
Total Delay (s/veh)	58.2	39.7		76.0	70.4		73.0	161.0		51.4	144.7	
LOS	E	D		E	E		E	F		D	F	
Approach Delay (s/veh)		44.1			71.5			146.7			132.2	
Approach LOS		D			E			F			F	
Queue Length 50th (m)	35.1	70.4		35.5	~125.2		58.0	~241.3		35.9	~226.5	
Queue Length 95th (m)	#78.9	92.9		#77.8	#167.8		#109.8	#290.6		#69.9	#271.5	
Internal Link Dist (m)		85.7			39.9			92.5			338.9	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	249	942		274	893		307	1139		299	1145	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	3		34	0		0	0		0	112	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.73		0.95	1.03		0.92	1.28		0.73	1.36	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.28

Intersection Signal Delay (s/veh): 109.4

Intersection LOS: F

Intersection Capacity Utilization 106.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	19	81	84	16	167	107	1401	81	102	1463	97
Future Volume (vph)	57	19	81	84	16	167	107	1401	81	102	1463	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.916			0.992			0.991	
Flt Protected		0.964			0.984		0.950			0.950		
Satd. Flow (prot)	0	1832	1615	0	1713	0	1765	3476	0	1725	3474	0
Flt Permitted		0.498			0.865		0.080			0.151		
Satd. Flow (perm)	0	946	1584	0	1502	0	149	3476	0	274	3474	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		61			10			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			77.6			176.3			85.4	
Travel Time (s)		8.4			5.6			10.6			5.1	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	19	83	86	16	170	109	1430	83	104	1493	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	83	0	272	0	109	1513	0	104	1592	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	85.0		66.0	66.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		15.8%	70.8%		55.0%	55.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	80.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3		1	1	
Act Effect Green (s)		23.0	23.0		23.0		88.0	87.0		74.4	74.4	
Actuated g/C Ratio		0.19	0.19		0.19		0.73	0.73		0.62	0.62	
v/c Ratio		0.43	0.22		0.81		0.49	0.60		0.62	0.74	
Control Delay (s/veh)		48.3	9.1		53.6		18.0	16.2		16.4	11.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	5.7	
Total Delay (s/veh)		48.3	9.1		53.6		18.0	16.2		16.4	16.7	
LOS		D	A		D		B	B		B	B	
Approach Delay (s/veh)		28.0			53.6			16.3			16.7	
Approach LOS		C			D			B			B	
Queue Length 50th (m)		16.9	0.0		50.8		11.5	113.8		3.6	28.0	
Queue Length 95th (m)		30.7	12.9		78.3		m26.1	201.2		m21.5	m172.3	
Internal Link Dist (m)		92.1			53.6			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		236	458		421		311	2523		169	2157	
Starvation Cap Reductn		0	0		0		0	0		0	507	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.33	0.18		0.65		0.35	0.60		0.62	0.96	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay (s/veh): 19.7

Intersection LOS: B

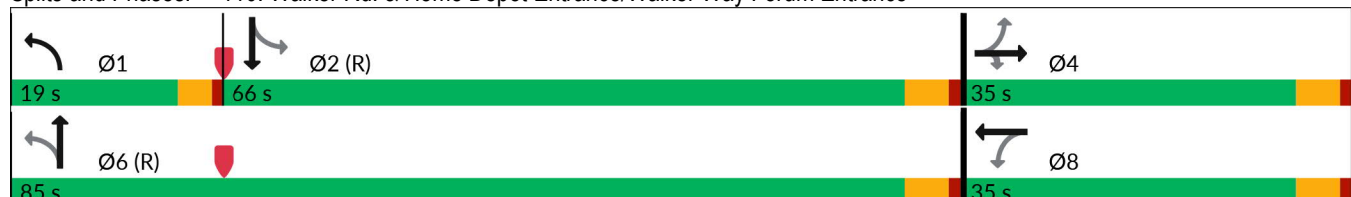
Intersection Capacity Utilization 84.6%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

PM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	2	25	1575	29	52	1639
Future Volume (Veh/h)	2	25	1575	29	52	1639
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	2	26	1607	30	53	1672
Pedestrians	3					2
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)			183			176
pX, platoon unblocked	0.81	0.72			0.72	
vC, conflicting volume	2567	824			1640	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	926	0			1113	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			88	
cM capacity (veh/h)	195	783			456	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1071	566	53	836	836
Volume Left	2	0	0	53	0	0
Volume Right	26	0	30	0	0	0
cSH	644	1700	1700	456	1700	1700
Volume to Capacity	0.04	0.63	0.33	0.12	0.49	0.49
Queue Length 95th (m)	1.1	0.0	0.0	3.1	0.0	0.0
Control Delay (s/veh)	10.8	0.0	0.0	13.9	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	10.8	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			56.0%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

PM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	44	1556	10	1	1657
Future Volume (Veh/h)	1	44	1556	10	1	1657
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1	44	1572	10	1	1674
Pedestrians	3		2			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)			95			265
pX, platoon unblocked	0.82	0.71			0.71	
vC, conflicting volume	2421	796			1585	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	692	0			1002	
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	94			100	
cM capacity (veh/h)	311	770			494	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	45	1048	534	559	1116	
Volume Left	1	0	0	1	0	
Volume Right	44	0	10	0	0	
cSH	745	1700	1700	494	1700	
Volume to Capacity	0.06	0.62	0.31	0.00*	0.66	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.1	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	69	101	156	59	104	72	1300	92	154	1208	295
Future Volume (vph)	162	69	101	156	59	104	72	1300	92	154	1208	295
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	0.99		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.904			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2092	1921	1638	1805	1693	0	1752	3478	0	1765	3583	1566
Flt Permitted	0.498			0.711			0.185			0.102		
Satd. Flow (perm)	1088	1921	1611	1346	1693	0	341	3478	0	189	3583	1528
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		67			7				304
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.4			79.3			85.4			94.7	
Travel Time (s)		10.6			5.7			5.1			5.7	
Confl. Peds. (#/hr)	8		3	3		8	2		1	1		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
Heavy Vehicles (%)	1%	0%	3%	0%	0%	0%	3%	4%	0%	0%	3%	2%
Adj. Flow (vph)	167	71	104	161	61	107	74	1340	95	159	1245	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	71	104	161	168	0	74	1435	0	159	1245	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	50.0		39.0	75.0	75.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		11.7%	41.7%		32.5%	62.5%	62.5%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	45.0		33.5	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	8	8			1			2	2
Act Effect Green (s)	21.8	21.8	21.8	21.8	21.8		80.1	72.1		86.9	79.2	79.2
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.67	0.60		0.72	0.66	0.66
v/c Ratio	0.85	0.20	0.28	0.66	0.46		0.24	0.69		0.58	0.53	0.27
Control Delay (s/veh)	81.0	41.5	9.1	58.2	29.3		9.0	20.1		27.9	4.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	81.0	41.5	9.1	58.2	29.3		9.0	20.1		27.9	4.4	0.7
LOS	F	D	A	E	C		A	C		C	A	A
Approach Delay (s/veh)		50.9			43.4			19.6			5.9	
Approach LOS		D			D			B			A	
Queue Length 50th (m)	39.8	14.9	0.0	36.9	21.7		5.9	92.7		10.1	64.5	2.8
Queue Length 95th (m)	#70.7	27.8	14.5	59.5	42.7		m12.7	113.2		m25.5	14.5	m0.0
Internal Link Dist (m)		123.4			55.3			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	235	416	431	291	419		353	2093		578	2364	1111
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.71	0.17	0.24	0.55	0.40		0.21	0.69		0.28	0.53	0.27

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 18.3

Intersection LOS: B

Intersection Capacity Utilization 85.6%

ICU Level of Service E

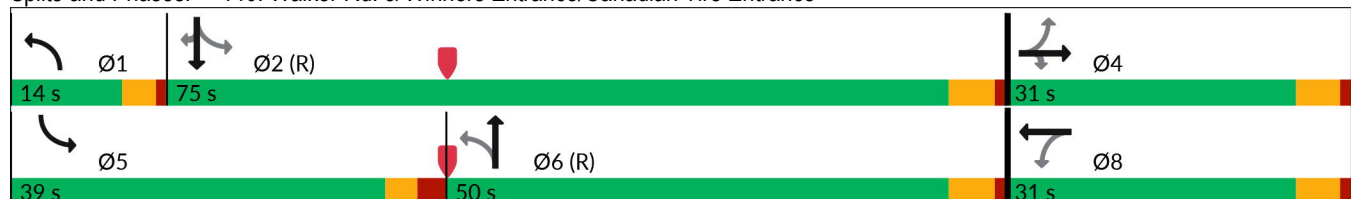
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

PM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1449	32	0	1465
Future Volume (Veh/h)	0	15	1449	32	0	1465
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	16	1509	33	0	1526
Pedestrians	2					
Lane Width (m)	4.0					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.90	0.82			0.82	
vC, conflicting volume	2291	773			1544	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1299	273			1217	
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	97			100	
cM capacity (veh/h)	140	596			473	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	1006	536	763	763	
Volume Left	0	0	0	0	0	
Volume Right	16	0	33	0	0	
cSH	596	1700	1700	1700	1700	
Volume to Capacity	0.03	0.59	0.32	0.45	0.45	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			51.1%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	1461	15	0	1465
Future Volume (Veh/h)	0	20	1461	15	0	1465
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	20	1491	15	0	1495
Pedestrians	3		20			
Lane Width (m)	4.8		3.9			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	0		2			
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.90	0.82			0.82	
vC, conflicting volume	2269	756			1509	
vC1, stage 1 conf vol	1502					
vC2, stage 2 conf vol	768					
vCu, unblocked vol	1275	255			1176	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	187	611			490	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	20	994	512	748	748	
Volume Left	0	0	0	0	0	
Volume Right	20	0	15	0	0	
cSH	611	1700	1700	1700	1700	
Volume to Capacity	0.03	0.58	0.30	0.44	0.44	
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			50.9%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	18	160	56	9	20	110	1413	50	39	1387	39
Future Volume (vph)	43	18	160	56	9	20	110	1413	50	39	1387	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.98		0.99		1.00	0.96	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.996	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1791	1615	1685	3338	0	1785	4914	0
Flt Permitted	0.714				0.742		0.138			0.172		
Satd. Flow (perm)	1281	1879	1613	0	1384	1556	245	3338	0	323	4914	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			68		7			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.5			57.5			164.4			75.4	
Travel Time (s)		8.4			4.1			9.9			4.5	
Confl. Peds. (#/hr)	19		1	1		19	2		3	3		2
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
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	0%	4%	2%	0%	4%	0%
Adj. Flow (vph)	43	18	162	57	9	20	111	1427	51	39	1401	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	18	162	0	66	20	111	1478	0	39	1440	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	87.0		67.0	67.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	16.7%	72.5%		55.8%	55.8%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	14.5	82.0		62.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	1	1	1	19	19	19		3		2	2	
Act Effect Green (s)	17.2	17.2	17.2		17.2	17.2	92.3	92.8		79.6	79.6	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.77	0.77		0.66	0.66	
v/c Ratio	0.23	0.07	0.44		0.33	0.07	0.40	0.57		0.18	0.44	
Control Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	8.3	4.6		8.8	7.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	8.3	4.6		8.8	7.8	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		19.0			37.0			4.9			7.8	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	10.1	4.1	0.0		15.7	0.0	3.3	28.1		0.7	9.2	
Queue Length 95th (m)	19.2	9.9	17.8		26.6	0.0	m9.2	58.5		m9.0	89.5	
Internal Link Dist (m)		92.5			33.5			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	298	438	500		322	415	362	2583		214	3262	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.04	0.32		0.20	0.05	0.31	0.57		0.18	0.44	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay (s/veh): 7.9

Intersection LOS: A

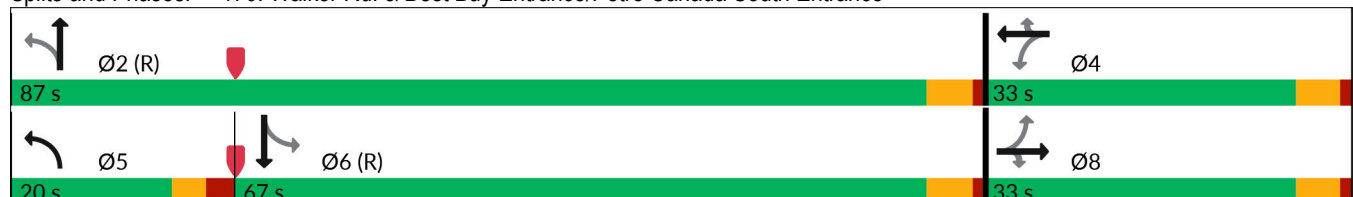
Intersection Capacity Utilization 77.5%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	68	1470	61	44	1493
Future Volume (Veh/h)	25	68	1470	61	44	1493
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	72	1564	65	47	1588
Pedestrians	2		1			
Lane Width (m)	3.6		3.8			
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)			169			164
pX, platoon unblocked	0.83	0.74			0.74	
vC, conflicting volume	2488	817			1631	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1460	62			1158	
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	90			90	
cM capacity (veh/h)	90	739			453	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	72	1043	586	576	1059
Volume Left	27	0	0	0	47	0
Volume Right	0	72	0	65	0	0
cSH	90	739	1700	1700	453	1700
Volume to Capacity	0.30	0.10	0.61	0.34	0.10	0.62
Queue Length 95th (m)	8.9	2.6	0.0	0.0	2.8	0.0
Control Delay (s/veh)	60.9	10.4	0.0	0.0	3.0	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	24.2		0.0		1.1	
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			83.0%		ICU Level of Service	E
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	122	150	174	98	60	175	1269	163	57	1348	112
Future Volume (vph)	202	122	150	174	98	60	175	1269	163	57	1348	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00				0.99			1.00		1.00	1.00	
Frt		0.917			0.943			0.983			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1781	0	1694	1771	0	1745	3562	0	1745	3434	0
Flt Permitted	0.577			0.385			0.061			0.138		
Satd. Flow (perm)	1037	1781	0	687	1771	0	112	3562	0	253	3434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			26			23			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.3			290.2			642.6			169.2	
Travel Time (s)		8.3			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	210	127	156	181	102	63	182	1322	170	59	1404	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	283	0	181	165	0	182	1492	0	59	1521	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	82.0		66.0	66.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		13.3%	68.3%		55.0%	55.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		12.0	77.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		2	2			1		1	1	
Act Effect Green (s)	32.8	32.8		32.8	32.8		78.2	77.2		62.1	62.1	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.65	0.64		0.52	0.52	
v/c Ratio	0.74	0.54		0.97	0.33		0.81	0.65		0.45	0.85	
Control Delay (s/veh)	57.0	34.5		95.6	23.7		53.9	14.6		18.9	21.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	57.0	34.5		95.6	23.7		53.9	14.6		18.9	21.0	
LOS	E	C		F	C		D	B		B	C	
Approach Delay (s/veh)		44.1			61.3			18.8			20.9	
Approach LOS		D			E			B			C	
Queue Length 50th (m)	47.4	48.9		44.9	27.6		27.7	109.2		3.0	189.6	
Queue Length 95th (m)	#84.8	77.8		#93.1	48.3		#64.3	131.7		6.6	64.4	
Internal Link Dist (m)		91.3			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	285	526		188	505		236	2300		130	1782	
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	0.74	0.54		0.96	0.33		0.77	0.65		0.45	0.85	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 26.3

Intersection LOS: C

Intersection Capacity Utilization 91.6%

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	642	140	197	986	87	212
Future Volume (vph)	642	140	197	986	87	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3438	1615	1787	3394	3437	1599
Flt Permitted			0.311		0.950	
Satd. Flow (perm)	3438	1593	585	3394	3437	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		151				228
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			318.8	940.8	
Travel Time (s)	31.8			23.0	67.7	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	0%	1%	4%	3%	1%
Adj. Flow (vph)	690	151	212	1060	94	228
Shared Lane Traffic (%)						
Lane Group Flow (vph)	690	151	212	1060	94	228
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	57.0	57.0	25.0	82.0	38.0	38.0
Total Split (%)	47.5%	47.5%	20.8%	68.3%	31.7%	31.7%
Maximum Green (s)	51.0	51.0	21.0	76.0	32.0	32.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	60.8	60.8	78.0	76.0	32.0	32.0
Actuated g/C Ratio	0.51	0.51	0.65	0.63	0.27	0.27
v/c Ratio	0.40	0.17	0.43	0.49	0.10	0.38
Control Delay (s/veh)	20.3	7.0	11.2	12.7	29.8	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.3	7.0	11.2	12.7	29.8	7.4
LOS	C	A	B	B	C	A
Approach Delay (s/veh)	17.9			12.5	14.0	
Approach LOS	B			B	B	
Queue Length 50th (m)	62.6	6.6	19.2	68.5	8.4	7.5
Queue Length 95th (m)	m74.4	m11.2	29.9	84.5	m14.5	18.3
Internal Link Dist (m)	417.3			294.8	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1741	881	590	2149	916	593
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	0.40	0.17	0.36	0.49	0.10	0.38

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay (s/veh): 14.5

Intersection LOS: B

Intersection Capacity Utilization 54.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

PM Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	73	1596	8	51	1645
Future Volume (Veh/h)	0	73	1596	8	51	1645
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	75	1645	8	53	1696
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)			85			116
pX, platoon unblocked	0.79	0.78			0.78	
vC, conflicting volume	2606	830			1656	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1266	234			1287	
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			88	
cM capacity (veh/h)	112	606			427	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	1097	556	53	848	848
Volume Left	0	0	0	53	0	0
Volume Right	75	0	8	0	0	0
cSH	606	1700	1700	427	1700	1700
Volume to Capacity	0.12	0.65	0.33	0.12	0.50	0.50
Queue Length 95th (m)	3.4	0.0	0.0	3.4	0.0	0.0
Control Delay (s/veh)	11.8	0.0	0.0	14.6	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.8	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			56.7%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	737	76	77	1074	29	88
Future Volume (Veh/h)	737	76	77	1074	29	88
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	801	83	84	1167	32	96
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			884		1594	442
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			664		1448	176
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		68	87
cM capacity (veh/h)			846		102	763
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	534	350	84	584	584	128
Volume Left	0	0	84	0	0	32
Volume Right	0	83	0	0	0	96
cSH	1700	1700	846	1700	1700	290
Volume to Capacity	0.31	0.21	0.10	0.34	0.34	0.44
Queue Length 95th (m)	0.0	0.0	2.6	0.0	0.0	17.1
Control Delay (s/veh)	0.0	0.0	9.7	0.0	0.0	26.8
Lane LOS			A			D
Approach Delay (s/veh)	0.0		0.7			26.8
Approach LOS						D
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			44.1%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	199	464	307	236	509	149	317	1069	103	171	1168	178
Future Volume (vph)	199	464	307	236	509	149	317	1069	103	171	1168	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			1.00			1.00	
Frt		0.940			0.966			0.987			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	3356	0	1767	3386	0	1745	3444	0	1601	3501	0
Flt Permitted	0.222			0.222			0.075			0.100		
Satd. Flow (perm)	412	3356	0	413	3386	0	138	3444	0	169	3501	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		114			28			11			18	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			370.0	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	214	499	330	254	547	160	341	1149	111	184	1256	191
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	829	0	254	707	0	341	1260	0	184	1447	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	16.0	24.0		16.0	24.0		20.0	57.0		19.0	56.0	
Total Split (%)	13.8%	20.7%		13.8%	20.7%		17.2%	49.1%		16.4%	48.3%	
Maximum Green (s)	12.0	18.0		12.0	18.0		16.0	51.0		15.0	50.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	32.0	18.0		32.0	18.0		70.4	53.3		64.7	50.0	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.61	0.46		0.56	0.43	
v/c Ratio	0.85	1.34		1.00	1.29		1.12	0.79		0.74	0.95	
Control Delay (s/veh)	61.8	198.8		92.7	181.3		125.6	17.0		38.4	46.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	43.6	
Total Delay (s/veh)	61.8	198.9		92.7	181.3		125.6	17.3		38.4	89.8	
LOS	E	F		F	F		F	B		D	F	
Approach Delay (s/veh)		170.7			157.8			40.3			84.0	
Approach LOS		F			F			D			F	
Queue Length 50th (m)	40.1	~124.3		48.8	~110.8		~80.2	54.7		22.3	170.8	
Queue Length 95th (m)	#74.3	#165.6		#97.4	#150.6		m#138.9	104.5		47.1	#223.5	
Internal Link Dist (m)		85.7			39.9			92.5			346.0	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	253	617		254	549		305	1588		282	1519	
Starvation Cap Reductn	0	0		0	0		0	43		0	0	
Spillback Cap Reductn	0	3		0	0		0	0		0	234	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.85	1.35		1.00	1.29		1.12	0.82		0.65	1.13	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay (s/veh): 101.5

Intersection LOS: F

Intersection Capacity Utilization 108.1%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

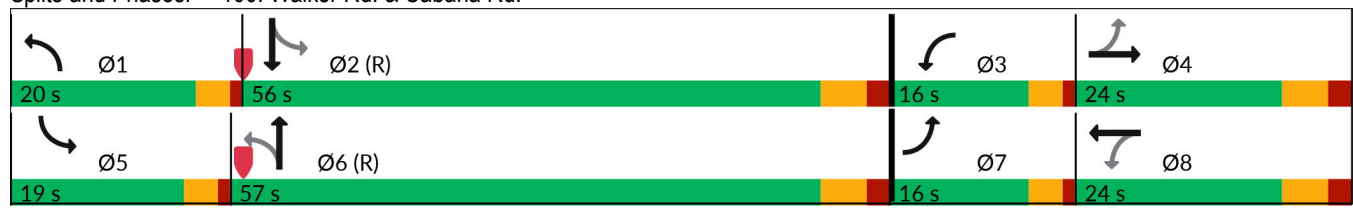
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	22	130	92	27	179	160	1168	102	135	1397	114
Future Volume (vph)	71	22	130	92	27	179	160	1168	102	135	1397	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00		1.00		
Frt			0.850		0.919			0.988			0.989	
Flt Protected		0.963			0.985		0.950			0.950		
Satd. Flow (prot)	0	1830	1615	0	1706	0	1765	3495	0	1725	3538	0
Flt Permitted		0.460			0.846		0.058			0.179		
Satd. Flow (perm)	0	874	1587	0	1463	0	108	3495	0	325	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		63			16			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		114.2			77.1			176.3			85.4	
Travel Time (s)		8.2			5.6			10.6			5.1	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	24	143	101	30	197	176	1284	112	148	1535	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	143	0	328	0	176	1396	0	148	1660	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	81.0		62.0	62.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		16.4%	69.8%		53.4%	53.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	76.0		57.0	57.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1		0	0	
Act Effect Green (s)		26.0	26.0		26.0		81.0	80.0		64.5	64.5	
Actuated g/C Ratio		0.22	0.22		0.22		0.70	0.69		0.56	0.56	
v/c Ratio		0.52	0.31		0.87		0.74	0.58		0.82	0.84	
Control Delay (s/veh)		48.5	7.3		57.7		33.9	20.2		27.2	18.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	5.5	
Total Delay (s/veh)		48.5	7.3		57.7		33.9	20.2		27.2	23.7	
LOS		D	A		E		C	C		C	C	
Approach Delay (s/veh)		24.5			57.7			21.8			24.0	
Approach LOS		C			E			C			C	
Queue Length 50th (m)		21.0	0.0		61.1		24.2	130.0		23.6	152.3	
Queue Length 95th (m)		39.2	16.0		#103.9		m43.4	m181.7		m31.1	m190.8	
Internal Link Dist (m)		90.2			53.1			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		226	516		425		289	2414		180	1972	
Starvation Cap Reductn		0	0		0		0	0		0	262	
Spillback Cap Reductn		0	0		0		0	9		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.45	0.28		0.77		0.61	0.58		0.82	0.97	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 90 (78%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay (s/veh): 25.9

Intersection LOS: C

Intersection Capacity Utilization 87.0%

ICU Level of Service E

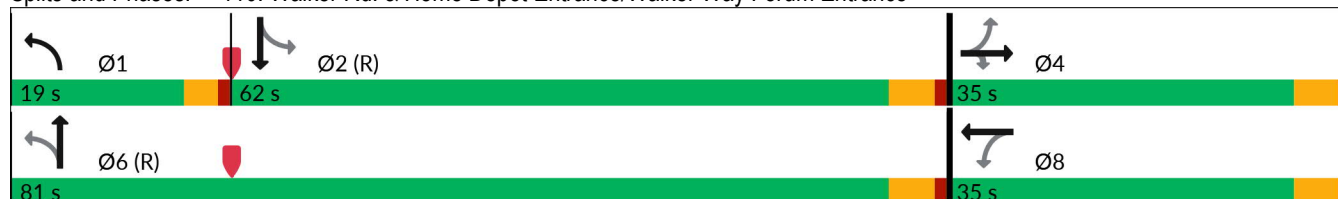
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Saturday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	2	39	1391	38	61	1673
Future Volume (Veh/h)	2	39	1391	38	61	1673
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	41	1480	40	65	1780
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			183			176
pX, platoon unblocked	0.72	0.76			0.76	
vC, conflicting volume	2520	760			1520	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	849	56			1055	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	95			87	
cM capacity (veh/h)	192	765			508	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	987	533	65	890	890
Volume Left	2	0	0	65	0	0
Volume Right	41	0	40	0	0	0
cSH	671	1700	1700	508	1700	1700
Volume to Capacity	0.06	0.58	0.31	0.13	0.52	0.52
Queue Length 95th (m)	1.6	0.0	0.0	3.5	0.0	0.0
Control Delay (s/veh)	10.7	0.0	0.0	13.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	10.7	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			56.4%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Saturday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	91	1341	11	8	1666
Future Volume (Veh/h)	0	91	1341	11	8	1666
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	97	1427	12	9	1772
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)			95			265
pX, platoon unblocked	0.74	0.73			0.73	
vC, conflicting volume	2339	720			1439	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	452	0			861	
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			98	
cM capacity (veh/h)	392	796			576	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	97	951	488	600	1181	
Volume Left	0	0	0	9	0	
Volume Right	97	0	12	0	0	
cSH	796	1700	1700	576	1700	
Volume to Capacity	0.12	0.56	0.29	0.02	0.69	
Queue Length 95th (m)	3.3	0.0	0.0	0.4	0.0	
Control Delay (s/veh)	10.1	0.0	0.0	0.4	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.1	0.0		0.1		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.0%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	139	98	184	92	141	89	1034	143	165	1195	306
Future Volume (vph)	177	139	98	184	92	141	89	1034	143	165	1195	306
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	1.00		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.909			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1703	0	1805	3509	0	1765	3654	1597
Flt Permitted	0.393			0.589			0.161			0.126		
Satd. Flow (perm)	874	1921	1660	1116	1703	0	306	3509	0	234	3654	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108		61			14				322
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		151.2			75.8			85.4			94.7	
Travel Time (s)		10.9			5.5			5.1			5.7	
Confl. Peds. (#/hr)	1		3	3		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%	1%	0%
Adj. Flow (vph)	186	146	103	194	97	148	94	1088	151	174	1258	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	146	103	194	245	0	94	1239	0	174	1258	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	45.0		40.0	71.0	71.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		12.1%	38.8%		34.5%	61.2%	61.2%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	40.0		34.5	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	1	1			1			2	2
Act Effect Green (s)	26.0	26.0	26.0	26.0	26.0		71.8	63.3		78.3	68.6	68.6
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22		0.62	0.55		0.68	0.59	0.59
v/c Ratio	0.95	0.34	0.23	0.78	0.57		0.33	0.64		0.57	0.58	0.31
Control Delay (s/veh)	99.1	40.5	7.6	64.2	35.7		7.9	12.8		20.6	7.6	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	99.1	40.5	7.6	64.2	35.7		7.9	12.8		20.6	7.6	1.0
LOS	F	D	A	E	D		A	B		C	A	A
Approach Delay (s/veh)		57.8			48.3			12.5			7.7	
Approach LOS		E			D			B			A	
Queue Length 50th (m)	44.1	29.5	0.0	43.8	39.2		4.7	55.1		8.8	68.4	3.8
Queue Length 95th (m)	#90.7	49.1	13.2	#82.1	66.7		8.8	64.5		m14.5	55.2	m1.5
Internal Link Dist (m)		127.2			51.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	195	430	455	250	429		325	1922		615	2160	1053
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.95	0.34	0.23	0.78	0.57		0.29	0.64		0.28	0.58	0.31

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 30 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 19.3

Intersection LOS: B

Intersection Capacity Utilization 81.7%

ICU Level of Service D

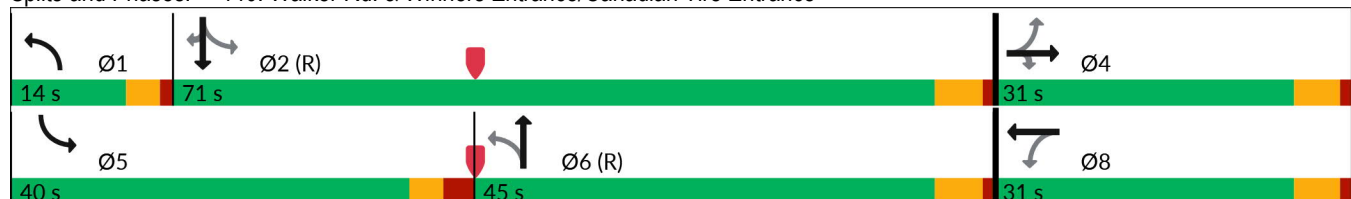
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Saturday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	38	1228	47	0	1477
Future Volume (Veh/h)	0	38	1228	47	0	1477
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	40	1306	50	0	1571
Pedestrians	1		2			
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.84	0.88			0.88	
vC, conflicting volume	2120	679			1357	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1305	360			1131	
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	93			100	
cM capacity (veh/h)	129	556			549	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	40	871	485	786	786	
Volume Left	0	0	0	0	0	
Volume Right	40	0	50	0	0	
cSH	556	1700	1700	1700	1700	
Volume to Capacity	0.07	0.51	0.29	0.46	0.46	
Queue Length 95th (m)	1.9	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	12.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	12.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.4%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1238	19	0	1477
Future Volume (Veh/h)	0	37	1238	19	0	1477
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	39	1317	20	0	1571
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised		Raised	
Median storage veh			1		1	
Upstream signal (m)			75		192	
pX, platoon unblocked	0.84	0.88			0.88	
vC, conflicting volume	2113	669			1337	
vC1, stage 1 conf vol	1327					
vC2, stage 2 conf vol	786					
vCu, unblocked vol	1273	340			1103	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	211	580			562	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	39	878	459	786	786	
Volume Left	0	0	0	0	0	
Volume Right	39	0	20	0	0	
cSH	580	1700	1700	1700	1700	
Volume to Capacity	0.07	0.52	0.27	0.46	0.46	
Queue Length 95th (m)	1.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.7	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.7	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			44.8%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	24	153	69	17	48	125	1138	51	62	1353	62
Future Volume (vph)	71	24	153	69	17	48	125	1138	51	62	1353	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.994			0.993	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1828	1615	1685	3400	0	1785	5034	0
Flt Permitted	0.689				0.752		0.135			0.229		
Satd. Flow (perm)	1255	1879	1594	0	1415	1581	239	3400	0	430	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			71		9			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		122.3			55.8			164.4			75.4	
Travel Time (s)		8.8			4.0			9.9			4.5	
Confl. Peds. (#/hr)	7		10	10		7	6		1	1		6
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
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	2%
Adj. Flow (vph)	73	25	158	71	18	49	129	1173	53	64	1395	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	25	158	0	89	49	129	1226	0	64	1459	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	18.0	84.0		66.0	66.0	
Total Split (%)	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	15.5%	72.4%		56.9%	56.9%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	12.5	79.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	7	7	7		1		6	6	
Act Effect Green (s)	15.5	15.5	15.5		15.5	15.5	90.0	90.5		77.0	77.0	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.78	0.78		0.66	0.66	
v/c Ratio	0.44	0.10	0.45		0.47	0.18	0.45	0.46		0.22	0.44	
Control Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	9.1	4.6		8.3	6.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	9.1	4.6		8.3	6.5	
LOS	D	D	B		D	A	A	A		A	A	
Approach Delay (s/veh)		25.5			36.1			5.0			6.6	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	16.6	5.4	0.0		20.4	0.0	4.2	31.0		2.1	17.3	
Queue Length 95th (m)	28.2	12.2	17.2		32.8	5.8	m13.2	m57.2		m14.1	109.0	
Internal Link Dist (m)		98.3			31.8			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	292	437	492		329	422	341	2655		285	3345	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.06	0.32		0.27	0.12	0.38	0.46		0.22	0.44	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay (s/veh): 8.7

Intersection LOS: A

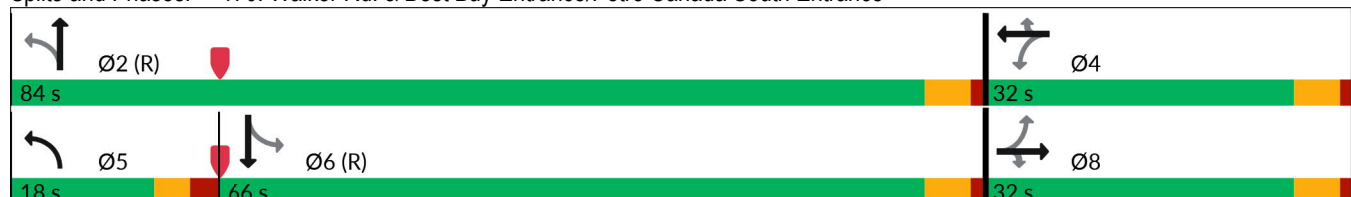
Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Saturday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	29	111	1210	99	73	1286
Future Volume (Veh/h)	29	111	1210	99	73	1286
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)	30	114	1247	102	75	1326
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.92	0.86			0.86	
vC, conflicting volume	2111	675			1349	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1332	288			1075	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	81			87	
cM capacity (veh/h)	118	613			563	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	114	831	518	517	884
Volume Left	30	0	0	0	75	0
Volume Right	0	114	0	102	0	0
cSH	118	613	1700	1700	563	1700
Volume to Capacity	0.25	0.19	0.49	0.30	0.13	0.52
Queue Length 95th (m)	7.5	5.4	0.0	0.0	3.7	0.0
Control Delay (s/veh)	45.7	12.2	0.0	0.0	3.7	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	19.2		0.0		1.4	
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			87.6%		ICU Level of Service	E
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Saturday Peak Hour
2030 Total Future Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	87	143	154	108	61	181	961	117	64	1136	115
Future Volume (vph)	288	87	143	154	108	61	181	961	117	64	1136	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		1.00	0.99			1.00		1.00		
Frt		0.907			0.946			0.984			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1747	0	1745	1788	0	1728	3636	0	1745	3524	0
Flt Permitted	0.538			0.418			0.102			0.250		
Satd. Flow (perm)	986	1747	0	767	1788	0	185	3636	0	459	3524	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			23			25			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		108.5			290.2			642.6			169.2	
Travel Time (s)		7.8			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	303	92	151	162	114	64	191	1012	123	67	1196	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	303	243	0	162	178	0	191	1135	0	67	1317	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	33.0	33.0		33.0	33.0		29.0	83.0		54.0	54.0	
Total Split (%)	28.4%	28.4%		28.4%	28.4%		25.0%	71.6%		46.6%	46.6%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	78.0		49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	1	1		2	2			2		0	0	
Act Effect Green (s)	28.0	28.0		28.0	28.0		79.0	78.0		61.1	61.1	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.68	0.67		0.53	0.53	
v/c Ratio	1.27	0.51		0.88	0.40		0.64	0.46		0.28	0.71	
Control Delay (s/veh)	188.9	31.6		84.0	35.0		23.5	9.5		13.1	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	188.9	31.6		84.0	35.0		23.5	9.5		13.1	13.2	
LOS	F	C		F	D		C	A		B	B	
Approach Delay (s/veh)		118.9			58.4			11.5			13.2	
Approach LOS		F			E			B			B	
Queue Length 50th (m)	~91.6	36.2		37.4	31.1		15.8	60.1		3.1	32.4	
Queue Length 95th (m)	#148.4	62.6		#78.9	52.7		39.6	74.1		11.2	75.5	
Internal Link Dist (m)		84.5			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	238	472		185	449		458	2453		241	1860	
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	1.27	0.51		0.88	0.40		0.42	0.46		0.28	0.71	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay (s/veh): 32.9

Intersection LOS: C

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

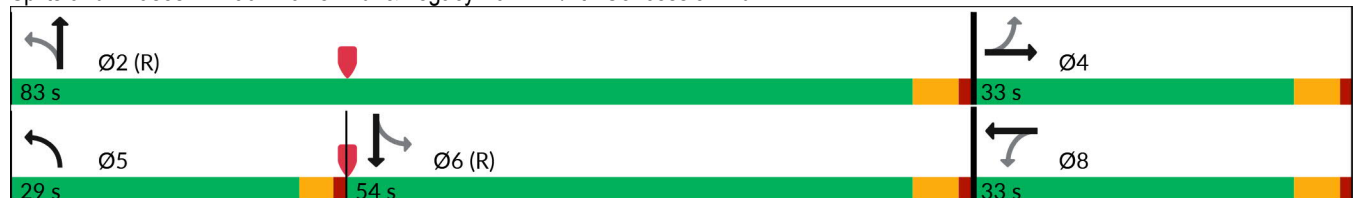
~ Volume exceeds capacity, queue is theoretically infinite.

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↓	↑
Traffic Volume (vph)	638	57	142	698	189	223
Future Volume (vph)	638	57	142	698	189	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1615	1787	3461	3190	1615
Flt Permitted			0.293		0.950	
Satd. Flow (perm)	3505	1591	551	3461	3190	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		65				253
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			311.4	940.8	
Travel Time (s)	31.8			22.4	67.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	1%	2%	11%	0%
Adj. Flow (vph)	725	65	161	793	215	253
Shared Lane Traffic (%)						
Lane Group Flow (vph)	725	65	161	793	215	253
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	58.0	58.0	22.0	80.0	40.0	40.0
Total Split (%)	48.3%	48.3%	18.3%	66.7%	33.3%	33.3%
Maximum Green (s)	52.0	52.0	18.0	74.0	34.0	34.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	60.1	60.1	76.0	74.0	34.0	34.0
Actuated g/C Ratio	0.50	0.50	0.63	0.62	0.28	0.28
v/c Ratio	0.41	0.08	0.36	0.37	0.24	0.40
Control Delay (s/veh)	20.0	4.3	11.2	12.1	33.9	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.0	4.3	11.2	12.1	33.9	6.0
LOS	C	A	B	B	C	A
Approach Delay (s/veh)	18.7			11.9	18.8	
Approach LOS	B			B	B	
Queue Length 50th (m)	57.5	0.0	14.9	48.1	21.1	0.0
Queue Length 95th (m)	74.5	7.3	23.7	58.7	30.9	18.0
Internal Link Dist (m)	417.3			287.4	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1756	829	534	2134	903	638
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	0.41	0.08	0.30	0.37	0.24	0.40

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay (s/veh): 15.8

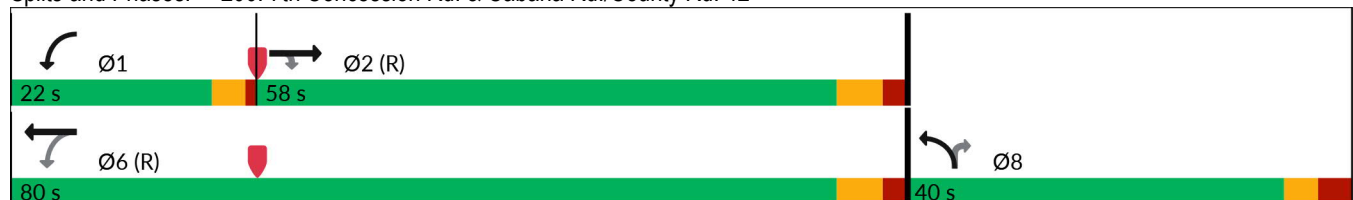
Intersection LOS: B

Intersection Capacity Utilization 51.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Saturday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	0	81	1409	10	65	1646
Future Volume (Veh/h)	0	81	1409	10	65	1646
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)	0	89	1548	11	71	1809
Pedestrians	1					
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)			85			116
pX, platoon unblocked	0.71	0.79			0.79	
vC, conflicting volume	2601	781			1560	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1128	202			1185	
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	86			85	
cM capacity (veh/h)	121	643			473	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	89	1032	527	71	905	905
Volume Left	0	0	0	71	0	0
Volume Right	89	0	11	0	0	0
cSH	643	1700	1700	473	1700	1700
Volume to Capacity	0.14	0.61	0.31	0.15	0.53	0.53
Queue Length 95th (m)	3.8	0.0	0.0	4.2	0.0	0.0
Control Delay (s/veh)	11.5	0.0	0.0	14.0	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.5	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			57.9%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	638	105	99	863	34	105
Future Volume (Veh/h)	638	105	99	863	34	105
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	693	114	108	938	37	114
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			807		1435	404
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			456		1185	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 %			89		74	88
cM capacity (veh/h)			962		141	940
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	462	345	108	469	469	151
Volume Left	0	0	108	0	0	37
Volume Right	0	114	0	0	0	114
cSH	1700	1700	962	1700	1700	394
Volume to Capacity	0.27	0.20	0.11	0.28	0.28	0.38
Queue Length 95th (m)	0.0	0.0	3.0	0.0	0.0	14.1
Control Delay (s/veh)	0.0	0.0	9.2	0.0	0.0	19.7
Lane LOS			A			C
Approach Delay (s/veh)	0.0	1.0				19.7
Approach LOS					C	
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			44.8%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	169	423	279	238	452	156	280	1006	137	167	1125	128
Future Volume (vph)	169	423	279	238	452	156	280	1006	137	167	1125	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.940			0.961			0.982			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3353	0	1767	3441	0	1745	3455	0	1728	3520	0
Flt Permitted	0.241			0.147			0.108			0.120		
Satd. Flow (perm)	451	3353	0	273	3441	0	198	3455	0	218	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		143			44			14			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			369.5	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	174	436	288	245	466	161	289	1037	141	172	1160	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	724	0	245	627	0	289	1178	0	172	1292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	36.0		17.0	36.0		19.0	36.0		19.0	36.0	
Total Split (%)	15.7%	33.3%		15.7%	33.3%		17.6%	33.3%		17.6%	33.3%	
Maximum Green (s)	13.0	30.0		13.0	30.0		15.0	30.0		15.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	39.4	25.9		42.0	27.2		54.0	37.8		46.7	33.2	
Actuated g/C Ratio	0.36	0.24		0.39	0.25		0.50	0.35		0.43	0.31	
v/c Ratio	0.57	0.79		0.87	0.70		0.88	0.97		0.68	1.19	
Control Delay (s/veh)	27.5	37.4		53.9	38.2		65.6	52.6		34.0	127.9	
Queue Delay	0.0	0.3		54.5	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	27.5	37.6		108.3	38.2		65.6	52.6		34.0	127.9	
LOS	C	D		F	D		E	D		C	F	
Approach Delay (s/veh)		35.7			57.9			55.2			116.9	
Approach LOS		D			E			E			F	
Queue Length 50th (m)	24.0	63.6		35.3	61.3		53.8	~89.2		21.1	~194.8	
Queue Length 95th (m)	37.4	83.1		#77.4	79.6		#106.5	#206.8		42.7	#239.0	
Internal Link Dist (m)		85.7			39.9			92.5			345.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	331	1034		286	987		333	1219		310	1089	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	43		70	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.73		1.13	0.64		0.87	0.97		0.55	1.19	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay (s/veh): 71.2

Intersection LOS: E

Intersection Capacity Utilization 101.9%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	11	138	44	19	88	182	1255	40	66	1425	124
Future Volume (vph)	54	11	138	44	19	88	182	1255	40	66	1425	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.921			0.995			0.988	
Flt Protected		0.960			0.986		0.950			0.950		
Satd. Flow (prot)	0	1748	1615	0	1679	0	1765	3588	0	1725	3527	0
Flt Permitted		0.502			0.878		0.076			0.199		
Satd. Flow (perm)	0	914	1593	0	1494	0	141	3588	0	361	3527	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		61			6			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		120.1			77.3			176.3			85.4	
Travel Time (s)		8.6			5.6			10.6			5.1	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	12	145	46	20	93	192	1321	42	69	1500	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	145	0	159	0	192	1363	0	69	1631	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		17.0	78.0		61.0	61.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		15.7%	72.2%		56.5%	56.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		13.0	73.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3		1	1	
Act Effect Green (s)		14.1	14.1		14.1		84.9	83.9		67.8	67.8	
Actuated g/C Ratio		0.13	0.13		0.13		0.79	0.78		0.63	0.63	
v/c Ratio		0.58	0.43		0.64		0.66	0.49		0.31	0.74	
Control Delay (s/veh)		62.5	10.8		38.7		18.3	11.7		8.3	11.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	1.7	
Total Delay (s/veh)		62.5	10.8		38.7		18.3	11.7		8.3	13.0	
LOS		E	B		D		B	B		A	B	
Approach Delay (s/veh)		27.4			38.7			12.5			12.8	
Approach LOS		C			D			B			B	
Queue Length 50th (m)		14.7	0.0		20.7		17.8	111.6		0.9	148.9	
Queue Length 95th (m)		28.4	17.0		40.7		m31.0	m137.3		m10.1	m165.9	
Internal Link Dist (m)		96.1			53.3			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		211	480		392		326	2789		226	2218	
Starvation Cap Reductn		0	0		0		0	0		0	391	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.33	0.30		0.41		0.59	0.49		0.31	0.89	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 106 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay (s/veh): 14.7

Intersection LOS: B

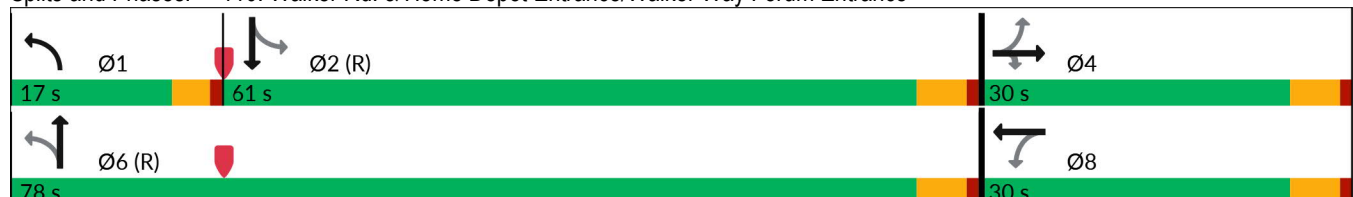
Intersection Capacity Utilization 80.6%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Sunday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	40	1416	19	60	1639
Future Volume (Veh/h)	4	40	1416	19	60	1639
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)	4	42	1475	20	63	1707
Pedestrians	1					
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)			183			176
pX, platoon unblocked	0.79	0.77			0.77	
vC, conflicting volume	2466	749			1496	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1020	78			1048	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	94			88	
cM capacity (veh/h)	164	750			508	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	983	512	63	854	854
Volume Left	4	0	0	63	0	0
Volume Right	42	0	20	0	0	0
cSH	572	1700	1700	508	1700	1700
Volume to Capacity	0.08	0.58	0.30	0.12	0.50	0.50
Queue Length 95th (m)	2.1	0.0	0.0	3.4	0.0	0.0
Control Delay (s/veh)	11.8	0.0	0.0	13.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.8	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			56.4%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Sunday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1374	15	4	1639
Future Volume (Veh/h)	0	61	1374	15	4	1639
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	64	1431	16	4	1707
Pedestrians	1		7			
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)			95			265
pX, platoon unblocked	0.81	0.72			0.72	
vC, conflicting volume	2309	725			1448	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	618	0			852	
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	92			99	
cM capacity (veh/h)	342	788			574	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	64	954	493	573	1138	
Volume Left	0	0	0	4	0	
Volume Right	64	0	16	0	0	
cSH	788	1700	1700	574	1700	
Volume to Capacity	0.08	0.56	0.29	0.00*	0.67	
Queue Length 95th (m)	2.1	0.0	0.0	0.2	0.0	
Control Delay (s/veh)	10.0	0.0	0.0	0.2	0.0	
Lane LOS	A			A		
Approach Delay (s/veh)	10.0	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			51.4%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	106	106	137	71	135	88	1019	90	169	1126	344
Future Volume (vph)	235	106	106	137	71	135	88	1019	90	169	1126	344
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor							1.00	1.00				0.98
Frt			0.850		0.902			0.988				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1714	0	1787	3567	0	1765	3690	1597
Flt Permitted	0.473			0.673			0.184			0.134		
Satd. Flow (perm)	1052	1921	1687	1279	1714	0	346	3567	0	249	3690	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		83			9				362
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		146.0			74.9			85.4			94.7	
Travel Time (s)		10.5			5.4			5.1			5.7	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	247	112	112	144	75	142	93	1073	95	178	1185	362
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	112	112	144	217	0	93	1168	0	178	1185	362
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		11.0	38.0		39.0	66.0	66.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%		10.2%	35.2%		36.1%	61.1%	61.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		7.0	33.0		33.5	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0			1			1	1
Act Effect Green (s)	26.0	26.0	26.0	26.0	26.0		63.7	56.0		70.7	63.2	63.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.59	0.52		0.65	0.59	0.59
v/c Ratio	0.98	0.24	0.23	0.47	0.46		0.32	0.63		0.57	0.55	0.34
Control Delay (s/veh)	93.1	34.8	7.0	41.0	24.7		7.0	13.2		16.7	11.5	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	93.1	34.8	7.0	41.0	24.7		7.0	13.2		16.7	11.5	3.0
LOS	F	C	A	D	C		A	B		B	B	A
Approach Delay (s/veh)		58.7			31.2			12.8			10.3	
Approach LOS		E			C			B			B	
Queue Length 50th (m)	54.5	20.1	0.0	27.4	24.6		4.3	73.2		7.7	117.9	16.9
Queue Length 95th (m)	#106.1	36.0	13.4	47.9	48.1		7.7	47.8		m15.4	56.4	6.9
Internal Link Dist (m)		122.0			50.9			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	253	462	494	307	475		298	1852		635	2161	1064
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.98	0.24	0.23	0.47	0.46		0.31	0.63		0.28	0.55	0.34

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 58 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay (s/veh): 19.1

Intersection LOS: B

Intersection Capacity Utilization 80.8%

ICU Level of Service D

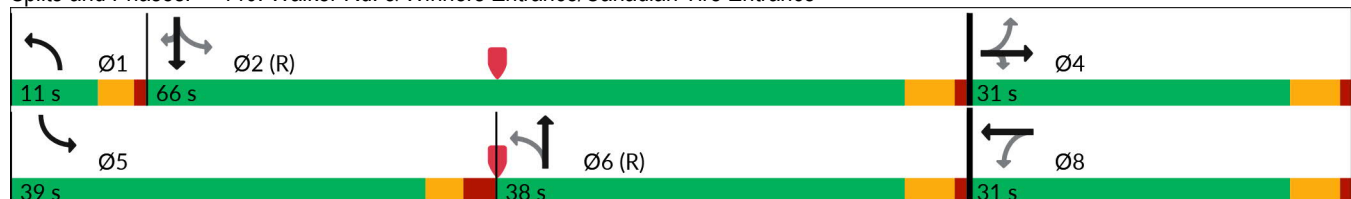
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Sunday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	33	1164	41	0	1369
Future Volume (Veh/h)	0	33	1164	41	0	1369
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	34	1212	43	0	1426
Pedestrians	1		2			1
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.85	0.88			0.88	
vC, conflicting volume	1950	630			1256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1153	315			1025	
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	94			100	
cM capacity (veh/h)	165	605			605	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	808	447	713	713	
Volume Left	0	0	0	0	0	
Volume Right	34	0	43	0	0	
cSH	605	1700	1700	1700	1700	
Volume to Capacity	0.06	0.48	0.26	0.42	0.42	
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.3	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.3	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			48.2%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	32	1173	19	0	1369
Future Volume (Veh/h)	0	32	1173	19	0	1369
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)	0	34	1235	20	0	1441
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised		Raised	
Median storage veh			1		1	
Upstream signal (m)			75		192	
pX, platoon unblocked	0.85	0.88			0.88	
vC, conflicting volume	1966	628			1255	
vC1, stage 1 conf vol	1245					
vC2, stage 2 conf vol	721					
vCu, unblocked vol	1146	302			1015	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			100	
cM capacity (veh/h)	238	616			608	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	823	432	721	721	
Volume Left	0	0	0	0	0	
Volume Right	34	0	20	0	0	
cSH	616	1700	1700	1700	1700	
Volume to Capacity	0.06	0.48	0.25	0.42	0.42	
Queue Length 95th (m)	1.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			43.0%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	14	174	64	14	34	144	1085	46	89	1224	56
Future Volume (vph)	73	14	174	64	14	34	144	1085	46	89	1224	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.994			0.993	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1745	1879	1651	0	1826	1615	1685	3465	0	1785	5037	0
Flt Permitted	0.704				0.755		0.152			0.237		
Satd. Flow (perm)	1283	1879	1619	0	1426	1582	269	3465	0	445	5037	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			76		8			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.7			62.9			164.4			75.4	
Travel Time (s)		8.0			4.5			9.9			4.5	
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	77	15	183	67	15	36	152	1142	48	94	1288	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	15	183	0	82	36	152	1190	0	94	1347	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	18.0	77.0		59.0	59.0	
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	28.7%	16.7%	71.3%		54.6%	54.6%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	12.5	72.0		54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	6	6	6	7	7	7		4		8	8	
Act Effect Green (s)	14.9	14.9	14.9		14.9	14.9	82.6	83.1		69.2	69.2	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.76	0.77		0.64	0.64	
v/c Ratio	0.44	0.06	0.48		0.42	0.13	0.48	0.45		0.33	0.42	
Control Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	10.2	4.3		8.7	4.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	10.2	4.3		8.7	4.8	
LOS	D	D	A		D	A	B	A		A	A	
Approach Delay (s/veh)		22.2			33.3			5.0			5.1	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	16.2	3.0	0.0		17.2	0.0	5.2	26.5		2.9	15.2	
Queue Length 95th (m)	27.4	8.2	17.4		28.5	1.4	m14.0	m50.2		26.2	46.2	
Internal Link Dist (m)		87.7			38.9			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	308	452	528		343	438	369	2669		285	3230	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.03	0.35		0.24	0.08	0.41	0.45		0.33	0.42	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 50 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay (s/veh): 7.6

Intersection LOS: A

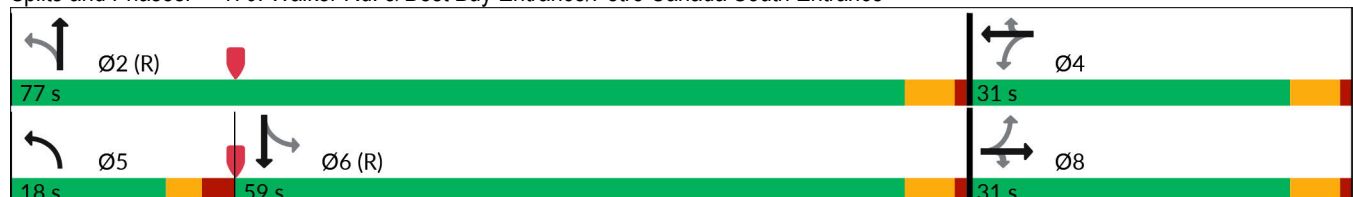
Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Sunday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	113	1196	81	74	1263
Future Volume (Veh/h)	43	113	1196	81	74	1263
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)	45	119	1259	85	78	1329
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.92	0.84			0.84	
vC, conflicting volume	2122	672			1344	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1296	233			1032	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	64	82			86	
cM capacity (veh/h)	124	652			573	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	45	119	839	505	521	886
Volume Left	45	0	0	0	78	0
Volume Right	0	119	0	85	0	0
cSH	124	652	1700	1700	573	1700
Volume to Capacity	0.36	0.18	0.49	0.30	0.14	0.52
Queue Length 95th (m)	11.9	5.3	0.0	0.0	3.8	0.0
Control Delay (s/veh)	49.7	11.7	0.0	0.0	3.8	0.0
Lane LOS	E	B			A	
Approach Delay (s/veh)	22.2		0.0		1.4	
Approach LOS	C					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			86.0%		ICU Level of Service	E
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Sunday Peak Hour
2030 Total Future Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	123	137	116	117	85	223	922	105	74	1105	127
Future Volume (vph)	270	123	137	116	117	85	223	922	105	74	1105	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00							1.00	
Frt		0.921			0.937			0.985			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1775	0	1745	1780	0	1728	3714	0	1745	3548	0
Flt Permitted	0.522			0.427			0.076			0.261		
Satd. Flow (perm)	959	1775	0	783	1780	0	138	3714	0	479	3548	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			34			21			14	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.8			290.2			642.6			169.2	
Travel Time (s)		8.2			20.9			38.6			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	287	131	146	123	124	90	237	981	112	79	1176	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	277	0	123	214	0	237	1093	0	79	1311	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		19.0	71.0		52.0	52.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		17.6%	65.7%		48.1%	48.1%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	66.0		47.0	47.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	2	2		0	0			0		1	1	
Act Effect Green (s)	32.0	32.0		32.0	32.0		67.0	66.0		48.5	48.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.62	0.61		0.45	0.45	
v/c Ratio	1.01	0.49		0.53	0.39		0.84	0.48		0.37	0.82	
Control Delay (s/veh)	95.4	28.5		41.6	27.7		50.0	12.2		27.8	28.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	95.4	28.5		41.6	27.7		50.0	12.2		27.8	28.2	
LOS	F	C		D	C		D	B		C	C	
Approach Delay (s/veh)		62.6			32.8			18.9			28.2	
Approach LOS		E			C			B			C	
Queue Length 50th (m)	~64.7	40.5		22.7	31.3		34.6	63.7		8.1	73.4	
Queue Length 95th (m)	#120.7	66.8		43.2	53.2		#73.1	79.3		21.0	119.5	
Internal Link Dist (m)		89.8			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	284	563		232	551		306	2277		215	1602	
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	1.01	0.49		0.53	0.39		0.77	0.48		0.37	0.82	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 39 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay (s/veh): 30.6

Intersection LOS: C

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

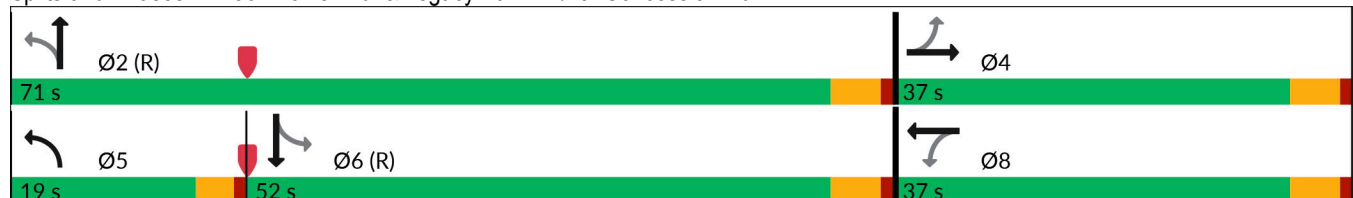
~ Volume exceeds capacity, queue is theoretically infinite.

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	644	54	124	609	226	204
Future Volume (vph)	644	54	124	609	226	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1615	1805	3495	3404	1615
Flt Permitted			0.311		0.950	
Satd. Flow (perm)	3539	1615	591	3495	3404	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		57				217
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			314.3	940.8	
Travel Time (s)	31.8			22.6	67.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	0%	1%	4%	0%
Adj. Flow (vph)	685	57	132	648	240	217
Shared Lane Traffic (%)						
Lane Group Flow (vph)	685	57	132	648	240	217
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	60.0	60.0	19.0	79.0	41.0	41.0
Total Split (%)	50.0%	50.0%	15.8%	65.8%	34.2%	34.2%
Maximum Green (s)	54.0	54.0	15.0	73.0	35.0	35.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	59.9	59.9	75.0	73.0	35.0	35.0
Actuated g/C Ratio	0.50	0.50	0.63	0.61	0.29	0.29
v/c Ratio	0.39	0.07	0.29	0.30	0.24	0.35
Control Delay (s/veh)	19.7	4.5	10.8	11.8	33.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.7	4.5	10.8	11.8	33.2	5.8
LOS	B	A	B	B	C	A
Approach Delay (s/veh)	18.6			11.6	20.2	
Approach LOS	B			B	C	
Queue Length 50th (m)	53.7	0.0	12.3	38.1	23.4	0.0
Queue Length 95th (m)	71.6	7.3	20.8	48.9	34.3	18.3
Internal Link Dist (m)	417.3			290.3	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1766	834	521	2126	992	624
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	0.39	0.07	0.25	0.30	0.24	0.35

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay (s/veh): 16.2

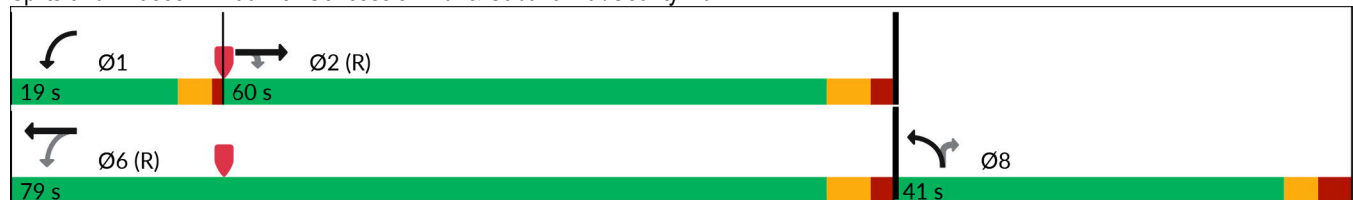
Intersection LOS: B

Intersection Capacity Utilization 46.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Sunday Peak Hour
2030 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	0	39	1384	13	27	1615
Future Volume (Veh/h)	0	39	1384	13	27	1615
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	39	1384	13	27	1615
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)			85			116
pX, platoon unblocked	0.77	0.86			0.86	
vC, conflicting volume	2254	701			1399	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1219	332			1143	
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	93			95	
cM capacity (veh/h)	128	576			533	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	39	923	474	27	808	808
Volume Left	0	0	0	27	0	0
Volume Right	39	0	13	0	0	0
cSH	576	1700	1700	533	1700	1700
Volume to Capacity	0.07	0.54	0.28	0.05	0.48	0.48
Queue Length 95th (m)	1.7	0.0	0.0	1.3	0.0	0.0
Control Delay (s/veh)	11.7	0.0	0.0	12.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.7	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			54.6%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	688	55	42	834	32	54
Future Volume (Veh/h)	688	55	42	834	32	54
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	748	60	46	907	35	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			808		1324	404
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			716		1253	295
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		77	91
cM capacity (veh/h)			858		152	679
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	499	309	46	454	454	94
Volume Left	0	0	46	0	0	35
Volume Right	0	60	0	0	0	59
cSH	1700	1700	858	1700	1700	296
Volume to Capacity	0.29	0.18	0.05	0.27	0.27	0.32
Queue Length 95th (m)	0.0	0.0	1.4	0.0	0.0	10.6
Control Delay (s/veh)	0.0	0.0	9.4	0.0	0.0	22.7
Lane LOS			A			C
Approach Delay (s/veh)	0.0		0.5			22.7
Approach LOS						C
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			39.2%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	844	114	212	521	177	96	1131	70	577	969	133
Future Volume (vph)	321	844	114	212	521	177	96	1131	70	577	969	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.982			0.962			0.991			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	3306	0	1566	3097	0	1601	3219	0	1601	3292	0
Flt Permitted	0.168			0.129			0.125			0.120		
Satd. Flow (perm)	306	3306	0	213	3097	0	211	3219	0	202	3292	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			46			6			15	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			64.9			116.5			358.7	
Travel Time (s)		7.9			4.7			7.0			21.5	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	353	927	125	233	573	195	105	1243	77	634	1065	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	1052	0	233	768	0	105	1320	0	634	1211	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	15.0	40.0		12.0	37.0		14.0	38.0		14.0	38.0	
Total Split (%)	14.4%	38.5%		11.5%	35.6%		13.5%	36.5%		13.5%	36.5%	
Maximum Green (s)	11.0	34.0		8.0	31.0		10.0	32.0		10.0	32.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	47.0	34.0		41.0	31.0		42.8	32.0		45.2	33.2	
Actuated g/C Ratio	0.45	0.33		0.39	0.30		0.41	0.31		0.43	0.32	
v/c Ratio	1.22	0.97		1.24	0.80		0.52	1.33		2.86	1.14	
Control Delay (s/veh)	149.3	54.7		168.9	39.2		30.8	180.6		866.2	108.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	149.3	54.7		168.9	39.2		30.8	180.6		866.2	108.6	
LOS	F	D		F	D		C	F		F	F	
Approach Delay (s/veh)		78.5			69.4			169.5			368.9	
Approach LOS		E			E			F			F	
Queue Length 50th (m)	~68.8	113.7		~46.6	74.7		5.7	~191.6		~220.9	~161.0	
Queue Length 95th (m)	#127.2	#159.3		#96.5	98.9		26.3	#232.4		#292.1	#206.7	
Internal Link Dist (m)		85.7			40.9			92.5			334.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	289	1090		188	955		222	994		222	1061	
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	1.22	0.97		1.24	0.80		0.47	1.33		2.86	1.14	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.86

Intersection Signal Delay (s/veh): 194.2

Intersection LOS: F

Intersection Capacity Utilization 121.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	8	23	19	4	29	52	1249	27	42	1187	46
Future Volume (vph)	13	8	23	19	4	29	52	1249	27	42	1187	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.925			0.997			0.994	
Flt Protected		0.970			0.982		0.950			0.950		
Satd. Flow (prot)	0	1843	1482	0	1257	0	1697	3306	0	1597	3328	0
Flt Permitted		0.855			0.875		0.138			0.173		
Satd. Flow (perm)	0	1624	1462	0	1119	0	247	3306	0	291	3328	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		34			4			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.5			74.7			176.3			85.4	
Travel Time (s)		8.0			5.4			10.6			5.1	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	9	27	22	5	34	60	1452	31	49	1380	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	27	0	61	0	60	1483	0	49	1433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.2	12.2		12.2		85.8	85.8		77.4	77.4	
Actuated g/C Ratio		0.12	0.12		0.12		0.83	0.83		0.74	0.74	
v/c Ratio		0.13	0.12		0.38		0.20	0.54		0.23	0.58	
Control Delay (s/veh)		40.7	1.8		28.6		2.1	3.1		3.5	3.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.3	
Total Delay (s/veh)		40.7	1.8		28.6		2.1	3.1		3.5	3.9	
LOS		D	A		C		A	A		A	A	
Approach Delay (s/veh)		20.1			28.6			3.1			3.9	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.8	0.0		5.4		1.2	54.0		0.0	24.5	
Queue Length 95th (m)		11.0	0.5		15.8		m0.3	3.0		m0.0	m25.3	
Internal Link Dist (m)		87.5			50.7			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		468	466		346		371	2728		216	2476	
Starvation Cap Reductn		0	0		0		0	0		0	443	
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	0.06		0.18		0.16	0.54		0.23	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay (s/veh): 4.2

Intersection LOS: A

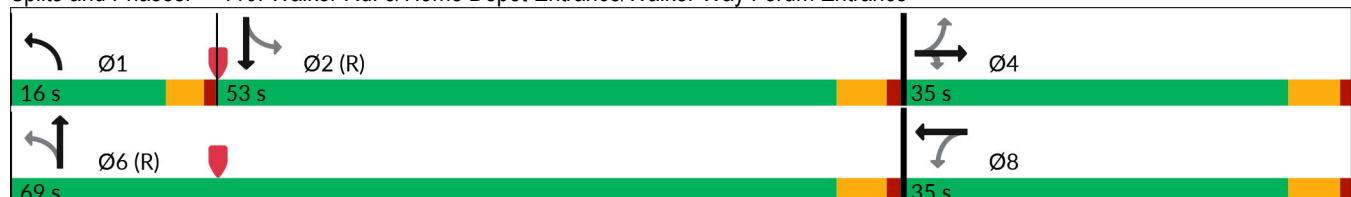
Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

AM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	4	1320	10	18	1246
Future Volume (Veh/h)	0	4	1320	10	18	1246
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	4	1483	11	20	1400
Pedestrians	3					1
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)			183			176
pX, platoon unblocked	0.85	0.75			0.75	
vC, conflicting volume	2232	751			1497	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	976	0			990	
tC, single (s)	6.8	6.9			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	100	100			96	
cM capacity (veh/h)	206	813			500	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	4	989	505	20	700	700
Volume Left	0	0	0	20	0	0
Volume Right	4	0	11	0	0	0
cSH	813	1700	1700	500	1700	1700
Volume to Capacity	0.00*	0.58	0.30	0.04	0.41	0.41
Queue Length 95th (m)	0.1	0.0	0.0	1.0	0.0	0.0
Control Delay (s/veh)	9.4	0.0	0.0	12.5	0.0	0.0
Lane LOS	A			B		
Approach Delay (s/veh)	9.4	0.0		0.2		
Approach LOS	A					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			47.1%		ICU Level of Service	A
Analysis Period (min)			15			

* Value less than 0.01.

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

AM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1321	2	0	1244
Future Volume (Veh/h)	0	8	1321	2	0	1244
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	9	1484	2	0	1398
Pedestrians	1					
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)			95			265
pX, platoon unblocked	0.86	0.75			0.75	
vC, conflicting volume	2185	744			1487	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	927	0			979	
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	99			100	
cM capacity (veh/h)	232	816			533	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	989	497	699	699	
Volume Left	0	0	0	0	0	
Volume Right	9	0	2	0	0	
cSH	816	1700	1700	1700	1700	
Volume to Capacity	0.01	0.58	0.29	0.41	0.41	
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	9.5	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s/veh)	9.5	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			46.6%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	22	12	21	15	22	26	1259	34	58	1088	98
Future Volume (vph)	42	22	12	21	15	22	26	1259	34	58	1088	98
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor			0.99	1.00			1.00	1.00				0.98
Frt			0.850		0.911			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1975	1921	1562	1805	1731	0	1805	3282	0	1765	3295	1536
Flt Permitted	0.730			0.741			0.199			0.126		
Satd. Flow (perm)	1518	1921	1541	1406	1731	0	378	3282	0	234	3295	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		25			4				111
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.1			83.4			85.4			94.7	
Travel Time (s)		10.6			6.0			5.1			5.7	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	0%	8%	0%	0%	0%	0%	11%	0%	0%	12%	4%
Adj. Flow (vph)	48	25	14	24	17	25	30	1431	39	66	1236	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	25	14	24	42	0	30	1470	0	66	1236	111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0		11.0	61.0		11.0	61.0	61.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%		10.6%	58.7%		10.6%	58.7%	58.7%
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		7.0	56.0		5.5	56.0	56.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	1
Act Effect Green (s)	13.4	13.4	13.4	13.4	13.4		80.1	75.1		80.8	78.4	78.4
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13		0.77	0.72		0.78	0.75	0.75
v/c Ratio	0.25	0.10	0.05	0.13	0.17		0.08	0.62		0.24	0.50	0.10
Control Delay (s/veh)	41.5	37.8	0.3	38.8	21.4		3.9	7.4		7.0	14.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.5	37.8	0.3	38.8	21.4		3.9	7.4		7.0	14.7	5.3
LOS	D	D	A	D	C		A	A		A	B	A
Approach Delay (s/veh)		33.8			27.7			7.3			13.6	
Approach LOS		C			C			A			B	
Queue Length 50th (m)	9.7	5.0	0.0	4.8	3.4		0.8	37.4		0.3	107.7	3.3
Queue Length 95th (m)	17.3	10.6	0.0	10.4	11.2		m2.8	50.1		m13.3	167.6	21.9
Internal Link Dist (m)		123.1			59.4			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	394	498	458	365	467		389	2372		273	2484	1159
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.12	0.05	0.03	0.07	0.09		0.08	0.62		0.24	0.50	0.10

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 69 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay (s/veh): 11.4

Intersection LOS: B

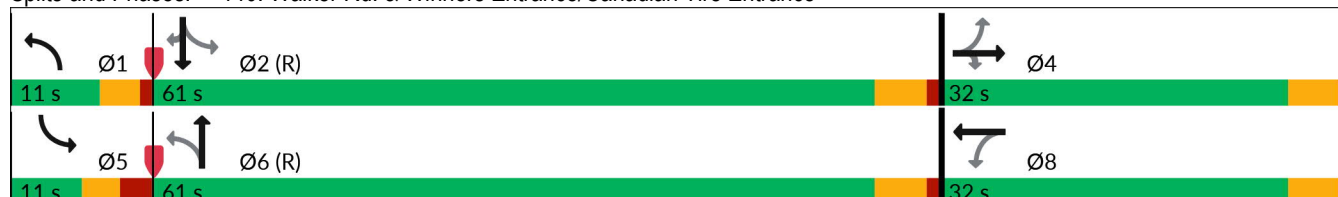
Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

AM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	8	1312	5	0	1121
Future Volume (Veh/h)	0	8	1312	5	0	1121
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	9	1508	6	0	1289
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.90	0.82			0.82	
vC, conflicting volume	2156	757			1514	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1223	264			1188	
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	99			100	
cM capacity (veh/h)	158	607			488	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	9	1005	509	645	645	
Volume Left	0	0	0	0	0	
Volume Right	9	0	6	0	0	
cSH	607	1700	1700	1700	1700	
Volume to Capacity	0.01	0.59	0.30	0.38	0.38	
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			46.4%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1302	6	0	1121
Future Volume (Veh/h)	0	15	1302	6	0	1121
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	17	1463	7	0	1260
Pedestrians	1					
Lane Width (m)	4.8					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.90	0.82			0.82	
vC, conflicting volume	2098	736			1471	
vC1, stage 1 conf vol	1468					
vC2, stage 2 conf vol	630					
vCu, unblocked vol	1167	235			1133	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.4			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	201	615			511	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	17	975	495	630	630	
Volume Left	0	0	0	0	0	
Volume Right	17	0	7	0	0	
cSH	615	1700	1700	1700	1700	
Volume to Capacity	0.03	0.57	0.29	0.37	0.37	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			46.2%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	5	62	15	4	4	70	1274	27	16	1076	29
Future Volume (vph)	30	5	62	15	4	4	70	1274	27	16	1076	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	1.00					0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.997			0.996	
Flt Protected	0.950				0.963		0.950			0.950		
Satd. Flow (prot)	1694	1879	1619	0	1830	1615	1668	3167	0	1785	4612	0
Flt Permitted	0.743				0.804		0.179			0.175		
Satd. Flow (perm)	1319	1879	1619	0	1528	1588	314	3167	0	329	4612	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79			79		4			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		117.3			55.6			164.4			75.4	
Travel Time (s)		8.4			4.0			9.9			4.5	
Confl. Peds. (#/hr)	4					4	1		1	1		1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	1%	10%	0%	0%	11%	0%
Adj. Flow (vph)	34	6	70	17	5	5	80	1448	31	18	1223	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	6	70	0	22	5	80	1479	0	18	1256	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	72.0		61.0	61.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%	10.6%	69.2%		58.7%	58.7%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	5.5	67.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	4	4	4		1		1	1	
Act Effect Green (s)	13.5	13.5	13.5		13.5	13.5	83.0	84.5		75.1	75.1	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.80	0.81		0.72	0.72	
v/c Ratio	0.20	0.02	0.25		0.11	0.02	0.24	0.57		0.08	0.38	
Control Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	3.4	2.5		4.4	4.0	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.5	35.2	8.8		37.9	0.0	3.4	2.5		4.4	4.0	
LOS	D	D	A		D	A	A	A		A	A	
Approach Delay (s/veh)		20.0			30.9			2.6			4.0	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	6.8	1.2	0.0		4.4	0.0	1.8	17.1		0.7	18.9	
Queue Length 95th (m)	13.3	4.2	8.8		9.7	0.0	m3.2	22.8		m0.7	9.0	
Internal Link Dist (m)		93.3			31.6			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	342	487	478		396	470	331	2574		237	3333	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.10	0.01	0.15		0.06	0.01	0.24	0.57		0.08	0.38	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 73 (70%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay (s/veh): 4.1

Intersection LOS: A

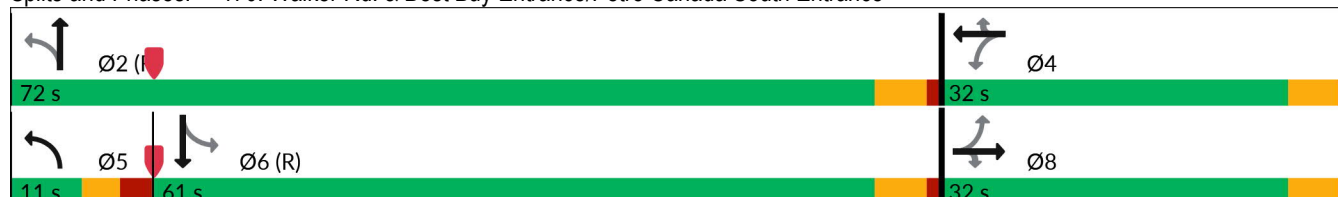
Intersection Capacity Utilization 67.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	25	1367	38	14	1095
Future Volume (Veh/h)	15	25	1367	38	14	1095
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	17	28	1519	42	16	1217
Pedestrians						1
Lane Width (m)						3.7
Walking Speed (m/s)						1.2
Percent Blockage						0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.80	0.73			0.73	
vC, conflicting volume	2181	782			1561	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1225	0			1037	
tC, single (s)	6.8	7.0			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	96			97	
cM capacity (veh/h)	135	789			497	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	17	28	1013	548	422	811
Volume Left	17	0	0	0	16	0
Volume Right	0	28	0	42	0	0
cSH	135	789	1700	1700	497	1700
Volume to Capacity	0.13	0.04	0.60	0.32	0.03	0.48
Queue Length 95th (m)	3.4	0.9	0.0	0.0	0.8	0.0
Control Delay (s/veh)	35.6	9.7	0.0	0.0	1.0	0.0
Lane LOS	E	A			A	
Approach Delay (s/veh)	19.5		0.0		0.3	
Approach LOS	C					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	18	15	143	49	52	48	1318	229	30	1055	25
Future Volume (vph)	34	18	15	143	49	52	48	1318	229	30	1055	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		0.99	0.99						1.00	
Frt		0.933			0.923			0.978			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1678	1661	0	1662	1742	0	1694	3438	0	1616	3248	0
Flt Permitted	0.664			0.734			0.171			0.112		
Satd. Flow (perm)	1171	1661	0	1270	1742	0	305	3438	0	190	3248	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			49			39			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			290.2			642.6			169.2	
Travel Time (s)		8.4			20.9			38.6			10.2	
Confl. Peds. (#/hr)	1		9	9		1	1					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
Heavy Vehicles (%)	4%	0%	18%	5%	0%	0%	3%	8%	3%	8%	11%	0%
Adj. Flow (vph)	37	20	16	157	54	57	53	1448	252	33	1159	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	36	0	157	111	0	53	1700	0	33	1186	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	31.0	31.0		31.0	31.0		24.0	73.0		49.0	49.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		23.1%	70.2%		47.1%	47.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		20.0	68.0		44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	9	9		1	1			0		1	1	
Act Effect Green (s)	18.9	18.9		18.9	18.9		76.1	75.1		66.2	66.2	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.73	0.72		0.64	0.64	
v/c Ratio	0.17	0.11		0.68	0.31		0.17	0.68		0.28	0.57	
Control Delay (s/veh)	35.4	21.9		54.0	22.2		6.1	10.3		23.1	13.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.4	21.9		54.0	22.2		6.1	10.3		23.1	13.4	
LOS	D	C		D	C		A	B		C	B	
Approach Delay (s/veh)		28.8			40.8			10.2			13.7	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	6.7	3.6		31.5	11.3		2.7	88.0		1.2	24.7	
Queue Length 95th (m)	14.8	11.5		49.8	25.0		7.7	143.4		13.4	120.6	
Internal Link Dist (m)		92.1			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	292	427		317	472		490	2494		120	2067	
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	0.13	0.08		0.50	0.24		0.11	0.68		0.28	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 70 (67%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay (s/veh): 14.4

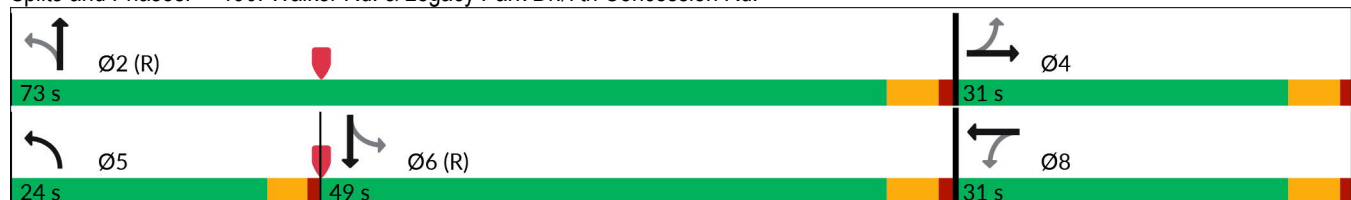
Intersection LOS: B

Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1241	196	137	705	175	114
Future Volume (vph)	1241	196	137	705	175	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3167	1615	1787	3096	3404	1482
Flt Permitted			0.126		0.950	
Satd. Flow (perm)	3167	1615	237	3096	3404	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		211				123
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			315.0	940.8	
Travel Time (s)	31.8			22.7	67.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	14%	0%	1%	14%	4%	9%
Adj. Flow (vph)	1334	211	147	758	188	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1334	211	147	758	188	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	75.0	75.0	15.0	90.0	30.0	30.0
Total Split (%)	62.5%	62.5%	12.5%	75.0%	25.0%	25.0%
Maximum Green (s)	69.0	69.0	11.0	84.0	24.0	24.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	71.3	71.3	86.0	84.0	24.0	24.0
Actuated g/C Ratio	0.59	0.59	0.72	0.70	0.20	0.20
v/c Ratio	0.71	0.20	0.52	0.35	0.28	0.31
Control Delay (s/veh)	19.9	2.0	12.1	7.7	41.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.9	2.0	12.1	7.7	41.9	9.3
LOS	B	A	B	A	D	A
Approach Delay (s/veh)	17.5			8.4	29.0	
Approach LOS	B			A	C	
Queue Length 50th (m)	114.4	0.0	10.0	35.2	20.5	0.0
Queue Length 95th (m)	149.2	10.3	16.4	44.9	31.5	16.5
Internal Link Dist (m)	417.3			291.0	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1882	1045	311	2167	680	394
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	0.71	0.20	0.47	0.35	0.28	0.31

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay (s/veh): 15.8

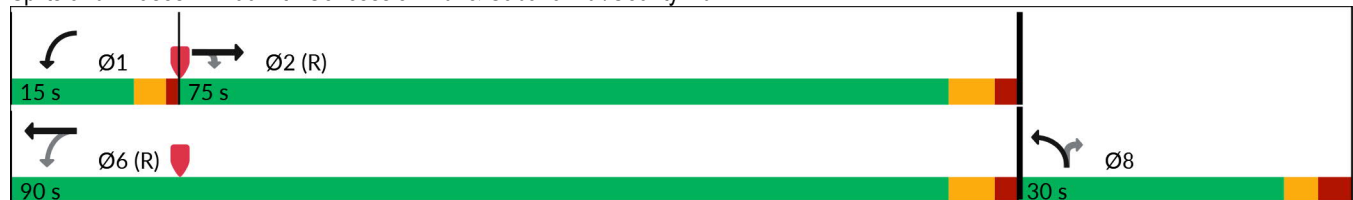
Intersection LOS: B

Intersection Capacity Utilization 63.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

AM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	31	1266	5	20	1276
Future Volume (Veh/h)	1	31	1266	5	20	1276
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	1	35	1422	6	22	1434
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)			85			116
pX, platoon unblocked	0.77	0.84			0.84	
vC, conflicting volume	2190	718			1432	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026	292			1139	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			96	
cM capacity (veh/h)	172	597			521	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	36	948	480	22	717	717
Volume Left	1	0	0	22	0	0
Volume Right	35	0	6	0	0	0
cSH	558	1700	1700	521	1700	1700
Volume to Capacity	0.06	0.56	0.28	0.04	0.42	0.42
Queue Length 95th (m)	1.6	0.0	0.0	1.1	0.0	0.0
Control Delay (s/veh)	11.9	0.0	0.0	12.2	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.9	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			45.3%		ICU Level of Service	A
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1460	30	25	902	8	28
Future Volume (Veh/h)	1460	30	25	902	8	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1587	33	27	980	9	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.71		0.71	0.71
vC, conflicting volume			1620		2148	810
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1063		1803	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 %			94		81	96
cM capacity (veh/h)			472		49	777
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	1058	562	27	490	490	39
Volume Left	0	0	27	0	0	9
Volume Right	0	33	0	0	0	30
cSH	1700	1700	472	1700	1700	174
Volume to Capacity	0.62	0.33	0.06	0.29	0.29	0.22
Queue Length 95th (m)	0.0	0.0	1.4	0.0	0.0	6.6
Control Delay (s/veh)	0.0	0.0	13.1	0.0	0.0	31.5
Lane LOS			B			D
Approach Delay (s/veh)	0.0		0.4			31.5
Approach LOS						D
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			51.3%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	684	281	261	1218	393	307	1488	290	367	1531	131
Future Volume (vph)	241	684	281	261	1218	393	307	1488	290	367	1531	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.956			0.963			0.976			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	3403	0	1684	3357	0	1728	3331	0	1601	3480	0
Flt Permitted	0.129			0.129			0.105			0.103		
Satd. Flow (perm)	233	3403	0	229	3357	0	191	3331	0	174	3480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			35			20			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			362.9	
Travel Time (s)		7.9			4.6			7.0			21.8	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	251	713	293	272	1269	409	320	1550	302	382	1595	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	1006	0	272	1678	0	320	1852	0	382	1731	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	46.0	31.0		46.0	31.0		57.0	38.0		59.0	39.0	
Actuated g/C Ratio	0.38	0.26		0.38	0.26		0.48	0.32		0.49	0.33	
v/c Ratio	1.01	1.10		1.11	1.88		1.04	1.73		1.28	1.52	
Control Delay (s/veh)	90.6	100.1		122.0	425.4		90.9	360.4		179.1	271.1	
Queue Delay	0.0	0.7		2.1	0.0		0.0	0.0		0.0	1.8	
Total Delay (s/veh)	90.6	100.9		124.2	425.4		90.9	360.4		179.1	272.9	
LOS	F	F		F	F		F	F		F	F	
Approach Delay (s/veh)		98.8			383.4			320.7			255.9	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~46.4	~143.9		~62.6	~329.4		~69.7	~354.7		~104.7	~317.6	
Queue Length 95th (m)	#102.5	#187.3		m#109.4	#376.3		m#119.8	#401.4		#167.6	#362.9	
Internal Link Dist (m)		85.7			39.9			92.5			338.9	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	249	916		245	893		308	1068		299	1136	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	3		34	0		0	0		0	344	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.01	1.10		1.29	1.88		1.04	1.73		1.28	2.19	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.88

Intersection Signal Delay (s/veh): 281.5

Intersection LOS: F

Intersection Capacity Utilization 147.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

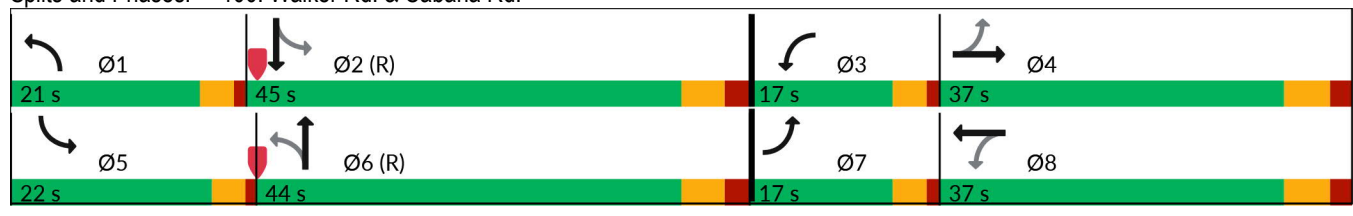
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	19	81	84	16	167	107	1817	81	102	1840	97
Future Volume (vph)	57	19	81	84	16	167	107	1817	81	102	1840	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00			1.00	
Frt			0.850		0.916			0.994			0.992	
Flt Protected		0.964			0.984		0.950			0.950		
Satd. Flow (prot)	0	1832	1615	0	1713	0	1765	3483	0	1725	3478	0
Flt Permitted		0.526			0.865		0.052			0.068		
Satd. Flow (perm)	0	999	1584	0	1502	0	97	3483	0	123	3478	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		25			8			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			77.6			176.3			85.4	
Travel Time (s)		8.4			5.6			10.6			5.1	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	19	83	86	16	170	109	1854	83	104	1878	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	83	0	272	0	109	1937	0	104	1977	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	85.0		66.0	66.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		15.8%	70.8%		55.0%	55.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	80.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3		1	1	
Act Effect Green (s)		24.9	24.9		24.9		86.1	85.1		72.4	72.4	
Actuated g/C Ratio		0.21	0.21		0.21		0.72	0.71		0.60	0.60	
v/c Ratio		0.37	0.21		0.82		0.57	0.78		1.41	0.94	
Control Delay (s/veh)		44.7	8.8		60.6		21.8	23.9		215.2	18.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	44.8	
Total Delay (s/veh)		44.7	8.8		60.6		21.8	23.9		215.2	62.8	
LOS		D	A		E		C	C		F	E	
Approach Delay (s/veh)		26.1			60.6			23.8			70.4	
Approach LOS		C			E			C			E	
Queue Length 50th (m)		16.3	0.0		58.6		15.7	202.7		~35.5	261.7	
Queue Length 95th (m)		30.4	12.9		87.9		m21.0	257.6		m#13.7	m172.5	
Internal Link Dist (m)		92.1			53.6			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		249	458		394		278	2471		74	2100	
Starvation Cap Reductn		0	0		0		0	0		0	480	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.31	0.18		0.69		0.39	0.78		1.41	1.22	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 102 (85%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.41

Intersection Signal Delay (s/veh): 47.3

Intersection LOS: D

Intersection Capacity Utilization 96.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

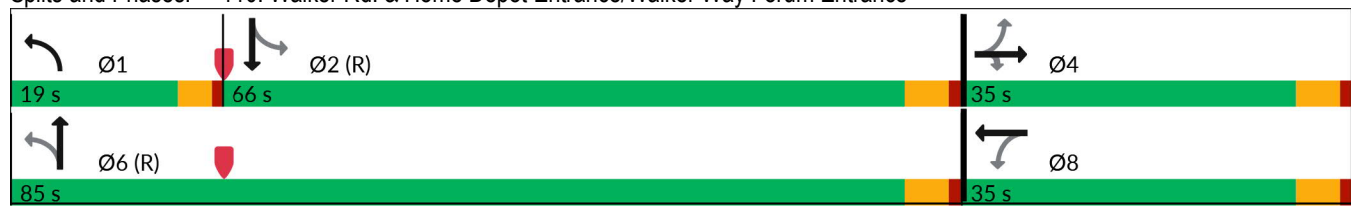
Queue shown is maximum after two cycles.

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: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

PM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	2	25	1991	29	52	2016
Future Volume (Veh/h)	2	25	1991	29	52	2016
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	2	26	2032	30	53	2057
Pedestrians	3					2
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)			183			176
pX, platoon unblocked	0.69	0.52			0.52	
vC, conflicting volume	3185	1036			2065	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	131	0			1207	
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	95			83	
cM capacity (veh/h)	484	566			304	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1355	707	53	1029	1029
Volume Left	2	0	0	53	0	0
Volume Right	26	0	30	0	0	0
cSH	560	1700	1700	304	1700	1700
Volume to Capacity	0.05	0.80	0.42	0.17	0.61	0.61
Queue Length 95th (m)	1.3	0.0	0.0	5.0	0.0	0.0
Control Delay (s/veh)	11.8	0.0	0.0	19.3	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	11.8	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			66.6%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

PM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	44	1971	10	1	2034
Future Volume (Veh/h)	1	44	1971	10	1	2034
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Hourly flow rate (vph)	1	44	1991	10	1	2055
Pedestrians	3		2			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)			95			265
pX, platoon unblocked	0.68	0.52			0.52	
vC, conflicting volume	3031	1006			2004	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			1076	
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	92			100	
cM capacity (veh/h)	690	562			339	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	45	1327	674	686	1370	
Volume Left	1	0	0	1	0	
Volume Right	44	0	10	0	0	
cSH	565	1700	1700	339	1700	
Volume to Capacity	0.08	0.78	0.40	0.00*	0.81	
Queue Length 95th (m)	2.1	0.0	0.0	0.1	0.0	
Control Delay (s/veh)	11.9	0.0	0.0	0.1	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	11.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	69	101	156	59	104	72	1715	92	154	1585	295
Future Volume (vph)	162	69	101	156	59	104	72	1715	92	154	1585	295
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	0.99		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.904			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2092	1921	1638	1805	1693	0	1752	3485	0	1765	3583	1566
Flt Permitted	0.498			0.711			0.094			0.052		
Satd. Flow (perm)	1088	1921	1611	1346	1693	0	173	3485	0	97	3583	1528
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		67			5				280
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		147.4			79.3			85.4			94.7	
Travel Time (s)		10.6			5.7			5.1			5.7	
Confl. Peds. (#/hr)	8		3	3		8	2		1	1		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
Heavy Vehicles (%)	1%	0%	3%	0%	0%	0%	3%	4%	0%	0%	3%	2%
Adj. Flow (vph)	167	71	104	161	61	107	74	1768	95	159	1634	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	71	104	161	168	0	74	1863	0	159	1634	304
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	50.0		39.0	75.0	75.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		11.7%	41.7%		32.5%	62.5%	62.5%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	45.0		33.5	70.0	70.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	8	8			1			2	2
Act Effect Green (s)	21.8	21.8	21.8	21.8	21.8		80.4	72.1		86.9	78.9	78.9
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.67	0.60		0.72	0.66	0.66
v/c Ratio	0.85	0.20	0.28	0.66	0.46		0.35	0.89		0.73	0.69	0.28
Control Delay (s/veh)	81.0	41.5	9.1	58.2	29.3		11.8	29.8		53.7	5.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	81.0	41.5	9.1	58.2	29.3		11.8	29.8		53.7	5.1	0.4
LOS	F	D	A	E	C		B	C		D	A	A
Approach Delay (s/veh)		50.9			43.4			29.1			8.1	
Approach LOS		D			D			C			A	
Queue Length 50th (m)	39.8	14.9	0.0	36.9	21.7		6.7	199.2		22.8	59.8	0.5
Queue Length 95th (m)	#70.7	27.8	14.5	59.5	42.7		m9.9	#301.1		m28.5	m38.4	m0.0
Internal Link Dist (m)		123.4			55.3			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	235	416	431	291	419		251	2096		536	2355	1100
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.71	0.17	0.24	0.55	0.40		0.29	0.89		0.30	0.69	0.28

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay (s/veh): 22.3

Intersection LOS: C

Intersection Capacity Utilization 97.0%

ICU Level of Service F

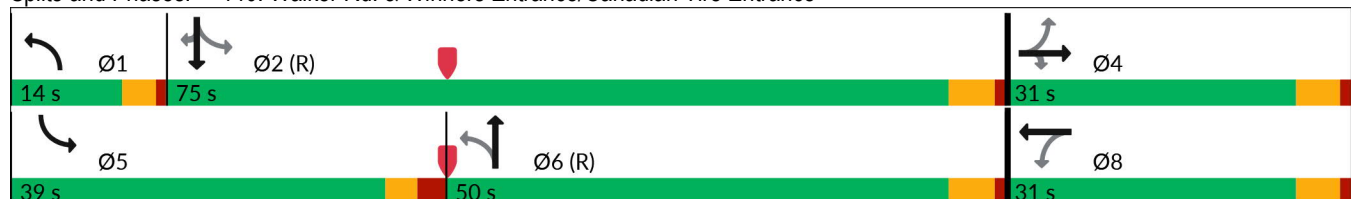
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

PM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	15	1864	32	0	1842
Future Volume (Veh/h)	0	15	1864	32	0	1842
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	16	1942	33	0	1919
Pedestrians	2					
Lane Width (m)	4.0					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			182			85
pX, platoon unblocked	0.82	0.67			0.67	
vC, conflicting volume	2920	990			1977	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1234	2			1475	
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	98			100	
cM capacity (veh/h)	141	728			310	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	16	1295	680	960	960	
Volume Left	0	0	0	0	0	
Volume Right	16	0	33	0	0	
cSH	728	1700	1700	1700	1700	
Volume to Capacity	0.02	0.76	0.40	0.56	0.56	
Queue Length 95th (m)	0.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			62.5%		ICU Level of Service	B
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	20	1876	15	0	1842
Future Volume (Veh/h)	0	20	1876	15	0	1842
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	0	20	1914	15	0	1880
Pedestrians	3		20			
Lane Width (m)	4.8		3.9			
Walking Speed (m/s)	1.2		1.2			
Percent Blockage	0		2			
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.84	0.69			0.69	
vC, conflicting volume	2885	968			1932	
vC1, stage 1 conf vol	1925					
vC2, stage 2 conf vol	960					
vCu, unblocked vol	1187	34			1442	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			100	
cM capacity (veh/h)	118	709			326	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	20	1276	653	940	940	
Volume Left	0	0	0	0	0	
Volume Right	20	0	15	0	0	
cSH	709	1700	1700	1700	1700	
Volume to Capacity	0.03	0.75	0.38	0.55	0.55	
Queue Length 95th (m)	0.7	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	10.2	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	10.2	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			62.3%	ICU Level of Service		B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	18	160	56	9	20	110	1828	50	39	1764	39
Future Volume (vph)	43	18	160	56	9	20	110	1828	50	39	1764	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.98		0.99		1.00	0.96		1.00		1.00	1.00	
Frt			0.850			0.850		0.996			0.997	
Flt Protected	0.950				0.959		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1791	1615	1685	3341	0	1785	4919	0
Flt Permitted	0.714				0.742		0.081			0.094		
Satd. Flow (perm)	1281	1879	1613	0	1384	1556	144	3341	0	177	4919	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			68		5			4	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.5			57.5			164.4			75.4	
Travel Time (s)		8.4			4.1			9.9			4.5	
Confl. Peds. (#/hr)	19		1	1		19	2		3	3		2
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
Heavy Vehicles (%)	0%	0%	1%	2%	0%	0%	0%	4%	2%	0%	4%	0%
Adj. Flow (vph)	43	18	162	57	9	20	111	1846	51	39	1782	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	18	162	0	66	20	111	1897	0	39	1821	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	20.0	87.0		67.0	67.0	
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%	27.5%	16.7%	72.5%		55.8%	55.8%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0	28.0	14.5	82.0		62.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	1	1	1	19	19	19		3		2	2	
Act Effect Green (s)	17.2	17.2	17.2		17.2	17.2	92.3	92.8		78.5	78.5	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.77	0.77		0.65	0.65	
v/c Ratio	0.23	0.07	0.44		0.33	0.07	0.50	0.73		0.34	0.57	
Control Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	19.3	5.9		17.0	8.7	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.2	40.3	9.7		48.0	0.5	19.3	5.9		17.0	8.7	
LOS	D	D	A		D	A	B	A		B	A	
Approach Delay (s/veh)		19.0			37.0			6.7			8.9	
Approach LOS		B			D			A			A	
Queue Length 50th (m)	10.1	4.1	0.0		15.7	0.0	4.8	39.2		0.5	9.4	
Queue Length 95th (m)	19.2	9.9	17.8		26.6	0.0	m12.9	m92.5		m9.3	146.2	
Internal Link Dist (m)		92.5			33.5			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	298	438	500		322	415	297	2586		115	3217	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.04	0.32		0.20	0.05	0.37	0.73		0.34	0.57	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 8.9

Intersection LOS: A

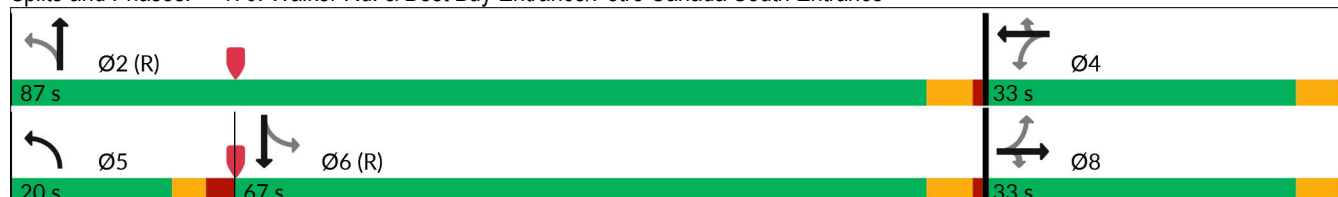
Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

PM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	68	1885	61	44	1870
Future Volume (Veh/h)	25	68	1885	61	44	1870
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	27	72	2005	65	47	1989
Pedestrians	2		1			
Lane Width (m)	3.6		3.8			
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)			169			164
pX, platoon unblocked	0.68	0.55			0.55	
vC, conflicting volume	3129	1037			2072	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1491	0			1319	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	88			84	
cM capacity (veh/h)	66	601			292	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	27	72	1337	733	710	1326
Volume Left	27	0	0	0	47	0
Volume Right	0	72	0	65	0	0
cSH	66	601	1700	1700	292	1700
Volume to Capacity	0.41	0.12	0.79	0.43	0.16	0.78
Queue Length 95th (m)	12.5	3.2	0.0	0.0	4.5	0.0
Control Delay (s/veh)	92.3	11.8	0.0	0.0	6.1	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	33.8		0.0		2.1	
Approach LOS	D					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			93.2%		ICU Level of Service	F
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

PM Peak Hour
2040 Total Future Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	161	177	251	130	74	206	1635	235	76	1687	132
Future Volume (vph)	238	161	177	251	130	74	206	1635	235	76	1687	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00				0.99			1.00			1.00	
Frt		0.922			0.946			0.981			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1791	0	1694	1776	0	1745	3555	0	1745	3437	0
Flt Permitted	0.500			0.281			0.061			0.065		
Satd. Flow (perm)	899	1791	0	501	1776	0	112	3555	0	119	3437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			24			26			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.3			290.2			642.6			169.2	
Travel Time (s)		8.3			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	248	168	184	261	135	77	215	1703	245	79	1757	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	352	0	261	212	0	215	1948	0	79	1895	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	38.0	38.0		38.0	38.0		16.0	82.0		66.0	66.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		13.3%	68.3%		55.0%	55.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		12.0	77.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	0	0		2	2			1		1	1	
Act Effect Green (s)	33.0	33.0		33.0	33.0		78.0	77.0		61.2	61.2	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.65	0.64		0.51	0.51	
v/c Ratio	1.00	0.67		1.91	0.42		0.92	0.85		1.32	1.08	
Control Delay (s/veh)	102.6	40.8		456.9	27.2		72.0	21.4		237.1	65.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	102.6	40.8		456.9	27.2		72.0	21.4		237.1	65.5	
LOS	F	D		F	C		E	C		F	E	
Approach Delay (s/veh)		66.3			264.3			26.5			72.4	
Approach LOS		E			F			C			E	
Queue Length 50th (m)	~62.0	68.1		~101.0	40.0		36.9	183.5		~25.3	~280.3	
Queue Length 95th (m)	#117.3	102.7		#157.1	64.4		#84.3	221.7		m#55.8	#311.7	
Internal Link Dist (m)		91.3			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	247	525		137	505		236	2290		60	1756	
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	1.00	0.67		1.91	0.42		0.91	0.85		1.32	1.08	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 38 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.91

Intersection Signal Delay (s/veh): 70.0

Intersection LOS: E

Intersection Capacity Utilization 111.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

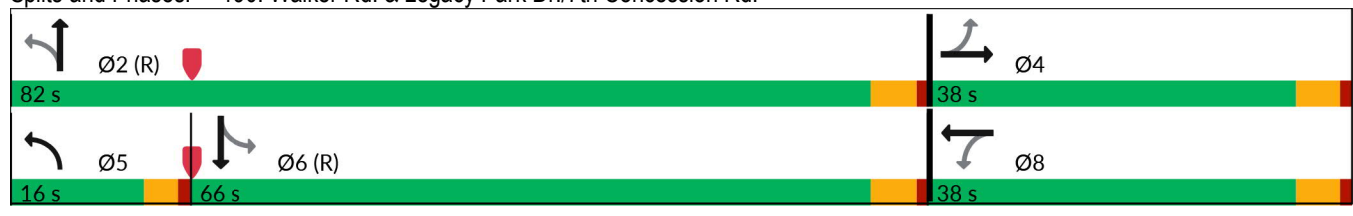
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	984	327	216	1686	157	232
Future Volume (vph)	984	327	216	1686	157	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99	1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3438	1615	1787	3394	3437	1599
Flt Permitted			0.194		0.950	
Satd. Flow (perm)	3438	1593	365	3394	3437	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		352				249
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			318.8	940.8	
Travel Time (s)	31.8			23.0	67.7	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	0%	1%	4%	3%	1%
Adj. Flow (vph)	1058	352	232	1813	169	249
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1058	352	232	1813	169	249
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	71.0	71.0	19.0	90.0	30.0	30.0
Total Split (%)	59.2%	59.2%	15.8%	75.0%	25.0%	25.0%
Maximum Green (s)	65.0	65.0	15.0	84.0	24.0	24.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	69.4	69.4	86.0	84.0	24.0	24.0
Actuated g/C Ratio	0.58	0.58	0.72	0.70	0.20	0.20
v/c Ratio	0.53	0.33	0.60	0.76	0.25	0.48
Control Delay (s/veh)	26.5	8.1	12.3	14.3	36.2	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	8.1	12.3	14.3	36.2	6.6
LOS	C	A	B	B	D	A
Approach Delay (s/veh)	21.9			14.1	18.6	
Approach LOS	C			B	B	
Queue Length 50th (m)	116.0	19.2	16.6	136.6	16.7	4.6
Queue Length 95th (m)	m95.6	m12.5	25.4	166.5	m21.7	m11.3
Internal Link Dist (m)	417.3			294.8	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1988	1069	439	2375	687	519
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	0.53	0.33	0.53	0.76	0.25	0.48

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay (s/veh): 17.4

Intersection LOS: B

Intersection Capacity Utilization 64.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

PM Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	0	73	2012	8	51	2022
Future Volume (Veh/h)	0	73	2012	8	51	2022
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	75	2074	8	53	2085
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)			85			116
pX, platoon unblocked	0.77	0.61			0.61	
vC, conflicting volume	3230	1044			2085	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1441	0			1512	
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	89			81	
cM capacity (veh/h)	78	669			275	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	1383	699	53	1043	1043
Volume Left	0	0	0	53	0	0
Volume Right	75	0	8	0	0	0
cSH	669	1700	1700	275	1700	1700
Volume to Capacity	0.11	0.81	0.41	0.19	0.61	0.61
Queue Length 95th (m)	3.0	0.0	0.0	5.6	0.0	0.0
Control Delay (s/veh)	11.1	0.0	0.0	21.2	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	11.1	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			67.1%		ICU Level of Service	C
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1265	76	77	1845	29	88
Future Volume (Veh/h)	1265	76	77	1845	29	88
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1375	83	84	2005	32	96
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1458		2587	729
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1006		2466	63
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			84		0	88
cM capacity (veh/h)			539		17	769
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	917	541	84	1003	1003	128
Volume Left	0	0	84	0	0	32
Volume Right	0	83	0	0	0	96
cSH	1700	1700	539	1700	1700	63
Volume to Capacity	0.54	0.32	0.16	0.59	0.59	2.03
Queue Length 95th (m)	0.0	0.0	4.4	0.0	0.0	96.7
Control Delay (s/veh)	0.0	0.0	12.9	0.0	0.0	619.2
Lane LOS			B			F
Approach Delay (s/veh)	0.0		0.5			619.2
Approach LOS						F
Intersection Summary						
Average Delay			21.9			
Intersection Capacity Utilization			64.7%		ICU Level of Service	C
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	852	355	295	930	295	359	1315	28	322	1442	211
Future Volume (vph)	235	852	355	295	930	295	359	1315	28	322	1442	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			1.00			1.00	
Frt		0.956			0.964			0.997			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	3414	0	1767	3380	0	1745	3483	0	1601	3505	0
Flt Permitted	0.222			0.222			0.078			0.080		
Satd. Flow (perm)	413	3414	0	413	3380	0	143	3483	0	135	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			31			2			17	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			370.0	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	253	916	382	317	1000	317	386	1414	30	346	1551	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	1298	0	317	1317	0	386	1444	0	346	1778	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	16.0	24.0		16.0	24.0		20.0	57.0		19.0	56.0	
Total Split (%)	13.8%	20.7%		13.8%	20.7%		17.2%	49.1%		16.4%	48.3%	
Maximum Green (s)	12.0	18.0		12.0	18.0		16.0	51.0		15.0	50.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	32.0	18.0		32.0	18.0		69.0	51.0		67.0	50.0	
Actuated g/C Ratio	0.28	0.16		0.28	0.16		0.59	0.44		0.58	0.43	
v/c Ratio	1.00	2.28		1.25	2.39		1.26	0.94		1.30	1.17	
Control Delay (s/veh)	91.6	605.5		171.8	655.8		174.9	30.2		188.3	115.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	2.5		0.0	1.9	
Total Delay (s/veh)	91.6	605.6		171.8	655.8		174.9	32.7		188.3	117.1	
LOS	F	F		F	F		F	C		F	F	
Approach Delay (s/veh)		521.7			561.9			62.7			128.7	
Approach LOS		F			F			E			F	
Queue Length 50th (m)	48.6	~263.5		~76.2	~273.0		~102.5	90.3		~90.8	~266.6	
Queue Length 95th (m)	#96.9	#308.1		#135.1	#317.8		m#163.1	#218.8		#150.6	#312.0	
Internal Link Dist (m)		85.7			39.9			92.5			346.0	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	254	569		254	550		306	1532		267	1520	
Starvation Cap Reductn	0	0		0	0		0	41		0	0	
Spillback Cap Reductn	0	3		0	0		0	0		0	570	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.00	2.29		1.25	2.39		1.26	0.97		1.30	1.87	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.39

Intersection Signal Delay (s/veh): 296.3

Intersection LOS: F

Intersection Capacity Utilization 134.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

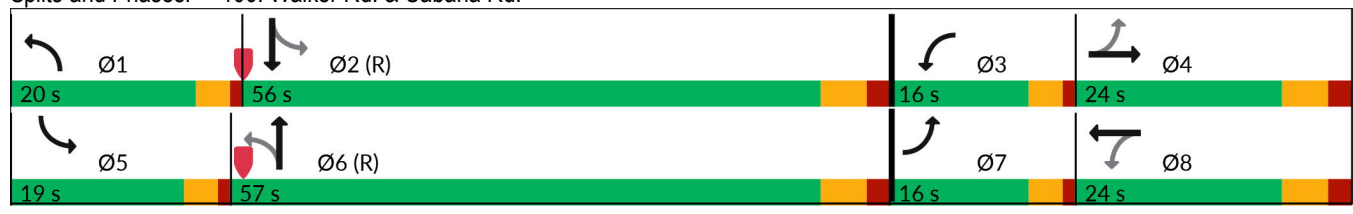
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	22	130	92	27	179	160	1381	102	135	1778	114
Future Volume (vph)	71	22	130	92	27	179	160	1381	102	135	1778	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00		1.00		
Frt			0.850		0.919			0.990			0.991	
Flt Protected		0.963			0.985		0.950			0.950		
Satd. Flow (prot)	0	1830	1615	0	1706	0	1765	3503	0	1725	3544	0
Flt Permitted		0.470			0.848		0.059			0.121		
Satd. Flow (perm)	0	893	1587	0	1466	0	110	3503	0	220	3544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143		48			14			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		114.2			77.1			176.3			85.4	
Travel Time (s)		8.2			5.6			10.6			5.1	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	24	143	101	30	197	176	1518	112	148	1954	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	143	0	328	0	176	1630	0	148	2079	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		19.0	81.0		62.0	62.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		16.4%	69.8%		53.4%	53.4%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		15.0	76.0		57.0	57.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1		0	0	
Act Effect Green (s)		26.8	26.8		26.8		80.2	79.2		63.7	63.7	
Actuated g/C Ratio		0.23	0.23		0.23		0.69	0.68		0.55	0.55	
v/c Ratio		0.50	0.30		0.87		0.73	0.68		1.23	1.07	
Control Delay (s/veh)		46.8	7.2		60.3		30.8	24.6		135.8	53.0	
Queue Delay		0.0	0.0		0.0		0.0	0.1		0.0	14.6	
Total Delay (s/veh)		46.8	7.2		60.3		30.8	24.7		135.8	67.6	
LOS		D	A		E		C	C		F	E	
Approach Delay (s/veh)		23.7			60.3			25.3			72.1	
Approach LOS		C			E			C			E	
Queue Length 50th (m)		20.7	0.0		63.9		25.3	187.8		~46.0	~306.7	
Queue Length 95th (m)		39.0	16.0		#109.5		m35.4	m235.5		m#31.8	m183.2	
Internal Link Dist (m)		90.2			53.1			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		230	516		414		290	2397		120	1950	
Starvation Cap Reductn		0	0		0		0	0		0	255	
Spillback Cap Reductn		0	0		0		0	66		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.44	0.28		0.79		0.61	0.70		1.23	1.23	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 90 (78%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay (s/veh): 50.3

Intersection LOS: D

Intersection Capacity Utilization 97.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

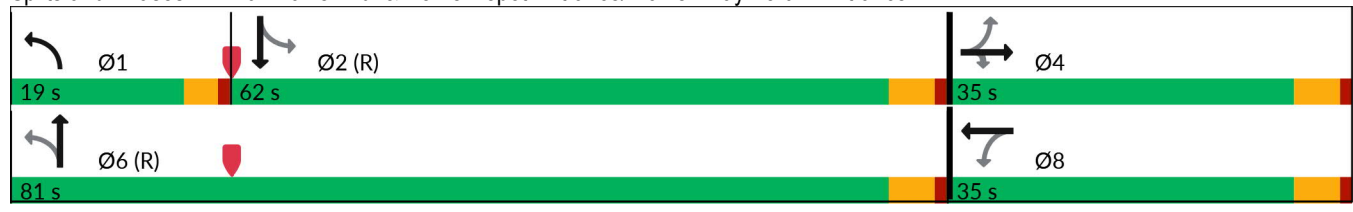
Queue shown is maximum after two cycles.

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: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Saturday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	39	1604	38	61	2054
Future Volume (Veh/h)	2	39	1604	38	61	2054
Sign Control	Stop		Free		Free	Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	41	1706	40	65	2185
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (m)			183		176	
pX, platoon unblocked	0.62	0.68			0.68	
vC, conflicting volume	2949	873			1746	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584	0			1151	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			84	
cM capacity (veh/h)	234	740			417	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	1137	609	65	1093	1093
Volume Left	2	0	0	65	0	0
Volume Right	41	0	40	0	0	0
cSH	672	1700	1700	417	1700	1700
Volume to Capacity	0.06	0.67	0.36	0.16	0.64	0.64
Queue Length 95th (m)	1.6	0.0	0.0	4.4	0.0	0.0
Control Delay (s/veh)	10.7	0.0	0.0	15.2	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	10.7	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			66.8%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Saturday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	91	1554	11	8	2047
Future Volume (Veh/h)	0	91	1554	11	8	2047
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	97	1653	12	9	2178
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)			95			265
pX, platoon unblocked	0.64	0.65			0.65	
vC, conflicting volume	2768	833			1665	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	170	0			946	
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	86			98	
cM capacity (veh/h)	506	709			477	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	97	1102	563	735	1452	
Volume Left	0	0	0	9	0	
Volume Right	97	0	12	0	0	
cSH	709	1700	1700	477	1700	
Volume to Capacity	0.14	0.65	0.33	0.02	0.85	
Queue Length 95th (m)	3.8	0.0	0.0	0.5	0.0	
Control Delay (s/veh)	10.9	0.0	0.0	0.6	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.9	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			65.5%	ICU Level of Service		C
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	139	98	184	92	141	89	1247	143	165	1576	306
Future Volume (vph)	177	139	98	184	92	141	89	1247	143	165	1576	306
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor	1.00		0.98	1.00	0.99		1.00	1.00				0.98
Frt			0.850		0.909			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1703	0	1805	3520	0	1765	3654	1597
Flt Permitted	0.393			0.589			0.066			0.076		
Satd. Flow (perm)	874	1921	1660	1116	1703	0	125	3520	0	141	3654	1559
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108		61			12				292
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		151.2			75.8			85.4			94.7	
Travel Time (s)		10.9			5.5			5.1			5.7	
Confl. Peds. (#/hr)	1		3	3		1	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	2%	1%	0%	1%	0%
Adj. Flow (vph)	186	146	103	194	97	148	94	1313	151	174	1659	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	146	103	194	245	0	94	1464	0	174	1659	322
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		14.0	45.0		40.0	71.0	71.0
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		12.1%	38.8%		34.5%	61.2%	61.2%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		10.0	40.0		34.5	66.0	66.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	3	3	3	1	1			1			2	2
Act Effect Green (s)	26.0	26.0	26.0	26.0	26.0		72.1	63.3		78.3	68.2	68.2
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22		0.62	0.55		0.68	0.59	0.59
v/c Ratio	0.95	0.34	0.23	0.78	0.57		0.49	0.76		0.69	0.77	0.31
Control Delay (s/veh)	99.1	40.5	7.6	64.2	35.7		26.0	15.8		36.5	10.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	99.1	40.5	7.6	64.2	35.7		26.0	15.8		36.5	10.5	0.8
LOS	F	D	A	E	D		C	B		D	B	A
Approach Delay (s/veh)		57.8			48.3			16.4			11.1	
Approach LOS		E			D			B			B	
Queue Length 50th (m)	44.1	29.5	0.0	43.8	39.2		6.1	63.5		18.8	112.7	2.6
Queue Length 95th (m)	#90.7	49.1	13.2	#82.1	66.7		27.0	87.8		m17.7	m99.0	m2.0
Internal Link Dist (m)		127.2			51.8			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	195	430	455	250	429		224	1926		579	2148	1036
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.95	0.34	0.23	0.78	0.57		0.42	0.76		0.30	0.77	0.31

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 30 (26%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 20.9

Intersection LOS: C

Intersection Capacity Utilization 87.6%

ICU Level of Service E

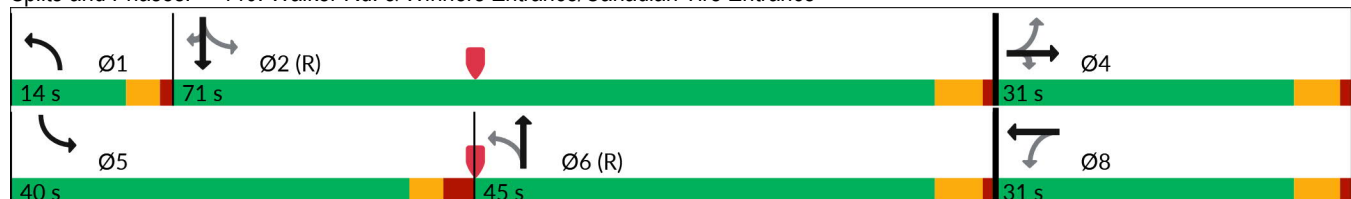
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Saturday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	38	1441	47	0	1858
Future Volume (Veh/h)	0	38	1441	47	0	1858
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	40	1533	50	0	1977
Pedestrians	1		2			
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.73	0.83			0.83	
vC, conflicting volume	2550	793			1584	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1350	353			1302	
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	92			100	
cM capacity (veh/h)	104	533			449	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	40	1022	561	989	989	
Volume Left	0	0	0	0	0	
Volume Right	40	0	50	0	0	
cSH	533	1700	1700	1700	1700	
Volume to Capacity	0.08	0.60	0.33	0.58	0.58	
Queue Length 95th (m)	1.9	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	12.3	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	12.3	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			54.7%	ICU Level of Service		A
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	37	1451	19	0	1858
Future Volume (Veh/h)	0	37	1451	19	0	1858
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	39	1544	20	0	1977
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.71	0.83			0.83	
vC, conflicting volume	2543	782			1564	
vC1, stage 1 conf vol	1554					
vC2, stage 2 conf vol	989					
vCu, unblocked vol	1312	344			1280	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	166	550			458	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	39	1029	535	989	989	
Volume Left	0	0	0	0	0	
Volume Right	39	0	20	0	0	
cSH	550	1700	1700	1700	1700	
Volume to Capacity	0.07	0.61	0.31	0.58	0.58	
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	12.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	12.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			54.7%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	24	153	69	17	48	125	1351	51	62	1734	62
Future Volume (vph)	71	24	153	69	17	48	125	1351	51	62	1734	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98		1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.995	
Flt Protected	0.950				0.962		0.950			0.950		
Satd. Flow (prot)	1745	1879	1635	0	1828	1615	1685	3404	0	1785	5046	0
Flt Permitted	0.689				0.752		0.077			0.183		
Satd. Flow (perm)	1255	1879	1594	0	1415	1581	137	3404	0	344	5046	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			71		7			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		122.3			55.8			164.4			75.4	
Travel Time (s)		8.8			4.0			9.9			4.5	
Confl. Peds. (#/hr)	7		10	10		7	6		1	1		6
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
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%	1%	2%
Adj. Flow (vph)	73	25	158	71	18	49	129	1393	53	64	1788	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	25	158	0	89	49	129	1446	0	64	1852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	18.0	84.0		66.0	66.0	
Total Split (%)	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	15.5%	72.4%		56.9%	56.9%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0	27.0	12.5	79.0		61.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	10	10	10	7	7	7		1		6	6	
Act Effect Green (s)	15.5	15.5	15.5		15.5	15.5	90.0	90.5		76.0	76.0	
Actuated g/C Ratio	0.13	0.13	0.13		0.13	0.13	0.78	0.78		0.66	0.66	
v/c Ratio	0.44	0.10	0.45		0.47	0.18	0.57	0.54		0.28	0.56	
Control Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	22.6	5.2		7.8	5.8	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.5	41.6	10.4		53.1	5.4	22.6	5.2		7.8	5.8	
LOS	D	D	B		D	A	C	A		A	A	
Approach Delay (s/veh)		25.5			36.1			6.6			5.9	
Approach LOS		C			D			A			A	
Queue Length 50th (m)	16.6	5.4	0.0		20.4	0.0	5.1	41.5		1.7	17.8	
Queue Length 95th (m)	28.2	12.2	17.2		32.8	5.8	m22.6	m74.0		m7.6	111.3	
Internal Link Dist (m)		98.3			31.8			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	292	437	492		329	422	273	2658		225	3307	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.06	0.32		0.27	0.12	0.47	0.54		0.28	0.56	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay (s/veh): 8.5

Intersection LOS: A

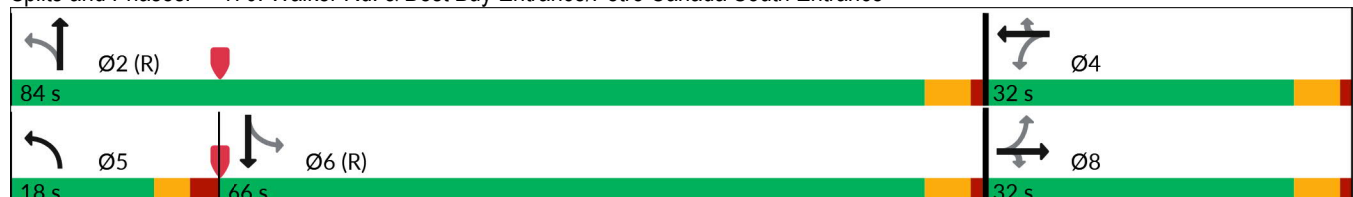
Intersection Capacity Utilization 75.1%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



HCM Unsignalized Intersection Capacity Analysis
180: Walker Rd. & Swiss Chalet and Starbucks Entrance

Saturday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	111	1423	99	73	1667
Future Volume (Veh/h)	29	111	1423	99	73	1667
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)	30	114	1467	102	75	1719
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.86	0.81			0.81	
vC, conflicting volume	2528	785			1569	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1466	271			1237	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	81			84	
cM capacity (veh/h)	87	595			463	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	30	114	978	591	648	1146
Volume Left	30	0	0	0	75	0
Volume Right	0	114	0	102	0	0
cSH	87	595	1700	1700	463	1700
Volume to Capacity	0.34	0.19	0.58	0.35	0.16	0.67
Queue Length 95th (m)	10.6	5.6	0.0	0.0	4.6	0.0
Control Delay (s/veh)	66.5	12.5	0.0	0.0	4.7	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	23.7		0.0		1.7	
Approach LOS	C					
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			104.0%		ICU Level of Service	G
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Saturday Peak Hour
2040 Total Future Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	115	169	221	143	71	214	1112	169	84	1476	136
Future Volume (vph)	339	115	169	221	143	71	214	1112	169	84	1476	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00	0.99		1.00	1.00			1.00		1.00		
Frt		0.911			0.950			0.980			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1755	0	1745	1796	0	1728	3620	0	1745	3528	0
Flt Permitted	0.449			0.319			0.064			0.200		
Satd. Flow (perm)	823	1755	0	585	1796	0	116	3620	0	367	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			20			32			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		108.5			290.2			642.6			169.2	
Travel Time (s)		7.8			20.9			38.6			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	357	121	178	233	151	75	225	1171	178	88	1554	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	299	0	233	226	0	225	1349	0	88	1697	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	33.0	33.0		33.0	33.0		29.0	83.0		54.0	54.0	
Total Split (%)	28.4%	28.4%		28.4%	28.4%		25.0%	71.6%		46.6%	46.6%	
Maximum Green (s)	28.0	28.0		28.0	28.0		25.0	78.0		49.0	49.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	1	1		2	2			2		0	0	
Act Effect Green (s)	28.0	28.0		28.0	28.0		79.0	78.0		58.9	58.9	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.68	0.67		0.51	0.51	
v/c Ratio	1.80	0.64		1.65	0.50		0.78	0.55		0.47	0.95	
Control Delay (s/veh)	409.1	38.3		353.5	39.1		45.0	10.7		23.7	27.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	409.1	38.3		353.5	39.1		45.0	10.7		23.7	27.1	
LOS	F	D		F	D		D	B		C	C	
Approach Delay (s/veh)		240.1			198.7			15.6			27.0	
Approach LOS		F			F			B			C	
Queue Length 50th (m)	~128.3	51.6		~80.9	42.7		35.6	78.3		5.2	53.5	
Queue Length 95th (m)	#188.1	82.5		#132.2	68.4		60.1	95.3		19.4	#275.4	
Internal Link Dist (m)		84.5			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	198	469		141	448		426	2444		186	1795	
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	1.80	0.64		1.65	0.50		0.53	0.55		0.47	0.95	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 33 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.80

Intersection Signal Delay (s/veh): 71.8

Intersection LOS: E

Intersection Capacity Utilization 104.1%

ICU Level of Service G

Analysis Period (min) 15

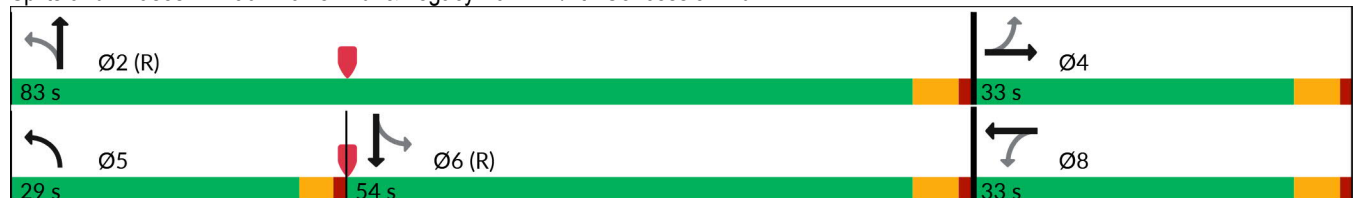
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	1063	94	155	1118	396	244
Future Volume (vph)	1063	94	155	1118	396	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.99				
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3505	1615	1787	3461	3190	1615
Flt Permitted			0.145		0.950	
Satd. Flow (perm)	3505	1591	273	3461	3190	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		107				262
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			311.4	940.8	
Travel Time (s)	31.8			22.4	67.7	
Confl. Peds. (#/hr)		2	2			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	1%	2%	11%	0%
Adj. Flow (vph)	1208	107	176	1270	450	277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1208	107	176	1270	450	277
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	67.0	67.0	20.0	87.0	33.0	33.0
Total Split (%)	55.8%	55.8%	16.7%	72.5%	27.5%	27.5%
Maximum Green (s)	61.0	61.0	16.0	81.0	27.0	27.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effect Green (s)	67.1	67.1	83.0	81.0	27.0	27.0
Actuated g/C Ratio	0.56	0.56	0.69	0.68	0.23	0.23
v/c Ratio	0.62	0.11	0.56	0.54	0.63	0.49
Control Delay (s/veh)	19.8	2.8	13.5	11.1	46.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.8	2.8	13.5	11.1	46.5	8.9
LOS	B	A	B	B	D	A
Approach Delay (s/veh)	18.5			11.4	32.2	
Approach LOS	B			B	C	
Queue Length 50th (m)	100.3	0.0	13.5	77.4	52.2	2.9
Queue Length 95th (m)	128.2	8.1	21.0	90.7	68.2	24.2
Internal Link Dist (m)	417.3			287.4	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1960	937	390	2336	717	566
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	0.62	0.11	0.45	0.54	0.63	0.49

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 18.4

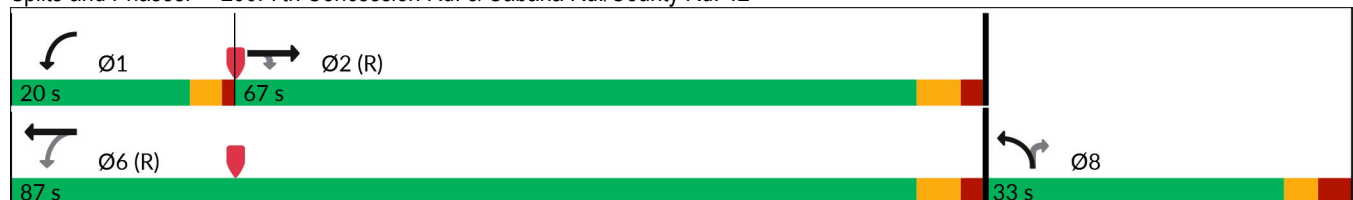
Intersection LOS: B

Intersection Capacity Utilization 62.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Saturday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Traffic Volume (veh/h)	0	81	1622	10	65	2027
Future Volume (Veh/h)	0	81	1622	10	65	2027
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)	0	89	1782	11	71	2227
Pedestrians	1					
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)			85			116
pX, platoon unblocked	0.72	0.72			0.72	
vC, conflicting volume	3044	898			1794	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1293	75			1322	
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			81	
cM capacity (veh/h)	91	702			380	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	89	1188	605	71	1114	1114
Volume Left	0	0	0	71	0	0
Volume Right	89	0	11	0	0	0
cSH	702	1700	1700	380	1700	1700
Volume to Capacity	0.13	0.70	0.36	0.19	0.66	0.66
Queue Length 95th (m)	3.5	0.0	0.0	5.4	0.0	0.0
Control Delay (s/veh)	10.9	0.0	0.0	16.6	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	10.9	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			67.7%		ICU Level of Service	C
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1101	105	99	1490	34	105
Future Volume (Veh/h)	1101	105	99	1490	34	105
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1197	114	108	1620	37	114
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			1311		2280	656
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1029		2160	264
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		0	82
cM capacity (veh/h)			585		29	635
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	798	513	108	810	810	151
Volume Left	0	0	108	0	0	37
Volume Right	0	114	0	0	0	114
cSH	1700	1700	585	1700	1700	104
Volume to Capacity	0.47	0.30	0.18	0.48	0.48	1.45
Queue Length 95th (m)	0.0	0.0	5.4	0.0	0.0	88.1
Control Delay (s/veh)	0.0	0.0	12.5	0.0	0.0	322.7
Lane LOS			B			F
Approach Delay (s/veh)	0.0		0.8			322.7
Approach LOS						F
Intersection Summary						
Average Delay			15.7			
Intersection Capacity Utilization			57.6%		ICU Level of Service	B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	796	326	310	829	298	324	1250	107	312	1402	152
Future Volume (vph)	200	796	326	310	829	298	324	1250	107	312	1402	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00		1.00	1.00	
Frt		0.956			0.960			0.988			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3412	0	1767	3436	0	1745	3480	0	1728	3520	0
Flt Permitted	0.133			0.129			0.133			0.133		
Satd. Flow (perm)	250	3412	0	240	3436	0	244	3480	0	242	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			46			8			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			369.5	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	206	821	336	320	855	307	334	1289	110	322	1445	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	1157	0	320	1162	0	334	1399	0	322	1602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	36.0		17.0	36.0		19.0	36.0		19.0	36.0	
Total Split (%)	15.7%	33.3%		15.7%	33.3%		17.6%	33.3%		17.6%	33.3%	
Maximum Green (s)	13.0	30.0		13.0	30.0		15.0	30.0		15.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	44.0	30.0		46.0	31.0		47.0	30.0		47.0	30.0	
Actuated g/C Ratio	0.41	0.28		0.43	0.29		0.44	0.28		0.44	0.28	
v/c Ratio	0.76	1.17		1.12	1.14		1.06	1.44		1.04	1.63	
Control Delay (s/veh)	40.4	122.2		118.1	110.5		105.0	235.6		89.8	315.3	
Queue Delay	0.0	0.2		28.6	0.0		0.0	0.0		0.0	0.6	
Total Delay (s/veh)	40.4	122.5		146.7	110.5		105.0	235.6		89.8	315.9	
LOS	D	F		F	F		F	F		F	F	
Approach Delay (s/veh)		110.1			118.3			210.4			278.1	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	27.4	~156.8		~65.6	~159.2		~65.7	~217.3		~59.7	~271.7	
Queue Length 95th (m)	#58.0	#200.2		#122.6	#202.6		#124.2	#263.4		#116.8	#316.9	
Internal Link Dist (m)		85.7			39.9			92.5			345.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	288	988		285	1018		314	972		311	985	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	46		217	0		0	0		0	106	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	1.23		4.71	1.14		1.06	1.44		1.04	1.82	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay (s/veh): 188.4

Intersection LOS: F

Intersection Capacity Utilization 127.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	11	138	44	19	88	182	1512	40	66	1821	124
Future Volume (vph)	54	11	138	44	19	88	182	1512	40	66	1821	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.921			0.996			0.990	
Flt Protected		0.960			0.986		0.950			0.950		
Satd. Flow (prot)	0	1748	1615	0	1679	0	1765	3593	0	1725	3535	0
Flt Permitted		0.514			0.880		0.056			0.147		
Satd. Flow (perm)	0	936	1593	0	1498	0	104	3593	0	267	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		46			5			10	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		120.1			77.3			176.3			85.4	
Travel Time (s)		8.6			5.6			10.6			5.1	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	12	145	46	20	93	192	1592	42	69	1917	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	145	0	159	0	192	1634	0	69	2048	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0		17.0	78.0		61.0	61.0	
Total Split (%)	27.8%	27.8%	27.8%	27.8%	27.8%		15.7%	72.2%		56.5%	56.5%	
Maximum Green (s)	25.0	25.0	25.0	25.0	25.0		13.0	73.0		56.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3		1	1	
Act Effect Green (s)		14.9	14.9		14.9		84.1	83.1		67.2	67.2	
Actuated g/C Ratio		0.14	0.14		0.14		0.78	0.77		0.62	0.62	
v/c Ratio		0.53	0.42		0.65		0.73	0.59		0.42	0.93	
Control Delay (s/veh)		57.4	10.3		42.7		28.1	14.6		13.3	18.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	45.1	
Total Delay (s/veh)		57.4	10.3		42.7		28.1	14.6		13.3	63.7	
LOS		E	B		D		C	B		B	E	
Approach Delay (s/veh)		25.5			42.7			16.0			62.1	
Approach LOS		C			D			B			E	
Queue Length 50th (m)		14.5	0.0		23.9		21.2	155.2		2.4	227.0	
Queue Length 95th (m)		27.9	16.8		43.6		m32.6	m188.3		m7.5	m161.4	
Internal Link Dist (m)		96.1			53.3			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		216	480		382		298	2765		166	2201	
Starvation Cap Reductn		0	0		0		0	0		0	429	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.32	0.30		0.42		0.64	0.59		0.42	1.16	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 106 (98%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay (s/veh): 40.1

Intersection LOS: D

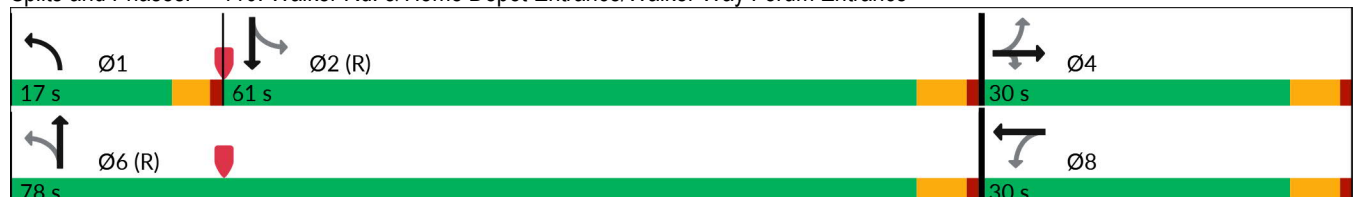
Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



HCM Unsignalized Intersection Capacity Analysis
120: Walker Rd. & Walker Place North Entrance

Sunday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	40	1673	19	60	2035
Future Volume (Veh/h)	4	40	1673	19	60	2035
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)	4	42	1743	20	63	2120
Pedestrians	1					
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)			183			176
pX, platoon unblocked	0.60	0.67			0.67	
vC, conflicting volume	2940	883			1764	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	463	0			1162	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			84	
cM capacity (veh/h)	271	733			401	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	46	1162	601	63	1060	1060
Volume Left	4	0	0	63	0	0
Volume Right	42	0	20	0	0	0
cSH	638	1700	1700	401	1700	1700
Volume to Capacity	0.07	0.68	0.35	0.16	0.62	0.62
Queue Length 95th (m)	1.9	0.0	0.0	4.4	0.0	0.0
Control Delay (s/veh)	11.1	0.0	0.0	15.6	0.0	0.0
Lane LOS	B			C		
Approach Delay (s/veh)	11.1	0.0		0.5		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			66.3%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
130: Walker Rd. & Walker Place South Entrance

Sunday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	61	1631	15	4	2035
Future Volume (Veh/h)	0	61	1631	15	4	2035
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	64	1699	16	4	2120
Pedestrians	1		7			
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)			95			265
pX, platoon unblocked	0.61	0.63			0.63	
vC, conflicting volume	2783	859			1716	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			955	
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	91			99	
cM capacity (veh/h)	618	684			457	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	64	1133	582	711	1413	
Volume Left	0	0	0	4	0	
Volume Right	64	0	16	0	0	
cSH	684	1700	1700	457	1700	
Volume to Capacity	0.09	0.67	0.34	0.00*	0.83	
Queue Length 95th (m)	2.5	0.0	0.0	0.2	0.0	
Control Delay (s/veh)	10.8	0.0	0.0	0.3	0.0	
Lane LOS	B			A		
Approach Delay (s/veh)	10.8	0.0		0.1		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			62.4%	ICU Level of Service		B
Analysis Period (min)			15			

* Value less than 0.01.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	106	106	137	71	135	88	1276	90	169	1522	344
Future Volume (vph)	235	106	106	137	71	135	88	1276	90	169	1522	344
Ideal Flow (vphpl)	2200	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	4.0	3.6	3.6	3.6	3.6	3.7	3.6	3.4	3.8	3.5
Storage Length (m)	0.0		40.0	0.0		0.0	60.0		0.0	70.0		90.0
Storage Lanes	1		1	1		0	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	1.00
Ped Bike Factor							1.00	1.00				0.98
Frt			0.850		0.902			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	2113	1921	1687	1805	1714	0	1787	3575	0	1765	3690	1597
Flt Permitted	0.473			0.673			0.076			0.070		
Satd. Flow (perm)	1052	1921	1687	1279	1714	0	143	3575	0	130	3690	1562
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		83			7				362
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		146.0			74.9			85.4			94.7	
Travel Time (s)		10.5			5.4			5.1			5.7	
Confl. Peds. (#/hr)							1		1	1		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%
Adj. Flow (vph)	247	112	112	144	75	142	93	1343	95	178	1602	362
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	112	112	144	217	0	93	1438	0	178	1602	362
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.81	0.99	0.94	1.00	1.00	1.00	1.00	0.99	1.00	1.03	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		2
Detector Phase	4	4	4	8	8		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		10.0	33.0		11.5	33.0	33.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0		11.0	38.0		39.0	66.0	66.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%		10.2%	35.2%		36.1%	61.1%	61.1%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		7.0	33.0		33.5	61.0	61.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		2.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		5.5	5.0	5.0
Lead/Lag							Lead	Lag		Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	7.0
Flash Don't Walk (s)	19.0	19.0	19.0	19.0	19.0			21.0			21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0			1			1	1
Act Effect Green (s)	26.0	26.0	26.0	26.0	26.0		63.7	56.0		70.7	63.2	63.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.59	0.52		0.65	0.59	0.59
v/c Ratio	0.98	0.24	0.23	0.47	0.46		0.50	0.78		0.73	0.74	0.34
Control Delay (s/veh)	93.1	34.8	7.0	41.0	24.7		24.3	15.7		37.0	13.9	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	93.1	34.8	7.0	41.0	24.7		24.3	15.7		37.0	13.9	1.7
LOS	F	C	A	D	C		C	B		D	B	A
Approach Delay (s/veh)		58.7			31.2			16.2			13.7	
Approach LOS		E			C			B			B	
Queue Length 50th (m)	54.5	20.1	0.0	27.4	24.6		4.3	96.8		18.3	181.7	9.3
Queue Length 95th (m)	#106.1	36.0	13.4	47.9	48.1		23.7	56.1		m20.5	m141.3	m4.5
Internal Link Dist (m)		122.0			50.9			61.4			70.7	
Turn Bay Length (m)			40.0				60.0			70.0		90.0
Base Capacity (vph)	253	462	494	307	475		191	1855		593	2161	1064
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.98	0.24	0.23	0.47	0.46		0.49	0.78		0.30	0.74	0.34

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 58 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay (s/veh): 20.7

Intersection LOS: C

Intersection Capacity Utilization 87.9%

ICU Level of Service E

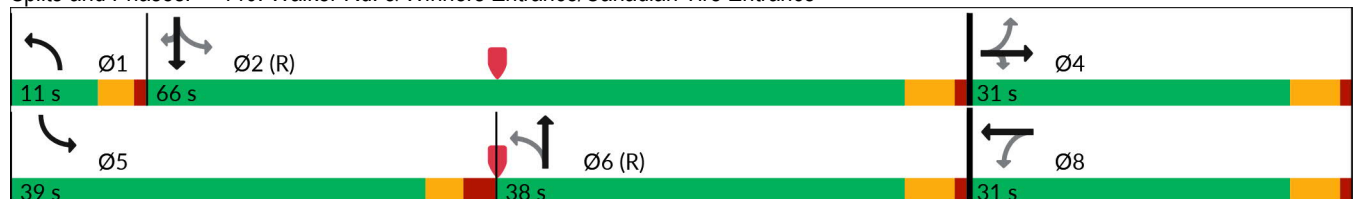
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 140: Walker Rd. & Winners Entrance/Canadian Tire Entrance



HCM Unsignalized Intersection Capacity Analysis
150: Walker Rd. & Cora Breakfast and Planet Fitness Entrance

Sunday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	33	1421	41	0	1765
Future Volume (Veh/h)	0	33	1421	41	0	1765
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	34	1480	43	0	1839
Pedestrians	1		2			1
Lane Width (m)	4.0		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)			182			85
pX, platoon unblocked	0.75	0.83			0.83	
vC, conflicting volume	2424	764			1524	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1193	296			1216	
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	94			100	
cM capacity (veh/h)	136	583			480	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	987	536	920	920	
Volume Left	0	0	0	0	0	
Volume Right	34	0	43	0	0	
cSH	583	1700	1700	1700	1700	
Volume to Capacity	0.06	0.58	0.32	0.54	0.54	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			59.1%	ICU Level of Service		B
Analysis Period (min)			15			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	32	1430	19	0	1765
Future Volume (Veh/h)	0	32	1430	19	0	1765
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)	0	34	1505	20	0	1858
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh			1			1
Upstream signal (m)			75			192
pX, platoon unblocked	0.74	0.83			0.83	
vC, conflicting volume	2444	763			1525	
vC1, stage 1 conf vol	1515					
vC2, stage 2 conf vol	929					
vCu, unblocked vol	1193	298			1219	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	94			100	
cM capacity (veh/h)	181	583			480	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	34	1003	522	929	929	
Volume Left	0	0	0	0	0	
Volume Right	34	0	20	0	0	
cSH	583	1700	1700	1700	1700	
Volume to Capacity	0.06	0.59	0.31	0.55	0.55	
Queue Length 95th (m)	1.5	0.0	0.0	0.0	0.0	
Control Delay (s/veh)	11.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s/veh)	11.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			52.1%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	14	174	64	14	34	144	1342	46	89	1620	56
Future Volume (vph)	73	14	174	64	14	34	144	1342	46	89	1620	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.5	3.8	3.6	3.6	3.6	3.0	3.3	3.6	3.5	3.5	3.6
Storage Length (m)	40.0		40.0	0.0		25.0	120.0		0.0	60.0		50.0
Storage Lanes	1		1	0		1	2		0	3		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.91	0.91
Ped Bike Factor	0.99		0.98		0.99	0.98		1.00		1.00	1.00	
Frt			0.850			0.850		0.995			0.995	
Flt Protected	0.950				0.961		0.950			0.950		
Satd. Flow (prot)	1745	1879	1651	0	1826	1615	1685	3469	0	1785	5049	0
Flt Permitted	0.704				0.755		0.084			0.180		
Satd. Flow (perm)	1283	1879	1619	0	1426	1582	149	3469	0	338	5049	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			183			76		7			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.7			62.9			164.4			75.4	
Travel Time (s)		8.0			4.5			9.9			4.5	
Confl. Peds. (#/hr)	7		6	6		7	8		4	4		8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	77	15	183	67	15	36	152	1413	48	94	1705	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	15	183	0	82	36	152	1461	0	94	1764	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.01	0.97	1.00	1.00	1.00	1.09	1.04	1.00	1.01	1.01	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		8			4		5	2			6	
Permitted Phases	8		8	4		4	2			6		
Detector Phase	8	8	8	4	4	4	5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	6.0	10.0		10.0	10.0	
Minimum Split (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.5	31.0		31.0	31.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	18.0	77.0		59.0	59.0	
Total Split (%)	28.7%	28.7%	28.7%	28.7%	28.7%	28.7%	16.7%	71.3%		54.6%	54.6%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0	12.5	72.0		54.0	54.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	2.5	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0	5.5	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0		7.0	7.0	
Flash Don't Walk (s)	20.0	20.0	20.0	20.0	20.0	20.0		19.0		19.0	19.0	
Pedestrian Calls (#/hr)	6	6	6	7	7	7		4		8	8	
Act Effect Green (s)	14.9	14.9	14.9		14.9	14.9	82.6	83.1		68.2	68.2	
Actuated g/C Ratio	0.14	0.14	0.14		0.14	0.14	0.76	0.77		0.63	0.63	
v/c Ratio	0.44	0.06	0.48		0.42	0.13	0.61	0.55		0.44	0.55	
Control Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	26.2	4.9		10.3	4.2	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.7	37.1	9.8		47.3	1.6	26.2	4.9		10.3	4.2	
LOS	D	D	A		D	A	C	A		B	A	
Approach Delay (s/veh)		22.2			33.3			6.9			4.5	
Approach LOS		C			C			A			A	
Queue Length 50th (m)	16.2	3.0	0.0		17.2	0.0	9.9	37.4		2.3	15.9	
Queue Length 95th (m)	27.4	8.2	17.4		28.5	1.4	m27.5	m61.2		m9.3	47.6	
Internal Link Dist (m)		87.7			38.9			140.4			51.4	
Turn Bay Length (m)	40.0		40.0			25.0	120.0			60.0		
Base Capacity (vph)	308	452	528		343	438	291	2672		213	3191	
Starvation Cap Reductn	0	0	0		0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	0	0		0	0	
Reduced v/c Ratio	0.25	0.03	0.35		0.24	0.08	0.52	0.55		0.44	0.55	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 50 (46%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay (s/veh): 7.6

Intersection LOS: A

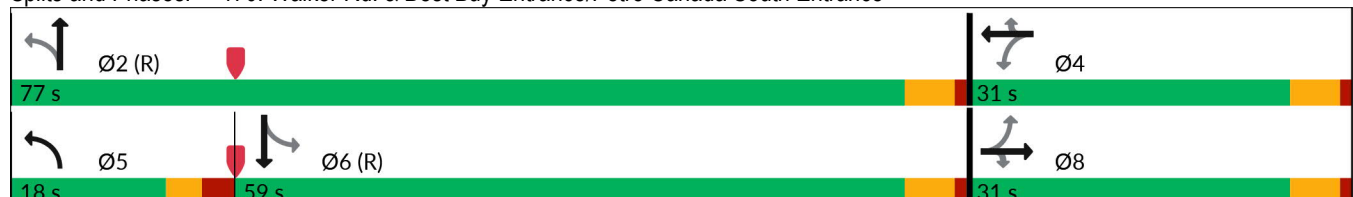
Intersection Capacity Utilization 73.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 170: Walker Rd. & Best Buy Entrance/Petro Canada South Entrance



						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	113	1453	81	74	1659
Future Volume (Veh/h)	43	113	1453	81	74	1659
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)	45	119	1529	85	78	1746
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)			169			164
pX, platoon unblocked	0.87	0.78			0.78	
vC, conflicting volume	2601	807			1614	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1426	203			1232	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	51	81			83	
cM capacity (veh/h)	93	635			449	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	45	119	1019	595	660	1164
Volume Left	45	0	0	0	78	0
Volume Right	0	119	0	85	0	0
cSH	93	635	1700	1700	449	1700
Volume to Capacity	0.49	0.19	0.60	0.35	0.17	0.68
Queue Length 95th (m)	16.8	5.5	0.0	0.0	5.0	0.0
Control Delay (s/veh)	76.2	12.0	0.0	0.0	5.2	0.0
Lane LOS	F	B			A	
Approach Delay (s/veh)	29.6		0.0		1.9	
Approach LOS	D					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			104.1%		ICU Level of Service	G
Analysis Period (min)			15			

Lanes, Volumes, Timings
190: Walker Rd. & Legacy Park Dr./7th Concession Rd.

Sunday Peak Hour
2040 Total Future Conditions

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	162	161	167	154	116	263	1099	151	103	1449	149
Future Volume (vph)	318	162	161	167	154	116	263	1099	151	103	1449	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00							1.00	
Frt		0.925			0.936			0.982			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1784	0	1745	1778	0	1728	3703	0	1745	3552	0
Flt Permitted	0.412			0.331			0.078			0.192		
Satd. Flow (perm)	757	1784	0	607	1778	0	142	3703	0	353	3552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			36			26			13	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.8			290.2			642.6			169.2	
Travel Time (s)		8.2			20.9			38.6			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	338	172	171	178	164	123	280	1169	161	110	1541	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	343	0	178	287	0	280	1330	0	110	1700	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	10.0		10.0	10.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	33.0		33.0	33.0	
Total Split (s)	37.0	37.0		37.0	37.0		19.0	71.0		52.0	52.0	
Total Split (%)	34.3%	34.3%		34.3%	34.3%		17.6%	65.7%		48.1%	48.1%	
Maximum Green (s)	32.0	32.0		32.0	32.0		15.0	66.0		47.0	47.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	18.0	18.0		18.0	18.0			21.0		21.0	21.0	
Pedestrian Calls (#/hr)	2	2		0	0			0		1	1	
Act Effect Green (s)	32.0	32.0		32.0	32.0		67.0	66.0		47.4	47.4	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.62	0.61		0.44	0.44	
v/c Ratio	1.51	0.61		0.99	0.52		0.93	0.59		0.71	1.09	
Control Delay (s/veh)	280.9	33.4		106.0	31.4		64.7	13.7		53.9	78.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	280.9	33.4		106.0	31.4		64.7	13.7		53.9	78.2	
LOS	F	C		F	C		E	B		D	E	
Approach Delay (s/veh)		156.3			60.0			22.6			76.8	
Approach LOS		F			E			C			E	
Queue Length 50th (m)	~104.5	56.3		39.2	46.0		45.0	85.4		14.5	~218.3	
Queue Length 95th (m)	#161.8	87.7		#85.6	73.2		#95.7	105.0		#50.5	#260.1	
Internal Link Dist (m)		89.8			266.2			618.6			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		
Base Capacity (vph)	224	561		179	552		308	2273		154	1565	
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	1.51	0.61		0.99	0.52		0.91	0.59		0.71	1.09	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 39 (36%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.51

Intersection Signal Delay (s/veh): 67.8

Intersection LOS: E

Intersection Capacity Utilization 108.0%

ICU Level of Service G

Analysis Period (min) 15

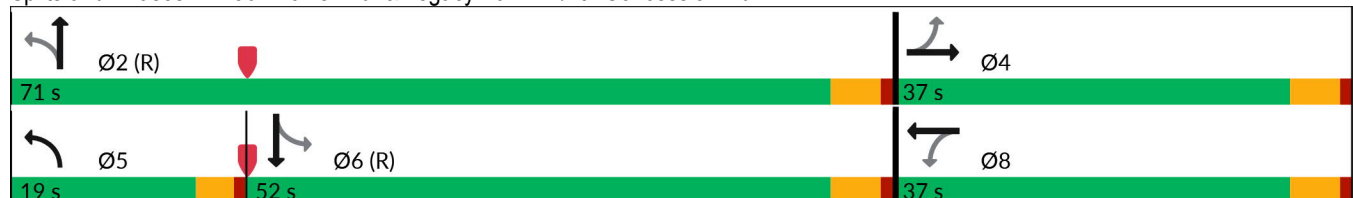
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↑↓	↑
Traffic Volume (vph)	1074	112	136	985	441	223
Future Volume (vph)	1074	112	136	985	441	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.4	3.7	3.6
Storage Length (m)		100.0	80.0		0.0	50.0
Storage Lanes		1	1		2	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1615	1805	3495	3404	1615
Flt Permitted			0.159		0.950	
Satd. Flow (perm)	3539	1615	302	3495	3404	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		119				224
Link Speed (k/h)	50			50	50	
Link Distance (m)	441.3			314.3	940.8	
Travel Time (s)	31.8			22.6	67.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	0%	0%	1%	4%	0%
Adj. Flow (vph)	1143	119	145	1048	469	237
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1143	119	145	1048	469	237
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	7.4	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.03	0.99	1.00
Turning Speed (k/h)		15	25		25	15
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	7.0	5.0	10.0	10.0
Minimum Split (s)	32.0	32.0	11.0	32.0	30.0	30.0
Total Split (s)	69.0	69.0	16.0	85.0	35.0	35.0
Total Split (%)	57.5%	57.5%	13.3%	70.8%	29.2%	29.2%
Maximum Green (s)	63.0	63.0	12.0	79.0	29.0	29.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)	19.0	19.0		19.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0		0	10	10
Act Effct Green (s)	66.0	66.0	81.0	79.0	29.0	29.0
Actuated g/C Ratio	0.55	0.55	0.68	0.66	0.24	0.24
v/c Ratio	0.59	0.13	0.46	0.46	0.57	0.42
Control Delay (s/veh)	19.7	2.7	11.7	10.8	43.2	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.7	2.7	11.7	10.8	43.2	8.3
LOS	B	A	B	B	D	A
Approach Delay (s/veh)	18.1			10.9	31.5	
Approach LOS	B			B	C	
Queue Length 50th (m)	94.7	0.0	11.6	61.3	52.9	2.5
Queue Length 95th (m)	120.9	8.9	19.1	75.5	70.6	23.5
Internal Link Dist (m)	417.3			290.3	916.8	
Turn Bay Length (m)		100.0	80.0			50.0
Base Capacity (vph)	1947	942	354	2300	822	560
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	0.59	0.13	0.41	0.46	0.57	0.42

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay (s/veh): 18.4

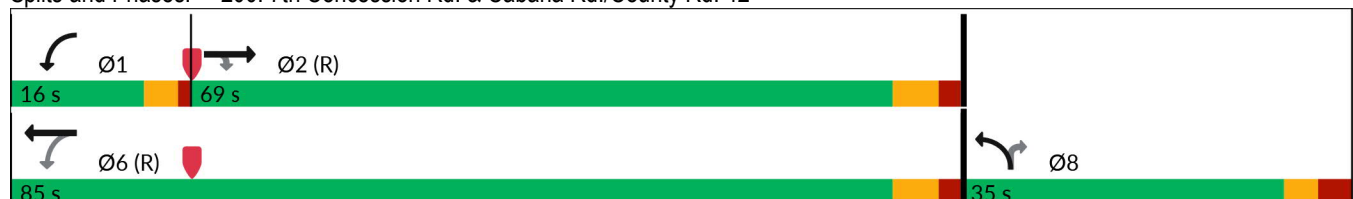
Intersection LOS: B

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 200: 7th Concession Rd. & Cabana Rd./County Rd. 42



HCM Unsignalized Intersection Capacity Analysis
300: Walker Rd. & Site Driveway

Sunday Peak Hour
2040 Total Future Conditions

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	39	1641	13	27	2011
Future Volume (Veh/h)	0	39	1641	13	27	2011
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	39	1641	13	27	2011
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)			85			116
pX, platoon unblocked	0.83	0.80			0.80	
vC, conflicting volume	2709	829			1656	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1567	291			1323	
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	93			94	
cM capacity (veh/h)	80	570			423	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	39	1094	560	27	1006	1006
Volume Left	0	0	0	27	0	0
Volume Right	39	0	13	0	0	0
cSH	570	1700	1700	423	1700	1700
Volume to Capacity	0.07	0.64	0.33	0.06	0.59	0.59
Queue Length 95th (m)	1.8	0.0	0.0	1.6	0.0	0.0
Control Delay (s/veh)	11.8	0.0	0.0	14.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s/veh)	11.8	0.0		0.2		
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			65.6%		ICU Level of Service	C
Analysis Period (min)			15			

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1175	55	42	1424	32	54
Future Volume (Veh/h)	1175	55	42	1424	32	54
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1277	60	46	1548	35	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	184					
pX, platoon unblocked			0.75		0.75	0.75
vC, conflicting volume			1337		2173	669
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			780		1896	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 %			93		20	93
cM capacity (veh/h)			634		44	817
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	851	486	46	774	774	94
Volume Left	0	0	46	0	0	35
Volume Right	0	60	0	0	0	59
cSH	1700	1700	634	1700	1700	107
Volume to Capacity	0.50	0.29	0.07	0.46	0.46	0.88
Queue Length 95th (m)	0.0	0.0	1.9	0.0	0.0	41.3
Control Delay (s/veh)	0.0	0.0	11.1	0.0	0.0	128.8
Lane LOS			B	F		
Approach Delay (s/veh)	0.0		0.3			128.8
Approach LOS						F
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			51.1%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	844	114	212	521	177	96	1131	70	577	969	133
Future Volume (vph)	321	844	114	212	521	177	96	1131	70	577	969	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99		1.00	1.00			1.00	
Frt		0.982			0.962			0.991			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	3306	0	1566	3097	0	1601	3219	0	1601	3292	0
Flt Permitted	0.193			0.125			0.118			0.105		
Satd. Flow (perm)	351	3306	0	206	3097	0	199	3219	0	177	3292	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			47			6			17	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			64.9			116.5			358.7	
Travel Time (s)		7.9			4.7			7.0			21.5	
Confl. Peds. (#/hr)	9		3	3		9	3		2	2		3
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
Heavy Vehicles (%)	3%	8%	0%	14%	8%	22%	9%	7%	34%	9%	7%	11%
Adj. Flow (vph)	353	927	125	233	573	195	105	1243	77	634	1065	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	1052	0	233	768	0	105	1320	0	634	1211	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	10.0	38.0		10.0	38.0		10.0	40.0		16.0	46.0	
Total Split (%)	9.6%	36.5%		9.6%	36.5%		9.6%	38.5%		15.4%	44.2%	
Maximum Green (s)	6.0	32.0		6.0	32.0		6.0	34.0		12.0	40.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			9			2			3	
Act Effect Green (s)	40.0	32.0		40.0	32.0		42.0	34.0		52.0	40.0	
Actuated g/C Ratio	0.38	0.31		0.38	0.31		0.40	0.33		0.50	0.38	
v/c Ratio	1.65	1.02		1.48	0.78		0.65	1.25		2.52	0.95	
Control Delay (s/veh)	335.3	70.2		272.1	37.2		43.7	145.9		712.1	46.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.6	
Total Delay (s/veh)	335.3	70.2		272.1	37.2		43.7	145.9		712.1	47.5	
LOS	F	E		F	D		D	F		F	D	
Approach Delay (s/veh)		136.8			91.9			138.4			275.9	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~89.3	~124.7		~53.6	73.6		0.0	~186.4		~213.3	128.0	
Queue Length 95th (m)	#158.6	#167.0		#103.5	97.3		#31.6	#224.9		#284.1	#175.8	
Internal Link Dist (m)		85.7			40.9			92.5			334.7	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	214	1027		157	985		161	1056		252	1276	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	8	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.65	1.02		1.48	0.78		0.65	1.25		2.52	0.96	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 2 (2%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.52

Intersection Signal Delay (s/veh): 174.5

Intersection LOS: F

Intersection Capacity Utilization 121.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	8	23	19	4	29	52	1249	27	42	1187	46
Future Volume (vph)	13	8	23	19	4	29	52	1249	27	42	1187	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00		1.00	1.00	
Frt			0.850		0.925			0.997			0.994	
Flt Protected		0.970			0.982		0.950			0.950		
Satd. Flow (prot)	0	1843	1482	0	1257	0	1697	3306	0	1597	3328	0
Flt Permitted		0.855			0.875		0.138			0.173		
Satd. Flow (perm)	0	1624	1462	0	1119	0	247	3306	0	291	3328	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			63		34			4			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		111.5			74.7			176.3			85.4	
Travel Time (s)		8.0			5.4			10.6			5.1	
Confl. Peds. (#/hr)			1	1			3		2	2		3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	9%	0%	0%	67%	4%	9%	0%	8%	8%	0%
Adj. Flow (vph)	15	9	27	22	5	34	60	1452	31	49	1380	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	27	0	61	0	60	1483	0	49	1433	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		1	6			2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		19.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		16.0	69.0		53.0	53.0	
Total Split (%)	33.7%	33.7%	33.7%	33.7%	33.7%		15.4%	66.3%		51.0%	51.0%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		12.0	64.0		48.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		5.0	5.0	
Lead/Lag							Lead			Lag	Lag	

110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance 2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0		7.0	7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			2		3	3	
Act Effect Green (s)		12.2	12.2		12.2		85.8	85.8		77.4	77.4	
Actuated g/C Ratio		0.12	0.12		0.12		0.83	0.83		0.74	0.74	
v/c Ratio		0.13	0.12		0.38		0.20	0.54		0.23	0.58	
Control Delay (s/veh)		40.7	1.8		28.6		2.1	3.1		4.2	3.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.3	
Total Delay (s/veh)		40.7	1.8		28.6		2.1	3.1		4.2	4.0	
LOS		D	A		C		A	A		A	A	
Approach Delay (s/veh)		20.1			28.6			3.1			4.0	
Approach LOS		C			C			A			A	
Queue Length 50th (m)		4.8	0.0		5.4		1.2	54.0		0.0	27.7	
Queue Length 95th (m)		11.0	0.5		15.8		m0.3	3.0		m0.0	m30.0	
Internal Link Dist (m)		87.5			50.7			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		468	466		346		371	2728		216	2476	
Starvation Cap Reductn		0	0		0		0	0		0	435	
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	0.06		0.18		0.16	0.54		0.23	0.70	

Intersection Summary

Area Type: Other

Cycle Length: 104

Actuated Cycle Length: 104

Offset: 16 (15%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay (s/veh): 4.3

Intersection LOS: A

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	1460	30	25	902	8	28	
Future Volume (Veh/h)	1460	30	25	902	8	28	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	1349	28	27	980	9	30	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage veh							
Upstream signal (m)	184						
pX, platoon unblocked			0.74		0.74	0.74	
vC, conflicting volume			1377		1907	689	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			814		1528	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 %			96		88	96	
cM capacity (veh/h)			610		78	810	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	899	478	27	490	490	9	30
Volume Left	0	0	27	0	0	9	0
Volume Right	0	28	0	0	0	0	30
cSH	1700	1700	610	1700	1700	78	810
Volume to Capacity	0.53	0.28	0.04	0.29	0.29	0.12	0.04
Queue Length 95th (m)	0.0	0.0	1.1	0.0	0.0	3.0	0.9
Control Delay (s/veh)	0.0	0.0	11.2	0.0	0.0	56.9	9.6
Lane LOS			B			F	A
Approach Delay (s/veh)	0.0		0.3			20.5	
Approach LOS						C	
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			45.1%		ICU Level of Service		A
Analysis Period (min)			15				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	684	281	261	1218	393	307	1488	290	367	1531	131
Future Volume (vph)	241	684	281	261	1218	393	307	1488	290	367	1531	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	0.99			1.00			1.00	
Frt		0.956			0.963			0.976			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1716	3403	0	1684	3357	0	1728	3331	0	1601	3480	0
Flt Permitted	0.129			0.129			0.105			0.103		
Satd. Flow (perm)	233	3403	0	229	3357	0	191	3331	0	174	3480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			35			20			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			362.9	
Travel Time (s)		7.9			4.6			7.0			21.8	
Confl. Peds. (#/hr)	11		2	2		11	7		4	4		7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	1%	1%	6%	1%	9%	1%	2%	9%	9%	2%	6%
Adj. Flow (vph)	251	713	293	272	1269	409	320	1550	302	382	1595	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	1006	0	272	1678	0	320	1852	0	382	1731	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	17.0	37.0		17.0	37.0		21.0	44.0		22.0	45.0	
Total Split (%)	14.2%	30.8%		14.2%	30.8%		17.5%	36.7%		18.3%	37.5%	
Maximum Green (s)	13.0	31.0		13.0	31.0		17.0	38.0		18.0	39.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		2			11			4			7	
Act Effect Green (s)	46.0	31.0		46.0	31.0		57.0	38.0		59.0	39.0	
Actuated g/C Ratio	0.38	0.26		0.38	0.26		0.48	0.32		0.49	0.33	
v/c Ratio	1.01	1.10		1.11	1.88		1.04	1.73		1.28	1.52	
Control Delay (s/veh)	90.6	100.1		122.0	425.4		76.8	363.8		179.1	271.1	
Queue Delay	0.0	1.6		38.7	0.0		0.0	0.0		0.0	0.7	
Total Delay (s/veh)	90.6	101.7		160.8	425.4		76.8	363.8		179.1	271.7	
LOS	F	F		F	F		E	F		F	F	
Approach Delay (s/veh)		99.5			388.5			321.5			255.0	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~46.4	~143.9		~62.4	~329.3		~67.7	~368.0		~104.7	~317.6	
Queue Length 95th (m)	#102.5	#187.3		m#109.1	#376.4		m#98.2	#413.6		#167.6	#362.9	
Internal Link Dist (m)		85.7			39.9			92.5			338.9	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	249	916		245	893		308	1068		299	1136	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	131		198	0		0	0		0	158	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.01	1.28		5.79	1.88		1.04	1.73		1.28	1.77	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 82 (68%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.88

Intersection Signal Delay (s/veh): 282.9

Intersection LOS: F

Intersection Capacity Utilization 147.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

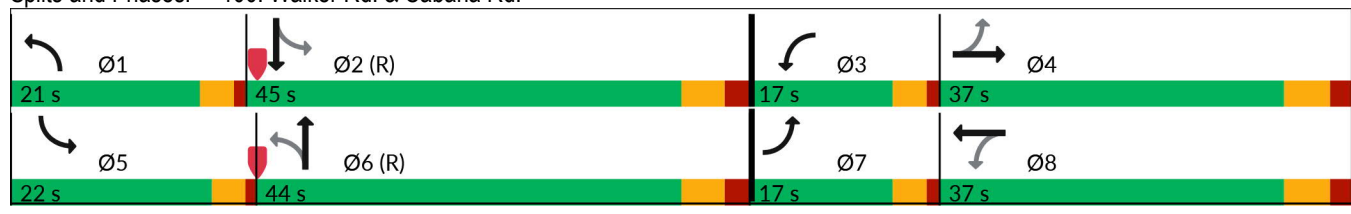
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	19	81	84	16	167	107	1817	81	102	1840	97
Future Volume (vph)	57	19	81	84	16	167	107	1817	81	102	1840	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00			1.00	
Frt			0.850		0.916			0.994			0.992	
Flt Protected		0.964			0.984		0.950			0.950		
Satd. Flow (prot)	0	1832	1615	0	1713	0	1765	3483	0	1725	3478	0
Flt Permitted		0.483			0.865		0.052			0.052		
Satd. Flow (perm)	0	918	1584	0	1502	0	97	3483	0	94	3478	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			83		65			7			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		116.1			77.6			176.3			85.4	
Travel Time (s)		8.4			5.6			10.6			5.1	
Confl. Peds. (#/hr)			4	4			1		3	3		1
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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	3%	0%
Adj. Flow (vph)	58	19	83	86	16	170	109	1854	83	104	1878	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	83	0	272	0	109	1937	0	104	1977	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		10.0	19.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	77.0		11.0	78.0	
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		8.3%	64.2%		9.2%	65.0%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		6.0	72.0		7.0	73.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	

110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance 2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0			7.0	
Pedestrian Calls (#/hr)	4	4	4	0	0			3			1	
Act Effect Green (s)		22.1	22.1		22.1		84.7	76.8		85.1	76.9	
Actuated g/C Ratio		0.18	0.18		0.18		0.71	0.64		0.71	0.64	
v/c Ratio		0.46	0.23		0.83		0.66	0.87		0.64	0.89	
Control Delay (s/veh)		51.1	9.6		55.6		36.3	20.1		21.9	25.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	46.6	
Total Delay (s/veh)		51.1	9.6		55.6		36.3	20.1		21.9	72.2	
LOS		D	A		E		D	C		C	E	
Approach Delay (s/veh)		29.6			55.6			20.9			69.7	
Approach LOS		C			E			C			E	
Queue Length 50th (m)		17.0	0.0		49.9		15.2	116.9		5.5	263.0	
Queue Length 95th (m)		32.0	13.3		80.1		m23.2	#142.6		m4.3	m167.0	
Internal Link Dist (m)		92.1			53.6			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		206	420		388		165	2231		166	2232	
Starvation Cap Reductn		0	0		0		0	0		0	606	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.37	0.20		0.70		0.66	0.87		0.63	1.22	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay (s/veh): 45.5

Intersection LOS: D

Intersection Capacity Utilization 94.0%

ICU Level of Service F

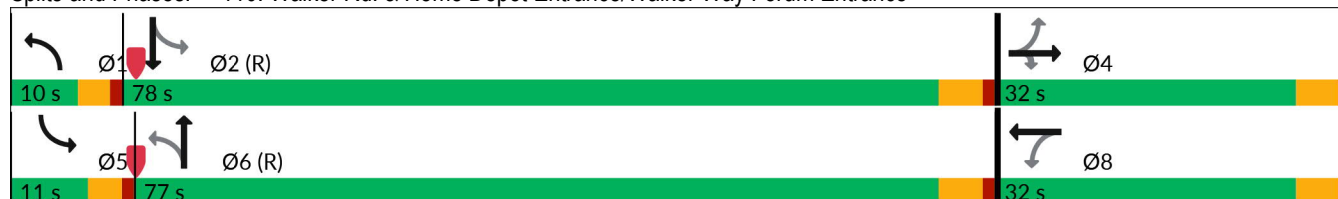
Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	
Traffic Volume (vph)	238	161	177	251	130	74	206	1635	235	76	1687	132
Future Volume (vph)	238	161	177	251	130	74	206	1635	235	76	1687	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		40.0
Storage Lanes	1		0	2		1	1		1	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00					0.99			0.99	1.00		0.98
Frt		0.922				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1791	0	3286	1881	1615	1745	3625	1568	3385	3471	1615
Flt Permitted	0.623			0.950			0.065			0.950		
Satd. Flow (perm)	1119	1791	0	3286	1881	1591	119	3625	1547	3384	3471	1579
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42				100			178			100
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		115.3			290.2			639.4			169.2	
Travel Time (s)		8.3			20.9			38.4			10.2	
Confl. Peds. (#/hr)	2					2	1		1	1		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	3%	1%	0%	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	248	168	184	261	135	77	215	1703	245	79	1757	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	352	0	261	135	77	215	1703	245	79	1757	138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.6			6.6			6.6			6.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	6.0	10.0		7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	10.0	30.0		12.0	30.0	30.0	11.0	33.0	33.0	12.0	33.0	33.0
Total Split (s)	13.0	30.0		14.0	31.0	31.0	12.0	64.0	64.0	12.0	64.0	64.0
Total Split (%)	10.8%	25.0%		11.7%	25.8%	25.8%	10.0%	53.3%	53.3%	10.0%	53.3%	53.3%
Maximum Green (s)	9.0	25.0		9.0	26.0	26.0	8.0	59.0	59.0	7.0	59.0	59.0
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0		5.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		18.0			18.0	18.0		21.0	21.0		21.0	21.0
Pedestrian Calls (#/hr)		0			2	2		1	1		1	1
Act Effect Green (s)	34.0	24.0		9.0	25.0	25.0	69.8	62.4	62.4	7.0	59.0	59.0
Actuated g/C Ratio	0.28	0.20		0.08	0.21	0.21	0.58	0.52	0.52	0.06	0.49	0.49
v/c Ratio	0.69	0.90		1.06	0.34	0.19	1.13	0.90	0.28	0.40	1.03	0.17
Control Delay (s/veh)	45.0	67.4		131.2	33.3	2.0	134.6	35.3	6.1	44.7	72.6	18.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.0	67.4		131.2	33.3	2.0	134.6	35.3	6.1	44.7	72.6	18.3
LOS	D	E		F	C	A	F	D	A	D	E	B
Approach Delay (s/veh)		58.2			82.2			41.9			67.7	
Approach LOS		E			F			D			E	
Queue Length 50th (m)	47.7	75.7		~34.1	24.3	0.0	~50.0	206.8	8.6	9.8	~244.7	9.6
Queue Length 95th (m)	72.7	#128.8		#63.1	36.8	1.8	#100.9	#265.2	23.6	m18.1	#299.1	39.1
Internal Link Dist (m)		91.3			266.2			615.4			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		40.0
Base Capacity (vph)	361	406		246	407	423	190	1884	889	197	1706	827
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.87		1.06	0.33	0.18	1.13	0.90	0.28	0.40	1.03	0.17

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay (s/veh): 57.2

Intersection LOS: E

Intersection Capacity Utilization 100.3%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

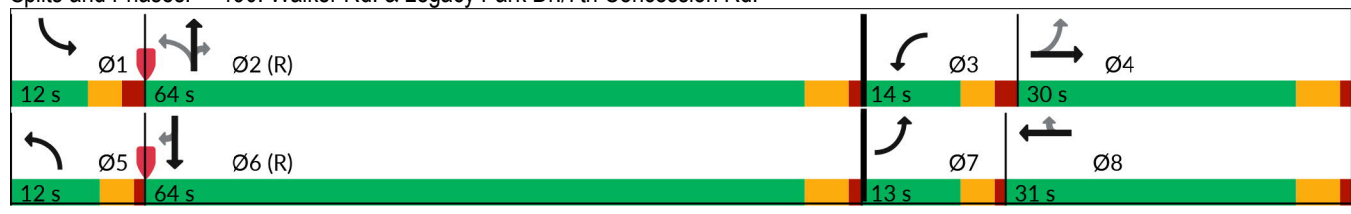
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	1265	76	77	1845	29	88	
Future Volume (Veh/h)	1265	76	77	1845	29	88	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	1169	70	84	2005	32	96	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage veh							
Upstream signal (m)	184						
pX, platoon unblocked			0.79		0.79	0.79	
vC, conflicting volume			1239		2375	620	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			772		2209	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		0	89	
cM capacity (veh/h)			673		27	862	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	779	460	84	1003	1003	32	96
Volume Left	0	0	84	0	0	32	0
Volume Right	0	70	0	0	0	0	96
cSH	1700	1700	673	1700	1700	27	862
Volume to Capacity	0.46	0.27	0.12	0.59	0.59	1.20	0.11
Queue Length 95th (m)	0.0	0.0	3.4	0.0	0.0	30.5	3.0
Control Delay (s/veh)	0.0	0.0	11.1	0.0	0.0	458.3	9.7
Lane LOS			B			F	A
Approach Delay (s/veh)	0.0		0.4			121.9	
Approach LOS						F	
Intersection Summary							
Average Delay			4.8				
Intersection Capacity Utilization			61.0%		ICU Level of Service		B
Analysis Period (min)			15				

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Saturday Peak Hour
2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	852	355	295	930	295	359	1315	28	322	1442	211
Future Volume (vph)	235	852	355	295	930	295	359	1315	28	322	1442	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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	
Frt		0.956			0.964			0.997			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1767	3414	0	1767	3380	0	1745	3483	0	1601	3505	0
Flt Permitted	0.118			0.114			0.091			0.093		
Satd. Flow (perm)	220	3414	0	212	3380	0	167	3483	0	157	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			37			2			16	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			370.0	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	6		1	1		6	1		4	4		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
Heavy Vehicles (%)	1%	1%	0%	1%	3%	1%	0%	1%	1%	9%	1%	0%
Adj. Flow (vph)	253	916	382	317	1000	317	386	1414	30	346	1551	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	253	1298	0	317	1317	0	386	1444	0	346	1778	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	11.0	40.0		12.0	41.0		15.0	50.0		14.0	49.0	
Total Split (%)	9.5%	34.5%		10.3%	35.3%		12.9%	43.1%		12.1%	42.2%	
Maximum Green (s)	7.0	34.0		8.0	35.0		11.0	44.0		10.0	43.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Saturday Peak Hour
2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		1			6			4			1	
Act Effect Green (s)	43.0	34.0		45.0	35.0		57.0	44.0		55.0	43.0	
Actuated g/C Ratio	0.37	0.29		0.39	0.30		0.49	0.38		0.47	0.37	
v/c Ratio	1.45	1.25		1.68	1.26		1.67	1.09		1.75	1.36	
Control Delay (s/veh)	258.0	154.2		349.4	159.4		338.7	95.7		380.0	197.5	
Queue Delay	0.0	0.6		31.3	0.0		0.0	0.0		0.0	0.7	
Total Delay (s/veh)	258.0	154.8		380.7	159.4		338.7	95.7		380.0	198.2	
LOS	F	F		F	F		F	F		F	F	
Approach Delay (s/veh)		171.6			202.3			147.0			227.8	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~65.5	~199.7		~94.4	~205.8		~118.4	~212.0		~108.4	~295.2	
Queue Length 95th (m)	#119.3	#244.2		#152.7	#250.7		m#163.7	#257.9		#168.2	#340.5	
Internal Link Dist (m)		85.7			39.9			92.5			346.0	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	174	1040		189	1045		231	1322		198	1309	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	117		137	0		0	0		0	205	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.45	1.41		6.10	1.26		1.67	1.09		1.75	1.61	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 77 (66%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.75

Intersection Signal Delay (s/veh): 189.0

Intersection LOS: F

Intersection Capacity Utilization 134.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

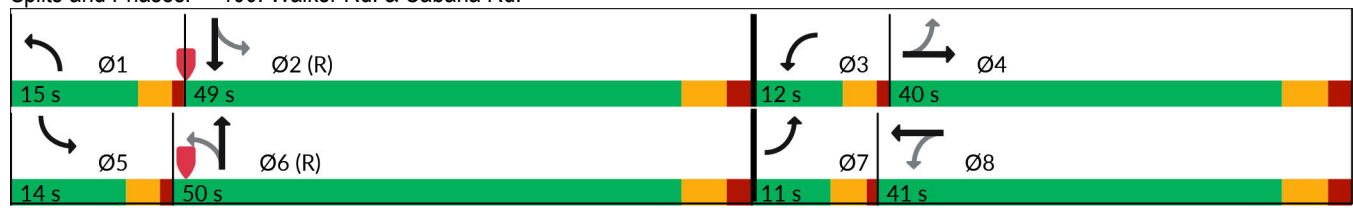
Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	22	130	92	27	179	160	1381	102	135	1778	114
Future Volume (vph)	71	22	130	92	27	179	160	1381	102	135	1778	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00	0.98		0.99			1.00				
Frt			0.850		0.919			0.990			0.991	
Flt Protected		0.963			0.985		0.950			0.950		
Satd. Flow (prot)	0	1830	1615	0	1706	0	1765	3503	0	1725	3544	0
Flt Permitted		0.460			0.846		0.060			0.061		
Satd. Flow (perm)	0	874	1587	0	1463	0	111	3503	0	111	3544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134		63			10			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		114.2			77.1			176.3			85.4	
Travel Time (s)		8.2			5.6			10.6			5.1	
Confl. Peds. (#/hr)	1		3	3		1			1	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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	78	24	143	101	30	197	176	1518	112	148	1954	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	143	0	328	0	176	1630	0	148	2079	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		10.0	19.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		12.0	66.0		15.0	69.0	
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%		10.3%	56.9%		12.9%	59.5%	
Maximum Green (s)	30.0	30.0	30.0	30.0	30.0		8.0	61.0		11.0	64.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	

110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance 2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0			7.0	
Pedestrian Calls (#/hr)	3	3	3	1	1			1			0	
Act Effect Green (s)		26.0	26.0		26.0		77.1	66.3		76.7	66.1	
Actuated g/C Ratio		0.22	0.22		0.22		0.66	0.57		0.66	0.57	
v/c Ratio		0.52	0.31		0.87		0.82	0.81		0.71	1.03	
Control Delay (s/veh)		48.5	8.7		57.7		50.8	26.6		27.8	39.6	
Queue Delay		16.2	0.0		58.4		0.0	0.1		0.0	29.4	
Total Delay (s/veh)		64.7	8.7		116.1		50.8	26.6		27.8	69.0	
LOS		E	A		F		D	C		C	E	
Approach Delay (s/veh)		32.0			116.1			29.0			66.3	
Approach LOS		C			F			C			E	
Queue Length 50th (m)		21.0	1.6		61.1		28.7	132.5		14.0	~291.1	
Queue Length 95th (m)		39.2	17.8		#103.9		m#56.5	m153.6		m5.5	m171.4	
Internal Link Dist (m)		90.2			53.1			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		226	509		425		214	2007		227	2023	
Starvation Cap Reductn		0	0		0		0	0		0	400	
Spillback Cap Reductn		104	0		181		0	23		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.84	0.28		1.34		0.82	0.82		0.65	1.28	

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay (s/veh): 53.4

Intersection LOS: D

Intersection Capacity Utilization 97.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

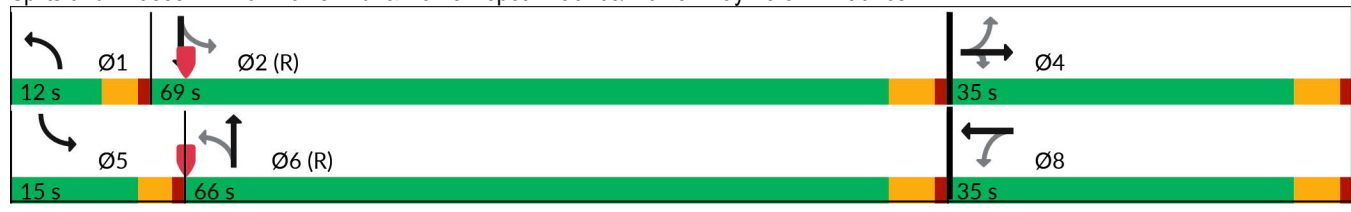
Queue shown is maximum after two cycles.

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: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	
Traffic Volume (vph)	339	115	169	221	143	71	214	1112	169	84	1476	136
Future Volume (vph)	339	115	169	221	143	71	214	1112	169	84	1476	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		40.0
Storage Lanes	1		0	2		1	1		1	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor	1.00	0.99		1.00		0.99			0.99	1.00		
Frt		0.911				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1755	0	3385	1900	1615	1728	3697	1599	3385	3574	1599
Flt Permitted	0.661			0.950			0.076			0.950		
Satd. Flow (perm)	1211	1755	0	3380	1900	1591	138	3697	1576	3382	3574	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62				75			176			113
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		108.5			290.2			639.4			169.2	
Travel Time (s)		7.8			20.9			38.4			10.2	
Confl. Peds. (#/hr)	2		1	1		2			2	2		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	2%	1%	0%	1%	1%
Adj. Flow (vph)	357	121	178	233	151	75	225	1171	178	88	1554	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	299	0	233	151	75	225	1171	178	88	1554	143
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.6			6.6			6.6			6.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0		12.0	30.0	30.0	11.0	33.0	33.0	12.0	33.0	33.0
Total Split (s)	35.0	35.0		13.0	48.0	48.0	12.0	56.0	56.0	12.0	56.0	56.0
Total Split (%)	30.2%	30.2%		11.2%	41.4%	41.4%	10.3%	48.3%	48.3%	10.3%	48.3%	48.3%
Maximum Green (s)	30.0	30.0		8.0	43.0	43.0	8.0	51.0	51.0	7.0	51.0	51.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)	18.0	18.0			18.0	18.0		21.0	21.0		21.0	21.0
Pedestrian Calls (#/hr)	1	1			2	2		2	2		0	0
Act Effect Green (s)	30.0	30.0		8.0	43.0	43.0	60.8	53.4	53.4	7.0	51.0	51.0
Actuated g/C Ratio	0.26	0.26		0.07	0.37	0.37	0.52	0.46	0.46	0.06	0.44	0.44
v/c Ratio	1.14	0.60		1.00	0.21	0.12	1.24	0.69	0.22	0.43	0.99	0.19
Control Delay (s/veh)	134.4	35.3		113.4	26.0	5.9	171.7	28.0	3.6	46.7	60.7	16.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	134.4	35.3		113.4	26.0	5.9	171.7	28.0	3.6	46.7	60.7	16.2
LOS	F	D		F	C	A	F	C	A	D	E	B
Approach Delay (s/veh)		89.2			67.1			45.8			56.4	
Approach LOS		F			E			D			E	
Queue Length 50th (m)	~99.8	49.8		29.2	24.5	0.0	~51.4	118.2	0.3	10.9	147.7	8.6
Queue Length 95th (m)	#159.6	80.0		#56.2	40.6	9.9	#102.6	144.5	13.1	20.1	#254.2	38.0
Internal Link Dist (m)		84.5			266.2			615.4			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		40.0
Base Capacity (vph)	313	499		233	704	636	182	1701	820	204	1571	766
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.60		1.00	0.21	0.12	1.24	0.69	0.22	0.43	0.99	0.19

Intersection Summary

Area Type: Other

Cycle Length: 116

Actuated Cycle Length: 116

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.24

Intersection Signal Delay (s/veh): 58.6

Intersection LOS: E

Intersection Capacity Utilization 96.4%

ICU Level of Service F

Analysis Period (min) 15

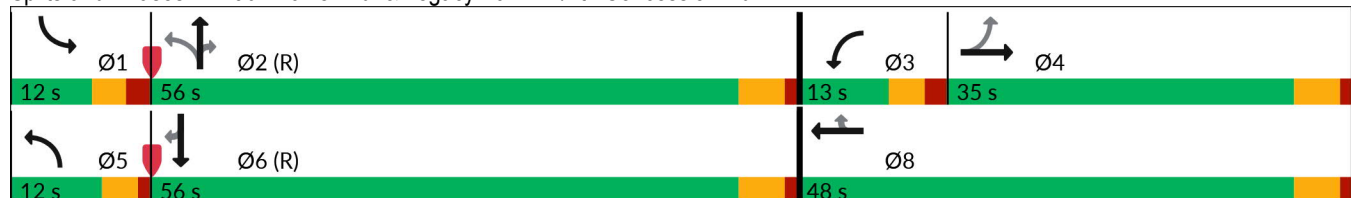
~ Volume exceeds capacity, queue is theoretically infinite.

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



HCM Unsignalized Intersection Capacity Analysis
310: Site Driveway & Cabana Rd.

Saturday Peak Hour
2040 Total Future Conditions (mitigated)

							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	1101	105	99	1490	34	105	
Future Volume (Veh/h)	1101	105	99	1490	34	105	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	1017	97	108	1620	37	114	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage veh							
Upstream signal (m)	184						
pX, platoon unblocked			0.74		0.74	0.74	
vC, conflicting volume			1114		2092	557	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			461		1777	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		24	86	
cM capacity (veh/h)			825		49	810	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	678	436	108	810	810	37	114
Volume Left	0	0	108	0	0	37	0
Volume Right	0	97	0	0	0	0	114
cSH	1700	1700	825	1700	1700	49	810
Volume to Capacity	0.40	0.26	0.13	0.48	0.48	0.76	0.14
Queue Length 95th (m)	0.0	0.0	3.6	0.0	0.0	24.5	3.9
Control Delay (s/veh)	0.0	0.0	10.0	0.0	0.0	193.2	10.2
Lane LOS			B			F	B
Approach Delay (s/veh)	0.0		0.6			55.0	
Approach LOS						F	
Intersection Summary							
Average Delay			3.1				
Intersection Capacity Utilization			51.2%			ICU Level of Service	
						A	
Analysis Period (min)			15				

Lanes, Volumes, Timings
100: Walker Rd. & Cabana Rd.

Sunday Peak Hour
2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	796	326	310	829	298	324	1250	107	312	1402	152
Future Volume (vph)	200	796	326	310	829	298	324	1250	107	312	1402	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.6	3.6	3.5	3.6	3.6	3.3	3.4	3.6	3.3	3.6	3.6
Storage Length (m)	50.0		65.0	0.0		0.0	0.0		0.0	65.0		0.0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			1.00	
Frt		0.956			0.960			0.988			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3412	0	1767	3436	0	1745	3480	0	1728	3520	0
Flt Permitted	0.125			0.121			0.103			0.105		
Satd. Flow (perm)	235	3412	0	225	3436	0	189	3480	0	191	3520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			48			9			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		109.7			63.9			116.5			369.5	
Travel Time (s)		7.9			4.6			7.0			22.2	
Confl. Peds. (#/hr)	10		3	3		10	1		5	5		1
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
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	1%	1%	0%
Adj. Flow (vph)	206	821	336	320	855	307	334	1289	110	322	1445	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	1157	0	320	1162	0	334	1399	0	322	1602	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			6.9			6.9	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.00	1.00	1.01	1.00	1.00	1.04	1.03	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	4			8			6			2		
Detector Phase	7	4		3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.0	38.0		10.0	38.0		10.0	36.0		10.0	36.0	
Total Split (s)	11.0	38.0		12.0	39.0		14.0	45.0		13.0	44.0	
Total Split (%)	10.2%	35.2%		11.1%	36.1%		13.0%	41.7%		12.0%	40.7%	
Maximum Green (s)	7.0	32.0		8.0	33.0		10.0	39.0		9.0	38.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Don't Walk (s)		25.0			25.0			23.0			23.0	
Pedestrian Calls (#/hr)		3			10			5			1	
Act Effect Green (s)	41.0	32.0		43.0	33.0		51.0	39.0		49.0	38.0	
Actuated g/C Ratio	0.38	0.30		0.40	0.31		0.47	0.36		0.45	0.35	
v/c Ratio	1.09	1.10		1.58	1.07		1.43	1.11		1.50	1.29	
Control Delay (s/veh)	117.6	94.4		304.1	84.4		243.0	99.9		273.7	166.1	
Queue Delay	0.0	0.4		28.3	0.0		0.0	0.0		0.0	0.3	
Total Delay (s/veh)	117.6	94.9		332.4	84.4		243.0	99.9		273.7	166.3	
LOS	F	F		F	F		F	F		F	F	
Approach Delay (s/veh)		98.3			137.9			127.5			184.3	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~33.6	~148.9		~84.4	~147.1		~82.4	~180.6		~83.2	~238.8	
Queue Length 95th (m)	#81.9	#192.3		#141.4	#190.5		#144.8	#238.4		#140.3	#284.0	
Internal Link Dist (m)		85.7			39.9			92.5			345.5	
Turn Bay Length (m)	50.0									65.0		
Base Capacity (vph)	189	1051		203	1083		233	1262		214	1246	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	92		144	0		0	0		0	74	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.09	1.21		5.42	1.07		1.43	1.11		1.50	1.37	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 78 (72%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.58

Intersection Signal Delay (s/veh): 140.6

Intersection LOS: F

Intersection Capacity Utilization 127.9%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 100: Walker Rd. & Cabana Rd.



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	11	138	44	19	88	182	1512	40	66	1821	124
Future Volume (vph)	54	11	138	44	19	88	182	1512	40	66	1821	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.6	3.6	3.6	3.6	3.6	3.4	3.6	3.6	3.2	3.6	3.6
Storage Length (m)	0.0		0.0	0.0		0.0	55.0		0.0	50.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		1.00			1.00			1.00	
Frt			0.850		0.921			0.996			0.990	
Flt Protected		0.960			0.986		0.950			0.950		
Satd. Flow (prot)	0	1748	1615	0	1679	0	1765	3593	0	1725	3535	0
Flt Permitted		0.504			0.878		0.055			0.107		
Satd. Flow (perm)	0	918	1593	0	1494	0	102	3593	0	194	3535	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		58			4			12	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		120.1			77.3			176.3			85.4	
Travel Time (s)		8.6			5.6			10.6			5.1	
Confl. Peds. (#/hr)			1	1			1		3	3		1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	25%	0%	0%	8%	3%	0%	0%	0%	0%	1%	0%
Adj. Flow (vph)	57	12	145	46	20	93	192	1592	42	69	1917	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	145	0	159	0	192	1634	0	69	2048	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.03	1.00	1.00	1.06	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	25.0	25.0		10.0	19.0		10.5	19.0	
Total Split (s)	25.0	25.0	25.0	25.0	25.0		13.0	69.4		13.6	70.0	
Total Split (%)	23.1%	23.1%	23.1%	23.1%	23.1%		12.0%	64.3%		12.6%	64.8%	
Maximum Green (s)	20.0	20.0	20.0	20.0	20.0		9.0	64.4		9.6	65.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	

110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance 2040 Total Future Conditions (mitigated)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Don't Walk (s)	13.0	13.0	13.0	13.0	13.0			7.0			7.0	
Pedestrian Calls (#/hr)	1	1	1	0	0			3			1	
Act Effect Green (s)		14.2	14.2		14.2		84.1	75.0		76.1	68.3	
Actuated g/C Ratio		0.13	0.13		0.13		0.78	0.69		0.70	0.63	
v/c Ratio		0.57	0.43		0.64		0.75	0.65		0.30	0.91	
Control Delay (s/veh)		61.5	10.7		39.6		31.7	23.0		5.1	18.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	45.7	
Total Delay (s/veh)		61.5	10.7		39.6		31.7	23.0		5.1	64.1	
LOS		E	B		D		C	C		A	E	
Approach Delay (s/veh)		27.1			39.6			23.9			62.2	
Approach LOS		C			D			C			E	
Queue Length 50th (m)		14.6	0.0		21.3		24.0	149.8		2.0	231.5	
Queue Length 95th (m)		28.4	17.0		41.3		m#50.5	m213.9		m0.6	m168.5	
Internal Link Dist (m)		96.1			53.3			152.3			61.4	
Turn Bay Length (m)							55.0			50.0		
Base Capacity (vph)		170	413		323		256	2496		277	2241	
Starvation Cap Reductn		0	0		0		0	0		0	444	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.41	0.35		0.49		0.75	0.65		0.25	1.14	

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 43.4

Intersection LOS: D

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: Walker Rd. & Home Depot Entrance/Walker Way Forum Entrance



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	
Traffic Volume (vph)	318	162	161	167	154	116	263	1099	151	103	1449	149
Future Volume (vph)	318	162	161	167	154	116	263	1099	151	103	1449	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.8	3.6	3.3	3.6	3.6	3.3	4.0	3.6	3.3	3.6	3.6
Storage Length (m)	28.0		0.0	35.0		0.0	85.0		0.0	45.0		40.0
Storage Lanes	1		0	2		1	1		1	2		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		0.99		1.00								0.98
Frt		0.925				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1784	0	3385	1900	1615	1728	3770	1615	3385	3610	1615
Flt Permitted	0.653			0.950			0.085			0.950		
Satd. Flow (perm)	1199	1784	0	3376	1900	1615	155	3770	1615	3385	3610	1580
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				123			161			121
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		113.8			290.2			639.4			169.2	
Travel Time (s)		8.2			20.9			38.4			10.2	
Confl. Peds. (#/hr)			2	2			1					1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	338	172	171	178	164	123	280	1169	161	110	1541	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	343	0	178	164	123	280	1169	161	110	1541	159
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		6.6			6.6			6.6			6.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	0.97	1.00	1.04	1.00	1.00	1.04	0.94	1.00	1.04	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0	10.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	30.0	30.0		12.0	30.0	30.0	11.0	33.0	33.0	12.0	33.0	33.0
Total Split (s)	32.0	32.0		12.0	44.0	44.0	15.0	52.0	52.0	12.0	49.0	49.0
Total Split (%)	29.6%	29.6%		11.1%	40.7%	40.7%	13.9%	48.1%	48.1%	11.1%	45.4%	45.4%
Maximum Green (s)	27.0	27.0		7.0	39.0	39.0	11.0	47.0	47.0	7.0	44.0	44.0
Yellow Time (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0		2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)	18.0	18.0			18.0	18.0		21.0	21.0		21.0	21.0
Pedestrian Calls (#/hr)	2	2			0	0		0	0		1	1
Act Effect Green (s)	27.0	27.0		7.0	39.0	39.0	59.0	47.0	47.0	7.0	44.0	44.0
Actuated g/C Ratio	0.25	0.25		0.06	0.36	0.36	0.55	0.44	0.44	0.06	0.41	0.41
v/c Ratio	1.13	0.72		0.81	0.24	0.19	1.15	0.71	0.20	0.50	1.05	0.22
Control Delay (s/veh)	130.4	41.6		77.6	25.3	5.0	130.8	28.0	3.6	47.0	75.2	12.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	130.4	41.6		77.6	25.3	5.0	130.8	28.0	3.6	47.0	75.2	12.0
LOS	F	D		E	C	A	F	C	A	D	E	B
Approach Delay (s/veh)		85.7			39.9			43.4			67.9	
Approach LOS		F			D			D			E	
Queue Length 50th (m)	~87.0	61.0		20.4	25.1	0.0	~56.6	109.0	0.0	11.4	~202.8	14.6
Queue Length 95th (m)	#144.4	94.8		#39.4	41.6	12.1	#110.8	134.5	12.1	20.1	#248.4	35.0
Internal Link Dist (m)		89.8			266.2			615.4			145.2	
Turn Bay Length (m)	28.0			35.0			85.0			45.0		40.0
Base Capacity (vph)	299	479		219	686	661	244	1640	793	219	1470	715
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.72		0.81	0.24	0.19	1.15	0.71	0.20	0.50	1.05	0.22

Intersection Summary

Area Type: Other

Cycle Length: 108

Actuated Cycle Length: 108

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay (s/veh): 59.1

Intersection LOS: E

Intersection Capacity Utilization 96.4%

ICU Level of Service F

Analysis Period (min) 15

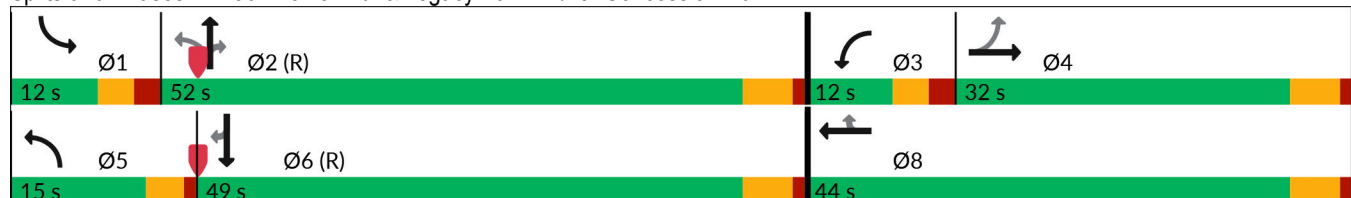
~ Volume exceeds capacity, queue is theoretically infinite.

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: 190: Walker Rd. & Legacy Park Dr./7th Concession Rd.



							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	1175	55	42	1424	32	54	
Future Volume (Veh/h)	1175	55	42	1424	32	54	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	1086	51	46	1548	35	59	
Pedestrians							
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage veh							
Upstream signal (m)	184						
pX, platoon unblocked			0.75		0.75	0.75	
vC, conflicting volume			1137		1978	569	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			526		1642	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 %			94		47	93	
cM capacity (veh/h)			791		66	822	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	724	413	46	774	774	35	59
Volume Left	0	0	46	0	0	35	0
Volume Right	0	51	0	0	0	0	59
cSH	1700	1700	791	1700	1700	66	822
Volume to Capacity	0.43	0.24	0.06	0.46	0.46	0.53	0.07
Queue Length 95th (m)	0.0	0.0	1.5	0.0	0.0	17.5	1.9
Control Delay (s/veh)	0.0	0.0	9.8	0.0	0.0	110.3	9.7
Lane LOS			A			F	A
Approach Delay (s/veh)	0.0		0.3			47.2	
Approach LOS						E	
Intersection Summary							
Average Delay			1.7				
Intersection Capacity Utilization			49.4%	ICU Level of Service		A	
Analysis Period (min)			15				