Appendix B

NW Clairmont Area Structure Plan

Traffic Impact Assessment

PROJECT NO. 191-00067-00

NORTHWEST CLAIRMONT AREA STRUCTURE PLAN AND CLAIRMONT HEIGHTS AREA STRUCTURE PLAN

TRAFFIC IMPACT ASSESSMENT

MARCH 2019

wsp

NORTHWEST CLAIRMONT AREA STRUCTURE PLAN AND CLAIRMONT HEIGHTS AREA STRUCTURE PLAN

TRAFFIC IMPACT ASSESSMENT

COUNTY OF GRANDE PRAIRIE NO. 1

Project No: 191-00067-00
Date: March 2019

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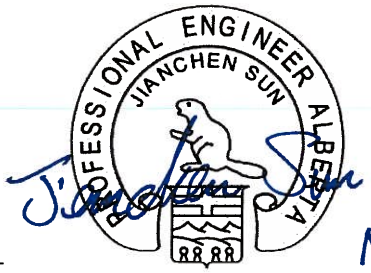
CORPORATE AUTHORIZATION

This report **"Northwest Clairmont Area Structure Plan and Clairmont Heights Area Structure Plan Traffic Impact Assessment"** was prepared by WSP Canada Inc. for the **County of Grande Prairie No. 1.** The quality of information, conclusions and estimates contained herein is consistent with the level of effort provided by WSP Canada Inc. and are based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions and qualifications set forth in this report. This report is intended to be used by the **County of Grande Prairie No. 1** only, subject to the terms and conditions of his contract with WSP Canada Inc. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

PREPARED BY:



Mar. 11, 2019

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The Association of Professional Engineers and Geoscientists of Alberta

REVISION HISTORY

VERSION	DATE	DESCRIPTION
1	April 21, 2017	Draft for County Review
2	June 9, 2017	Issued for County Approval
3	February 2, 2018	Final Report Issued for Alberta Transportation Approval
4	March 11, 2019	NW Clairmont ASP and Clairmont Heights ASP Joint TIA Report. Issued for County and AT Approval

EXECUTIVE SUMMARY

WSP Canada Inc. was retained by the County of Grande Prairie No. 1 to update the Northwest Clairmont Area Structure Plan (ASP) Traffic Impact Assessment (TIA) and to combine it with the Clairmont Heights ASP TIA in accordance with Alberta Transportation requirements. WSP had previously completed independent TIAs for the proposed Northwest Clairmont ASP located approximately 7 km north of the City of Grande Prairie west of Highway 2 and the Clairmont Heights ASP located east of Highway 2 opposite the NW Clairmont ASP in the County of Grande Prairie. Alberta Transportation recommends an updated TIA be completed to support both ASPs and to reflect the future road network proposed in Alberta Transportation's 2018 Draft *Highway 2, Clairmont / Sexsmith Network Study*.

The purpose of this study is to identify and assess the potential vehicular traffic impacts on the study intersections and roadways associated with the proposed development, and to suggest required mitigation measures to allow the adjacent roadways to safely accommodate the proposed development in both the NW Clairmont ASP and Clairmont Heights ASP.

NW Clairmont ASP

The NW Clairmont ASP area is located approximately 7 kilometres north of the City of Grande Prairie, within the Hamlet of Clairmont's Urban Boundary. The Plan area lies adjacent to Highway 2 in the east, Township Road 724 in the south, one quarter section to the west of existing Range Road 63, and extends to the southern border of the Emerson Trail Area Structure Plan. An existing CN rail line runs through the eastern portion of the Plan area, and forms its northeast boundary. In total, the Plan area encompasses approximately 25 quarter sections of land. The realistic timeframe for developing such a large area may be more than 50 years.

The majority of the NW Clairmont ASP area remains in a state of undeveloped pasture land, with a portion of active farmland. The Clairmont Centre for Recycling and Waste Management is located west of Ferguson Lake with access onto Range Road 63; an existing highway industrial business is located east of the Lake, and the current County Community Services Building is north of Township Road 724 and west of Range Road 62.

In accordance with the NW Clairmont ASP development concept plan, the gross developable area in the ASP will comprise of approximately 1,026 hectares of land.

Clairmont Heights ASP

The Clairmont Heights ASP area encompasses approximately 501.28 hectares of land and is located north of Clairmont Lake, adjacent to the Hamlet of Clairmont which is located to the southwest of the ASP area. The ASP area is bounded by Township Road 730 to the north; Range Road 55 to the east; Clairmont Lake and Rural Estate residential lands to the south, and Highway 2 to the west. The ASP area excludes the NW ¼Sec. 31-72-5 W6M. The Canadian National Railway runs along Highway 2 through the southwest corner of the ASP area.

In accordance with the Clairmont Heights ASP development concept plan, the gross developable area in the ASP will contain approximately 401 hectares of land. The timing of the development phases is uncertain at the time of this study.

2018 Draft Highway 2, Clairmont / Sexsmith Network Study

Based on the recommended ultimate road network plan in the draft *Highway 2, Clairmont / Sexsmith Network Study,* two key recommendations were noted:

- The Highway 2 / Township Road 730 intersection was recommended to be relocated 400m north of the existing.

- The west leg of the Highway 2 / Township Road 725 intersection (Clairmont North Access) will be closed and the eastbound traffic will be redirected to Township Road 724 to the south. This recommendation was also proposed in Alberta Transportation's *Highway 2 Access Management Study (2005).*

Based on the forecasted 5 year horizon (2022) and 20 year horizon (2037) traffic levels, the specific road network and intersection improvements for the 5 year horizon are summarized in Figure E-1. The anticipated required improvements to accommodate the 20 year horizon traffic are illustrated in Figure E-2. The key findings and recommendations are summarized below:

5 YEAR HORIZON

The following improvements are recommended to accommodate the 5 year horizon traffic:

- Close the west approach of the Highway 2 / Township Road 725 (Clairmont North Access) intersection, convert the intersection to a "T" intersection and install signals. Alberta Transportation requested that the access to the truck wash business on the north side of Township Road 725 be removed.
- Relocate the Highway 2 / Township Road 730 intersection 400 m north of the existing intersection and install traffic signals.
- A divided four-lane cross-section with raised median is recommended for Township Road 724 from Highway 2 to west of 102 Street (proposed east commercial access). The Township Road 724 / 102 Street intersection will be a four-legged all-movement intersection.
- Provide dual left turn lanes for the northbound traffic at the Highway 2 / Township Road 724 intersection.
- Install traffic signals at the Township Road 724 / 102 Street intersection and provide dual left turn lanes for the southbound traffic.
- Install traffic signals at the Range Road 63 / Township Road 724 intersection.

20 YEAR HORIZON

In addition to the required 5 year horizon improvements, the following improvements are recommended to accommodate the 20 year horizon traffic:

- Provide four-lane divided cross-sections for Township Road 724, Range Road 63, and Township Road 730.
- Provide six-lane divided cross-section for Highway 2.
- Install traffic signals at the center and west commercial access intersections on Township Road 724.
- Provide dual left turn lanes for the northbound traffic at the Highway 2 / Township Road 730 intersection.
- Install traffic signals at the Range Road 63 / Township Road 730 intersection.

The above recommended improvements are consistent with the recommendations in the draft *Highway 2, Clairmont / Sexsmith Network Study.*

The County of Grande Prairie may consider roundabouts as an alternative for traffic signals at the intersections where signals will be warranted. A roundabout feasibility study should be conducted prior to installing traffic signals.

In the development of this study, WSP has utilized all available information in the assessment of expected future traffic conditions. We have incorporated the most recent data and direction provided by the County; since the ASPs take a long-term look at development (50+ years), it is possible or even likely that local

conditions may change as time progresses and development proceeds. It is therefore recommended that smaller scale traffic impact assessments be undertaken each time a tentative plan or phase of development is submitted to the County for approval. These smaller scale studies will be necessary in order to identify specific local road network improvements triggered by individual phases of development within the area, and will be guided by the NW Clairmont ASP and Clairmont Heights ASP TIA in that regard.

The County recognizes that improvements on the provincial highway network may be driven by development within the NW Clairmont ASP and Clairmont ASP area and acknowledges their responsibility for these improvements if and when required.

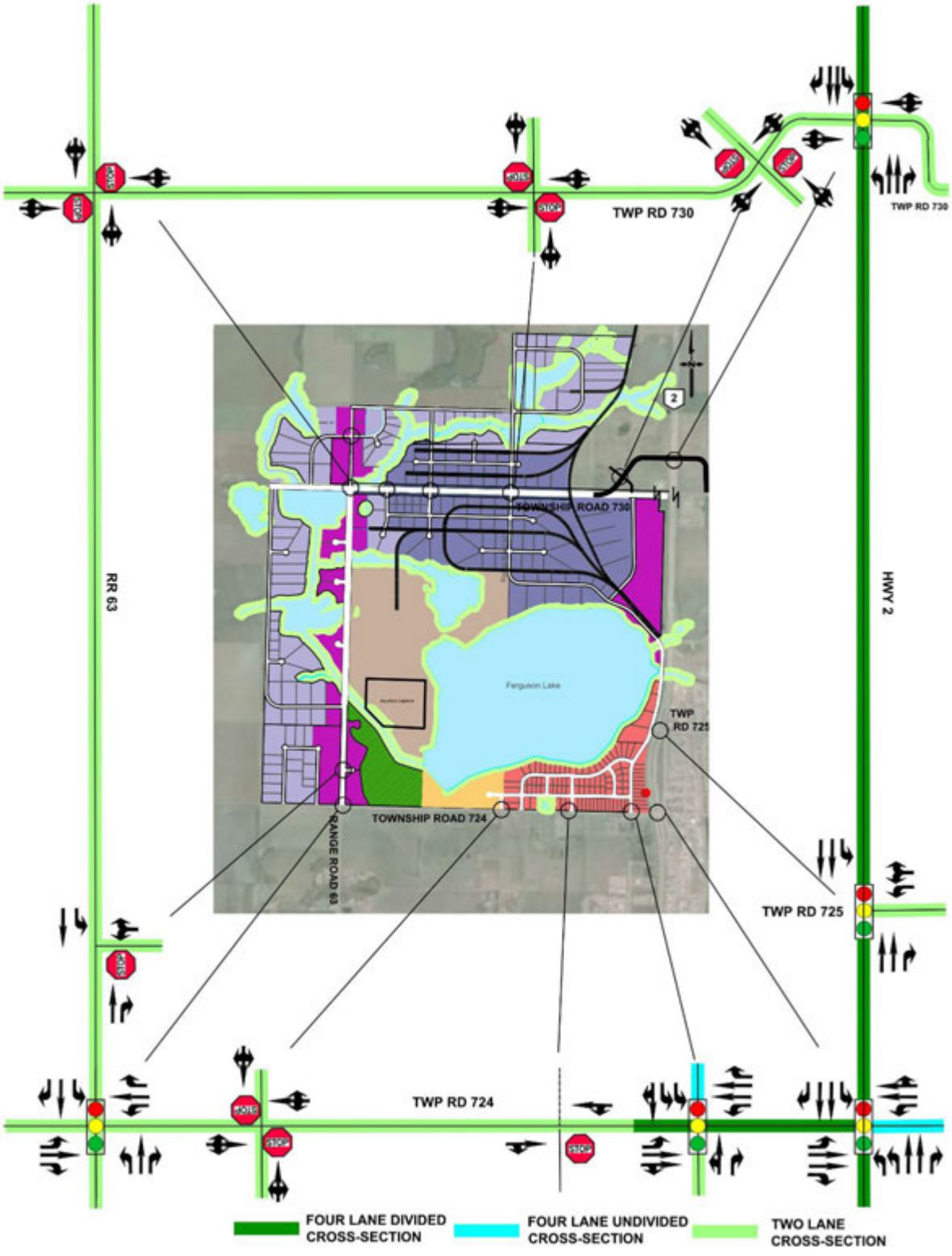
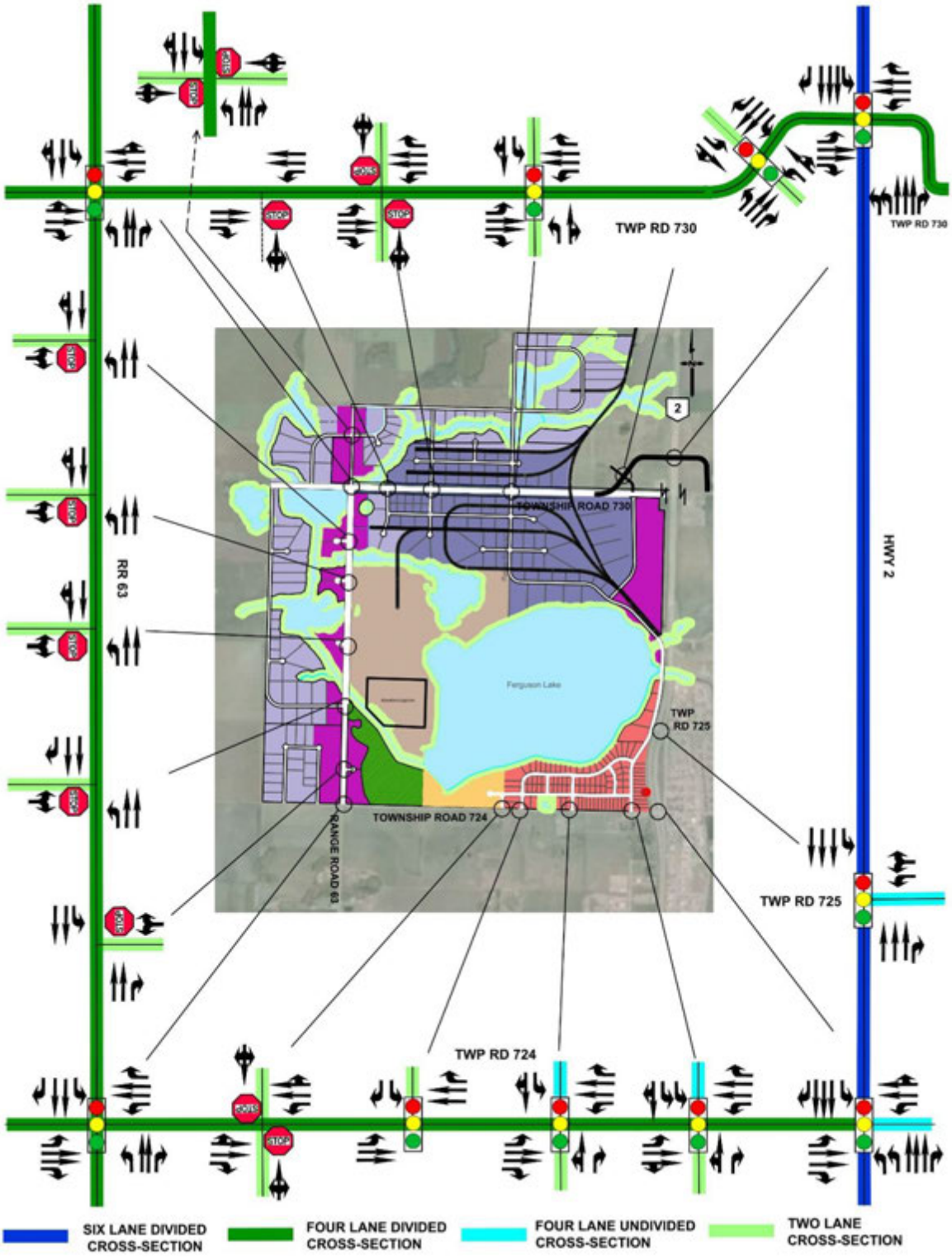


Figure E-1 Proposed 5 Year Horizon Improvements



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1 INTRODUCTION

WSP Canada Inc. completed independent traffic impact assessments for the proposed NW Clairmont Area Structure Plan (ASP)in 2018 and the Clairmont Heights ASP in 2015.

This TIA update was prepared in response to Alberta Transportation's recommendations that an updated TIA be completed to support both ASPs and to reflect the future road network proposed in Alberta Transportation recent *Highway 2, Clairmont / Sexsmith Network Study*.

The subject NW Clairmont ASP and Clairmont Heights ASP locations are shown in Figure 1-1.

1.1 STUDY PURPOSE

The purpose of this study is to identify and assess the potential vehicular traffic impacts on the study intersections and roadways associated with the proposed development, and to suggest required mitigation measures to allow the adjacent roadways to safely accommodate the proposed development in both the NW Clairmont ASP and Clairmont Heights ASP.

1.2 SITE AND VICINITY DESCRIPTION

1.2.1 NW CLAIRMONT ASP

The NW Clairmont ASP area is located approximately 7 kilometres north of the City of Grande Prairie, within the Hamlet of Clairmont's Urban Boundary. It spans an area of approximately 1642 hectares adjacent to Highway 2 in the east, Township Road 724 in the south, one quarter section to the west of existing Range Road 63, and extends to the southern border of the Emerson Trail ASP. An existing CN rail line runs through the eastern portion of the Plan area, and forms its northeast boundary. In total, approximately 25 quarter sections of land are included. The realistic timeframe for developing such a large area may be more than 50 years.

The majority of the Plan area remains in a state of undeveloped pasture land, with a portion of active farmland. The Clairmont Centre for Recycling and Waste Management is located west of Ferguson Lake with access onto Range Road 63; an existing highway industrial business is located east of the Lake, and the current County Community Services Building is north of Township Road 724 and west of Range Road 62.

In accordance with the NW Clairmont ASP development concept plan, the gross developable area in the ASP will contain approximately 1,026 hectares of land. Table 1-1 summarizes the land uses for the developable area. The proposed development concept plan is attached in Appendix A.

Table 1-1 Land Use Summary – NW Clairmont ASP

LAND USE	GROSS DEVELOPABLE AREA (ha)	% OF DEVELOPABLE AREA
Commercial Business Centre-Major (CBMJ)	68.1	6.6%
Rural Medium Industrial (RM-2)	231.3	22.5%
Rural Heavy Industrial (RM-3)	250.9	24.5%
Highway Industrial (RM-4)	118.3	11.5%
Limited Institutional and Recreation (L-1R)	19.5	1.9%
Roads	141.4	13.8%
Railway (Existing and Proposed)	43.7	4.3%
Landfill and Sewage Lagoon	152.4	14.9%
Municipal Reserves	1.7	0.2%
Total	1025.6	100%

1.2.2 CLAIRMONT HEIGHTS ASP

The Clairmont Heights ASP area encompasses approximately 501.28 hectares of land and is located north of Clairmont Lake, adjacent to the Hamlet of Clairmont which is located to the southwest of the ASP area. The ASP area is bounded by Township Road 730 to the north; Range Road 55 to the east; Clairmont Lake and Rural Estate residential lands to the south, and Highway 2 to the west. The ASP area excludes the NW ¼Sec. 31-72-5 W6M. The Canadian National Railway runs along Highway 2 through the southwest corner of the ASP area.

The majority of lands within the ASP area are privately owned and are currently being used for Agricultural or Country Residential purposes. The ASP area contains one industrial use located on the northwest corner along Highway 2 and Township Road 730.

In accordance with the Clairmont Heights ASP development concept plan, the gross developable area in the ASP will contain approximately 401 hectares of land. Table 1-2 summarizes the land uses for the developable area.

Table 1-2 Land Use Summary – Clairmont Heights ASP

LAND USE	DEVELOPABLE AREA (ha)	% OF DEVELOPABLE AREA
Roadways	81	20%
Municipal Reserve	26	6%
School Sites	8	2%
Religious Facility	1	1%
Recreation / Community Service	3	1%
Stormwater Management Facilities	18	4%
Mixed-Use (Commercial / Residential)	7	2%
Commercial	16	4%
Water Reservoir	5	1%
Estate Residential	31	8%
Low Density Residential	145	36%
Seniors Housing Complex	6	1%
Medium Density Residential	43	11%
High Density Residential	12	3%
Total	401	100%

1.2.3 ADJACENT AREA STRUCTURE PLANS

The adjacent area structure plans are summarized below:

- **Mercer Hill ASP** – Adjacent to the northeast boundary of the NW Clairmont ASP area, planned for light, medium and heavy industrial uses. Most of the lands are currently undeveloped except for two industrial shops (Fair Energy Inc. and Industrial Recycle Ltd.) located at the northwest corner of the Highway 2 / Township Road 730 intersection.
- **Clairmont ASP** – Adjacent to the south eastern boundary of the NW Clairmont area, east of Highway 2, consisting of residential, school institutional, light industrial and highway commercial. Fully developed.
- **West Clairmont ASP** – South of the Plan area adjacent to Highway 2, consisting of commercial and industrial uses. Partially developed.
- **Emerson Trail ASP** – Adjacent to the northern boundary of the Plan area, planned for Highway Industrial and General Industrial. Consists of approximately 16 quarter sections of land in the amount of 1,050 ha. The Plan area is anchored by the intersection of Highway 2 and Highway 672 (Emerson Trail), which is approximately 2.5 km south of Sexsmith. Currently approximately 10% were developed.

1.2.4 TRANSPORTATION NETWORK

Primary vehicular access to the NW Clairmont ASP and Clairmont Heights ASP areas will be provided via Highway 2, Range Road 63, Township Road 724, Township Road 725, and Township Road 730.

Highway 2 is one of northern Alberta's primary north-south corridors. Serving as the northern entrance to the City of Grande Prairie, Highway 2 is a four-lane divided highway with a posted speed limit of 80 km/h and 100 km/h in the proximity of the NW Clairmont ASP area. In accordance with Alberta Transportation's Provincial Highway Service Classification System, Highway 2 is classified as a Level 2 (Arterial) roadway. Level 2 roadways typically carry intra-provincial traffic, can serve long trip lengths and have restricted access from the National Highway System. Based on Alberta Transportation's traffic volume estimate at the Highway 2 / Township Road 724 intersection, the current Average Annual Daily Traffic (AADT) and Average Summer Daily Traffic (ASDT) on Highway 2 are estimated to be approximately 14,000 and 15,600 vehicles per day respectively, of which approximately 10% are trucks. Alberta Transportation is conducting a road network study for Highway 2 from Clairmont to Sexsmith, to reassess the future intersection locations along this stretch of the Highway. At the time of this study, the Highway 2 corridor study was in the preliminary stages.

Range Road 63 is a paved two-lane arterial road that connects Highway 43X to the south and Highway 672 to the north. Range Road 63 is designated as a four-lane arterial road in the County's Transportation Master Plan. The current daily traffic volume on Range Road 63 in the vicinity of the Township Road 724 intersection is estimated to be approximately 2,600 vehicles per day, of which approximately 15% are trucks.

The existing Township Road 724 is a paved two-lane road that provides access to the industrial/commercial developments alongside it. The current daily traffic volume on Township Road 724 in the proximity of Highway 2 is estimated to be approximately 1,500 vehicles per day, of which approximately 10% are trucks.

Township Road 725 (Clairmont North Access Road) is a paved two-lane roadway that provides access to the Hamlet of Clairmont. The current AADT on Township Road 725 are estimated to be approximately 2,600 vehicles per day.

West of Highway 2, Township Road 730 (also known as Mercer Hill Road) is a local gravel road. East of Highway 2, Township Road 730 is a paved two-lane county road that provides access to existing rural residences and the Clairmont Heights ASP area from the north.

The existing Highway 2 / Township Road 724 intersection is currently controlled by traffic signals. Dedicated left and right turn lanes are provided on all approaches.

The Highway 2 / Township Road 730 intersection is controlled by stop signs on Township Road 730. Right and left turn tapers are provided on Highway 2 to facilitate the movements of turning traffic. There is no exclusive right or left turn lane provided at this intersection. Based on Alberta Transportation *Highway 2, Clairmont / Sexsmith Network Study (2018 Draft)*, this intersection will be relocated 400 m north of the existing intersection.

The Range Road 63 / Township Road 724 intersection is currently controlled by four-way stop signs. Right turn tapers are provided on the east and west legs.

The Highway 2 / Township Road 725 intersection is currently controlled by stop signs on Township Road 725 with free flow conditions on Highway 2. A northbound right turn lane and a southbound left turn lane are provided for the traffic turning off of Highway 2. The west leg of the Township Road 725 intersection currently provides access to commercial properties along a north-south service road in the Northwest Clairmont ASP area. Based on Alberta Transportation's *Access Management Study (2005)* and *Highway 2, Clairmont / Sexsmith Network Study (2018 Draft)*, the west leg of the Highway 2 / Township Road 725 intersection will be closed and the eastbound traffic will be redirected to Township Road 724 to the south. No access will be provided to the Northwest Clairmont ASP area from this intersection in the future.

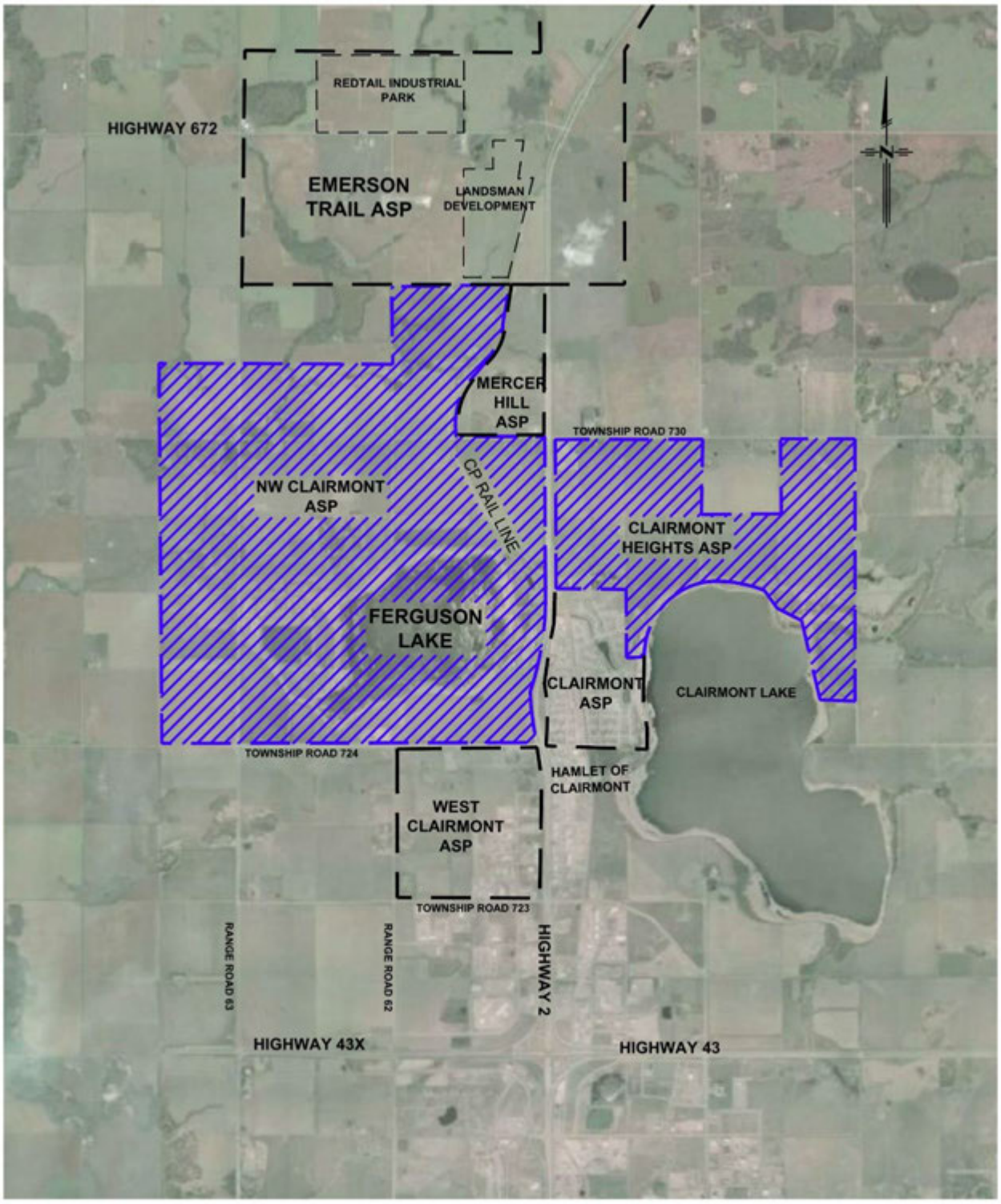

Figure 1-1 Site Location

1.3 SCOPE OF WORK

The scope of this study includes the following:

- Determine current traffic operating conditions for the study intersections.
- Forecast background traffic volumes at the 5 year horizon (2022) and 20 year horizon (2037).
- Determine the total number of new trips generated by the proposed development.
- Distribute the generated trips to different geographic areas (origins and destinations).
- Assign the generated trips to specific routes to and from the development.
- Forecast post development (combined) traffic volumes at the study intersections at the analysis horizons.
- Propose the appropriate lane configurations and traffic control (if needed) for the study intersections.
- Propose required cross-sections for the major roadways.
- Evaluate the traffic operating conditions at the study intersections at the 5 and 20 year horizons.
- Analyze traffic signal warrants TAC's guidelines.
- Determine roadway, intersection and access improvements as required to provide acceptable levels of service and safety while mitigating impacts due to development.

1.4 METHODOLOGY

In order to meet the study objectives and accomplish the works stated above, the following methodology was used:

- Obtain the current traffic information on Highway 2 and intersection traffic turning movements from Alberta Transportation (AT).
- Review the proposed ultimate road network plan in Alberta Transportation's *Highway 2, Clairmont / Sexsmith Network Study (2018 Draft)*.
- Estimate the traffic growth rate on Highway 2 to derive the future background traffic volumes.
- Estimate the trips generated by the proposed development based on ITE's *Trip Generation Manual (9th Edition).*
- Conduct signal warrant analysis based on TAC's Traffic Signal Warrant Handbook (2014).
- Evaluate traffic operating conditions at the study intersections for the forecasted traffic volumes at the analysis horizons using Synchro Studio 9 software.
- Identify any improvements necessary for the intersections to accommodate the forecasted traffic volumes.

2 TRAFFIC ANALYSIS

This section analyzes the existing (2017), 5 year horizon (2022), and 20 year horizon (2037) traffic conditions for the study intersections. A linear traffic growth rate was applied to the existing traffic volumes to determine the future background traffic volumes.

2.1 EXISTING TRAFFIC

The current traffic volumes on the major roadways and traffic turning movements at the study intersections are estimated based on Alberta Transportation's traffic turning movement counts at the Highway 2 / Township Road 724, Highway 2 / Township Road 725, and Highway 2 / Township Road 730 intersections, and WSP's traffic counts at the Range Road 63 / Bauman Road intersection. A 2.5% annual growth rate was applied onto the counting year traffic to estimate the existing (2017) traffic turning movements at the study intersections.

Figure 2-1 shows the current weekday AM and PM peak hour traffic turning movements at the study intersections.

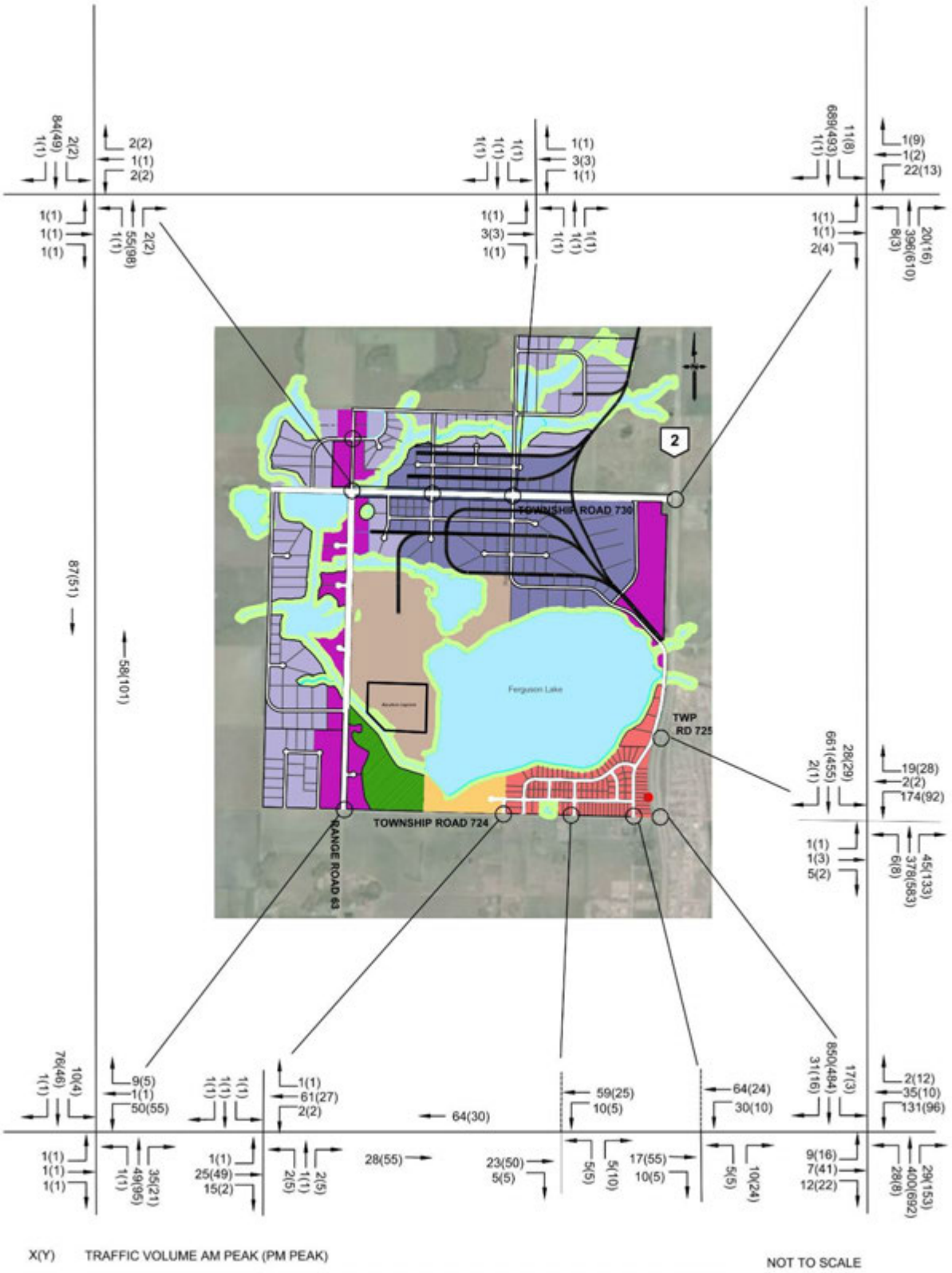

Figure 2-1 Existing (2017) Traffic

2.2 BACKGROUND TRAFFIC

Background traffic (non-site traffic) is the traffic before considering the trips generated by the proposed development. The background traffic includes the normal traffic growth on the highway network and the traffic generated by approved future land uses and developments in the vicinity of the proposed development. In this study, the provincial average traffic growth rate of 2.5% was used to estimate the normal traffic growth on Highway 2. The traffic growths on Range Road 63, Township Road 724, and Township Road 730 are assumed to be development driven.

2.2.1 WEST CLAIRMONT ASP

The West Clairmont ASP is located south of the NW Clairmont ASP area and west of Highway 2. The West Clairmont ASP consists of approximately 247.4 hectares of land. The development is expected to be primarily industrial with a small amount of commercial development. A TIA was prepared for the West Clairmont ASP in 2008. The TIA anticipated that a total of 14,250 daily trips, 1,748 AM peak hour trips and 1,883 PM peak hour trips would be generated by the West Clairmont ASP ultimately.

The anticipated trip assignments at the study intersections in the West Clairmont ASP TIA were used to estimate the future background traffic in this study.

2.2.2 MERCER HILL ASP

The Mercer Hill ASP is located adjacent to Highway 2 at the northwest corner of the intersection of Highway 2 and Township Road 730. The Mercer Hill ASP area consists of approximately 109.3 ha and is planned to be developed for industrial uses.

The TIA prepared for the Mercer Hill ASP was not available at the time of this study. For the purpose of this study, the trips that will be generated by the Mercer Hill ASP were estimated based on the ITE Trip Generation Manual. The trip generation for the Mercer Hill ASP can be found in Appendix C.

2.2.3 EMERSON TRAIL ASP

The Emerson Trail ASP is located north of the NW Clairmont ASP area and consists of approximately 16 quarter sections of land in the amount of 1,050 ha. The Plan area is anchored by the intersection of Highway 2 and Highway 672 (Emerson Trail), which is approximately 2.5 km south of Sexsmith. The proposed land uses include highway industrial and general industrial. The TIA was prepared for the Emerson Trail ASP was not available at the time of this study.

2.2.4 REDTAIL INDUSTRIAL PARK

The Redtail Industrial Park is located in the northwest and northeast corners of Highway 672 and Range Road 62, approximately 19 km northwest of the City of Grande Prairie. The proposed development consist of 129.6 ha of gross area that will be developed to rural medium industrial land use. A TIA was prepared by Beairsto & Associates Engineering Ltd. in 2017.

2.2.5 LANDSMAN PROPERTIES LTD. DEVELOPMENT

The Landsman Properties Ltd. development is located in the southwest quadrant of the Highway 2 / Highway 672 intersection. The land available for development on this site is approximately 255.5 acres. The land is zoned Rural Medium Industrial (RM-2) and Highway Industrial (RM-4) as per the County of Grande Prairie land-use by-law. A TIA was prepared by Focus Corporation (now WSP) in 2007. It should be noted that approximately 80% of land has been developed in this subdivision.

2.2.6 BACKGROUND TRAFFIC ESTIMATE ASSUMPTIONS

Based on the TIAs prepared for each ASP in the surrounding area, the anticipated total trips that would be generated by the ASPs are summarized in Table 2-1.

Table 2-1 Trip Generation – Surrounding Developments (Ultimate)

ASP	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
West Clairmont ASP	14252	7126	7126	1748	1434	381	1883	1400	483
Mercer Hill ASP	5766	2883	2883	840	675	165	862	203	659
Emerson Trail ASP	49460	24730	24730	5513	3985	1528	5550	1842	3707
Redtail Industrial Park	6003	3001	3001	724	594	130	742	156	586
Landsman Properties Ltd. Development	5960*	2980	2980	576	451	125	615	168	447
Total	81441	40720	40720	9401	7139	2329	9652	3769	5882

** Estimated based on the forecasted AM and PM peak hour volumes.*

For the purpose of this study, the following assumptions were made to forecast the future background traffic:

- West Clairmont ASP will be 10% developed by 2022.
- Redtail Industrial Park will be 20% developed by 2022.
- Landsman Properties Ltd. Development will be 90% developed by 2022.
- West Clairmont ASP will be 50% developed by 2037 (20 year horizon).
- Mercer Hill ASP will be 20% developed by 2037.
- Emerson Trail ASP will be 10% developed by 2037.
- Redtail Industrial Park will be 100% developed by 2037.
- Landsman Properties Ltd. Development will be 100% developed by 2037.

Based on the anticipated traffic growth rates and the traffic generated by the adjacent ASP's, the forecasted background traffic volumes in terms of weekday AM and PM peak hour traffic at the 2022 and 2037 analysis horizons are presented in Figures 2-2 and 2-3.

It should be noted that the traffic re-distribution due to the closure of the west leg of the Highway 2 / Township Road 725 (Clairmont North Access) intersection has been considered in the background traffic forecast.

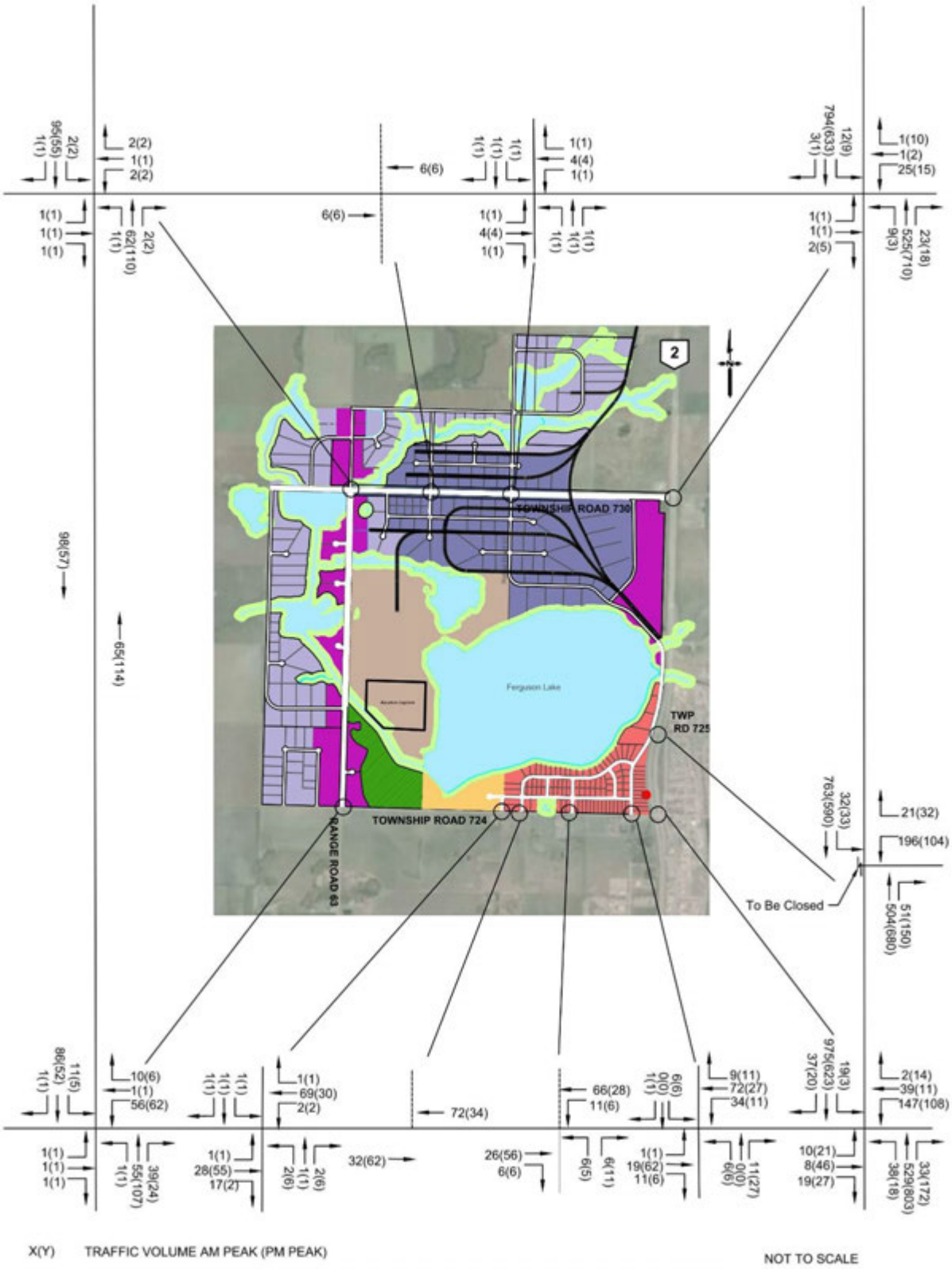

Figure 2-2 5 Year Horizon (2022) Background Traffic

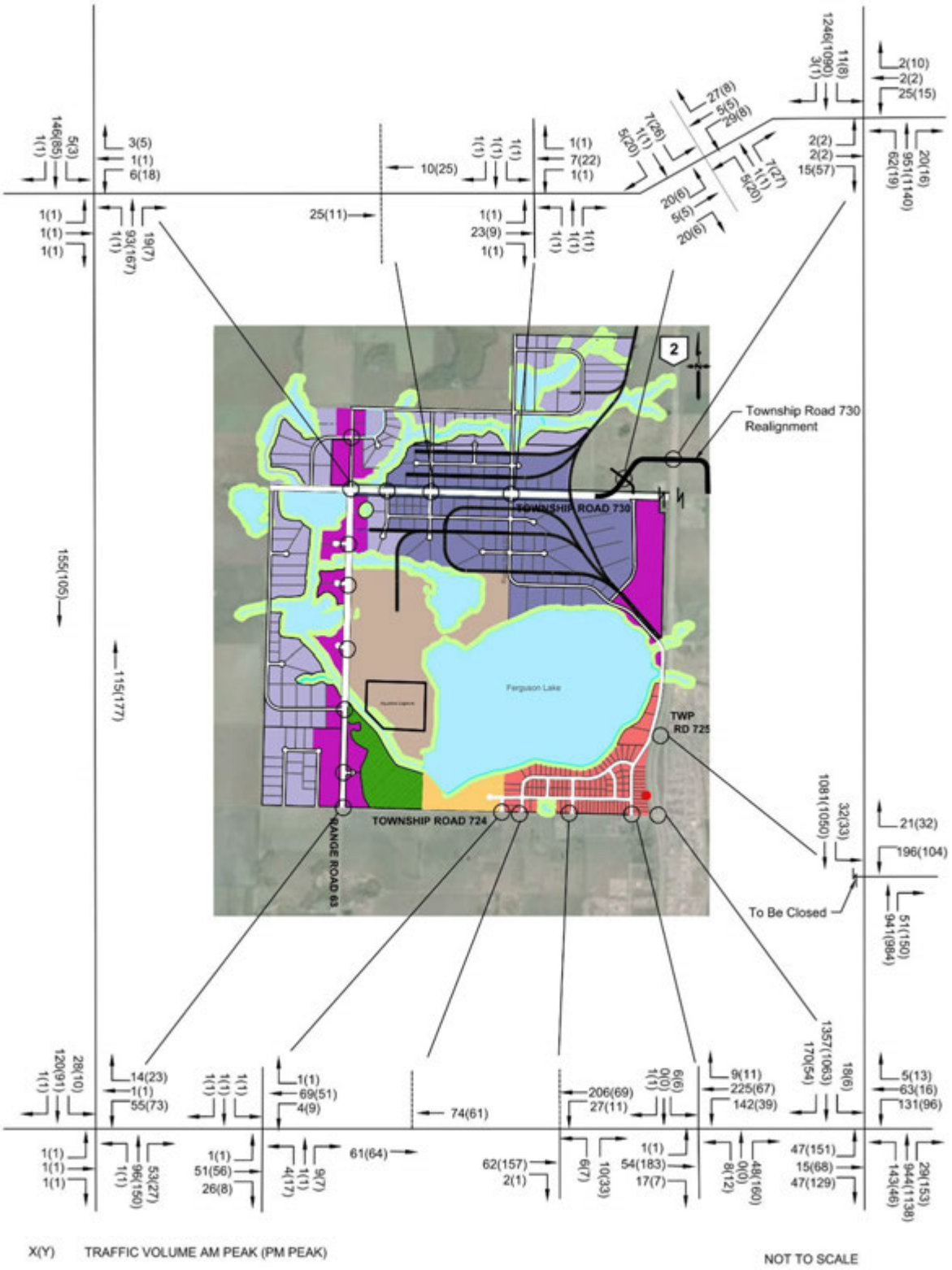

Figure 2-3 20 Year Horizon (2037) Background Traffic

2.3 TRIP GENERATION

2.3.1 NW CLAIRMONT ASP

2.3.1.1 COMMERCIAL BUSINESS CENTRE - MAJOR (CBMJ)

The approximately 85 hectares of land (68.1 ha developable area) located at the southeast corner of the NW Clairmont ASP area is proposed for commercial uses and is zoned as Commercial Business Centre – Major District. This area is anticipated to be 35% developed in five years (by 2022).

Based on the County of Grande Prairie's Land Use Bylaw, the permitted land uses under Commercial Business Centre – Major District include Big Box Store, Hotel, Supermarket, Retail Store, Restaurant, Bank, Theatre, and Warehouse. The discretionary land uses include Building Supply Outlet, Nursery and Garden Store, and Utilities, etc. It should be noted that the commercial land use category can have a large variation in the number of trips generated, depending on the specific end users. For this land use, the trip generation rates for Shopping Centre (code: 820) in the ITE *Trip Generation Manual* (9th Edition) were used to estimate the trips that would be generated by the proposed commercial development.

According to the ITE *Trip Generation Handbook*, pass-by trips are defined as the trips that are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips will not add new traffic to the adjacent street system. In this study, the proposed commercial development will attract pass-by trips. In accordance with the ITE *Trip Generation Handbook,* an average 35% of the trips generated by shopping centre development are pass-by trips. In this study, it is assumed that 30% of the total trips generated by the commercial development will be pass-by trips. Table 2-2 illustrates the estimated trips generated by the commercial development. A floor area ratio of 0.15 was used to calculate the anticipated gross floor area (GFA).

Table 2-2 Trip Generation – Commercial (Full Build Out)

GFA: 1,125,000 ft²	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Directional Distribution	100%	50%	50%	100%	62%	38%	100%	48%	52%
Fitted Curve Equation	Ln(T)=0.65Ln(X)+5.83			Ln(T)=0.61Ln(X)+2.24			Ln(T)=0.67Ln(X)+3.31		
Total Trips	32748	16374	16374	682	423	259	3032	1456	1577
Pass-by Trips (30%)	9824	4912	4912	205	127	78	910	437	473
Non-Pass-by Trips	22924	11462	11462	478	296	182	2123	1019	1104

* T = Total Trips. X = GFA (1,000 ft²)

2.3.1.2 HIGHWAY INDUSTRIAL (RM-4)

For the purpose of this study, the ITE trip generation rates for Land Use Industrial Park (Code 130) were used to estimate the traffic generated by the proposed Highway Industrial (RM-4) development. Based on ITE's Trip Generation Handbook (2nd Edition), fitted curve equations were selected to estimate the trips that would be generated by the proposed Highway Industrial development Table 2-3 summarizes the trip generation results.

Table 2-3 Trip Generation – RM-4 Highway Industrial (Full Build Out)

DEVELOPABLE AREA: 292.3 ACRES	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Directional Distribution	100%	50%	50%	100%	83%	17%	100%	21%	79%
Fitted Curve Equation	T=47.82(X)+520.18			Ln(T)=0.78Ln(X)+2.82			Ln(T)=0.72Ln(X)+3.06		
Total Trips	14498	7249	7249	1406	1167	239	1272	267	1005

* T = Total Trips. X = Development Area (Acres)

2.3.1.3 RURAL MEDIUM INDUSTRIAL (RM-2)

Based on the County's Land Use Bylaw, the Rural Medium Industrial District provides areas for industries and businesses that require larger open storage areas and/or may create a nuisance by reason of noise, smell, appearance but are generally not considered to be hazardous.

The trip generation rates for the RM-2 industrial development were based on a trip generation study conducted by ISL Engineering and Land Services in 2003 for the Brochu Industrial Park located north of Highway 43 at the west end of the City of Grande Prairie. The Brochu Industrial Park consists of storage yards, a truck dealership, and some small office uses. In addition, water services are provided to the full Brochu site. The trip generation rates developed from the study are as follow:

- AM: 2.58 trips / acre, 66% in and 34% out;
- PM: 2.79 trips / acre, 39% in and 61% out.

These trip generation rates had been used in previous TIA studies approved by AT, including the "Donnelly Corner TIA" located in Donnelly, AB and the "West Peace Industrial TIA" in Peace River, both prepared by ISL Engineering and Land Services.

Table 2-4 summarizes the estimated trips that would be generated by the proposed RM-2 industrial development in the NW Clairmont ASP area.

Table 2-4 Trip Generation – RM-2 Rural Medium Industrial (Full Build Out)

DEVELOPABLE AREA: 572 ACRES	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Directional Distribution	100%	50%	50%	100%	66%	34%	100%	39%	61%
Rates (trips / acre)	26.85*	13.43	13.43	2.58	1.70	0.88	2.79	1.09	1.70
Total Trips	15358	7679	7679	1476	974	502	1596	622	973

* Weekday rate = (AM + PM) x 5.

2.3.1.4 RURAL HEAVY INDUSTRIAL (RM-3)

The Rural Heavy Industrial development is anticipated to occupy approximately 330 ha of land with approximately 250 ha developable area. The ITE trip generation rates for land use General Heavy Industrial (Code 120) were used to estimate the traffic that will be generated by the proposed rural heavy industrial development. Trip generations for the rural heavy industrial development are summarized in Table 2-5.

Table 2-5 Trip Generation – RM-3 Rural Heavy Industrial (Full Build Out)

DEVELOPABLE AREA: 620 ACRES	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Directional Distribution	100%	50%	50%	100%	66%	34%	100%	39%	61%
Rates (trips / acre)	6.75	3.38	3.38	1.98	1.62	0.36	2.16	0.45	1.71
Total Trips	4185	2093	2093	1228	1007	221	1339	281	1058

2.3.1.5 LIMITED INSTITUTIONAL AND RECREATION (L-1R)

The land west of the existing County Community Service Building is proposed for limited institutional and recreation uses. Based on the County's Land Use Bylaw, the Limited Institutional and Recreation District is to zone primarily for schools and institutional uses with limited recreation uses mostly within hamlets and other residential communities. The permitted land uses in this district include park, school, and utilities. It is unlikely a school will be built in this area since the adjacent land uses are mainly commercial and industrial.

For the purpose of this study, the ITE trip generation rates for land use County Park (Code 412) were used to estimate the traffic that will be generated by the proposed limited institutional and recreation land. Table 2-6 summarizes the anticipated trip generations for this land use.

Table 2-6 Trip Generation – Limited Institutional and Recreation (Full Build Out)

DEVELOPABLE AREA: 48.2 ACRES	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Directional Distribution	100%	50%	50%	100%	61%	39%	100%	61%	39%
Rates (trips / acre)	2.28	1.14	1.14	0.02	0.01	0.01	0.09	0.05	0.04
Total Trips	110	55	55	1	1	0	4	3	2

2.3.1.6 TRIP GENERATION SUMMARY – NW CLAIRMONT ASP

The realistic timeframe for developing such a large area is likely more than 50 years. Based on the development phasing plan, the anticipated 5 year horizon (2022) development would occur at the southeast corner of the ASP site (Commercial), southwest corner (Highway Industrial and Medium Industrial), and northeast corner adjacent to Highway 2 (Highway Industrial). It is estimated that the 5 year horizon development would include:

- → 385,000 ft^2 GFA Commercial (35% of total);
- → 183.8 acres Highway Industrial (65%);
- → 101.6 acres Medium Industrial (20%), and
- → Limited Institutional and Recreation (100%).

The anticipated trips that would be generated by the 5 year horizon development are illustrated in Table 2-7.

The 20 year horizon (2037) developments are expected to include approximately:

- 700,000 ft² GFA Commercial (62%);
- 286.7 acres Highway Industrial (100%);
- 257.9 acres Medium Industrial (45%);
- 617.8 acres Heavy Industrial (100%), and
- Limited Institutional and Recreation (100%).

The anticipated trips that would be generated by the 20 year horizon development are illustrated in Table 2-8.

Table 2-7 Trip Generation Summary (5 Year Horizon) – NW Clairmont ASP

DEVELOPMENT	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Commercial	16311	8156	8156	355	220	135	1478	710	769
Highway Industrial	5622	2811	2811	754	625	128	784	165	619
Rural Medium Industrial	2728	1364	1364	262	173	89	283	111	173
Limited Institutional and Recreation	110	55	55	1	1	0	4	3	2
Total	24745	12373	12373	1373	1019	353	2548	988	1562
Pass-by Trips	4893	2447	2447	106	66	40	444	213	231
External Trips	19852	9926	9926	1267	953	313	2104	775	1331

Table 2-8 Trip Generation Summary (20 Year Horizon) – NW Clairmont ASP

DEVELOPMENT	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Commercial	24058	12029	12029	511	317	194	2207	1059	1147
Highway Industrial	14498	7249	7249	1406	1167	239	1272	267	1005
Rural Medium Industrial	6925	3462	3462	665	439	226	720	281	439
Rural Heavy Industrial	4185	2093	2093	1228	1007	221	1339	281	1058
Limited Institutional and Recreation	110	55	55	1	1	0	4	3	2
Total	49776	24888	24888	3811	2931	880	5542	1891	3651
Pass-by Trips	7217	3609	3609	153	95	58	662	318	344
External Trips	42559	21279	21279	3658	2836	822	4880	1573	3307

2.3.2 CLAIRMONT HEIGHTS ASP

The anticipated trip generation for Clairmont Heights ASP was illustrated in the *Clairmont Heights ASP TIA (2015)* and summarized on Table 2-9.

Table 2-9 Ultimate Trip Generation Summary – Clairmont Heights ASP

DEVELOPMENT	WEEKDAY			AM PEAK HOUR			PM PEAK HOUR		
	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT
Estate Residential	2,516	1,258	1,258	192	59	132	271	179	92
Low Density Residential	16,513	8,256	8,256	1,045	324	721	1,606	1,060	546
Medium Density Residential	7,043	3,522	3,522	564	90	473	679	455	224
High Density Residential	3,276	1,638	1,638	252	78	174	328	190	138
Senior Housing Complex	974	487	487	57	19	37	71	38	33
Commercial	18,404	9,202	9,202	414	257	157	1,599	768	831
Village Center	8,028	4,014	4,014	180	112	69	697	335	363
School Sites	1,290	645	645	450	248	203	150	74	77
Religious Facility	392	196	196	24	21	3	24	4	20
Recreation Facility	2,198	1,099	1,099	133	88	45	178	87	91
Internal Trips	25,272	12,636	12,636	993	600	393	2,206	1,056	1,150
External Trips	12,617	6,308	6,308	1,424	343	1,082	1,412	1,098	313

For the purpose of this study, it is assumed that approximately 15% of Clairmont Heights ASP land would be developed by 2022 and 60% of land would be developed by 2037.

2.4 TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution patterns for the proposed development were estimated based on the relative locations of the surrounding populated areas and the road network in the vicinity of the NW Clairmont ASP area. The general trip distribution patterns used in this study are summarized in Table 2-10.

Table 2-10 Trip Distribution Patterns – NW Clairmont ASP

ORIGIN AND DESTINATION	DISTRIBUTION
From / to the South on Highway 2	40%
From / to the North on Highway 2	15%
From / to the South on Range Road 63	25%
From / to the North on Range Road 63	10%
From / to the East on Township Road 724	5%
From / to the East on Township Road 730	5%
Total	100%

The expected site generated traffic volumes for the NW Clairmont ASP were assigned to the transportation network based on the expected travel patterns presented in Table 2-10. Figure 2-4 illustrates the estimated trip assignment at the study intersections at the 5 year horizon. The trip assignment at the 20 year horizon for NW Clairmont ASP is shown in Figure 2-5.

The expected trip distribution patterns for Clairmont Heights ASP are illustrated in the *Clairmont Heights ASP TIA (2015).* The anticipated Clairmont Heights ASP trip assignments at the 2022 and 2037 analysis horizons are shown in Figures 2-6 and 2-7.

2.5 COMBINED TRAFFIC

Combined traffic volumes include both background traffic and the traffic generated by the proposed development. Combined traffic volumes were calculated by superimposing the site generated traffic volumes onto the future background traffic volumes. The resulting post-development AM and PM peak hour traffic volumes at the 2022 and 2037 analysis horizons are shown in Figures 2-8 and 2-9..

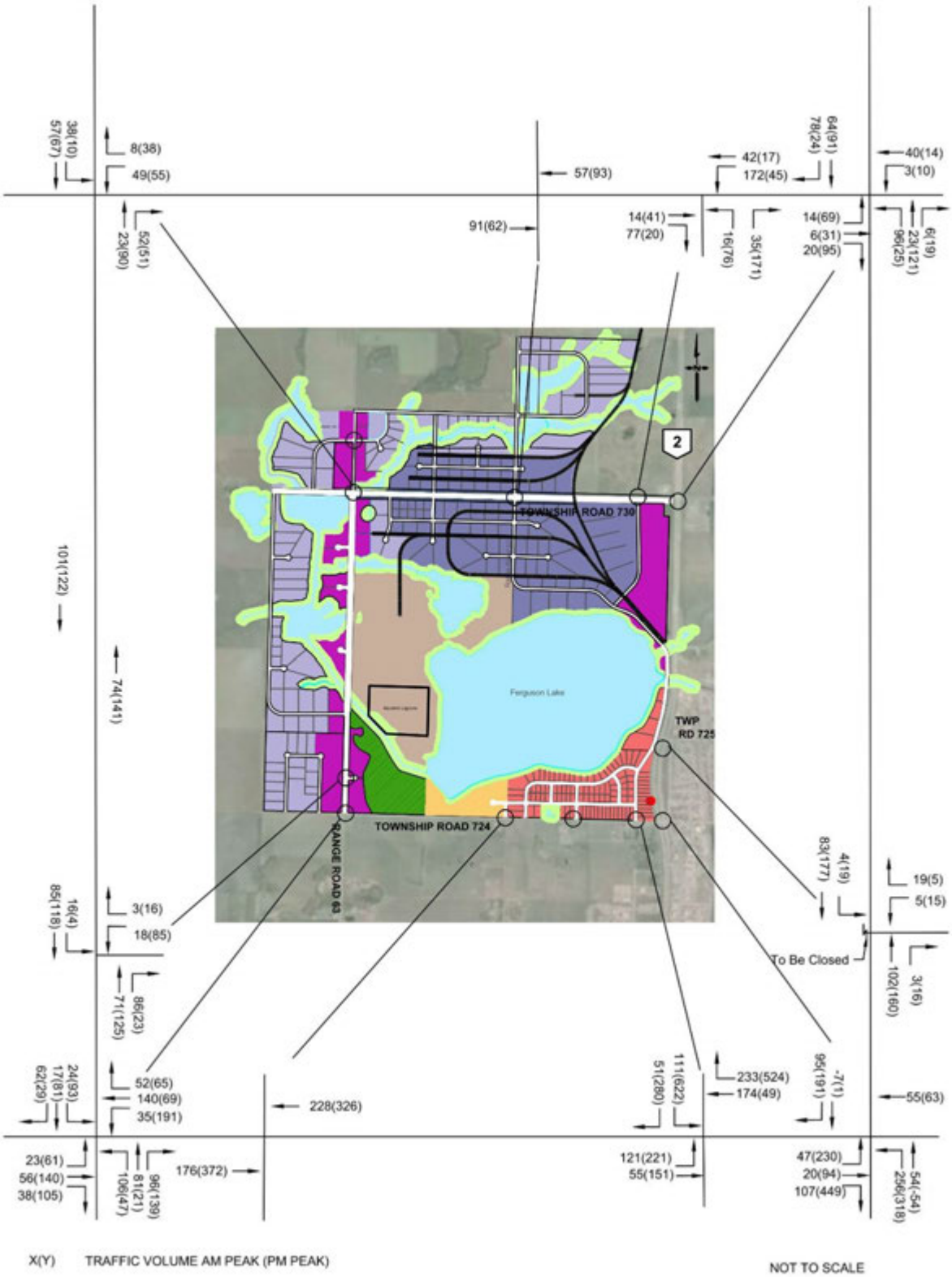

Figure 2-4 5 Year Horizon Trip Assignment – NW Clairmont ASP

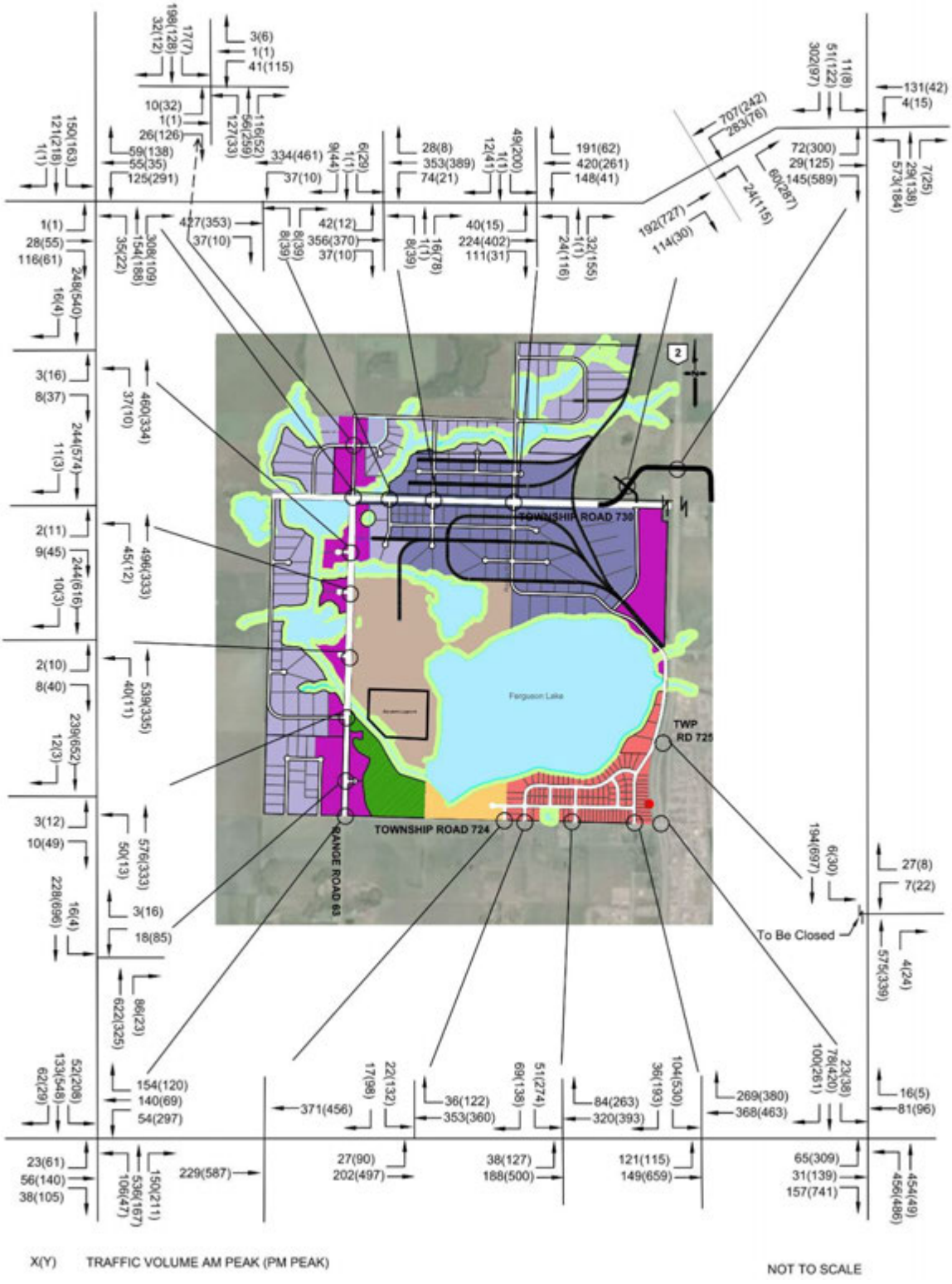

Figure 2-5 20 Year Horizon Trip Assignment – NW Clairmont ASP

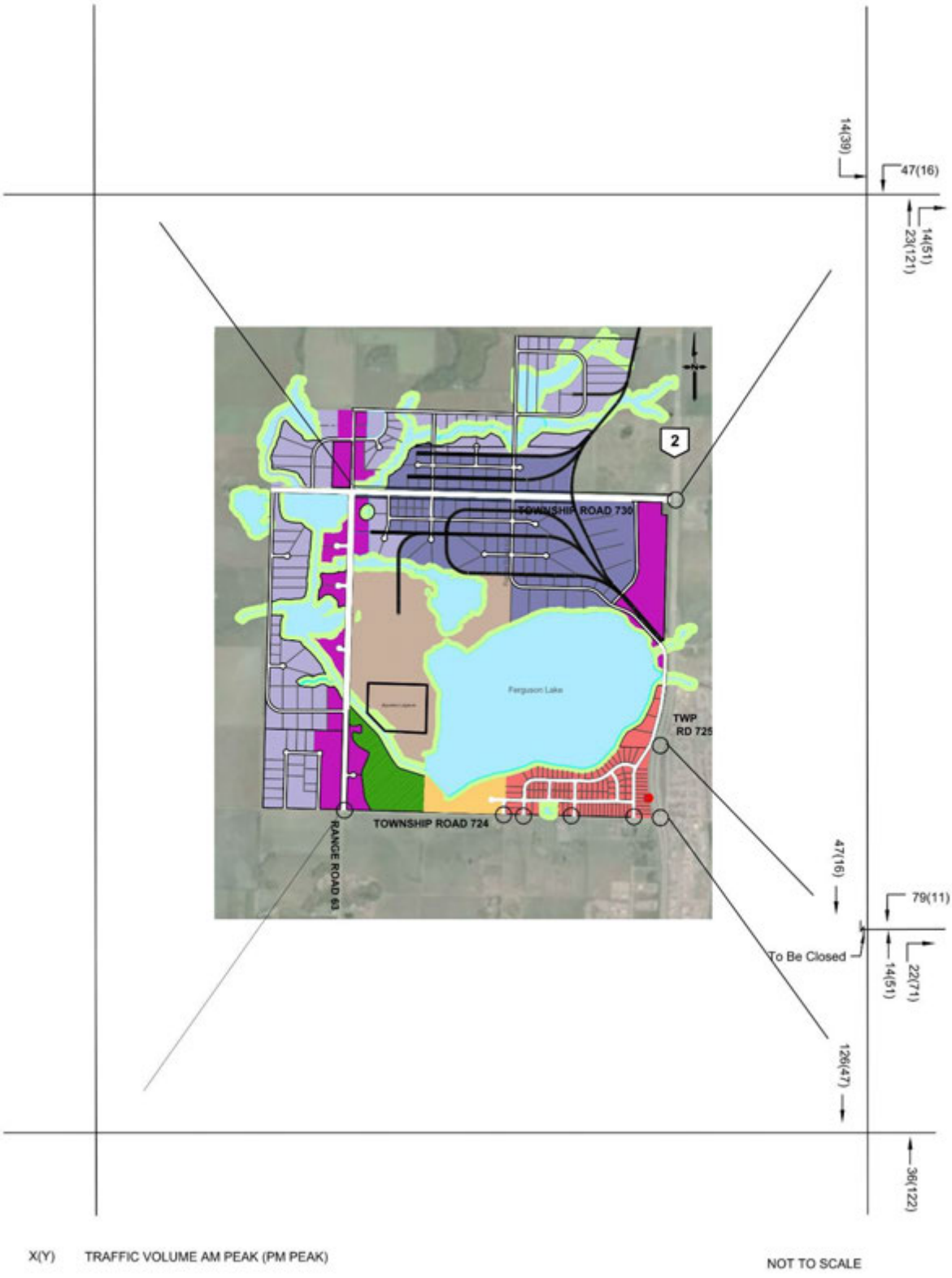

Figure 2-6 5 Year Horizon Trip Assignment – Clairmont Heights ASP

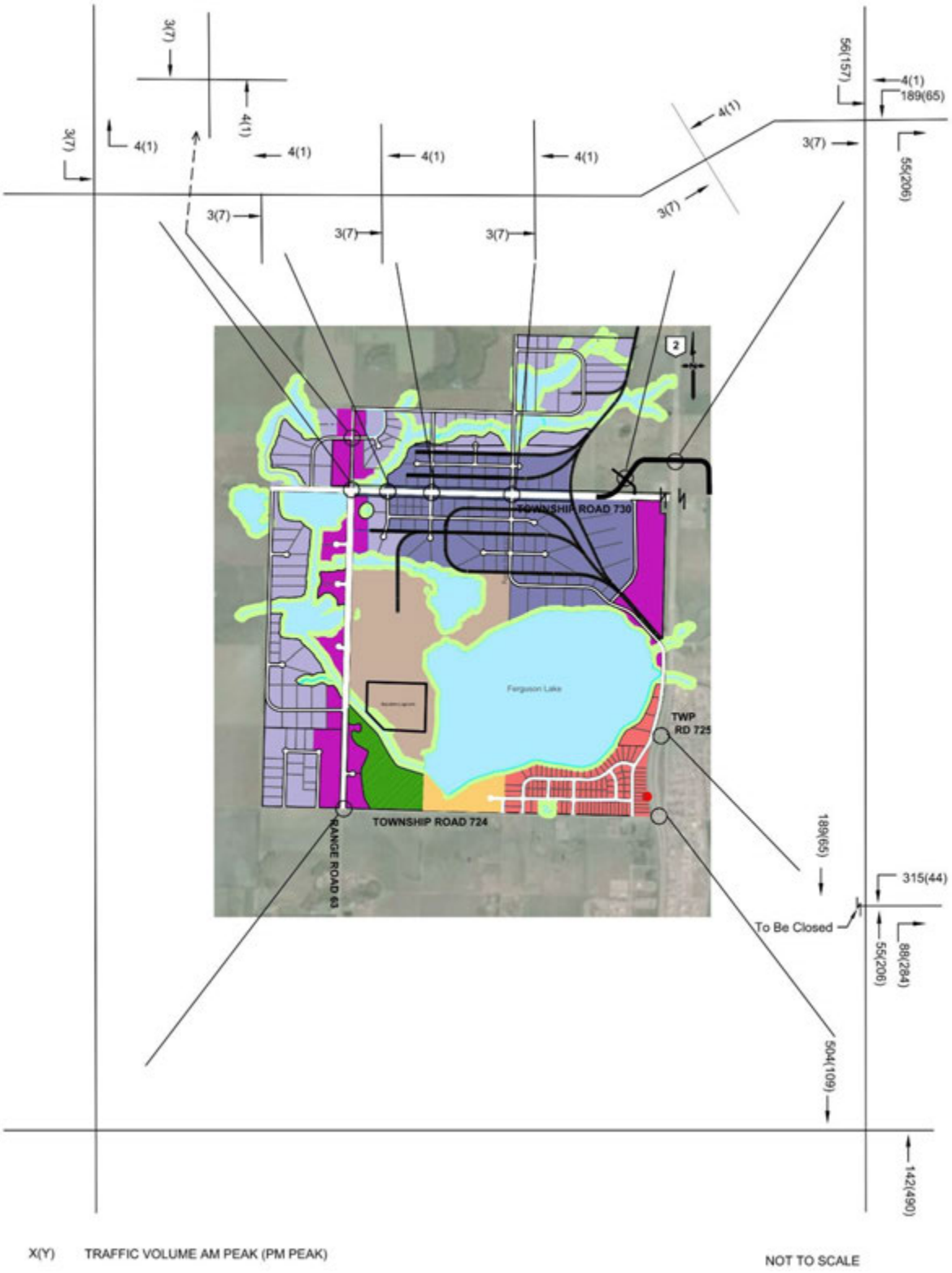

Figure 2-7 20 Year Horizon Trip Assignment – Clairmont Heights ASP

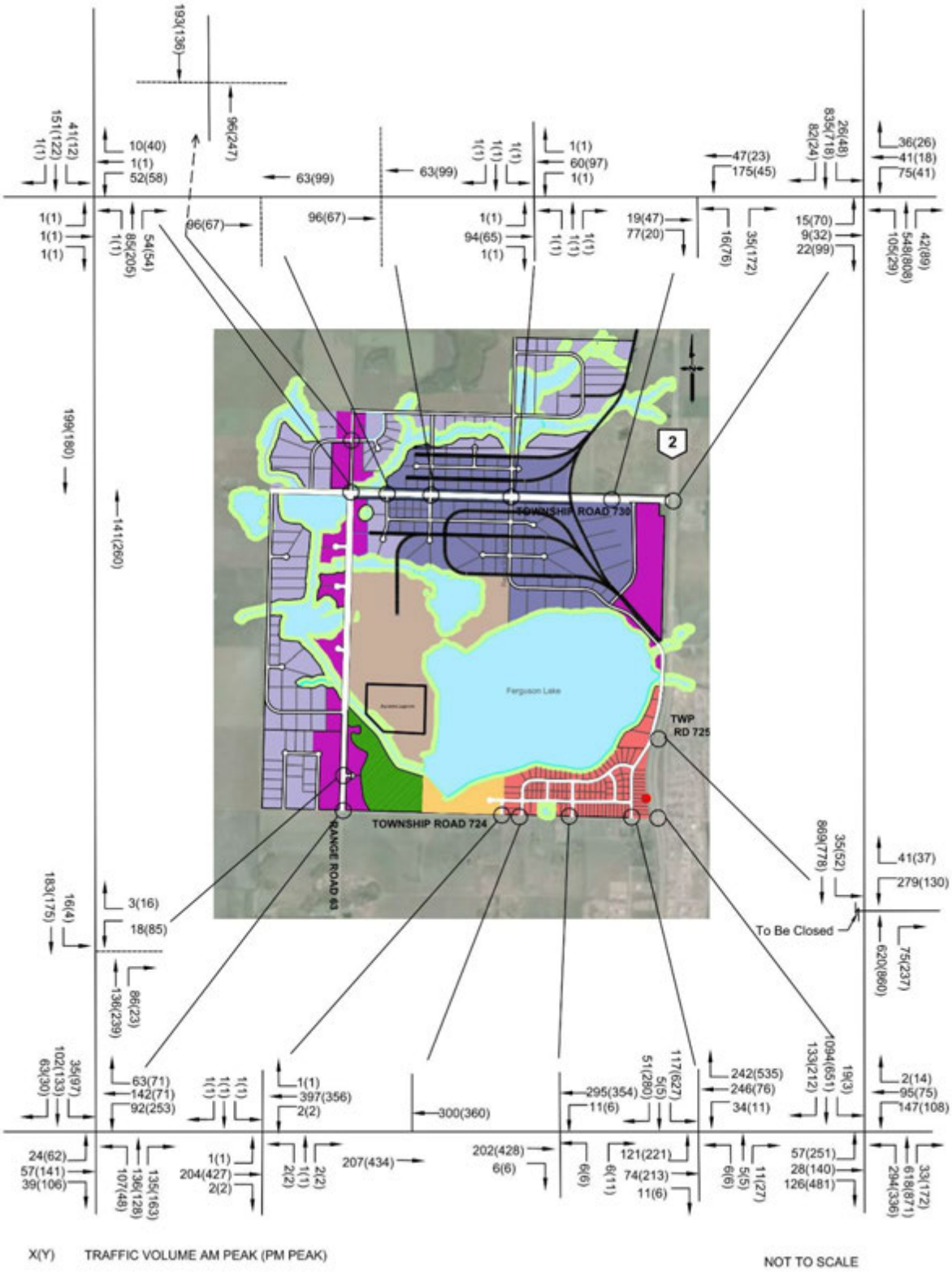

Figure 2-8 5 Year Horizon (2022) Combined Traffic

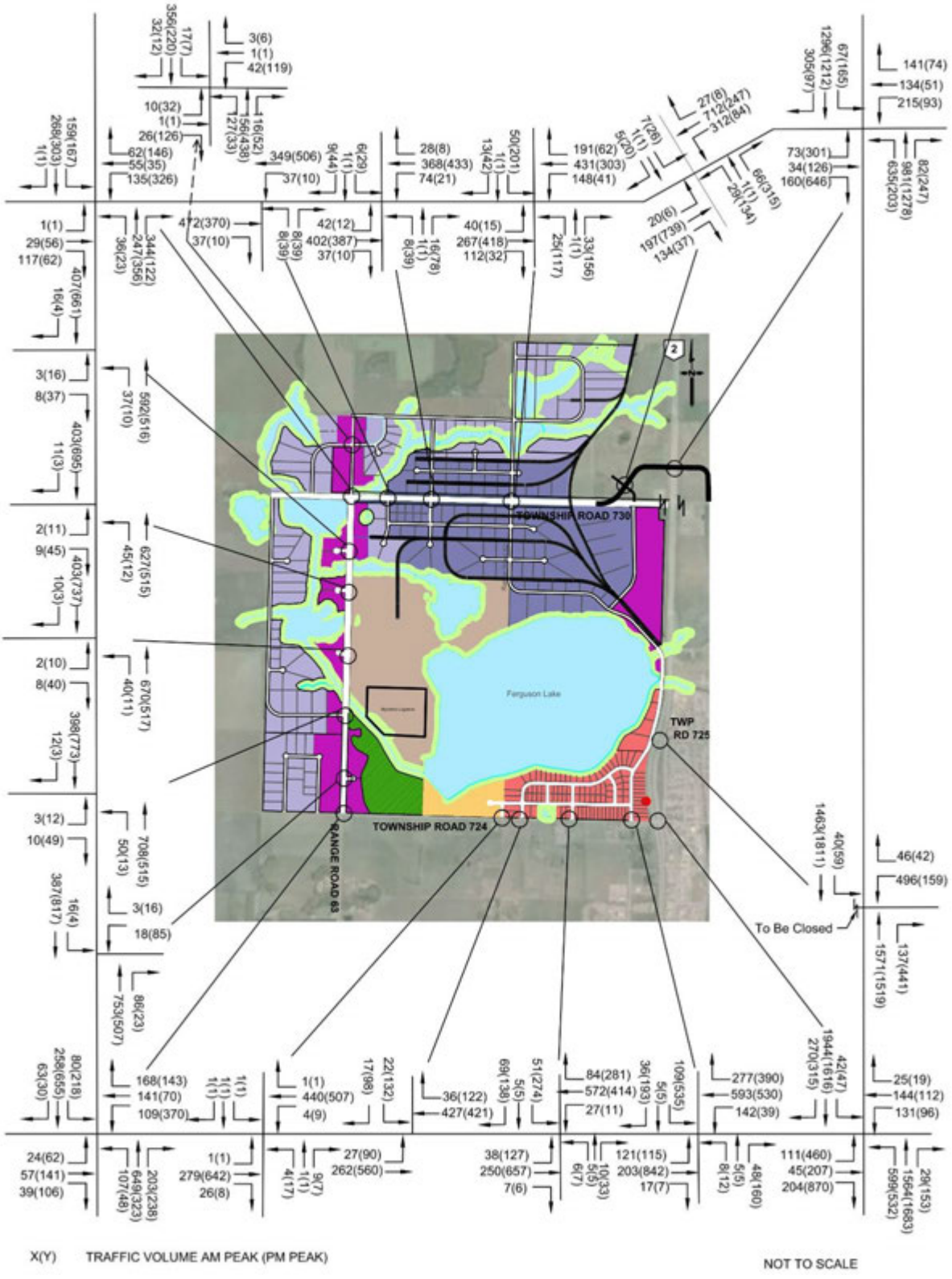

Figure 2-9 20 Year Horizon (2037) Combined Traffic

3 FUTURE ROADWAY CLASSIFICATION

The roadway volumes determined through the trip generation and distribution process were analyzed based on the standards outlined in the County's *Minimum Design Standards*, TAC's *Geometric Design Guide for Canadian Roads*, and AT's *Highway Geometric Design Guide*.

This analysis was intended to identify the classification of the roadways, the projected daily traffic volume, and the typical capacity of the roadway.

Based on the forecasted traffic volumes and roadway service functions, Table 3-1 summarizes the proposed roadway classifications and capacity. The recommended road classifications are illustrated in Figure 3-1 as well.

Table 3-1 Road Classification Capacity

ROAD CLASSIFICATION	ANTICIPATED CAPACITY (VEHICLES PER DAY)
Provincial Highway	> 10,000
Arterial	> 10,000
Major Collector	< 10,000
Minor Collector	< 5,000
Local	< 1,000

Based on the forecasted traffic volumes and roadway service functions, the proposed roadway classifications are shown in Figure 3-1.

The primary function of an arterial road is to carry large volumes of traffic. They connect as directly as practicable, the principal urbanized areas, cities, towns, and industrial centers. Land access is limited. For future four-lane divided arterial roads (rural standard), the minimum right of way requirement is 50 m.

Collector roads provide land access and also carry traffic volumes through residential, industrial, and commercial developments. Collectors provide less mobility than arterials at lower speeds and for shorter distances. They balance mobility with land access. The current minimum right of way requirement is 30 m based on the County's standards. For future four-lane undivided collector roads (rural standard), a minimum 40 m right of way is recommended.

Local roads provide limited mobility and provide primary access to residential areas, businesses, farms, and other local areas. The minimum right of way requirement is 30 m.

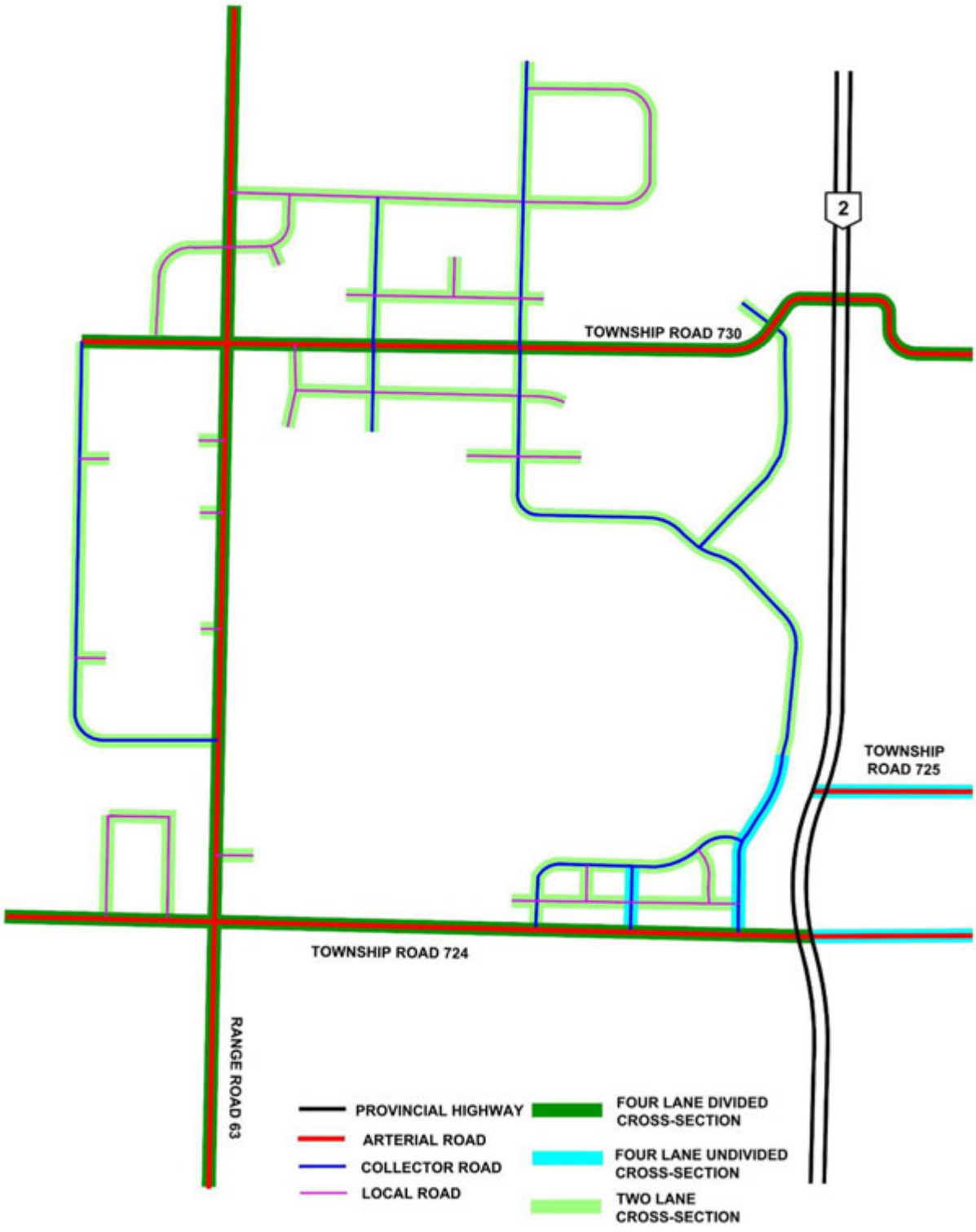

Figure 3-1 Proposed Roadway Classification

4 TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrant analyses were conducted for the 19 study intersections within the study area based on the forecasted traffic volumes.

4.1 METHODOLOGY

The signal warrant analysis followed the procedure recommended in the *Traffic Signal Warrant Handbook (2014)* published by the Transportation Association of Canada (TAC). A value of 100 cumulative warrant points is considered the minimum value required to warrant a traffic signal.

In accordance with the *Traffic Signal Warrant Handbook,* the traffic data used in the traffic signal warrant should consist of weekday traffic volumes during:

- Two (2) consecutive AM peak hours.
- Two (2) consecutive midday peak hours, and
- Two (2) consecutive PM peak hours.

The total traffic volume during two consecutive peak hours (AM or PM) is usually less than one peak hour volume times two and midday peak hour volume is usually less than AM and PM peak hour volumes. For the purpose of this study, it was assumed that the second AM and PM peak hour volume is 90% of the first AM and PM peak hour volume and the midday peak hour volume is 50% of the sum of the AM and PM peak hour volumes.

4.2 SIGNAL WARRANT ANALYSIS RESULTS

The cumulative six hour traffic volumes for the signal warrant were estimated based on the above factors and the traffic signal warrant analysis results are outlined in Table 4-1. The detailed signal warrant analysis files are attached in Appendix D. Figure 4-1 illustrates the signal warrant analysis results by intersection numbers.

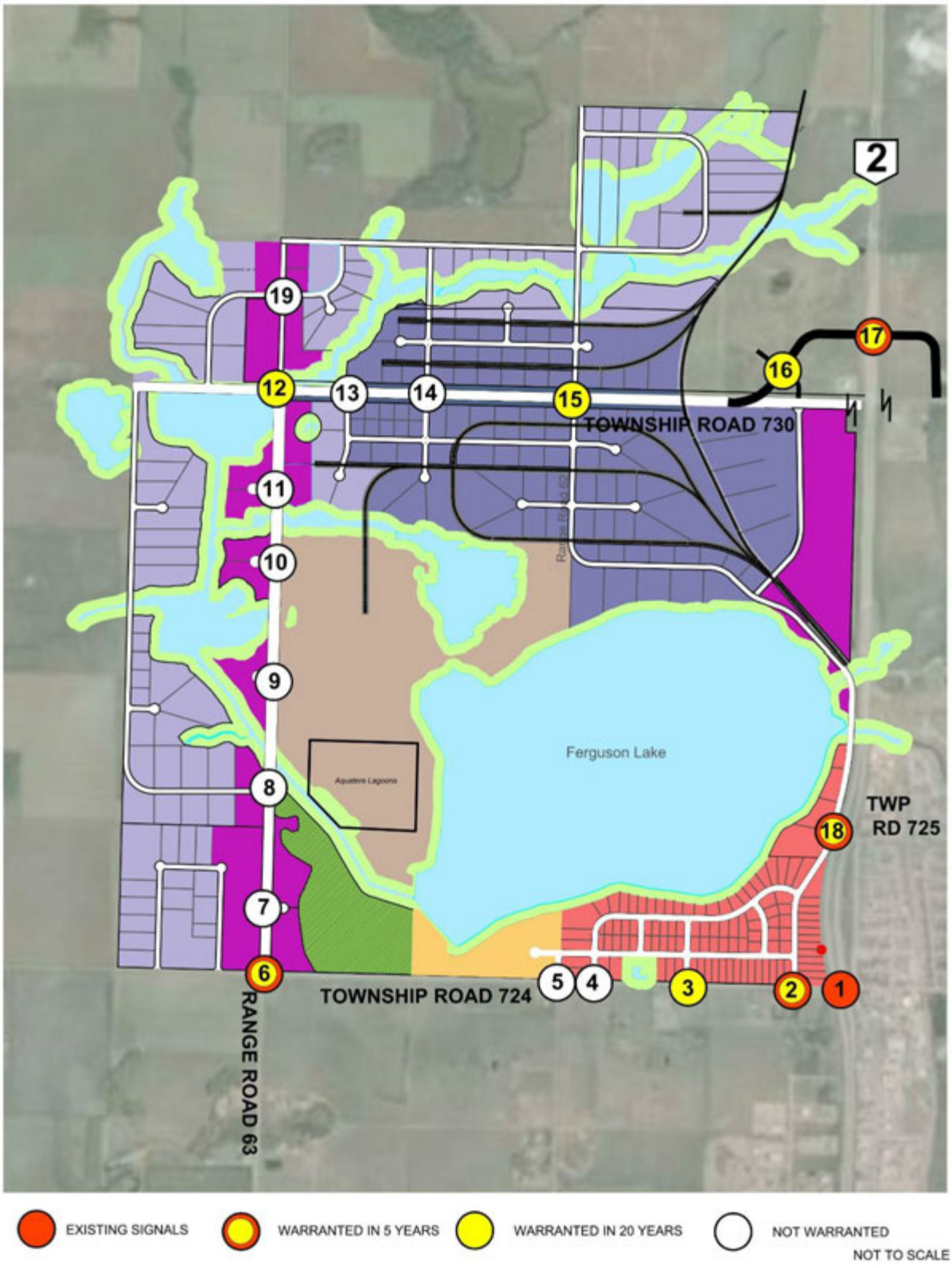

Figure 4-1 Traffic Signal Warrants by Intersection Number

Table 4-1 Signal Warrant Analysis Results

INTERSECTION		5 YEAR HORIZON		20 YEAR HORIZON	
INT #	DESCRIPTION	WARRANT POINTS	SIGNALS	WARRANT POINTS	SIGNALS
1	Hwy 2 / Twp Rd 724	-	Existing	-	Existing
2	Twp Rd 724 / 102 Street	177	Warranted	-	Warranted
3	Twp Rd 724 / 105 Street	5	Not Warranted	157	Warranted
4	Twp Rd 724 / 107 Street	N/A	Not Warranted	67	Not Warranted
5	Twp Rd 724 / RR 62	5	Not Warranted	20	Not Warranted
6	Twp Rd 724 / RR 63	186	Warranted	-	Warranted
7	RR 63 / Property Access	17	Not Warranted	49	Not Warranted
8	RR 63 / County Road	N/A	N/A	29	Not Warranted
9	RR 63 / Property Access	N/A	N/A	32	Not Warranted
10	RR 63 / Property Access	N/A	N/A	28	Not Warranted
11	RR 63 / Property Access	N/A	N/A	25	Not Warranted
12	RR 63 / Twp Rd 730	19	Not Warranted	255	Warranted
13	Twp Rd 730 / County Road	N/A	N/A	20	Not Warranted
14	Twp Rd 730 / County Road	N/A	N/A	54	Not Warranted
15	Twp Rd 730 / County Road	N/A	N/A	155	Warranted
16	Twp Rd 730 / County Road	11	Not Warranted	167	Warranted
17	Hwy 2 / Twp Rd 730	170	Warranted	-	Warranted
18	Hwy 2 / Twp Rd 725	156	Warranted	-	Warranted
19	RR 63 / County Road	N/A	N/A	72	Not Warranted

The traffic signal warrant analysis results reveal that traffic signals are expected to be warranted at the Range Road 63 / Township Road 724, Township Road 724 / 102 Street (east commercial access), Highway 2 / Township Road 725 (Clairmont North Access), and Highway 2 / Township Road 730 intersections under the projected 2022 combined traffic conditions.

4.3 POTENTIAL ROUNDABOUT

Highway 2 is under Alberta Transportation's jurisdiction and in accordance with Design Bulletin #68/2010, Alberta Transportation will require that a roundabout feasibility assessment be conducted prior to installing traffic signals. It should be noted that the *Highway 2*, *Clairmont / Sexsmith Network Study report (2018 Draft)* does not propose any roundabouts at the highway intersections where traffic signals will be warranted.

The County of Grande Prairie may consider roundabouts as an alternative for traffic signals at the intersections where signals will be warranted. A roundabout feasibility study should be conducted prior to installing traffic signals.

5 CAPACITY ANALYSIS

This section describes the method used for the capacity analysis and evaluates the operating level of service of the study intersections under the analysis horizon traffic conditions. The recommended lane configurations for each intersection were based on the capacity analysis results to achieve the acceptable traffic operational performance.

5.1 METHODOLOGY

To determine the operating conditions of an intersection or roadway, the concept of level of service (LOS) is generally used. The LOS of an intersection is a qualitative measure of capacity and operating conditions and is directly related to vehicle delay. LOS is given a letter designation from A to F, with LOS A representing very short delays and the best operating conditions, and LOS F representing very long delays and failure of a movement. LOS D is typically considered the limit of acceptable operation because excessive delays tend to occur beyond this threshold.

For this study, WSP developed Synchro Studio 9 (Synchro) intersection simulation models for the study intersections. Synchro 9 follows the *Highway Capacity Manual, 2010* (HCM 2010) LOS criteria that are listed in Table 5-1. For two-way stop controlled intersections, the delay is typically calculated for the movements at the minor approaches only, since the major roads are considered to be operating at free flow conditions.

Table 5-1 Level of Service Criteria for Intersections (HCM 2010)

SIGNALIZED CONTROL DELAY (S)	UNSIGNALIZED CONTROL DELAY (S)	LOS BY VOLUME-TO-CAPACITY RATIO	
		v/c ≤ 1.0	*v/c* > 1.0
≤ 10	≤ 10	A	F
> 10 and ≤ 20	> 10 and ≤ 15	B	F
> 20 and ≤ 35	> 15 and ≤ 25	C	F
> 35 and ≤ 55	> 25 and ≤ 35	D	F
> 55 and ≤ 80	> 35 and ≤ 50	E	F
> 80	> 50	F	F

5.2 CAPACITY ANALYSIS RESULTS

Synchro models were created for the study intersections under the post-development traffic conditions. The proposed intersection lane configurations were based on an iterative capacity analysis to achieve acceptable traffic operational performance under the analysis horizons.

5.2.1 EXISTING TRAFFIC (2017)

The existing intersection operational performance at the study intersections in the AM and PM peak hours is summarized in Tables 5-2 and 5-3. Refer to Figure 4-1 for the intersection numbers.

The capacity analysis reveals that all study intersections operate at an acceptable level of service under the existing traffic conditions.

Table 5-2 Capacity Analysis: Existing (2017) Traffic Conditions – AM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	B	LOS B (0.26)	LOS C (0.40)	LOS B (0.55)	LOS B (0.52)
2	N/A	-	-	-	-	-
3	N/A	-	-	-	-	-
4	N/A	-	-	-	-	-
5	N/A	-	-	-	-	-
6	Four-Way Stop	A	LOS A (0.01)	LOS A (0.08)	LOS A (0.10)	LOS A (0.11)
7	Two-Way Stop	-	-	-	-	-
8	N/A	-	-	-	-	-
9	N/A	-	-	-	-	-
10	N/A	-	-	-	-	-
11	N/A	-	-	-	-	-
12	Two-Way Stop	A	LOS A (0.01)	LOS A (0.00)	LOS A (0.00)	LOS A (0.00)
13	N/A	-	-	-	-	-
14	N/A	-	-	-	-	-
15	N/A	-	-	-	-	-
16	N/A	-	-	-	-	-
17	Two-Way Stop	A	LOS B (0.01)	LOS B (0.06)	LOS A (0.14)	LOS A (0.22)
18	Two-Way Stop	A	LOS A (0.01)	LOS C (0.40)	LOS A (0.12)	LOS A (0.21)
19	N/A	--	--	--	--	--

Table 5-3 Capacity Analysis: Existing (2017) Traffic Conditions – PM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	A	LOS B (0.13)	LOS B (0.27)	LOS A (0.36)	LOS A (0.23)
2	N/A	-	-	-	-	-
3	N/A	-	-	-	-	-
4	N/A	-	-	-	-	-
5	N/A	-	-	-	-	-
6	Four-Way Stop	A	LOS A (0.01)	LOS A (0.09)	LOS A (0.15)	LOS A (0.07)
7	Two-Way Stop	-	-	-	-	-
8	N/A	-	-	-	-	-
9	N/A	-	-	-	-	-
10	N/A	-	-	-	-	-
11	N/A	-	-	-	-	-
12	Two-Way Stop	A	LOS A (0.01)	LOS A (0.00)	LOS A (0.00)	LOS A (0.00)
13	N/A	-	-	-	-	-
14	N/A	-	-	-	-	-
15	N/A	-	-	-	-	-
16	N/A	-	-	-	-	-
17	Two-Way Stop	A	LOS B (0.01)	LOS B (0.06)	LOS A (0.20)	LOS A (0.16)
18	Two-Way Stop	A	LOS A (0.01)	LOS C (0.29)	LOS A (0.19)	LOS A (0.15)
19	N/A	--	--	--	--	--

5.2.2 5 YEAR HORIZON (2022)

Capacity analyses were conducted for the study intersections for the forecasted 5 year horizon traffic volumes. The signal warrant analysis results reveal that traffic signals are expected to be warranted at the Highway 2 / Township Road 725 (Int #8), Highway 2 / Township Road 730 (Int #17), Range Road 63 / Township Road 724 (Int #6), Township Road 724 / 102 Street (Int #2) intersections at the 5 year horizon.

Based on the forecasted traffic volumes, a four-lane divided cross-section with a raised median is recommended for Township Road 724 from Highway 2 to approximately 200 m west of 102 Street except for the Township Road 724 / 102 Street intersection. The recommended intersection control type and lane configurations for each study intersection at the 5 year horizon are illustrated in Figure 5-1. The traffic operation performance analysis results are summarized in Tables 5-4 and 5-5.

The capacity analysis reveals that all study intersections are expected to operate at an acceptable LOS D or better during both the AM and PM peak periods under the 5 year horizon post-development traffic conditions. The proposed intersection control types and lane configurations will be capable of accommodating the forecasted 2022 post-development traffic volumes

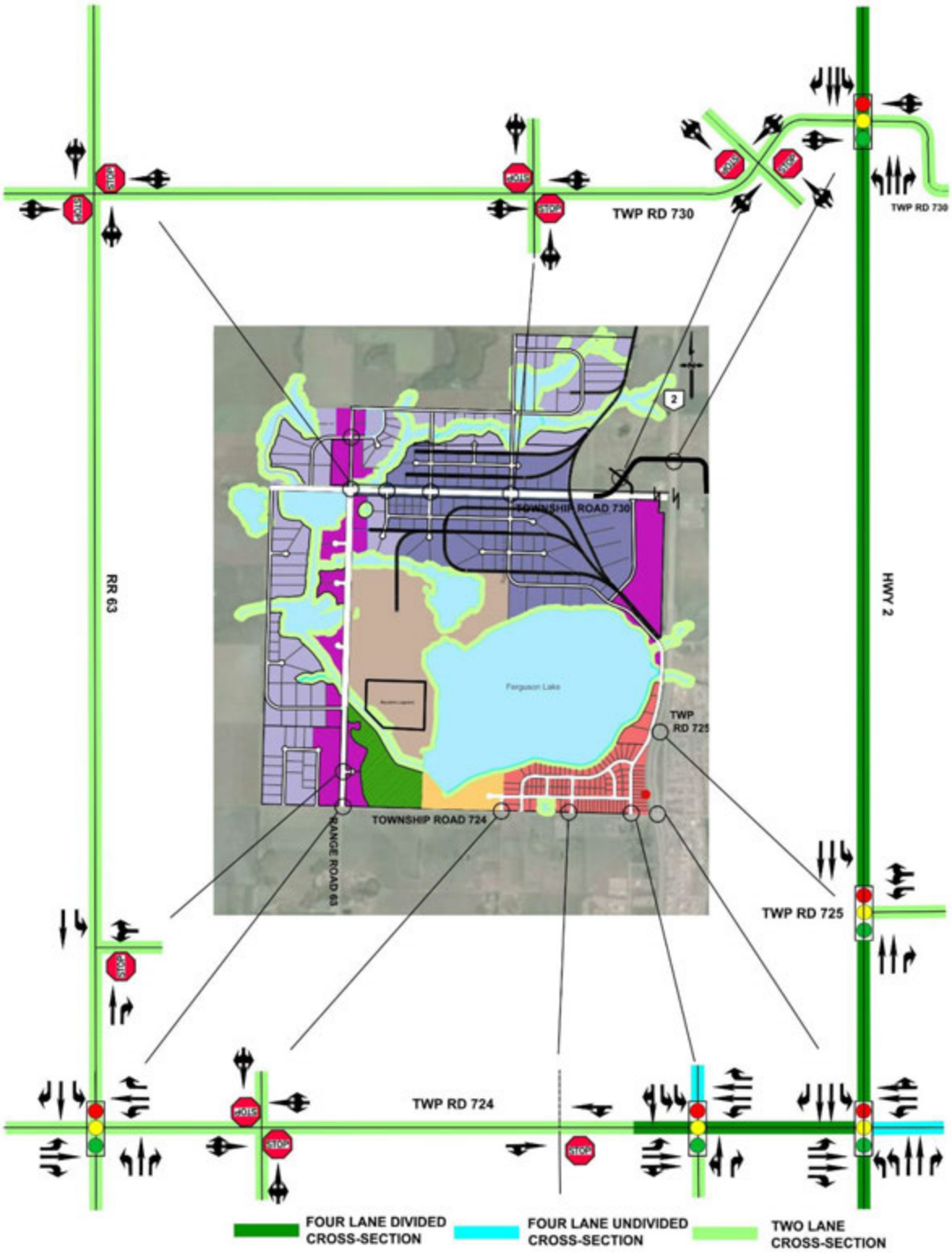

Figure 5-1 Proposed 5 Year Horizon Improvements

Table 5-4 Capacity Analysis: 2022 Post-Development Traffic Conditions – AM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	C	LOS C (0.46)	LOS C (0.62)	LOS B (0.70)	LOS C (0.84)
2	Signal	B	LOS A (0.26)	LOS B (0.28)	LOS A (0.05)	LOS C (0.33)
3	N/A	-	-	-	-	-
4	N/A	-	-	-	-	-
5	Two-Way Stop	A	LOS A (0.07)	LOS A (0.10)	LOS B (0.01)	LOS B (0.01)
6	Signal	A	LOS A (0.13)	LOS B (0.32)	LOS A (0.19)	LOS A (0.12)
7	Two-Way Stop	A	-	LOS B (0.04)	LOS A (0.09)	LOS A (0.12)
8	N/A	-	-	-	-	-
9	N/A	-	-	-	-	-
10	N/A	-	-	-	-	-
11	N/A	-	-	-	-	-
12	Two-Way Stop	A	LOS B (0.01)	LOS B (0.12)	LOS A (0.00)	LOS A (0.03)
13	N/A	-	-	-	-	-
14	N/A	-	-	-	-	-
15	N/A	-	-	-	-	-
16	Two-Way Stop	A	LOS A (0.00)	LOS A (0.09)	LOS B (0.08)	-
17	Signal	A	LOS A (0.13)	LOS B (0.44)	LOS A (0.33)	LOS A (0.40)
18	Signal	B	-	LOS B (0.41)	LOS A (0.45)	LOS B (0.62)
19	N/A	-	-	-	-	-

Table 5-5 Capacity Analysis: 2022 Post-Development Traffic Conditions – PM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	C	LOS C (0.75)	LOS C (0.31)	LOS B (0.68)	LOS C (0.74)
2	Signal	B	LOS B (0.50)	LOS B (0.72)	LOS A (0.11)	LOS C (0.82)
3	N/A	-	-	-	-	-
4	N/A	-	-	-	-	-
5	Two-Way Stop	A	LOS A (0.14)	LOS A (0.11)	LOS B (0.01)	LOS B (0.01)
6	Signal	A	LOS A (0.25)	LOS B (0.66)	LOS A (0.28)	LOS B (0.26)
7	Two-Way Stop	A	-	LOS B (0.19)	LOS A (0.15)	LOS A (0.11)
8	N/A	-	-	-	-	-
9	N/A	-	-	-	-	-
10	N/A	-	-	-	-	-
11	N/A	-	-	-	-	-
12	Two-Way Stop	A	LOS B (0.01)	LOS B (0.18)	LOS A (0.00)	LOS A (0.01)
13	N/A	-	-	-	-	-
14	N/A	-	-	-	-	-
15	N/A	-	-	-	-	-
16	Two-Way Stop	A	LOS A (0.00)	LOS A (0.03)	LOS B (0.30)	-
17	Signal	A	LOS B (0.52)	LOS B (0.24)	LOS A (0.53)	LOS A (0.39)
18	Signal	A	-	LOS B (0.22)	LOS A (0.49)	LOS A (0.44)
19	N/A	-	-	-	-	-

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5.2.3 20 YEAR HORIZON (2037)

Capacity analyses were conducted for the study intersections for the forecasted 20 year horizon post-development traffic volumes. The intersections that are anticipated to warrant signals at the 20 year horizon are shown in Table 4-1.

Based on the forecasted traffic volumes, a four-lane divided cross-section with raised median is recommended for Township Road 724, Range Road 63, and Township Road 730. A six-lane divided cross section is anticipated to be required on Highway 2. These improvements are consistent with the recommendations proposed in the *Highway 2, Clairmont / Sexsmith Network Study (2018 Draft).*

Although the signal warrant analysis shows that signals will not be warranted at the western commercial access intersection on Township Road 724, the capacity analysis reveals that stop control will not provide an acceptable level of service for the southbound traffic movements in the PM peak hours. Thus, it is recommended that signals be installed at the western commercial access intersection.

The recommended intersection control type and lane configurations for each study intersection at the 20 year horizon are illustrated in Figure 5-2. The traffic operation performance analysis results are summarized in Tables 5-6 and 5-7.

The capacity analysis reveals that all study intersections are expected to operate at an acceptable LOS D or better during both the AM and PM peak periods under the 20 year horizon post-development traffic conditions. The proposed intersection control types and lane configurations will be capable of accommodating the forecasted 2037 post-development traffic volumes.

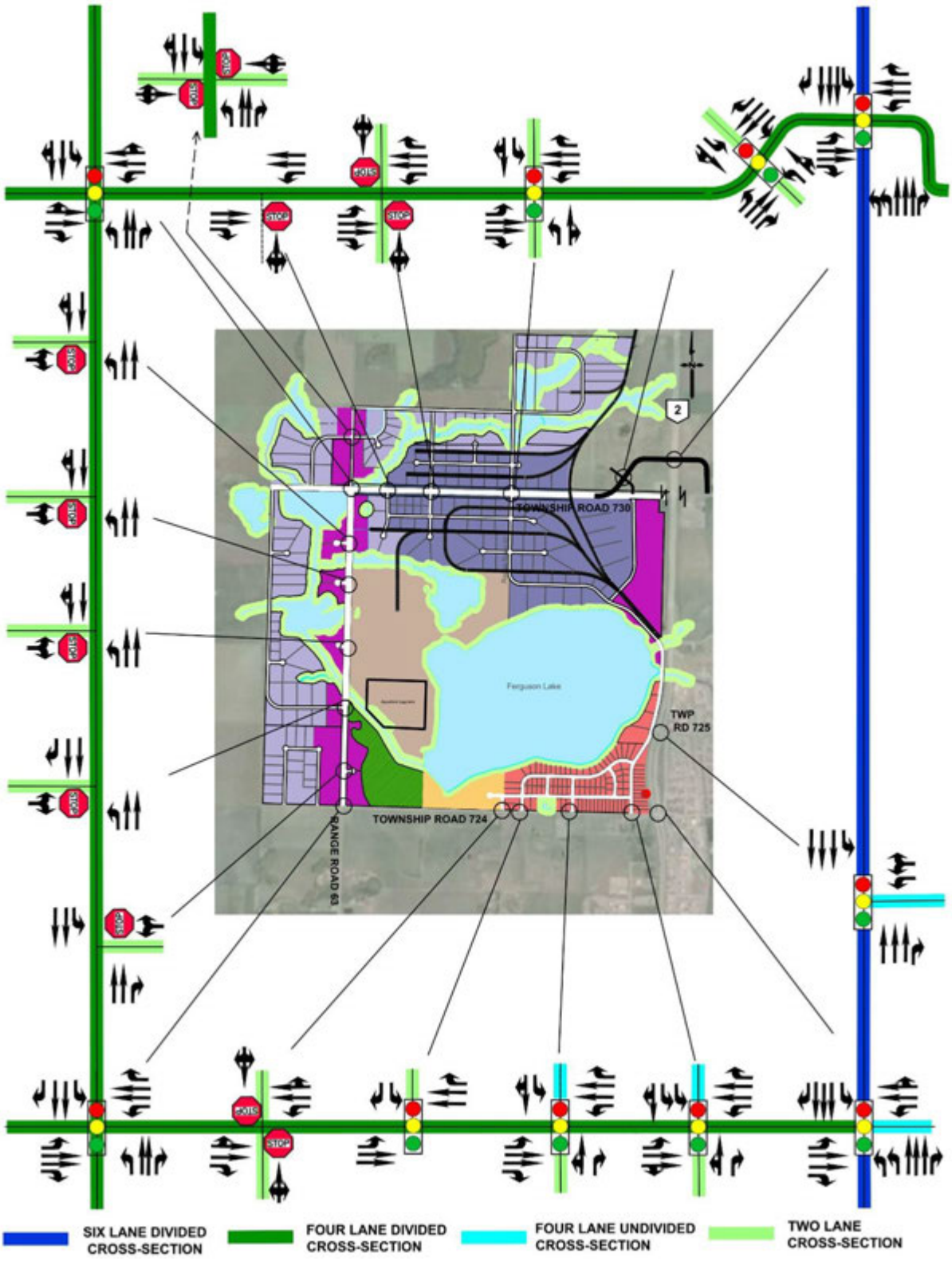

Figure 5-2 Proposed 20 Year Horizon Improvements

Table 5-6 Capacity Analysis: 2037 Post-Development Traffic Conditions – AM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	C	LOS C (0.60)	LOS D (0.51)	LOS C (0.94)	LOS D (0.93)
2	Signal	B	LOS B (0.25)	LOS B (0.42)	LOS A (0.12)	LOS C (0.27)
3	Signal	A	LOS A (0.11)	LOS A (0.24)	LOS A (0.02)	LOS A (0.13)
4	Signal	A	LOS A (0.10)	LOS A (0.17)	-	LOS B (0.06)
5	Two-Way Stop	A	LOS A (0.13)	LOS A (0.19)	LOS B (0.10)	LOS B (0.01)
6	Signal	B	LOS B (0.12)	LOS B (0.31)	LOS B (0.58)	LOS A (0.23)
7	Two-Way Stop	A	-	LOS C (0.07)	LOS A (0.23)	LOS A (0.14)
8	Two-Way Stop	A	LOS B (0.03)	-	LOS A (0.22)	LOS A (0.15)
9	Two-Way Stop	A	LOS B (0.02)	-	LOS A (0.21)	LOS A (0.15)
10	Two-Way Stop	A	LOS B (0.02)	-	LOS A (0.19)	LOS A (0.15)
11	Two-Way Stop	A	LOS B (0.02)	-	LOS A (0.18)	LOS A (0.15)
12	Signal	A	LOS A (0.24)	LOS B (0.40)	LOS A (0.38)	LOS A (0.31)
13	Two-Way Stop	A	LOS A (0.13)	LOS A (0.11)	LOS B (0.03)	-
14	Two-Way Stop	A	LOS A (0.11)	LOS A (0.12)	LOS B (0.06)	LOS C (0.04)
15	Signal	A	LOS A (0.11)	LOS A (0.18)	LOS A (0.08)	LOS B (0.10)
16	Signal	A	LOS A (0.11)	LOS A (0.35)	LOS A (0.08)	LOS A (0.01)
17	Signal	C	LOS B (0.45)	LOS C (0.66)	LOS C (0.85)	LOS C (0.78)
18	Signal	B	-	LOS C (0.68)	LOS B (0.70)	LOS B (0.64)
19	Two-Way Stop	A	LOS B (0.07)	LOS C (0.19)	LOS A (0.13)	LOS A (0.12)

Table 5-7 Capacity Analysis: 2037 Post-Development Traffic Conditions – PM Peak Hour

INTERSECTION	CONTROL TYPE	OVERALL LOS	EASTBOUND (MAX V/C)	WESTBOUND (MAX V/C)	NORTHBOUND (MAX V/C)	SOUTHBOUND (MAX V/C)
1	Signal	C	LOS C (0.95)	LOS D (0.42)	LOS C (0.92)	LOS D (0.95)
2	Signal	C	LOS C (0.85)	LOS B (0.62)	LOS B (0.47)	LOS C (0.81)
3	Signal	B	LOS B (0.57)	LOS A (0.35)	LOS A (0.07)	LOS B (0.38)
4	Signal	A	LOS A (0.31)	LOS A (0.29)	-	LOS B (0.37)
5	Two-Way Stop	A	LOS A (0.28)	LOS B (0.22)	LOS D (0.31)	LOS C (0.01)
6	Signal	B	LOS B (0.31)	LOS B (0.76)	LOS B (0.46)	LOS B (0.52)
7	Two-Way Stop	A	-	LOS C (0.37)	LOS A (0.18)	LOS A (0.24)
8	Two-Way Stop	A	LOS C (0.16)	-	LOS A (0.18)	LOS A (0.23)
9	Two-Way Stop	A	LOS B (0.12)	-	LOS A (0.18)	LOS A (0.22)
10	Two-Way Stop	A	LOS B (0.13)	-	LOS A (0.18)	LOS A (0.20)
11	Two-Way Stop	A	LOS C (0.14)	-	LOS A (0.18)	LOS A (0.19)
12	Signal	B	LOS A (0.11)	LOS B (0.76)	LOS A (0.31)	LOS B (0.52)
13	Two-Way Stop	A	LOS A (0.12)	LOS A (0.14)	LOS B (0.16)	-
14	Two-Way Stop	A	LOS A (0.12)	LOS A (0.12)	LOS C (0.29)	LOS C (0.22)
15	Signal	A	LOS A (0.27)	LOS A (0.20)	LOS A (0.28)	LOS B (0.55)
16	Signal	B	LOS B (0.56)	LOS A (0.35)	LOS B (0.63)	LOS A (0.11)
17	Signal	C	LOS C (0.91)	LOS B (0.26)	LOS C (0.87)	LOS C (0.72)
18	Signal	B	-	LOS B (0.31)	LOS A (0.61)	LOS B (0.71)
19	Two-Way Stop	A	LOS B (0.23)	LOS D (0.53)	LOS A (0.15)	LOS A (0.07)

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6 CONCLUSION AND RECOMMENDATIONS

This study has examined the traffic impacts associated with the proposed NW Clairmont ASP and Clairmont Heights ASP located in the County of Grande Prairie. The results of the analysis confirmed that additional road network improvements would be required to accommodate the expected site generated traffic from the proposed ASPs. Based on the 5 year horizon and 20 year horizon traffic levels, the specific road network improvements are summarized in Figures 5-1 and 5-2. The key findings and recommendations are summarized below:

5 YEAR HORIZON

The following improvements are recommended to accommodate the 5 year horizon traffic:

- Close the west approach of the Highway 2 / Township Road 725 (Clairmont North Access) intersection, convert the intersection to a “T” intersection and install signals. Remove the access to the truck wash business on the north side of Township Road 725.
- Relocate the Highway 2 / Township Road 730 intersection 400 m north of the existing intersection and install traffic signals.
- A divided four-lane cross-section with raised median is recommended for Township Road 724 from Highway 2 to west of 102 Street (proposed east commercial access). The Township Road 724 / 102 Street intersection will be a four-legged all-movement intersection.
- Provide dual left turn lanes for the northbound traffic at the Highway 2 / Township Road 724 intersection.
- Install traffic signals at the Township Road 724 / 102 Street intersection and provide dual left turn lanes for the southbound traffic.
- Install traffic signals at the Range Road 63 / Township Road 724 intersection.

20 YEAR HORIZON

In addition to the required 5 year horizon improvements, the following improvements are recommended to accommodate the 20 year horizon traffic:

- Provide divided four-lane cross-sections for Township Road 724, Range Road 63, and Township Road 730.
- Provide divided six-lane cross-section for Highway 2.
- Install traffic signals at the center and west commercial access intersections on Township Road 724.
- Provide dual left turn lanes for the northbound traffic at the Highway 2 / Township Road 730 intersection.
- Install traffic signals at the Range Road 63 / Township Road 730 intersection.

The above recommended improvements are consistent with the recommendations in the *Highway 2, Clairmont / Sexsmith Network Study (2018 Draft).*

The County of Grande Prairie may consider roundabout as an alternative for traffic signals at the intersections where signals will be warranted. A roundabout feasibility study should be conducted prior to installing traffic signals.

In the development of this study, WSP has utilized all available information in the assessment of expected future traffic conditions. We have incorporated the most recent data and direction provided by the County; since the ASPs take a long-term look at development (50+ years), it is possible or even likely that local conditions may change as time progresses and development proceeds. It is therefore recommended that smaller scale traffic impact assessments be undertaken each time a tentative plan or phase of development is submitted to the County for approval. These smaller scale studies will be necessary in order to identify specific local road network improvements triggered by individual phases of development within the area, and will be guided by the NW Clairmont ASP and Clairmont Heights ASP TIA in that regard.

The County recognizes that improvements on the provincial highway network may be driven by development within the NW Clairmont ASP and Clairmont Heights ASP area and acknowledges their responsibility for these improvements if and when required.

7 REFERENCES

BIBLIOGRAPHY

- Highway 2, Clairmont / Sexsmith Network Study: Recommended Ultimate Road Network Plan.
- Alberta Transportation (1995, Updated 1999), Highway Geometric Design Guide
- Alberta Transportation http://www2.infratrans.gov.ab.ca/mapping, Retrieved February 20, 2019.
- County of Grande Prairie http://www.countygp.ab.ca/, Retrieved March 24, 2017.

Appendix A

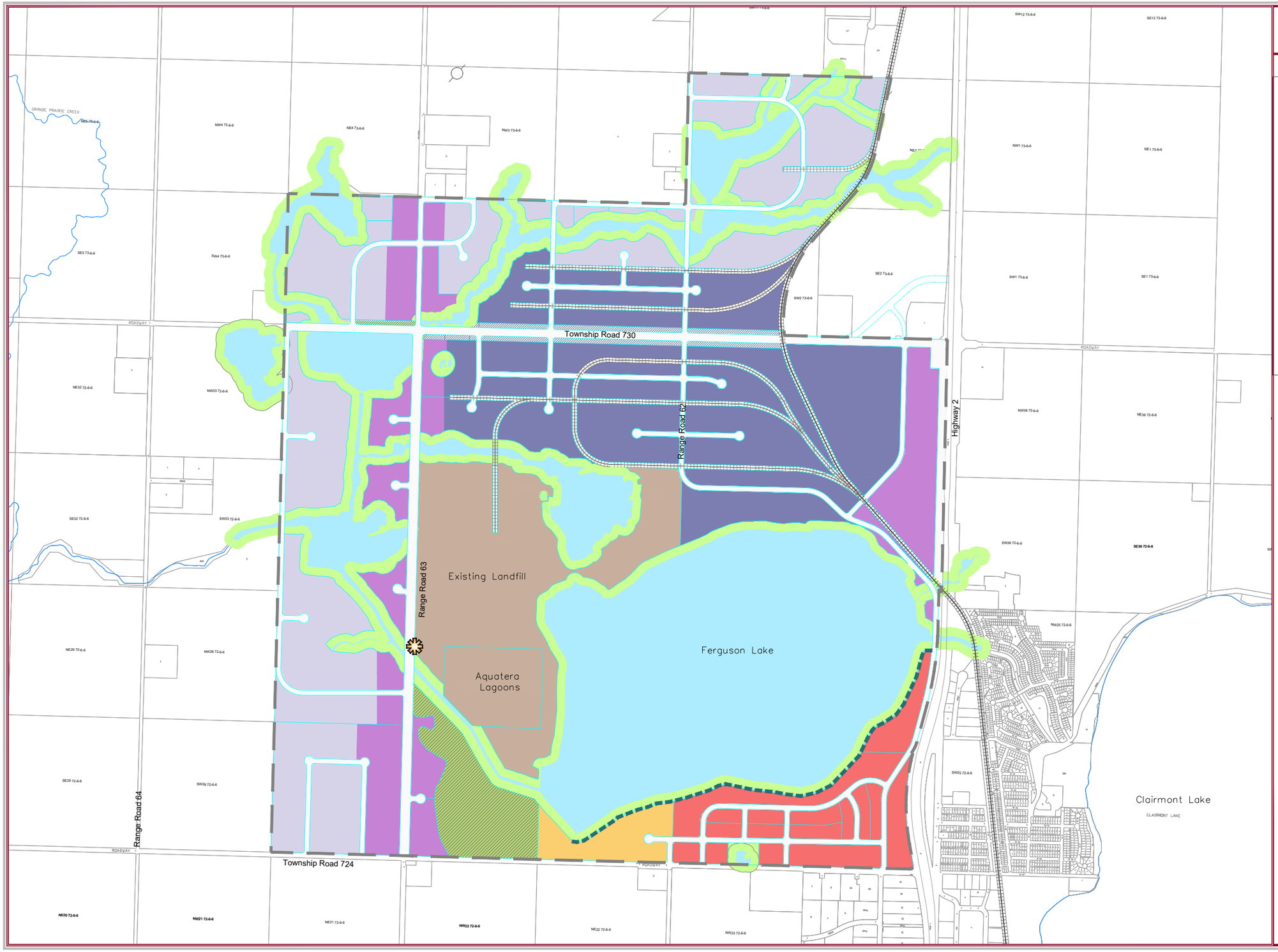
ABBREVIATIONS AND UNITS

ABBREVIATION	DESCRIPTION
ITE	Institute of Transportation Engineers
AADT	Average Annual Daily Traffic
ASDT	Average Summer Daily Traffic
ATR	Automatic Traffic Recorder
V/C	Volume to Capacity Ratio
LOS	Level of Service
LT	Left Turn
TIMS	Transportation Infrastructure Management System
INT	Intersection
EBL	Eastbound Left
WBL	Westbound Left
NBL	Northbound Left
SBL	Southbound Left
NBLR	Northbound Left and Right
EBLTR	Eastbound Left, Through and Right
WBLTR	Westbound Left, Through and Right
HCM	Highway Capacity Manual
TAC	Transportation Association Canada
s	Second
m	Meter
km/h	Kilometers per hour

Appendix B

PROJECT INFORMATION

- **Development Concept Plan**
- **Highway 2, Clairmont / Sexsmith Network Study: Ultimate Road Network Plan**
- **AT's Comments on NW Clairmont ASP TIA (2018)**
- **AT's Comments on Clairmont Heights ASP TIA (2018).**



LEGEND

- ASP Boundary
- Existing Railway
- Proposed Railway
- Landfill and Sewage Lagoon
- Permanent Wetland/Watercourse
- Flood Management Area
- Environmental Reserve
- Proposed Medium Industrial
- Proposed Heavy Industrial
- Proposed Highway Industrial
- Proposed Institutional
- Proposed Commercial Business Centre
- Municipal Reserve
- Proposed Service Road
- Landfill Entrance
- Future Road Alignment

NOTES

1. Information provided by WSP Canada Inc. as of January 2018

PROJECT

NW CLAIRMONT AREA STRUCTURE PLAN

PROJECT NO. C18-072

DATE: 12/17/2018

LAND USE CONCEPT FIGURE 6

CLIENT

County of Grande Prairie No. 1

DESIGNED: AMAN JHAWER

CHECKED: NICK PRYCE

N.T.S.

V3 Companies of Canada Ltd.
#200 - 9945 50th STREET
Edmonton, Alberta T6A 0L4
780-482-3700 phone
780-423-3416 fax
www.v3co.ca

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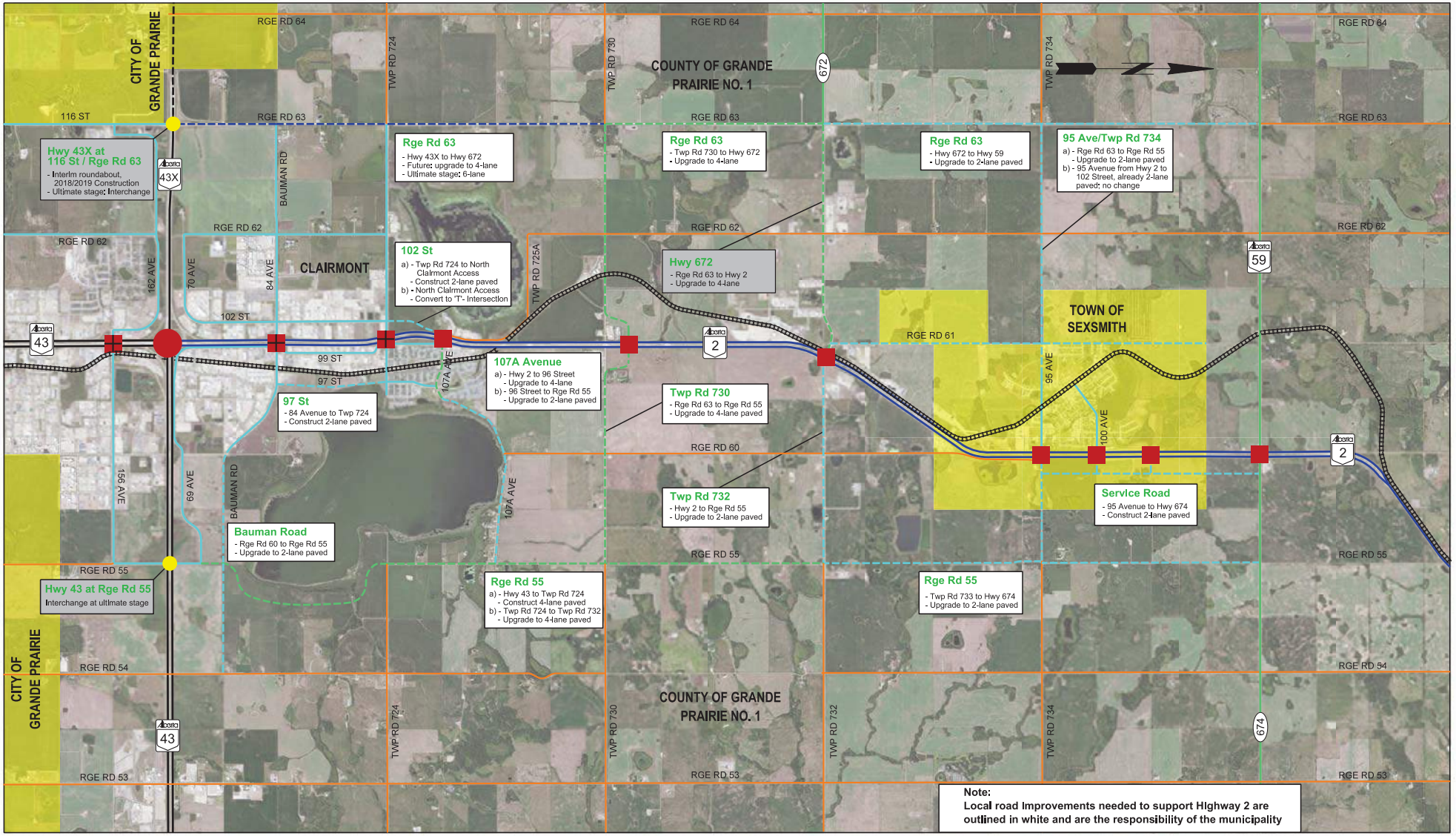


CONSULTANT

CIMA

JOB No. E00678A

LEGEND

PROVINCIAL HIGHWAY CLASSIFICATION
- LEVEL 1
- LEVEL 2
- LEVEL 3

EXISTING ROADS
- GRAVEL LOCAL ROADS
- PAVED LOCAL ROADS
- EXISTING SIGNALIZED INTERSECTION
- EXISTING HWY 2 INTERSECTIONS
- EXISTING INTERCHANGE

FUTURE ROADS
- FUTURE 2-LANE
- FUTURE 4-LANE
- FUTURE 6-LANE
- FUTURE INTERCHANGES

- MUNICIPAL BOUNDARY
- PROVINCIAL JURISDICTION
- LOCAL JURISDICTION

0km 1,0 2,0
SCALE

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY
March 2018

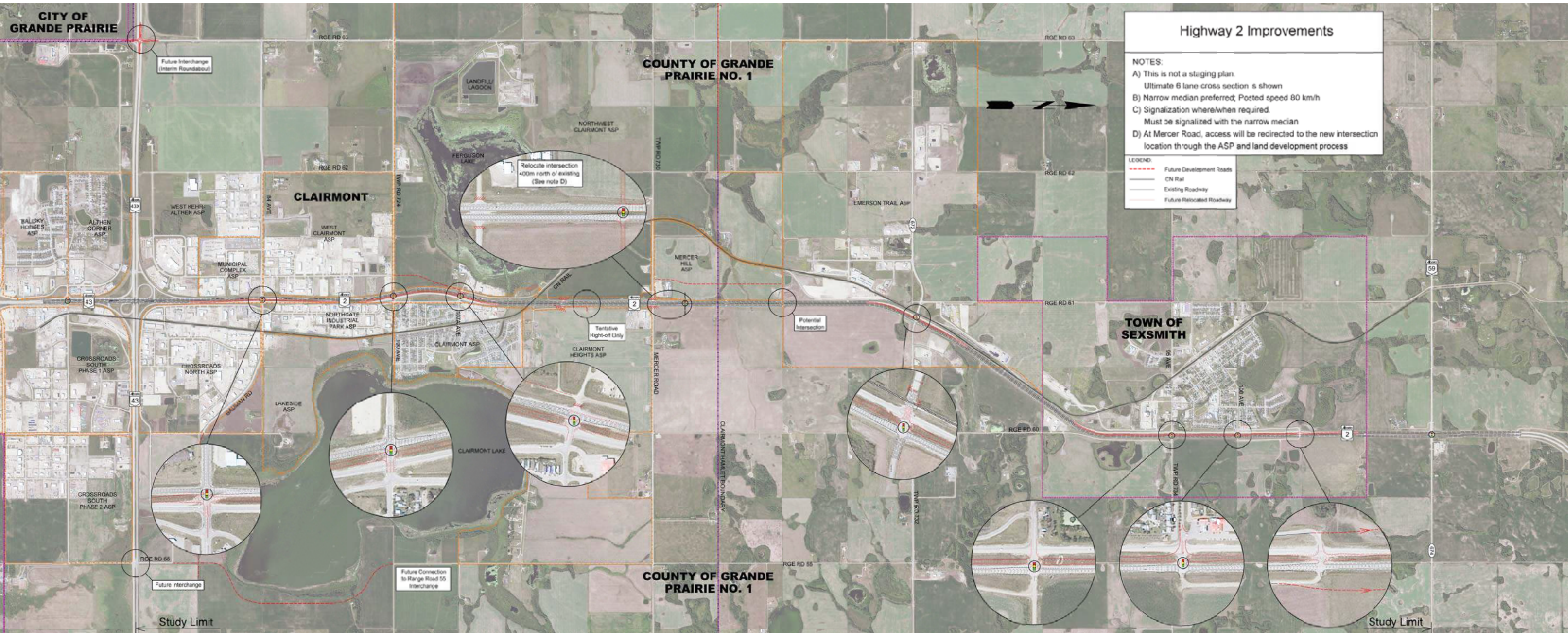
RECOMMENDED ULTIMATE ROAD NETWORK PLAN

HIGHWAY 2 - CLAIRMONT/SEXSMITH NETWORK STUDY

PHOTOGRAPHY DATE	HIGHWAY	DATE	SHEET
AIR PHOTO - APRIL 2016 SATELITE IMAGE - 2013 / 2014	2:72	2017-05-08	1 OF 1

Alberta Transportation

DRAWING R-1217- PL005A


CITY OF GRANDE PRAIRIE
COUNTY OF GRANDE PRAIRIE NO. 1
CLAIRMONT
TOWN OF SEXSMITH
Future Interchange (Interim Roundabout)
Relocate intersection 400m north of existing (See note D)
Tentative Right-of Only
Potential Intersection
Future Connection to Range Road 55 Interchange
Future Interchange
Study Limit
Study Limit
CLAIRMONT LAKE
FERGUSON LAKE
LANDFILL/ LAGOON
NORTHWEST CLAIRMONT ASP
WEST KEHR-ALTHEN ASP
BALDKY HOMES ASP
ALTHEN CORNER ASP
WEST CLAIRMONT ASP
MUNICIPAL COMPLEX ASP
NORTHGATE INDUSTRIAL PARK ASP
CLAIRMONT ASP
CLAIRMONT HEIGHTS ASP
MERCER HILL ASP
EMERSON TRAIL ASP
CROSSROADS SOUTH PHASE 1 ASP
CROSSROADS NORTH ASP
LAKESIDE ASP
CROSSROADS SOUTH PHASE 2 ASP
CN RAIL
MERCER ROAD
CLAIRMONT/MAMERE BOUNDARY
RGE RD 63
RGE RD 62
RGE RD 61
RGE RD 60
RGE RD 55
RGE RD 66
TWP RD 724
TWP RD 730
TWP RD 732
84 AVE
100 AVE
95 AVE
100A AVE
Highway 2 Improvements
NOTES:
A) This is not a staging plan
Ultimate 6 lane cross section s shown
B) Narrow median preferred; Posted speed 80 km/h
C) Signalization where/when required.
Must be signalized with the narrow median
D) At Mercer Road, access will be recirected to the new intersection location through the ASP and land development process
LEGEND:
Future Development Roads
CN Rail
Existing Roadway
Future Relocated Roadway

Alberta Transportation
DELIVERY SERVICES

Rm 1401, 10320 - 99 St
GRANDE PRAIRIE AB T8V 6J4
Phone: (780) 538-5310

April 18, 2018

Our Files: SE26-72-6-W6-HWY2/72
NE26-72-6-W6-HWY2/72
SE35-72-6-W6-HWY2/72
NE35-72-6-W6-HWY2/72

County of Grande Prairie No. 1
10001-84 Avenue
Clairmont AB T0H 0W0

RE: Northwest Clairmont ASP – Traffic Impact Assessment February 2018
Prepared by WSP Canada Inc. - On-behalf of the County of Grande Prairie No. 1

Attention: Nick Lapp, Director of Planning and Development

Thank you for the opportunity to review the above-noted Traffic Impact Assessment (TIA).
The following comments have been prepared as a result of thorough review of the TIA:

1. The report frequently focuses on a proposed new highway access located between Township Road 730 and the north Clairmont access. Alberta Transportation does not support any new access to Highway 2 to service land contained in the Northwest Clairmont Area Structure Plan. References to and the effects of this proposed access should be removed from the TIA.
2. The existing North Clairmont / Highway 2 intersection has not been factored into the assessment in any significant way. Is the reasoning because the County has plans to remove the west leg the intersection? The department supports the closure of the west leg of the intersection as the current configuration would not support the movements of larger industrial traffic. The ASP and supporting TIA must provide clarification regarding the future of the North Clairmont intersection.
3. This assessment includes recommendations for the upgrading and signalization of the intersection of Highway 2 and Township Road 730 in the 20 Year Horizon. Alberta Transportation has consistently rejected the idea of signalizing the intersection based on the conclusions and recommendation of previous and ongoing highway network studies. Alberta Transportation's - Highway 2, Hamlet of Clairmont Network Study, currently underway, is recommending the existing intersection of Township Road 730 and Highway 2 be closed and relocated north, to a location suitable for future signalization. The department supports this recommendation and requires the NW Clairmont ASP and TIA include the closure and re-alignment of the intersection.

4. The above-mentioned department study is scheduled to be completed by the fall of 2018. When a final version of the study is made available, the County of Grande Prairie should incorporate the findings into their development and planning initiatives.
5. Alberta Transportation is not is a position to accept the TIA as a final document at this time. Consideration of the comments provided and the conclusions/recommendations of the Highway 2-Hamlet of Clairmont Network Study, once finalized need to be incorporated into a revised assessment and resubmitted to the department for review.

Sincerely,

David Richards
Development and Planning Technologist

DR/dr

Cc: Danny Jung, Infrastructure Manager – Peace Region
James Sun, WSP Canada Inc.

Alberta Transportation
DELIVERY SERVICES

Rm 1401, 10320 - 99 St
GRANDE PRAIRIE AB T8V 6J4
Phone: (780) 538-5310

January 10, 2019 Our File: 2019-PLOP20180840

County of Grande Prairie No. 1
10001-84 Avenue
Clairmont AB T0H 0W0

RE: Clairmont Heights Area Structure Plan Amendments – November 2018
Highway 2

Nick Lapp – Director of Planning and Development

Thank you for the opportunity to review and comment on the proposed amendments to the Clairmont Heights Area Structure Plan (ASP) prepared by Beairsto & Associates Engineering Limited.

Department review was done in conjunction with a review of Alberta Transportation's draft Highway2, Clairmont/Sexsmith Network Study – Nov. 2018. The following comments are a result of our review.

Section 7.3 Intersections with Highway 2

1. Signalization of the third access mentioned in this section (Township Road 724A – North Clairmont access) will require the County to remove the illegal access to the gas station, convenience store and truck wash business, the removal or realignment of the east fronting service road (old Hwy 2) connection to 107A Avenue (minimum 130 metres offset from the center of Hwy 2 northbound lanes) and the removal of the west leg of the intersection, with traffic being redirected south to Township Road 724.
2. The intersection of Highway 2 and Township Road 730 (Mercer Hill) will require closure and relocation when the intersection begins to fail as stated in Section 7.3. The 2015 Clairmont Heights TIA prepared by WSP on behalf of the County suggests that the intersection will require signalization at 30% build-out of the Clairmont Heights area. The 2018 Northwest Clairmont TIA, also prepared by WSP, concludes that signals will be required in the 20 year horizon. The Clairmont Heights ASP does not give any indication as to when (Stage or Phase) the intersection of Highway 2 and Township Road 730 is anticipated to require closure and relocation north due to signals being required at the existing intersection.
3. It is unclear whether the Clairmont Heights and Northwest Clairmont Area Structure Plans and their supporting Traffic Impact Assessments evaluate the combined impact of development on highway intersections. In order to properly assess when development within the Northwest Clairmont and Clairmont Heights areas will require the closure and relocation of the intersection of Highway 2 and Township Road 730, Alberta Transportation recommends an updated TIA be completed to support both Area Structure Plans.

Section 7.5 Additional Interim Access from Highway 2

1. The interim partial T- intersection as described in this section was assessed as part of the department's Highway 2, Clairmont/Sexsmith Network study. Upon review of the assessment Alberta Transportation cannot support a signalized partial T- intersection. If an additional access to the Clairmont Heights area is to be considered on a 4% grade the preferred outcome is a right-off only access and the relocation of Township Road 730.
2. Consideration of a right-off access would be subject to:
    a. A thorough design review process, including a safety audit.
    b. An agreement to remove the existing residential access (Tomshak) as part of the construction of a right-off access approved by Alberta Transportation.
3. It should be noted that a right-off access could remain in place in the long term, whereas the development of an interim access that residents and business come to rely on would need to be removed in its entirety at the time of Highway 2 being upgraded to 6 lanes.

In light of the above comments Alberta Transportation is not in a position to endorse the amended ASP at this time.

Until that time the department will review and when appropriate approve individual subdivision and development referrals received from the municipality.

Sincerely,

David Richards
Development and Planning Technologist

DR/dr

cc: Danny Jung, Infrastructure Manager – Peace Region
Graham Cooper Acting Operations Manager – Grande Prairie
Dwayne Lowen, Maintenance Contract Inspector – Grande Prairie

Appendix C

TRAFFIC ANALYSIS

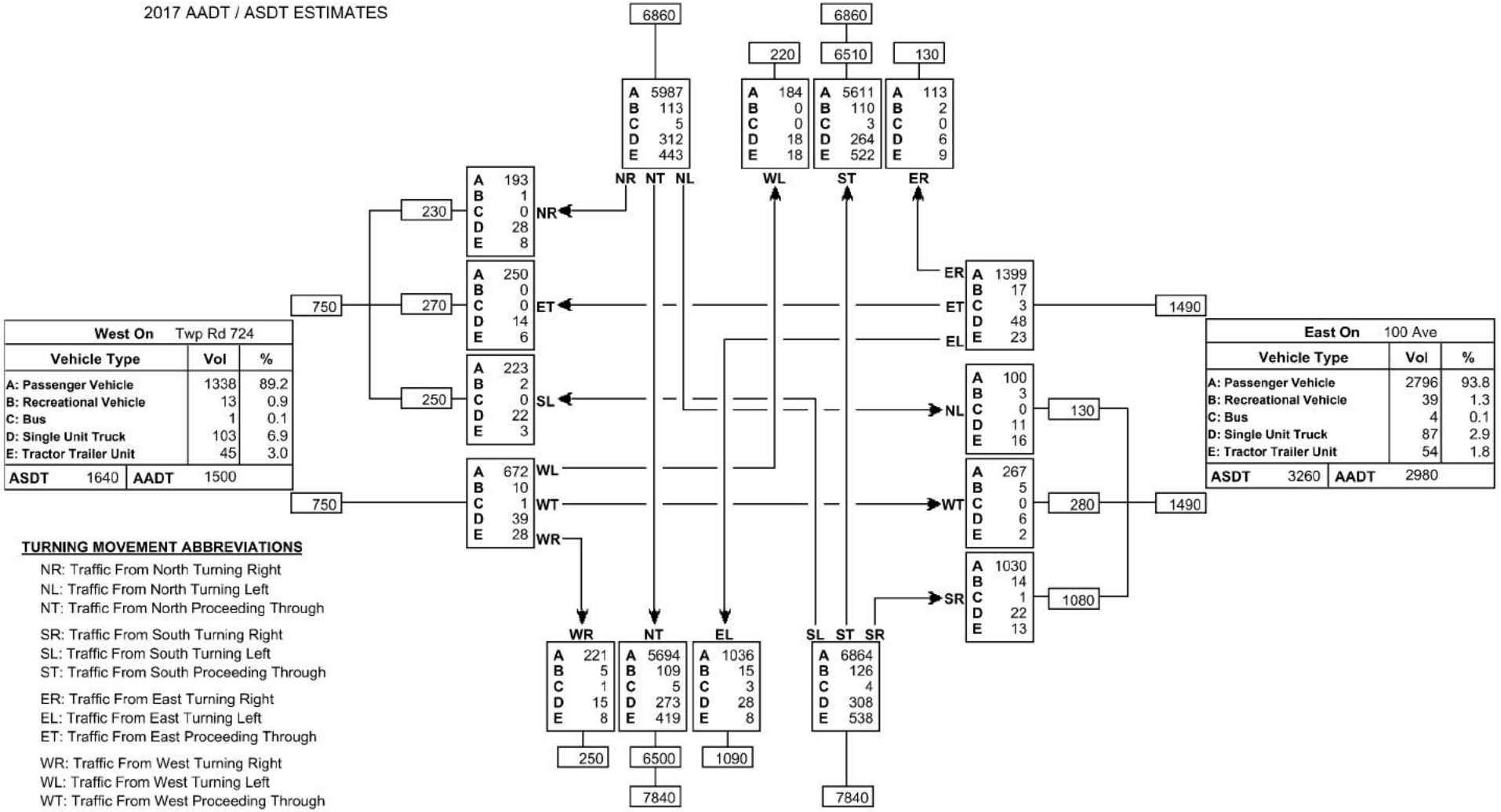
- **Alberta Transportation's Traffic Turning Movement Diagrams**
- **West Clairmont ASP Trip Generation**
- **Mercer Hill ASP Trip Generation**
- **Emerson Trail ASP Trip Generation**
- **Redtail Industrial Park Trip Generation**
- **Landsman Properties Ltd. development Trip Generation**

Turning Movement Summary Diagram

Reference No.: 29730

Intersection of:
2 & CLAIRMONT SOUTH ACC 23-72-6-600000000

2017 AADT / ASDT ESTIMATES



West On Twp Rd 724		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1338	89.2
B: Recreational Vehicle	13	0.9
C: Bus	1	0.1
D: Single Unit Truck	103	6.9
E: Tractor Trailer Unit	45	3.0
ASDT 1640	**AADT** 1500	

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	11895	86.7
B: Recreational Vehicle	225	1.6
C: Bus	8	0.1
D: Single Unit Truck	600	4.4
E: Tractor Trailer Unit	992	7.2
ASDT 15000	**AADT** 13720	

East On 100 Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	2796	93.8
B: Recreational Vehicle	39	1.3
C: Bus	4	0.1
D: Single Unit Truck	87	2.9
E: Tractor Trailer Unit	54	1.8
ASDT 3260	**AADT** 2980	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	13815	88.1
B: Recreational Vehicle	255	1.6
C: Bus	13	0.1
D: Single Unit Truck	624	4.0
E: Tractor Trailer Unit	973	6.2
ASDT 17140	**AADT** 15680	

TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
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TURNING MOVEMENT ABBREVIATIONS

AADT: Annual Average Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of January 1 to December 31 (365 days)

ASDT: Average Summer Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of May 1 to September 30 (153 days)

Turning Movement Summary Diagram

Reference No.: 29730

Intersection of:
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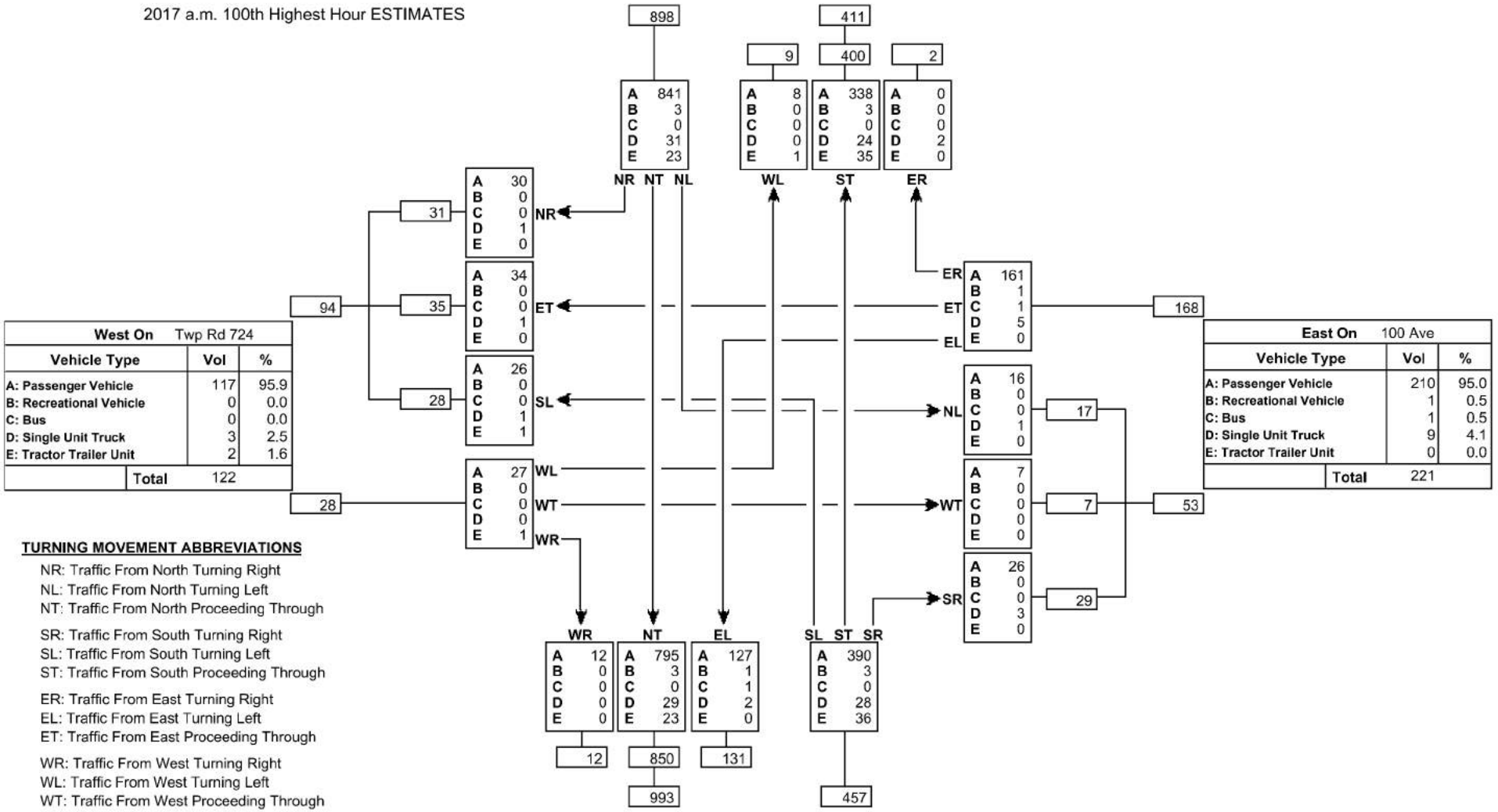
2017 a.m. 100th Highest Hour ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1187	90.7
B: Recreational Vehicle	6	0.5
C: Bus	0	0.0
D: Single Unit Truck	57	4.4
E: Tractor Trailer Unit	59	4.5
Total	1309	

West On Twp Rd 724		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	117	95.9
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	3	2.5
E: Tractor Trailer Unit	2	1.6
Total	122	

East On 100 Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	210	95.0
B: Recreational Vehicle	1	0.5
C: Bus	1	0.5
D: Single Unit Truck	9	4.1
E: Tractor Trailer Unit	0	0.0
Total	221	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1324	91.3
B: Recreational Vehicle	7	0.5
C: Bus	1	0.1
D: Single Unit Truck	59	4.1
E: Tractor Trailer Unit	59	4.1
Total	1450	



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Turning Movement Summary Diagram

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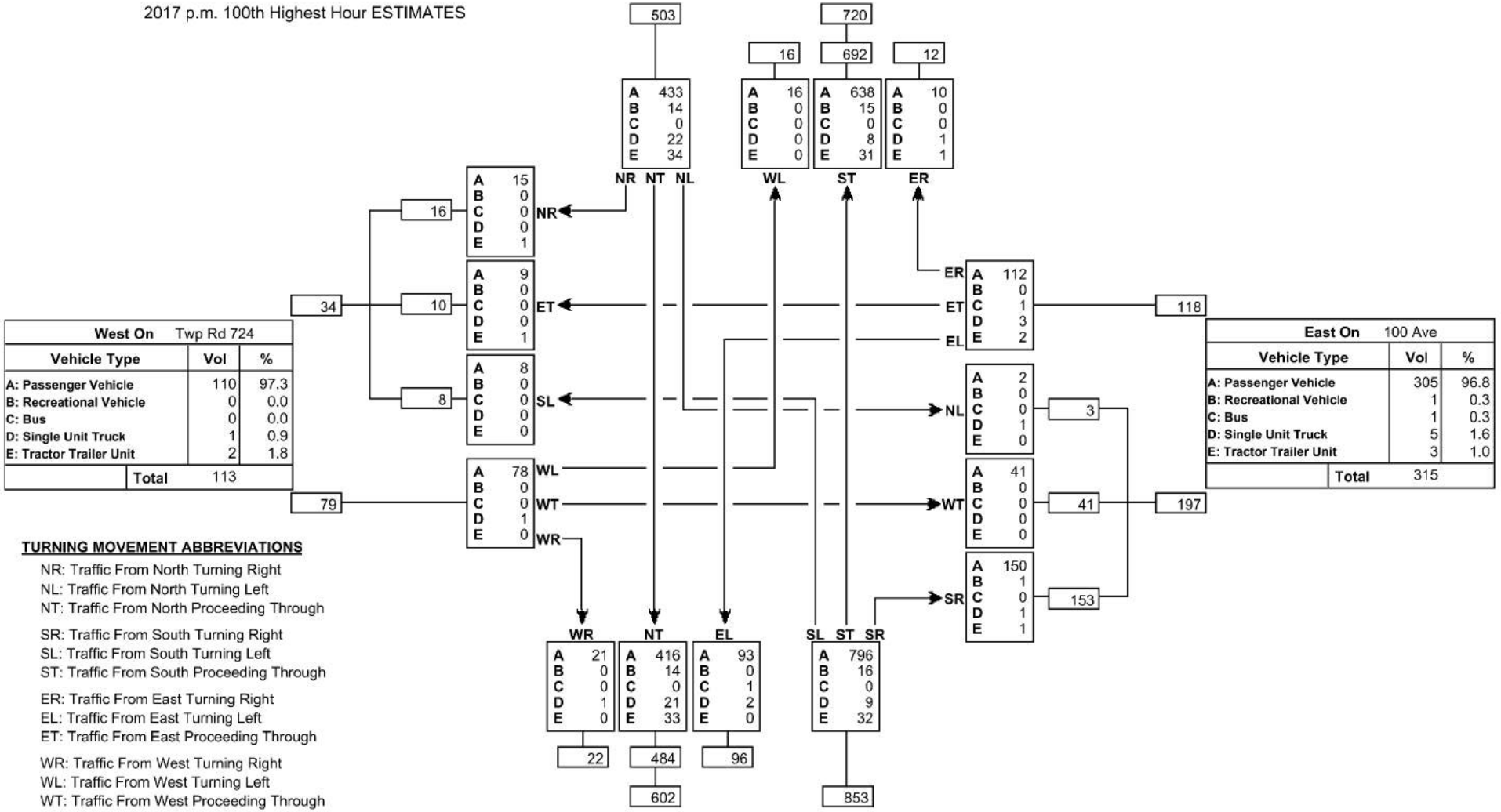
2017 p.m. 100th Highest Hour ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1097	89.7
B: Recreational Vehicle	29	2.4
C: Bus	0	0.0
D: Single Unit Truck	31	2.5
E: Tractor Trailer Unit	66	5.4
Total	1223	

West On Twp Rd 724		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	110	97.3
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	1	0.9
E: Tractor Trailer Unit	2	1.8
Total	113	

East On 100 Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	305	96.8
B: Recreational Vehicle	1	0.3
C: Bus	1	0.3
D: Single Unit Truck	5	1.6
E: Tractor Trailer Unit	3	1.0
Total	315	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1326	91.1
B: Recreational Vehicle	30	2.1
C: Bus	1	0.1
D: Single Unit Truck	33	2.3
E: Tractor Trailer Unit	65	4.5
Total	1455	



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Turning Movement Summary Diagram

Reference No.: 29731

Intersection of:

2 & CLAIRMONT NORTH ACC 26-72-6-600000805

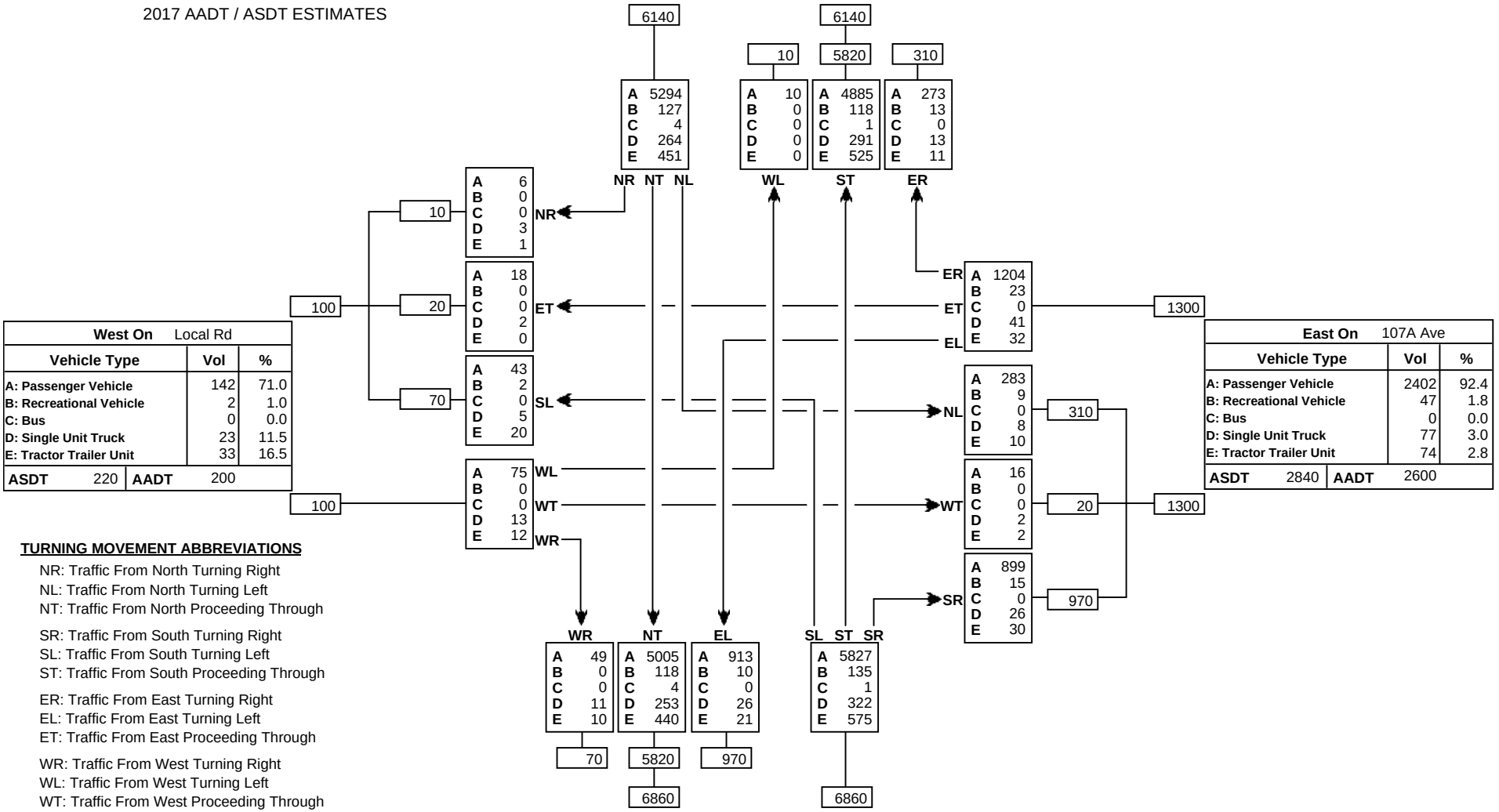
2017 AADT / ASDT ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	10462	85.2
B: Recreational Vehicle	258	2.1
C: Bus	5	0.0
D: Single Unit Truck	568	4.6
E: Tractor Trailer Unit	987	8.0
ASDT 13420	**AADT** 12280	

West On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	142	71.0
B: Recreational Vehicle	2	1.0
C: Bus	0	0.0
D: Single Unit Truck	23	11.5
E: Tractor Trailer Unit	33	16.5
ASDT 220	**AADT** 200	

East On 107A Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	2402	92.4
B: Recreational Vehicle	47	1.8
C: Bus	0	0.0
D: Single Unit Truck	77	3.0
E: Tractor Trailer Unit	74	2.8
ASDT 2840	**AADT** 2600	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	11794	86.0
B: Recreational Vehicle	263	1.9
C: Bus	5	0.0
D: Single Unit Truck	612	4.5
E: Tractor Trailer Unit	1046	7.6
ASDT 15000	**AADT** 13720	



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Turning Movement Summary Diagram

Reference No.: 29731

Intersection of:
2 & CLAIRMONT NORTH ACC 26-72-6-600000805

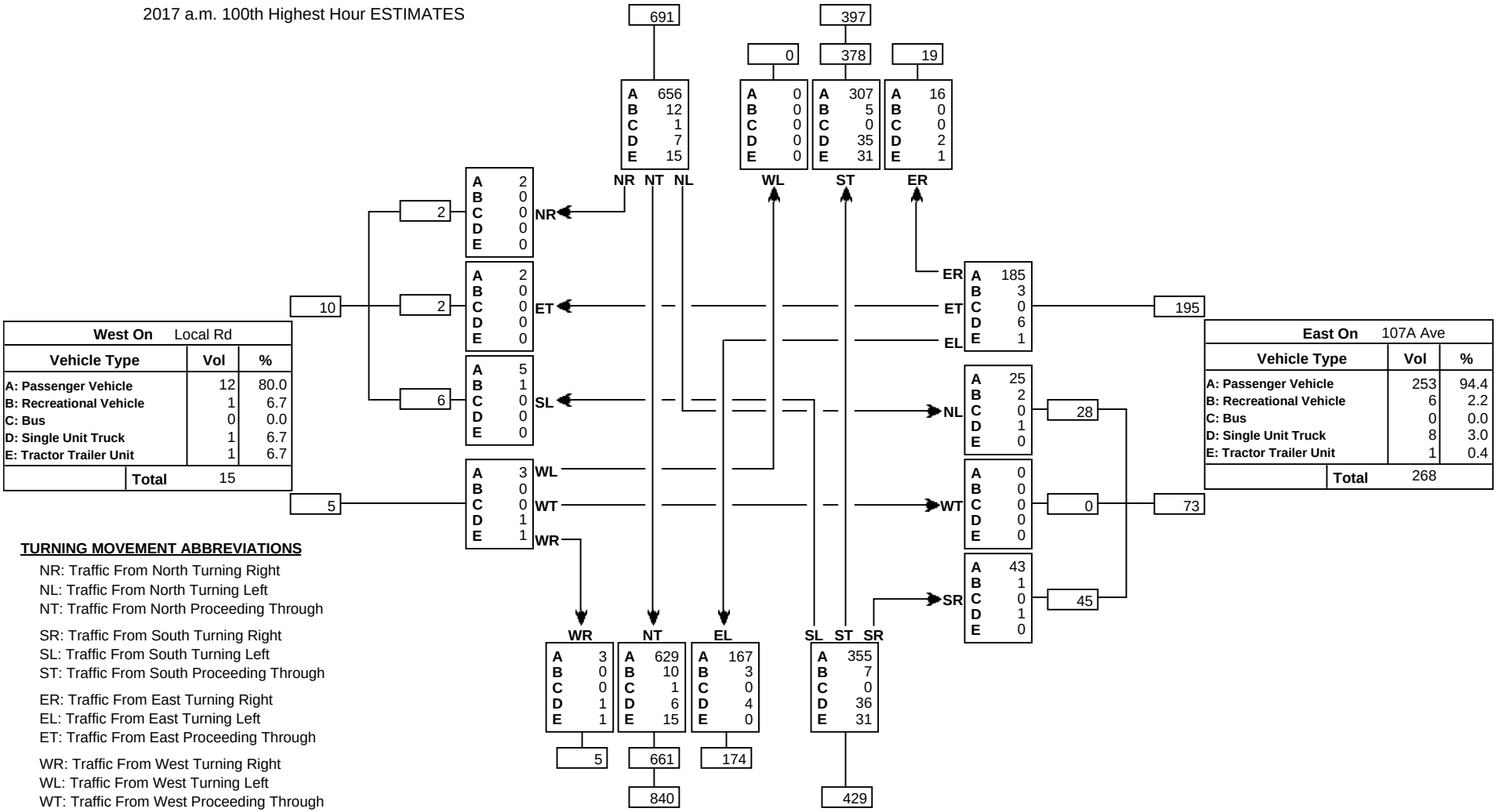
2017 a.m. 100th Highest Hour ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	979	90.0
B: Recreational Vehicle	17	1.6
C: Bus	1	0.1
D: Single Unit Truck	44	4.0
E: Tractor Trailer Unit	47	4.3
Total	1088	

West On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	12	80.0
B: Recreational Vehicle	1	6.7
C: Bus	0	0.0
D: Single Unit Truck	1	6.7
E: Tractor Trailer Unit	1	6.7
Total	15	

East On 107A Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	253	94.4
B: Recreational Vehicle	6	2.2
C: Bus	0	0.0
D: Single Unit Truck	8	3.0
E: Tractor Trailer Unit	1	0.4
Total	268	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1154	90.9
B: Recreational Vehicle	20	1.6
C: Bus	1	0.1
D: Single Unit Truck	47	3.7
E: Tractor Trailer Unit	47	3.7
Total	1269	



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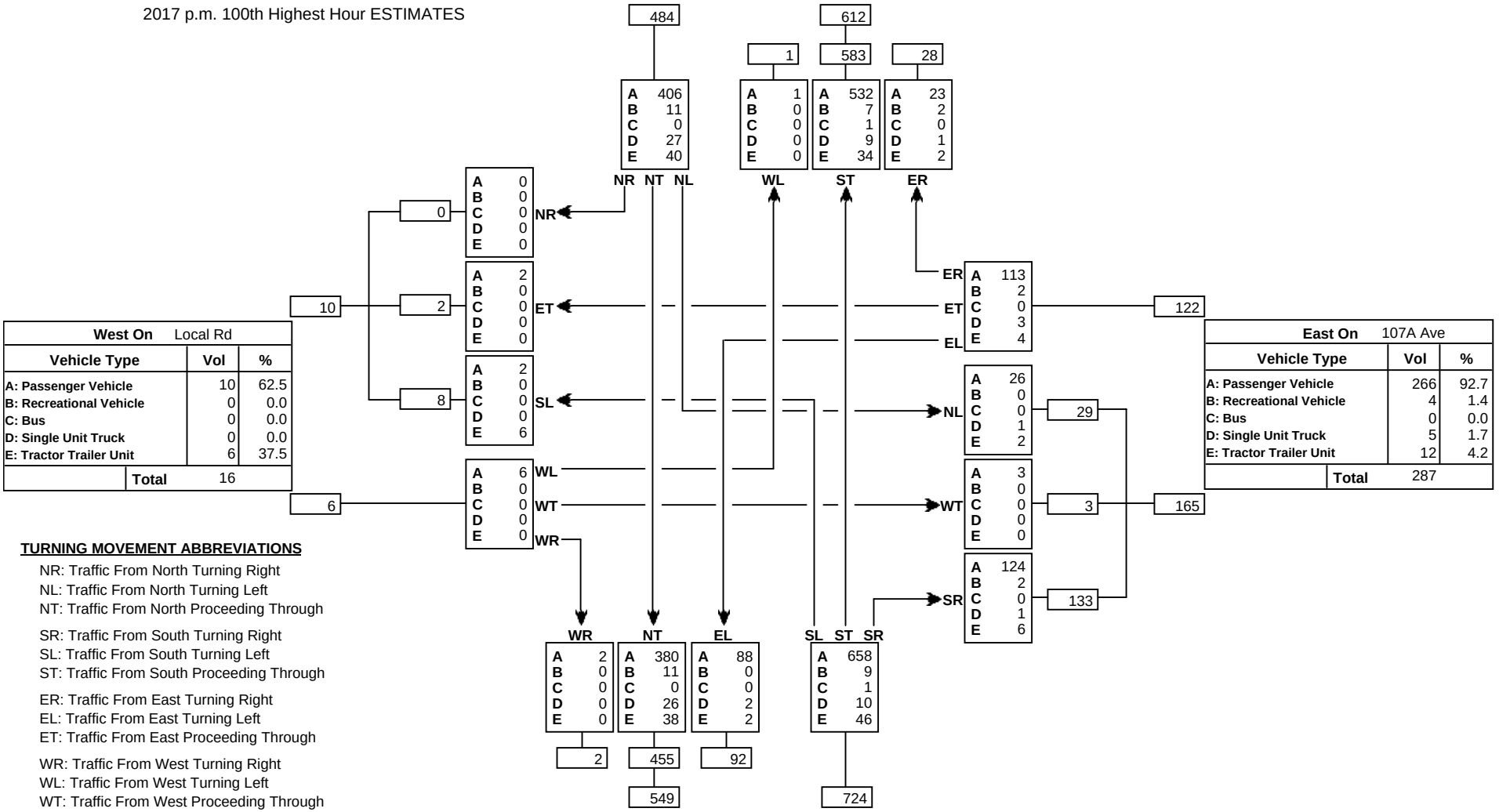
2017 p.m. 100th Highest Hour ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	962	87.8
B: Recreational Vehicle	20	1.8
C: Bus	1	0.1
D: Single Unit Truck	37	3.4
E: Tractor Trailer Unit	76	6.9
Total	1096	

West On Local Rd		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	10	62.5
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	0	0.0
E: Tractor Trailer Unit	6	37.5
Total	16	

East On 107A Ave		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	266	92.7
B: Recreational Vehicle	4	1.4
C: Bus	0	0.0
D: Single Unit Truck	5	1.7
E: Tractor Trailer Unit	12	4.2
Total	287	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1128	88.6
B: Recreational Vehicle	20	1.6
C: Bus	1	0.1
D: Single Unit Truck	38	3.0
E: Tractor Trailer Unit	86	6.8
Total	1273	



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Turning Movement Summary Diagram

Reference No.: 70000720

Intersection of:
2 & TWP RD 730 N OF CLAIRMONT

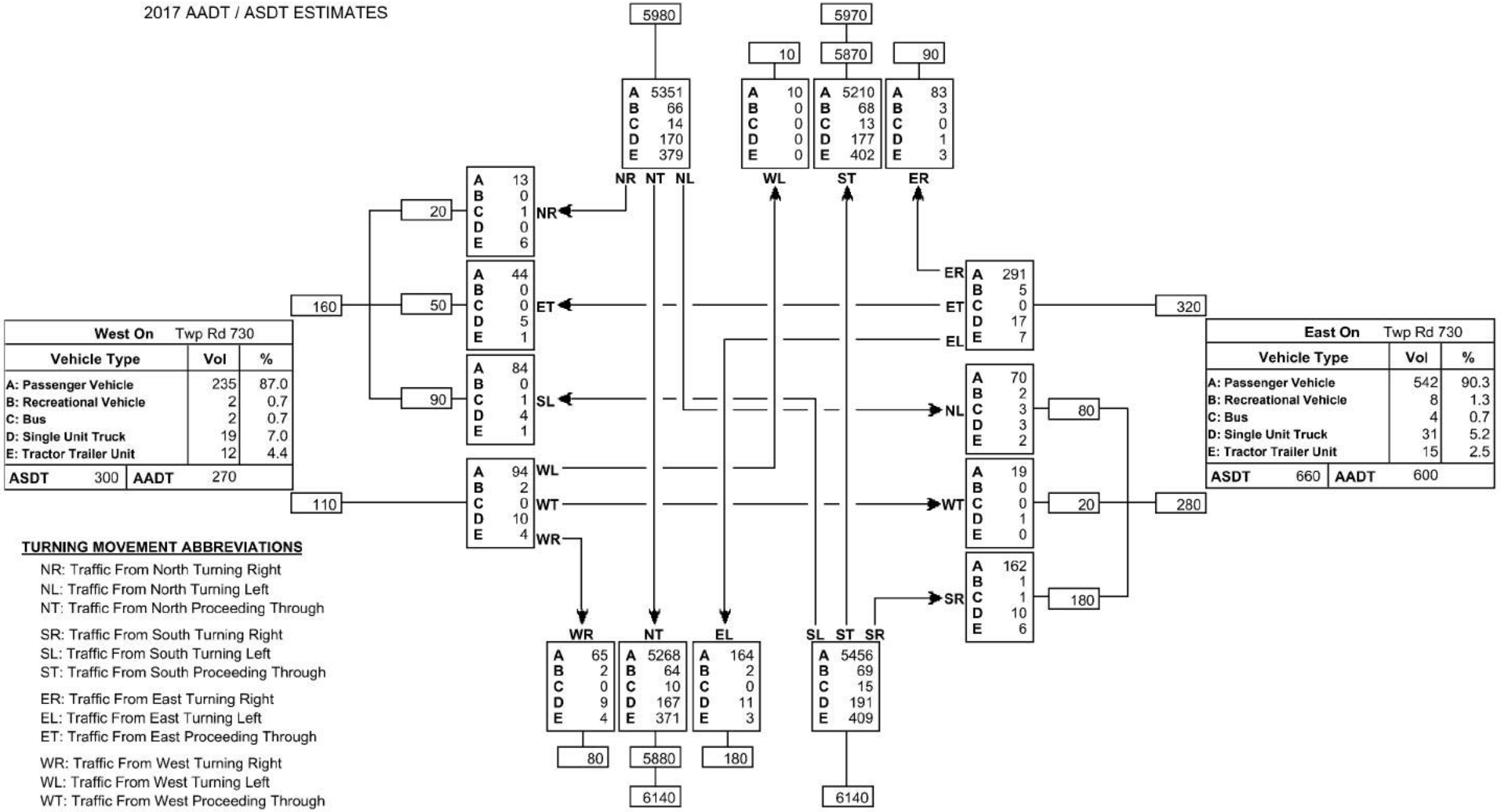
2017 AADT / ASDT ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	10654	89.2
B: Recreational Vehicle	137	1.1
C: Bus	27	0.2
D: Single Unit Truck	348	2.9
E: Tractor Trailer Unit	784	6.6
ASDT 13060	**AADT** 11950	

West On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	235	87.0
B: Recreational Vehicle	2	0.7
C: Bus	2	0.7
D: Single Unit Truck	19	7.0
E: Tractor Trailer Unit	12	4.4
ASDT 300	**AADT** 270	

East On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	542	90.3
B: Recreational Vehicle	8	1.3
C: Bus	4	0.7
D: Single Unit Truck	31	5.2
E: Tractor Trailer Unit	15	2.5
ASDT 660	**AADT** 600	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	10953	89.2
B: Recreational Vehicle	137	1.1
C: Bus	25	0.2
D: Single Unit Truck	378	3.1
E: Tractor Trailer Unit	787	6.4
ASDT 13420	**AADT** 12280	



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Turning Movement Summary Diagram

Reference No.: 70000720

Intersection of:
2 & TWP RD 730 N OF CLAIRMONT

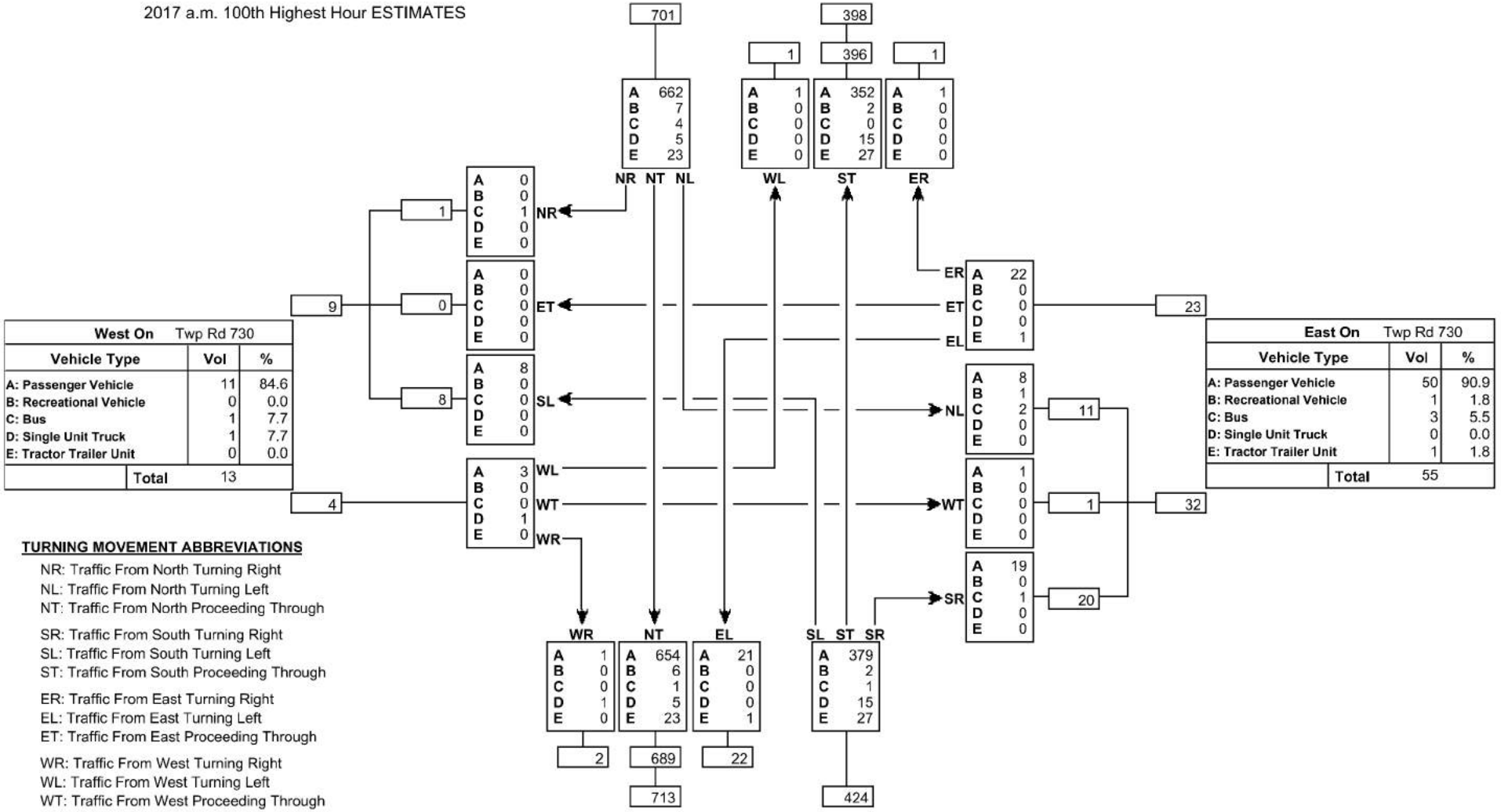
2017 a.m. 100th Highest Hour ESTIMATES

North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1016	92.4
B: Recreational Vehicle	9	0.8
C: Bus	4	0.4
D: Single Unit Truck	20	1.8
E: Tractor Trailer Unit	50	4.5
Total	1099	

West On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	11	84.6
B: Recreational Vehicle	0	0.0
C: Bus	1	7.7
D: Single Unit Truck	1	7.7
E: Tractor Trailer Unit	0	0.0
Total	13	

East On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	50	90.9
B: Recreational Vehicle	1	1.8
C: Bus	3	5.5
D: Single Unit Truck	0	0.0
E: Tractor Trailer Unit	1	1.8
Total	55	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1055	92.8
B: Recreational Vehicle	8	0.7
C: Bus	2	0.2
D: Single Unit Truck	21	1.8
E: Tractor Trailer Unit	51	4.5
Total	1137	



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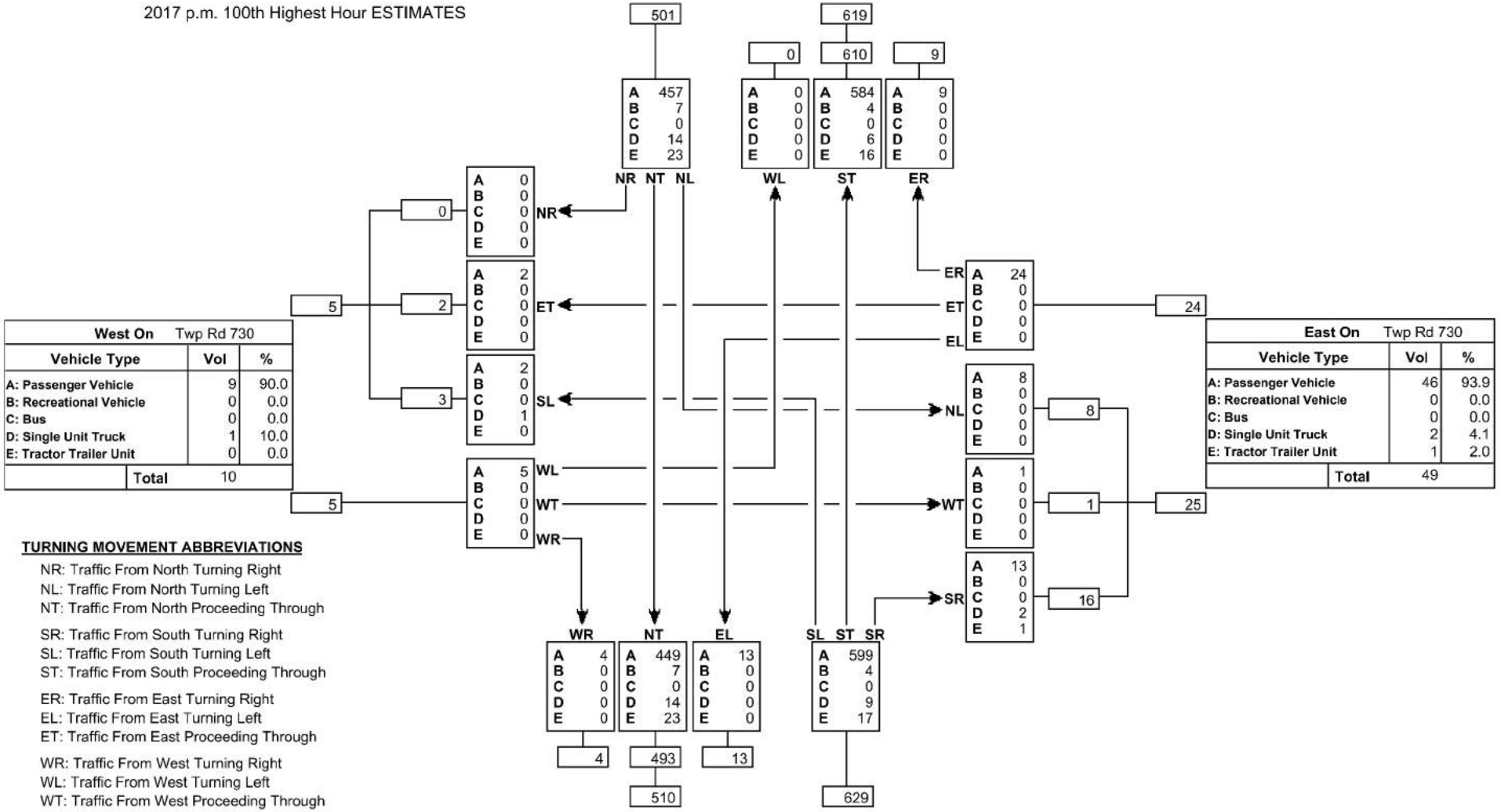
North On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1050	93.8
B: Recreational Vehicle	11	1.0
C: Bus	0	0.0
D: Single Unit Truck	20	1.8
E: Tractor Trailer Unit	39	3.5
Total	1120	

West On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	9	90.0
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	1	10.0
E: Tractor Trailer Unit	0	0.0
Total	10	

East On Twp Rd 730		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	46	93.9
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	2	4.1
E: Tractor Trailer Unit	1	2.0
Total	49	

South On 2		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1065	93.5
B: Recreational Vehicle	11	1.0
C: Bus	0	0.0
D: Single Unit Truck	23	2.0
E: Tractor Trailer Unit	40	3.5
Total	1139	



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COUNTY OF GRANDE PRAIRIE

BEAIRSTO LEHNERS KETCHUM ENGINEERING LIMITED

WEST CLAIRMONT INDUSTRIAL

TRAFFIC IMPACT ANALYSIS

FIGURE A5

AM TRIP DISTRIBUTION - DEVELOMENT TRAFFIC (YEAR 2013)


COUNTY OF GRANDE PRAIRIE
NORTH
NOT TO SCALE
BEAIRSTO LEHNERS KETCHUM ENGINEERING LIMITED
WEST CLAIRMONT INDUSTRIAL
TRAFFIC IMPACT ANALYSIS
FIGURE A6
PM TRIP DISTRIBUTION - DEVELOPMENT TRAFFIC (YEAR 2013)

Emerson Trail ASP

Heavy Industrial

ITE Code: 120

Description: Heavy industrial

Area (Acre): 0

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	82%	18%	100%	21%	79%
Rate	6.75	3.38	3.38	1.98	1.62	0.36	2.16	0.45	1.71
Total Trips	0	0	0	0	0	0	0	0	0

Medium Industrial (RM-2)

ITE Code: NA

Description:

Area (Acre): 1348

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	66%	34%	100%	39%	61%
Rate	19.65	9.83	9.83	2.58	1.70	0.88	2.79	1.09	1.70
Total Trips	26488	13244	13244	3478	2295	1182	3761	1467	2294

Highway Industrial (RM-4)

ITE Code: 130

Description: Industrial Park

Area (Acre): 469.5

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	83%	17%	100%	21%	79%
Rate	61.17	30.59	30.59	8.20	6.81	1.39	8.53	1.79	6.74
Equation	T=47.82(X)+520.18			Ln(T)=0.78Ln(X)+2.82			Ln(T)=0.72Ln(X)+3.06		
Total Trips	22972	11486	11486	2035	1689	346	1789	376	1413

Total	49460	24730	24730	5513	3985	1528	5550	1842	3707

Mercer Hill ASP Traffic Estimates

Heavy Industrial

ITE Code: 120

Description: Heavy industrial

Area (Acre): 122.6

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	82%	18%	100%	21%	79%
Rate	6.75	3.38	3.38	1.98	1.62	0.36	2.16	0.45	1.71
Total Trips	828	414	414	243	199	44	265	56	209

Medium Industrial (RM-2)

ITE Code: NA

Description:

Area (Acre): 44.5

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	66%	34%	100%	39%	61%
Rate	19.65	9.83	9.83	2.58	1.70	0.88	2.79	1.09	1.70
Total Trips	874	437	437	115	76	39	124	48	76

Highway Industrial (RM-4)

ITE Code: 130

Description: Industrial Park

Area (Acre): 74.1

Development	Weekday			AM Peak Hour			PM Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Directional Distribution	100%	50%	50%	100%	83%	17%	100%	21%	79%
Rate	61.17	30.59	30.59	8.20	6.81	1.39	8.53	1.79	6.74
Equation	T=47.82(X)+520.18			Ln(T)=0.78Ln(X)+2.82			Ln(T)=0.72Ln(X)+3.06		
Total Trips	4064	2032	2032	482	400	82	473	99	374

Total	5766	2883	2883	840	675	165	862	203	659

Table 2: AADT Trip Generation

Phase	Land Use Zoning	Area (ha)	1000Sq. Feet Floor Area	ITE Code	Ave Rate Trips/Unit	Average Two Way Trips	% Enter Trips	% Exit Trips	Enter Trips	Exit Trips
Lot 4 Block 1	RM2	2.03	10.6	130	6.96	74	50%	50%	37	37
	Total					74			37	37
Lot 5 Block 1	RM2	1.75	9.6	130	6.96	67	50%	50%	33	33
	Total					67			33	33
Future Development	RM2	78.25	842.3	130	6.96	5862	50%	50%	2931	2931
	Total					5862			2931	2931
Total						6003			3001	3001

Table 3: AM Trip Generation

Phase	Land Use Zoning	Area (ha)	1000Sq. Feet Floor Area	ITE Code	Ave Rate Trips/Unit	Average Two Way Trips	% Enter Trips	% Exit Trips	Enter Trips	Exit Trips
Lot 4 Block 1	RM4	2.03	10.6	130	0.84	9	82%	18%	7	2
	Total					9			7	2
Lot 5 Block 1	RM2	1.75	9.6	130	0.84	8	82%	18%	7	1
	Total					8			7	1
Future Development	RM2	78.25	842.3	130	0.84	708	82%	18%	580	127
	Total					708			580	127
Total						724			594	130

Table 4: PM Trip Generation

Phase	Land Use Zoning	Area (ha)	1000Sq. Feet Floor Area	ITE Code	Ave Rate Trips/Unit	Average Two Way Trips	% Enter Trips	% Exit Trips	Enter Trips	Exit Trips
Lot 4 Block 1	RM4	2.03	10.6	130	0.86	9	21%	79%	2	7
	Total					9			2	7
Lot 5 Block 1	RM2	1.75	9.6	130	0.86	8	21%	79%	2	7
	Total					8			2	7
Future Development	RM2	78.25	842.3	130	0.86	724	21%	79%	152	572
	Total					724			152	572
Total						742			156	586

Table 4 – Site Trip Generation for the Weekday AM Peak Hour

Site Trip Generation - Weekday AM Peak Hour											
Zoning	Land-use Type	Rate	Units	No. of Units	Avg. 2-way Trip	% External	Adjusted 2-way Trips	% Enter	Entering Volume	% Exit	Exiting Volume
RM-2	Industrial Park	8.55	per Acre	20	171	100%	171	83%	142	17%	29
RM-2	Warehousing	0.45	per 1,000 sq. ft. GFA	757	341	100%	341	82%	279	18%	62
RM-4	Gas bar with Convenience Store	10.06	per pump	10	101	50%	50	50%	25	50%	25
RM-4	Motel with Restaurant	0.45	per Occupied Room	40	18	80%	14	37%	5	63%	9
				Total	**631**		**576**		**451**		**125**

Table 5 – Site Trip Generation for the Weekday PM Peak Hour

Site Trip Generation - Weekday PM Peak Hour											
Zoning	Land-use Type	Rate	Units	No. of Units	Avg. 2-way Trip	% External	Adjusted 2-way Trips	% Enter	Entering Volume	% Exit	Exiting Volume
RM-2	Industrial Park	8.84	per Acre	20	177	100%	177	21%	37	79%	140
RM-2	Warehousing	0.47	per 1,000 sq.ft. GFA	757	356	100%	356	25%	89	75%	267
RM-4	Gas bar with Convenience Store	13.38	per Fueling Position	10	134	50%	67	50%	34	50%	33
RM-4	Motel with Restaurant	0.47	per Occupied Room	40	19	80%	15	54%	8	46%	7
				Total	**685**		**615**		**168**		**447**

Appendix D

INTERSECTION ANALYSIS

- **Signal Warrant Analysis**

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Township Road 724**	**Direction (EW or NS)**	**EW**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Commercial Access 1**	**Direction (EW or NS)**	**NS**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**2**	**Comments**	**5 Year Horizon (2022) Combined Traffic**	**Analysis Date:**	**2019 Feb 21, Thu**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2017 Apr 12, Wed**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Township Road 724	WB	1		2			1	280	2
Township Road 724	EB	1		2			1	600	2
Commercial Access 1	NB	1				1	1		
Commercial Access 1	SB	1				1			
Are the Commercial Access 1 NB right turns significantly impeded by through movements? (y/n)							n		
Are the Commercial Access 1 SB right turns significantly impeded by through movements? (y/n)							n		

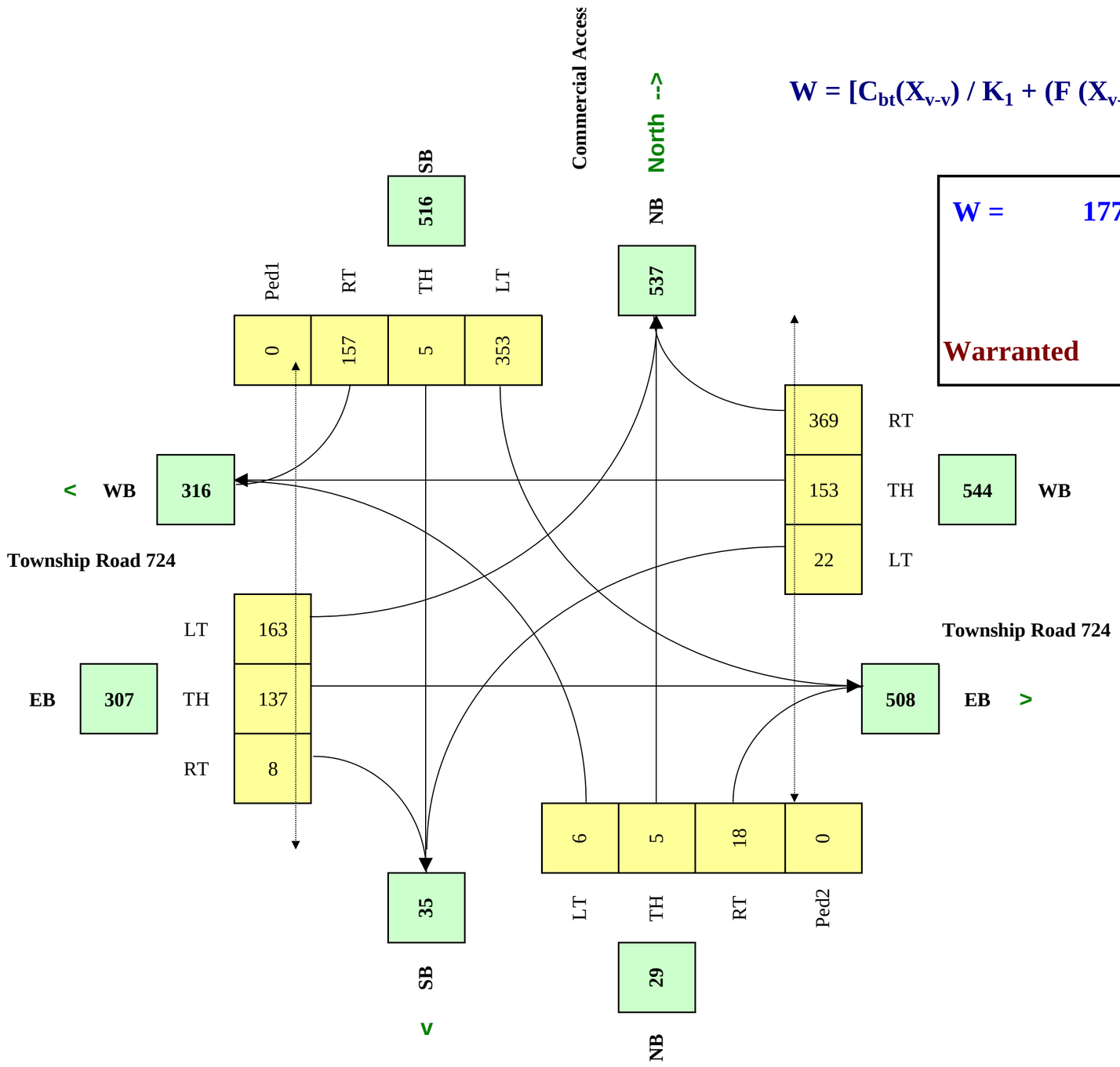
Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Township Road 724	EW	80	10.0%	n	5.0
Commercial Access 1	NS		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	6	5	11	117	5	51	34	246	242	121	74	11				
8:00 - 9:00	5	5	10	105	5	46	31	221	218	109	67	10				
11:00 - 12:00	6	5	19	372	5	166	23	161	389	171	144	9				
12:00 - 13:00	5	5	17	335	5	149	21	145	350	154	130	8				
16:00 - 17:00	6	5	27	627	5	280	11	76	535	221	213	6				
17:00 - 18:00	5	5	24	564	5	252	10	68	482	199	192	5				
Total (6-hour peak)	**33**	**30**	**108**	**2,120**	**30**	**944**	**130**	**917**	**2,216**	**975**	**820**	**49**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**6**	**5**	**18**	**353**	**5**	**157**	**22**	**153**	**369**	**163**	**137**	**8**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$

W =	177	177	0
		Veh	*Ped*

Warranted

RESET SHEET

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Township Road 724**	**Direction (EW or NS)**	**EW**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Commercial Access 2**	**Direction (EW or NS)**	**NS**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**3**	**Comments**	**20 Year Horizon (2037) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Township Road 724	WB	1		2			1	280	2
Township Road 724	EB	1		2			1	600	2
Commercial Access 2	NB	1				1			
Commercial Access 2	SB	1				1			
Are the Commercial Access 2 NB right turns significantly impeded by through movements? (y/n)							n		
Are the Commercial Access 2 SB right turns significantly impeded by through movements? (y/n)							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

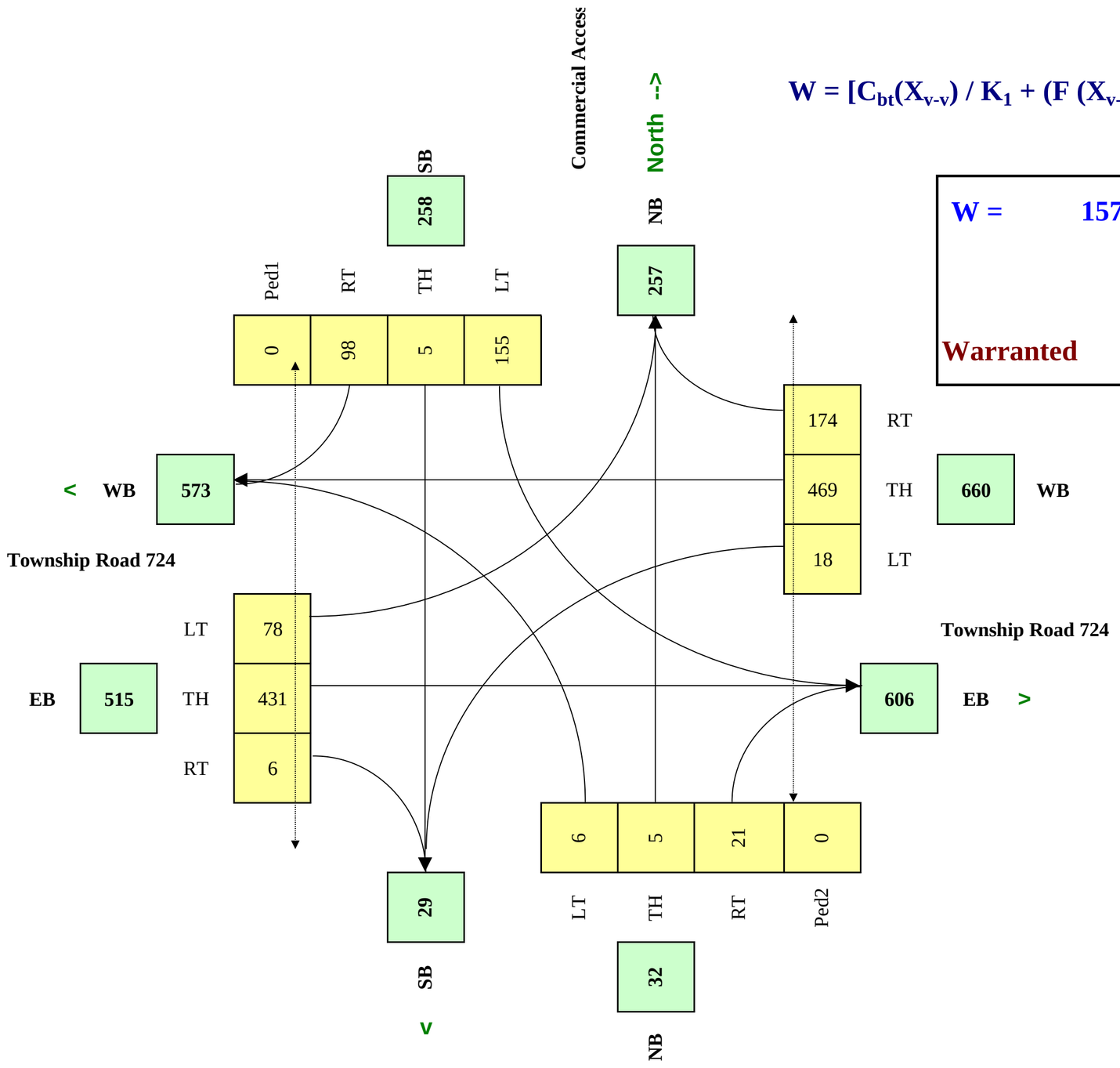
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Township Road 724	EW	80	10.0%	n	0.0
Commercial Access 2	NS		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	6	5	10	51	5	69	27	572	84	38	250	7				
8:00 - 9:00	5	5	9	46	5	62	24	515	76	34	225	6				
11:00 - 12:00	7	5	22	163	5	104	19	493	183	83	454	7				
12:00 - 13:00	6	5	20	147	5	93	17	444	165	74	408	6				
16:00 - 17:00	7	5	33	274	5	138	11	414	281	127	657	6				
17:00 - 18:00	6	5	30	247	5	124	10	373	253	114	591	5				
Total (6-hour peak)	**37**	**30**	**124**	**928**	**30**	**590**	**108**	**2,811**	**1,042**	**470**	**2,585**	**37**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**6**	**5**	**21**	**155**	**5**	**98**	**18**	**469**	**174**	**78**	**431**	**6**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	157	157	0
		Veh	*Ped*

Warranted

RESET SHEET

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Township Road 724**	**Direction (EW or NS)**	**EW**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Commercial Access 3**	**Direction (EW or NS)**	**NS**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**4**	**Comments**	**20 Year Horizon (2037) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Township Road 724	WB			2			1	400	2
Township Road 724	EB	1		2				600	2
Commercial Access 3	NB						1		
Commercial Access 3	SB	1					1		
							n		
							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

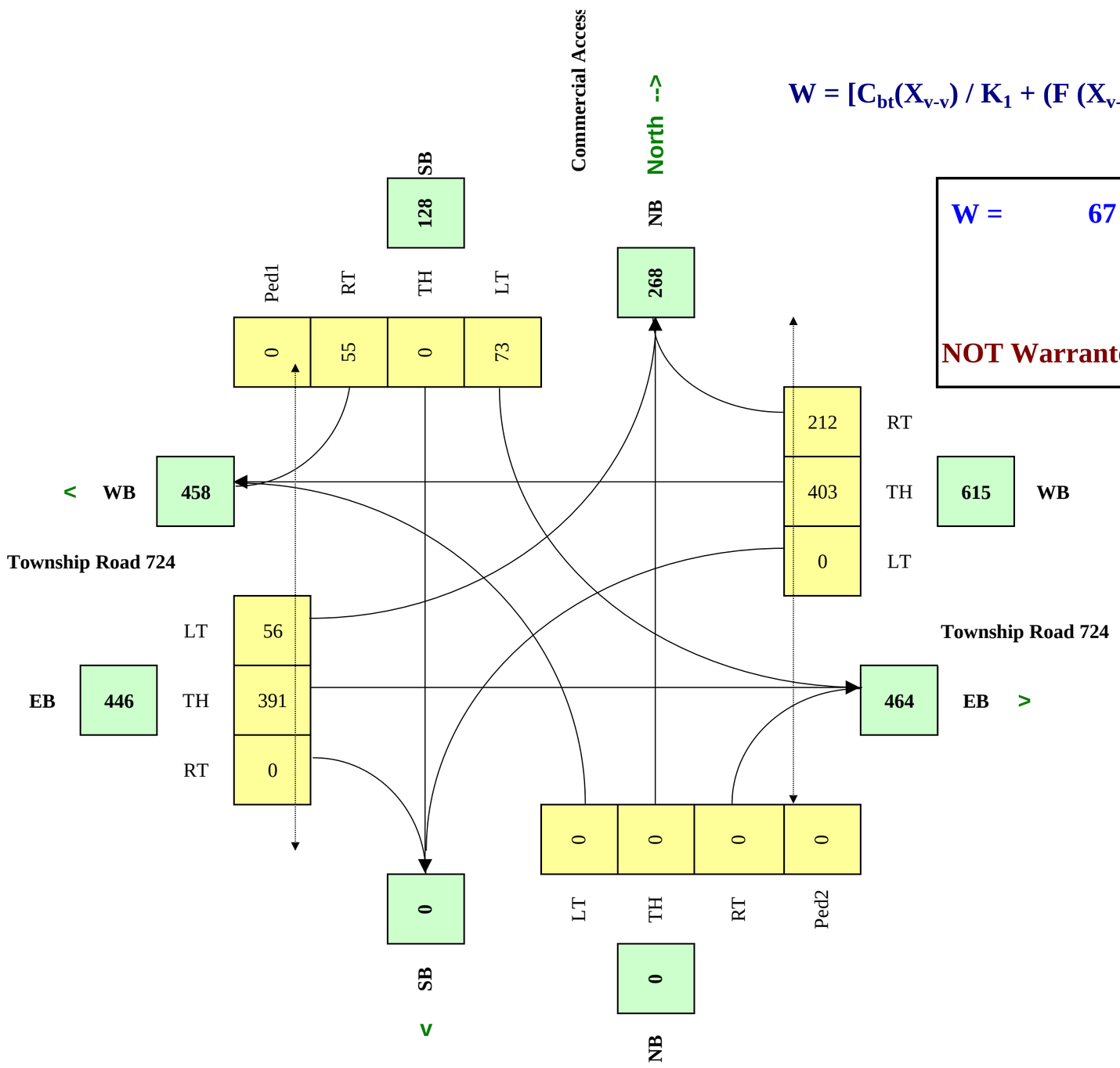
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Township Road 724	EW	80	10.0%	n	5.0
Commercial Access 3	NS		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	0	0	0	22	0	17	0	427	36	27	262	0				
8:00 - 9:00	0	0	0	20	0	15	0	384	32	24	236	0				
11:00 - 12:00	0	0	0	77	0	58	0	424	224	59	411	0				
12:00 - 13:00	0	0	0	70	0	52	0	382	201	53	370	0				
16:00 - 17:00	0	0	0	132		98	0	421	411	90	560	0				
17:00 - 18:00	0	0	0	119	0	88	0	379	370	81	504	0				
Total (6-hour peak)	**0**	**0**	**0**	**440**	**0**	**328**	**0**	**2,417**	**1,274**	**334**	**2,343**	**0**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**0**	**0**	**0**	**73**	**0**	**55**	**0**	**403**	**212**	**56**	**391**	**0**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**67**	**67**	**0**
		Veh	***Ped***

NOT Warranted

RESET SHEET

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Range Road 63**	**Direction (EW or NS)**	**NS**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Township Road 724**	**Direction (EW or NS)**	**EW**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**6**	**Comments**	**5 Year Horizon (2022) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Range Road 63	NB	1		1			1	3,000	1
Range Road 63	SB	1		1			1	5,000	1
Township Road 724	WB	1		1			1		
Township Road 724	EB	1		1			1		
							n		
							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

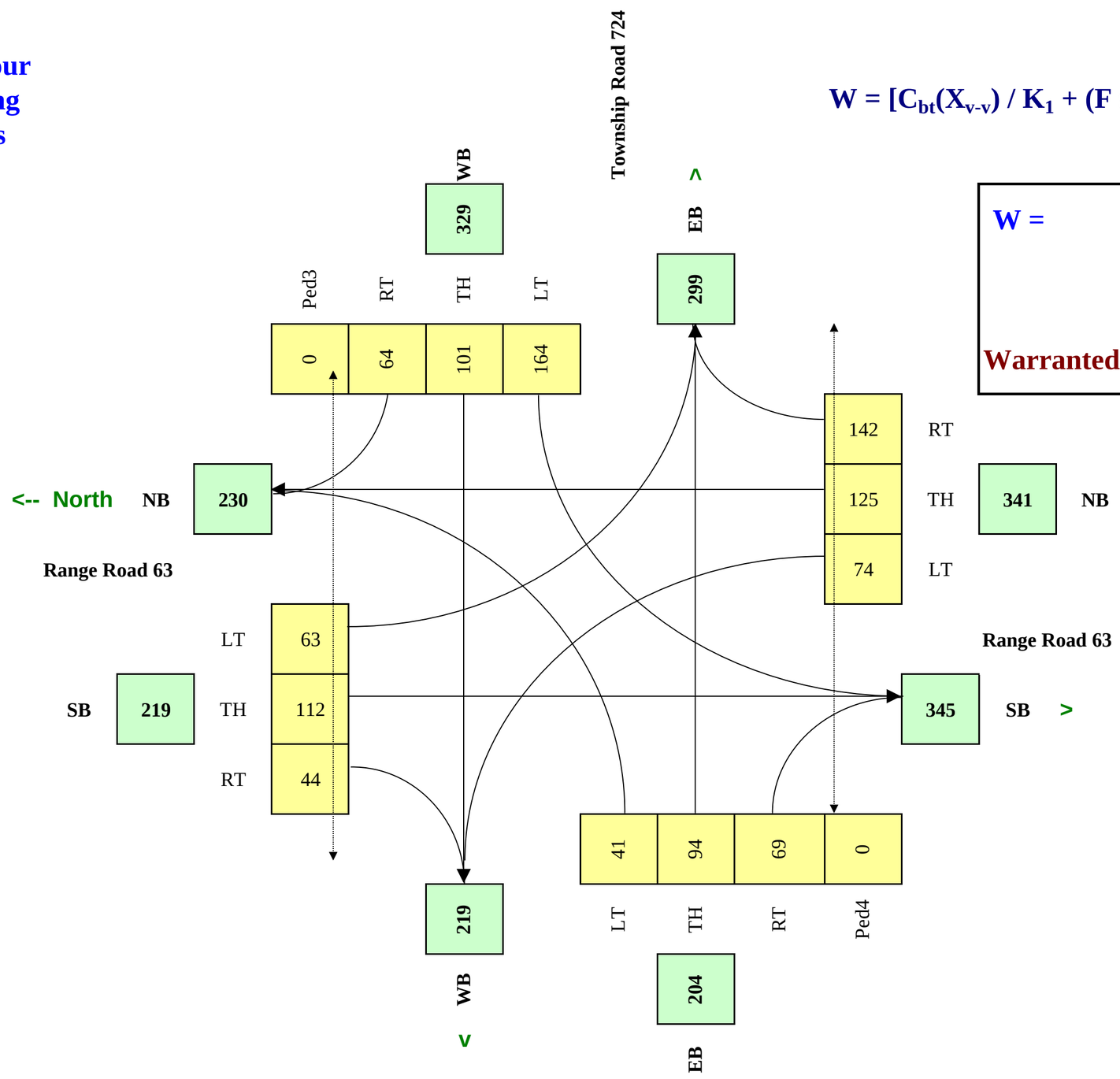
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Range Road 63	NS	80	10.0%	n	5.0
Township Road 724	EW		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1** **NS**	**Ped2** **NS**	**Ped3** **EW**	**Ped4** **EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	107	136	135	35	102	63	92	142	63	24	57	39				
8:00 - 9:00	96	122	122	32	92	57	83	128	57	22	51	35				
11:00 - 12:00	78	132	149	66	118	47	173	107	67	43	99	73				
12:00 - 13:00	70	119	135	60	106	42	156	96	61	39	89	65				
16:00 - 17:00	48	128	163	97	133	30	253	71	71	62	141	106				
17:00 - 18:00	43	115	147	87	120	27	228	64	64	56	127	95				
Total (6-hour peak)	**442**	**752**	**851**	**377**	**671**	**266**	**985**	**608**	**383**	**246**	**564**	**413**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**74**	**125**	**142**	**63**	**112**	**44**	**164**	**101**	**64**	**41**	**94**	**69**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**186**	**186**	**0**
		Veh	***Ped***

Warranted

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County of Grande Prairie - Traffic Signal Warrant Analysis

Main Street (name)	**Range Road 63**	**Direction (EW or NS)**	**NS**	**Road Authority:**	**County of Grande Prairie**
Side Street (name)	**Township Road 730**	**Direction (EW or NS)**	**EW**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**4**	**Comments**	**20 Year Horizon (2037) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Range Road 63	NB	1		2			1	5,000	2
Range Road 63	SB	1		1		1		5,000	2
Township Road 730	WB	1				1			
Township Road 730	EB		1				1		
Are the Township Road 730 WB right turns significantly impeded by through movements? (y/n)							n		
							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

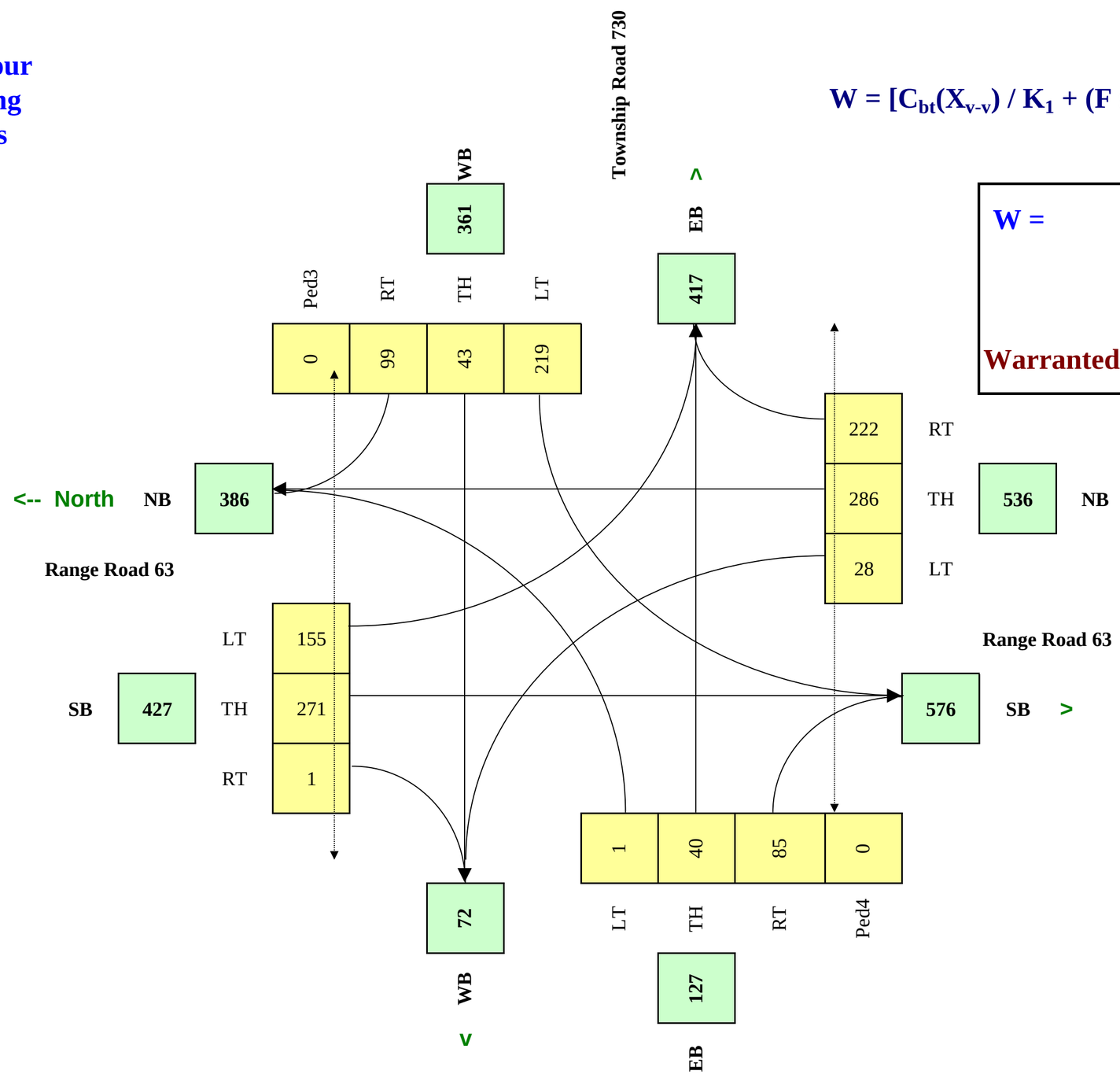
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Range Road 63	NS	80	10.0%	n	5.0
Township Road 730	EW		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	36	247	344	159	268	1	135	55	62	1	29	117				
8:00 - 9:00	32	222	310	143	241	1	122	50	56	1	26	105				
11:00 - 12:00	30	302	233	163	286	1	231	45	104	1	43	90				
12:00 - 13:00	27	271	210	147	257	1	208	41	94	1	38	81				
16:00 - 17:00	23	356	122	167	303	1	326	35	146	1	56	62				
17:00 - 18:00	21	320	110	150	273	1	293	32	131	1	50	56				
Total (6-hour peak)	**169**	**1,718**	**1,329**	**929**	**1,628**	**6**	**1,315**	**258**	**593**	**6**	**242**	**511**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**28**	**286**	**222**	**155**	**271**	**1**	**219**	**43**	**99**	**1**	**40**	**85**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**255**	**255**	**0**
		Veh	***Ped***
Warranted			

RESET SHEET

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County of Grande Prairie - Traffic Signal Warrant Analysis

Main Street (name)	**Township Road 730**	**Direction (EW or NS)**	**EW**
Side Street (name)	**#15**	**Direction (EW or NS)**	**NS**
Quadrant / Int #	**15**	**Comments**	**20 Year Horizon (2037) Combined Traffic**

for Warrant Calculation Results, please hit 'Page Down'

CHECK SHEET

Road Authority:	**County of Grande Prairie**
City:	**County of Grande Prairie**
Analysis Date:	**2017 Apr 12, Wed**
Count Date:	**2019 Feb 21, Thu**
Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Township Road 730	WB	1		2			1	5,000	2
Township Road 730	EB	1		2			1	5,000	2
#15	NB				1				
#15	SB				1				

Are the #15 NB right turns significantly impeded by through movements? (y/n)	n	
Are the #15 SB right turns significantly impeded by through movements? (y/n)	n	

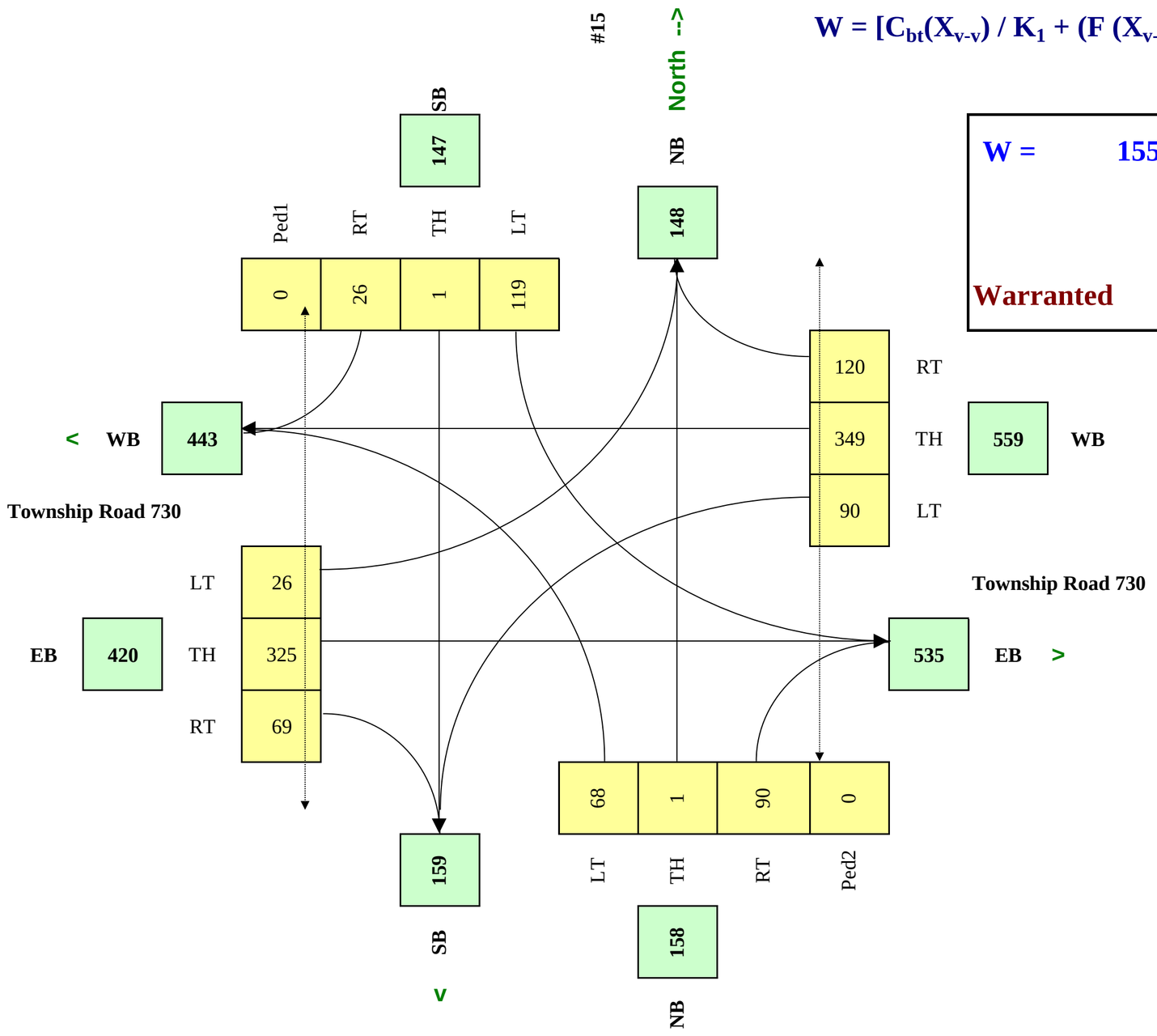
Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Township Road 730	EW	80	10.0%	n	5.0
#15	NS		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	25	1	33	50	1	13	148	431	191	40	267	112				
8:00 - 9:00	23	1	30	45	1	12	133	388	172	36	240	101				
11:00 - 12:00	71	1	95	126	1	28	95	367	127	28	343	72				
12:00 - 13:00	64	1	85	113	1	25	85	331	114	25	308	65				
16:00 - 17:00	117	1	156	201	1	42	41	303	62	15	418	32				
17:00 - 18:00	105	1	140	181	1	38	37	273	56	14	376	29				
Total (6-hour peak)	**405**	**6**	**539**	**716**	**6**	**158**	**539**	**2,093**	**722**	**158**	**1,952**	**411**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**68**	**1**	**90**	**119**	**1**	**26**	**90**	**349**	**120**	**26**	**325**	**69**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$

W =	**155**	**155**	**0**
		Veh	***Ped***

Warranted

RESET SHEET

County of Grande Prairie - Traffic Signal Warrant Analysis

Main Street (name)	**Township Road 730**
Side Street (name)	**#16**
Quadrant / Int #	**16**

for Warrant Calculation Results, please hit 'Page Down'

CHECK SHEET

Direction (EW or NS)	**EW**
Direction (EW or NS)	**NS**
Comments	**20 Year Horizon (2037) Combined Traffic**

Road Authority:	**County of Grande Prairie**
City:	**County of Grande Prairie**
Analysis Date:	**2017 Apr 12, Wed**
Count Date:	**2019 Feb 21, Thu**
Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Township Road 730	WB	1		2			1	600	2
Township Road 730	EB	1		2			1	1,000	2
#16	NB				1				
#16	SB				1				

Are the #16 NB right turns significantly impeded by through movements? (y/n)	n
Are the #16 SB right turns significantly impeded by through movements? (y/n)	n

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

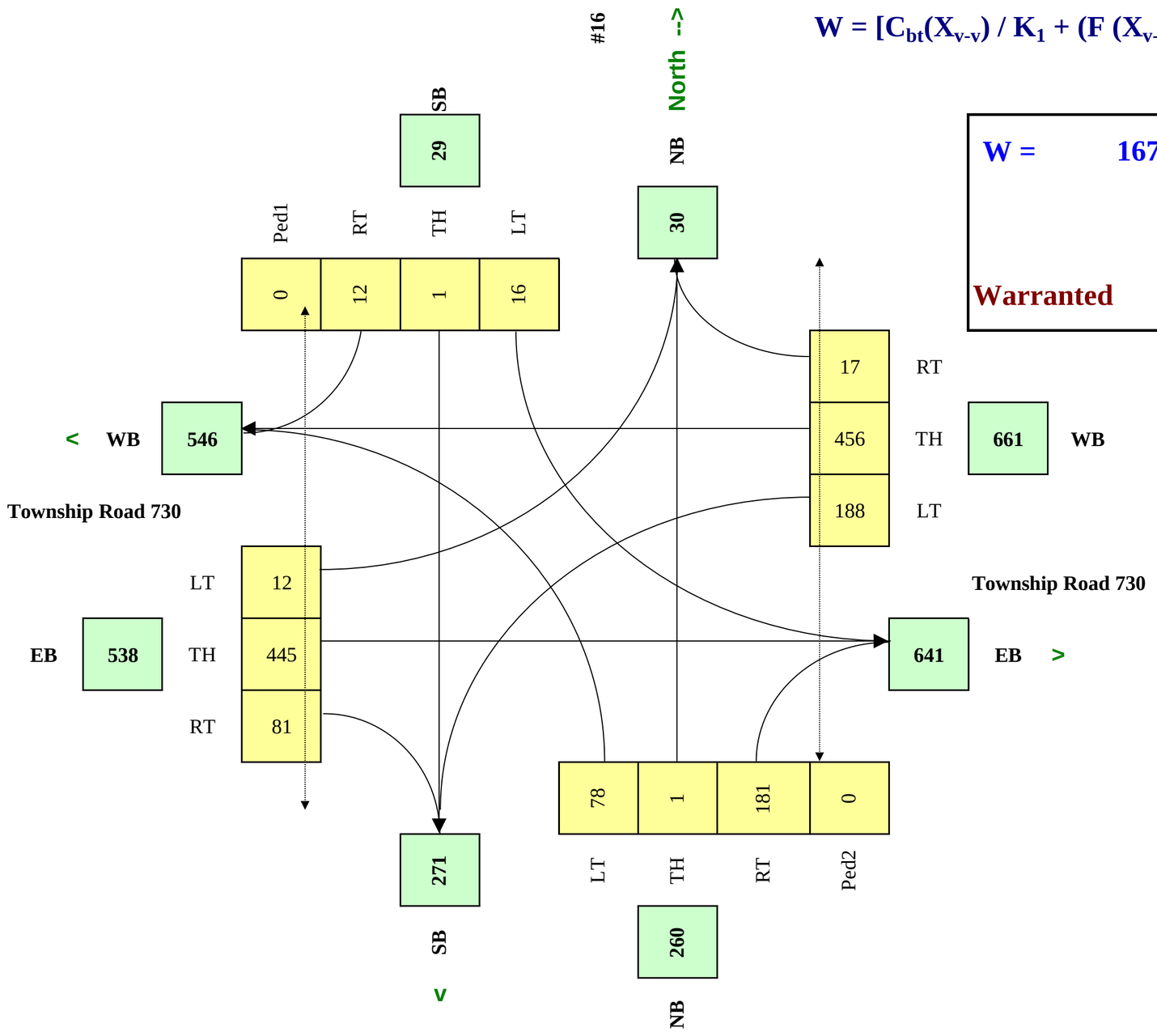
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Township Road 730	EW	80	10.0%	n	5.0
#16	NS		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	29	1	66	7	1	5	312	712	27	20	197	134				
8:00 - 9:00	26	1	59	6	1	5	281	641	24	18	177	121				
11:00 - 12:00	82	1	191	17	1	13	198	480	18	13	468	86				
12:00 - 13:00	74	1	172	15	1	12	179	432	16	12	421	77				
16:00 - 17:00	134	1	315	26	1	20	84	247	8	6	739	37				
17:00 - 18:00	121	1	284	23	1	18	76	222	7	5	665	33				
Total (6-hour peak)	**466**	**6**	**1,087**	**94**	**6**	**73**	**1,130**	**2,734**	**100**	**74**	**2,667**	**488**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**78**	**1**	**181**	**16**	**1**	**12**	**188**	**456**	**17**	**12**	**445**	**81**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**167**	**167**	**0**
		Veh	***Ped***

Warranted

RESET SHEET

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Highway 2**	**Direction (EW or NS)**	**NS**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Township Road 730**	**Direction (EW or NS)**	**EW**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**17**	**Comments**	**5 Year Horizon (2022) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Highway 2	NB	1		2			1	3,000	2
Highway 2	SB	1		2			1	5,000	2
Township Road 730	WB				1				
Township Road 730	EB				1				
Are the Township Road 730 WB right turns significantly impeded by through movements? (y/n)							n		
Are the Township Road 730 EB right turns significantly impeded by through movements? (y/n)							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

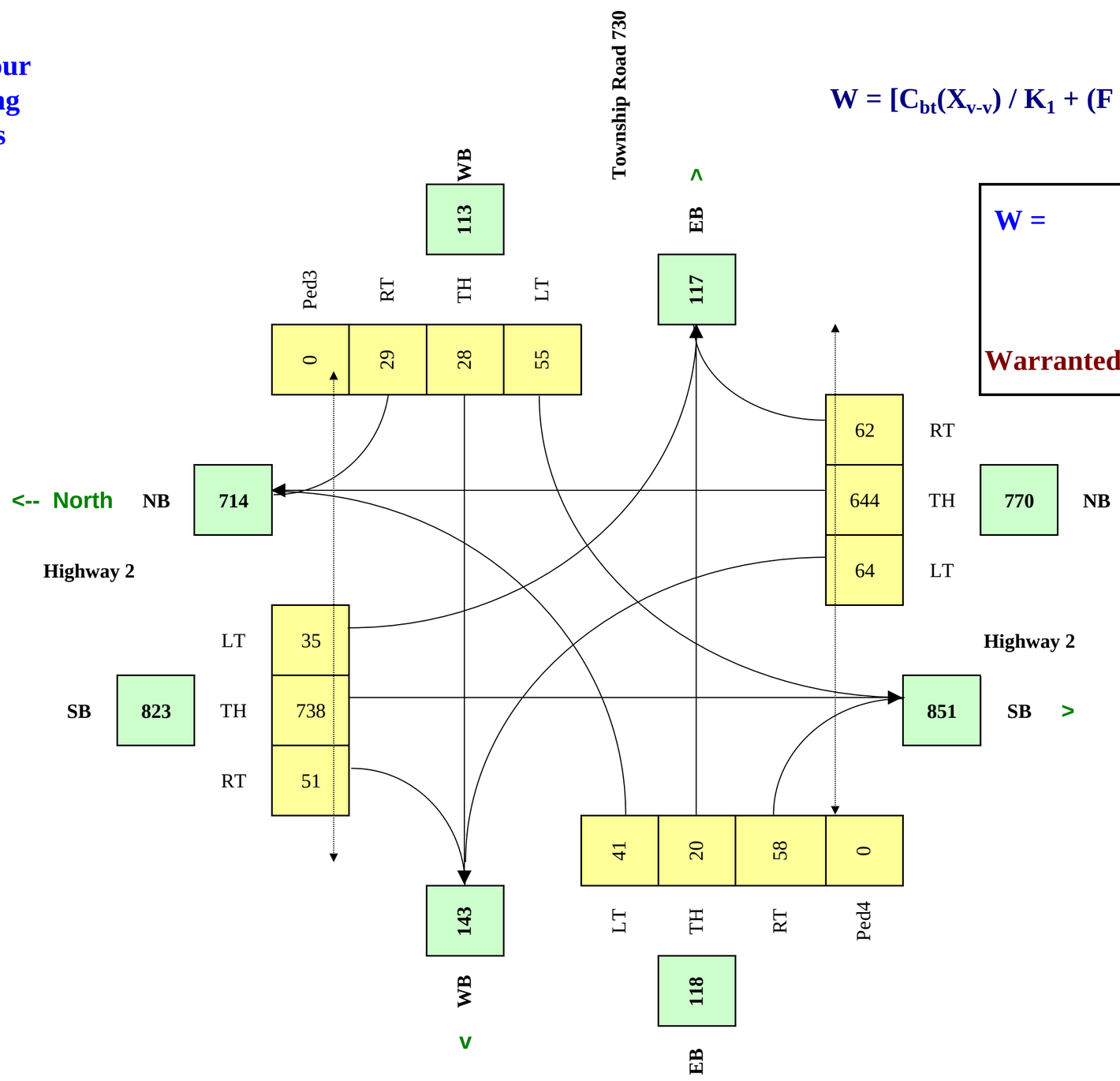
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Highway 2	NS	80	10.0%	n	20.0
Township Road 730	EW		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00	105	548	42	26	835	82	75	41	36	15	9	22				
8:00 - 9:00	95	493	38	23	752	74	68	37	32	14	8	20				
11:00 - 12:00	67	678	66	37	777	53	58	30	31	43	21	61				
12:00 - 13:00	61	610	59	33	699	48	53	27	28	39	19	55				
16:00 - 17:00	29	808	89	48	718	24	41	18	26	70	32	99				
17:00 - 18:00	26	727	80	43	646	22	37	16	23	63	29	89				
Total (6-hour peak)	**383**	**3,864**	**374**	**210**	**4,427**	**303**	**332**	**169**	**176**	**244**	**118**	**346**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**64**	**644**	**62**	**35**	**738**	**51**	**55**	**28**	**29**	**41**	**20**	**58**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**170**	**170**	**0**
		Veh	***Ped***

Warranted

RESET SHEET

Traffic Signal Warrant Spreadsheet - v3H © 2007 Transportation Association of Canada

Alberta Transportation - Traffic Signal Warrant Analysis

Main Street (name)	**Highway 2**	**Direction (EW or NS)**	**NS**	**Road Authority:**	**Alberta Transportation**
Side Street (name)	**Township Road 725**	**Direction (EW or NS)**	**EW**	**City:**	**County of Grande Prairie**
Quadrant / Int #	**18**	**Comments**	**5 Year Horizon (2022) Combined Traffic**	**Analysis Date:**	**2017 Apr 12, Wed**
for Warrant Calculation Results, please hit 'Page Down'	**CHECK SHEET**			**Count Date:**	**2019 Feb 21, Thu**
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Highway 2	NB			2			1	820	2
Highway 2	SB	1		2				2,800	2
Township Road 725	WB	1			1				
Township Road 725	EB								
Are the Township Road 725 WB right turns significantly impeded by through movements? (y/n)							n		
							n		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	2,500
Central Business District	(y/n)	n

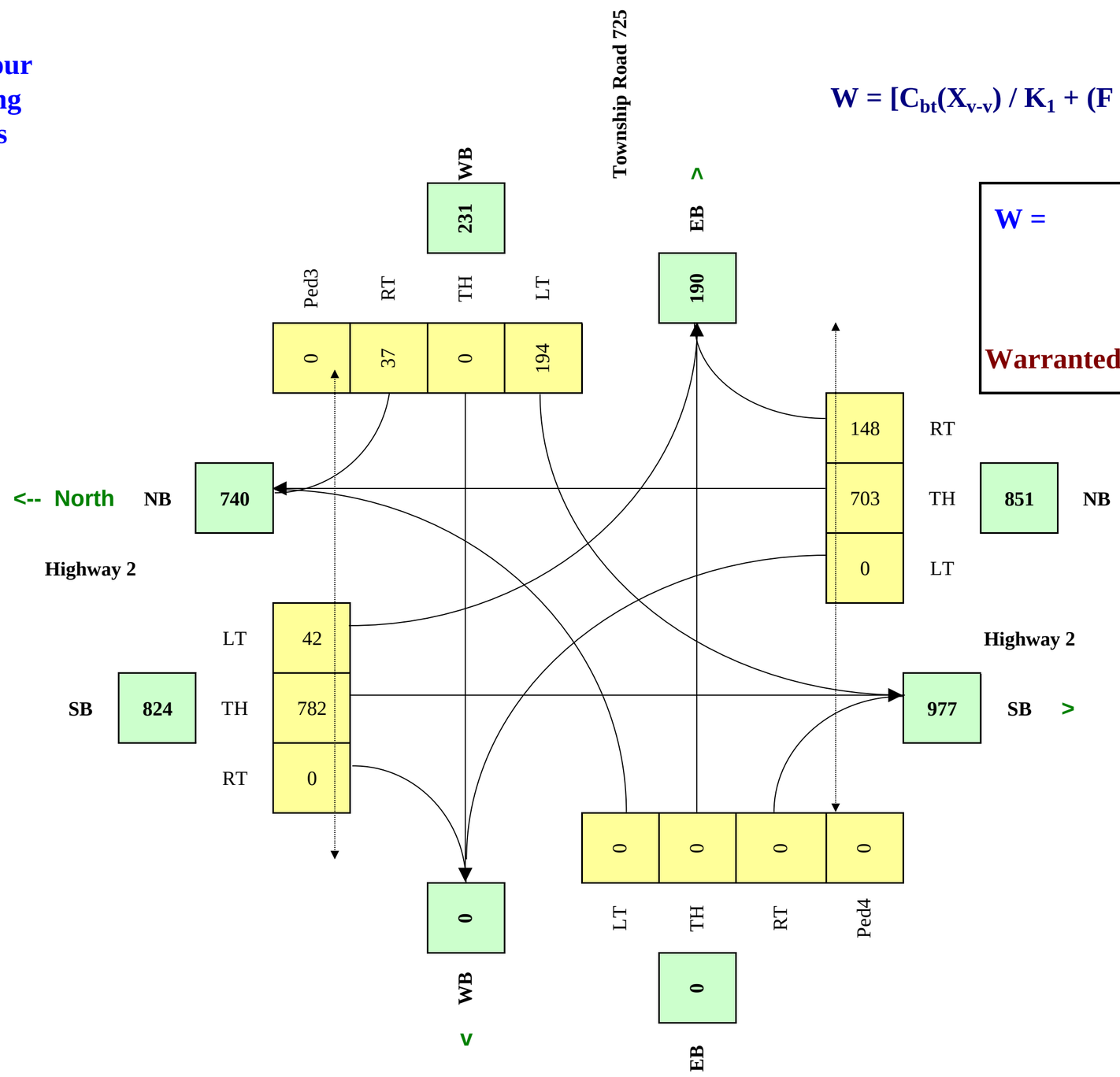
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Highway 2	NS	80	10.0%	n	20.0
Township Road 725	EW		10.0%	n	

Set Peak Hours

Traffic Input	**NB**			**SB**			**WB**			**EB**			**Ped1 NS**	**Ped2 NS**	**Ped3 EW**	**Ped4 EW**
	LT	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**LT**	**Th**	**RT**	**W Side**	**E Side**	**N Side**	**S Side**
7:00 - 8:00		620	75	35	869		279		41							
8:00 - 9:00	0	558	68	32	782	0	251	0	37	0	0	0				
11:00 - 12:00	0	740	156	44	824	0	205	0	39	0	0	0				
12:00 - 13:00	0	666	141	40	741	0	184	0	35	0	0	0				
16:00 - 17:00		860	237	52	778		130		37							
17:00 - 18:00	0	774	213	47	700	0	117	0	33	0	0	0				
Total (6-hour peak)	**0**	**4,218**	**890**	**250**	**4,694**	**0**	**1,166**	**0**	**222**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**0**	**703**	**148**	**42**	**782**	**0**	**194**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	**156**	**156**	**0**
		Veh	***Ped***

Warranted

RESET SHEET

Appendix E

CAPACITY ANALYSIS

- **Synchro Outputs**

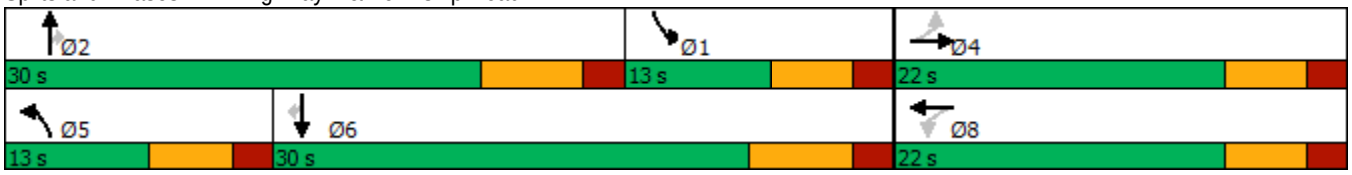
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	7	12	131	35	2	28	400	29	17	850	31
Future Volume (vph)	9	7	12	131	35	2	28	400	29	17	850	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		100.0	80.0		80.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.907			0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	1691	0	1771	1833	0	1668	3174	1452	1700	3444	1566
Flt Permitted	0.731			0.744			0.950			0.950		
Satd. Flow (perm)	1264	1691	0	1387	1833	0	1668	3174	1452	1700	3444	1566
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					2				168			
Link Speed (k/h)		80			50			80			80	
Link Distance (m)		256.5			208.0			474.3			803.3	
Travel Time (s)		11.5			15.0			21.3			36.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	2%	2%	2%	3%	2%	7%	15%	10%	5%	6%	2%
Adj. Flow (vph)	10	8	13	142	38	2	30	435	32	18	924	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	21	0	142	40	0	30	435	32	18	924	34
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	22.0	22.0		22.0	22.0		13.0	27.0	27.0	13.0	27.0	27.0
Total Split (s)	22.0	22.0		22.0	22.0		13.0	30.0	30.0	13.0	30.0	30.0
Total Split (%)	33.8%	33.8%		33.8%	33.8%		20.0%	46.2%	46.2%	20.0%	46.2%	46.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag							Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	13.3	13.3		13.3	13.3		7.2	28.8	28.8	7.7	27.1	27.1
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.14	0.55	0.55	0.15	0.52	0.52
v/c Ratio	0.03	0.05		0.40	0.08		0.13	0.25	0.04	0.07	0.51	0.04
Control Delay	18.4	18.4		22.6	17.7		25.6	10.7	0.1	23.7	14.3	12.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	18.4		22.6	17.7		25.6	10.7	0.1	23.7	14.3	12.5
LOS	B	B		C	B		C	B	A	C	B	B
Approach Delay		18.4			21.5			10.9			14.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			B			B	
90th %ile Green (s)	16.0	16.0		16.0	16.0		7.0	20.0	20.0	10.0	23.0	23.0
90th %ile Term Code	Hold	Hold		Max	Max		Max	Min	Min	Hold	Max	Max
70th %ile Green (s)	13.6	13.6		13.6	13.6		7.0	36.0	36.0	0.0	23.0	23.0
70th %ile Term Code	Hold	Hold		Gap	Gap		Max	Hold	Hold	Skip	Max	Max
50th %ile Green (s)	12.0	12.0		12.0	12.0		0.0	20.0	20.0	0.0	20.0	20.0
50th %ile Term Code	Hold	Hold		Min	Min		Skip	Min	Min	Skip	Min	Min
30th %ile Green (s)	12.0	12.0		12.0	12.0		0.0	20.0	20.0	0.0	20.0	20.0
30th %ile Term Code	Hold	Hold		Min	Min		Skip	Min	Min	Skip	Min	Min
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	35.0	35.0	0.0	35.0	35.0
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Dwell	Dwell	Skip	Dwell	Dwell
Queue Length 50th (m)	0.6	1.2		9.0	2.2		2.1	10.6	0.0	1.2	26.6	1.4
Queue Length 95th (m)	4.1	6.5		28.9	9.9		10.1	33.5	0.0	6.8	70.5	7.7
Internal Link Dist (m)		232.5			184.0			450.3			779.3	
Turn Bay Length (m)							100.0		100.0	80.0		80.0
Base Capacity (vph)	403	539		442	585		232	1873	926	252	1889	859
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	0.02	0.04		0.32	0.07		0.13	0.23	0.03	0.07	0.49	0.04

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 51.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 48.3% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 65
70th %ile Actuated Cycle: 62.6
50th %ile Actuated Cycle: 45
30th %ile Actuated Cycle: 45
10th %ile Actuated Cycle: 42

Splits and Phases: 1: Highway 2 & Township Road 724



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	2	1	2	1	55	2	2	84	1
Future Vol, veh/h	1	1	1	2	1	2	1	55	2	2	84	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	2	1	2	1	60	2	2	91	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	161	160	92	160	159	61	92	0	0	62	0	0
Stage 1	96	96	-	63	63	-	-	-	-	-	-	-
Stage 2	65	64	-	97	96	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	787	718	944	788	719	982	1454	-	-	1491	-	-
Stage 1	891	800	-	928	827	-	-	-	-	-	-	-
Stage 2	926	826	-	890	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	783	717	944	785	718	982	1454	-	-	1491	-	-
Mov Cap-2 Maneuver	783	717	-	785	718	-	-	-	-	-	-	-
Stage 1	890	799	-	927	826	-	-	-	-	-	-	-
Stage 2	922	825	-	887	799	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.3	0.1	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1454	-	-	804	837	1491	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.006	0.001	-	-
HCM Control Delay (s)	7.5	0	-	9.5	9.3	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	2	22	0	1	8	396	20	11	689	1
Future Vol, veh/h	1	1	2	22	0	1	8	396	20	11	689	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	4	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	20	2	2	2	2
Mvmt Flow	1	1	2	24	0	1	9	430	22	12	749	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1007	1244	375	858	1233	226	750	0	0	452	0	0
Stage 1	774	774	-	459	459	-	-	-	-	-	-	-
Stage 2	233	470	-	399	774	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	195	173	623	251	176	777	855	-	-	1105	-	-
Stage 1	357	406	-	551	565	-	-	-	-	-	-	-
Stage 2	749	558	-	598	406	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	190	167	623	243	170	777	855	-	-	1105	-	-
Mov Cap-2 Maneuver	324	335	-	430	334	-	-	-	-	-	-	-
Stage 1	352	398	-	543	557	-	-	-	-	-	-	-
Stage 2	737	550	-	583	398	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	13.7	0.3	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	855	-	-	431	439	1105	-	-
HCM Lane V/C Ratio	0.01	-	-	0.01	0.057	0.011	-	-
HCM Control Delay (s)	9.3	0.1	-	13.4	13.7	8.3	0.1	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	5	174	2	19	6	378	45	28	661	2
Future Vol, veh/h	0	0	5	174	2	19	6	378	45	28	661	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	1000	-	1000	1000	-	1000
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	4	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	2	2	2	10	15	2	2	6	10
Mvmt Flow	0	0	5	189	2	21	7	411	49	30	718	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	999	1252	359	844	1205	206	720	0	0	460	0	0
Stage 1	778	778	-	425	425	-	-	-	-	-	-	-
Stage 2	221	474	-	419	780	-	-	-	-	-	-	-
Critical Hdwy	7.7	6.7	7.1	7.54	6.54	6.94	4.3	-	-	4.14	-	-
Critical Hdwy Stg 1	6.7	5.7	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.7	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.6	4.1	3.4	3.52	4.02	3.32	2.3	-	-	2.22	-	-
Pot Cap-1 Maneuver	187	160	615	256	183	800	826	-	-	1097	-	-
Stage 1	338	386	-	578	585	-	-	-	-	-	-	-
Stage 2	739	536	-	582	404	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	176	154	615	247	177	800	826	-	-	1097	-	-
Mov Cap-2 Maneuver	176	154	-	247	177	-	-	-	-	-	-	-
Stage 1	335	376	-	573	580	-	-	-	-	-	-	-
Stage 2	711	532	-	561	393	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	57.3	0.1	0.3
HCM LOS	B	F		

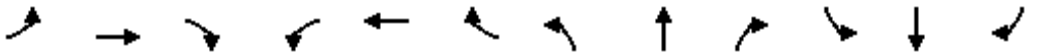
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	826	-	-	615	264	1097	-	-
HCM Lane V/C Ratio	0.008	-	-	0.009	0.803	0.028	-	-
HCM Control Delay (s)	9.4	-	-	10.9	57.3	8.4	-	-
HCM Lane LOS	A	-	-	B	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	6.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	50	1	9	1	49	35	10	76	1
Future Vol, veh/h	1	1	1	50	1	9	1	49	35	10	76	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	54	1	10	1	53	38	11	83	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	8	7.6	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	33%	83%	11%
Vol Thru, %	58%	33%	2%	87%
Vol Right, %	41%	33%	15%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	3	60	87
LT Vol	1	1	50	10
Through Vol	49	1	1	76
RT Vol	35	1	9	1
Lane Flow Rate	92	3	65	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.103	0.004	0.081	0.112
Departure Headway (Hd)	4.017	4.426	4.471	4.276
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	881	813	790	830
Service Time	2.089	2.426	2.565	2.342
HCM Lane V/C Ratio	0.104	0.004	0.082	0.114
HCM Control Delay	7.6	7.4	8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0	0.3	0.4



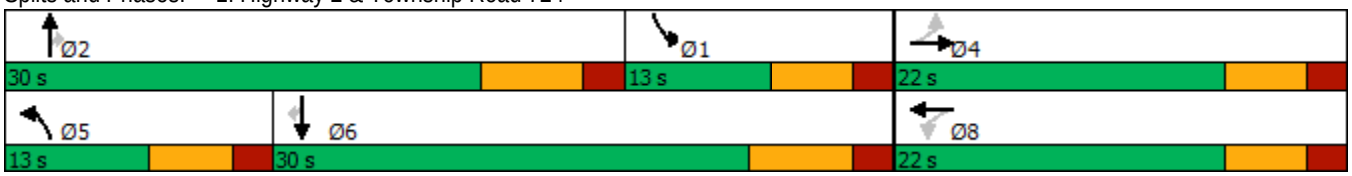
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	41	22	96	10	12	8	692	153	3	484	16
Future Volume (vph)	16	41	22	96	10	12	8	692	153	3	484	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	100.0		100.0	80.0		80.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.948			0.919				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	1768	0	1771	1706	0	1668	3174	1452	1700	3444	1566
Flt Permitted	0.742			0.712			0.950			0.950		
Satd. Flow (perm)	1283	1768	0	1328	1706	0	1668	3174	1452	1700	3444	1566
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					13				168			
Link Speed (k/h)		80			50			80			80	
Link Distance (m)		256.5			208.0			474.3			803.3	
Travel Time (s)		11.5			15.0			21.3			36.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	2%	2%	2%	3%	2%	7%	15%	10%	5%	6%	2%
Adj. Flow (vph)	17	45	24	104	11	13	9	752	166	3	526	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	69	0	104	24	0	9	752	166	3	526	17
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Detector Phase	4	4		8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		7.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	22.0	22.0		22.0	22.0		13.0	27.0	27.0	13.0	27.0	27.0
Total Split (s)	22.0	22.0		22.0	22.0		13.0	30.0	30.0	13.0	30.0	30.0
Total Split (%)	33.8%	33.8%		33.8%	33.8%		20.0%	46.2%	46.2%	20.0%	46.2%	46.2%
Maximum Green (s)	16.0	16.0		16.0	16.0		7.0	23.0	23.0	7.0	23.0	23.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	4.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	6.0	7.0	7.0
Lead/Lag							Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	0
Act Effct Green (s)	13.1	13.1		13.1	13.1		7.4	29.3	29.3	7.4	29.3	29.3
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.16	0.65	0.65	0.16	0.65	0.65
v/c Ratio	0.05	0.13		0.27	0.05		0.03	0.36	0.17	0.01	0.23	0.02

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	16.4	16.0		17.8	12.0		21.6	9.9	3.1	21.7	8.8	10.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	16.0		17.8	12.0		21.6	9.9	3.1	21.7	8.8	10.4
LOS	B	B		B	B		C	A	A	C	A	B
Approach Delay		16.1			16.7			8.8			8.9	
Approach LOS		B			B			A			A	
90th %ile Green (s)	14.6	14.6		14.6	14.6		7.0	23.0	23.0	7.0	23.0	23.0
90th %ile Term Code	Hold	Hold		Gap	Gap		Max	Max	Max	Max	Hold	Hold
70th %ile Green (s)	12.0	12.0		12.0	12.0		0.0	20.0	20.0	0.0	20.0	20.0
70th %ile Term Code	Min	Min		Min	Min		Skip	Min	Min	Skip	Min	Min
50th %ile Green (s)	12.0	12.0		12.0	12.0		0.0	20.0	20.0	0.0	20.0	20.0
50th %ile Term Code	Min	Min		Min	Min		Skip	Min	Min	Skip	Min	Min
30th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	22.3	22.3	0.0	22.3	22.3
30th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Dwell	Dwell	Skip	Dwell	Dwell
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	35.0	35.0	0.0	35.0	35.0
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Dwell	Dwell	Skip	Dwell	Dwell
Queue Length 50th (m)	1.0	4.1		6.4	0.6		0.6	20.8	0.0	0.2	13.1	0.7
Queue Length 95th (m)	5.8	15.4		22.3	6.1		4.5	54.7	10.0	2.4	35.5	4.7
Internal Link Dist (m)		232.5			184.0			450.3			779.3	
Turn Bay Length (m)							100.0		100.0	80.0		80.0
Base Capacity (vph)	484	668		502	652		275	2011	981	281	2182	992
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	0.04	0.10		0.21	0.04		0.03	0.37	0.17	0.01	0.24	0.02

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 45
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 9.8 Intersection LOS: A
Intersection Capacity Utilization 48.3% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 63.6
70th %ile Actuated Cycle: 45
50th %ile Actuated Cycle: 45
30th %ile Actuated Cycle: 29.3
10th %ile Actuated Cycle: 42

Splits and Phases: 1: Highway 2 & Township Road 724



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	2	1	2	1	98	2	2	49	1
Future Vol, veh/h	1	1	1	2	1	2	1	98	2	2	49	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	2	1	2	1	107	2	2	53	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	170	169	54	169	168	108	54	0	0	109	0	0
Stage 1	58	58	-	110	110	-	-	-	-	-	-	-
Stage 2	112	111	-	59	58	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	776	710	991	777	711	925	1502	-	-	1433	-	-
Stage 1	934	831	-	876	789	-	-	-	-	-	-	-
Stage 2	874	788	-	933	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	772	709	991	774	710	925	1502	-	-	1433	-	-
Mov Cap-2 Maneuver	772	709	-	774	710	-	-	-	-	-	-	-
Stage 1	933	830	-	875	788	-	-	-	-	-	-	-
Stage 2	870	787	-	930	830	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.5	0.1	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1502	-	-	808	812	1433	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.007	0.002	-	-
HCM Control Delay (s)	7.4	0	-	9.5	9.5	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	4	13	2	9	3	610	16	8	493	0
Future Vol, veh/h	0	1	4	13	2	9	3	610	16	8	493	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	4	-	-	-2	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	20	2	2	2	2
Mvmt Flow	0	1	4	14	2	10	3	663	17	9	536	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	893	1240	268	965	1232	340	536	0	0	680	0	0
Stage 1	554	554	-	678	678	-	-	-	-	-	-	-
Stage 2	339	686	-	287	554	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	236	174	730	209	176	656	1028	-	-	908	-	-
Stage 1	484	512	-	408	450	-	-	-	-	-	-	-
Stage 2	649	446	-	696	512	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	228	171	730	204	173	656	1028	-	-	908	-	-
Mov Cap-2 Maneuver	409	348	-	364	353	-	-	-	-	-	-	-
Stage 1	482	505	-	406	448	-	-	-	-	-	-	-
Stage 2	633	444	-	681	505	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	13.8	0	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1028	-	-	599	436	908	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009	0.06	0.01	-	-
HCM Control Delay (s)	8.5	0	-	11.1	13.8	9	0.1	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	3	2	92	2	28	8	583	133	29	455	0
Future Vol, veh/h	1	3	2	92	2	28	8	583	133	29	455	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	1000	-	1000	1000	-	1000
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	4	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	2	2	2	10	15	2	2	6	10
Mvmt Flow	1	3	2	100	2	30	9	634	145	32	495	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	895	1356	248	965	1211	317	495	0	0	779	0	0
Stage 1	559	559	-	652	652	-	-	-	-	-	-	-
Stage 2	336	797	-	313	559	-	-	-	-	-	-	-
Critical Hdwy	7.7	6.7	7.1	7.54	6.54	6.94	4.3	-	-	4.14	-	-
Critical Hdwy Stg 1	6.7	5.7	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.7	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.6	4.1	3.4	3.52	4.02	3.32	2.3	-	-	2.22	-	-
Pot Cap-1 Maneuver	223	138	728	209	181	679	1011	-	-	834	-	-
Stage 1	461	490	-	423	462	-	-	-	-	-	-	-
Stage 2	630	378	-	672	509	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	203	132	728	197	172	679	1011	-	-	834	-	-
Mov Cap-2 Maneuver	203	132	-	197	172	-	-	-	-	-	-	-
Stage 1	457	471	-	419	458	-	-	-	-	-	-	-
Stage 2	594	375	-	640	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.9	38.5	0.1	0.6
HCM LOS	C	E		

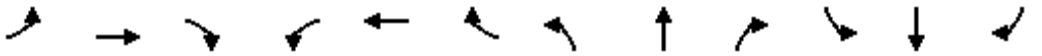
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1011	-	-	197	235	834	-	-
HCM Lane V/C Ratio	0.009	-	-	0.033	0.564	0.038	-	-
HCM Control Delay (s)	8.6	-	-	23.9	38.5	9.5	-	-
HCM Lane LOS	A	-	-	C	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	3.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	55	1	5	1	95	21	4	46	1
Future Vol, veh/h	1	1	1	55	1	5	1	95	21	4	46	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	60	1	5	1	103	23	4	50	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.4	8	7.9	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	33%	90%	8%
Vol Thru, %	81%	33%	2%	90%
Vol Right, %	18%	33%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	3	61	51
LT Vol	1	1	55	4
Through Vol	95	1	1	46
RT Vol	21	1	5	1
Lane Flow Rate	127	3	66	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.146	0.004	0.083	0.066
Departure Headway (Hd)	4.128	4.423	4.518	4.293
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	861	814	781	824
Service Time	2.192	2.423	2.615	2.372
HCM Lane V/C Ratio	0.148	0.004	0.085	0.067
HCM Control Delay	7.9	7.4	8	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0	0.3	0.2



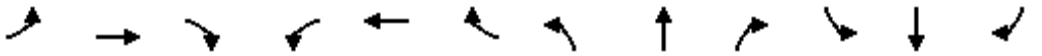
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	28	126	147	95	2	294	618	33	19	1094	133
Future Volume (vph)	57	28	126	147	95	2	294	618	33	19	1094	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	100.0		100.0	50.0		0.0	100.0		100.0	100.0		100.0
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	3543	1585	1771	3498	0	3236	3174	1452	1700	3444	1566
Flt Permitted	0.686			0.737			0.950			0.396		
Satd. Flow (perm)	1186	3543	1585	1374	3498	0	3236	3174	1452	709	3444	1566
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					2				41			
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		256.5			208.0			474.3			907.4	
Travel Time (s)		15.4			12.5			21.3			40.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	2%	2%	2%	3%	2%	7%	15%	10%	5%	6%	2%
Adj. Flow (vph)	62	30	137	160	103	2	320	672	36	21	1189	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	30	137	160	105	0	320	672	36	21	1189	145
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8					2	6		6
Detector Phase	4	4	4	8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	12.0	12.0	12.0	10.0	10.0		7.0	20.0	20.0	15.0	15.0	15.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0		13.0	27.0	27.0	26.0	26.0	26.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0		17.0	58.0	58.0	41.0	41.0	41.0
Total Split (%)	27.5%	27.5%	27.5%	27.5%	27.5%		21.3%	72.5%	72.5%	51.3%	51.3%	51.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0		11.0	51.0	51.0	34.0	34.0	34.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0	6.0	6.0	6.0		6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0			5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0			11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0			0	0	0	0	0
Act Effct Green (s)	14.0	14.0	14.0	14.0	14.0		10.6	47.4	47.4	30.7	30.7	30.7
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19		0.14	0.64	0.64	0.41	0.41	0.41
v/c Ratio	0.28	0.05	0.46	0.62	0.16		0.70	0.33	0.04	0.07	0.84	0.22

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	31.0	26.2	33.7	40.4	26.6		40.7	6.9	1.8	14.4	26.2	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	26.2	33.7	40.4	26.6		40.7	6.9	1.8	14.4	26.2	15.5
LOS	C	C	C	D	C		D	A	A	B	C	B
Approach Delay		31.9			35.0			17.2			24.9	
Approach LOS		C			C			B			C	
90th %ile Green (s)	16.0	16.0	16.0	16.0	16.0		11.0	51.0	51.0	34.0	34.0	34.0
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold	Hold	Max	Max	Max
70th %ile Green (s)	16.0	16.0	16.0	16.0	16.0		11.0	51.0	51.0	34.0	34.0	34.0
70th %ile Term Code	Hold	Hold	Hold	Max	Max		Max	Hold	Hold	Max	Max	Max
50th %ile Green (s)	14.2	14.2	14.2	14.2	14.2		11.0	51.0	51.0	34.0	34.0	34.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Max	Hold	Hold	Max	Max	Max
30th %ile Green (s)	12.0	12.0	12.0	12.0	12.0		11.0	46.6	46.6	29.6	29.6	29.6
30th %ile Term Code	Min	Min	Min	Hold	Hold		Max	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	12.0	12.0	12.0	12.0	12.0		8.8	37.5	37.5	22.7	22.7	22.7
10th %ile Term Code	Hold	Hold	Hold	Hold	Hold		Gap	Hold	Hold	Gap	Gap	Gap
Queue Length 50th (m)	8.0	1.9	18.4	22.2	6.8		23.6	20.1	0.0	1.8	77.2	12.9
Queue Length 95th (m)	18.5	5.3	34.5	41.1	13.2		#40.1	30.3	2.6	6.1	106.6	25.2
Internal Link Dist (m)		232.5			184.0			450.3			883.4	
Turn Bay Length (m)	100.0		100.0	50.0			100.0		100.0	100.0		100.0
Base Capacity (vph)	257	768	343	297	760		482	2193	1016	326	1586	721
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	0.24	0.04	0.40	0.54	0.14		0.66	0.31	0.04	0.06	0.75	0.20

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 74.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 69.3% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 80
70th %ile Actuated Cycle: 80
50th %ile Actuated Cycle: 78.2
30th %ile Actuated Cycle: 71.6
10th %ile Actuated Cycle: 62.5
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Highway 2 & Township Road 724



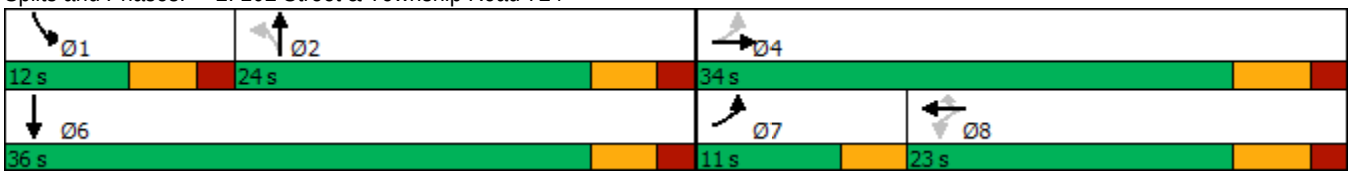
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	74	11	34	246	242	6	0	11	117	0	51
Future Volume (vph)	121	74	11	34	246	242	6	0	11	117	0	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	60.0		0.0	60.0		100.0	0.0		0.0	60.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.980				0.850		0.915			0.850	
Flt Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	1643	3219	0	1659	3318	1484	0	1569	0	3219	1484	0
Flt Permitted	0.480			0.694				0.896		0.950		
Satd. Flow (perm)	830	3219	0	1212	3318	1484	0	1432	0	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				263		187			514	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		592.5			256.5			169.2			218.6	
Travel Time (s)		35.6			15.4			12.2			15.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	80	12	37	267	263	7	0	12	127	0	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	92	0	37	267	263	0	19	0	127	55	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		15.0	15.0	15.0	10.0	10.0		4.0	10.0	
Minimum Split (s)	10.5	22.0		22.0	22.0	22.0	21.5	21.5		9.5	21.5	
Total Split (s)	11.0	34.0		23.0	23.0	23.0	24.0	24.0		12.0	36.0	
Total Split (%)	15.7%	48.6%		32.9%	32.9%	32.9%	34.3%	34.3%		17.1%	51.4%	
Maximum Green (s)	7.5	28.0		17.0	17.0	17.0	18.5	18.5		6.5	30.5	
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	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)	3.5	6.0		6.0	6.0	6.0		5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min		None	Min	
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0			0	
Act Effct Green (s)	26.3	23.7		15.6	15.6	15.6		10.4		6.5	19.2	
Actuated g/C Ratio	0.48	0.43		0.28	0.28	0.28		0.19		0.12	0.35	
v/c Ratio	0.26	0.07		0.11	0.28	0.43		0.05		0.33	0.06	
Control Delay	10.3	8.9		18.3	18.6	5.5		0.2		27.4	0.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	

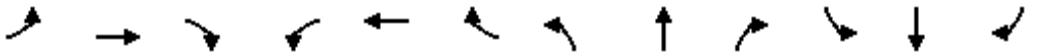
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	10.3	8.9		18.3	18.6	5.5		0.2		27.4	0.1	
LOS	B	A		B	B	A		A		C	A	
Approach Delay		9.7			12.5			0.2			19.1	
Approach LOS		A			B			A			B	
90th %ile Green (s)	7.5	26.2		15.2	15.2	15.2	10.0	10.0		6.5	22.0	
90th %ile Term Code	Max	Hold		Gap	Gap	Gap	Min	Min		Max	Hold	
70th %ile Green (s)	7.5	26.0		15.0	15.0	15.0	10.0	10.0		6.5	22.0	
70th %ile Term Code	Max	Hold		Min	Min	Min	Min	Min		Max	Hold	
50th %ile Green (s)	7.5	26.0		15.0	15.0	15.0	10.0	10.0		6.5	22.0	
50th %ile Term Code	Max	Hold		Min	Min	Min	Min	Min		Max	Hold	
30th %ile Green (s)	7.5	26.0		15.0	15.0	15.0	10.0	10.0		6.5	22.0	
30th %ile Term Code	Max	Hold		Min	Min	Min	Min	Min		Max	Hold	
10th %ile Green (s)	0.0	15.0		15.0	15.0	15.0	10.0	10.0		0.0	10.0	
10th %ile Term Code	Skip	Hold		Min	Min	Min	Min	Min		Skip	Min	
Queue Length 50th (m)	7.6	2.5		3.1	12.4	0.0		0.0		6.7	0.0	
Queue Length 95th (m)	15.6	5.8		9.2	21.0	14.6		0.0		13.5	0.0	
Internal Link Dist (m)		568.5			232.5			145.2			194.6	
Turn Bay Length (m)	60.0			60.0		100.0				60.0		
Base Capacity (vph)	513	1710		389	1067	655		622		395	1073	
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	0.26	0.05		0.10	0.25	0.40		0.03		0.32	0.05	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 59.7
70th %ile Actuated Cycle: 59.5
50th %ile Actuated Cycle: 59.5
30th %ile Actuated Cycle: 59.5
10th %ile Actuated Cycle: 36.5

Splits and Phases: 2: 102 Street & Township Road 724





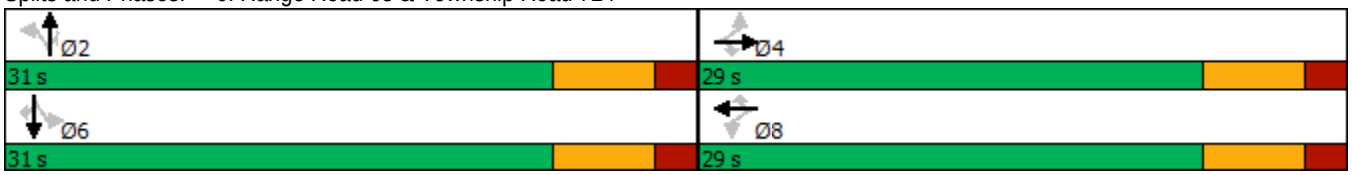
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	57	39	92	142	63	107	136	135	35	102	63
Future Volume (vph)	24	57	39	92	142	63	107	136	135	35	102	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	1729	1470	1659	1746	1484	1659	1746	1484	1659	1746	1484
Flt Permitted	0.659			0.717			0.685			0.663		
Satd. Flow (perm)	1139	1729	1470	1252	1746	1484	1196	1746	1484	1158	1746	1484
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			68			147			68
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		475.0			1395.2			429.6			354.7	
Travel Time (s)		21.4			62.8			19.3			16.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	62	42	100	154	68	116	148	147	38	111	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	62	42	100	154	68	116	148	147	38	111	68
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	31.0	31.0	31.0	31.0	31.0	31.0
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	51.7%	51.7%	51.7%	51.7%	51.7%	51.7%
Maximum Green (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	24.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	10.5	10.5	10.5	10.5	10.5	10.5	19.5	19.5	19.5	19.5	19.5	19.5
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.27	0.27	0.51	0.51	0.51	0.51	0.51	0.51
v/c Ratio	0.08	0.13	0.09	0.29	0.32	0.15	0.19	0.17	0.18	0.06	0.12	0.09
Control Delay	11.1	11.3	3.2	13.7	13.3	4.7	9.4	8.8	2.8	8.3	8.5	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

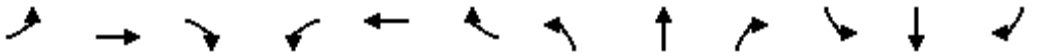
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	11.1	11.3	3.2	13.7	13.3	4.7	9.4	8.8	2.8	8.3	8.5	3.3
LOS	B	B	A	B	B	A	A	A	A	A	A	A
Approach Delay		8.6			11.6			6.9			6.8	
Approach LOS		A			B			A			A	
90th %ile Green (s)	12.3	12.3	12.3	12.3	12.3	12.3	15.0	15.0	15.0	15.0	15.0	15.0
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min	Min	Min	Min	Min
70th %ile Green (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
70th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
50th %ile Green (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
50th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min	Min
30th %ile Green (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
30th %ile Term Code	Hold	Hold	Hold	Min	Min	Min	Min	Min	Min	Min	Min	Min
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	30.0	30.0
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip	Skip	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
Queue Length 50th (m)	1.3	3.0	0.0	5.1	7.9	0.0	4.6	5.8	0.0	1.4	4.3	0.0
Queue Length 95th (m)	4.8	8.5	3.2	13.2	17.6	5.4	13.2	15.0	7.1	5.5	11.8	4.8
Internal Link Dist (m)		451.0			1371.2			405.6			330.7	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Base Capacity (vph)	672	1020	893	739	1030	903	847	1236	1094	820	1236	1070
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.06	0.05	0.14	0.15	0.08	0.14	0.12	0.13	0.05	0.09	0.06

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 38.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 59.9% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 40.3
70th %ile Actuated Cycle: 38
50th %ile Actuated Cycle: 38
30th %ile Actuated Cycle: 38
10th %ile Actuated Cycle: 36.5

Splits and Phases: 6: Range Road 63 & Township Road 724





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	9	22	75	41	36	105	548	42	26	835	82
Future Volume (vph)	15	9	22	75	41	36	105	548	42	26	835	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			4%			-2%	
Storage Length (m)	0.0		0.0	0.0		0.0	60.0		60.0	60.0		60.0
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.935			0.968				0.850			0.850
Flt Protected		0.984			0.976		0.950			0.950		
Satd. Flow (prot)	0	1733	0	0	1779	0	1753	2981	1569	1807	3614	1617
Flt Permitted		0.891			0.818		0.292			0.427		
Satd. Flow (perm)	0	1569	0	0	1491	0	539	2981	1569	812	3614	1617
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			25				46			89
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		570.0			389.2			892.8			331.4	
Travel Time (s)		25.7			17.5			40.2			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	20%	2%	2%	2%	2%
Adj. Flow (vph)	16	10	24	82	45	39	114	596	46	28	908	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	166	0	114	596	46	28	908	89
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0		20.0	20.0		40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Maximum Green (s)	16.0	16.0		16.0	16.0		36.0	36.0	36.0	36.0	36.0	36.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
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			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		9.0			9.1		23.7	23.7	23.7	23.7	23.7	23.7
Actuated g/C Ratio		0.24			0.24		0.63	0.63	0.63	0.63	0.63	0.63
v/c Ratio		0.13			0.44		0.33	0.32	0.05	0.05	0.40	0.08
Control Delay		9.2			15.2		9.2	5.4	2.1	5.1	5.7	1.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		9.2			15.2		9.2	5.4	2.1	5.1	5.7	1.8
LOS		A			B		A	A	A	A	A	A
Approach Delay		9.2			15.2			5.8			5.4	
Approach LOS		A			B			A			A	
90th %ile Green (s)	14.3	14.3		14.3	14.3		29.7	29.7	29.7	29.7	29.7	29.7
90th %ile Term Code	Hold	Hold		Gap	Gap		Gap	Gap	Gap	Hold	Hold	Hold
70th %ile Green (s)	10.0	10.0		10.0	10.0		18.6	18.6	18.6	18.6	18.6	18.6
70th %ile Term Code	Hold	Hold		Gap	Gap		Hold	Hold	Hold	Gap	Gap	Gap
50th %ile Green (s)	8.6	8.6		8.6	8.6		17.5	17.5	17.5	17.5	17.5	17.5
50th %ile Term Code	Hold	Hold		Gap	Gap		Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
30th %ile Green (s)	7.6	7.6		7.6	7.6		21.7	21.7	21.7	21.7	21.7	21.7
30th %ile Term Code	Hold	Hold		Gap	Gap		Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	0.0	0.0		0.0	0.0		23.0	23.0	23.0	23.0	23.0	23.0
10th %ile Term Code	Skip	Skip		Skip	Skip		Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
Queue Length 50th (m)		1.1			6.4		3.2	8.7	0.0	0.7	14.2	0.0
Queue Length 95th (m)		7.8			23.5		14.3	21.1	2.9	3.5	32.1	3.9
Internal Link Dist (m)		546.0			365.2			868.8			307.4	
Turn Bay Length (m)							60.0		60.0	60.0		60.0
Base Capacity (vph)		714			680		500	2767	1459	753	3354	1507
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		0.07			0.24		0.23	0.22	0.03	0.04	0.27	0.06

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 37.4
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 52.4% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 52
70th %ile Actuated Cycle: 36.6
50th %ile Actuated Cycle: 34.1
30th %ile Actuated Cycle: 37.3
10th %ile Actuated Cycle: 27

Splits and Phases: 17: Highway 2 & Township Road 730

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	41	620	75	35	869
Future Volume (vph)	279	41	620	75	35	869
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		4%			0%
Storage Length (m)	50.0	0.0		100.0	80.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.981			0.850		
Flt Protected	0.958				0.950	
Satd. Flow (prot)	3184	0	3252	1455	1659	3318
Flt Permitted	0.958				0.395	
Satd. Flow (perm)	3184	0	3252	1455	690	3318
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	28			82		
Link Speed (k/h)	50		100			80
Link Distance (m)	640.4		907.4			1427.4
Travel Time (s)	46.1		32.7			64.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	45	674	82	38	945
Shared Lane Traffic (%)						
Lane Group Flow (vph)	348	0	674	82	38	945
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0		20.0	20.0	20.0	20.0
Minimum Split (s)	22.5		27.0	27.0	27.0	27.0
Total Split (s)	23.0		37.0	37.0	37.0	37.0
Total Split (%)	38.3%		61.7%	61.7%	61.7%	61.7%
Maximum Green (s)	16.5		30.0	30.0	30.0	30.0
Yellow Time (s)	3.5		5.0	5.0	5.0	5.0
All-Red Time (s)	3.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Walk Time (s)	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	12.5		22.3	22.3	22.3	22.3
Actuated g/C Ratio	0.26		0.46	0.46	0.46	0.46
v/c Ratio	0.41		0.45	0.11	0.12	0.62
Control Delay	16.1		9.9	2.6	8.4	11.8
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	16.1		9.9	2.6	8.4	11.8
LOS	B		A	A	A	B
Approach Delay	16.1		9.1			11.7
Approach LOS	B		A			B
90th %ile Green (s)	14.2		29.7	29.7	29.7	29.7
90th %ile Term Code	Gap		Hold	Hold	Gap	Gap
70th %ile Green (s)	12.0		22.8	22.8	22.8	22.8
70th %ile Term Code	Min		Hold	Hold	Gap	Gap
50th %ile Green (s)	12.0		20.0	20.0	20.0	20.0
50th %ile Term Code	Min		Min	Min	Min	Min
30th %ile Green (s)	12.0		20.0	20.0	20.0	20.0
30th %ile Term Code	Min		Min	Min	Min	Min
10th %ile Green (s)	12.0		20.0	20.0	20.0	20.0
10th %ile Term Code	Min		Min	Min	Min	Min
Queue Length 50th (m)	10.6		18.4	0.0	1.7	28.7
Queue Length 95th (m)	24.2		30.5	4.8	5.8	46.1
Internal Link Dist (m)	616.4		883.4			1403.4
Turn Bay Length (m)	50.0			100.0	80.0	
Base Capacity (vph)	1111		2030	939	430	2071
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.31		0.33	0.09	0.09	0.46

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 48.4
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 11.5 Intersection LOS: B
Intersection Capacity Utilization 50.3% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 57.4
70th %ile Actuated Cycle: 48.3
50th %ile Actuated Cycle: 45.5
30th %ile Actuated Cycle: 45.5
10th %ile Actuated Cycle: 45.5

Splits and Phases: 18: Highway 2 & Township Road 725

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	204	17	2	297	1	2	1	2	1	1	1
Future Vol, veh/h	1	204	17	2	297	1	2	1	2	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	2	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	222	18	2	323	1	2	1	2	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	324	0	0	240	0	0	562	561	231	563	570	324
Stage 1	-	-	-	-	-	-	233	233	-	328	328	-
Stage 2	-	-	-	-	-	-	329	328	-	235	242	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1192	-	-	1281	-	-	426	426	789	425	421	699
Stage 1	-	-	-	-	-	-	752	697	-	668	633	-
Stage 2	-	-	-	-	-	-	667	633	-	750	691	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1192	-	-	1281	-	-	423	425	789	422	420	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	423	425	-	422	420	-
Stage 1	-	-	-	-	-	-	751	696	-	667	632	-
Stage 2	-	-	-	-	-	-	663	632	-	746	690	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	12	12.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	520	1192	-	-	1281	-	-	485
HCM Lane V/C Ratio	0.01	0.001	-	-	0.002	-	-	0.007
HCM Control Delay (s)	12	8	0	-	7.8	0	-	12.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	3	136	86	16	183
Future Vol, veh/h	18	3	136	86	16	183
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	800	800	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	20	3	148	93	17	199

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	381	148	0	0	241	0
Stage 1	148	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	615	891	-	-	1308	-
Stage 1	872	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	607	891	-	-	1308	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1308	-
HCM Lane V/C Ratio	-	-	0.036	0.013	-
HCM Control Delay (s)	-	-	10.9	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	52	1	10	1	85	54	41	151	1
Future Vol, veh/h	1	1	1	52	1	10	1	85	54	41	151	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	57	1	11	1	92	59	45	164	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	385	408	165	380	379	122	165	0	0	151	0	0
Stage 1	255	255	-	124	124	-	-	-	-	-	-	-
Stage 2	130	153	-	256	255	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	559	521	859	563	541	908	1366	-	-	1382	-	-
Stage 1	732	682	-	861	778	-	-	-	-	-	-	-
Stage 2	855	756	-	731	682	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	536	502	859	546	521	908	1366	-	-	1382	-	-
Mov Cap-2 Maneuver	536	502	-	546	521	-	-	-	-	-	-	-
Stage 1	731	657	-	860	777	-	-	-	-	-	-	-
Stage 2	843	755	-	703	657	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	12	0.1	1.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1366	-	-	597	582	1382	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.118	0.032	-	-
HCM Control Delay (s)	7.6	0	-	11.1	12	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	94	1	1	59	1	1	1	1	1	1	1
Future Vol, veh/h	1	94	1	1	59	1	1	1	1	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	102	1	1	64	1	1	1	1	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	103	0	0	173	172	103	173	172	65
Stage 1	-	-	-	-	-	-	105	105	-	67	67	-
Stage 2	-	-	-	-	-	-	68	67	-	106	105	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1488	-	-	1440	-	-	772	707	930	772	707	977
Stage 1	-	-	-	-	-	-	881	793	-	924	824	-
Stage 2	-	-	-	-	-	-	923	824	-	880	793	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1440	-	-	769	706	930	769	706	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	769	706	-	769	706	-
Stage 1	-	-	-	-	-	-	880	792	-	923	823	-
Stage 2	-	-	-	-	-	-	920	823	-	877	792	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	9.6	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	791	1488	-	-	1440	-	-	802
HCM Lane V/C Ratio	0.004	0.001	-	-	0.001	-	-	0.004
HCM Control Delay (s)	9.6	7.4	0	-	7.5	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	19	77	175	47	0	16	0	35	0	0	0
Future Vol, veh/h	0	19	77	175	47	0	16	0	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	21	84	190	51	0	17	0	38	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	105	0	0	494	494	63	513	536	51
Stage 1	-	-	-	-	-	-	63	63	-	431	431	-
Stage 2	-	-	-	-	-	-	431	431	-	82	105	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1505	-	-	1438	-	-	473	465	980	459	440	995
Stage 1	-	-	-	-	-	-	928	827	-	587	569	-
Stage 2	-	-	-	-	-	-	587	569	-	907	793	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1505	-	-	1438	-	-	424	402	980	395	380	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	424	402	-	395	380	-
Stage 1	-	-	-	-	-	-	928	827	-	587	492	-
Stage 2	-	-	-	-	-	-	507	492	-	872	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	6.2	10.6	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	694	1505	-	-	1438	-	-	-
HCM Lane V/C Ratio	0.08	-	-	-	0.132	-	-	-
HCM Control Delay (s)	10.6	0	-	-	7.9	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0.5	-	-	-

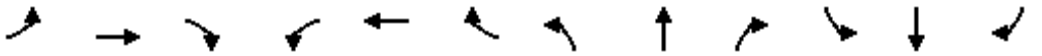
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	96	0	0	193	0
Future Vol, veh/h	0	0	0	0	0	0	0	96	0	0	193	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	0	104	0	0	210	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	314	314	210	314	314	104	210	0	0	104	0	0
Stage 1	210	210	-	104	104	-	-	-	-	-	-	-
Stage 2	104	104	-	210	210	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	623	588	810	623	588	929	1314	-	-	1439	-	-
Stage 1	774	714	-	883	794	-	-	-	-	-	-	-
Stage 2	883	794	-	774	714	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	623	588	810	623	588	929	1314	-	-	1439	-	-
Mov Cap-2 Maneuver	623	588	-	623	588	-	-	-	-	-	-	-
Stage 1	774	714	-	883	794	-	-	-	-	-	-	-
Stage 2	883	794	-	774	714	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1314	-	-	-	-	1439	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-



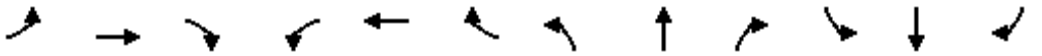
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	140	481	108	75	14	336	871	172	3	651	212
Future Volume (vph)	251	140	481	108	75	14	336	871	172	3	651	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	100.0		100.0	50.0		0.0	100.0		100.0	100.0		100.0
Storage Lanes	1		1	1		0	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	3543	1585	1771	3433	0	3236	3174	1452	1700	3444	1566
Flt Permitted	0.691			0.656			0.950			0.302		
Satd. Flow (perm)	1195	3543	1585	1223	3433	0	3236	3174	1452	540	3444	1566
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					15				187			
Link Speed (k/h)		60			20			80			80	
Link Distance (m)		256.5			208.0			474.3			907.4	
Travel Time (s)		15.4			37.4			21.3			40.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	2%	2%	2%	3%	2%	7%	15%	10%	5%	6%	2%
Adj. Flow (vph)	273	152	523	117	82	15	365	947	187	3	708	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	273	152	523	117	97	0	365	947	187	3	708	230
Turn Type	Perm	NA	custom	Perm	NA		Prot	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4 5	8					2	6		6
Detector Phase	4	4	4 5	8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	12.0	12.0		10.0	10.0		7.0	20.0	20.0	15.0	15.0	15.0
Minimum Split (s)	22.0	22.0		22.0	22.0		13.0	27.0	27.0	26.0	26.0	26.0
Total Split (s)	37.0	37.0		37.0	37.0		20.0	53.0	53.0	33.0	33.0	33.0
Total Split (%)	41.1%	41.1%		41.1%	41.1%		22.2%	58.9%	58.9%	36.7%	36.7%	36.7%
Maximum Green (s)	31.0	31.0		31.0	31.0		14.0	46.0	46.0	26.0	26.0	26.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0		6.0	6.0		6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0			5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0	0	0
Act Effct Green (s)	24.1	24.1	43.2	24.1	24.1		13.0	41.1	41.1	22.0	22.0	22.0
Actuated g/C Ratio	0.31	0.31	0.55	0.31	0.31		0.17	0.52	0.52	0.28	0.28	0.28
v/c Ratio	0.75	0.14	0.60	0.31	0.09		0.68	0.57	0.22	0.02	0.74	0.53

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.8	20.5	15.6	24.1	17.5		40.3	15.1	2.6	23.3	31.8	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	20.5	15.6	24.1	17.5		40.3	15.1	2.6	23.3	31.8	30.4
LOS	D	C	B	C	B		D	B	A	C	C	C
Approach Delay		23.1			21.1			19.7			31.4	
Approach LOS		C			C			B			C	
90th %ile Green (s)	31.0	31.0		31.0	31.0		14.0	46.0	46.0	26.0	26.0	26.0
90th %ile Term Code	Max	Max		Hold	Hold		Max	Hold	Hold	Max	Max	Max
70th %ile Green (s)	31.0	31.0		31.0	31.0		14.0	46.0	46.0	26.0	26.0	26.0
70th %ile Term Code	Max	Max		Hold	Hold		Max	Hold	Hold	Max	Max	Max
50th %ile Green (s)	26.5	26.5		26.5	26.5		14.0	43.6	43.6	23.6	23.6	23.6
50th %ile Term Code	Gap	Gap		Hold	Hold		Max	Hold	Hold	Gap	Gap	Gap
30th %ile Green (s)	20.4	20.4		20.4	20.4		13.2	39.1	39.1	19.9	19.9	19.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Gap	Hold	Hold	Gap	Gap	Gap
10th %ile Green (s)	14.0	14.0		14.0	14.0		9.3	30.3	30.3	15.0	15.0	15.0
10th %ile Term Code	Gap	Gap		Hold	Hold		Gap	Hold	Hold	Min	Min	Min
Queue Length 50th (m)	37.8	8.9	50.5	13.8	4.7		28.2	50.2	0.0	0.4	53.0	30.5
Queue Length 95th (m)	67.5	16.0	84.1	27.9	10.1		#46.4	75.1	9.5	2.4	77.0	55.0
Internal Link Dist (m)		232.5			184.0			450.3			883.4	
Turn Bay Length (m)	100.0		100.0	50.0			100.0		100.0	100.0		100.0
Base Capacity (vph)	485	1438	895	496	1403		593	1912	949	184	1172	533
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	0.56	0.11	0.58	0.24	0.07		0.62	0.50	0.20	0.02	0.60	0.43

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 78.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 23.7 Intersection LOS: C
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15
90th %ile Actuated Cycle: 90
70th %ile Actuated Cycle: 90
50th %ile Actuated Cycle: 83.1
30th %ile Actuated Cycle: 72.5
10th %ile Actuated Cycle: 57.3
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Highway 2 & Township Road 724



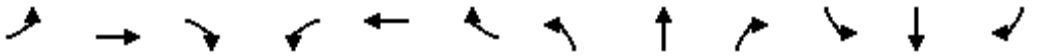
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	213	6	11	76	535	6	0	27	627	0	280
Future Volume (vph)	221	213	6	11	76	535	6	0	27	627	0	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	60.0		0.0	60.0		100.0	0.0		0.0	60.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.996				0.850		0.891			0.850	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1643	3272	0	1659	3318	1484	0	1541	0	3219	1484	0
Flt Permitted	0.596			0.603				0.898		0.950		
Satd. Flow (perm)	1030	3272	0	1053	3318	1484	0	1397	0	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				582		145			790	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		592.5			256.5			169.2			218.6	
Travel Time (s)		35.6			15.4			12.2			15.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	232	7	12	83	582	7	0	29	682	0	304
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	239	0	12	83	582	0	36	0	682	304	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8		8	2					
Detector Phase	7	4		8	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	20.0		20.0	20.0	20.0	12.0	12.0		7.0	12.0	
Minimum Split (s)	10.5	26.0		26.0	26.0	26.0	21.5	21.5		12.5	21.5	
Total Split (s)	11.0	37.0		26.0	26.0	26.0	24.8	24.8		28.2	53.0	
Total Split (%)	12.2%	41.1%		28.9%	28.9%	28.9%	27.6%	27.6%		31.3%	58.9%	
Maximum Green (s)	7.5	31.0		20.0	20.0	20.0	19.3	19.3		22.7	47.5	
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	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)	3.5	6.0		6.0	6.0	6.0		5.5		5.5	5.5	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None	None	Min	Min		None	Min	
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0			5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0			0	
Act Effct Green (s)	33.5	31.0		20.0	20.0	20.0		12.0		21.0	38.5	
Actuated g/C Ratio	0.41	0.38		0.25	0.25	0.25		0.15		0.26	0.48	
v/c Ratio	0.50	0.19		0.05	0.10	0.72		0.11		0.82	0.27	
Control Delay	21.2	17.3		24.8	24.7	8.5		0.7		37.4	0.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	21.2	17.3		24.8	24.7	8.5		0.7		37.4	0.6	
LOS	C	B		C	C	A		A		D	A	
Approach Delay		19.2			10.8			0.7			26.0	
Approach LOS		B			B			A			C	
90th %ile Green (s)	7.5	31.0		20.0	20.0	20.0	12.0	12.0		22.7	40.2	
90th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min		Max	Hold	
70th %ile Green (s)	7.5	31.0		20.0	20.0	20.0	12.0	12.0		22.7	40.2	
70th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min		Max	Hold	
50th %ile Green (s)	7.5	31.0		20.0	20.0	20.0	12.0	12.0		22.7	40.2	
50th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min		Max	Hold	
30th %ile Green (s)	7.5	31.0		20.0	20.0	20.0	12.0	12.0		20.3	37.8	
30th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min		Gap	Hold	
10th %ile Green (s)	7.5	31.0		20.0	20.0	20.0	12.0	12.0		16.8	34.3	
10th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min		Gap	Hold	
Queue Length 50th (m)	25.7	12.8		1.5	5.3	0.0		0.0		50.8	0.0	
Queue Length 95th (m)	43.1	20.6		5.6	10.8	28.8		0.0		69.9	0.0	
Internal Link Dist (m)		568.5			232.5			145.2			194.6	
Turn Bay Length (m)	60.0			60.0		100.0				60.0		
Base Capacity (vph)	482	1255		260	819	804		443		902	1197	
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	0.50	0.19		0.05	0.10	0.72		0.08		0.76	0.25	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 68.3% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 82.7
70th %ile Actuated Cycle: 82.7
50th %ile Actuated Cycle: 82.7
30th %ile Actuated Cycle: 80.3
10th %ile Actuated Cycle: 76.8

Splits and Phases: 2: 102 Street & Township Road 724



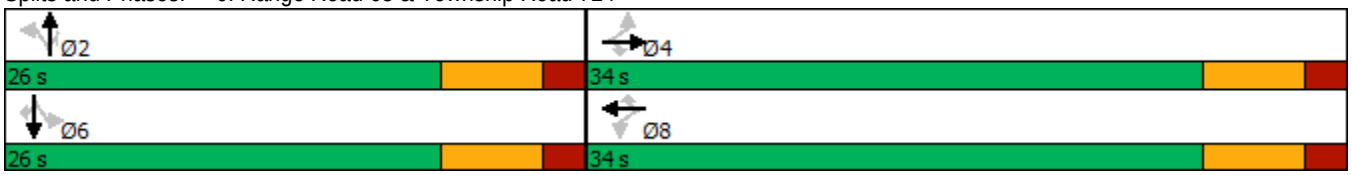
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	141	106	253	71	71	48	128	163	97	133	30
Future Volume (vph)	62	141	106	253	71	71	48	128	163	97	133	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	1729	1470	1659	1746	1484	1659	1746	1484	1659	1746	1484
Flt Permitted	0.707			0.660			0.665			0.668		
Satd. Flow (perm)	1222	1729	1470	1153	1746	1484	1161	1746	1484	1167	1746	1484
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			77			177			64
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		475.0			1395.2			429.6			354.7	
Travel Time (s)		21.4			62.8			19.3			16.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	153	115	275	77	77	52	139	177	105	145	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	153	115	275	77	77	52	139	177	105	145	33
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.0	26.0	26.0	26.0	26.0	26.0	26.0
Total Split (%)	56.7%	56.7%	56.7%	56.7%	56.7%	56.7%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	27.5	27.5	27.5	27.5	27.5	27.5	19.5	19.5	19.5	19.5	19.5	19.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	15.2	15.2	15.2	15.2	15.2	15.2
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36	0.36	0.34	0.34	0.34	0.34	0.34	0.34
v/c Ratio	0.15	0.25	0.19	0.66	0.12	0.13	0.13	0.23	0.28	0.26	0.24	0.06
Control Delay	9.7	10.3	3.0	20.0	9.2	3.2	13.5	13.8	4.5	15.0	13.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

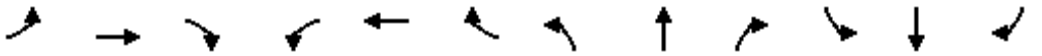
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	9.7	10.3	3.0	20.0	9.2	3.2	13.5	13.8	4.5	15.0	13.9	2.4
LOS	A	B	A	C	A	A	B	B	A	B	B	A
Approach Delay		7.7			15.1			9.3			12.9	
Approach LOS		A			B			A			B	
90th %ile Green (s)	25.3	25.3	25.3	25.3	25.3	25.3	15.0	15.0	15.0	15.0	15.0	15.0
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min	Min	Min	Min	Min
70th %ile Green (s)	19.3	19.3	19.3	19.3	19.3	19.3	15.0	15.0	15.0	15.0	15.0	15.0
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min	Min	Min	Min	Min
50th %ile Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min	Min	Min	Min	Min
30th %ile Green (s)	12.2	12.2	12.2	12.2	12.2	12.2	15.0	15.0	15.0	15.0	15.0	15.0
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min	Min	Min	Min	Min
10th %ile Green (s)	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0	15.0	15.0	15.0	15.0
10th %ile Term Code	Hold	Hold	Hold	Min	Min	Min	Min	Min	Min	Min	Min	Min
Queue Length 50th (m)	3.3	7.8	0.0	16.8	3.7	0.0	2.5	7.0	0.0	5.4	7.4	0.0
Queue Length 95th (m)	8.6	16.0	6.0	34.2	9.1	5.0	10.3	21.6	10.9	18.5	22.5	2.5
Internal Link Dist (m)		451.0			1371.2			405.6			330.7	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Base Capacity (vph)	768	1087	967	725	1098	961	517	778	759	520	778	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.14	0.12	0.38	0.07	0.08	0.10	0.18	0.23	0.20	0.19	0.05

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 44.4
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 69.0% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 53.3
70th %ile Actuated Cycle: 47.3
50th %ile Actuated Cycle: 43
30th %ile Actuated Cycle: 40.2
10th %ile Actuated Cycle: 38

Splits and Phases: 6: Range Road 63 & Township Road 724





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	32	99	41	18	26	29	808	89	48	718	24
Future Volume (vph)	70	32	99	41	18	26	29	808	89	48	718	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			4%			-2%	
Storage Length (m)	0.0		0.0	0.0		0.0	60.0		60.0	60.0		60.0
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.933			0.959				0.850			0.850
Flt Protected		0.983			0.976		0.950			0.950		
Satd. Flow (prot)	0	1727	0	0	1763	0	1753	2981	1569	1807	3614	1617
Flt Permitted		0.853			0.836		0.338			0.294		
Satd. Flow (perm)	0	1499	0	0	1510	0	624	2981	1569	559	3614	1617
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		83			28				97			26
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		570.0			389.2			892.8			331.4	
Travel Time (s)		25.7			17.5			40.2			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	20%	2%	2%	2%	2%
Adj. Flow (vph)	76	35	108	45	20	28	32	878	97	52	780	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	219	0	0	93	0	32	878	97	52	780	26
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0		22.0	22.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%		36.7%	36.7%		63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0		18.0	18.0		34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5
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			4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		9.3			9.3		21.7	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio		0.24			0.24		0.55	0.55	0.55	0.55	0.55	0.55
v/c Ratio		0.52			0.24		0.09	0.53	0.11	0.17	0.39	0.03
Control Delay		13.5			11.2		5.9	7.5	1.9	6.9	6.1	2.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.5			11.2		5.9	7.5	1.9	6.9	6.1	2.6
LOS		B			B		A	A	A	A	A	A
Approach Delay		13.5			11.2			6.9			6.1	
Approach LOS		B			B			A			A	
90th %ile Green (s)	15.5	15.5		15.5	15.5		29.8	29.8	29.8	29.8	29.8	29.8
90th %ile Term Code	Gap	Gap		Hold	Hold		Gap	Gap	Gap	Hold	Hold	Hold
70th %ile Green (s)	10.8	10.8		10.8	10.8		21.0	21.0	21.0	21.0	21.0	21.0
70th %ile Term Code	Gap	Gap		Hold	Hold		Gap	Gap	Gap	Hold	Hold	Hold
50th %ile Green (s)	8.6	8.6		8.6	8.6		17.1	17.1	17.1	17.1	17.1	17.1
50th %ile Term Code	Gap	Gap		Hold	Hold		Gap	Gap	Gap	Hold	Hold	Hold
30th %ile Green (s)	7.1	7.1		7.1	7.1		15.9	15.9	15.9	15.9	15.9	15.9
30th %ile Term Code	Gap	Gap		Hold	Hold		Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
10th %ile Green (s)	5.5	5.5		5.5	5.5		25.3	25.3	25.3	25.3	25.3	25.3
10th %ile Term Code	Gap	Gap		Hold	Hold		Dwell	Dwell	Dwell	Dwell	Dwell	Dwell
Queue Length 50th (m)		6.1			2.8		0.8	14.6	0.0	1.3	11.7	0.0
Queue Length 95th (m)		25.0			13.1		4.3	36.5	4.4	6.5	28.5	2.3
Internal Link Dist (m)		546.0			365.2			868.8			307.4	
Turn Bay Length (m)							60.0		60.0	60.0		60.0
Base Capacity (vph)		753			730		545	2604	1383	488	3157	1416
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		0.29			0.13		0.06	0.34	0.07	0.11	0.25	0.02

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.3
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay: 7.4 Intersection LOS: A
Intersection Capacity Utilization 48.9% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 53.3
70th %ile Actuated Cycle: 39.8
50th %ile Actuated Cycle: 33.7
30th %ile Actuated Cycle: 31
10th %ile Actuated Cycle: 38.8

Splits and Phases: 17: Highway 2 & Township Road 730

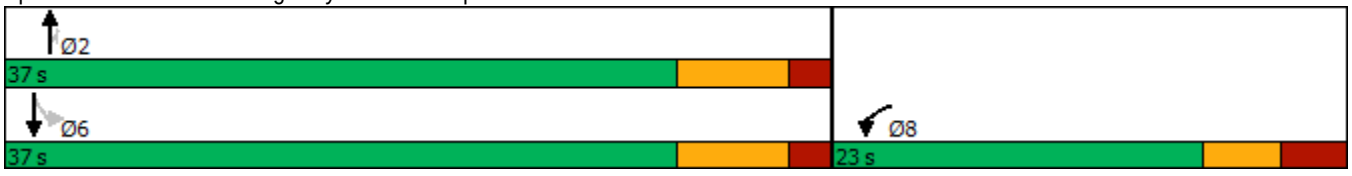
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	130	37	860	237	52	778
Future Volume (vph)	130	37	860	237	52	778
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		4%			0%
Storage Length (m)	50.0	0.0		100.0	80.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Frt	0.967			0.850		
Flt Protected	0.963				0.950	
Satd. Flow (prot)	3155	0	3252	1455	1659	3318
Flt Permitted	0.963				0.287	
Satd. Flow (perm)	3155	0	3252	1455	501	3318
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	40			258		
Link Speed (k/h)	50		100			80
Link Distance (m)	640.4		907.4			1427.4
Travel Time (s)	46.1		32.7			64.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	40	935	258	57	846
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	0	935	258	57	846
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0		20.0	20.0	20.0	20.0
Minimum Split (s)	22.5		27.0	27.0	27.0	27.0
Total Split (s)	23.0		37.0	37.0	37.0	37.0
Total Split (%)	38.3%		61.7%	61.7%	61.7%	61.7%
Maximum Green (s)	16.5		30.0	30.0	30.0	30.0
Yellow Time (s)	3.5		5.0	5.0	5.0	5.0
All-Red Time (s)	3.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5		7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Walk Time (s)	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	12.1		27.8	27.8	27.8	27.8
Actuated g/C Ratio	0.25		0.58	0.58	0.58	0.58
v/c Ratio	0.22		0.49	0.27	0.20	0.44
Control Delay	13.2		9.4	2.0	9.4	8.8
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	13.2		9.4	2.0	9.4	8.8
LOS	B		A	A	A	A
Approach Delay	13.2		7.8			8.8
Approach LOS	B		A			A
90th %ile Green (s)	12.0		30.0	30.0	30.0	30.0
90th %ile Term Code	Min		Max	Max	Hold	Hold
70th %ile Green (s)	12.0		24.0	24.0	24.0	24.0
70th %ile Term Code	Min		Gap	Gap	Hold	Hold
50th %ile Green (s)	12.0		20.7	20.7	20.7	20.7
50th %ile Term Code	Min		Gap	Gap	Hold	Hold
30th %ile Green (s)	12.0		20.0	20.0	20.0	20.0
30th %ile Term Code	Min		Min	Min	Min	Min
10th %ile Green (s)	0.0		35.0	35.0	35.0	35.0
10th %ile Term Code	Skip		Dwell	Dwell	Dwell	Dwell
Queue Length 50th (m)	4.5		28.4	0.0	2.7	24.6
Queue Length 95th (m)	12.7		41.6	7.7	8.1	36.0
Internal Link Dist (m)	616.4		883.4			1403.4
Turn Bay Length (m)	50.0			100.0	80.0	
Base Capacity (vph)	1126		2247	1085	346	2292
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.16		0.42	0.24	0.16	0.37

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 47.7
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 64.5% ICU Level of Service C
Analysis Period (min) 15
90th %ile Actuated Cycle: 55.5
70th %ile Actuated Cycle: 49.5
50th %ile Actuated Cycle: 46.2
30th %ile Actuated Cycle: 45.5
10th %ile Actuated Cycle: 42

Splits and Phases: 18: Highway 2 & Township Road 725



Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	427	2	2	356	1	6	1	6	1	1	1
Future Vol, veh/h	1	427	2	2	356	1	6	1	6	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	2	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	464	2	2	387	1	7	1	7	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	388	0	0	466	0	0	860	859	465	863	860	388
Stage 1	-	-	-	-	-	-	467	467	-	392	392	-
Stage 2	-	-	-	-	-	-	393	392	-	471	468	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1128	-	-	1055	-	-	267	285	581	266	285	643
Stage 1	-	-	-	-	-	-	561	549	-	617	593	-
Stage 2	-	-	-	-	-	-	616	593	-	558	548	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1128	-	-	1055	-	-	265	284	581	262	284	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	284	-	262	284	-
Stage 1	-	-	-	-	-	-	560	548	-	616	592	-
Stage 2	-	-	-	-	-	-	613	592	-	550	547	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15.5	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	1128	-	-	1055	-	-	337
HCM Lane V/C Ratio	0.04	0.001	-	-	0.002	-	-	0.01
HCM Control Delay (s)	15.5	8.2	0	-	8.4	0	-	15.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	85	16	239	23	4	175
Future Vol, veh/h	85	16	239	23	4	175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	800	800	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	92	17	260	25	4	190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	260	0	0	285	0
Stage 1	260	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.245	-
Pot Cap-1 Maneuver	555	771	-	-	1260	-
Stage 1	777	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	553	771	-	-	1260	-
Mov Cap-2 Maneuver	553	-	-	-	-	-
Stage 1	775	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	579	1260	-
HCM Lane V/C Ratio	-	-	0.19	0.003	-
HCM Control Delay (s)	-	-	12.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	58	1	40	1	205	54	12	122	1
Future Vol, veh/h	1	1	1	58	1	40	1	205	54	12	122	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	63	1	43	1	223	59	13	133	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	437	444	134	416	415	253	134	0	0	282	0	0
Stage 1	160	160	-	255	255	-	-	-	-	-	-	-
Stage 2	277	284	-	161	160	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	516	497	894	533	516	767	1403	-	-	1236	-	-
Stage 1	824	751	-	732	682	-	-	-	-	-	-	-
Stage 2	712	662	-	823	751	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	481	491	894	527	510	767	1403	-	-	1236	-	-
Mov Cap-2 Maneuver	481	491	-	527	510	-	-	-	-	-	-	-
Stage 1	823	743	-	731	681	-	-	-	-	-	-	-
Stage 2	670	661	-	812	743	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.3	0	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	573	603	1236	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.178	0.011	-	-
HCM Control Delay (s)	7.6	0	-	11.3	12.3	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	65	1	1	96	1	1	1	1	1	1	1
Future Vol, veh/h	1	65	1	1	96	1	1	1	1	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	71	1	1	104	1	1	1	1	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	72	0	0	182	181	72	182	181	105
Stage 1	-	-	-	-	-	-	74	74	-	107	107	-
Stage 2	-	-	-	-	-	-	108	107	-	75	74	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1438	-	-	1479	-	-	762	699	968	762	699	928
Stage 1	-	-	-	-	-	-	916	818	-	879	791	-
Stage 2	-	-	-	-	-	-	878	791	-	915	818	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1438	-	-	1479	-	-	759	698	968	759	698	928
Mov Cap-2 Maneuver	-	-	-	-	-	-	759	698	-	759	698	-
Stage 1	-	-	-	-	-	-	915	817	-	878	790	-
Stage 2	-	-	-	-	-	-	875	790	-	912	817	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	9.6	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	793	1438	-	-	1479	-	-	784
HCM Lane V/C Ratio	0.004	0.001	-	-	0.001	-	-	0.004
HCM Control Delay (s)	9.6	7.5	0	-	7.4	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	49	20	45	23	0	76	0	172	0	0	0
Future Vol, veh/h	0	49	20	45	23	0	76	0	172	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	53	22	49	25	0	83	0	187	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	25	0	0	75	0	0	187	187	64	281	198	25
Stage 1	-	-	-	-	-	-	64	64	-	123	123	-
Stage 2	-	-	-	-	-	-	123	123	-	158	75	-
Critical Hdwy	4.2	-	-	4.2	-	-	7.2	6.6	6.3	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.2	5.6	-
Follow-up Hdwy	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Cap-1 Maneuver	1539	-	-	1475	-	-	756	693	978	655	684	1029
Stage 1	-	-	-	-	-	-	927	826	-	862	779	-
Stage 2	-	-	-	-	-	-	862	779	-	826	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1539	-	-	1475	-	-	736	669	978	516	661	1029
Mov Cap-2 Maneuver	-	-	-	-	-	-	736	669	-	516	661	-
Stage 1	-	-	-	-	-	-	927	826	-	862	753	-
Stage 2	-	-	-	-	-	-	833	753	-	668	817	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	5	10.8	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	888	1539	-	-	1475	-	-	-
HCM Lane V/C Ratio	0.304	-	-	-	0.033	-	-	-
HCM Control Delay (s)	10.8	0	-	-	7.5	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	1.3	0	-	-	0.1	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	247	0	0	136	0
Future Vol, veh/h	0	0	0	0	0	0	0	247	0	0	136	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	0	268	0	0	148	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	416	416	148	416	416	268	148	0	0	268	0	0
Stage 1	148	148	-	268	268	-	-	-	-	-	-	-
Stage 2	268	268	-	148	148	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.2	6.6	6.3	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	533	515	878	533	515	752	1386	-	-	1251	-	-
Stage 1	836	760	-	720	673	-	-	-	-	-	-	-
Stage 2	720	673	-	836	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	533	515	878	533	515	752	1386	-	-	1251	-	-
Mov Cap-2 Maneuver	533	515	-	533	515	-	-	-	-	-	-	-
Stage 1	836	760	-	720	673	-	-	-	-	-	-	-
Stage 2	720	673	-	836	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	-	-	1251	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

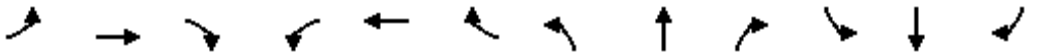
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	45	204	131	144	25	599	1564	29	42	1944	270
Future Volume (vph)	111	45	204	131	144	25	599	1564	29	42	1944	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	100.0		100.0	50.0		0.0	100.0		100.0	100.0		100.0
Storage Lanes	2		1	1		0	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3338	3543	1540	1771	3461	0	3236	4948	1452	1750	4725	1521
Flt Permitted	0.950			0.501			0.950			0.146		
Satd. Flow (perm)	3338	3543	1540	934	3461	0	3236	4948	1452	269	4725	1521
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					13				76			
Link Speed (k/h)		60			50			80			80	
Link Distance (m)		256.5			208.0			474.3			956.3	
Travel Time (s)		15.4			15.0			21.3			43.0	
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 (%)	5%	2%	5%	2%	2%	2%	7%	6%	10%	2%	11%	5%
Adj. Flow (vph)	113	46	208	134	147	26	611	1596	30	43	1984	276
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	46	208	134	173	0	611	1596	30	43	1984	276
Turn Type	Prot	NA	Free	pm+pt	NA		Prot	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			Free	8					2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		4.0	10.0		4.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	13.0	22.0		8.5	22.0		9.0	27.0	27.0	27.0	27.0	27.0
Total Split (s)	13.0	23.0		14.0	24.0		30.0	93.0	93.0	63.0	63.0	63.0
Total Split (%)	10.0%	17.7%		10.8%	18.5%		23.1%	71.5%	71.5%	48.5%	48.5%	48.5%
Maximum Green (s)	7.0	17.0		10.0	18.0		25.0	86.0	86.0	56.0	56.0	56.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0		4.0	6.0		5.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes					
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	Min	Min	Min
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	7.0	10.9	123.8	24.4	11.7		25.0	86.0	86.0	56.0	56.0	56.0
Actuated g/C Ratio	0.06	0.09	1.00	0.20	0.09		0.20	0.69	0.69	0.45	0.45	0.45
v/c Ratio	0.60	0.15	0.14	0.49	0.51		0.94	0.46	0.03	0.36	0.93	0.40

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	71.1	53.2	0.2	48.2	54.6		71.4	9.1	0.1	33.2	41.0	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	53.2	0.2	48.2	54.6		71.4	9.1	0.1	33.2	41.0	25.1
LOS	E	D	A	D	D		E	A	A	C	D	C
Approach Delay		28.7			51.8			26.0			39.0	
Approach LOS		C			D			C			D	
90th %ile Green (s)	7.0	13.4		10.0	14.4		25.0	86.0	86.0	56.0	56.0	56.0
90th %ile Term Code	Max	Hold		Max	Gap		Max	Hold	Hold	Max	Max	Max
70th %ile Green (s)	7.0	11.4		10.0	12.4		25.0	86.0	86.0	56.0	56.0	56.0
70th %ile Term Code	Max	Hold		Max	Gap		Max	Hold	Hold	Max	Max	Max
50th %ile Green (s)	7.0	10.0		10.0	11.0		25.0	86.0	86.0	56.0	56.0	56.0
50th %ile Term Code	Max	Min		Max	Gap		Max	Hold	Hold	Max	Max	Max
30th %ile Green (s)	7.0	10.0		10.0	11.0		25.0	86.0	86.0	56.0	56.0	56.0
30th %ile Term Code	Max	Min		Max	Hold		Max	Hold	Hold	Max	Max	Max
10th %ile Green (s)	7.0	0.0		25.0	10.0		25.0	86.0	86.0	56.0	56.0	56.0
10th %ile Term Code	Max	Skip		Hold	Min		Max	Hold	Hold	Max	Max	Max
Queue Length 50th (m)	14.0	5.5	0.0	27.9	19.7		75.4	56.5	0.0	6.6	161.3	43.4
Queue Length 95th (m)	#24.2	11.6	0.0	46.3	31.2		#113.2	72.1	0.0	18.7	#206.6	68.9
Internal Link Dist (m)		232.5			184.0			450.3			932.3	
Turn Bay Length (m)	100.0		100.0	50.0			100.0		100.0	100.0		100.0
Base Capacity (vph)	188	486	1540	271	514		653	3438	1032	121	2138	688
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.09	0.14	0.49	0.34		0.94	0.46	0.03	0.36	0.93	0.40

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 123.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 33.4 Intersection LOS: C
Intersection Capacity Utilization 88.8% ICU Level of Service E
Analysis Period (min) 15
90th %ile Actuated Cycle: 126.4
70th %ile Actuated Cycle: 124.4
50th %ile Actuated Cycle: 123
30th %ile Actuated Cycle: 123
10th %ile Actuated Cycle: 122
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Highway 2 & Township Road 724



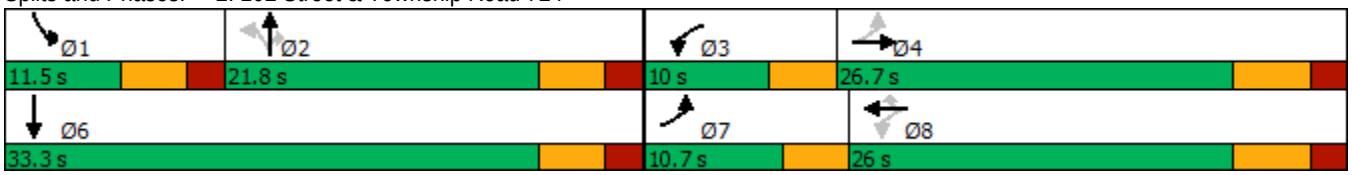
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	203	17	142	593	277	8	0	48	109	0	36
Future Volume (vph)	121	203	17	142	593	277	8	0	48	109	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	60.0		0.0	60.0		100.0	0.0		60.0	60.0		0.0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.988				0.850			0.850		0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1643	3246	0	1659	3318	1484	0	1659	1484	3219	1484	0
Flt Permitted	0.368			0.607				0.769		0.950		
Satd. Flow (perm)	636	3246	0	1060	3318	1484	0	1343	1484	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				292			187		312	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		592.5			256.5			169.2			218.6	
Travel Time (s)		26.7			11.5			12.2			15.7	
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
Adj. Flow (vph)	127	214	18	149	624	292	8	0	51	115	0	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	232	0	149	624	292	0	8	51	115	38	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8		8	2		2			
Detector Phase	7	4		3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		4.0	15.0	15.0	10.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	10.5	22.0		8.0	22.0	22.0	21.5	21.5	21.5	9.5	21.5	
Total Split (s)	10.7	26.7		10.0	26.0	26.0	21.8	21.8	21.8	11.5	33.3	
Total Split (%)	15.3%	38.1%		14.3%	37.1%	37.1%	31.1%	31.1%	31.1%	16.4%	47.6%	
Maximum Green (s)	7.2	20.7		6.5	20.0	20.0	16.3	16.3	16.3	6.0	27.8	
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	3.5	6.0		3.5	6.0	6.0		5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0		5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0	0		0	
Act Effct Green (s)	31.1	24.9		30.1	24.4	24.4		10.5	10.5	7.1	16.5	
Actuated g/C Ratio	0.57	0.46		0.55	0.45	0.45		0.19	0.19	0.13	0.30	
v/c Ratio	0.25	0.16		0.23	0.42	0.35		0.03	0.12	0.27	0.06	
Control Delay	9.1	14.2		8.8	17.2	4.0		23.2	0.5	27.5	0.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	

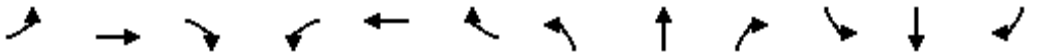
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	9.1	14.2		8.8	17.2	4.0		23.2	0.5	27.5	0.2	
LOS	A	B		A	B	A		C	A	C	A	
Approach Delay		12.4			12.4			3.6			20.7	
Approach LOS		B			B			A			C	
90th %ile Green (s)	7.2	20.7		6.5	20.0	20.0	10.0	10.0	10.0	6.0	21.5	
90th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min	Min	Max	Hold	
70th %ile Green (s)	7.2	20.7		6.5	20.0	20.0	10.0	10.0	10.0	6.0	21.5	
70th %ile Term Code	Max	Hold		Max	Max	Max	Min	Min	Min	Max	Hold	
50th %ile Green (s)	7.2	18.9		6.5	18.2	18.2	10.0	10.0	10.0	6.0	21.5	
50th %ile Term Code	Max	Hold		Max	Gap	Gap	Min	Min	Min	Max	Hold	
30th %ile Green (s)	7.0	15.5		6.5	15.0	15.0	0.0	0.0	0.0	10.0	10.0	
30th %ile Term Code	Min	Hold		Max	Min	Min	Skip	Skip	Skip	Hold	Hold	
10th %ile Green (s)	0.0	30.0		0.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	
10th %ile Term Code	Skip	Dwell		Skip	Dwell	Dwell	Skip	Skip	Skip	Skip	Skip	
Queue Length 50th (m)	7.1	9.6		8.5	32.2	0.0		0.8	0.0	6.4	0.0	
Queue Length 95th (m)	14.5	16.8		16.7	47.2	14.4		4.1	0.0	13.5	0.0	
Internal Link Dist (m)		568.5			232.5			145.2			194.6	
Turn Bay Length (m)	60.0			60.0		100.0			60.0	60.0		
Base Capacity (vph)	503	1580		661	1577	858		422	595	428	941	
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	0.15		0.23	0.40	0.34		0.02	0.09	0.27	0.04	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 54.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 45.8% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 63.7
70th %ile Actuated Cycle: 63.7
50th %ile Actuated Cycle: 61.9
30th %ile Actuated Cycle: 47
10th %ile Actuated Cycle: 36

Splits and Phases: 2: 102 Street & Township Road 724





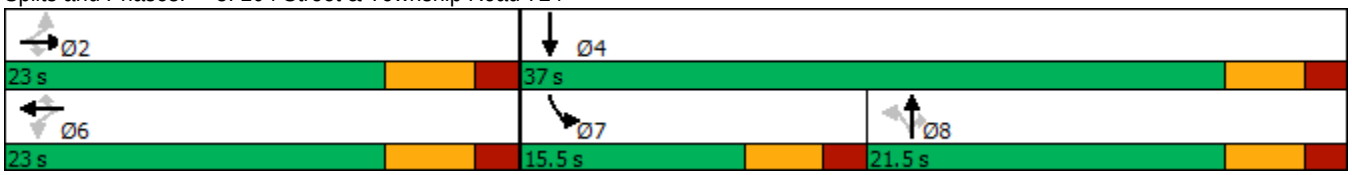
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	250	7	27	572	84	6	0	10	51	0	69
Future Volume (vph)	38	250	7	27	572	84	6	0	10	51	0	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	100.0		80.0	100.0		100.0	0.0		60.0	50.0		0.0
Storage Lanes	1		1	1		1	0		1	2		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850		0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1643	3285	1470	1659	3318	1484	0	1659	1484	3219	1484	0
Flt Permitted	0.424			0.589						0.950		
Satd. Flow (perm)	733	3285	1470	1029	3318	1484	0	1746	1484	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			145			155		64	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		497.8			592.5			204.7			311.5	
Travel Time (s)		29.9			35.6			14.7			22.4	
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
Adj. Flow (vph)	40	263	7	28	602	88	6	0	11	54	0	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	263	7	28	602	88	0	6	11	54	73	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2		2	6		6	8		8			
Detector Phase	2	2	2	6	6	6	8	8	8	7	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	21.5	21.5	21.5	15.5	21.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	21.5	21.5	21.5	15.5	37.0	
Total Split (%)	38.3%	38.3%	38.3%	38.3%	38.3%	38.3%	35.8%	35.8%	35.8%	25.8%	61.7%	
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	10.0	31.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0	6.0	6.0	6.0		5.5	5.5	5.5	5.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0		0	
Act Effct Green (s)	27.5	27.5	27.5	27.5	27.5	27.5		10.9	10.9	10.9	13.0	
Actuated g/C Ratio	0.75	0.75	0.75	0.75	0.75	0.75		0.30	0.30	0.30	0.35	
v/c Ratio	0.07	0.11	0.01	0.04	0.24	0.08		0.01	0.02	0.06	0.13	
Control Delay	9.4	6.9	0.0	9.1	7.2	1.3		13.8	0.1	12.7	4.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	

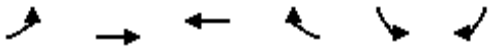
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	9.4	6.9	0.0	9.1	7.2	1.3		13.8	0.1	12.7	4.0	
LOS	A	A	A	A	A	A		B	A	B	A	
Approach Delay		7.1			6.5			4.9			7.7	
Approach LOS		A			A			A			A	
90th %ile Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	10.0	10.0	10.0	10.0	25.5	
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Min	Min	Min	Max	Hold	
70th %ile Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	0.0	10.0	
70th %ile Term Code	Min	Min	Min	Min	Min	Min	Hold	Hold	Hold	Skip	Min	
50th %ile Green (s)	15.8	15.8	15.8	15.8	15.8	15.8	0.0	0.0	0.0	0.0	0.0	
50th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip	Skip	Skip	Skip	
30th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip	Skip	Skip	Skip	
10th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip	Skip	Skip	Skip	
Queue Length 50th (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.1	0.0	0.3	0.2	
Queue Length 95th (m)	8.8	17.2	0.0	6.4	38.7	3.3		2.9	0.0	5.9	5.4	
Internal Link Dist (m)		473.8			568.5			180.7			287.5	
Turn Bay Length (m)	100.0		80.0	100.0		100.0			60.0	50.0		
Base Capacity (vph)	522	2339	1088	732	2362	1098		823	781	948	1255	
Starvation Cap Reductn	0	0	0	0	0	0		0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0		0	0	0	0	
Reduced v/c Ratio	0.08	0.11	0.01	0.04	0.25	0.08		0.01	0.01	0.06	0.06	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 36.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.24
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 49.5% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 54
70th %ile Actuated Cycle: 36.5
50th %ile Actuated Cycle: 21.8
30th %ile Actuated Cycle: 36
10th %ile Actuated Cycle: 36

Splits and Phases: 3: 104 Street & Township Road 724





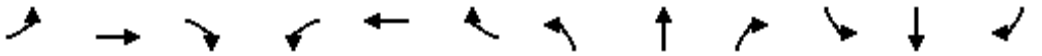
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	262	427	36	22	17
Future Volume (vph)	27	262	427	36	22	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		2%	0%		0%	
Storage Length (m)	100.0			100.0	0.0	60.0
Storage Lanes	1			1	1	1
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1643	3285	3318	1484	1659	1484
Flt Permitted	0.424				0.950	
Satd. Flow (perm)	733	3285	3318	1484	1659	1484
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				38		18
Link Speed (k/h)		60	60		50	
Link Distance (m)		199.9	497.8		351.7	
Travel Time (s)		12.0	29.9		25.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	28	276	449	38	23	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	276	449	38	23	18
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	8.0	37.0	29.0	29.0	23.0	23.0
Total Split (%)	13.3%	61.7%	48.3%	48.3%	38.3%	38.3%
Maximum Green (s)	4.5	31.0	23.0	23.0	17.0	17.0
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	25.6	27.4	26.1	26.1	6.3	6.3
Actuated g/C Ratio	0.77	0.82	0.78	0.78	0.19	0.19
v/c Ratio	0.04	0.10	0.17	0.03	0.07	0.06
Control Delay	3.0	3.0	4.8	3.6	14.7	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	3.0	3.0	4.8	3.6	14.7	8.9
LOS	A	A	A	A	B	A
Approach Delay		3.0	4.7		12.2	
Approach LOS		A	A		B	
90th %ile Green (s)	4.5	22.9	14.9	14.9	7.2	7.2
90th %ile Term Code	Max	Hold	Gap	Gap	Gap	Gap
70th %ile Green (s)	0.0	23.4	23.4	23.4	6.6	6.6
70th %ile Term Code	Skip	Dwell	Dwell	Dwell	Gap	Gap
50th %ile Green (s)	0.0	21.9	21.9	21.9	0.0	0.0
50th %ile Term Code	Skip	Dwell	Dwell	Dwell	Skip	Skip
30th %ile Green (s)	0.0	21.6	21.6	21.6	0.0	0.0
30th %ile Term Code	Skip	Dwell	Dwell	Dwell	Skip	Skip
10th %ile Green (s)	0.0	21.2	21.2	21.2	0.0	0.0
10th %ile Term Code	Skip	Dwell	Dwell	Dwell	Skip	Skip
Queue Length 50th (m)	0.2	0.0	0.0	0.0	0.8	0.0
Queue Length 95th (m)	2.3	8.1	20.6	3.8	5.6	3.6
Internal Link Dist (m)		175.9	473.8		327.7	
Turn Bay Length (m)	100.0			100.0		60.0
Base Capacity (vph)	690	2939	2393	1081	881	797
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	0.04	0.09	0.19	0.04	0.03	0.02

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 33.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.17
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 31.8% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 42.1
70th %ile Actuated Cycle: 42
50th %ile Actuated Cycle: 27.9
30th %ile Actuated Cycle: 27.6
10th %ile Actuated Cycle: 27.2

Splits and Phases: 4: Township Road 724 & 106 Street



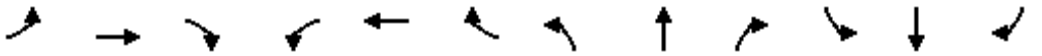
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	57	39	109	141	168	107	649	203	80	258	63
Future Volume (vph)	24	57	39	109	141	168	107	649	203	80	258	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	3285	1470	1659	3318	1484	1659	3318	1484	1659	3318	1484
Flt Permitted	0.658			0.537			0.584			0.282		
Satd. Flow (perm)	1138	3285	1470	938	3318	1484	1020	3318	1484	493	3318	1484
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			177			214			95
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		475.0			1395.2			429.6			354.7	
Travel Time (s)		21.4			62.8			19.3			16.0	
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
Adj. Flow (vph)	25	60	41	115	148	177	113	683	214	84	272	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	60	41	115	148	177	113	683	214	84	272	66
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	4.0	10.0	10.0	15.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	22.5	22.5	22.5	8.0	22.5	22.5	22.5	22.5	22.5	8.0	22.5	22.5
Total Split (s)	23.0	23.0	23.0	10.0	33.0	33.0	38.0	38.0	38.0	9.0	47.0	47.0
Total Split (%)	28.8%	28.8%	28.8%	12.5%	41.3%	41.3%	47.5%	47.5%	47.5%	11.3%	58.8%	58.8%
Maximum Green (s)	16.5	16.5	16.5	6.5	26.5	26.5	31.5	31.5	31.5	5.5	40.5	40.5
Yellow Time (s)	4.5	4.5	4.5	3.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.5	6.5	6.5	3.5	6.5	6.5	6.5	6.5	6.5	3.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	None	Min	Min
Walk Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0		0	0
Act Effct Green (s)	10.5	10.5	10.5	21.0	17.9	17.9	20.9	20.9	20.9	30.7	27.6	27.6
Actuated g/C Ratio	0.18	0.18	0.18	0.36	0.30	0.30	0.35	0.35	0.35	0.52	0.47	0.47
v/c Ratio	0.12	0.10	0.11	0.28	0.15	0.31	0.31	0.58	0.32	0.23	0.18	0.09
Control Delay	26.9	25.1	0.6	17.3	17.3	5.3	18.1	18.7	3.9	8.8	9.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	26.9	25.1	0.6	17.3	17.3	5.3	18.1	18.7	3.9	8.8	9.4	1.4
LOS	C	C	A	B	B	A	B	B	A	A	A	A
Approach Delay		17.5			12.5			15.5			8.0	
Approach LOS		B			B			B			A	
90th %ile Green (s)	10.0	10.0	10.0	6.5	20.0	20.0	29.2	29.2	29.2	5.5	38.2	38.2
90th %ile Term Code	Min	Min	Min	Max	Hold	Hold	Gap	Gap	Gap	Max	Hold	Hold
70th %ile Green (s)	10.0	10.0	10.0	6.5	20.0	20.0	23.0	23.0	23.0	5.5	32.0	32.0
70th %ile Term Code	Min	Min	Min	Max	Hold	Hold	Gap	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	10.0	10.0	10.0	6.5	20.0	20.0	20.0	20.0	20.0	5.5	29.0	29.0
50th %ile Term Code	Min	Min	Min	Max	Hold	Hold	Gap	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	10.0	10.0	10.0	6.5	20.0	20.0	17.1	17.1	17.1	5.5	26.1	26.1
30th %ile Term Code	Min	Min	Min	Max	Hold	Hold	Gap	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	10.0	10.0	10.0	0.0	10.0	10.0	15.0	15.0	15.0	0.0	15.0	15.0
10th %ile Term Code	Hold	Hold	Hold	Skip	Min	Min	Min	Min	Min	Skip	Min	Min
Queue Length 50th (m)	2.5	3.1	0.0	8.6	6.2	0.0	9.7	34.4	0.0	4.5	8.8	0.0
Queue Length 95th (m)	9.4	8.6	0.0	22.2	14.2	12.8	20.5	48.6	11.1	9.7	14.4	3.0
Internal Link Dist (m)		451.0			1371.2			405.6			330.7	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Base Capacity (vph)	333	962	531	417	1561	792	605	1969	967	370	2342	1075
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.06	0.08	0.28	0.09	0.22	0.19	0.35	0.22	0.23	0.12	0.06

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 59.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 71.2
70th %ile Actuated Cycle: 65
50th %ile Actuated Cycle: 62
30th %ile Actuated Cycle: 59.1
10th %ile Actuated Cycle: 38

Splits and Phases: 6: Range Road 63 & Township Road 724



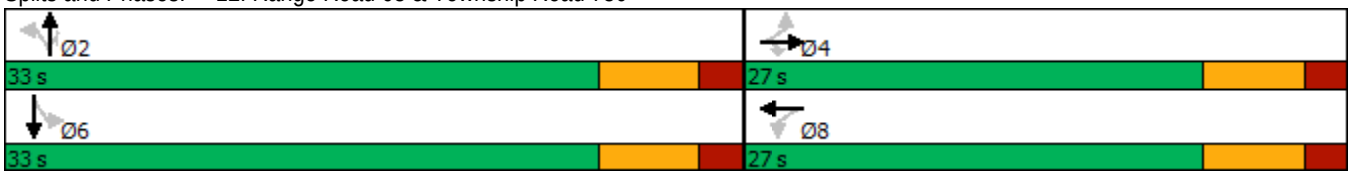
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	29	117	135	56	62	36	247	344	159	268	1
Future Volume (vph)	1	29	117	135	56	62	36	247	344	159	268	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		80.0	80.0		0.0	80.0		80.0	80.0		0.0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.921				0.850		0.999	
Flt Protected		0.998		0.950			0.950			0.950		
Satd. Flow (prot)	0	3312	1484	1659	3056	0	1659	3318	1484	1659	3315	0
Flt Permitted		0.943		0.735			0.578			0.591		
Satd. Flow (perm)	0	3129	1484	1284	3056	0	1009	3318	1484	1032	3315	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			123		65				362		1	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		542.1			377.8			532.7			522.0	
Travel Time (s)		24.4			17.0			24.0			23.5	
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
Adj. Flow (vph)	1	31	123	142	59	65	38	260	362	167	282	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	123	142	124	0	38	260	362	167	283	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Split (s)	27.0	27.0	27.0	27.0	27.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%	55.0%	55.0%	55.0%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5		26.5	26.5	26.5	26.5	26.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)		6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	
Act Effct Green (s)		11.1	11.1	11.1	11.1		20.5	20.5	20.5	20.5	20.5	
Actuated g/C Ratio		0.28	0.28	0.28	0.28		0.52	0.52	0.52	0.52	0.52	
v/c Ratio		0.04	0.24	0.40	0.14		0.07	0.15	0.38	0.31	0.17	
Control Delay		10.9	4.5	15.8	6.8		8.6	8.2	2.8	11.3	8.2	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		10.9	4.5	15.8	6.8		8.6	8.2	2.8	11.3	8.2	

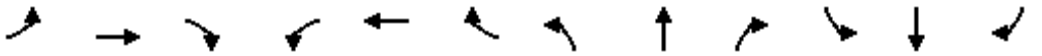
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A	B	A		A	A	A	B	A	
Approach Delay		5.9			11.6			5.3			9.3	
Approach LOS		A			B			A			A	
90th %ile Green (s)	14.7	14.7	14.7	14.7	14.7		19.1	19.1	19.1	19.1	19.1	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Hold	Hold	Hold	Gap	Gap	
70th %ile Green (s)	11.0	11.0	11.0	11.0	11.0		15.0	15.0	15.0	15.0	15.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap		Min	Min	Min	Min	Min	
50th %ile Green (s)	10.0	10.0	10.0	10.0	10.0		15.0	15.0	15.0	15.0	15.0	
50th %ile Term Code	Min	Min	Min	Min	Min		Min	Min	Min	Min	Min	
30th %ile Green (s)	10.0	10.0	10.0	10.0	10.0		15.0	15.0	15.0	15.0	15.0	
30th %ile Term Code	Min	Min	Min	Min	Min		Min	Min	Min	Min	Min	
10th %ile Green (s)	0.0	0.0	0.0	0.0	0.0		30.0	30.0	30.0	30.0	30.0	
10th %ile Term Code	Skip	Skip	Skip	Skip	Skip		Dwell	Dwell	Dwell	Dwell	Dwell	
Queue Length 50th (m)		0.7	0.0	7.4	1.4		1.4	5.3	0.0	7.2	5.8	
Queue Length 95th (m)		3.1	8.0	20.0	5.9		5.9	12.3	11.3	21.0	13.3	
Internal Link Dist (m)		518.1			353.8			508.7			498.0	
Turn Bay Length (m)			80.0	80.0			80.0		80.0	80.0		
Base Capacity (vph)		1629	832	668	1622		734	2415	1179	751	2414	
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		0.02	0.15	0.21	0.08		0.05	0.11	0.31	0.22	0.12	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 39.7
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 7.6 Intersection LOS: A
Intersection Capacity Utilization 58.4% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 46.8
70th %ile Actuated Cycle: 39
50th %ile Actuated Cycle: 38
30th %ile Actuated Cycle: 38
10th %ile Actuated Cycle: 36.5

Splits and Phases: 12: Range Road 63 & Township Road 730





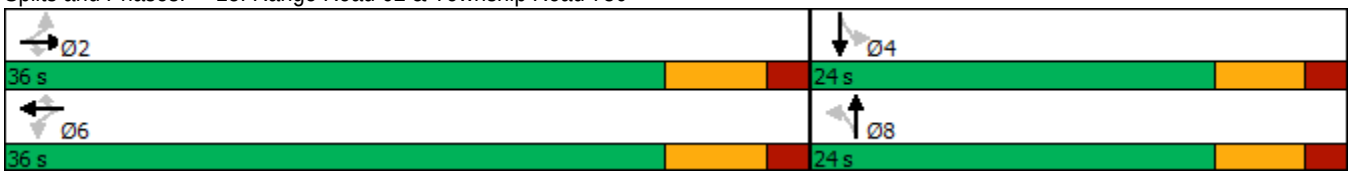
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	267	112	149	431	192	25	1	33	50	1	13
Future Volume (vph)	41	267	112	149	431	192	25	1	33	50	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		0.0	80.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.854			0.860	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1659	3318	1484	1659	3318	1484	1659	1491	0	1659	1502	0
Flt Permitted	0.490			0.579								
Satd. Flow (perm)	856	3318	1484	1011	3318	1484	1746	1491	0	1746	1502	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118			202		35			14	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		821.9			1030.2			392.2			296.6	
Travel Time (s)		37.0			46.4			28.2			21.4	
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
Adj. Flow (vph)	43	281	118	157	454	202	26	1	35	53	1	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	281	118	157	454	202	26	36	0	53	15	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.0	22.0		22.0	22.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	18.0	18.0		18.0	18.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	27.5	27.5	27.5	27.5	27.5	27.5	10.3	10.3		10.3	10.3	
Actuated g/C Ratio	0.77	0.77	0.77	0.77	0.77	0.77	0.29	0.29		0.29	0.29	
v/c Ratio	0.06	0.11	0.10	0.20	0.18	0.17	0.05	0.08		0.10	0.03	
Control Delay	5.8	4.4	2.2	6.3	4.5	1.9	11.0	6.2		11.3	7.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	5.8	4.4	2.2	6.3	4.5	1.9	11.0	6.2		11.3	7.6	

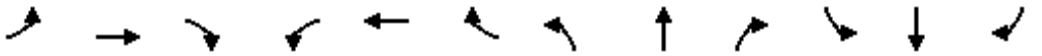
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	A	A	B	A		B	A	
Approach Delay		4.0			4.2			8.3			10.4	
Approach LOS		A			A			A			B	
90th %ile Green (s)	20.2	20.2	20.2	20.2	20.2	20.2	10.0	10.0		10.0	10.0	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min		Min	Min	
70th %ile Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
70th %ile Term Code	Min	Min	Min	Min	Min	Min	Min	Min		Min	Min	
50th %ile Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	0.0	0.0		0.0	0.0	
50th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
30th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0		0.0	0.0	
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
10th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0		0.0	0.0	
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
Queue Length 50th (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0		1.0	0.0	
Queue Length 95th (m)	5.3	10.3	5.2	15.7	16.1	6.8	5.5	4.7		9.1	3.0	
Internal Link Dist (m)		797.9			1006.2			368.2			272.6	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0			80.0		
Base Capacity (vph)	766	2971	1341	905	2971	1350	916	798		916	794	
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	0.06	0.09	0.09	0.17	0.15	0.15	0.03	0.05		0.06	0.02	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 35.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.20
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 50.3% ICU Level of Service A
Analysis Period (min) 15
90th %ile Actuated Cycle: 42.7
70th %ile Actuated Cycle: 37.5
50th %ile Actuated Cycle: 24.5
30th %ile Actuated Cycle: 36.5
10th %ile Actuated Cycle: 36.5

Splits and Phases: 15: Range Road 62 & Township Road 730





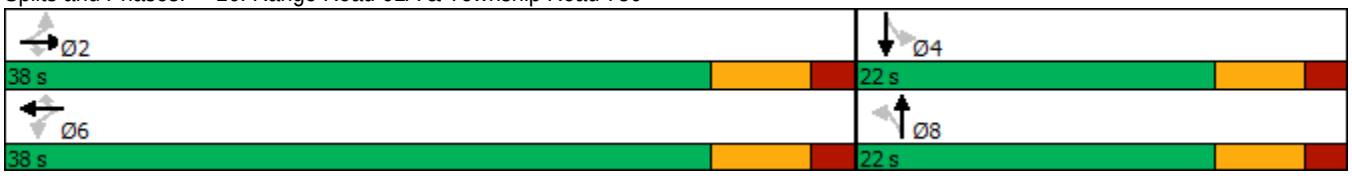
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	197	134	312	712	27	29	0	66	7	0	5
Future Volume (vph)	20	197	134	312	712	27	29	0	66	7	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1659	3318	1484	1659	3318	1484	1659	1484	0	1659	1484	0
Flt Permitted	0.367			0.622			0.754			0.727		
Satd. Flow (perm)	641	3318	1484	1086	3318	1484	1317	1484	0	1270	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			141			55		659			167	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		1030.2			570.0			338.4			301.0	
Travel Time (s)		46.4			25.7			24.4			21.7	
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
Adj. Flow (vph)	21	207	141	328	749	28	31	0	69	7	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	207	141	328	749	28	31	69	0	7	5	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.0	22.0		22.0	22.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	22.0	22.0		22.0	22.0	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	31.5	31.5	31.5	31.5	31.5	31.5	16.0	16.0		16.0	16.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	31.2	31.2	31.2	31.2	31.2	31.2	10.2	10.2		10.2	10.2	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72	0.72	0.23	0.23		0.23	0.23	
v/c Ratio	0.05	0.09	0.13	0.42	0.31	0.03	0.10	0.08		0.02	0.01	
Control Delay	5.7	4.8	1.6	8.5	5.5	0.9	17.4	0.2		16.9	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	5.7	4.8	1.6	8.5	5.5	0.9	17.4	0.2		16.9	0.0	

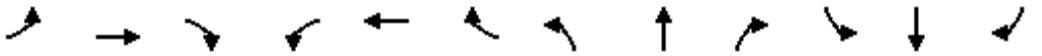
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	A	A	B	A		B	A	
Approach Delay		3.6			6.3			5.5			9.8	
Approach LOS		A			A			A			A	
90th %ile Green (s)	31.5	31.5	31.5	31.5	31.5	31.5	10.0	10.0		10.0	10.0	
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Min	Min		Min	Min	
70th %ile Green (s)	25.1	25.1	25.1	25.1	25.1	25.1	10.0	10.0		10.0	10.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min		Hold	Hold	
50th %ile Green (s)	20.3	20.3	20.3	20.3	20.3	20.3	10.0	10.0		10.0	10.0	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Min	Min		Hold	Hold	
30th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0		0.0	0.0	
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
10th %ile Green (s)	30.0	30.0	30.0	30.0	30.0	30.0	0.0	0.0		0.0	0.0	
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
Queue Length 50th (m)	0.8	4.0	0.0	16.4	17.7	0.0	1.8	0.0		0.4	0.0	
Queue Length 95th (m)	3.0	7.4	4.9	34.1	26.5	1.2	8.2	0.0		3.2	0.0	
Internal Link Dist (m)		1006.2			546.0			314.4			277.0	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0			80.0		
Base Capacity (vph)	475	2459	1136	805	2459	1114	496	969		478	663	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.04	0.08	0.12	0.41	0.30	0.03	0.06	0.07		0.01	0.01	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 56.3% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 54
70th %ile Actuated Cycle: 47.6
50th %ile Actuated Cycle: 42.8
30th %ile Actuated Cycle: 36.5
10th %ile Actuated Cycle: 36.5

Splits and Phases: 16: Range Road 61A & Township Road 730





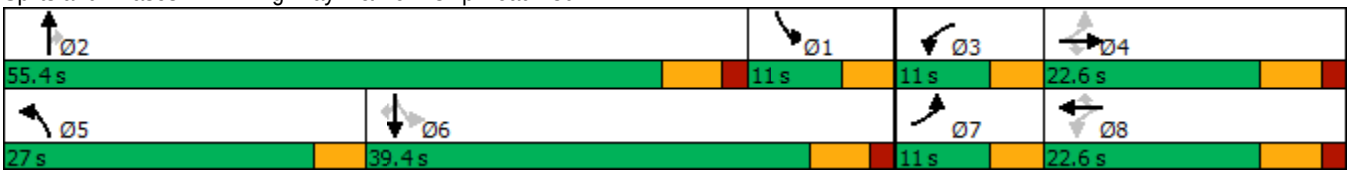
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	34	160	215	134	141	635	981	82	67	1296	305
Future Volume (vph)	73	34	160	215	134	141	635	981	82	67	1296	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			4%			-2%	
Storage Length (m)	80.0		80.0	80.0		80.0	60.0		60.0	60.0		60.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601	3402	4283	1569	1807	5193	1617
Flt Permitted	0.663			0.657			0.950			0.265		
Satd. Flow (perm)	1249	3579	1601	1237	3579	1601	3402	4283	1569	504	5193	1617
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196			196			153			299
Link Speed (k/h)		80			80			100			100	
Link Distance (m)		570.0			389.2			892.8			331.4	
Travel Time (s)		25.7			17.5			32.1			11.9	
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 (%)	2%	2%	2%	2%	2%	2%	2%	20%	2%	2%	2%	2%
Adj. Flow (vph)	77	36	168	226	141	148	668	1033	86	71	1364	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	36	168	226	141	148	668	1033	86	71	1364	321
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	12.0	12.0	7.0	12.0	12.0	7.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	11.0	22.5	22.5	11.0	22.5	22.5	11.0	26.5	26.5	11.0	26.5	26.5
Total Split (s)	11.0	22.6	22.6	11.0	22.6	22.6	27.0	55.4	55.4	11.0	39.4	39.4
Total Split (%)	11.0%	22.6%	22.6%	11.0%	22.6%	22.6%	27.0%	55.4%	55.4%	11.0%	39.4%	39.4%
Maximum Green (s)	7.0	16.1	16.1	7.0	16.1	16.1	23.0	48.9	48.9	7.0	32.9	32.9
Yellow Time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
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	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.6	12.0	12.0	22.5	14.5	14.5	21.6	36.4	36.4	33.7	31.2	31.2
Actuated g/C Ratio	0.23	0.13	0.13	0.24	0.16	0.16	0.23	0.39	0.39	0.36	0.34	0.34
v/c Ratio	0.23	0.08	0.45	0.66	0.25	0.36	0.85	0.62	0.12	0.16	0.78	0.43
Control Delay	29.1	37.6	7.8	41.7	38.6	4.9	45.6	26.2	0.6	24.6	31.7	5.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	37.6	7.8	41.7	38.6	4.9	45.6	26.2	0.6	24.6	31.7	5.6
LOS	C	D	A	D	D	A	D	C	A	C	C	A
Approach Delay		17.5			30.2			32.2			26.6	
Approach LOS		B			C			C			C	
90th %ile Green (s)	7.0	12.0	12.0	7.0	12.0	12.0	23.0	38.2	38.2	17.7	32.9	32.9
90th %ile Term Code	Max	Min	Min	Max	Min	Min	Max	Gap	Gap	Hold	Max	Max
70th %ile Green (s)	7.0	12.0	12.0	7.0	12.0	12.0	23.0	34.5	34.5	21.4	32.9	32.9
70th %ile Term Code	Max	Min	Min	Max	Min	Min	Max	Gap	Gap	Hold	Max	Max
50th %ile Green (s)	7.0	12.0	12.0	7.0	12.0	12.0	23.0	31.6	31.6	24.3	32.9	32.9
50th %ile Term Code	Max	Min	Min	Max	Min	Min	Max	Gap	Gap	Hold	Max	Max
30th %ile Green (s)	7.0	12.0	12.0	7.0	12.0	12.0	21.9	28.5	28.5	25.5	32.1	32.1
30th %ile Term Code	Max	Min	Min	Max	Min	Min	Gap	Gap	Gap	Hold	Gap	Gap
10th %ile Green (s)	0.0	12.0	12.0	7.0	23.0	23.0	17.4	47.0	47.0	0.0	25.6	25.6
10th %ile Term Code	Skip	Min	Min	Max	Hold	Hold	Gap	Hold	Hold	Skip	Gap	Gap
Queue Length 50th (m)	10.9	3.1	0.0	35.2	12.7	0.0	60.5	61.3	0.0	8.5	81.5	2.7
Queue Length 95th (m)	22.1	7.6	12.6	#62.3	21.7	8.2	#85.4	68.3	0.9	17.5	98.6	20.3
Internal Link Dist (m)		546.0			365.2			868.8			307.4	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	60.0		60.0	60.0		60.0
Base Capacity (vph)	330	621	439	340	681	463	844	2260	900	447	1844	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.06	0.38	0.66	0.21	0.32	0.79	0.46	0.10	0.16	0.74	0.42

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 92.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 28.8 Intersection LOS: C
Intersection Capacity Utilization 82.6% ICU Level of Service E
Analysis Period (min) 15
90th %ile Actuated Cycle: 95.9
70th %ile Actuated Cycle: 95.9
50th %ile Actuated Cycle: 95.9
30th %ile Actuated Cycle: 94
10th %ile Actuated Cycle: 83
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 17: Highway 2 & Township Road 730



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	496	46	1571	137	40	1463
Future Volume (vph)	496	46	1571	137	40	1463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		4%			0%
Storage Length (m)	60.0	0.0		100.0	80.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	0.97	0.95	0.91	1.00	1.00	0.91
Frt	0.987			0.850		
Flt Protected	0.956				0.950	
Satd. Flow (prot)	3197	0	4672	1455	1659	4768
Flt Permitted	0.956				0.143	
Satd. Flow (perm)	3197	0	4672	1455	250	4768
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	14			144		
Link Speed (k/h)	50		80			80
Link Distance (m)	758.0		956.3			1378.5
Travel Time (s)	54.6		43.0			62.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	522	48	1654	144	42	1540
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	0	1654	144	42	1540
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0		20.0	20.0	20.0	20.0
Minimum Split (s)	22.0		27.0	27.0	27.0	27.0
Total Split (s)	22.0		38.0	38.0	38.0	38.0
Total Split (%)	36.7%		63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	16.0		31.0	31.0	31.0	31.0
Yellow Time (s)	4.0		5.0	5.0	5.0	5.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Walk Time (s)	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	14.4		27.9	27.9	27.9	27.9
Actuated g/C Ratio	0.26		0.50	0.50	0.50	0.50
v/c Ratio	0.68		0.70	0.18	0.34	0.64
Control Delay	23.3		12.6	2.3	17.4	11.6
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	23.3		12.6	2.3	17.4	11.6
LOS	C		B	A	B	B
Approach Delay	23.3		11.8			11.8
Approach LOS	C		B			B
90th %ile Green (s)	16.0		31.0	31.0	31.0	31.0
90th %ile Term Code	Max		Max	Max	Max	Max
70th %ile Green (s)	16.0		31.0	31.0	31.0	31.0
70th %ile Term Code	Max		Max	Max	Max	Max
50th %ile Green (s)	15.3		31.0	31.0	31.0	31.0
50th %ile Term Code	Gap		Max	Max	Hold	Hold
30th %ile Green (s)	12.8		26.9	26.9	26.9	26.9
30th %ile Term Code	Gap		Gap	Gap	Hold	Hold
10th %ile Green (s)	12.0		20.5	20.5	20.5	20.5
10th %ile Term Code	Min		Gap	Gap	Hold	Hold
Queue Length 50th (m)	27.8		44.2	0.0	2.4	39.2
Queue Length 95th (m)	42.3		59.8	6.5	10.0	53.1
Internal Link Dist (m)	734.0		932.3			1354.5
Turn Bay Length (m)	60.0			100.0	80.0	
Base Capacity (vph)	942		2640	885	141	2694
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.61		0.63	0.16	0.30	0.57

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15
90th %ile Actuated Cycle: 60
70th %ile Actuated Cycle: 60
50th %ile Actuated Cycle: 59.3
30th %ile Actuated Cycle: 52.7
10th %ile Actuated Cycle: 45.5

Splits and Phases: 18: Highway 2 & Township Road 725

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	279	26	4	440	1	4	1	9	1	1	1
Future Vol, veh/h	1	279	26	4	440	1	4	1	9	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	600	800	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	2	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	294	27	4	463	1	4	1	9	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	321	0	0	536	768	147	622	795	232
Stage 1	-	-	-	-	-	-	296	296	-	472	472	-
Stage 2	-	-	-	-	-	-	240	472	-	150	323	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4	3.6	4.1	3.4
Pot Cap-1 Maneuver	1039	-	-	1180	-	-	410	315	849	355	304	746
Stage 1	-	-	-	-	-	-	666	647	-	521	538	-
Stage 2	-	-	-	-	-	-	720	538	-	815	629	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1039	-	-	1180	-	-	407	314	849	349	303	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	407	314	-	349	303	-
Stage 1	-	-	-	-	-	-	665	646	-	520	536	-
Stage 2	-	-	-	-	-	-	715	536	-	804	628	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	11.2	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	593	1039	-	-	1180	-	-	400
HCM Lane V/C Ratio	0.025	0.001	-	-	0.004	-	-	0.008
HCM Control Delay (s)	11.2	8.5	0	-	8.1	-	-	14.1
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	3	753	86	16	387
Future Vol, veh/h	18	3	753	86	16	387
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	800	800	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	19	3	793	91	17	407

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1031	397	0	0	884	0
Stage 1	793	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.9	7	-	-	4.2	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.55	3.35	-	-	2.25	-
Pot Cap-1 Maneuver	224	594	-	-	742	-
Stage 1	399	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	594	-	-	742	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.4	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	241	742	-
HCM Lane V/C Ratio	-	-	0.092	0.023	-
HCM Control Delay (s)	-	-	21.4	10	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	50	708	398	12
Future Vol, veh/h	3	10	50	708	398	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	800
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	3	11	53	745	419	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	898	210	432	0	-	0
Stage 1	419	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	264	771	1069	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	251	771	1069	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1069	-	522	-	-
HCM Lane V/C Ratio	0.049	-	0.026	-	-
HCM Control Delay (s)	8.5	-	12.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	8	40	670	403	10
Future Vol, veh/h	2	8	40	670	403	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	800
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	2	8	42	705	424	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	861	212	435	0	-	0
Stage 1	424	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	280	769	1066	-	-	-
Stage 1	605	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	769	1066	-	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1066	-	561	-	-
HCM Lane V/C Ratio	0.039	-	0.019	-	-
HCM Control Delay (s)	8.5	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	45	627	403	11
Future Vol, veh/h	2	9	45	627	403	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	800
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	2	9	47	660	424	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	848	212	436	0	-	0
Stage 1	424	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Critical Hdwy	6.9	7	4.2	-	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.55	3.35	2.25	-	-	-
Pot Cap-1 Maneuver	295	784	1099	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	282	784	1099	-	-	-
Mov Cap-2 Maneuver	282	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	592	-	-
HCM Lane V/C Ratio	0.043	-	0.02	-	-
HCM Control Delay (s)	8.4	-	11.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	8	37	592	407	16
Future Vol, veh/h	3	8	37	592	407	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	800
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	3	8	39	623	428	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	818	214	445	0	-	0
Stage 1	428	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	298	767	1057	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	287	767	1057	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	580	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1057	-	527	-	-
HCM Lane V/C Ratio	0.037	-	0.022	-	-
HCM Control Delay (s)	8.5	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	472	37	37	349	8	8
Future Vol, veh/h	472	37	37	349	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	800	800	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	497	39	39	367	8	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	536	0	759	249
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	-	-	4.3	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.3	-	3.6	3.4
Pot Cap-1 Maneuver	-	-	974	-	326	727
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	313	727
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	735	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	438	-	-	974	-
HCM Lane V/C Ratio	0.038	-	-	0.04	-
HCM Control Delay (s)	13.5	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	402	37	74	368	28	8	0	16	6	0	9
Future Vol, veh/h	42	402	37	74	368	28	8	0	16	6	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	800	-	800	800	-	800	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	44	423	39	78	387	29	8	0	17	6	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	416	0	0	462	0	0	861	1083	212	843	1093	194
Stage 1	-	-	-	-	-	-	511	511	-	543	543	-
Stage 2	-	-	-	-	-	-	350	572	-	300	550	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4	3.6	4.1	3.4
Pot Cap-1 Maneuver	1084	-	-	1041	-	-	237	204	769	244	201	790
Stage 1	-	-	-	-	-	-	493	516	-	472	498	-
Stage 2	-	-	-	-	-	-	618	483	-	662	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1084	-	-	1041	-	-	214	181	769	218	178	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	214	181	-	218	178	-
Stage 1	-	-	-	-	-	-	473	495	-	453	461	-
Stage 2	-	-	-	-	-	-	565	447	-	621	475	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.4	14.3	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	412	1084	-	-	1041	-	-	385
HCM Lane V/C Ratio	0.061	0.041	-	-	0.075	-	-	0.041
HCM Control Delay (s)	14.3	8.5	-	-	8.7	-	-	14.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	26	41	2	3	127	156	116	17	356	32
Future Vol, veh/h	10	0	26	41	2	3	127	156	116	17	356	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	800	-	800	800	-	800
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	11	0	27	43	2	3	134	164	122	18	375	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	762	965	188	656	877	82	409	0	0	286	0	0
Stage 1	411	411	-	432	432	-	-	-	-	-	-	-
Stage 2	351	554	-	224	445	-	-	-	-	-	-	-
Critical Hdwy	7.7	6.7	7.1	7.7	6.7	7.1	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.7	5.7	-	6.7	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.7	-	6.7	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.6	4.1	3.4	3.6	4.1	3.4	2.3	-	-	2.3	-	-
Pot Cap-1 Maneuver	280	240	798	335	271	936	1091	-	-	1217	-	-
Stage 1	568	574	-	551	561	-	-	-	-	-	-	-
Stage 2	617	492	-	736	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	248	207	798	290	234	936	1091	-	-	1217	-	-
Mov Cap-2 Maneuver	248	207	-	290	234	-	-	-	-	-	-	-
Stage 1	498	565	-	483	492	-	-	-	-	-	-	-
Stage 2	537	431	-	700	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	19.3	2.8	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1091	-	-	494	300	1217	-	-
HCM Lane V/C Ratio	0.123	-	-	0.077	0.161	0.015	-	-
HCM Control Delay (s)	8.8	-	-	12.9	19.3	8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	0.6	0	-	-

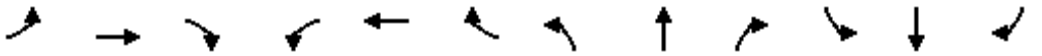
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	207	870	96	112	19	532	1683	153	47	1616	315
Future Volume (vph)	460	207	870	96	112	19	532	1683	153	47	1616	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Grade (%)		2%			2%			0%			0%	
Storage Length (m)	100.0		100.0	50.0		0.0	100.0		100.0	100.0		100.0
Storage Lanes	2		1	1		0	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	0.95	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3338	3543	1540	1771	3468	0	3236	4948	1452	1750	4725	1521
Flt Permitted	0.950			0.620			0.950			0.129		
Satd. Flow (perm)	3338	3543	1540	1156	3468	0	3236	4948	1452	238	4725	1521
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					13				156			
Link Speed (k/h)		60			50			80			80	
Link Distance (m)		256.5			208.0			474.3			956.3	
Travel Time (s)		15.4			15.0			21.3			43.0	
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 (%)	5%	2%	5%	2%	2%	2%	7%	6%	10%	2%	11%	5%
Adj. Flow (vph)	469	211	888	98	114	19	543	1717	156	48	1649	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	469	211	888	98	133	0	543	1717	156	48	1649	321
Turn Type	Prot	NA	Free	pm+pt	NA		Prot	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			Free	8					2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	13.0	22.0		11.0	22.0		12.0	27.0	27.0	27.0	27.0	27.0
Total Split (s)	23.0	34.0		11.0	22.0		26.0	75.0	75.0	49.0	49.0	49.0
Total Split (%)	19.2%	28.3%		9.2%	18.3%		21.7%	62.5%	62.5%	40.8%	40.8%	40.8%
Maximum Green (s)	17.0	28.0		7.0	16.0		21.0	68.0	68.0	42.0	42.0	42.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		0.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	6.0	6.0		4.0	6.0		5.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes					
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	Min	Min	Min
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0	0	0	0
Act Effct Green (s)	17.0	22.5	114.5	19.5	10.5		21.0	68.0	68.0	42.0	42.0	42.0
Actuated g/C Ratio	0.15	0.20	1.00	0.17	0.09		0.18	0.59	0.59	0.37	0.37	0.37
v/c Ratio	0.95	0.30	0.58	0.42	0.40		0.92	0.58	0.17	0.55	0.95	0.58

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	78.0	40.6	1.6	36.6	48.0		67.5	15.5	2.1	56.7	48.5	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	40.6	1.6	36.6	48.0		67.5	15.5	2.1	56.7	48.5	34.2
LOS	E	D	A	D	D		E	B	A	E	D	C
Approach Delay		29.7			43.2			26.3			46.4	
Approach LOS		C			D			C			D	
Queue Length 50th (m)	54.0	21.4	0.0	16.0	13.5		61.8	81.4	0.0	8.4	129.2	56.7
Queue Length 95th (m)	#86.7	32.4	0.0	29.0	23.3		#94.6	99.0	8.2	#26.9	#166.9	88.1
Internal Link Dist (m)		232.5			184.0			450.3			932.3	
Turn Bay Length (m)	100.0		100.0	50.0			100.0		100.0	100.0		100.0
Base Capacity (vph)	495	866	1540	234	495		593	2939	926	87	1733	558
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	0.95	0.24	0.58	0.42	0.27		0.92	0.58	0.17	0.55	0.95	0.58

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 114.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 34.3 Intersection LOS: C
Intersection Capacity Utilization 92.3% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Highway 2 & Township Road 724



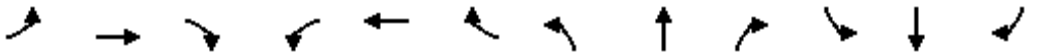
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	842	7	39	530	390	12	0	160	535	0	193
Future Volume (vph)	115	842	7	39	530	390	12	0	160	535	0	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	60.0		0.0	60.0		100.0	0.0		60.0	60.0		0.0
Storage Lanes	1		0	1		1	0		1	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.999				0.850			0.850		0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1643	3282	0	1659	3318	1484	0	1659	1484	3219	1484	0
Flt Permitted	0.305			0.206				0.630		0.950		
Satd. Flow (perm)	527	3282	0	360	3318	1484	0	1100	1484	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				411			164		248	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		592.5			256.5			169.2			218.6	
Travel Time (s)		26.7			11.5			12.2			15.7	
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
Adj. Flow (vph)	121	886	7	41	558	411	13	0	168	563	0	203
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	893	0	41	558	411	0	13	168	563	203	0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8		8	2		2			
Detector Phase	7	4		3	8	8	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		4.0	15.0	15.0	10.0	10.0	10.0	4.0	10.0	
Minimum Split (s)	10.5	22.0		8.0	22.0	22.0	21.5	21.5	21.5	9.5	21.5	
Total Split (s)	10.6	27.0		8.0	24.4	24.4	24.0	24.0	24.0	21.0	45.0	
Total Split (%)	13.3%	33.8%		10.0%	30.5%	30.5%	30.0%	30.0%	30.0%	26.3%	56.3%	
Maximum Green (s)	7.1	21.0		4.5	18.4	18.4	18.5	18.5	18.5	15.5	39.5	
Yellow Time (s)	3.5	4.0		3.5	4.0	4.0	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	3.5	6.0		3.5	6.0	6.0		5.5	5.5	5.5	5.5	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min		None	Min	Min	None	None	None	None	None	
Walk Time (s)		5.0			5.0	5.0	5.0	5.0	5.0		5.0	
Flash Dont Walk (s)		11.0			11.0	11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0	0	0	0	0		0	
Act Effct Green (s)	29.0	22.3		24.7	18.7	18.7		10.3	10.3	15.1	31.0	
Actuated g/C Ratio	0.42	0.32		0.36	0.27	0.27		0.15	0.15	0.22	0.45	
v/c Ratio	0.36	0.85		0.19	0.62	0.59		0.08	0.47	0.81	0.25	
Control Delay	15.8	32.9		14.4	26.9	6.6		27.9	10.3	37.1	1.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	15.8	32.9		14.4	26.9	6.6		27.9	10.3	37.1	1.9	
LOS	B	C		B	C	A		C	B	D	A	
Approach Delay		30.9			18.1			11.6			27.8	
Approach LOS		C			B			B			C	
Queue Length 50th (m)	9.4	60.6		3.0	35.1	0.0		1.6	0.5	37.1	0.0	
Queue Length 95th (m)	19.4	#99.3		8.3	52.3	20.2		6.1	15.6	#61.9	6.3	
Internal Link Dist (m)		568.5			232.5			145.2			194.6	
Turn Bay Length (m)	60.0			60.0		100.0			60.0	60.0		
Base Capacity (vph)	334	1056		212	910	705		294	516	720	953	
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	0.36	0.85		0.19	0.61	0.58		0.04	0.33	0.78	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 69.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 24.6 Intersection LOS: C
Intersection Capacity Utilization 62.8% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: 102 Street & Township Road 724



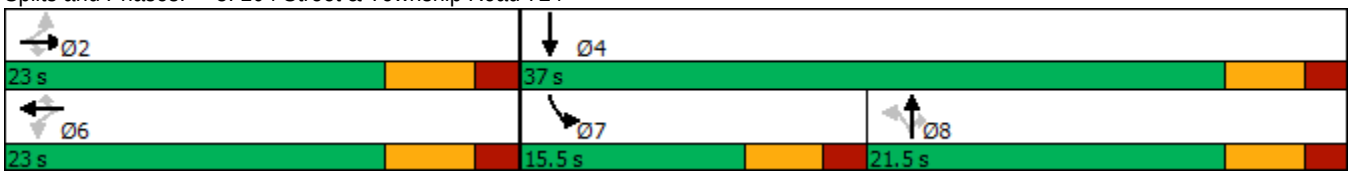
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	657	6	11	414	281	7	0	33	274	0	138
Future Volume (vph)	127	657	6	11	414	281	7	0	33	274	0	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	100.0		80.0	100.0		100.0	0.0		60.0	50.0		0.0
Storage Lanes	1		1	1		1	0		1	2		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850		0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1643	3285	1470	1659	3318	1484	0	1659	1484	3219	1484	0
Flt Permitted	0.499			0.346						0.950		
Satd. Flow (perm)	863	3285	1470	604	3318	1484	0	1746	1484	3219	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			296			155		144	
Link Speed (k/h)		60			60			50			50	
Link Distance (m)		497.8			592.5			204.7			311.5	
Travel Time (s)		29.9			35.6			14.7			22.4	
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
Adj. Flow (vph)	134	692	6	12	436	296	7	0	35	288	0	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	692	6	12	436	296	0	7	35	288	145	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2		2	6		6	8		8			
Detector Phase	2	2	2	6	6	6	8	8	8	7	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	21.5	21.5	21.5	15.5	21.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	21.5	21.5	21.5	15.5	37.0	
Total Split (%)	38.3%	38.3%	38.3%	38.3%	38.3%	38.3%	35.8%	35.8%	35.8%	25.8%	61.7%	
Maximum Green (s)	17.0	17.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	10.0	31.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
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)	6.0	6.0	6.0	6.0	6.0	6.0		5.5	5.5	5.5	5.5	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None	None	None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0		0	
Act Effct Green (s)	16.2	16.2	16.2	16.2	16.2	16.2		10.4	10.4	10.4	15.4	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37		0.24	0.24	0.24	0.35	
v/c Ratio	0.42	0.57	0.01	0.05	0.35	0.40		0.02	0.07	0.38	0.24	
Control Delay	18.0	14.7	0.0	13.0	12.5	4.2		17.3	0.3	17.8	3.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	

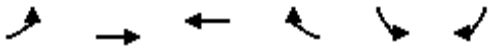
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	18.0	14.7	0.0	13.0	12.5	4.2		17.3	0.3	17.8	3.0	
LOS	B	B	A	B	B	A		B	A	B	A	
Approach Delay		15.1			9.2			3.1			12.9	
Approach LOS		B			A			A			B	
Queue Length 50th (m)	5.2	15.1	0.0	0.4	8.6	0.0		0.3	0.0	7.0	0.1	
Queue Length 95th (m)	24.4	45.4	0.0	3.8	27.5	13.3		3.2	0.0	22.4	6.9	
Internal Link Dist (m)		473.8			568.5			180.7			287.5	
Turn Bay Length (m)	100.0		80.0	100.0		100.0			60.0	50.0		
Base Capacity (vph)	349	1332	682	245	1345	777		666	661	767	1150	
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	0.38	0.52	0.01	0.05	0.32	0.38		0.01	0.05	0.38	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 43.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 12.2 Intersection LOS: B
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: 104 Street & Township Road 724





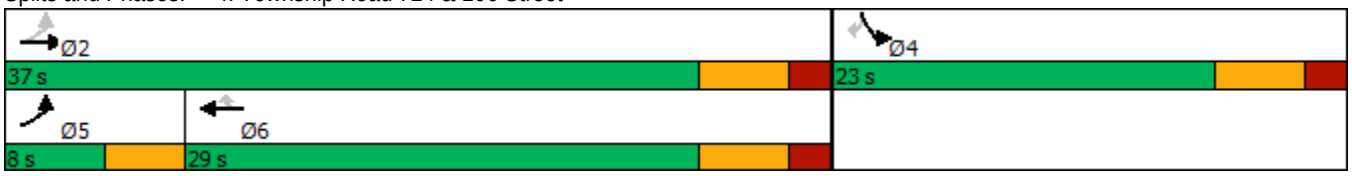
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	560	421	122	132	98
Future Volume (vph)	90	560	421	122	132	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		2%	0%		0%	
Storage Length (m)	100.0			100.0	0.0	60.0
Storage Lanes	1			1	1	1
Taper Length (m)	30.0				30.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1643	3285	3318	1484	1659	1484
Flt Permitted	0.408				0.950	
Satd. Flow (perm)	705	3285	3318	1484	1659	1484
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				128		103
Link Speed (k/h)		60	60		50	
Link Distance (m)		199.9	497.8		351.7	
Travel Time (s)		12.0	29.9		25.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	95	589	443	128	139	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	589	443	128	139	103
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	8.0	37.0	29.0	29.0	23.0	23.0
Total Split (%)	13.3%	61.7%	48.3%	48.3%	38.3%	38.3%
Maximum Green (s)	4.5	31.0	23.0	23.0	17.0	17.0
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	23.2	22.3	18.1	18.1	8.9	8.9
Actuated g/C Ratio	0.60	0.58	0.47	0.47	0.23	0.23
v/c Ratio	0.18	0.31	0.29	0.17	0.37	0.25
Control Delay	5.8	7.0	11.1	3.7	17.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

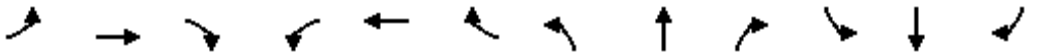
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	5.8	7.0	11.1	3.7	17.3	5.8
LOS	A	A	B	A	B	A
Approach Delay		6.8	9.4		12.4	
Approach LOS		A	A		B	
Queue Length 50th (m)	2.6	11.7	12.9	0.0	8.2	0.0
Queue Length 95th (m)	8.3	23.4	24.6	8.0	21.6	8.4
Internal Link Dist (m)		175.9	473.8		327.7	
Turn Bay Length (m)	100.0			100.0		60.0
Base Capacity (vph)	536	2674	2064	971	762	738
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	0.18	0.22	0.21	0.13	0.18	0.14

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 38.7
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 8.7 Intersection LOS: A
Intersection Capacity Utilization 37.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 4: Township Road 724 & 106 Street





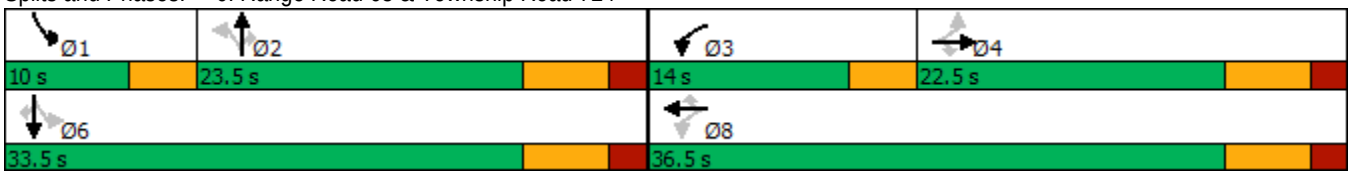
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	141	106	370	70	143	48	323	238	218	655	30
Future Volume (vph)	62	141	106	370	70	143	48	323	238	218	655	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			0%			0%	
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1643	3285	1470	1659	3318	1484	1659	3318	1484	1659	3318	1484
Flt Permitted	0.706			0.496			0.390			0.446		
Satd. Flow (perm)	1221	3285	1470	866	3318	1484	681	3318	1484	779	3318	1484
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			151			251			109
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		475.0			1395.2			429.6			354.7	
Travel Time (s)		21.4			62.8			19.3			16.0	
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
Adj. Flow (vph)	65	148	112	389	74	151	51	340	251	229	689	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	148	112	389	74	151	51	340	251	229	689	32
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	4.0	10.0	10.0	15.0	15.0	15.0	4.0	15.0	15.0
Minimum Split (s)	22.5	22.5	22.5	8.0	22.5	22.5	22.5	22.5	22.5	8.0	22.5	22.5
Total Split (s)	22.5	22.5	22.5	14.0	36.5	36.5	23.5	23.5	23.5	10.0	33.5	33.5
Total Split (%)	32.1%	32.1%	32.1%	20.0%	52.1%	52.1%	33.6%	33.6%	33.6%	14.3%	47.9%	47.9%
Maximum Green (s)	16.0	16.0	16.0	10.5	30.0	30.0	17.0	17.0	17.0	6.5	27.0	27.0
Yellow Time (s)	4.5	4.5	4.5	3.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0
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	0.0
Total Lost Time (s)	6.5	6.5	6.5	3.5	6.5	6.5	6.5	6.5	6.5	3.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	None	Min	Min
Walk Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0		0	0
Act Effct Green (s)	10.7	10.7	10.7	27.8	24.8	24.8	15.4	15.4	15.4	28.4	25.4	25.4
Actuated g/C Ratio	0.17	0.17	0.17	0.44	0.39	0.39	0.24	0.24	0.24	0.45	0.40	0.40
v/c Ratio	0.31	0.27	0.29	0.76	0.06	0.22	0.31	0.42	0.46	0.52	0.52	0.05
Control Delay	27.6	24.2	3.8	25.3	12.2	3.5	25.9	22.2	6.2	16.4	16.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

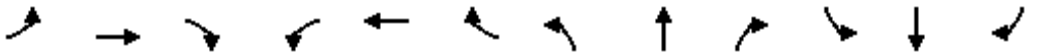
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	27.6	24.2	3.8	25.3	12.2	3.5	25.9	22.2	6.2	16.4	16.1	0.1
LOS	C	C	A	C	B	A	C	C	A	B	B	A
Approach Delay		17.8			18.4			16.2			15.6	
Approach LOS		B			B			B			B	
Queue Length 50th (m)	6.7	7.9	0.0	31.2	2.6	0.0	4.8	17.2	0.0	15.8	29.8	0.0
Queue Length 95th (m)	16.8	15.3	5.4	#64.5	6.3	9.1	14.2	29.5	15.3	31.9	47.9	0.0
Internal Link Dist (m)		451.0			1371.2			405.6			330.7	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		80.0
Base Capacity (vph)	309	833	495	512	1577	785	183	894	583	441	1419	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.18	0.23	0.76	0.05	0.19	0.28	0.38	0.43	0.52	0.49	0.05

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 63.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 16.7 Intersection LOS: B
Intersection Capacity Utilization 79.0% 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: 6: Range Road 63 & Township Road 724





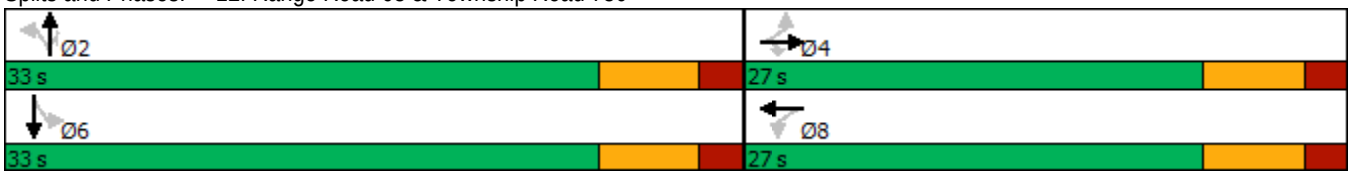
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	56	62	326	36	146	23	356	122	167	303	1
Future Volume (vph)	1	56	62	326	36	146	23	356	122	167	303	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		80.0	80.0		0.0	80.0		80.0	80.0		0.0
Storage Lanes	0		1	1		0	1		1	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.880				0.850			
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3315	1484	1659	2920	0	1659	3318	1484	1659	3318	0
Flt Permitted		0.950		0.716			0.558			0.529		
Satd. Flow (perm)	0	3152	1484	1250	2920	0	975	3318	1484	924	3318	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		154				128		1	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		542.1			377.8			532.7			522.0	
Travel Time (s)		24.4			17.0			24.0			23.5	
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
Adj. Flow (vph)	1	59	65	343	38	154	24	375	128	176	319	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	65	343	192	0	24	375	128	176	320	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		15.0	15.0	15.0	15.0	15.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Split (s)	27.0	27.0	27.0	27.0	27.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%		55.0%	55.0%	55.0%	55.0%	55.0%	
Maximum Green (s)	20.5	20.5	20.5	20.5	20.5		26.5	26.5	26.5	26.5	26.5	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
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)		6.5	6.5	6.5	6.5		6.5	6.5	6.5	6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		Min	Min	Min	Min	Min	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0	0	0	0	
Act Effct Green (s)		17.3	17.3	17.3	17.3		17.6	17.6	17.6	17.6	17.6	
Actuated g/C Ratio		0.36	0.36	0.36	0.36		0.37	0.37	0.37	0.37	0.37	
v/c Ratio		0.05	0.11	0.76	0.17		0.07	0.31	0.21	0.52	0.26	
Control Delay		11.0	4.6	28.6	4.3		11.1	12.1	3.5	19.2	11.8	
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		11.0	4.6	28.6	4.3		11.1	12.1	3.5	19.2	11.8	

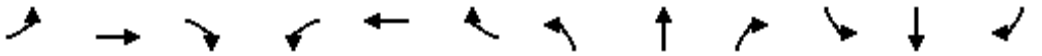
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B	A	C	A		B	B	A	B	B	
Approach Delay		7.7			19.9			10.0			14.4	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.4	0.0	22.0	0.9		1.4	12.2	0.0	12.0	10.2	
Queue Length 95th (m)		5.4	6.4	#71.1	6.8		4.9	20.6	7.4	27.2	17.7	
Internal Link Dist (m)		518.1			353.8			508.7			498.0	
Turn Bay Length (m)			80.0	80.0			80.0		80.0	80.0		
Base Capacity (vph)		1365	679	541	1352		545	1858	887	517	1858	
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		0.04	0.10	0.63	0.14		0.04	0.20	0.14	0.34	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 48.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 66.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Range Road 63 & Township Road 730





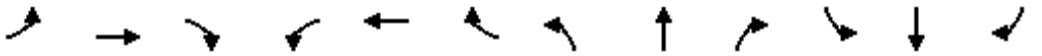
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	418	32	42	303	63	117	1	156	201	1	42
Future Volume (vph)	16	418	32	42	303	63	117	1	156	201	1	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		0.0	80.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.851			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1659	3318	1484	1659	3318	1484	1659	1486	0	1659	1490	0
Flt Permitted	0.558			0.497			0.728			0.653		
Satd. Flow (perm)	975	3318	1484	868	3318	1484	1271	1486	0	1140	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			66		164			44	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		821.9			1030.2			392.2			296.6	
Travel Time (s)		37.0			46.4			28.2			21.4	
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
Adj. Flow (vph)	17	440	34	44	319	66	123	1	164	212	1	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	440	34	44	319	66	123	165	0	212	45	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.0	22.0		22.0	22.0	
Total Split (s)	36.0	36.0	36.0	36.0	36.0	36.0	24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	29.5	29.5	29.5	29.5	29.5	29.5	18.0	18.0		18.0	18.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	19.0	19.0	19.0	19.0	19.0	19.0	13.2	13.2		13.2	13.2	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34		0.34	0.34	
v/c Ratio	0.04	0.27	0.04	0.10	0.20	0.09	0.28	0.27		0.55	0.08	
Control Delay	10.1	10.0	2.8	10.8	9.7	4.0	12.1	3.5		17.2	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	10.1	10.0	2.8	10.8	9.7	4.0	12.1	3.5		17.2	4.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	A	A	B	A	A	B	A		B	A	
Approach Delay		9.5			8.9			7.2			15.0	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	0.7	10.7	0.0	1.9	7.4	0.0	6.2	0.1		11.9	0.1	
Queue Length 95th (m)	3.9	22.9	2.8	7.7	16.8	5.6	14.9	7.9		26.8	4.2	
Internal Link Dist (m)		797.9			1006.2			368.2			272.6	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0			80.0		
Base Capacity (vph)	751	2556	1155	668	2556	1158	613	802		550	741	
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	0.02	0.17	0.03	0.07	0.12	0.06	0.20	0.21		0.39	0.06	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 38.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 9.8 Intersection LOS: A
Intersection Capacity Utilization 66.7% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 15: Range Road 62 & Township Road 730



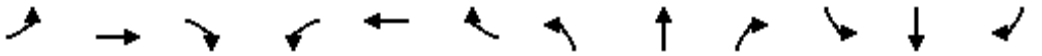
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	739	37	84	247	8	134	0	315	26	0	20
Future Volume (vph)	6	739	37	84	247	8	134	0	315	26	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	80.0		80.0	80.0		80.0	80.0		80.0	80.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1659	3318	1484	1659	3318	1484	1659	1484	0	1659	1484	0
Flt Permitted	0.591			0.342			0.744			0.521		
Satd. Flow (perm)	1032	3318	1484	597	3318	1484	1299	1484	0	910	1484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55			55		155			578	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		1030.2			570.0			338.4			301.0	
Travel Time (s)		46.4			25.7			24.4			21.7	
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
Adj. Flow (vph)	6	778	39	88	260	8	141	0	332	27	0	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	778	39	88	260	8	141	332	0	27	21	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	22.0	22.0		22.0	22.0	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	22.0	22.0		22.0	22.0	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	31.5	31.5	31.5	31.5	31.5	31.5	16.0	16.0		16.0	16.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	17.8	17.8	17.8	17.8	17.8	17.8	12.1	12.1		12.1	12.1	
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.28	0.28		0.28	0.28	
v/c Ratio	0.01	0.56	0.06	0.35	0.19	0.01	0.38	0.63		0.11	0.03	
Control Delay	7.8	11.5	2.5	13.8	8.5	0.0	16.6	13.6		13.5	0.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.8	11.5	2.5	13.8	8.5	0.0	16.6	13.6		13.5	0.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	B	A	B	A	A	B	B		B	A	
Approach Delay		11.0			9.6			14.5			7.6	
Approach LOS		B			A			B			A	
Queue Length 50th (m)	0.2	19.1	0.0	3.7	5.3	0.0	7.5	9.5		1.3	0.0	
Queue Length 95th (m)	1.7	38.0	2.8	13.7	12.4	0.0	22.2	33.3		6.3	0.0	
Internal Link Dist (m)		1006.2			546.0			314.4			277.0	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	80.0			80.0		
Base Capacity (vph)	776	2498	1131	449	2498	1131	496	663		348	924	
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	0.01	0.31	0.03	0.20	0.10	0.01	0.28	0.50		0.08	0.02	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 42.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 70.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 16: Range Road 61A & Township Road 730



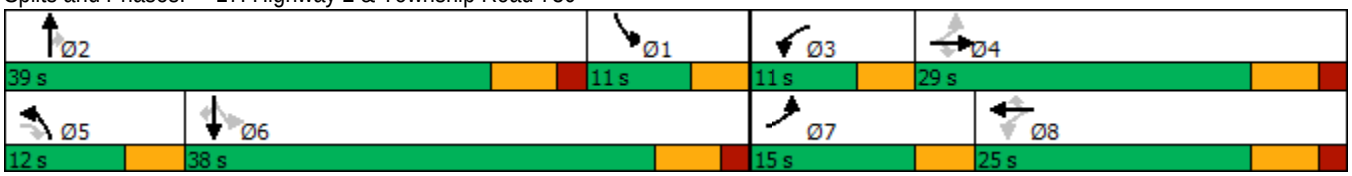
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	126	646	93	51	74	203	1278	247	165	1212	97
Future Volume (vph)	301	126	646	93	51	74	203	1278	247	165	1212	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			4%			-2%	
Storage Length (m)	80.0		80.0	80.0		80.0	60.0		60.0	60.0		60.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	30.0			30.0			30.0			30.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601	3402	4283	1569	1807	5193	1617
Flt Permitted	0.562			0.668			0.950			0.170		
Satd. Flow (perm)	1058	3579	1601	1258	3579	1601	3402	4283	1569	323	5193	1617
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170			218			260			139
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		570.0			389.2			892.8			331.4	
Travel Time (s)		25.7			17.5			40.2			14.9	
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 (%)	2%	2%	2%	2%	2%	2%	2%	20%	2%	2%	2%	2%
Adj. Flow (vph)	317	133	680	98	54	78	214	1345	260	174	1276	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	317	133	680	98	54	78	214	1345	260	174	1276	102
Turn Type	pm+pt	NA	custom	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4 5	8		8			2	6		6
Detector Phase	7	4	4 5	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	12.0	7.0	20.0	20.0	7.0	20.0	20.0
Minimum Split (s)	11.0	22.5		11.0	22.5	22.5	11.0	26.5	26.5	11.0	26.5	26.5
Total Split (s)	15.0	29.0		11.0	25.0	25.0	12.0	39.0	39.0	11.0	38.0	38.0
Total Split (%)	16.7%	32.2%		12.2%	27.8%	27.8%	13.3%	43.3%	43.3%	12.2%	42.2%	42.2%
Maximum Green (s)	11.0	22.5		7.0	18.5	18.5	8.0	32.5	32.5	7.0	31.5	31.5
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5
All-Red Time (s)	0.0	2.0		0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
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	6.5		4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0			5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	33.6	22.7	34.8	23.2	17.1	17.1	8.1	31.2	31.2	32.7	30.2	30.2
Actuated g/C Ratio	0.39	0.26	0.40	0.27	0.20	0.20	0.09	0.36	0.36	0.38	0.35	0.35
v/c Ratio	0.59	0.14	0.91	0.26	0.08	0.16	0.68	0.87	0.36	0.72	0.70	0.16
Control Delay	25.4	26.5	38.6	19.8	29.3	0.7	51.0	33.7	4.2	49.5	27.1	2.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	26.5	38.6	19.8	29.3	0.7	51.0	33.7	4.2	49.5	27.1	2.3
LOS	C	C	D	B	C	A	D	C	A	D	C	A
Approach Delay		33.5			15.5			31.5			28.0	
Approach LOS		C			B			C			C	
Queue Length 50th (m)	39.1	9.4	89.0	10.5	4.0	0.0	18.9	78.1	0.0	20.4	68.7	0.0
Queue Length 95th (m)	61.3	16.6	#161.7	20.4	8.8	0.0	#33.2	#97.9	14.8	#43.6	84.2	5.4
Internal Link Dist (m)		546.0			365.2			868.8			307.4	
Turn Bay Length (m)	80.0		80.0	80.0		80.0	60.0		60.0	60.0		60.0
Base Capacity (vph)	533	937	744	380	771	516	317	1621	755	243	1905	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.14	0.91	0.26	0.07	0.15	0.68	0.83	0.34	0.72	0.67	0.15

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 86.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 30.0 Intersection LOS: C
Intersection Capacity Utilization 83.4% 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.

Splits and Phases: 17: Highway 2 & Township Road 730



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	159	42	1519	441	59	1811
Future Volume (vph)	159	42	1519	441	59	1811
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		4%			0%
Storage Length (m)	60.0	0.0		100.0	80.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	30.0				30.0	
Lane Util. Factor	0.97	0.95	0.91	1.00	1.00	0.91
Frt	0.969			0.850		
Flt Protected	0.962				0.950	
Satd. Flow (prot)	3158	0	4672	1455	1659	4768
Flt Permitted	0.962				0.126	
Satd. Flow (perm)	3158	0	4672	1455	220	4768
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	16			464		
Link Speed (k/h)	50		80			80
Link Distance (m)	758.0		956.3			1378.5
Travel Time (s)	54.6		43.0			62.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	167	44	1599	464	62	1906
Shared Lane Traffic (%)						
Lane Group Flow (vph)	211	0	1599	464	62	1906
Turn Type	Prot		NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases				2	6	
Detector Phase	8		2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0		20.0	20.0	20.0	20.0
Minimum Split (s)	22.0		27.0	27.0	27.0	27.0
Total Split (s)	22.0		38.0	38.0	38.0	38.0
Total Split (%)	36.7%		63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	16.0		31.0	31.0	31.0	31.0
Yellow Time (s)	4.0		5.0	5.0	5.0	5.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		7.0	7.0	7.0	7.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Min	Min	Min	Min
Walk Time (s)	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	12.0		31.9	31.9	31.9	31.9
Actuated g/C Ratio	0.21		0.56	0.56	0.56	0.56
v/c Ratio	0.31		0.61	0.46	0.51	0.71
Control Delay	18.6		9.7	2.4	27.6	11.1
Queue Delay	0.0		0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	18.6		9.7	2.4	27.6	11.1
LOS	B		A	A	C	B
Approach Delay	18.6		8.0			11.7
Approach LOS	B		A			B
Queue Length 50th (m)	8.6		35.7	0.0	3.5	46.8
Queue Length 95th (m)	16.1		47.7	9.8	#19.4	61.9
Internal Link Dist (m)	734.0		932.3			1354.5
Turn Bay Length (m)	60.0			100.0	80.0	
Base Capacity (vph)	900		2616	1018	122	2669
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.23		0.61	0.46	0.51	0.71

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 56.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 10.2 Intersection LOS: B
Intersection Capacity Utilization 69.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Highway 2 & Township Road 725

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	642	8	9	507	1	17	1	7	1	1	1
Future Vol, veh/h	1	642	8	9	507	1	17	1	7	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	600	800	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	2	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	676	8	9	534	1	18	1	7	1	1	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	535	0	0	684	0	0	964	1231	338	894	1239	268
Stage 1	-	-	-	-	-	-	678	678	-	553	553	-
Stage 2	-	-	-	-	-	-	286	553	-	341	686	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4	3.6	4.1	3.4
Pot Cap-1 Maneuver	975	-	-	853	-	-	198	165	635	224	163	706
Stage 1	-	-	-	-	-	-	390	431	-	465	493	-
Stage 2	-	-	-	-	-	-	675	493	-	626	427	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	975	-	-	853	-	-	195	163	635	218	161	706
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	163	-	218	161	-
Stage 1	-	-	-	-	-	-	389	430	-	464	488	-
Stage 2	-	-	-	-	-	-	665	488	-	616	426	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	21.8	19.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	975	-	-	853	-	-	246
HCM Lane V/C Ratio	0.11	0.001	-	-	0.011	-	-	0.013
HCM Control Delay (s)	21.8	8.7	0	-	9.3	-	-	19.8
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	85	16	507	23	4	817
Future Vol, veh/h	85	16	507	23	4	817
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	800	800	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	89	17	534	24	4	860

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	972	267	0	0	558	0
Stage 1	534	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Critical Hdwy	6.9	7	-	-	4.2	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.55	3.35	-	-	2.25	-
Pot Cap-1 Maneuver	245	722	-	-	988	-
Stage 1	544	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	244	722	-	-	988	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	273	988	-
HCM Lane V/C Ratio	-	-	0.389	0.004	-
HCM Control Delay (s)	-	-	26.4	8.7	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	49	13	515	773	3
Future Vol, veh/h	12	49	13	515	773	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	13	52	14	542	814	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1115	409	817	0	-	0
Stage 1	816	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	190	570	757	-	-	-
Stage 1	375	-	-	-	-	-
Stage 2	703	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	187	570	757	-	-	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	703	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	757	-	406	-	-
HCM Lane V/C Ratio	0.018	-	0.158	-	-
HCM Control Delay (s)	9.8	-	15.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	40	11	517	737	3
Future Vol, veh/h	10	40	11	517	737	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	11	42	12	544	776	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1074	390	779	0	-	0
Stage 1	778	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	202	587	784	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	587	784	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	784	-	422	-	-
HCM Lane V/C Ratio	0.015	-	0.125	-	-
HCM Control Delay (s)	9.7	-	14.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	37	10	516	661	4
Future Vol, veh/h	16	37	10	516	661	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	800	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	17	39	11	543	696	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	992	350	700	0	-	0
Stage 1	698	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Critical Hdwy	7	7.1	4.3	-	-	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.6	3.4	2.3	-	-	-
Pot Cap-1 Maneuver	229	624	841	-	-	-
Stage 1	434	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	226	624	841	-	-	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	841	-	407	-	-
HCM Lane V/C Ratio	0.013	-	0.137	-	-
HCM Control Delay (s)	9.3	-	15.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	370	10	10	506	39	39
Future Vol, veh/h	370	10	10	506	39	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	800	800	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	389	11	11	533	41	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	400	0	678	195
Stage 1	-	-	-	-	389	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.3	-	7	7.1
Critical Hdwy Stg 1	-	-	-	-	6	-
Critical Hdwy Stg 2	-	-	-	-	6	-
Follow-up Hdwy	-	-	2.3	-	3.6	3.4
Pot Cap-1 Maneuver	-	-	1100	-	368	789
Stage 1	-	-	-	-	631	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1100	-	364	789
Mov Cap-2 Maneuver	-	-	-	-	364	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	498	-	-	1100	-
HCM Lane V/C Ratio	0.165	-	-	0.01	-
HCM Control Delay (s)	13.7	-	-	8.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	387	10	21	433	8	39	0	78	29	0	44
Future Vol, veh/h	12	387	10	21	433	8	39	0	78	29	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	800	-	800	800	-	800	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	13	407	11	22	456	8	41	0	82	31	0	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	464	0	0	418	0	0	705	941	204	730	944	228
Stage 1	-	-	-	-	-	-	433	433	-	500	500	-
Stage 2	-	-	-	-	-	-	272	508	-	230	444	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.7	6.7	7.1	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.7	5.7	-	6.7	5.7	-
Follow-up Hdwy	2.3	-	-	2.3	-	-	3.6	4.1	3.4	3.6	4.1	3.4
Pot Cap-1 Maneuver	1039	-	-	1083	-	-	308	248	778	296	247	751
Stage 1	-	-	-	-	-	-	550	560	-	501	522	-
Stage 2	-	-	-	-	-	-	688	517	-	730	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1039	-	-	1083	-	-	282	240	778	258	239	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	240	-	258	239	-
Stage 1	-	-	-	-	-	-	543	553	-	494	512	-
Stage 2	-	-	-	-	-	-	632	507	-	645	547	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	14.8	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	490	1039	-	-	1083	-	-	427
HCM Lane V/C Ratio	0.251	0.012	-	-	0.02	-	-	0.18
HCM Control Delay (s)	14.8	8.5	-	-	8.4	-	-	15.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	0	126	115	10	6	33	438	52	7	220	12
Future Vol, veh/h	32	0	126	115	10	6	33	438	52	7	220	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	800	-	800	800	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	34	0	133	121	11	6	35	461	55	7	232	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	559	839	123	661	790	231	245	0	0	516	0	0
Stage 1	253	253	-	531	531	-	-	-	-	-	-	-
Stage 2	306	586	-	130	259	-	-	-	-	-	-	-
Critical Hdwy	7.7	6.7	7.1	7.7	6.7	7.1	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.7	5.7	-	6.7	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.7	-	6.7	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.6	4.1	3.4	3.6	4.1	3.4	2.3	-	-	2.3	-	-
Pot Cap-1 Maneuver	395	286	880	332	306	747	1262	-	-	992	-	-
Stage 1	707	677	-	480	505	-	-	-	-	-	-	-
Stage 2	657	476	-	837	673	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	276	880	275	295	747	1262	-	-	992	-	-
Mov Cap-2 Maneuver	371	276	-	275	295	-	-	-	-	-	-	-
Stage 1	687	672	-	467	491	-	-	-	-	-	-	-
Stage 2	620	463	-	706	668	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	28.9	0.5	0.3
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1262	-	-	689	285	992	-	-
HCM Lane V/C Ratio	0.028	-	-	0.241	0.484	0.007	-	-
HCM Control Delay (s)	7.9	-	-	11.9	28.9	8.7	-	-
HCM Lane LOS	A	-	-	B	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	2.5	0	-	-