

REPORT

Carpere Valley Development Corp.

Carpere Valley View
Mixed-Use Development Concept
Traffic Impact Assessment



MAY 2022

DRAFT

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EXECUTIVE SUMMARY

Carpere Valley Development Corp. is planning a proposed subdivision adjacent to Highway No. 2 and immediately south of the City of Moose Jaw. The *Carpere Moose Jaw Valley View Mixed-Use Development Plan, January 6, 2022* (Valley View Plan) describes the vision for the development plan including a site plan, road network, and trails. Associated Engineering (AE) has prepared this traffic impact assessment (TIA) for the Valley View Plan. A site plan is shown in **Figure ES-1**. At full build-out, the proposed subdivision is expected to include low and medium density housing, commercial spaces, office buildings, institutional buildings, and green space. Access to the development is planned at 7th Avenue SW and Highway No 2, via Valleyview Court.

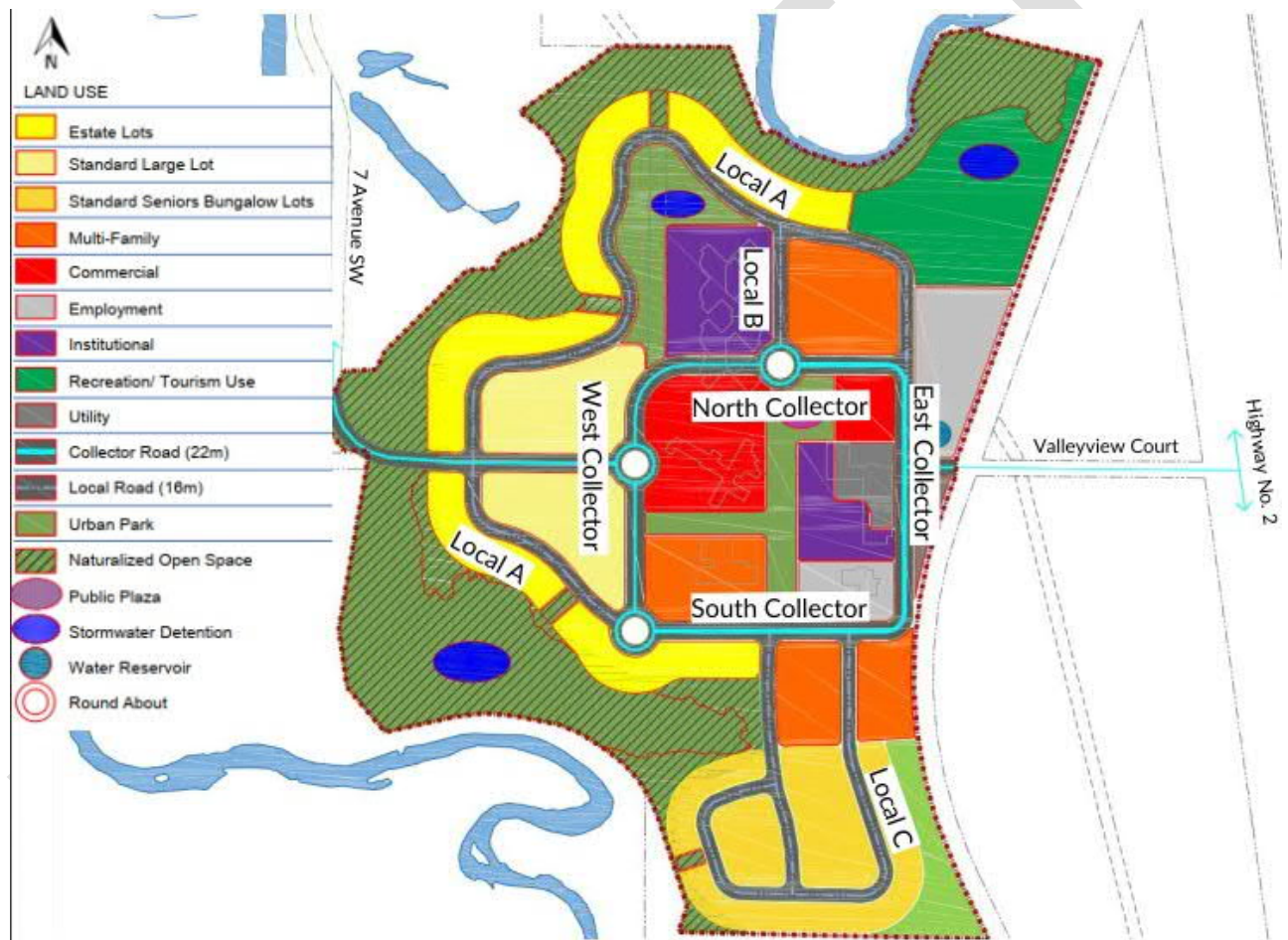


Figure ES-1
Valley View Plan Draft Site Layout

The Valley View Plan demonstrates a proof of concept for a new neighborhood in Moose Jaw. It demonstrates an appropriate road hierarchy; although some refinement is expected as the design progresses to address geometric design requirements (ie. intersection skew, curves, and sight lines). This TIA includes a description of the proposed development, an analysis of existing traffic conditions, traffic generated as a result of the proposed development,

traffic forecasts for the horizon year of 2043, and outlines recommendations to improve the future road network as a result of this development.

- **Existing Traffic Operations** – The existing intersections within the study area currently operate within acceptable levels of service during the AM and PM peak hours.
- **Background Traffic Operations** – The existing intersections within the study area are forecast to continue operating within acceptable levels of service during the AM and PM peak hours during the 2043 horizon year.
- **Estimated Site Trip Generation** – The proposed development is estimated to generate 726 two-way trips in the AM peak and 1,100 in the PM peak including internal site trips and pass-by trips.
- **Forecast Traffic Operations** – The intersections within the study area are projected to operate within acceptable levels of service at full build-out.

Based on this traffic impact assessment, the recommended system improvements are summarized below.

1.1 Highway No. 2 Recommendations

A southbound right turn lane and intersection area lighting are recommended to mitigate the traffic impacts associated with the Valley View Plan. All other potential improvements to this intersection are associated with the proposed Agrifood Industrial Park. One of the options being considered would not require any further upgrades to this intersection. The mitigation plan for Agrifood Industrial Park is not within the scope of this TIA and will be determined by others.

1.2 Recommendations for Valley View Plan

Transit Accommodation - Further study and discussion with the City of Moose Jaw is required if there is desire to provide transit.

Pedestrian and Cyclist Accommodation – In addition to the proposed trails in the Valley View Plan, provide sidewalks on one side for local streets and sidewalks on both sides for the collector street.

Road Network Layout – Revise the skew angle at West Collector / Local A to be a minimum of 70° and examine horizontal alignment of all roads during the detailed design process.

Road Right of Way Requirements – The proposed right-of-way of 16 m for local roads and 22 m for collector roads will be acceptable for the minimum desirable requirements as displayed in **Table ES-1**. However, these widths could place the sidewalk adjacent to the roadway. The National Association of City Transportation Officials (NACTO) recommends a minimum of 2.5 m for sidewalks directly adjacent to moving traffic (i.e. monolithic walk) with a minimum 0.5 m buffer zone. Cross section elements may be refined during detailed design to provide a site specific roadway and streetscape appropriate for adjacent land uses and local conditions, which take a variety of factors into consideration such as City snow storage and clearing practices.

Table ES-1
Cross Section Elements for Proposed ROW

Design Element	Local Cross-Section (m)	Collector Cross-Section (m)
Back of Walk	2.2 m	0.7 m
Sidewalk	1.8 m	1.8 m
Boulevard	0 m	2.5 m
Traffic/Parking Lanes	9.8 m	12.0 m
Boulevard	0 m	2.5 m
Sidewalk	0 m	1.8 m
Back of Walk	2.2 m	0.7 m
Total	16.0 m	22.0 m
Potential Configuration	One driving lane per direction Parking on one side Sidewalk on one side	One driving lane per direction Parking on both sides Sidewalk on both sides

7th Avenue SW / Coteau Street – This intersection is expected to operate within acceptable thresholds at full build-out.

7th Avenue SW / Keith Crescent and Valleyview Drive – This intersection is expected to operate within acceptable thresholds at full build-out and may remain two-way stop-controlled. The City should monitor the intersection for upgrades to ensure acceptable operations.

Recommendations for the internal road network is outlined in **Table ES-2**. As this report is based on a concept plan, the requirements may change at the detailed design stage and this TIA may need to be updated if proposed land uses substantially change.

Table ES-2
Proposed Internal Road Network

Intersection	Right-of-Way	Number of Lanes (per Direction)	Intersection Control
Valleyview Court / East Collector	22 m / 22 m	2 / 2	Two- Way Stop
North Collector / Local B	22 m / 16 m	1 for roundabout	Roundabout or Stop
Valleyview Court / West Collector	22 m / 22 m	1 for roundabout	Roundabout or Stop
West Collector / Local A	22 m / 16 m	1 for roundabout	Roundabout or Stop
Valleyview Court / Local A	22 m / 16 m	2 / 1	Two- Way Stop
Local A / Local B	16 m / 16 m	1 / 1	Two- Way Stop
North Collector / East Collector	22 m / 22 m	2 / 2	Two- Way Stop

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1 INTRODUCTION

Carpere Valley Development Corp. is planning a proposed subdivision adjacent to Highway No. 2 and immediately south of the City of Moose Jaw. The *Carpere Moose Jaw Valley View Mixed-Use Development Plan*, January 6, 2022 (Valley View Plan) describes the vision for the development plan including a site plan, road network, and trails. Associated Engineering (AE) has prepared this traffic impact assessment (TIA) for the Valley View Plan. The proposed development is adjacent to Highway No. 2 and immediately south of the City of Moose Jaw. The site location is illustrated in **Figure 1-1** (background image: Google Maps). This TIA is based upon the January 6, 2022 Valley View plan and provides guidance for consideration in the development.

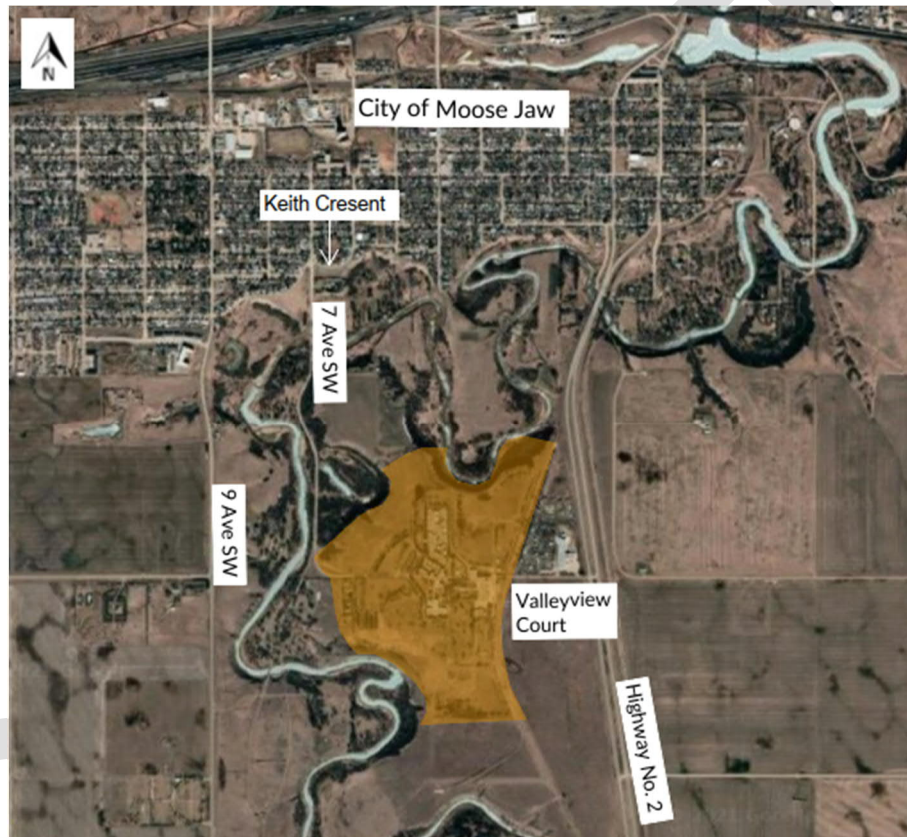


Figure 1-1
Site Location

This development falls within the jurisdiction of both the City of Moose Jaw (the City) and the Ministry of Highways (Ministry or MOH). This report evaluates the operation and safety of all modes of transportation using a combination of the City of Regina, the nearest urban centre to the City of Moose Jaw, and Ministry warrants and standards. Ministry practices are applied to high-speed, rural environments while City practices are applied to low-speed, urban environments.

2 BACKGROUND

2.1 Existing Road Network

Highway No. 2 is a four-lane divided highway with a posted speed limit of 100 km/hr. Valleyview Court is a two-lane paved roadway with a rural cross section; travelled speeds are not posted but assumed to be 50 km/hr. The existing T-intersection is stop-controlled for eastbound traffic; lighting or turn lanes have not been constructed for any direction of travel.

The intersection of Highway No. 2 and Valleyview Court is currently identified as a temporary access according to the Ministry of Highways Roadside Management Manual Section 400 – Access Management. The Ministry has indicated interest in assigning this location as a permanent access as part of long-term access management planning in conjunction with the City of Moose Jaw. As part of this process, Valleyview Court and Industrial Road, located 800 m to the south, would be consolidated into a single access point.

7th Avenue SW is a two-lane roadway with a rural cross section south of Keith Crescent, and an urban cross section north of Keith Crescent. The 7th Avenue SW bridge is currently restricted to 10 tonnes. This report assumes the 7th Avenue SW bridge can support passenger vehicle travel demand generated by the proposed development.

2.2 Agrifood Industrial Park

The City plans to develop a 533 hectare industrial park located on the east side of Highway No. 2 across from the Valley View Plan. Exact land uses for the development are unknown, but may include grain terminals and fertilizer storage plants, salvage yards, truck terminals, warehousing, and municipal facilities.

The City has been exploring the realignment of Industrial Road with Valleyview Court at Highway No. 2. The full build out horizon is not yet known and a detailed TIA has not yet been completed for the facility. Due to the uncertainty of the Agrifood Industrial Park development, this TIA analyzes one scenario with the development occurring as background traffic and one without the development occurring as background traffic. High-level AM and PM peak hour traffic estimates for the industrial development are extrapolated based on daily traffic demand provided in the Conceptual Transportation Planning Network memo prepared by Associated Engineering for the City of Moose Jaw in 2019.

2.3 Proposed Development

2.3.1 Site Layout

The proposed Valley View Plan layout is illustrated in **Figure 2-1**. Traffic is expected to use 7th Avenue SW and Highway No 2 via Valleyview Court to access and depart the site. The Valley View Plan demonstrates a proof of concept for a neighborhood level road hierarchy; some refinement is expected as the design progresses to address geometric design requirements (ie. intersection skew, curves, and sight lines). The proposed roundabouts are shown for illustrative purposes as part of the Valley View Plan but are not required for acceptable traffic operations. Recommended intersection treatment is discussed in **Section 5.3**.

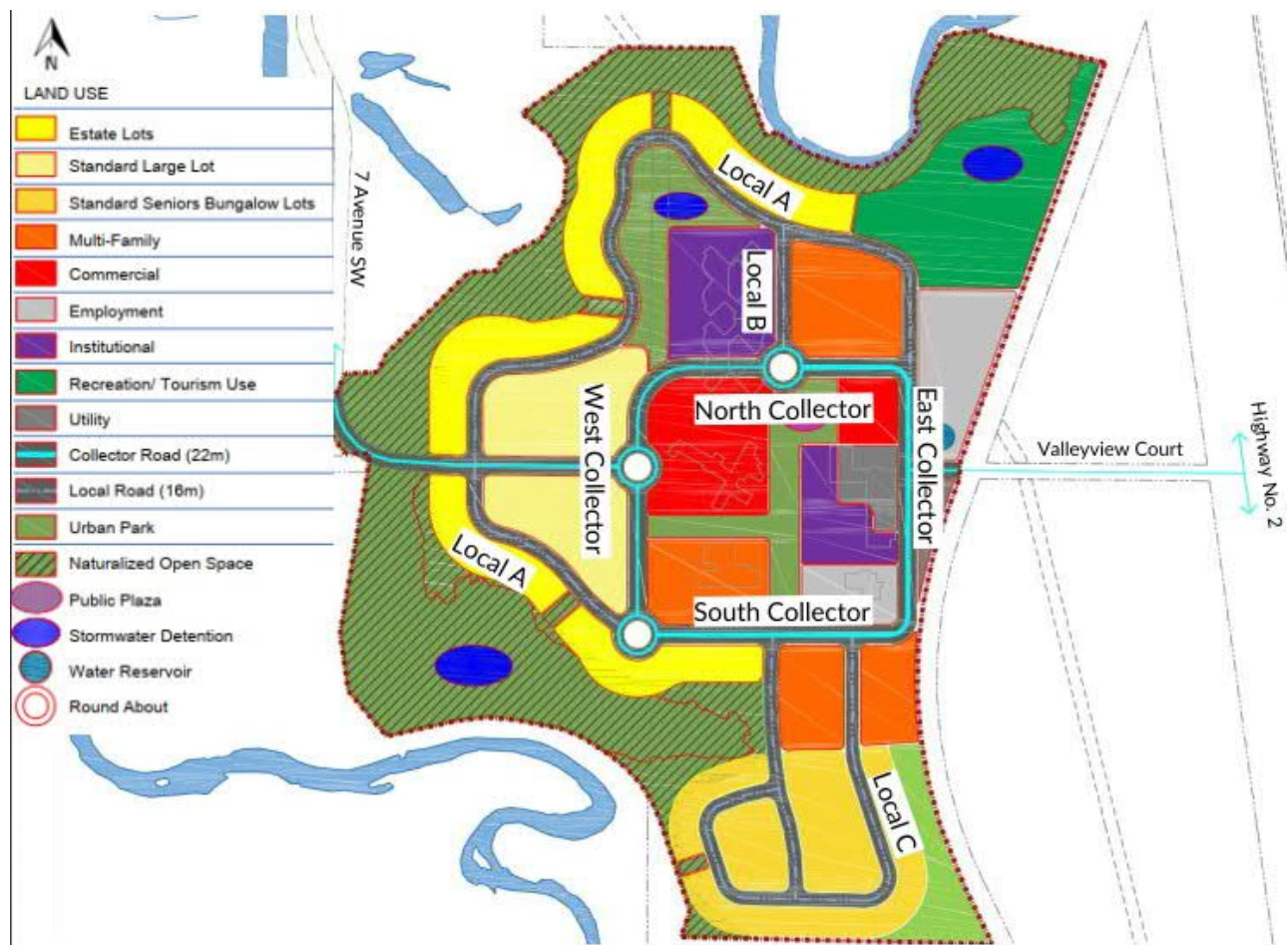


Figure 2-1
Valley View Plan Draft Site Layout

2.3.2 Land Uses

The approximately 66.0 ha (163.1 ac) proposed development is comprised of low and medium density housing, commercial spaces, office buildings, institutional buildings, and green space. The Valley View Plan provides estimated area and population/employment as shown in **Table 2-1**.

**Table 2-1
Proposed Development Land Use**

Land Use from Valley View Plan	Institution of Transportation Engineers (ITE) Land Use Equivalent	Area (ac)	Estimated Population/ Employment
Residential			Population
Estate Lots	Single Family Detached Housing	16.8	133
Standard Large Lot	Single Family Detached Housing	10.2	235
Standard Seniors Bungalow Lots	Single Family Detached Housing	12.3	199
Multi-Family	Medium Density Residential	13.7	911
Employment			Number of Employees
Commercial	Free-Standing Discount Store	7.7	392
Employment	General Office Building	7.2	260
Institutional	Community College	8.3	493
Utility	Utility	2.7	n/a
Recreation			
Recreation and Tourism Use	Campground	10.2	n/a
Urban Park	Public Park	11.7	n/a

At full build-out, the Valley View Plan is expected to have a population of 1,478 and employ 1,409 people.

3 TRAFFIC VOLUMES

3.1 Design Hour and Horizon Year

Associated Engineering completed a manual traffic count on October 27, 2021 at the following locations:

- Highway No. 2 and Valleyview Court
- 7th Avenue SW and Valleyview Drive/Keith Crescent

The counts were conducted in the morning from 7:00 AM to 9:00 AM and in the afternoon from 4:30 PM to 6:30 PM. The peak hour for the morning occurs between 7:30 AM and 8:30 AM and afternoon occurs between 4:30 PM and 5:30 PM. Detailed count data is included in **Appendix A**.

Construction is expected to begin in 2023 and take 20 years to reach full build-out. The horizon year for full build-out is therefore 2043.

The Ministry of Highways provided 10-year traffic data along Highway No. 2 which indicates that traffic volumes on this corridor are steady. This is consistent with findings from Statistics Canada publications which show Moose Jaw has maintained a steady population from 2011 to 2016. A 15-year growth factor of 1.00 was provided by MOH.

3.2 Background Traffic

Background traffic volumes were determined by adjusting manual traffic counts using factors obtained by the MOH document Travel on Saskatchewan Highways (2016).

- The traffic volumes on Highway No. 2 were adjusted to annual averages for a Rural Commuter Highway based on day and month of the count. For a Wednesday in October, a seasonal adjustment factor of 1.03 was used.
- The traffic volumes were converted to background traffic volumes for the 2043 design horizon year using a 15-year growth factor of 1.00 for Highway No. 2 provided by MOH Traffic Services Branch.
- Two scenarios have been developed: one with the Agrifood Industrial Park occurring as background traffic and one without it occurring as background traffic.
- MOH Traffic Services Branch has indicated that traffic volumes along Highway No. 2 have returned to pre-pandemic levels. No special factor was applied to traffic volumes to adjust for the ongoing Covid-19 pandemic.

A summary of the 2021 AM and PM peak hour traffic volumes at the study intersections are illustrated in **Figure 3-1** and **Figure 3-2**. The 2043 background traffic volumes for the AM and PM peak hours are illustrated in **Figures 3-3** and **Figure 3-4**.

Traffic Volume - Base Volume

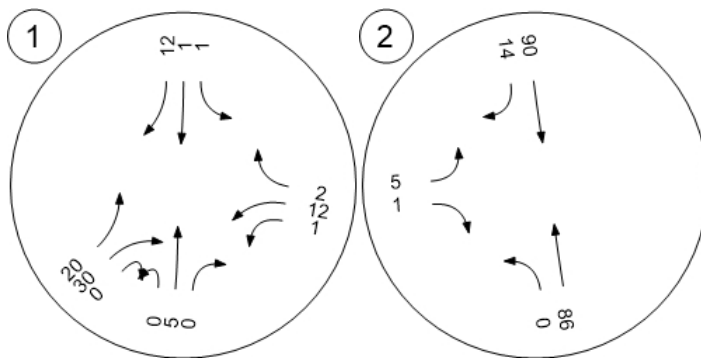
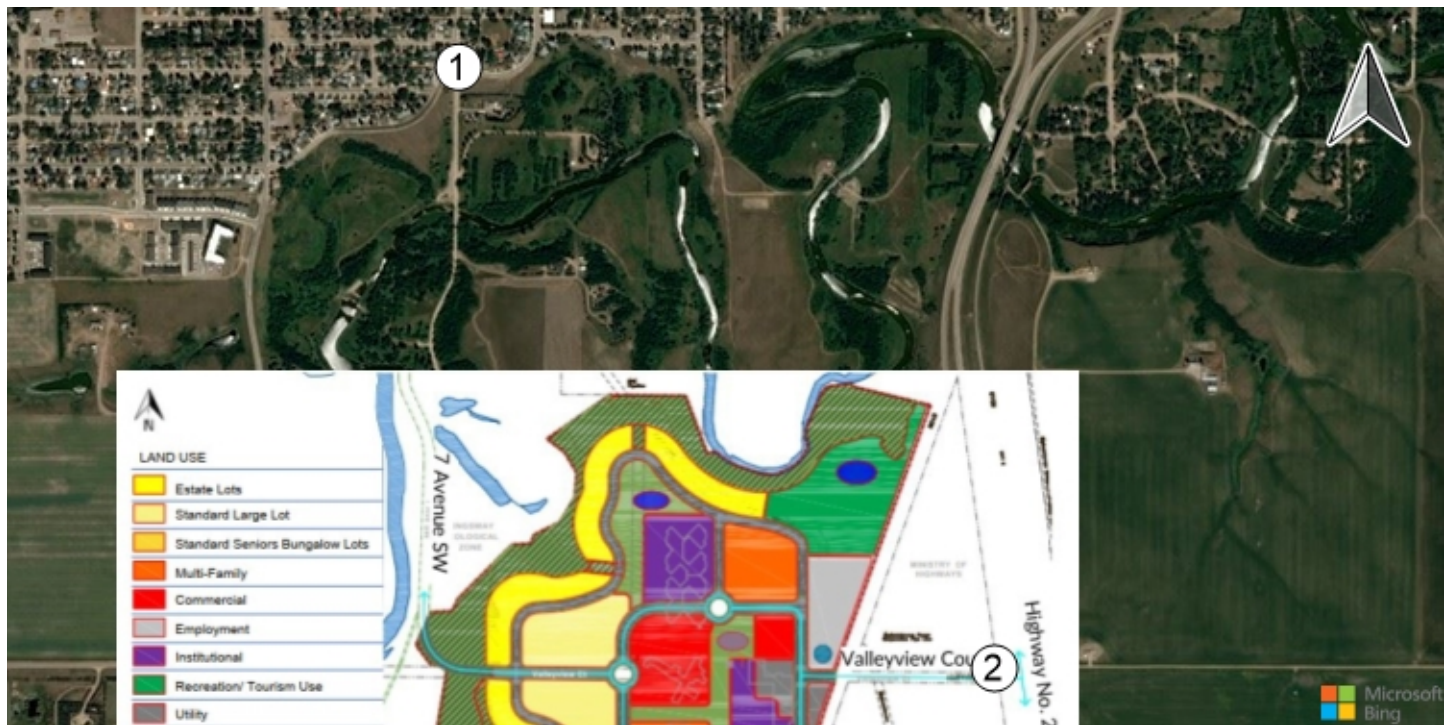


Figure 3-1
AM Peak, 2021 Background Traffic Volumes

Traffic Volume - Future Background Volume

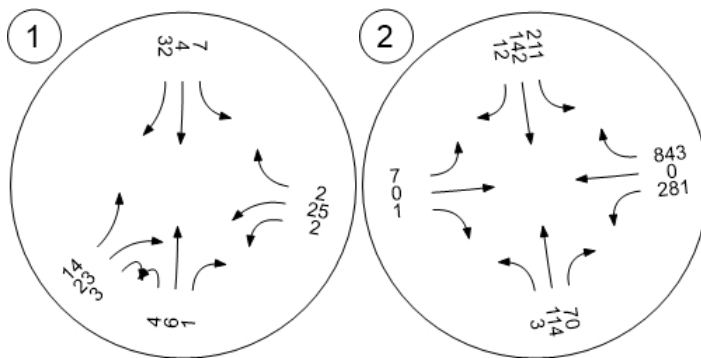


Figure 3-4
PM Peak, 2043 Future Background Traffic Volumes

Traffic Volume - Base Volume

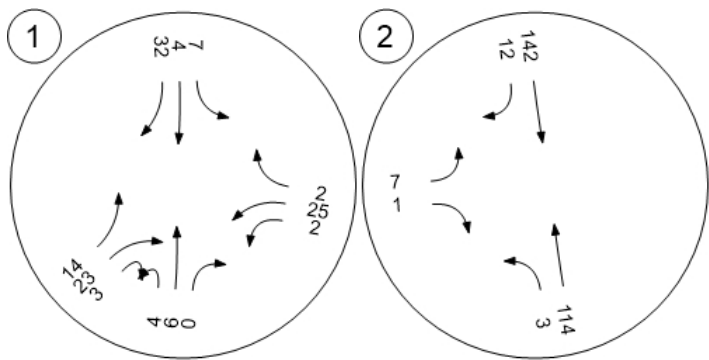


Figure 3-2
PM Peak, 2021 Background Traffic Volumes

Traffic Volume - Future Background Volume

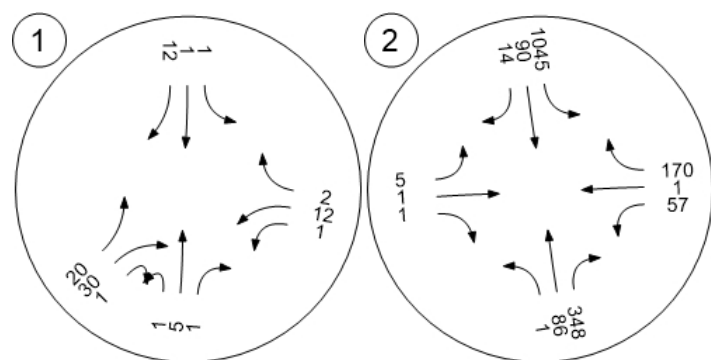


Figure 3-3
AM Peak, 2043 Future Background Traffic Volumes

Traffic Volume - Future Background Volume

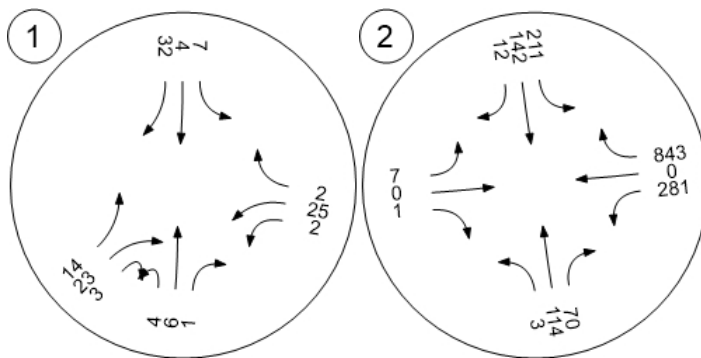


Figure 3-4
PM Peak, 2043 Future Background Traffic Volumes

3.3 Existing Truck Traffic

Based on the traffic counts, trucks represent approximately 7% of vehicle traffic on Highway No. 2 and approximately 1.5% of traffic on 7th Avenue SW (noting that there were only 5 to 10 vehicles per hour so this isn't representative of percent trucks once the development occurs).

3.4 Development Traffic

Trip generation rates for the proposed development were estimated using the Institute of Transportation Engineers' Trip Generation Manual, 10th Edition (ITE TGM). Trip generation rates are based on what was provided in the Valley View Plan. We note that the land use estimates are fairly aggressive and that this may result in an over-forecast of the number of trips accessing the site.

Since there isn't a category in the TGM for seniors bungalow lots and estate lots, the category for Single Family Detached Housing was used under guidance from the land use planner for the Valley View Plan.

The exact land uses for the commercial spaces are currently unknown. We have assumed the commercial spaces will resemble small to medium scale stores; Free-Standing Discount Store, Land Use Code 815, was used to obtain an appropriate traffic generation. We have assumed the Floor Area Ratio (FAR) – the ratio of Gross Floor Area (GFA) to total developable area – for the commercial area will be 0.3. This assumption is based on engineering judgment and past projects including the commercial area within the Greens on Gardiner neighborhood in Regina. The estimated GFA for the commercial space is 100,600 square feet (2.3 acres).

The exact land uses for the utility spaces are currently unknown. The TGM Utility land use code represents free standing buildings including office space, storage areas, and mechanical/industrial equipment to support local electrical, communication, water supply, or sewage treatment utility. This generally falls in line with expected land uses for this space. We have assumed the FAR for the utility area is approximate 0.2 based on utility parcels of similar size in Regina. The GFA for the utility space is 23,500 square feet (0.5 acre).

Trip generation rates for the AM and PM peak hours of adjacent street traffic are summarized in **Table 3-1** and **Table 3-2**. A fitted curve equation was used when available as it is a more accurate representation of trip generation rates. The average trip rate was used in its place when not available.

The planned development will generate approximately 726 two-way trips in the AM peak and 1,100 two-way trips in the PM peak.

Table 3-1
AM Trip Generation

Land Use	Area / Units	ITE Code	Fitted Curve Equation / Avg Rate	Total Trips	% in	Trips In	% out	Trips Out
Estate Lots	133 residents	210 Single Family Detached Housing	$\ln(T) = 0.97\ln(X) - 1.43$	27	31%	9	69%	19
Standard Large Lot	235 residents	210 Single Family Detached Housing	$\ln(T) = 0.97\ln(X) - 1.43$	48	31%	15	69%	33
Seniors Bungalows	199 residents	210 Single Family Detached Housing	$\ln(T) = 0.97\ln(X) - 1.43$	41	31%	13	69%	28
Multi-Family Residential	911 residents	220 Low-Rise Multi-Family Housing	0.17	155	15%	23	85%	133
Commercial	100,600 sq ft GFA	815 Free-Standing Discount Store	1.17	118	69%	81	31%	36
Employment	260 employees	710 General Office Building	$\ln(T) = 0.72\ln(X) + 0.56$	96	83%	80	17%	16
Institutional	493 students	540 Junior/Community College	$\ln(T) = 0.63\ln(X) + 1.30$	182	81%	148	19%	35
Recreation/Tourism	10.2 acres	416 Recreational	0.48	5	42%	2	58%	3
Utility	23,500 sq ft GFA	170 Utility	2.31	54	80%	43	20%	11
Urban Park	11.7 acres	411 Public Park	0.02	0	59%	0	41%	0
Totals				726		413		313

Table 3-2
PM Trip Generation

Land Use	Area / Units	ITE Code	Fitted Curve Equation / Average Rate	Total Trips	% in	Trip s In	% out	Trip s Out
Estate Lots	133 residents	210 Single Family Detached Housing	$T = 0.27(X)+9.67$	46	66%	30	34%	15
Standard Large Lot	235 residents	210 Single Family Detached Housing	$T = 0.27(X)+9.67$	73	66%	48	34%	25
Seniors Bungalows	199 residents	210 Single Family Detached Housing	$T = 0.27(X)+9.67$	63	66%	42	34%	22
Multi-Family Residential	911 residents	220 Low-Rise Multi-Family Housing	0.13	118	90%	107	10%	12
Commercial	100,600 sq ft GFA	815 Free-Standing Discount Store	4.83	486	50%	243	50%	243
Employment	260 employees	710 General Office Building	$T = 0.27(X)+23.57$	94	20%	19	80%	75
Institutional	493 students	540 Junior/Community College	$\ln(T) = 0.68\ln(X)+0.81$	152	56%	85	44%	67
Recreation/Tourism	10.2 acres	416 Recreational	0.98	10	69%	7	31%	3
Utility	23,500 sq ft GFA	170 Utility	$\ln(T) = 0.85\ln(X)+0.84$	34	20%	7	80%	27
Urban Park	11.7 acres	411 Public Park	$T = 0.06(X)+22.60$	23	55%	13	45%	10
Totals				1100		601		499

3.5 Pass-by Trips

The commercial land uses may generate pass-by trips which are existing vehicles that would normally drive past the site, but now enter the site to use the new services. Pass-by trips typically occur in the PM peak hour as travelers visit commercial areas after work. We have assumed that 3% of commercial trips in the PM peak hour (15 trips) may be attributed to pass-by trips from Highway No. 2.

3.6 Trip Distribution and Assignment

We anticipate that trips generated by the proposed Valley View Plan will predominantly travel North into the City of Moose Jaw. A small portion of trips are expected to travel into the broader region. We have summarized trip distribution and assignment in **Table 3-3**.

Table 3-3
Trip Distribution & Assignment

Origin / Destination	Route	Total Trips (AM Peak)			Total Trips (PM Peak)		
		Share (%)	Inbound	Outbound	Share (%)	Inbound	Outbound
North of Development	Highway No. 2 (Northbound)	48%	198	150	39%	234	195
	7 th Avenue SW	32%	132	100	26%	157	130
South of Development	Highway No. 2 (Southbound)	7%	29	22	5%	30	25
East of Development	Highway No. 2 (Northbound)	5%	21	16	5%	30	25
West of Development	Highway No. 2 (Northbound)	5%	21	16	5%	30	25
Internal Trips	Internal Roads	3%	12	9	20%	120	99

New trips generated by the proposed development with pass-by trip adjustments and industrial trips are illustrated in **Figure 3-5** and **Figure 3-6** for the AM peak period and PM peak period. New trips generated by the proposed development with pass-by trip adjustments and no industrial trips are illustrated in **Figure 3-7** and **Figure 3-8** for the AM peak period and PM peak period.

Traffic Volume - Net New Site Trips

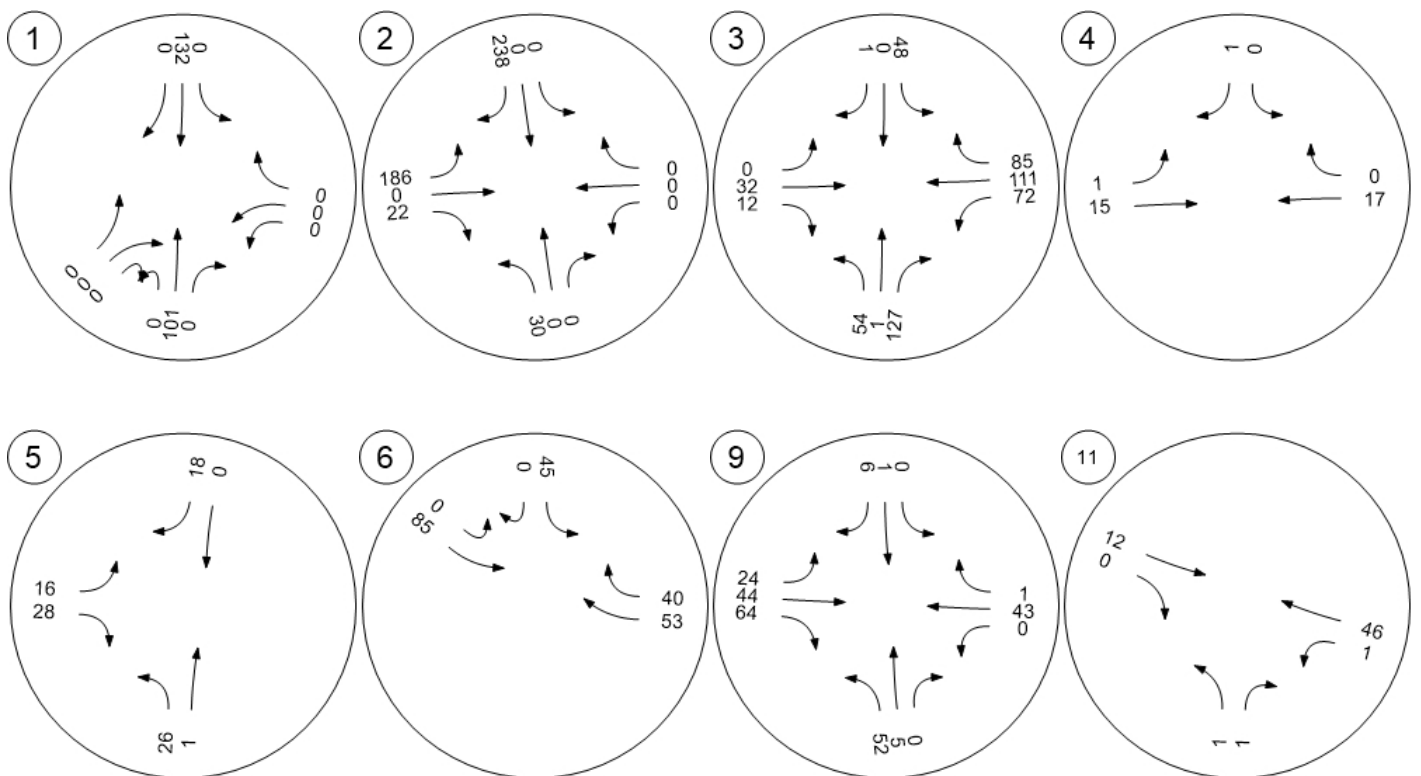


Figure 3-5
AM Peak, Development Traffic Volumes, With Industrial

Traffic Volume - Net New Site Trips

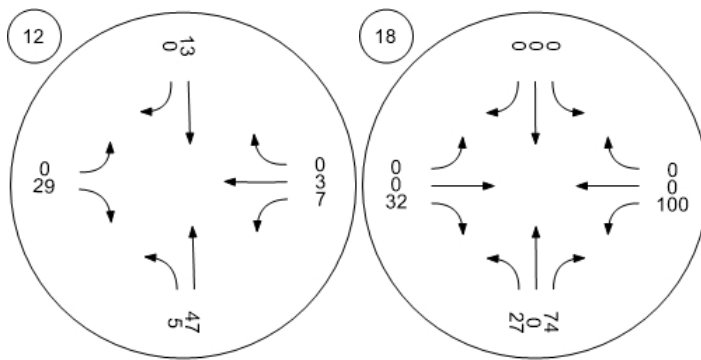


Figure 3-5
AM Peak, Development Traffic Volumes, With Industrial

Traffic Volume - Net New Site Trips

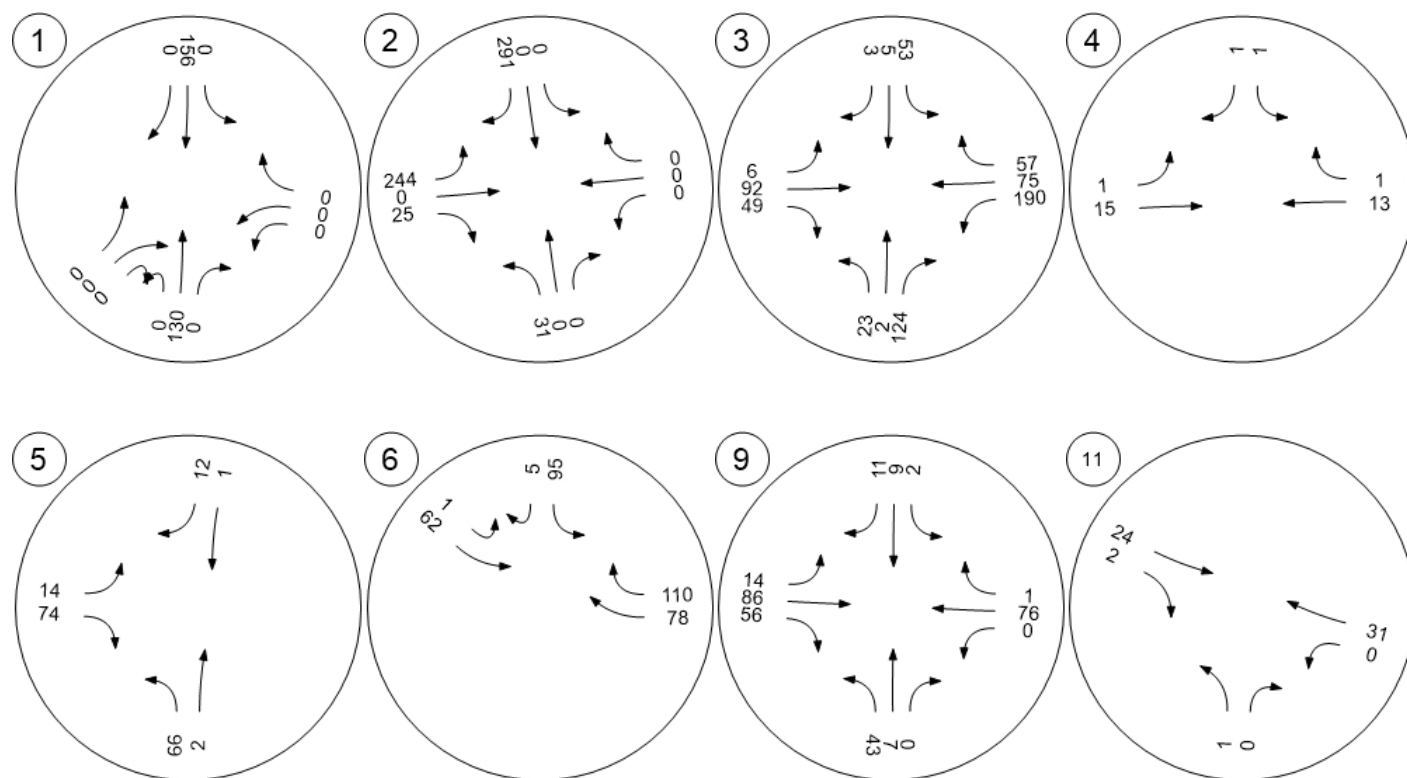


Figure 3-6
PM Peak, Development Traffic Volumes, With Industrial

Traffic Volume - Net New Site Trips

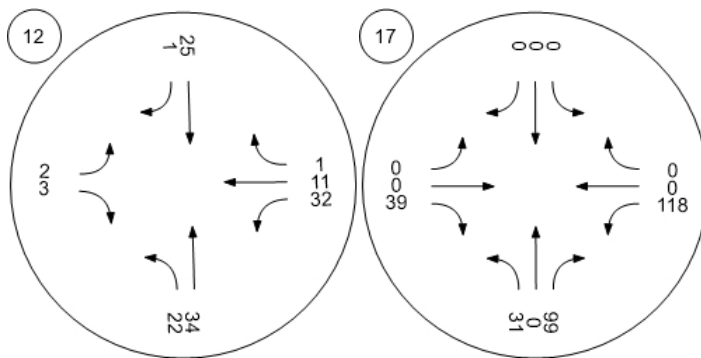


Figure 3-6
PM Peak, Development Traffic Volumes, With Industrial

Traffic Volume - Net New Site Trips

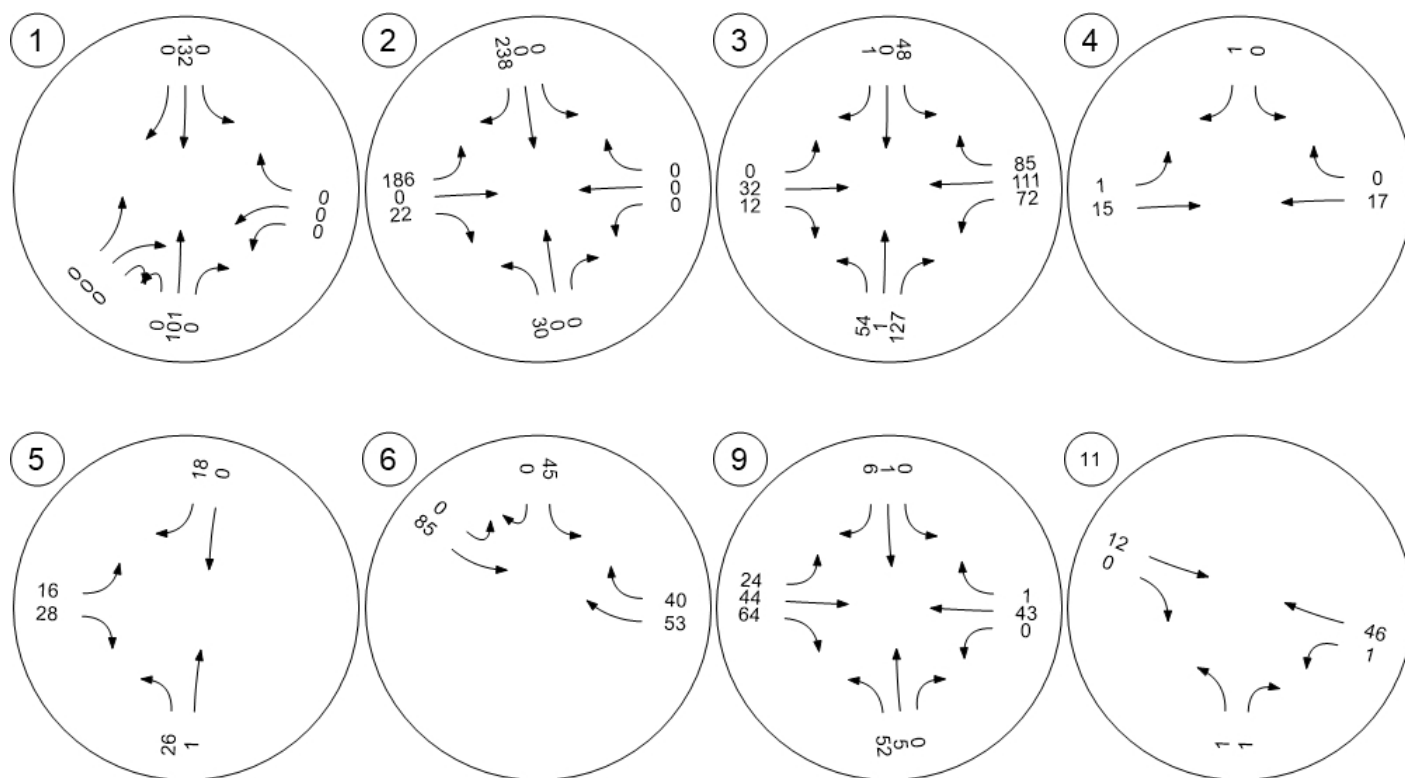


Figure 3-7
AM Peak, Development Traffic Volumes, Without Industrial

Traffic Volume - Net New Site Trips

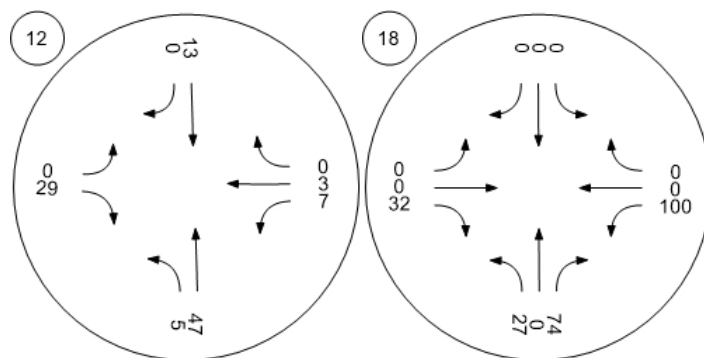


Figure 3-7
AM Peak, Development Traffic Volumes, Without Industrial

Traffic Volume - Net New Site Trips

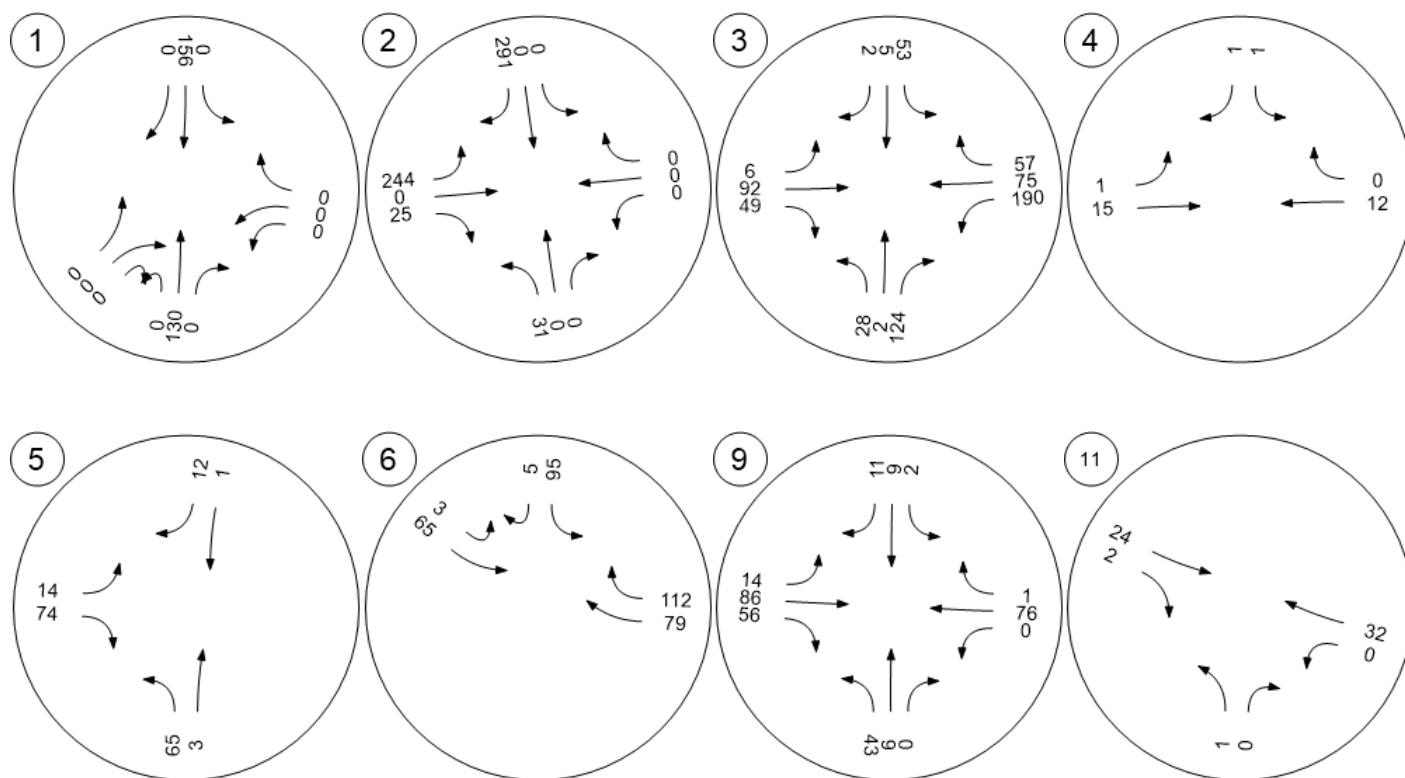


Figure 3-8
PM Peak, Development Traffic Volumes, Without Industrial

Traffic Volume - Net New Site Trips

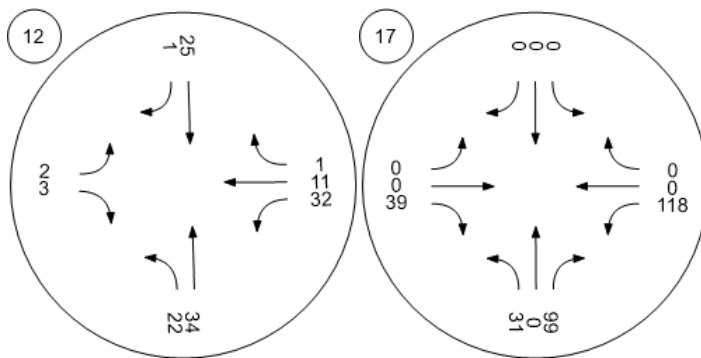


Figure 3-8
PM Peak, Development Traffic Volumes, Without Industrial

3.7 Combined Traffic Volumes

Future traffic volumes are a combination of the expected background traffic growth and net new site trips for the proposed subdivision. Future combined traffic volumes with the industrial development are illustrated in **Figure 3-9** and **Figure 3-10** for the AM peak period and PM peak period. Future combined traffic volumes without the industrial development are illustrated in **Figure 3-11** and **Figure 3-12** for the AM peak period and PM peak period.

3.8 Daily Traffic Volumes

Annual Average Daily Traffic (AADT) was estimated by converting the manual four-hour count to daily traffic based on the MOH Regional Commuter Rural Highways distribution graph for hourly traffic. The four hour manual count (7:00AM to 9:00AM and 4:30PM to 6:30PM) was found to represent an estimated 23% of daily traffic; therefore, a conversion factor of 4.35 was used to convert the four-hour count to a daily traffic estimate.

Figure 3-13 through **Figure 3-14** summarize the 2021 daily site trips, 2043 future background trips, and 2043 full build-out trips, respectively.

Traffic Volume - Future Total Volume

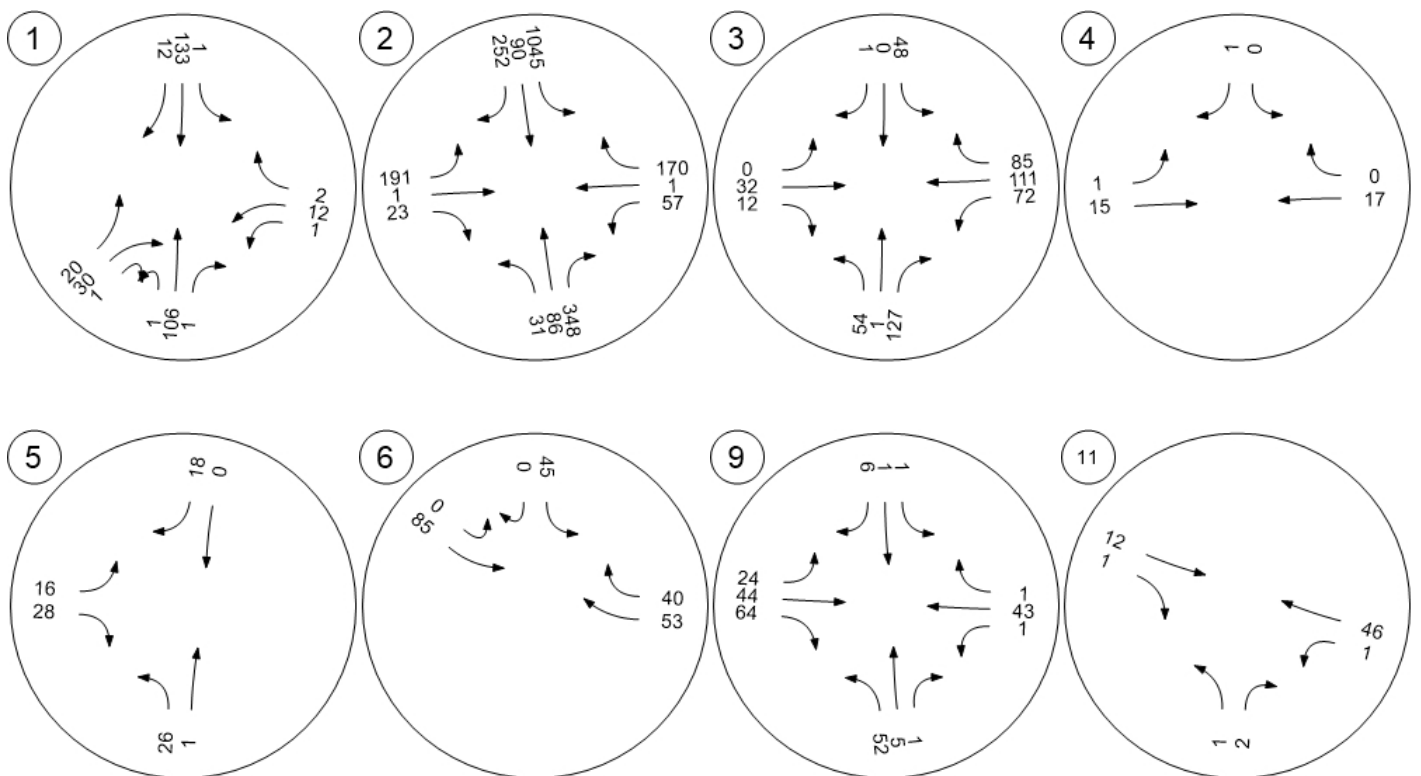


Figure 3-9
AM Peak, 2043 Combined Future Total Traffic Volumes, With Industrial

Traffic Volume - Future Total Volume

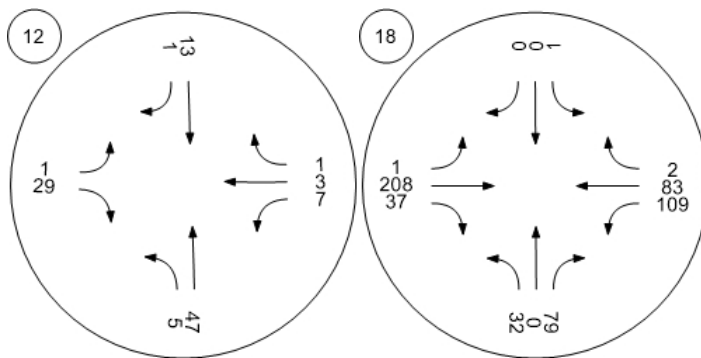


Figure 3-9
AM Peak, 2043 Combined Future Total Traffic Volumes, With Industrial

Traffic Volume - Future Total Volume

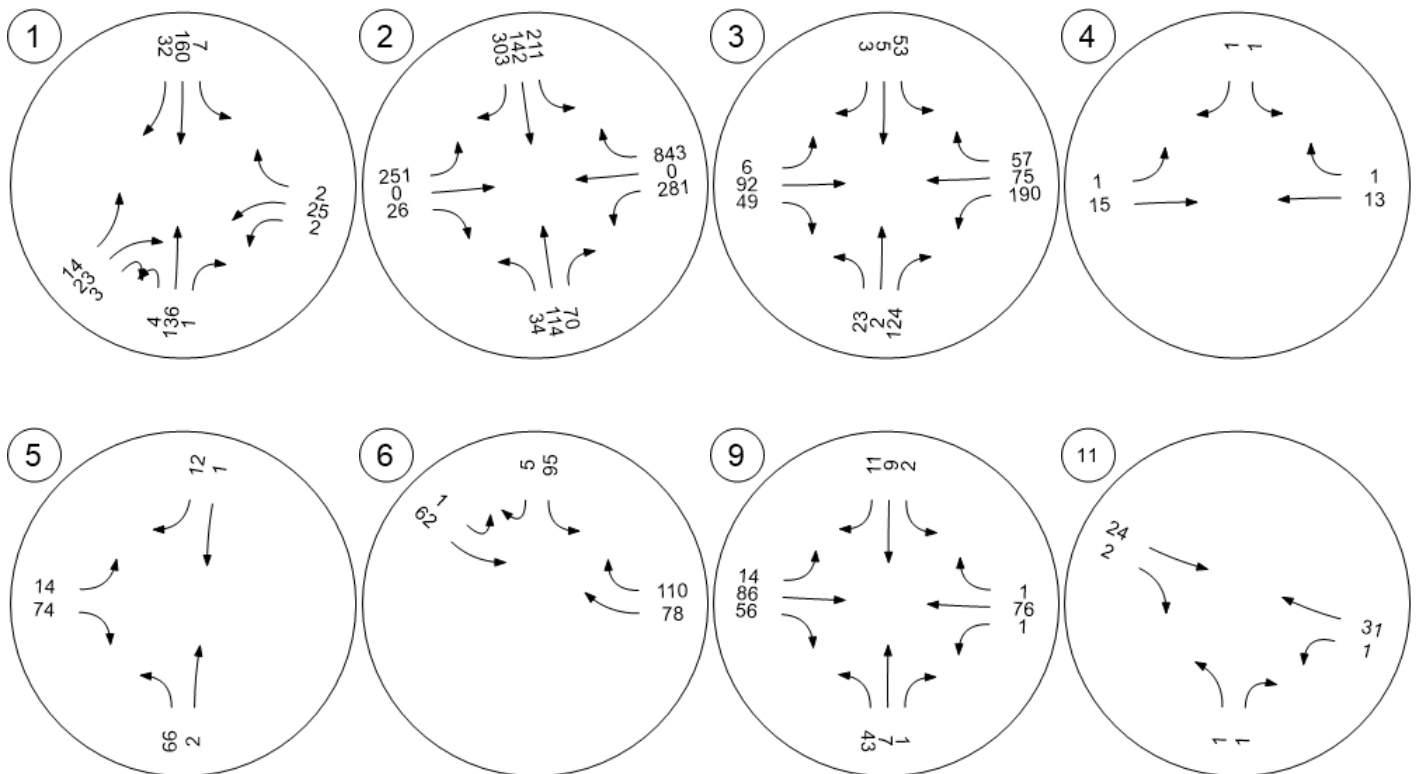


Figure 3-10
PM Peak, 2043 Combined Future Total Traffic Volumes, With Industrial

Traffic Volume - Future Total Volume

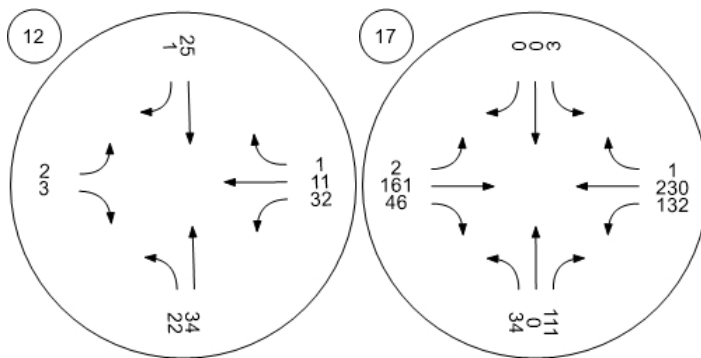


Figure 3-10
PM Peak, 2043 Combined Future Total Traffic Volumes, With Industrial

Traffic Volume - Future Total Volume

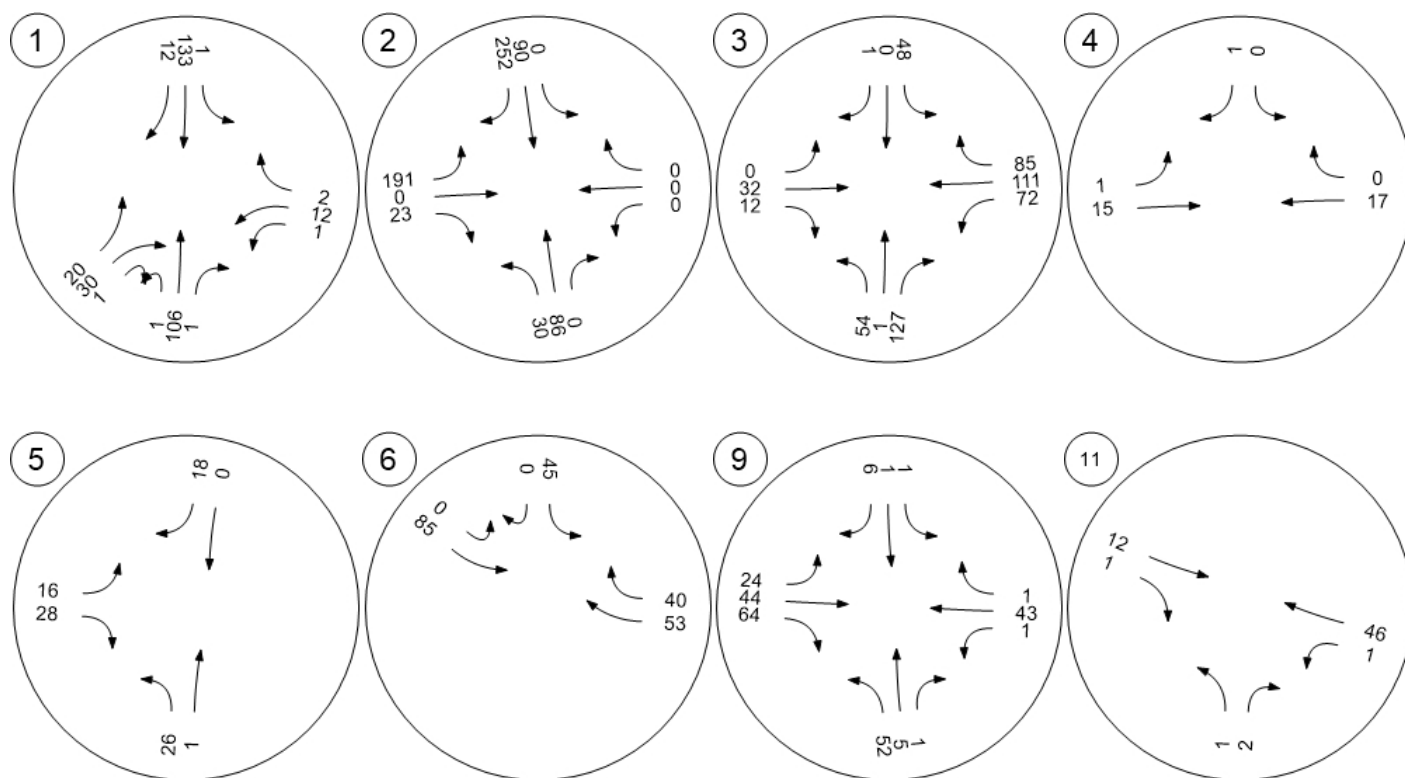


Figure 3-11
AM Peak, 2043 Combined Future Total Traffic Volumes, Without Industrial

Traffic Volume - Future Total Volume

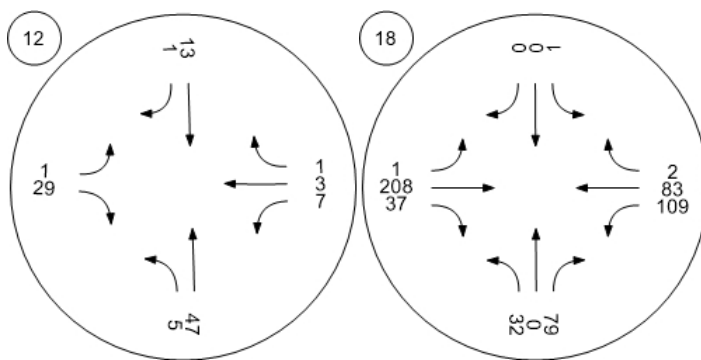


Figure 3-11
AM Peak, 2043 Combined Future Total Traffic Volumes, Without Industrial

Traffic Volume - Future Total Volume

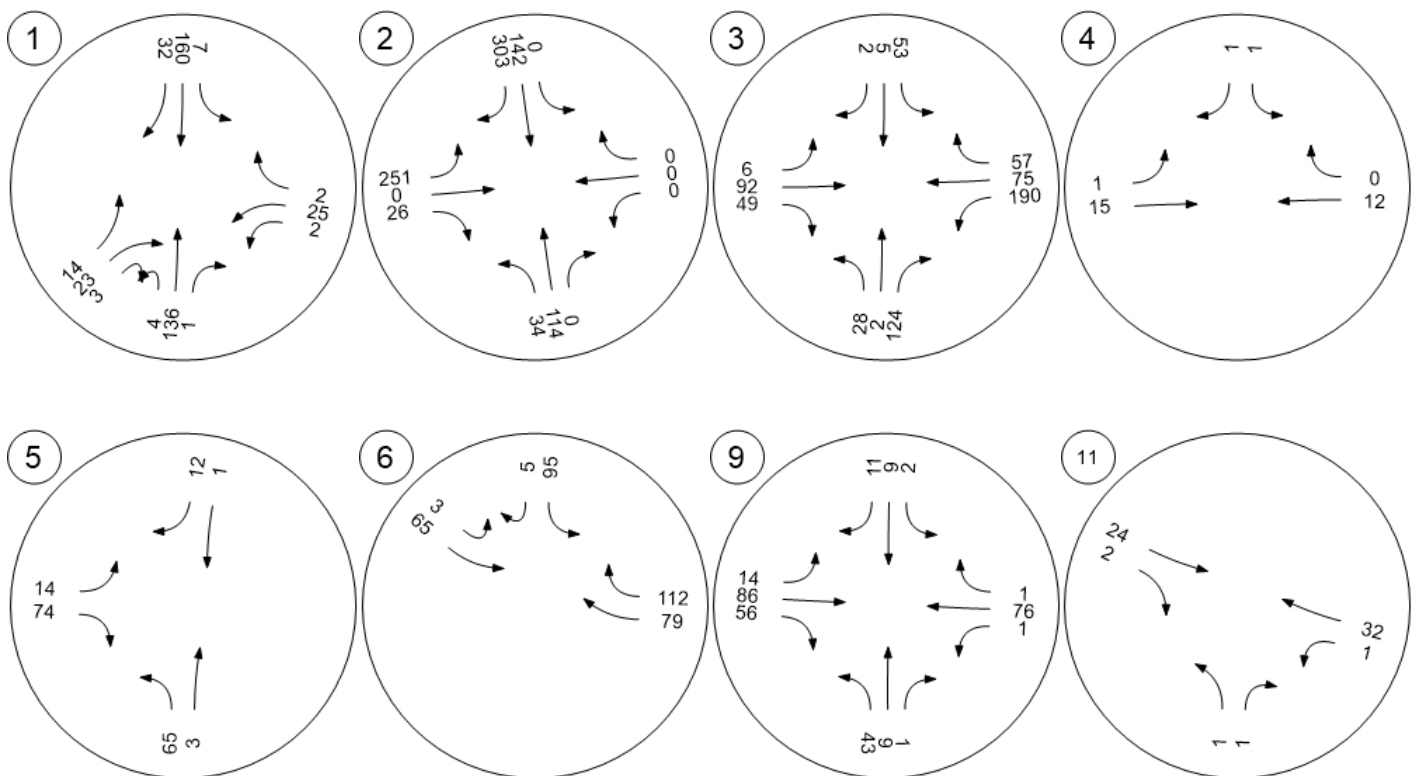


Figure 3-12
PM Peak, 2043 Combined Future Total Traffic Volumes, Without Industrial

Traffic Volume - Future Total Volume

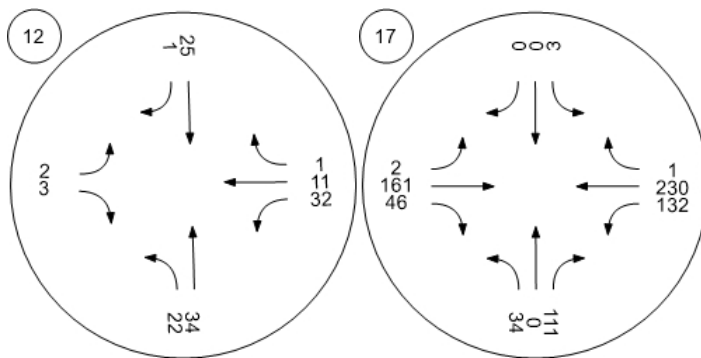


Figure 3-12
PM Peak, 2043 Combined Future Total Traffic Volumes, Without Industrial

Traffic Volume - Base Volume

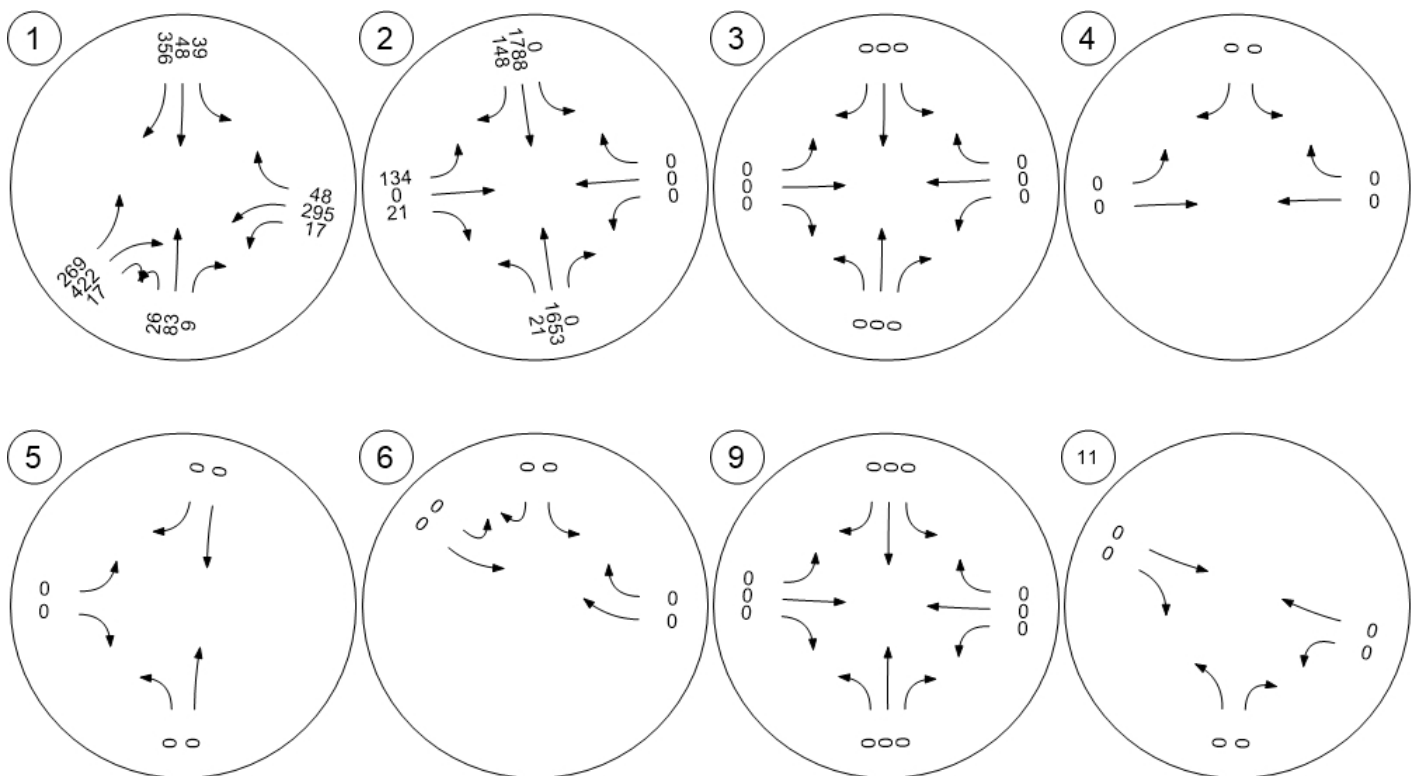


Figure 3-13
2021 Daily Traffic Volumes

Traffic Volume - Future Background Volume

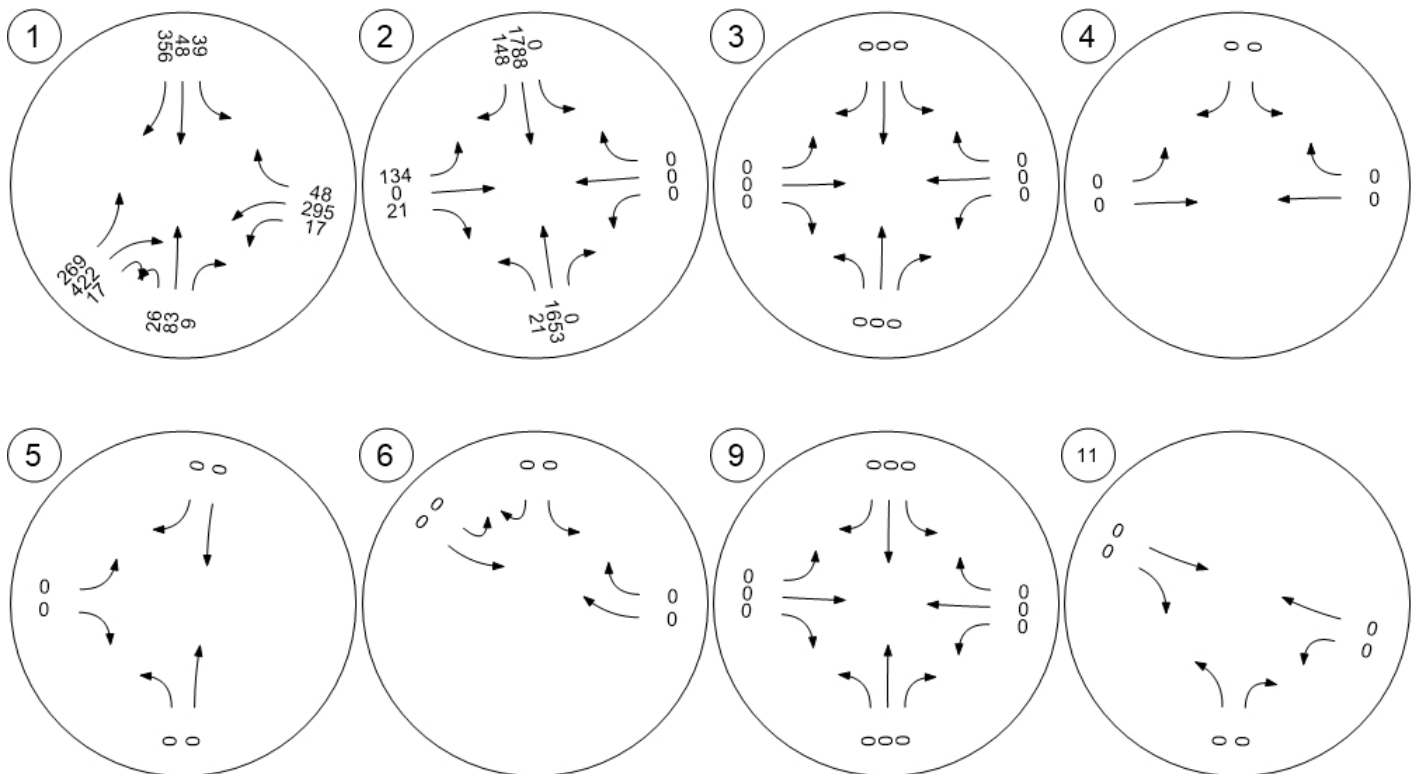


Figure 3-14
2043 Daily Future Background Traffic Volumes

Traffic Volume - Future Total Volume

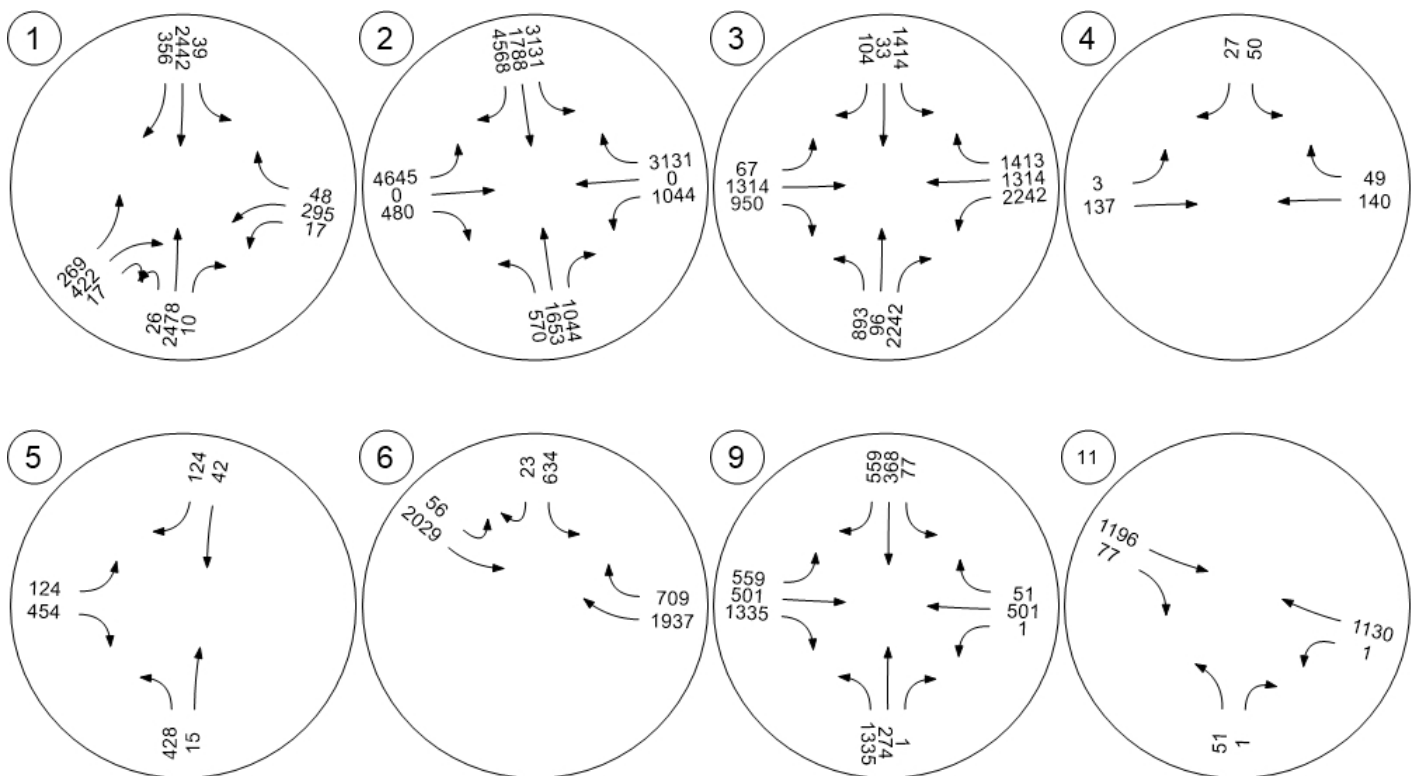


Figure 3-15
2043 Daily Combined Traffic Volumes

Traffic Volume - Future Total Volume

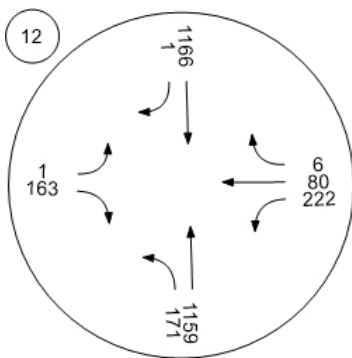


Figure 3-15
2043 Daily Combined Traffic Volumes

4 NETWORK REQUIREMENTS

The City of Moose Jaw does not have available design standards for application in this analysis. The road network requirements outlined in this section are based on the City of Regina's June 2021 *Design Standard Manual – Transportation* (DSM).

4.1 Road Right of Way Requirements

The internal road network will connect with the existing 7th Avenue SW and Highway No. 2 and provide movement for vehicles, pedestrians, and cyclists.

The Valley View Plan indicates a right-of-way of 16 m for local roads and 22 m for collector roads. We have displayed the design elements in **Table 4-1** that can fit in the proposed right of ways. While the proposed right-of-way will be acceptable for the minimum desirable requirements, these widths could place the sidewalk adjacent to the roadway. A more common pedestrian oriented street layout would also provide a landscaped boulevard between the sidewalk and the roadway to serve as a buffer and to be more attractive to pedestrians, support street furniture, or serve stormwater management features. The National Association of City Transportation Officials (NACTO) recommends a minimum of 2.5 m for sidewalks directly adjacent to moving traffic (i.e. monolithic walk) with a minimum 0.5 m buffer zone.

The road classifications for the proposed Valley View Plan are shown in **Figure 4-1**.

Table 4-1
Cross Section Elements for Proposed ROW

Design Element	Local Cross-Section (m)	Collector Cross-Section (m)
Back of Walk	2.2 m	0.7 m
Sidewalk	1.8 m	1.8 m
Boulevard	0 m	2.5 m
Traffic/Parking Lanes	9.8 m	12.0 m
Boulevard	0 m	2.5 m
Sidewalk	0 m	1.8 m
Back of Walk	2.2 m	0.7 m
Total	16.0 m	22.0 m
Potential Configuration	One driving lane per direction Parking on one side Sidewalk on one side	One driving lane per direction Parking on both sides Sidewalk on both sides

Cross section elements may be refined during detailed design to provide a site specific roadway and streetscape appropriate for adjacent land uses and local conditions, which take a variety of factors into consideration such as City snow storage and clearing practices.



Figure 4-1
Proposed Internal Road Classifications

Source: Carpere Moose Jaw Valley View Mixed-Use Development Plan, January 6, 2022

4.2 Parking

Based on the Valley View Plan, we anticipate on-street parking on both sides of the collector roads and on one side of the road on the local roads. This is an appropriate amount of parking.

4.3 Transit Accommodation

Due to the vision of having high traffic generating uses, transit may be required within the proposed development. Further study will need to be undertaken if there is a desire to provide transit, but it is not covered in the scope of this TIA.

4.4 Pedestrian and Cyclist Accommodation

The traffic count conducted in October 2021 captured a low volume of existing pedestrians; however, pedestrian travel is expected to increase as a result of the proposed Valley View Plan. The Valley View Plan identifies the

location of regional park trails, urban park linkage, and the TransCanada trail route. In addition to the Valley View Plan trails, a best practice would be to provide at least one sidewalk or pathway on the front of every street.

Figure 4-2 identifies the trail routes identified in the Valley View Plan.

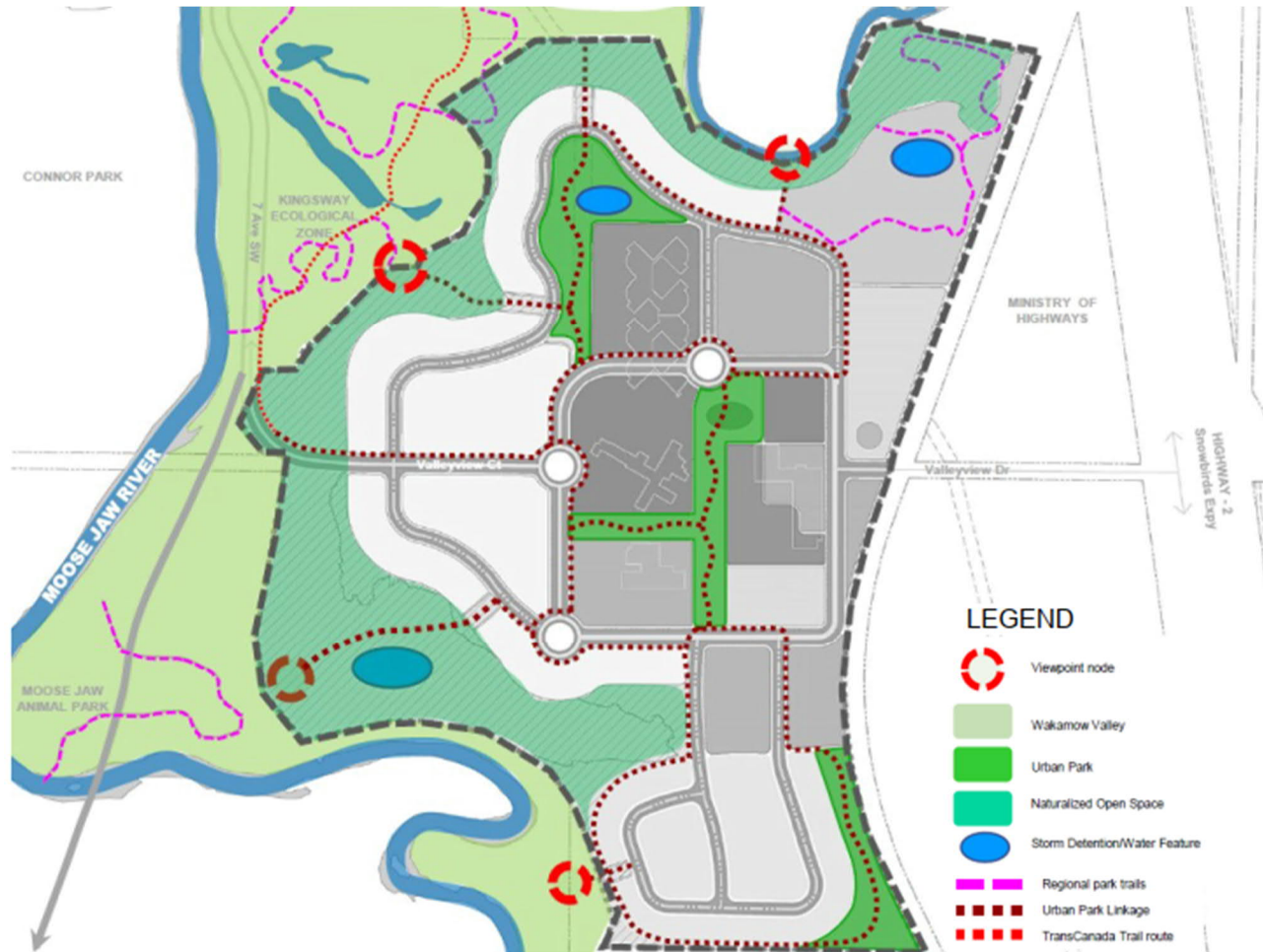


Figure 4-2
Pedestrian and Cyclist Accommodation

Source: Carpere Moose Jaw Valley View Mixed-Use Development Plan, January 6, 2022

4.5 Road Network Layout

All but one of the proposed intersections have perpendicular road approaches. The south roundabout has an intersection angle of approximately 56° which does not meet the Transportation Association of Canada Geometric Design Guidelines which states that angles less than 70° and greater than 110° are typically not desirable. At a skewed intersection with an angle less than 70° , certain undesirable conditions exist because of the flat angle of entry. It is recommended that the angle of this intersection be modified to meet this standard.

The Valley View Plan presents a proof of concept with an appropriate hierarchy of local and collector roads. However, skewed intersections, sharp curves, and sightline issues will be faced. The proposed road network will require revisions which will be addressed during the geometric design process.

DRAFT

5 INTERSECTION ANALYSIS

5.1 Method of Capacity Analysis

Analysis of the study intersections was completed using *Highway Capacity Manual* (HCM 6th Edition) methods and PTV Vistro software. HCM analysis is used to help determine the need for intersection improvements and PTV Vistro is a traffic analysis software used to analyze existing and forecast traffic operations.

Level of Service (LOS) is a commonly used metric to summarize the operations of an intersection, an intersection approach, or an individual movement using a score based on the estimated average delay per vehicle at an intersection. The optimal LOS is identified as LOS A, meaning very low average vehicle delay or free flow conditions. The lowest LOS is LOS F, which is identified by a significant delay or when ever vehicle demand exceeds capacity, regardless of delay. **Table 5-1** details the LOS criteria for roundabouts and stop-controlled intersections.

Table 5-1
Level of Service Criteria by Control Type

Level of Service	Stop or Roundabout Average Delay per Vehicle (s)
A	Less than 10
B	10 – 15
C	15 – 25
D	25 – 35
E	35 – 50
F	Greater than 50

Source: *Highway Capacity Manual 6th Edition*

During peak times of travel for at-grade intersections and roundabouts, the City of Regina's threshold for acceptable operations is LOS F for individual movements and LOS E for the entire intersection. This applies to arterial, collector and local roadways. The threshold for acceptable delays of a roundabout on a collector or local roadway is 50 s for the intersection and individual movements.

The volume-to-capacity ratio (v/c) of an intersection or intersection movement describes the traffic volume accommodated by the theoretical physical capacity that based on the road configuration and traffic control. That is, the intersection's ability to accommodate variations in traffic flow. **Table 5-2** identifies the volume-to-capacity criteria for intersections.

The City of Regina's DSM permits v/c ratio of 0.95 for collector and local intersections.

Table 5-2
Volume to Capacity Criteria for Intersections.

Volume to Capacity Ratio	Indication
Less than 0.9	Sufficient intersection capacity
0.9 – 1.0	Volumes approaching intersection capacity
Greater than 1.0	Volumes exceeding theoretical intersection capacity

Source: Adapted from the *Highway Capacity Manual 6th Edition – A Guide for Multi-Modal Analysis*

5.2 Intersections Included in Analysis

Ten intersections have been included for operational analysis as part of this TIA. The intersections are:

- 7th Avenue SW / Coteau Street
- 7th Avenue SW / Valleyview Drive/Keith Crescent
- Highway No. 2 / Valleyview Court
- Valleyview Court / East Collector
- North Collector / Local B
- Valleyview Court / West Collector /
- West Collector / Local A
- Valleyview Court / Local A
- Local A / Local B
- North Collector / East Collector

Highway No. 2 / Valleyview Court is also analyzed using the Ministry of Highways intersection warrants in Section 6.0.

5.3 Intersection Performance

The following sections analyze the intersection performance at the ten intersections in the study area. A detailed LOS analysis can be found in **Appendix B** for existing traffic conditions, **Appendix C** for future background traffic conditions, and **Appendix D** for full build-out traffic conditions.

5.3.1 7th Avenue SW / Coteau Street

This is a four-legged intersection with stop signs on the north and south legs of 7th Avenue SW. Coteau Street is a through road while 7th Avenue SW ends to the north of Coteau Street.

Figure 5-1 through **Figure 5-6** illustrate the 2022 background, 2043 future background, and 2043 full-build-out intersection performance. Under current conditions, this intersection operates within acceptable thresholds. This intersection will continue to operate within acceptable thresholds at full build-out.



Figure 5-2
2022, PM Peak, 7th Ave SW / Coteau St



Figure 5-4
2043, PM Peak, Future Background
7th Ave SW / Coteau St



Figure 5-5
2043, AM Peak, Full Build-out
7th Ave SW / Coteau St



Figure 5-6
2043, PM Peak, Full Build-out
7th Ave SW / Coteau St

5.3.2 7th Avenue SW / Valleyview Drive/Keith Crescent

This is a skewed, four-legged intersection with stop signs on Valleyview Drive and Keith Crescent. Channelized right-turn lanes exist along the north leg of 7th Avenue SW, Keith Crescent, and Valleyview Drive. The south leg of 7th Avenue SW has a rural cross-section.

Figure 5-7 through Figure 5-12 illustrate the 2021 background, 2043 future background, and 2043 full build-out intersection performance. Under current conditions, this intersection operates within acceptable thresholds. This intersection will continue to operate well and may remain stop controlled.



Figure 5-7
2021, AM Peak,
7th Ave SW / Valleyview Dr/Keith Cres



Figure 5-8
2021, PM Peak,
7th Ave SW / Valleyview Dr/Keith Cres



Figure 5-9
2043, AM Peak, Future Background
7th Ave SW / Valleyview Dr/Keith Cres



Figure 5-10
2043, PM Peak, Future Background
7th Ave SW / Valleyview Dr/Keith Cres



Figure 5-11
2043, AM Peak, Full Build-out
7th Ave SW / Valleyview Dr/Keith Cres



Figure 5-12
2043, PM Peak, Full Build-out
7th Ave SW / Valleyview Dr/Keith Cres

5.3.3 Highway No. 2 / Valleyview Court

This existing T-intersection is stop-controlled for eastbound traffic. Lighting or turn lanes have not been constructed for any direction of travel. Long-term access consolidation of Valleyview Court and Industrial Road is being considered for the planned Agrifood Industrial Park and Valley View Plan.

Figure 5-13 through Figure 5-18 illustrate the 2021 background, 2043 future background, and 2043 full build-out intersection performance without changes to intersection geometry. This intersection operates well for current conditions but performs poorly in the 2043 future background conditions as a result of the traffic demand generated by the Agrifood Industrial Park on the east leg of the intersection. The Valley View Plan adds additional delay in the 2043 full build-out condition to the west leg of the intersection.



Figure 5-13
2021, AM Peak,
Highway No. 2 / Valleyview Court



Figure 5-14
2021, PM Peak,
Highway No. 2 / Valleyview Court

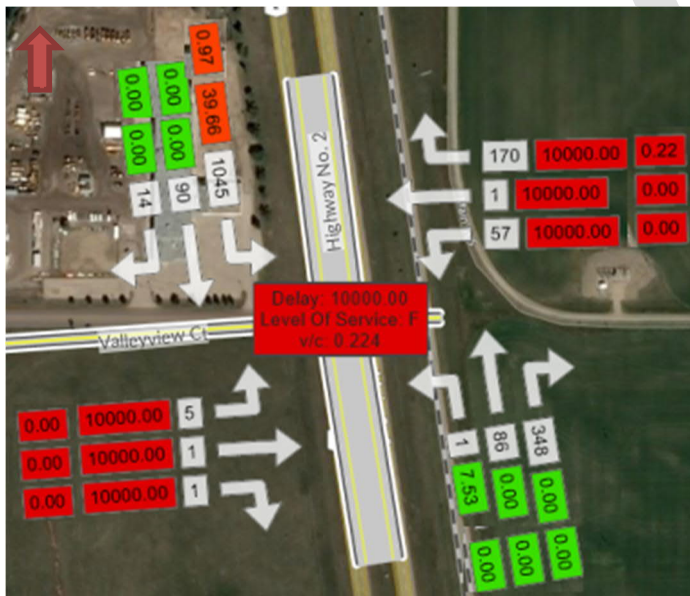


Figure 5-15
2043, AM Peak, Future Background
Highway No. 2 / Valleyview Court



Figure 5-16
2043, PM Peak, Future Background
Highway No. 2 / Valleyview Court

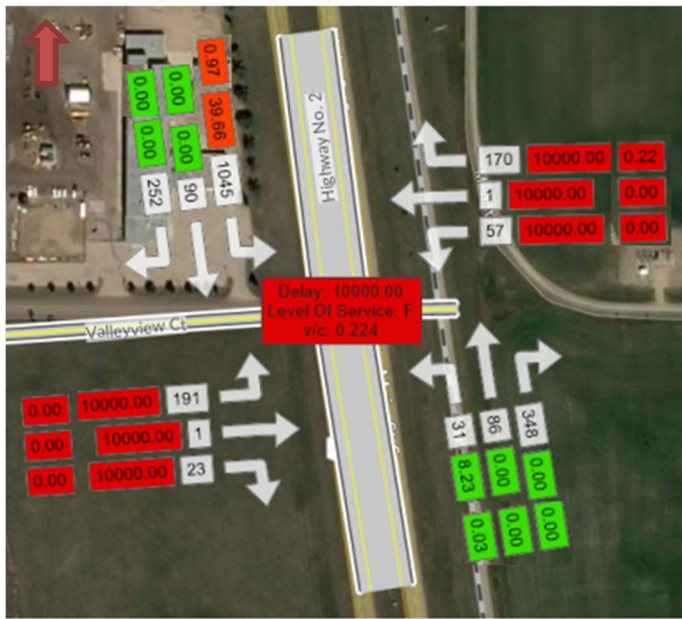


Figure 5-17
2043, AM Peak, Full Build-out, With Industrial
Highway No. 2 / Valleyview Court

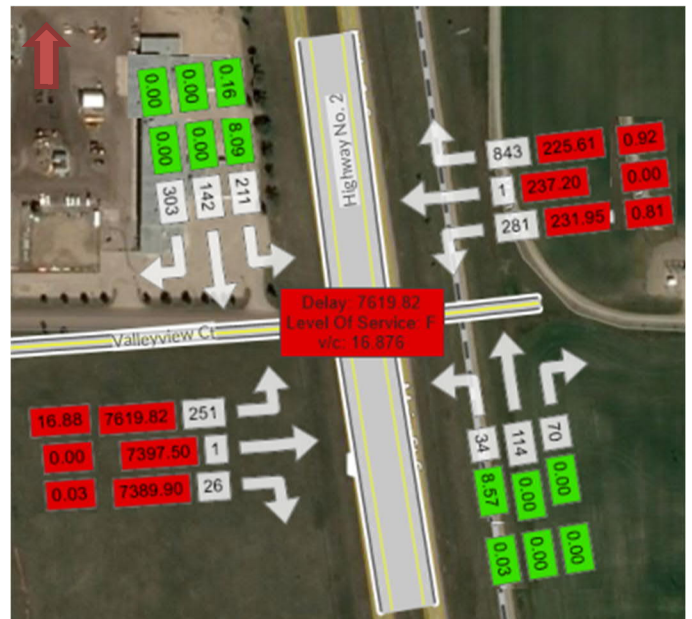


Figure 5-18
2043, PM Peak, Full Build-out, With Industrial
Highway No. 2 / Valleyview Court



Figure 5-19
2043, AM Peak, Full Build-out, Without Industrial
Highway No. 2 / Valleyview Court



Figure 5-20
2043, PM Peak, Full Build-out, Without Industrial
Highway No. 2 / Valleyview Court

Geometric changes are required to accommodate the forecast traffic volumes related to the industrial development. Options for improvement that may be considered to address background traffic concerns include:

- Option 1 – Standard MOH auxiliary lanes (**Section 6**) and median acceleration lanes,
- Option 2 – Restricted Crossing U-Turn (RCUT), or
- Option 3 – Offset left turns and rural roundabouts.

Vistro is designed to evaluate intersection operation, not free flow segments with merge, diverge, and weaving segments. As such, the effectiveness of Option 1 and 2 cannot be quantified for comparison within the scope of this project. A proof of concept was prepared to illustrate theoretical improvement in capacity expected by Option 3 – offset left turn. The AM and PM peak intersection performance are illustrated in **Figure 5-19** and **Figure 5-20**. This illustrates that if Option 3 is implemented as part of the Agrifood Industrial Park that the level of service at Valleyview Court and Highway 2 is acceptable with full development of the Valley View Plan.



Figure 5-21
2043, AM Peak, Full Build-out
Displaced Left Turns



Figure 5-22
2043, PM Peak, Full Build-out
Displaced Left Turns

5.3.4 Valleyview Court / East Collector

This intersection is planned as a two-way stop-controlled intersection. The existing Valleyview Court is a two-lane gravel roadway with a rural cross section. The lane configuration in the model assumed two lanes in each direction which provides the ability for one through/left lane and one right turn lane in all directions. Stop signs are recommended on the east and west legs of Valleyview Court.

Figure 5-21 and Figure 5-22 outline the 2043 intersection performance. The LOS is B in the AM peak hour and C in the PM peak hour, with a v/c within the defined threshold.



Figure 5-23
2043, AM Peak,
Valleyview Court / East Collector

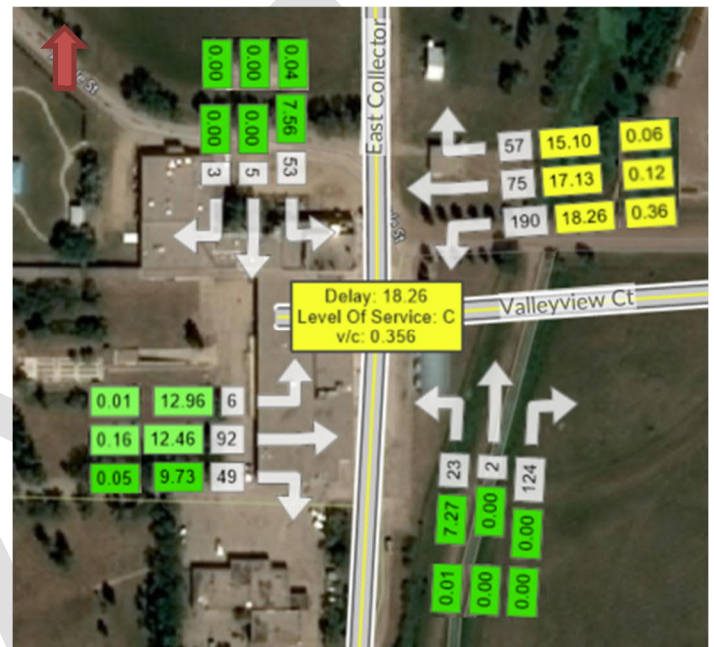


Figure 5-24
2043, PM Peak,
Valleyview Court / East Collector

5.3.5 North Collector / Local B

This intersection is planned as a single lane roundabout as part of the Valley View Plan, but is not required to support traffic operations.

Figure 5-23 and Figure 5-24 outline the 2043 intersection performance. The roundabout is projected to have a low volume of traffic and function with an overall LOS A in the AM and PM peaks. Roundabouts do not typically have an overall v/c, but the individual movement v/c for this roundabout are within the defined threshold.

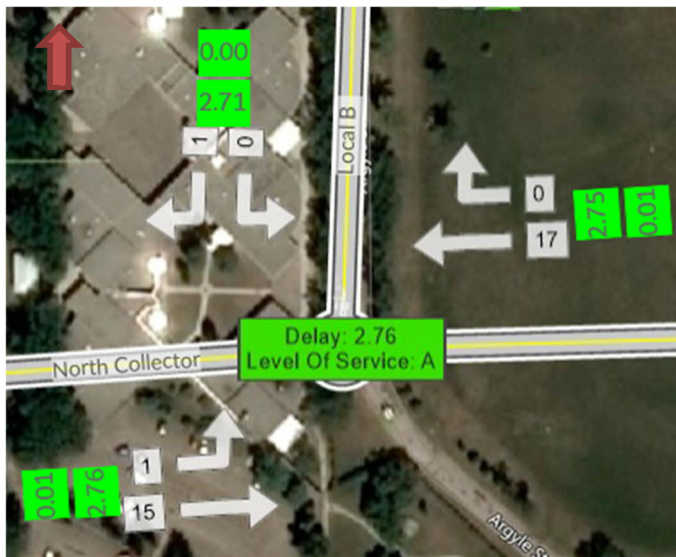


Figure 5-25
2043, AM Peak, North Collector / Local B



Figure 5-26
2043, PM Peak, North Collector / Local B

5.3.6 West Collector / Valleyview Court

This intersection is planned as a single lane roundabout as part of the Valley View Plan, but is not required to support traffic operations.

Figure 5-25 and Figure 5-26 outline the 2043 intersection performance. The roundabout is projected to have a low volume of traffic and function with an overall LOS A in the AM and PM peaks. Roundabouts do not typically have an overall v/c, but the individual movement v/c for this roundabout are within the defined threshold.

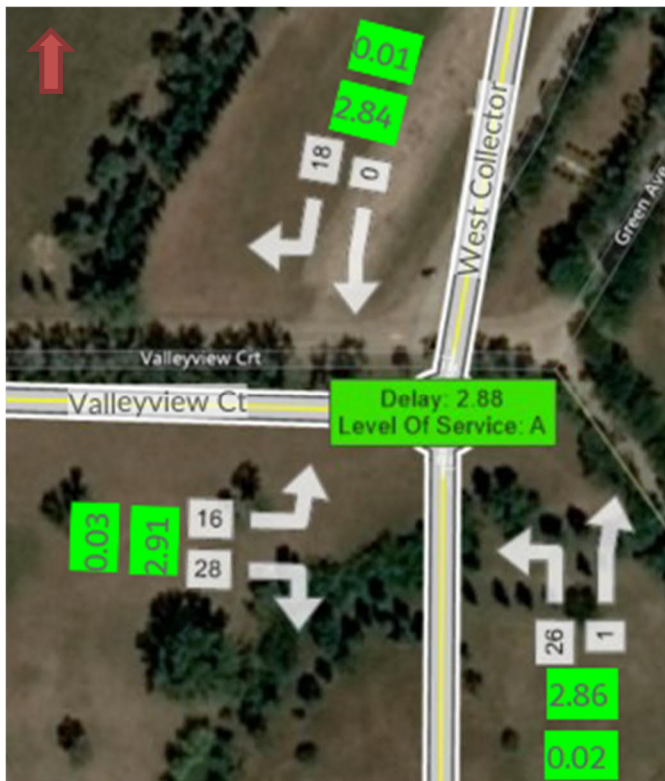


Figure 5-27
2043, AM Peak,
West Collector / Valleyview Court



Figure 5-28
2043, PM Peak,
West Collector / Valleyview Court

5.3.7 West Collector / Local A

This intersection is planned as a single lane roundabout as part of the Valley View Plan; however, this intersection is located within a low density residential area that may need to have driveways that are not compatible with a roundabout driveway. As such, both a roundabout and a stop-controlled intersection were considered during analysis.

Figure 5-27 and **Figure 5-28** outline the 2043 intersection performance for a roundabout. **Figure 5-29** and **Figure 5-30** outline the 2043 intersection performance for a stop-controlled intersection. As a roundabout, the intersection is projected to have an overall LOS A in the AM and PM peaks. Roundabouts do not typically have an overall v/c, but the individual movement v/c for this roundabout are within the defined threshold. As a stop-controlled intersection, overall LOS is A in the AM peak and LOS B in the PM peak.

Both a roundabout and stop-controlled intersection are expected to operate well at full build-out. Final intersection traffic control may be refined when property access is more defined.



Figure 5-29
2043, AM Peak,
West Collector / Local A (roundabout)

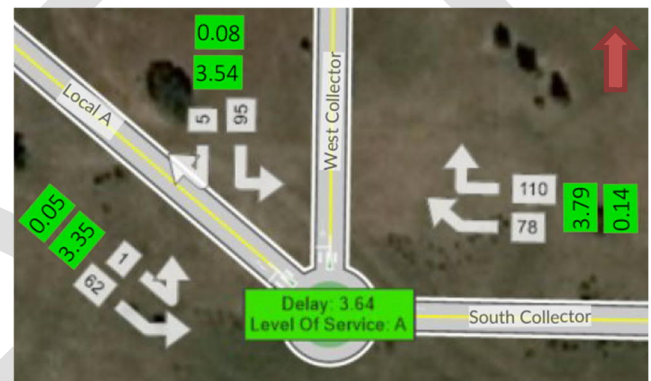


Figure 5-30
2043, PM Peak,
West Collector / Local A (roundabout)



Figure 5-31
2043, AM Peak,
West Collector / Local A (stop-control)



Figure 5-32
2043, PM Peak,
West Collector / Local A (stop-control)

5.3.8 Valleyview Court / Local A

This intersection is planned as a two-way stop-controlled intersection. The lane configuration in the model assumed two lanes in for westbound and eastbound traffic which provides the ability for one through/left lane and one right turn lane. Stop signs are recommended on the north and south legs of Local A. The existing Valleyview Court is a two-lane roadway with a rural cross section. Valleyview Court should be converted to an urban-cross section east of this intersection.

Figure 5-31 and Figure 5-32 outline the 2043 intersection performance. The LOS is B in the AM and PM peak hours, with a v/c within the defined threshold.



Figure 5-33
2043, AM Peak,
Valleyview Court / Local A



Figure 5-34
2043, PM Peak,
Valleyview Court / Local A

5.3.9 Local A / Local B

This intersection is planned as a stop-controlled T-intersection, with a stop sign on the south leg of Local B.

Figure 5-33 and Figure 5-34 outline the 2043 intersection performance. The LOS is A in the AM and PM peak hours, with a v/c within the defined threshold.



Figure 5-35
2043, AM Peak, Local A / Local B



Figure 5-36
2043, PM Peak, Local A / Local B

5.3.10 North Collector / East Collector

This intersection is planned as a stop-controlled T-intersection, with a stop sign on the west leg of North Collector. The lane configuration in the model assumed two lanes in each direction which provides the ability for one through/left lane and one right turn lane in all directions.

Figure 5-35 and Figure 5-36 outline the 2043 intersection performance. The LOS is A in the AM and PM peak hours, with a v/c within the defined threshold.



Figure 5-37
2043, AM Peak,
North Collector / East Collector



Figure 5-38
2043, PM Peak,
North Collector / East Collector

6 MINISTRY OF HIGHWAYS WARRANTS

6.1 Intersection Treatment

Ministry of Highways system warrants are designed for high speed, free flow rural application. The intersection of Highway No. 2 with Valleyview Court has a speed limit of 100 km/hr and meets the context requirements for these warrants.

Warrants for turning lanes were evaluated as represented in MOH standard SKS 2.3.1 and the associated Standard Plans 20610 and 20614. Standard Plans 20610 and 20614 indicate that right and left turn lanes are warranted at industrial access roads. MOH has provided a definition of industrial access as any location that:

- Has at least 50 employees,
- Has a minimum AADT of 150,
- Has a minimum of 15% truck traffic, and
- Is located in a rural environment.

The Agrifood Industrial Park meets this criterion and, as a result, a northbound right turn lane and a southbound left turn lane is warranted regardless of the proposed Valley View Plan.

Table 6-1 summarizes the results of the intersection warrant analysis at the study intersection for background and full build-out traffic. **Appendix D** contains detailed warrant results.

Table 6-1
Intersection Treatment – Warrant Results

Turning Lane Warrant Type	Northbound		Southbound	
	AM Peak	PM Peak	AM Peak	PM Peak
Highway No. 2 / Valleyview Court - 2021 Existing Traffic (also 2043 Background Traffic Without Industrial)				
Left Turn Lane (STP 20610)	No	No	No	No
Right Turn Lane (STP 20614)	No	No	No	No
Highway No 2 / Valleyview Court – 2043 Background Traffic – With Industrial				
Left Turn Lane (STP 20610)	No	No	Yes	Yes
Right Turn Lane (STP 20614)	Yes	Yes	No	No
Highway No 2 / Valleyview Court – 2043 Full Build-Out – Without Industrial				
Left Turn Lane (STP 20610)	No	No	No	No
Right Turn Lane (STP 20614)	No	No	Yes	Yes
Highway No. 2 / Valleyview Court – 2043 Full Build-Out Traffic – With Industrial				
Left Turn Lane (STP 20610)	Yes	Yes	Yes	Yes
Right Turn Lane (STP 20614)	Yes	Yes	Yes	Yes

As a result of the Valley View Plan, construction of a southbound right turn lane is warranted prior to full build-out. Construction of a northbound right turn lane and a southbound left turn lane are warranted as a result of background traffic generated by the Agrifood Industrial Park.

6.2 Intersection Lighting

Intersection delineation lighting refers to the placement of a single streetlight over the approach road, often directly above the stop sign. The MOH standard DM 2621-1 states that intersection delineation lighting is warranted at public highway intersections with an AADT of 150 vpd, or a seasonal average daily traffic volume greater than 250 vpd. Regardless of the Valley View Plan, the estimated traffic along Highway No. 2 is expected to exceed 150 vpd and a single streetlight over the east and west approaches are warranted.

Intersection area lighting refers to the placement of three lights upstream of the intersection for each travel direction and two lights downstream of the intersection for each travel direction, with an additional pole in the median for divided highways. The MOH standard DM 2621-2 states that intersection area lighting is warranted at public highway intersections where the AADT of the through highway exceeds 1500 vpd and the AADT of the approach road exceeds 1000 vpd. Highway No. 2 is expected to exceed 1500 vpd and Valleyview Court is expected to exceed 1000 vpd at full build-out. As a result of the Valley View Plan, intersection area lighting is warranted at the intersection of Highway No. 2 and Valleyview Court.

7 RECOMMENDATIONS

Based on this traffic impact assessment, the recommended system improvements are summarized below.

7.1 Highway No. 2 Recommendations

A southbound right turn lane and intersection area lighting are recommended to mitigate the traffic impacts associated with the Valley View Plan. Other potential improvements to the intersection are related to the proposed Agrifood Industrial Park. One of the options being considered would not require any further upgrades to this intersection. The mitigation plan for Agrifood Industrial Park is not within the scope of this TIA and will be determined by others.

7.2 Recommendations for Valley View Plan

Transit Accommodation - Further study and discussion with the City of Moose Jaw is required if there is desire to provide transit.

Pedestrian and Cyclist Accommodation - In addition to the proposed trails in the Valley View Plan, provide sidewalks on one side for local streets and sidewalks on both sides for the collector street.

Intersection Layout - Revise the skew angle at West Collector / Local A to be a minimum of 70°.° and examine horizontal alignment of all roads during the detailed design process.

Road Right of Way Requirements - The proposed right-of-way of 16 m for local roads and 22 m for collector roads will be acceptable for the minimum desirable requirements as displayed in **Table 7-1**. However, these widths could place the sidewalk adjacent to the roadway. The National Association of City Transportation Officials (NACTO) recommends a minimum of 2.5 m for sidewalks directly adjacent to moving traffic (i.e. monolithic walk) with a minimum 0.5 m buffer zone. Cross section elements may be refined during detailed design to reflect local conditions.

Table 7-1
Cross Section Elements for Proposed ROW

Design Element	Local Cross-Section (m)	Collector Cross-Section (m)
Back of Walk	2.2 m	0.7 m
Sidewalk	1.8 m	1.8 m
Boulevard	0 m	2.5 m
Traffic/Parking Lanes	9.8 m	12.0 m
Boulevard	0 m	2.5 m
Sidewalk	0 m	1.8 m
Back of Walk	2.2 m	0.7 m
Total	16.0 m	22.0 m
Potential Configuration	One driving lane per direction Parking on one side Sidewalk on one side	One driving lane per direction Parking on both sides Sidewalk on both sides

7th Avenue SW / Coteau Street – This intersection is expected to operate within acceptable thresholds at full build-out.

7th Avenue SW / Keith Crescent and Valleyview Drive – This intersection is expected to operate within acceptable thresholds at full build-out and may remain two-way stop-controlled. The City should monitor the intersection for upgrades to ensure acceptable operations.

Recommendations for the internal road network is outlined in **Table 7-2**. As this report is based on a concept plan, the requirements may change at the detailed design stage and this TIA may need to be updated if proposed land uses substantially change.

Table 7-2
Proposed Internal Road Network

Intersection	Right-of-Way	Number of Lanes (per Direction)	Intersection Control
Valleyview Court / East Collector	22 m / 22 m	2 / 2	Two- Way Stop
North Collector / Local B	22 m / 16 m	1 for roundabout	Roundabout or Stop
Valleyview Court / West Collector	22 m / 22 m	1 for roundabout	Roundabout or Stop
West Collector / Local A	22 m / 16 m	1 for roundabout	Roundabout or Stop
Valleyview Court / Local A	22 m / 16 m	2 / 1	Two- Way Stop
Local A / Local B	16 m / 16 m	1 / 1	Two- Way Stop
North Collector / East Collector	22 m / 22 m	2 / 2	Two- Way Stop

CERTIFICATION PAGE

This report presents our findings regarding the Carpere Valley Development Corp. Carpere Valley View Mixed-Use Development Concept Traffic Impact Assessment.

Respectfully submitted,

Prepared by:

Reviewed by:

DRAFT

APPENDIX A - DETAILED TRAFFIC COUNTS

DRAFT

Traffic Count Data Summary



Hwy 2 and Valleyview Ct	Northbound					Southbound					Eastbound					Westbound					Ft/O	Pedestrians (Crossing in front of vehicles facing)				Departure Leg Vehicle Totals			
Date: October 27, 2021	Left		Through	Right		Left		Through	Right		Left		Through	Right		Left		Through	Right			E/W (NB)	E/W (SB)	N/S (EB)	N/S (WB)	NB	SB	EB	WB
Time Interval	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck									
4:30 - 4:45																					0				0	0	0	0	
4:45 - 5:00																					0				0	0	0	0	
5:00 - 5:15																					0				0	0	0	0	
5:15 - 5:30																					0				0	0	0	0	
5:30 - 5:45																					0				0	0	0	0	
5:45 - 6:00																					0				0	0	0	0	
6:00 - 6:15																					0				0	0	0	0	
6:15 - 6:30																					0				0	0	0	0	
6:30 - 6:45																					0				0	0	0	0	
6:45 - 7:00																					0				0	0	0	0	
7:00 - 7:15	1	0	19	1			17	3	3	0	1	2		1	0						48				23	21	0	4	
7:15 - 7:30	0	0	9	3			26	1	0	0	1	0		0	0						40				13	27	0	0	
7:30 - 7:45	0	0	22	2			20	3	4	1	1	0		0	0						53				25	23	0	5	
7:45 - 8:00	0	0	17	2			23	7	3	0	1	0		0	0						53				20	30	0	3	
8:00 - 8:15	0	0	20	1			11	4	3	0	0	0		0	1						40				21	16	0	3	
8:15 - 8:30	0	0	16	6			17	5	3	0	2	1		0	0						50				25	22	0	0	
8:30 - 8:45	0	0	13	4			14	3	0	0	0	0		0	0						34				17	17	0	0	
8:45 - 9:00	0	1	21	3			16	3	1	0	3	1		1	0						50				28	20	0	2	
9:00 - 9:15																					0				0	0	0	0	
9:15 - 9:30																					0				0	0	0	0	
AM Peak Subtotal	0	0	75	11	0	0	0	0	71	19	13	1	4	1	0	0	0	0	0	0	0	0	0	0	91	91	0	14	
AM Peak Total (non-PCE)	0	0	86		0	0	0	0	90		14		5		1	0	0	0	0	0									
AM Peak %Truck	0%		13%		0%		0%		21%		7%		20%		100%		0%		0%	0%	0%								
15:00 - 15:15																					0				0	0	0	0	
15:15 - 15:30																					0				0	0	0	0	
15:30 - 15:45																					0				0	0	0	0	
15:45 - 16:00																					0				0	0	0	0	
16:00 - 16:15																					0				0	0	0	0	
16:15 - 16:30																					0				0	0	0	0	
16:30 - 16:45	1	0	24	6			30	4	2	0	5	0		1	0						73				35	35	0	3	
16:45 - 17:00	0	0	22	2			36	2	3	0	1	0		0	0						66				25	38	0	3	
17:00 - 17:15	0	0	24	6			36	0	5	0	0	0		0	0						71				30	36	0	5	
17:15 - 17:30	2	0	26	4			31	3	2	0	1	0		0	0						69				31	34	0	4	
17:30 - 17:45	0	0	25	3			27	2	0	0	2	0		0	0						59				30	29	0	0	
17:45 - 18:00	0	0	25	1			29	1	3	0	4	0		0	0						63				30	30	0	3	
18:00 - 18:15	0	0	19	0			17	0	0	0	2	0		1	0						39				21	18	0	0	
18:15 - 18:30	0	0	32	2			20	0	1	0	3	0		0	0						58				37	20	0	1	
18:30 - 18:45																					0				0	0	0	0	
18:45 - 19:00																					0				0	0	0	0	
PM Peak Subtotal	3	0	96	18	0	0	0	0	133	9	12	0	7	0	0	1	0	0	0	0	0	0	0	0	121	143	0	15	
PM Peak Total (non-PCE)	3	0%	114	16%	0	0%	0	0%	142	6%	12	0%	7	0%	0	1	0%	0	0%	0	0	0	0						
PM Peak %Truck																													

Traffic Count Data Summary



Hwy 2 and Valleyview Ct	Northbound						Southbound						Eastbound						Westbound						Total	Pedestrians (Crossing in front of vehicles facing)				Departure Leg Vehicle Totals					
Date: October 27, 2021	Left		Through		Right		Left		Through		Right		Left		Through		Right		Left		Through		Right			E/W	E/W	N/S	N/S	NB	SB	EB	WB		
Time Interval	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck		(NB)	(SB)	(EB)	(WB)						
4:30 - 4:45																																			
4:45 - 5:00																																			
5:00 - 5:15																																			
5:15 - 5:30																																			
5:30 - 5:45																																			
5:45 - 6:00																																			
6:00 - 6:15																																			
6:15 - 6:30																																			
6:30 - 6:45																																			
6:45 - 7:00																																			
7:00 - 7:15	0	0	0	0	1	0	0	0	1	0	0	0	4	0	1	0	1	0	0	0	0	3	0	0	0	11			4	2	2	3			
7:15 - 7:30	0	0	1	0	0	0	0	0	1	0	1	0	2	0	4	0	0	0	0	0	0	1	0	0	1	11	1		4	1	4	2			
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	2	0	8	0	5	0	0	0	0	0	0	1	0	1	17	1		9	0	5	3				
7:45 - 8:00	0	0	1	0	0	0	0	0	0	0	2	0	5	0	8	0	0	0	0	0	0	2	0	0	18			1	2	6	0	8	4		
8:00 - 8:15	0	0	2	0	0	0	1	0	0	0	6	0	4	0	9	0	0	0	0	1	0	5	0	0	0	28	1		6	1	10	11			
8:15 - 8:30	0	0	2	0	0	0	0	0	1	0	1	1	2	1	8	0	0	0	0	0	0	4	0	1	0	21			6	1	8	6			
8:30 - 8:45	1	0	0	0	0	0	0	0	1	0	1	0	3	0	10	0	0	0	0	0	0	3	0	1	0	20			4	1	10	5			
8:45 - 9:00	0	0	0	0	1	0	0	0	1	0	2	0	4	0	9	1	0	0	0	0	0	8	0	1	0	27			1		1	5	1	11	10
9:00 - 9:15																																			
9:15 - 9:30																																			
AM Peak Subtotal	0	0	5	0	0	0	1	0	1	0	11	1	19	1	30	0	0	0	0	1	0	12	0	2	0		2	0	3	2	27	2	31	24	
AM Peak Total (non-PCE)	0		5		0		1		1		12		20		30		0		1		12		2												
AM Peak %Truck	0%		0%		0%		0%		0%		8%		5%		0%		0%		0%		0%		0%												
15:00 - 15:15																																			
15:15 - 15:30																																			
15:30 - 15:45																																			
15:45 - 16:00																																			
16:00 - 16:15																																			
16:15 - 16:30																																			
16:30 - 16:45	0	0	1	0	0	0	4	1	0	0	1	0	6	0	2	1	1	0	0	0	8	1	1	0	28			6	5	8	2	8	10		
16:45 - 17:00	0	0	1	0	0	0	0	0	0	0	8	0	3	0	10	0	0	0	0	0	5	0	0	0	28	2	1		4	1	10	13			
17:00 - 17:15	1	0	2	0	0	0	2	0	1	0	14	0	4	0	8	0	1	0	0	0	5	0	1	0	39			2	3	7	2	10	20		
17:15 - 17:30	3	0	2	0	0	0	0	0	2	0	9	0	1	0	2	0	1	0	1	0	6	0	0	0	27				1	3	4	2	18		
17:30 - 17:45	0	0	3	0	0	0	0	0	1	0	13	0	4	0	2	0	0	0	0	0	5	0	0	0	28	3	1		7	1	2	18			
17:45 - 18:00	0	0	3	0	0	0	0	0	0	0	7	0	5	0	6	0	0	0	0	0	5	0	2	0	29			10	1	6	12				
18:00 - 18:15	1	0	1	0	0	0	1	0	0	0	5	0	3	0	4	0	0	0	0	0	5	0	0	0	20				4	0	5	11			
18:15 - 18:30	0	0	0	0	0	0	0	0	1	0	9	0	3	0	7	0	0	0	0	0	1	0	2	0	23	1		2	2	5	1	7	10		
18:30 - 18:45																																			
18:45 - 19:00																																			
PM Peak Subtotal	4	0	6	0	0	0	6	1	4	0	32	0	14	0	22	1	3	0	2	0	24	1	2	0		2	1	8	10	22	9	30	61		
PM Peak Total (non-PCE)	4		6		0		7		4		32		14		23		3		2		25		2												
PM Peak %Truck	0%		0%		0%		14%		0%		0%		0%		4%		0%		0%		4%		0%												

APPENDIX B - EXISTING CONDITIONS

DRAFT

Valley View Development - TIA

Vistro File: Q:\...\CarpereTIA_20211028.vistro
Report File: C:\...\AMPeak_Base.pdf

Scenario 1 AM Peak - Base
4/28/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Thru	0.023	9.4	A
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	0.006	9.3	A





V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 1 hour

Delay (sec / veh): 9.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.023

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Thru	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	0	3	5	8	0	0	3	1
Total Analysis Volume [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

[illegible]




Intersection Level Of Service Report

Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 1 hour

Delay (sec / veh): 9.3
 Level Of Service: A
 Volume to Capacity (v/c): 0.006

Intersection Setup

Name	Hwy 2		Hwy 2		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00		100.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Hwy 2		Hwy 2			
Base Volume Input [veh/h]	0	86	90	14	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	10.00	10.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	86	90	14	5	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	0	22	23	4	1	0
Total Analysis Volume [veh/h]	0	89	93	14	5	1
Pedestrian Volume [ped/h]	0		0		0	

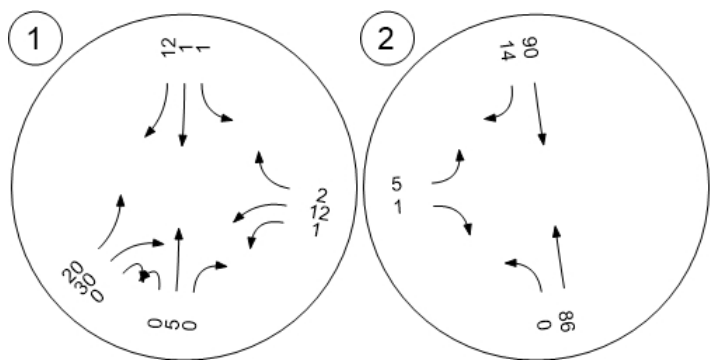
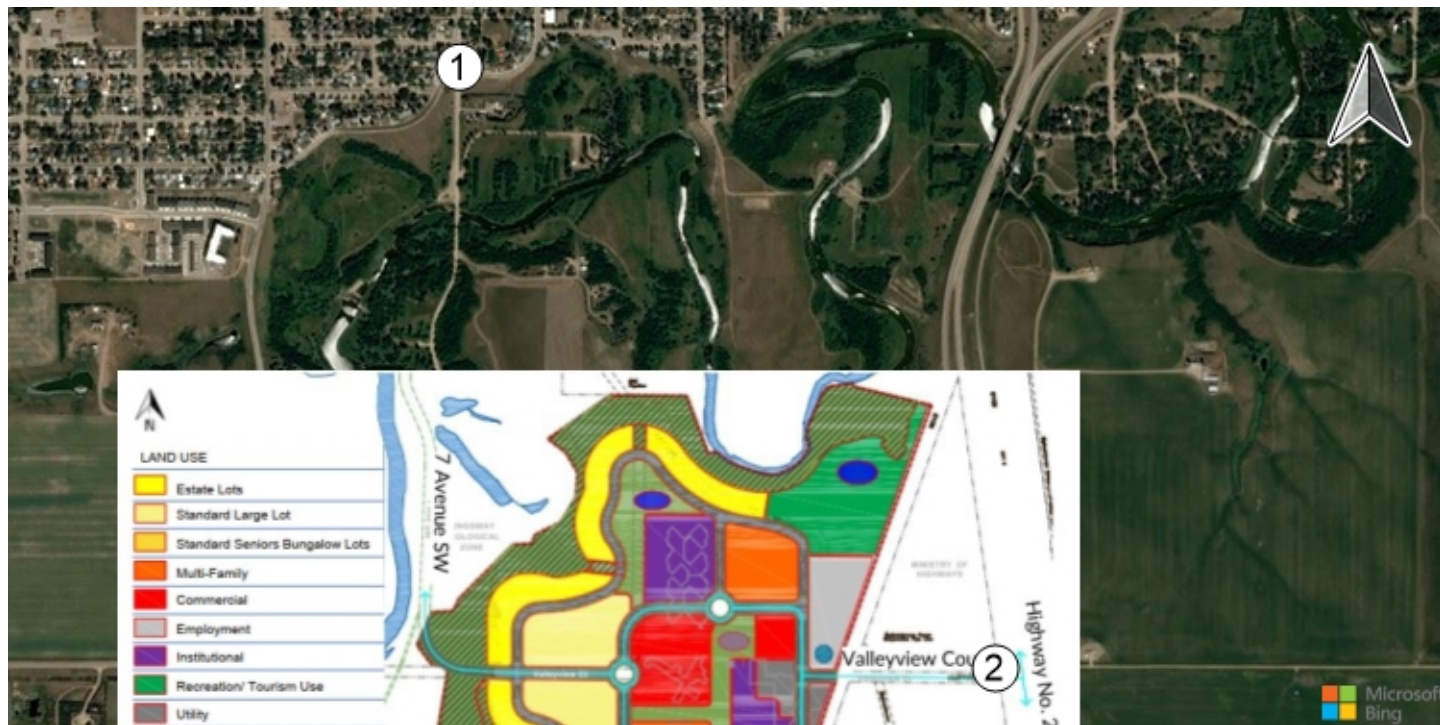
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.53	0.00	0.00	0.00	9.35	8.62
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [m/ln]	0.00	0.00	0.00	0.00	0.16	0.16
d_A, Approach Delay [s/veh]	0.00		0.00		9.23	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	A					

Traffic Volume - Base Volume



Valley View Development - TIA

Vistro File: Q:\...\CarpereTIA_20211028.vistro
Report File: C:\...\PMPeak_Base.pdf

Scenario 3 PM Peak - Base
4/28/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.015	9.1	A
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	0.009	9.8	A





V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 1 hour

Delay (sec / veh): 9.1
 Level Of Service: A
 Volume to Capacity (v/c): 0.015

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	0	2	1	8	4	6	1	1	6	1
Total Analysis Volume [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results




[illegible]

Intersection Level Of Service Report
Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 1 hour

Delay (sec / veh): 9.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.009

Intersection Setup

Name	Hwy 2		Hwy 2		Eastbound	
Approach	Northbound		Southbound			
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00		100.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Hwy 2		Hwy 2			
Base Volume Input [veh/h]	3	114	142	12	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	10.00	10.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	114	142	12	7	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	1	29	37	3	2	0
Total Analysis Volume [veh/h]	3	117	146	12	7	1
Pedestrian Volume [ped/h]	0		0		0	

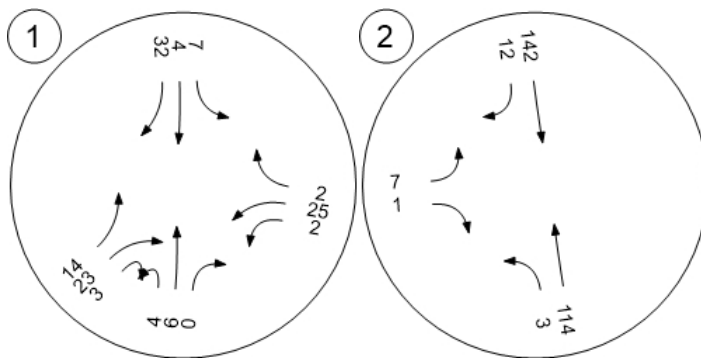
Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.65	0.00	0.00	0.00	9.85	8.78
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [m/ln]	0.05	0.03	0.00	0.00	0.24	0.24
d_A, Approach Delay [s/veh]	0.19		0.00		9.71	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.35					
Intersection LOS	A					

Traffic Volume - Base Volume



APPENDIX C - FUTURE BACKGROUND CONDITIONS

DRAFT

Valley View Development - TIA

Vistro File: Q:\...\CarpereTIA_20220505.vistro

Scenario 2 AM Peak - Full Build-out

Report File: Q:\...\AMFutureBackground.pdf

5/10/2022

Intersection Analysis Summary





ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.021	8.9	A
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	WB Right	0.224	10,000.0	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	0	1	0	0	0	0	0	1	0	0	0
Total Hourly Volume [veh/h]	1	5	1	1	1	12	20	30	1	1	12	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	0	0	3	5	8	0	0	3	1
Total Analysis Volume [veh/h]	1	5	1	1	1	12	20	30	1	1	12	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0





Movement, Approach, & Intersection Results

[illegible]

Intersection Level Of Service Report
Intersection 2: Highway 2 & Valleyview Court

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	Hwy 2			Hwy 2			Valleyview Ct					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00			100.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Hwy 2			Hwy 2			Valleyview Ct					
Base Volume Input [veh/h]	0	86	0	0	90	14	5	0	1	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	2.00	2.00	10.00	10.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	0	348	1045	0	0	0	1	0	57	1	170
Total Hourly Volume [veh/h]	1	86	348	1045	90	14	5	1	1	57	1	170
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	0	22	90	269	23	4	1	0	0	15	0	44
Total Analysis Volume [veh/h]	1	89	358	1076	93	14	5	1	1	59	1	175
Pedestrian Volume [ped/h]	0			0			0			0		



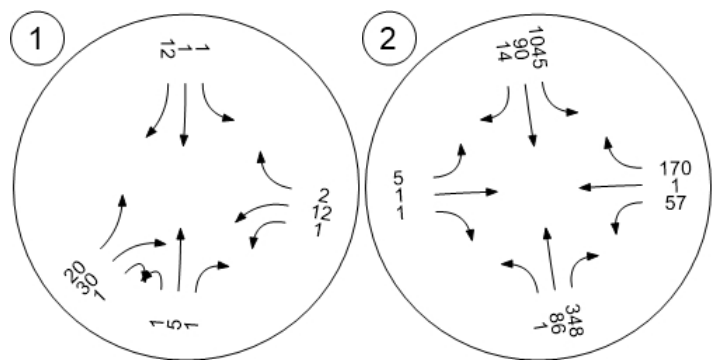
Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	2	2
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

[illegible]

Traffic Volume - Future Background Volume



Valley View Development - TIA

Vistro File: Q:\...\CarpereTIA_20220505.vistro

Scenario 4 PM Peak - Full Build-out

Report File: Q:\...\PMFutureBackground.pdf

5/10/2022

Intersection Analysis Summary





ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.015	9.1	A
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	0.298	207.5	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	6	1	7	4	32	14	23	3	2	25	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	0	2	1	8	4	6	1	1	6	1
Total Analysis Volume [veh/h]	4	6	1	7	4	32	14	23	3	2	25	2
Pedestrian Volume [ped/h]	0			0			0			0		



Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results





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Intersection Level Of Service Report
Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 207.5
 Level Of Service: F
 Volume to Capacity (v/c): 0.298

Intersection Setup

Name	Hwy 2			Hwy 2			Valleyview Ct					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00			100.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Hwy 2			Hwy 2			Valleyview Ct					
Base Volume Input [veh/h]	3	114	0	0	142	12	7	0	1	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	2.00	2.00	10.00	10.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	70	211	0	0	0	0	0	281	0	843
Total Hourly Volume [veh/h]	3	114	70	211	142	12	7	0	1	281	0	843
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	1	29	18	54	37	3	2	0	0	72	0	217
Total Analysis Volume [veh/h]	3	117	72	217	146	12	7	0	1	289	0	868
Pedestrian Volume [ped/h]	0			0			0			0		



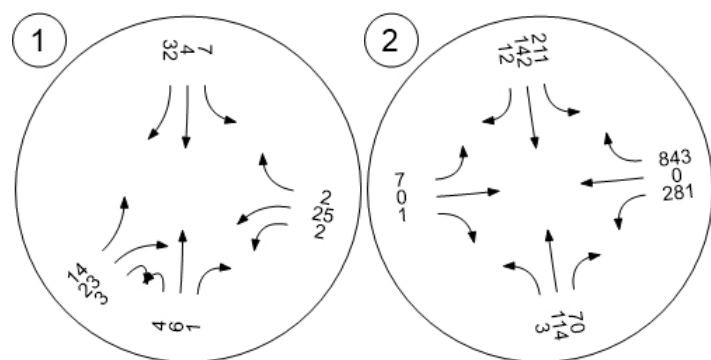
Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			Yes	Yes
Storage Area [veh]	0	0	2	2
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2

Movement, Approach, & Intersection Results

[illegible]

Traffic Volume - Future Background Volume



APPENDIX D - FULL BUILD-OUT CONDITIONS

DRAFT

Valley View Development - TIA

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Scenario 12 AM Peak - Full Build-out - No Indust

Report File: Q:\...\TEST_AppD_AM_FullNoIndust.pdf

5/18/2022

Intersection Analysis Summary





ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.029	10.5	B
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	0.274	11.9	B
3	Valleyview Court & East Collector	Two-way stop	HCM 6th Edition	WB Thru	0.172	12.7	B
4	North Collector & Local B	Roundabout	HCM 6th Edition	WB Thru		2.8	A
5	West Collector & Valleyview Court	Roundabout	HCM 6th Edition	EB Right		2.9	A
6	West Collector & South Collector/Local A	Roundabout	HCM 6th Edition	EB Thru		3.2	A
9	Valleyview Court & Local A	Two-way stop	HCM 6th Edition	WB Left	0.001	10.5	B
11	Local A & Local B	Two-way stop	HCM 6th Edition	NB Left	0.001	8.8	A
12	North Collector & East Collector/Local A	Two-way stop	HCM 6th Edition	WB Thru	0.004	9.5	A
18	Coteau St & 7th Ave SW	Two-way stop	HCM 6th Edition	SB Left	0.003	14.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	101	0	0	132	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	0	1	0	0	0	0	0	1	0	0	0
Total Hourly Volume [veh/h]	1	106	1	1	133	12	20	30	1	1	12	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	0	0	33	3	5	8	0	0	3	1
Total Analysis Volume [veh/h]	1	106	1	1	133	12	20	30	1	1	12	2
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




[illegible]

Intersection Level Of Service Report
Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.274

Intersection Setup

Name	Hwy 2		Hwy 2		Valleyview Ct	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00		100.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Hwy 2		Hwy 2		Valleyview Ct	
Base Volume Input [veh/h]	0	86	90	14	5	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	10.00	10.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	0	0	238	186	22
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	86	90	252	191	23
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	8	22	23	65	49	6
Total Analysis Volume [veh/h]	31	89	93	260	197	24
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	2
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.27	0.03
d_M, Delay for Movement [s/veh]	8.23	0.00	0.00	0.00	11.89	9.43
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.08	0.04	0.00	0.00	1.11	0.09
95th-Percentile Queue Length [m/ln]	0.63	0.32	0.00	0.00	8.49	0.67
d_A, Approach Delay [s/veh]	2.13		0.00		11.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.07					
Intersection LOS	B					





Intersection Level Of Service Report

Intersection 3: Valleyview Court & East Collector

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 12.7
Level Of Service: B
Volume to Capacity (v/c): 0.172

Intersection Setup

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	32	12	0	0	0	8	3	18	28	21
Total Analysis Volume [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results




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Intersection Level Of Service Report
Intersection 4: North Collector & Local B

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 2.8
 Level Of Service: A

Intersection Setup

Name	Local B		West Collector			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Local B		West Collector			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	15	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	1	15	17	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	4	0
Total Analysis Volume [veh/h]	0	1	1	15	17	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	17		0		1	
Exiting Flow Rate [veh/h]	1		18		15	
Demand Flow Rate [veh/h]	0	1	1	15	17	0
Adjusted Demand Flow Rate [veh/h]	0	1	1	15	17	0

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	2		17		18	
Capacity of Entry and Bypass Lanes [veh/h]	1356		1380		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1330		1353		1352	
X, volume / capacity	0.00		0.01		0.01	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.04
95th-Percentile Queue Length [m]	0.02	0.27	0.29
Approach Delay [s/veh]	2.71	2.75	2.76
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.76		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 5: West Collector & Valleyview Court

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 2.9
 Level Of Service: A

Intersection Setup

Name			West Collector		Valleyview Court	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			West Collector		Valleyview Court	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	1	0	18	16	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	1	0	18	16	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	0	5	4	7
Total Analysis Volume [veh/h]	26	1	0	18	16	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	16		27		0	
Exiting Flow Rate [veh/h]	29		17		45	
Demand Flow Rate [veh/h]	26	1	0	18	16	28
Adjusted Demand Flow Rate [veh/h]	26	1	0	18	16	28

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	28		19		45	
Capacity of Entry and Bypass Lanes [veh/h]	1358		1344		1380	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1331		1317		1353	
X, volume / capacity	0.02		0.01		0.03	

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.04	0.10
95th-Percentile Queue Length [m]	0.47	0.32	0.77
Approach Delay [s/veh]	2.86	2.84	2.91
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.88		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: West Collector & South Collector/Local A




Control Type:
Analysis Method:
Analysis Period:

Roundabout
HCM 6th Edition
15 minutes

Delay (sec / veh):
Level Of Service:

3.2
A

Intersection Setup

Name			Local A		South Collector	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Local A		South Collector	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	0	0	85	53	40
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	0	85	53	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	0	21	13	10
Total Analysis Volume [veh/h]	45	0	0	85	53	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	54		46		0	
Exiting Flow Rate [veh/h]	41		54		133	
Demand Flow Rate [veh/h]	45	0	0	85	53	40
Adjusted Demand Flow Rate [veh/h]	45	0	0	85	53	40

Lanes

Overwrite Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Overwrite Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	46		87		95	
Capacity of Entry and Bypass Lanes [veh/h]	1306		1317		1380	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1281		1292		1353	
X, volume / capacity	0.04		0.07		0.07	

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.11	0.21	0.22
95th-Percentile Queue Length [m]	0.83	1.61	1.68
Approach Delay [s/veh]	3.09	3.31	3.20
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.22		
Intersection LOS	A		





Intersection Level Of Service Report

Intersection 9: Valleyview Court & Local A

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 10.5
Level Of Service: B
Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local A			Local A			Valleyview Court			Valleyview Court		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Local A			Local A			Valleyview Court			Valleyview Court		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	5	0	0	1	6	24	44	64	0	43	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	1	0	0	0	0	0	1	0	0
Total Hourly Volume [veh/h]	52	5	1	1	1	6	24	44	64	1	43	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	0	0	0	2	6	11	16	0	11	0
Total Analysis Volume [veh/h]	52	5	1	1	1	6	24	44	64	1	43	1
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.06	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	7.23	0.00	0.00	10.11	10.28	8.54	10.48	10.13	8.34
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/l/n]	0.10	0.10	0.10	0.00	0.00	0.00	0.29	0.29	0.19	0.19	0.19	0.00
95th-Percentile Queue Length [m/l/n]	0.76	0.76	0.76	0.01	0.01	0.01	2.24	2.24	1.44	1.43	1.43	0.02
d_A, Approach Delay [s/veh]	6.55			0.90			9.41			10.09		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	8.57											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Local A & Local B

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local B		Local A		Local A	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Local B		Local A		Local A	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	12	0	1	46
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	1	0	1	0	0
Total Hourly Volume [veh/h]	1	2	12	1	1	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	3	0	0	12
Total Analysis Volume [veh/h]	1	2	12	1	1	46
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	8.38	0.00	0.00	7.24	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.07	0.07	0.00	0.00	0.01	0.01
d_A, Approach Delay [s/veh]	8.53		0.00		0.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: North Collector & East Collector/Local A

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	East Collector			Local A						North Collector		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	30.48	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			Local A						North Collector		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	47	35	0	13	0	0	13	29	7	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	1	1	0	0	0	0	1
Total Hourly Volume [veh/h]	5	47	35	0	13	1	1	13	29	7	3	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	9	0	3	0	0	3	7	2	1	0
Total Analysis Volume [veh/h]	5	47	35	0	13	1	1	13	29	7	3	1
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0





[illegible]

Intersection Level Of Service Report
Intersection 18: Coteau St & 7th Ave SW

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.003

Intersection Setup

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

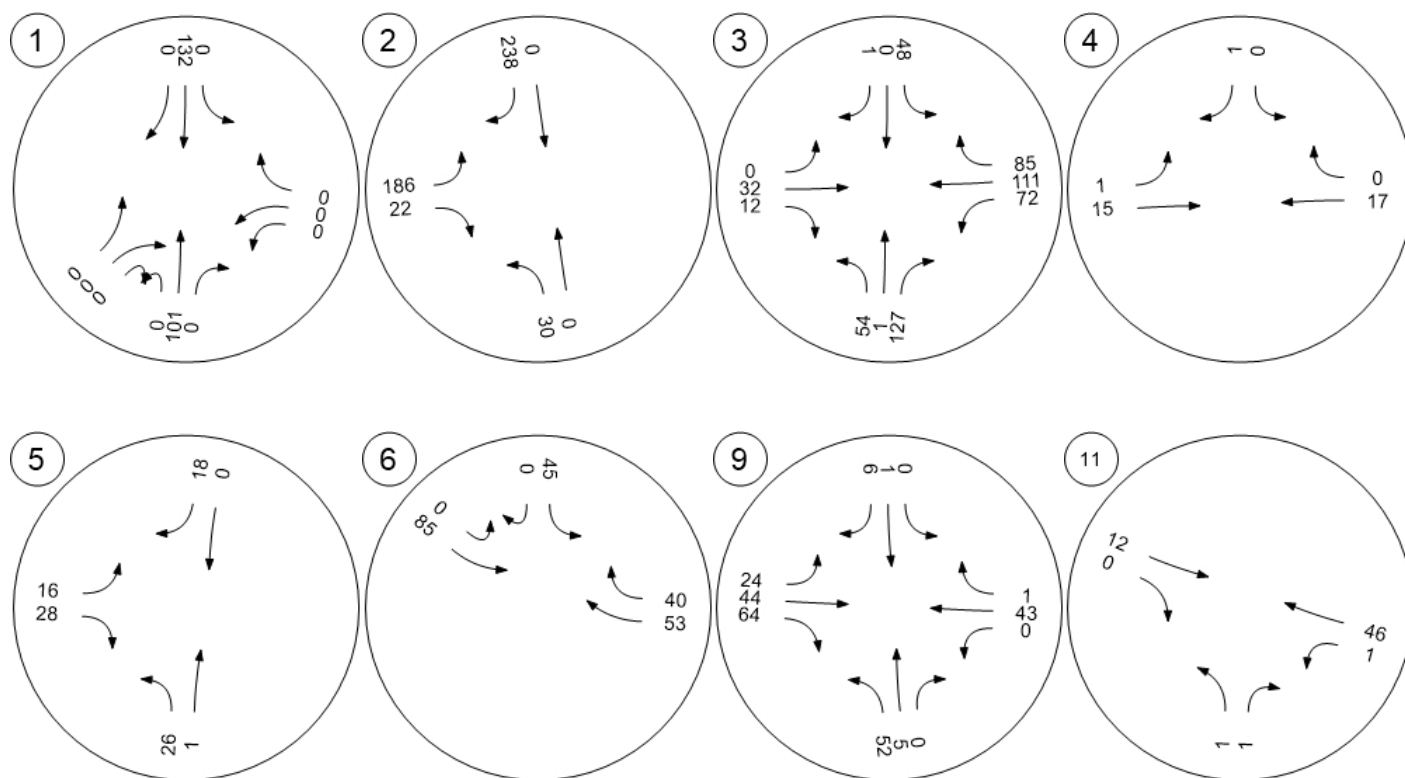
Volumes

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Base Volume Input [veh/h]	5	0	5	1	0	0	1	208	5	9	83	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	74	0	0	0	0	0	32	100	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	79	1	0	0	1	208	37	109	83	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	20	0	0	0	0	52	9	27	21	1
Total Analysis Volume [veh/h]	32	0	79	1	0	0	1	208	37	109	83	2
Pedestrian Volume [ped/h]	0			0			0			0		

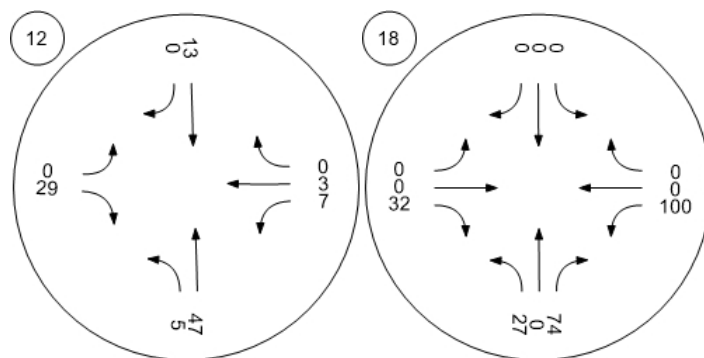
Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

V/C, Movement V/C Ratio	0.07	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
d_M, Delay for Movement [s/veh]	14.55	14.85	10.58	14.91	13.92	8.72	7.38	0.00	0.00	7.97	0.00	0.00
Movement LOS	B	B	B	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/l/n]	0.62	0.62	0.62	0.01	0.01	0.01	0.00	0.00	0.00	0.27	0.27	0.27
95th-Percentile Queue Length [m/l/n]	4.70	4.70	4.70	0.06	0.06	0.06	0.02	0.02	0.02	2.05	2.05	2.05
d_A, Approach Delay [s/veh]	11.73			14.91			0.03			4.48		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	3.97											
Intersection LOS	B											

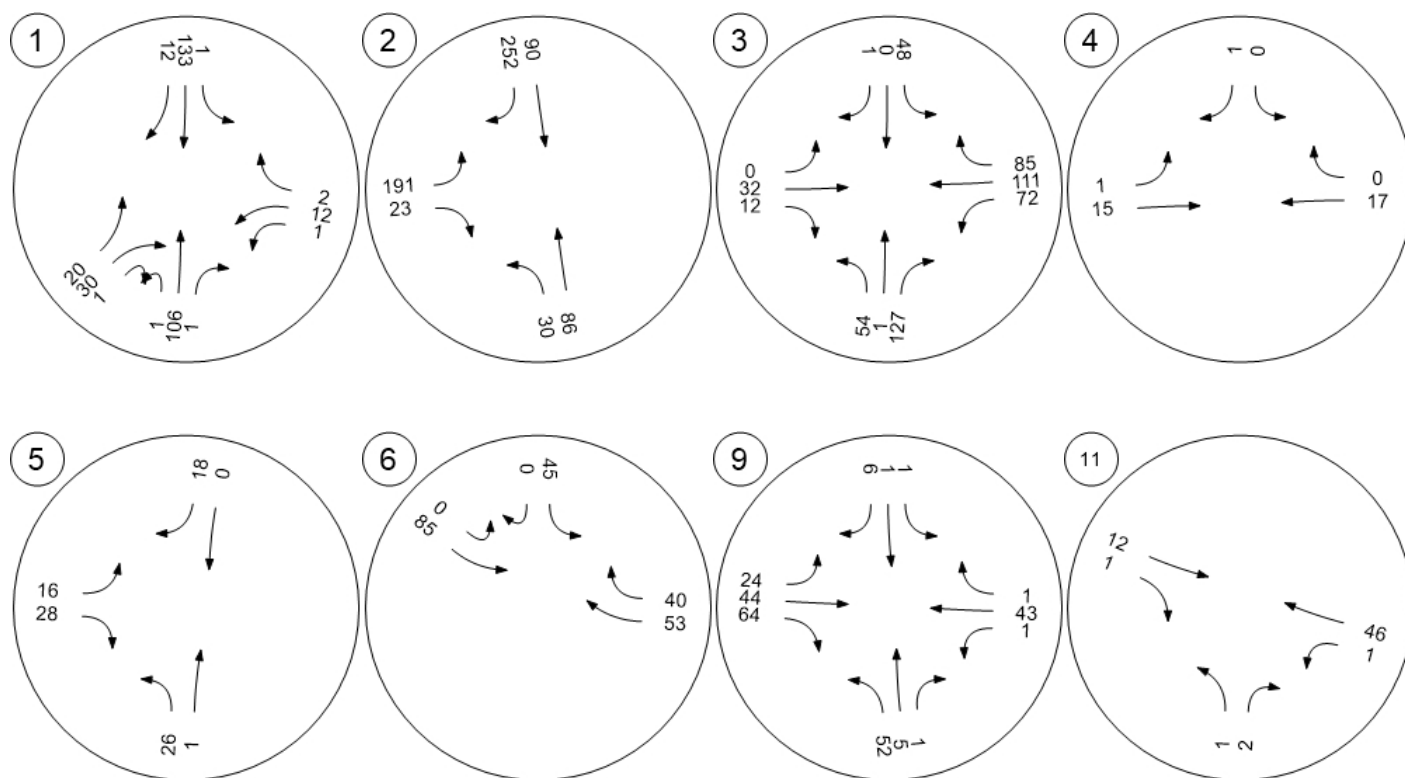
Traffic Volume - Net New Site Trips



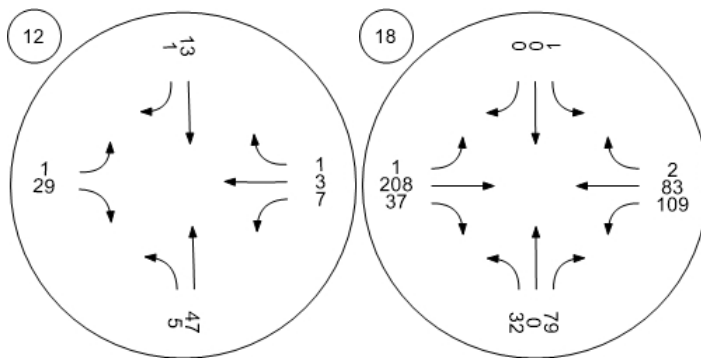
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Valley View Development - TIA

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Scenario 13 PM Peak - Full Build-out - No Indust

Report File: Q:\...\TEST_AppD_PM_FullNoIndust.pdf

5/18/2022

Intersection Analysis Summary





ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.024	11.4	B
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	0.396	14.1	B
3	Valleyview Ct & East Collector	Two-way stop	HCM 6th Edition	WB Left	0.330	15.9	C
4	Local B & North Collector	Roundabout	HCM 6th Edition	EB Thru		2.7	A
5	West Collector & Valleyview Court	Roundabout	HCM 6th Edition	EB Right		3.1	A
6	Local A + South Collector	Roundabout	HCM 6th Edition	WB Right		3.7	A
9	7th Ave SW & Local A	Two-way stop	HCM 6th Edition	WB Left	0.002	11.0	B
11	Local A & Local B	Two-way stop	HCM 6th Edition	NB Left	0.001	8.8	A
12	East Collector & North Collector	Two-way stop	HCM 6th Edition	WB Thru	0.014	9.9	A
17	Coteau St & 7th Ave SW	Two-way stop	HCM 6th Edition	SB Left	0.011	18.7	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	130	0	0	156	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	136	1	7	160	32	14	23	3	2	25	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	0	2	40	8	4	6	1	1	6	1
Total Analysis Volume [veh/h]	4	136	1	7	160	32	14	23	3	2	25	2
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




[illegible]

Intersection Level Of Service Report
Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.396

Intersection Setup

Name	Hwy 2		Hwy 2		Valleyview Ct	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00		100.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Hwy 2		Hwy 2		Valleyview Ct	
Base Volume Input [veh/h]	3	114	142	12	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	10.00	10.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	291	244	25
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	114	142	303	251	26
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	9	29	37	78	65	7
Total Analysis Volume [veh/h]	35	117	146	312	259	27
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	2
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.40	0.03
d_M, Delay for Movement [s/veh]	8.57	0.00	0.00	0.00	14.06	9.82
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.10	0.05	0.00	0.00	1.89	0.11
95th-Percentile Queue Length [m/ln]	0.79	0.40	0.00	0.00	14.43	0.83
d_A, Approach Delay [s/veh]	1.97		0.00		13.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.70					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: Valleyview Ct & East Collector

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 15.9
 Level Of Service: C
 Volume to Capacity (v/c): 0.330

Intersection Setup

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	2	124	53	5	2	6	92	49	190	75	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	2	124	53	5	2	6	92	49	190	75	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	1	31	13	1	1	2	23	12	48	19	14
Total Analysis Volume [veh/h]	28	2	124	53	5	2	6	92	49	190	75	57
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




[illegible]

Intersection Level Of Service Report
Intersection 4: Local B & North Collector

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 2.7
 Level Of Service: A

Intersection Setup

Name	Local B		West Collector			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Local B		West Collector			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	1	15	12	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	1	15	12	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	3	0
Total Analysis Volume [veh/h]	1	1	1	15	12	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	12		1		1	
Exiting Flow Rate [veh/h]	1		13		16	
Demand Flow Rate [veh/h]	1	1	1	15	12	0
Adjusted Demand Flow Rate [veh/h]	1	1	1	15	12	0

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	3		17		13	
Capacity of Entry and Bypass Lanes [veh/h]	1363		1379		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1337		1352		1352	
X, volume / capacity	0.00		0.01		0.01	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.03
95th-Percentile Queue Length [m]	0.03	0.27	0.20
Approach Delay [s/veh]	2.71	2.75	2.73
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.74		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 5: West Collector & Valleyview Court

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 3.1
 Level Of Service: A

Intersection Setup

Name	West Collector		West Collector		Valleyview Ct	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Collector		West Collector		Valleyview Ct	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	65	3	1	12	14	74
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	3	1	12	14	74
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	1	0	3	4	19
Total Analysis Volume [veh/h]	65	3	1	12	14	74
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	14		66		1	
Exiting Flow Rate [veh/h]	77		17		79	
Demand Flow Rate [veh/h]	65	3	1	12	14	74
Adjusted Demand Flow Rate [veh/h]	65	3	1	12	14	74

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	70		14		90	
Capacity of Entry and Bypass Lanes [veh/h]	1361		1290		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1334		1265		1352	
X, volume / capacity	0.05		0.01		0.07	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.16	0.03	0.21
95th-Percentile Queue Length [m]	1.23	0.24	1.59
Approach Delay [s/veh]	3.10	2.93	3.17
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.13		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: Local A + South Collector

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 3.7
 Level Of Service: A

Intersection Setup

Name	West Collector		Local A		South Collector	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Collector		Local A		South Collector	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	95	5	3	65	79	112
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	5	3	65	79	112
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	1	1	16	20	28
Total Analysis Volume [veh/h]	95	5	3	65	79	112
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	81		97		3	
Exiting Flow Rate [veh/h]	117		86		163	
Demand Flow Rate [veh/h]	95	5	3	65	79	112
Adjusted Demand Flow Rate [veh/h]	95	5	3	65	79	112

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	102		70		195	
Capacity of Entry and Bypass Lanes [veh/h]	1272		1251		1376	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1247		1226		1349	
X, volume / capacity	0.08		0.06		0.14	

Movement, Approach, & Intersection Results





Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.26	0.18	0.49
95th-Percentile Queue Length [m]	1.99	1.34	3.76
Approach Delay [s/veh]	3.54	3.39	3.82
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.66		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 9: 7th Ave SW & Local A

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.002

Intersection Setup

Name	Local A			Local A			7th Ave SW			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Local A			Local A			7th Ave SW			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	9	0	2	9	11	14	86	56	0	76	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	0	0	0	0	0	0	1	0	0
Total Hourly Volume [veh/h]	43	9	1	2	9	11	14	86	56	1	76	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	0	1	2	3	4	22	14	0	19	0
Total Analysis Volume [veh/h]	43	9	1	2	9	11	14	86	56	1	76	1
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




[illegible]

Intersection Level Of Service Report
Intersection 11: Local A & Local B

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local B					
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Local B					
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	24	2	0	32
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	1	0	0	1	0
Total Hourly Volume [veh/h]	1	1	24	2	1	32
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	6	1	0	8
Total Analysis Volume [veh/h]	1	1	24	2	1	32
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.81	8.43	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.05	0.05	0.00	0.00	0.01	0.01
d_A, Approach Delay [s/veh]	8.62		0.00		0.22	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 12: East Collector & North Collector

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	East Collector			Local A						North Collector		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	30.48	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			Local A						North Collector		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	9	2	0	6	0	1	1	1	8	3	0
Total Analysis Volume [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0





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Intersection Level Of Service Report
Intersection 17: Coteau St & 7th Ave SW

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 18.7
 Level Of Service: C
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

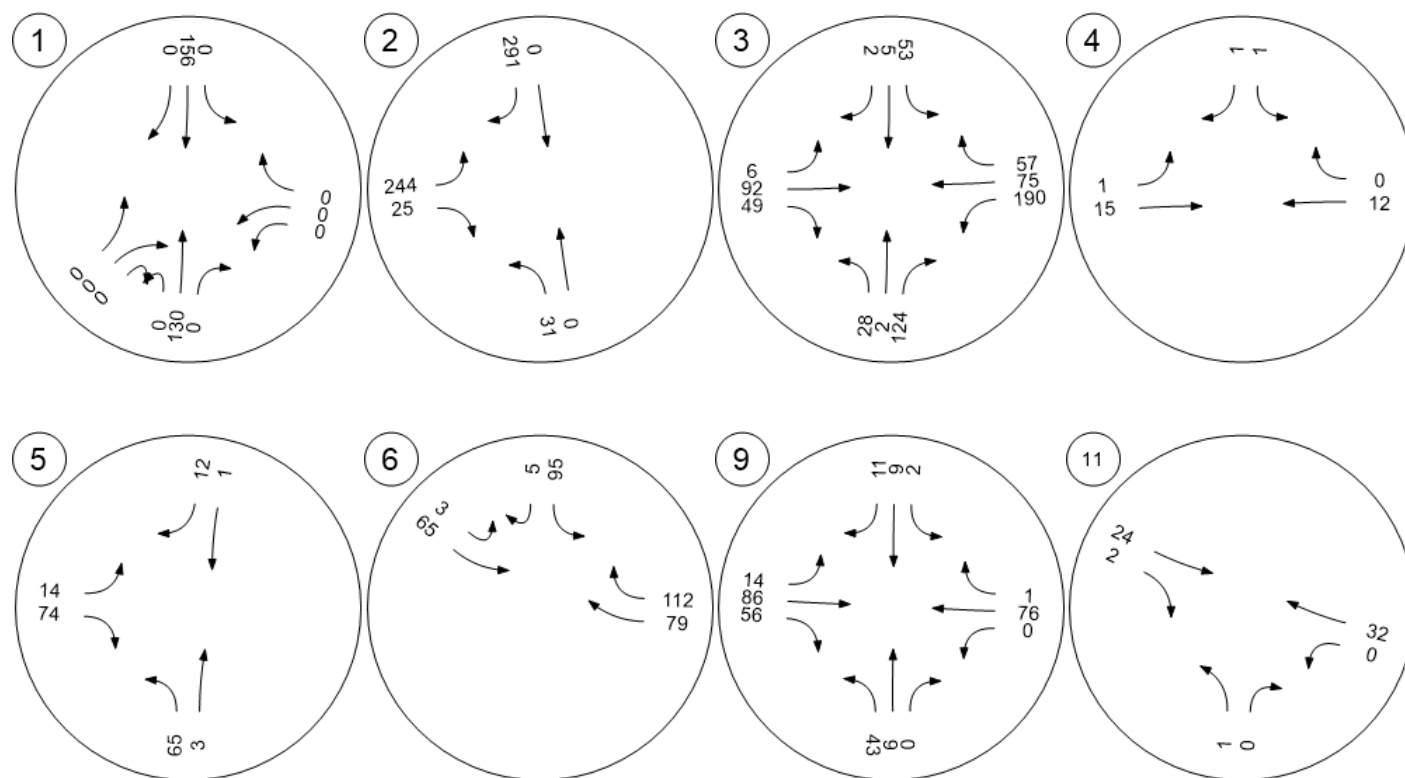
Volumes

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Base Volume Input [veh/h]	3	0	12	3	0	0	2	161	7	14	230	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	99	0	0	0	0	0	39	118	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	0	111	3	0	0	2	161	46	132	230	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	28	1	0	0	1	40	12	33	58	0
Total Analysis Volume [veh/h]	34	0	111	3	0	0	2	161	46	132	230	1
Pedestrian Volume [ped/h]	0			0			0			0		

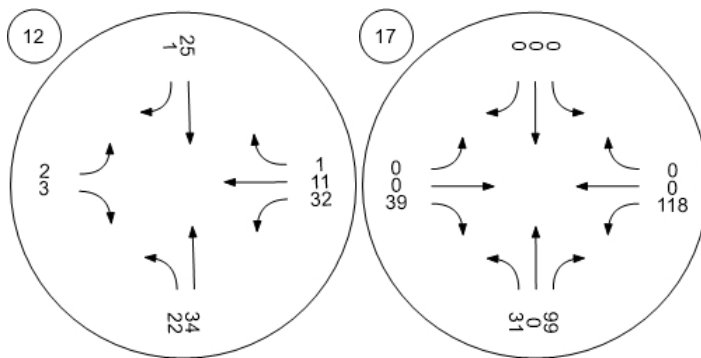
Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

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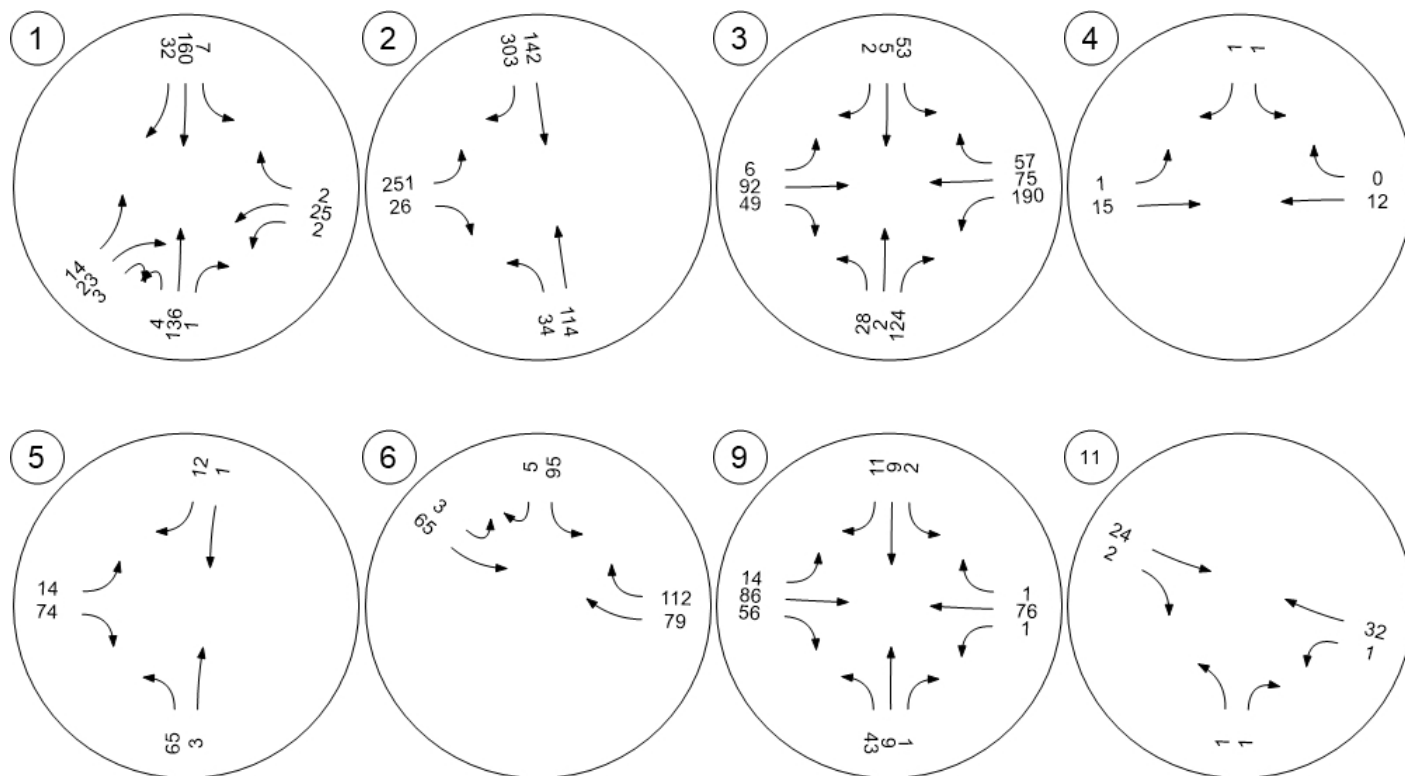
Traffic Volume - Net New Site Trips



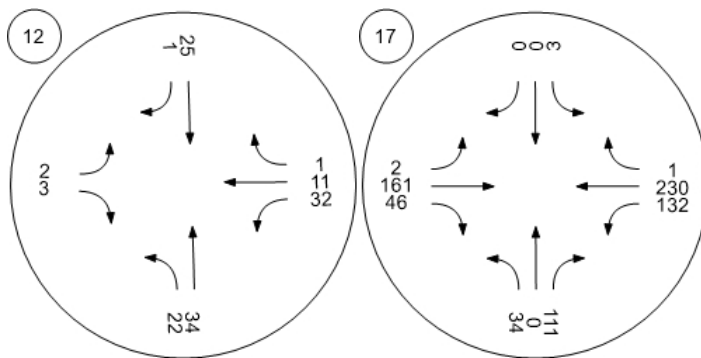
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Valley View Development - TIA

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Scenario 2 AM Peak - Full Build-out

Report File: Q:\...\TEST_AppD_AM_FullWithIndust.pdf

5/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.029	10.5	B
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	WB Right	0.224	10,000.0	F
3	Valleyview Court & East Collector	Two-way stop	HCM 6th Edition	WB Thru	0.172	12.7	B
4	North Collector & Local B	Roundabout	HCM 6th Edition	WB Thru		2.8	A
5	West Collector & Valleyview Court	Roundabout	HCM 6th Edition	EB Right		2.9	A
6	West Collector & South Collector/Local A	Roundabout	HCM 6th Edition	EB Thru		3.2	A
9	Valleyview Court & Local A	Two-way stop	HCM 6th Edition	WB Left	0.001	10.5	B
11	Local A & Local B	Two-way stop	HCM 6th Edition	NB Left	0.001	8.8	A
12	North Collector & East Collector/Local A	Two-way stop	HCM 6th Edition	WB Thru	0.004	9.5	A
18	Coteau St & 7th Ave SW	Two-way stop	HCM 6th Edition	SB Left	0.003	14.9	B





V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	0	5	0	1	1	12	20	30	0	1	12	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	101	0	0	132	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	0	1	0	0	0	0	0	1	0	0	0
Total Hourly Volume [veh/h]	1	106	1	1	133	12	20	30	1	1	12	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	27	0	0	33	3	5	8	0	0	3	1
Total Analysis Volume [veh/h]	1	106	1	1	133	12	20	30	1	1	12	2
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0





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Intersection Level Of Service Report

Intersection 2: Highway 2 & Valleyview Court

Control Type:	Two-way stop	Delay (sec / veh):	10,000.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.224

Intersection Setup

Name	Hwy 2			Hwy 2			Valleyview Ct					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00			100.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Hwy 2			Hwy 2			Valleyview Ct					
Base Volume Input [veh/h]	0	86	0	0	90	14	5	0	1	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	2.00	2.00	10.00	10.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	30	0	0	0	0	238	186	0	22	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	1	0	348	1045	0	0	0	1	0	57	1	170
Total Hourly Volume [veh/h]	31	86	348	1045	90	252	191	1	23	57	1	170
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	8	22	90	269	23	65	49	0	6	15	0	44
Total Analysis Volume [veh/h]	32	89	358	1076	93	260	197	1	24	59	1	175
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				Yes
Storage Area [veh]	0	0	2	2
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2





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Intersection Level Of Service Report
Intersection 3: Valleyview Court & East Collector

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.172

Intersection Setup

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	32	12	0	0	0	8	3	18	28	21
Total Analysis Volume [veh/h]	54	1	127	48	0	1	0	32	12	72	111	85
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

[illegible]




Intersection Level Of Service Report

Intersection 4: North Collector & Local B

Control Type: Roundabout
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 2.8
Level Of Service: A

Intersection Setup

Name	Local B		West Collector			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Local B		West Collector			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	1	15	17	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	1	15	17	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	4	0
Total Analysis Volume [veh/h]	0	1	1	15	17	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	17		0		1	
Exiting Flow Rate [veh/h]	1		18		15	
Demand Flow Rate [veh/h]	0	1	1	15	17	0
Adjusted Demand Flow Rate [veh/h]	0	1	1	15	17	0

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	2		17		18	
Capacity of Entry and Bypass Lanes [veh/h]	1356		1380		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1330		1353		1352	
X, volume / capacity	0.00		0.01		0.01	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.04
95th-Percentile Queue Length [m]	0.02	0.27	0.29
Approach Delay [s/veh]	2.71	2.75	2.76
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.76		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 5: West Collector & Valleyview Court

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 2.9
 Level Of Service: A

Intersection Setup

Name			West Collector		Valleyview Court	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			West Collector		Valleyview Court	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	26	1	0	18	16	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	1	0	18	16	28
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	0	5	4	7
Total Analysis Volume [veh/h]	26	1	0	18	16	28
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	16		27		0	
Exiting Flow Rate [veh/h]	29		17		45	
Demand Flow Rate [veh/h]	26	1	0	18	16	28
Adjusted Demand Flow Rate [veh/h]	26	1	0	18	16	28

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	28		19		45	
Capacity of Entry and Bypass Lanes [veh/h]	1358		1344		1380	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1331		1317		1353	
X, volume / capacity	0.02		0.01		0.03	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.06	0.04	0.10
95th-Percentile Queue Length [m]	0.47	0.32	0.77
Approach Delay [s/veh]	2.86	2.84	2.91
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.88		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: West Collector & South Collector/Local A

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 3.2
 Level Of Service: A

Intersection Setup

Name			Local A		South Collector	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name			Local A		South Collector	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	45	0	0	85	53	40
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	45	0	0	85	53	40
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	0	0	21	13	10
Total Analysis Volume [veh/h]	45	0	0	85	53	40
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	54		46		0	
Exiting Flow Rate [veh/h]	41		54		133	
Demand Flow Rate [veh/h]	45	0	0	85	53	40
Adjusted Demand Flow Rate [veh/h]	45	0	0	85	53	40

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	46		87		95	
Capacity of Entry and Bypass Lanes [veh/h]	1306		1317		1380	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1281		1292		1353	
X, volume / capacity	0.04		0.07		0.07	

Movement, Approach, & Intersection Results

Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.11	0.21	0.22
95th-Percentile Queue Length [m]	0.83	1.61	1.68
Approach Delay [s/veh]	3.09	3.31	3.20
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.22		
Intersection LOS	A		





Intersection Level Of Service Report

Intersection 9: Valleyview Court & Local A

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local A			Local A			Valleyview Court			Valleyview Court		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Local A			Local A			Valleyview Court			Valleyview Court		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	5	0	0	1	6	24	44	64	0	43	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	1	0	0	0	0	0	1	0	0
Total Hourly Volume [veh/h]	52	5	1	1	1	6	24	44	64	1	43	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	0	0	0	2	6	11	16	0	11	0
Total Analysis Volume [veh/h]	52	5	1	1	1	6	24	44	64	1	43	1
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




V/C, Movement V/C Ratio	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.06	0.00	0.06	0.00
d_M, Delay for Movement [s/veh]	7.31	0.00	0.00	7.23	0.00	0.00	10.11	10.28	8.54	10.48	10.13	8.34
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/in]	0.10	0.10	0.10	0.00	0.00	0.00	0.29	0.29	0.19	0.19	0.19	0.00
95th-Percentile Queue Length [m/in]	0.76	0.76	0.76	0.01	0.01	0.01	2.24	2.24	1.44	1.43	1.43	0.02
d_A, Approach Delay [s/veh]	6.55			0.90			9.41			10.09		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	8.57											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Local A & Local B

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local B		Local A		Local A	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Local B		Local A		Local A	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	12	0	1	46
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	1	0	1	0	0
Total Hourly Volume [veh/h]	1	2	12	1	1	46
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	3	0	0	12
Total Analysis Volume [veh/h]	1	2	12	1	1	46
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.82	8.38	0.00	0.00	7.24	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.07	0.07	0.00	0.00	0.01	0.01
d_A, Approach Delay [s/veh]	8.53		0.00		0.15	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: North Collector & East Collector/Local A

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 9.5
 Level Of Service: A
 Volume to Capacity (v/c): 0.004

Intersection Setup

Name	East Collector			Local A						North Collector		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	30.48	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			Local A						North Collector		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	47	35	0	13	0	0	13	29	7	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	1	1	0	0	0	0	1
Total Hourly Volume [veh/h]	5	47	35	0	13	1	1	13	29	7	3	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	12	9	0	3	0	0	3	7	2	1	0
Total Analysis Volume [veh/h]	5	47	35	0	13	1	1	13	29	7	3	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results





[illegible]

Intersection Level Of Service Report
Intersection 18: Coteau St & 7th Ave SW

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.9
 Level Of Service: B
 Volume to Capacity (v/c): 0.003

Intersection Setup

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Base Volume Input [veh/h]	5	0	5	1	0	0	1	208	5	9	83	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	74	0	0	0	0	0	32	100	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	0	79	1	0	0	1	208	37	109	83	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	0	20	0	0	0	0	52	9	27	21	1
Total Analysis Volume [veh/h]	32	0	79	1	0	0	1	208	37	109	83	2
Pedestrian Volume [ped/h]	0			0			0			0		

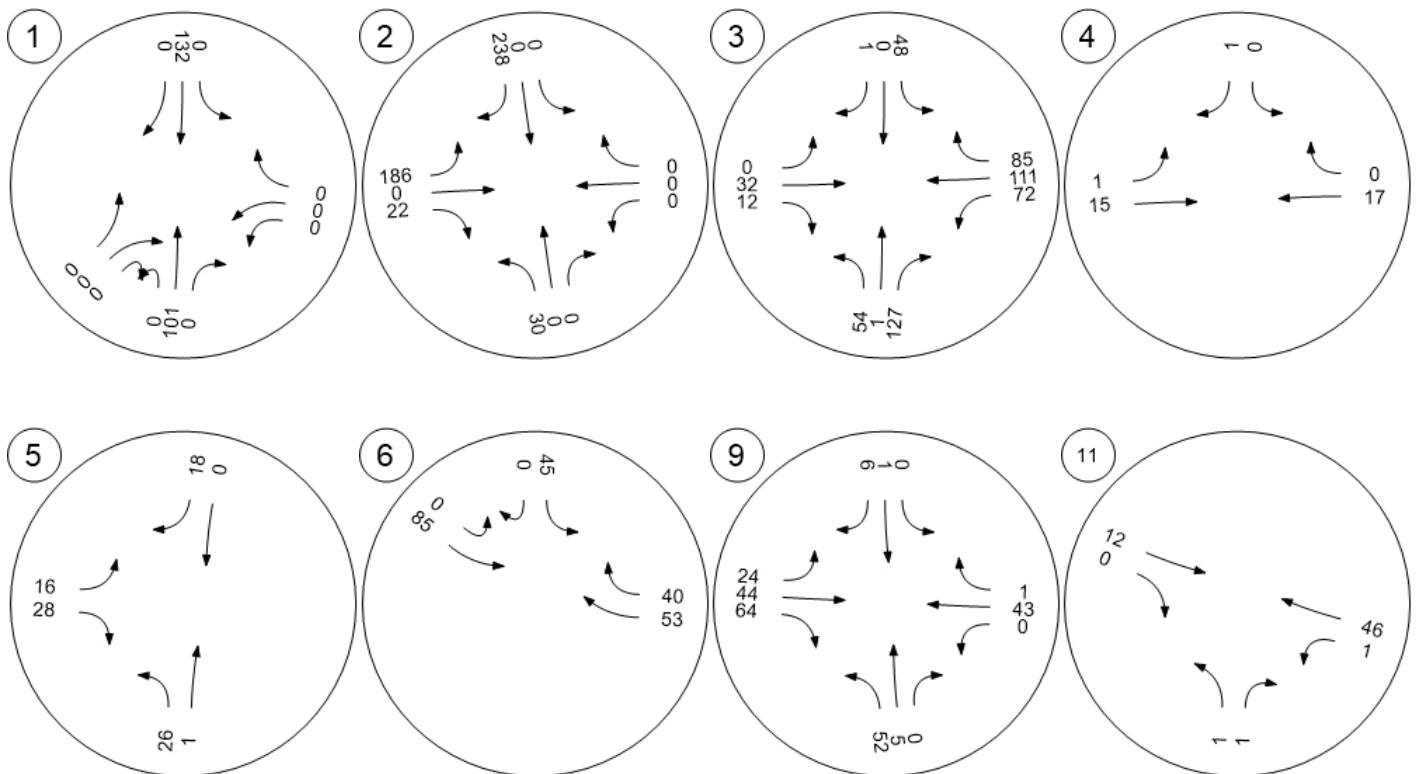
Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

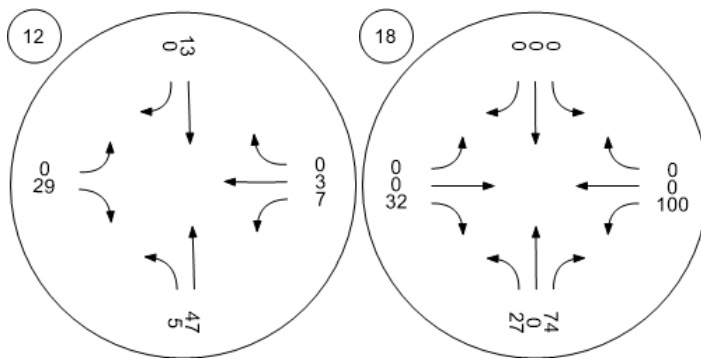
Movement, Approach, & Intersection Results

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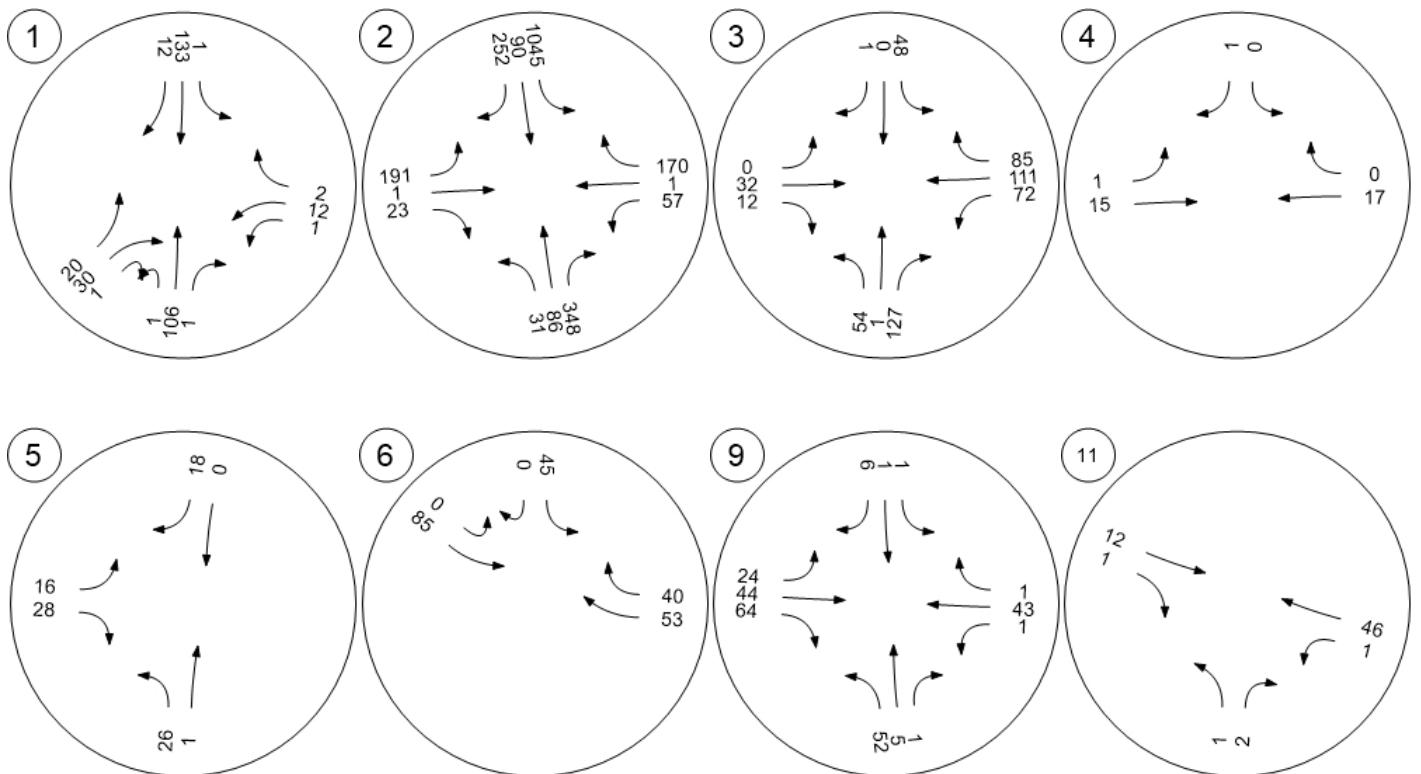
Traffic Volume - Net New Site Trips



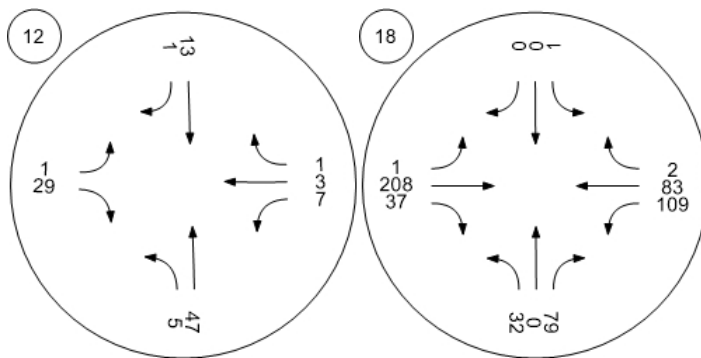
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



Valley View Development - TIA

Vistro File: Q:\...\CarpereTIA_20220505.vistro

Scenario 4 PM Peak - Full Build-out

Report File: Q:\...\TEST_AppD_PM_FullWithIndust.pdf

5/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	7th Ave SW & Keith Cres/Valleyview Dr	Two-way stop	HCM 6th Edition	EB Left	0.024	11.4	B
2	Highway 2 & Valleyview Court	Two-way stop	HCM 6th Edition	EB Left	16.809	7,593.2	F
3	Valleyview Ct & East Collector	Two-way stop	HCM 6th Edition	WB Left	0.324	15.5	C
4	Local B & North Collector	Roundabout	HCM 6th Edition	EB Thru		2.7	A
5	West Collector & Valleyview Court	Roundabout	HCM 6th Edition	EB Right		3.1	A
6	Local A + South Collector	Roundabout	HCM 6th Edition	WB Right		3.6	A
9	7th Ave SW & Local A	Two-way stop	HCM 6th Edition	WB Left	0.002	11.0	B
11	Local A & Local B	Two-way stop	HCM 6th Edition	NB Left	0.001	8.8	A
12	East Collector & North Collector	Two-way stop	HCM 6th Edition	WB Thru	0.014	9.9	A
17	Coteau St & 7th Ave SW	Two-way stop	HCM 6th Edition	SB Left	0.011	18.7	C





V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: 7th Ave SW & Keith Cres/Valleyview Dr

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Right	Right2	Left2	Left	Right
Lane Width [m]	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	7th Ave SW			7th Ave SW			Valleyview Dr			Keith Cres		
Base Volume Input [veh/h]	4	6	0	7	4	32	14	23	3	2	25	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	130	0	0	156	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	136	1	7	160	32	14	23	3	2	25	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	34	0	2	40	8	4	6	1	1	6	1
Total Analysis Volume [veh/h]	4	136	1	7	160	32	14	23	3	2	25	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

[illegible]





Intersection Level Of Service Report

Intersection 2: Highway 2 & Valleyview Court

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 7,593.2
 Level Of Service: F
 Volume to Capacity (v/c): 16.809

Intersection Setup

Name	Hwy 2			Hwy 2			Valleyview Ct					
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	100.00			100.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Hwy 2			Hwy 2			Valleyview Ct					
Base Volume Input [veh/h]	3	114	0	0	142	12	7	0	1	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	10.00	10.00	2.00	2.00	10.00	10.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	0	0	0	291	244	0	25	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	70	211	0	0	0	0	0	281	0	843
Total Hourly Volume [veh/h]	34	114	70	211	142	303	251	0	26	281	0	843
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300	1.0300
Total 15-Minute Volume [veh/h]	9	29	18	54	37	78	65	0	7	72	0	217
Total Analysis Volume [veh/h]	35	117	72	217	146	312	259	0	27	289	0	868
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				Yes
Storage Area [veh]	0	0	2	2
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	2	2





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Intersection Level Of Service Report

Intersection 3: Valleyview Ct & East Collector

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			East Collector			Valleyview Ct			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	2	124	53	5	3	6	92	49	190	75	57
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	2	124	53	5	3	6	92	49	190	75	57
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	1	31	13	1	1	2	23	12	48	19	14
Total Analysis Volume [veh/h]	23	2	124	53	5	3	6	92	49	190	75	57
Pedestrian Volume [ped/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0




V/C, Movement V/C Ratio	0.01	0.00	0.00	0.04	0.00	0.00	0.01	0.15	0.05	0.32	0.11	0.05
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	7.56	0.00	0.00	12.85	12.43	9.72	15.54	14.58	8.51
Movement LOS	A	A	A	A	A	A	B	B	A	C	B	A
95th-Percentile Queue Length [veh/in]	0.04	0.04	0.00	0.11	0.11	0.00	0.79	0.79	0.79	2.18	2.18	0.17
95th-Percentile Queue Length [m/in]	0.33	0.33	0.00	0.86	0.86	0.00	6.04	6.04	6.04	16.57	16.57	1.27
d_A, Approach Delay [s/veh]	1.12			6.57			11.54			14.07		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	10.01											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Local B & North Collector

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 2.7
 Level Of Service: A

Intersection Setup

Name	Local B		West Collector			
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Local B		West Collector			
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	1	1	15	13	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	1	15	13	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	4	3	0
Total Analysis Volume [veh/h]	1	1	1	15	13	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	13		1		1	
Exiting Flow Rate [veh/h]	2		14		16	
Demand Flow Rate [veh/h]	1	1	1	15	13	1
Adjusted Demand Flow Rate [veh/h]	1	1	1	15	13	1

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	3		17		15	
Capacity of Entry and Bypass Lanes [veh/h]	1362		1379		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1335		1352		1352	
X, volume / capacity	0.00		0.01		0.01	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.00	0.04	0.03
95th-Percentile Queue Length [m]	0.03	0.27	0.24
Approach Delay [s/veh]	2.71	2.75	2.74
Approach LOS	A	A	A
Intersection Delay [s/veh]	2.75		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 5: West Collector & Valleyview Court

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 3.1
 Level Of Service: A

Intersection Setup

Name	West Collector		West Collector		Valleyview Ct	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Collector		West Collector		Valleyview Ct	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	66	2	1	12	14	74
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	66	2	1	12	14	74
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	1	0	3	4	19
Total Analysis Volume [veh/h]	66	2	1	12	14	74
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	14		67		1	
Exiting Flow Rate [veh/h]	77		16		80	
Demand Flow Rate [veh/h]	66	2	1	12	14	74
Adjusted Demand Flow Rate [veh/h]	66	2	1	12	14	74

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	70		14		90	
Capacity of Entry and Bypass Lanes [veh/h]	1361		1289		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1334		1264		1352	
X, volume / capacity	0.05		0.01		0.07	

Movement, Approach, & Intersection Results




Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.16	0.03	0.21
95th-Percentile Queue Length [m]	1.23	0.24	1.59
Approach Delay [s/veh]	3.10	2.93	3.17
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.13		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 6: Local A + South Collector

Control Type: Roundabout
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 3.6
 Level Of Service: A

Intersection Setup

Name	West Collector		Local A		South Collector	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	West Collector		Local A		South Collector	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	95	5	1	62	78	110
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	5	1	62	78	110
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	1	0	16	20	28
Total Analysis Volume [veh/h]	95	5	1	62	78	110
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Number of Conflicting Circulating Lanes	1		1		1	
Circulating Flow Rate [veh/h]	80		97		1	
Exiting Flow Rate [veh/h]	113		85		160	
Demand Flow Rate [veh/h]	95	5	1	62	78	110
Adjusted Demand Flow Rate [veh/h]	95	5	1	62	78	110

Lanes

Override Calculated Critical Headway	No		No		No	
User-Defined Critical Headway [s]	4.00		4.00		4.00	
Override Calculated Follow-Up Time	No		No		No	
User-Defined Follow-Up Time [s]	3.00		3.00		3.00	
A (intercept)	1380.00		1380.00		1380.00	
B (coefficient)	0.00102		0.00102		0.00102	
HV Adjustment Factor	0.98		0.98		0.98	
Entry Flow Rate [veh/h]	102		65		192	
Capacity of Entry and Bypass Lanes [veh/h]	1273		1251		1379	
Pedestrian Impedance	1.00		1.00		1.00	
Capacity per Entry Lane [veh/h]	1248		1226		1352	
X, volume / capacity	0.08		0.05		0.14	

Movement, Approach, & Intersection Results





Lane LOS	A	A	A
95th-Percentile Queue Length [veh]	0.26	0.16	0.48
95th-Percentile Queue Length [m]	1.99	1.24	3.68
Approach Delay [s/veh]	3.54	3.35	3.79
Approach LOS	A	A	A
Intersection Delay [s/veh]	3.64		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 9: 7th Ave SW & Local A

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.002

Intersection Setup

Name	Local A			Local A			7th Ave SW			Valleyview Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			No			Yes		

Volumes

Name	Local A			Local A			7th Ave SW			Valleyview Ct		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	7	0	2	9	11	14	86	56	0	76	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	1	0	0	0	0	0	0	1	0	0
Total Hourly Volume [veh/h]	43	7	1	2	9	11	14	86	56	1	76	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	2	0	1	2	3	4	22	14	0	19	0
Total Analysis Volume [veh/h]	43	7	1	2	9	11	14	86	56	1	76	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results




[illegible]

Intersection Level Of Service Report
Intersection 11: Local A & Local B

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.8
 Level Of Service: A
 Volume to Capacity (v/c): 0.001

Intersection Setup

Name	Local B					
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00		50.00		50.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Local B					
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	24	2	0	31
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	1	0	0	1	0
Total Hourly Volume [veh/h]	1	1	24	2	1	31
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	6	1	0	8
Total Analysis Volume [veh/h]	1	1	24	2	1	31
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results





V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.80	8.43	0.00	0.00	7.27	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [m/ln]	0.05	0.05	0.00	0.00	0.01	0.01
d_A, Approach Delay [s/veh]	8.62		0.00		0.23	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.41					
Intersection LOS	A					

Intersection Level Of Service Report

Intersection 12: East Collector & North Collector

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	East Collector			Local A						North Collector		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	East Collector			Local A						North Collector		
Base Volume Input [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	9	2	0	6	0	1	1	1	8	3	0
Total Analysis Volume [veh/h]	22	34	9	0	25	1	2	3	3	32	11	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results





[illegible]

Intersection Level Of Service Report
Intersection 17: Coteau St & 7th Ave SW

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 18.7
 Level Of Service: C
 Volume to Capacity (v/c): 0.011

Intersection Setup

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [m]	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48	30.48
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [m]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [km/h]	50.00			50.00			50.00			50.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

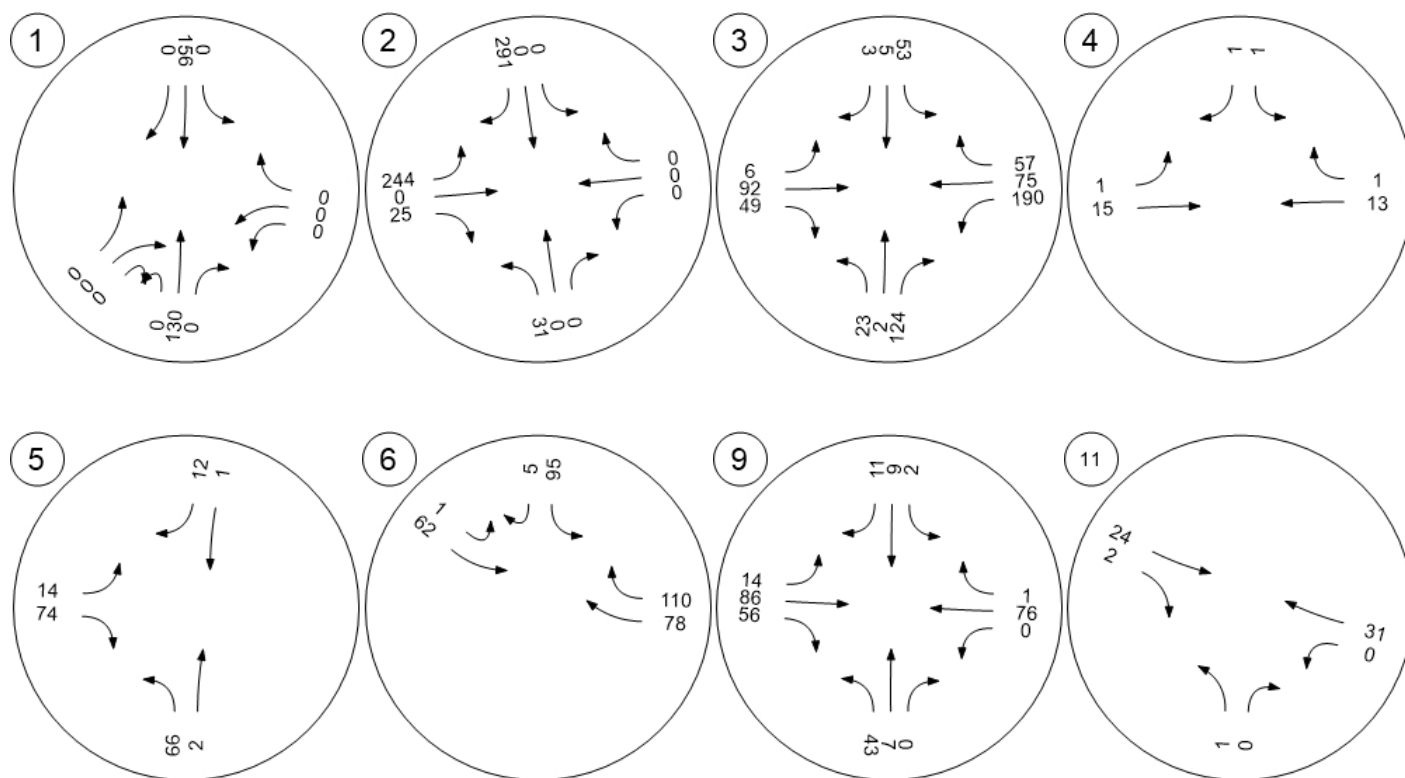
Volumes

Name	7th Ave SW			7th Ave SW			Coteau St			Coteau St		
Base Volume Input [veh/h]	3	0	12	3	0	0	2	161	7	14	230	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	99	0	0	0	0	0	39	118	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	34	0	111	3	0	0	2	161	46	132	230	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	0	28	1	0	0	1	40	12	33	58	0
Total Analysis Volume [veh/h]	34	0	111	3	0	0	2	161	46	132	230	1
Pedestrian Volume [ped/h]	0			0			0			0		

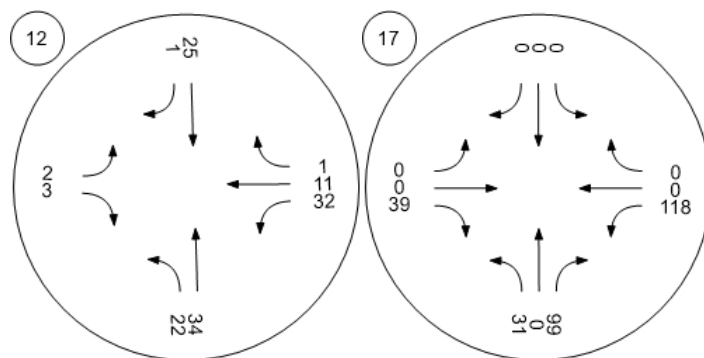
Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

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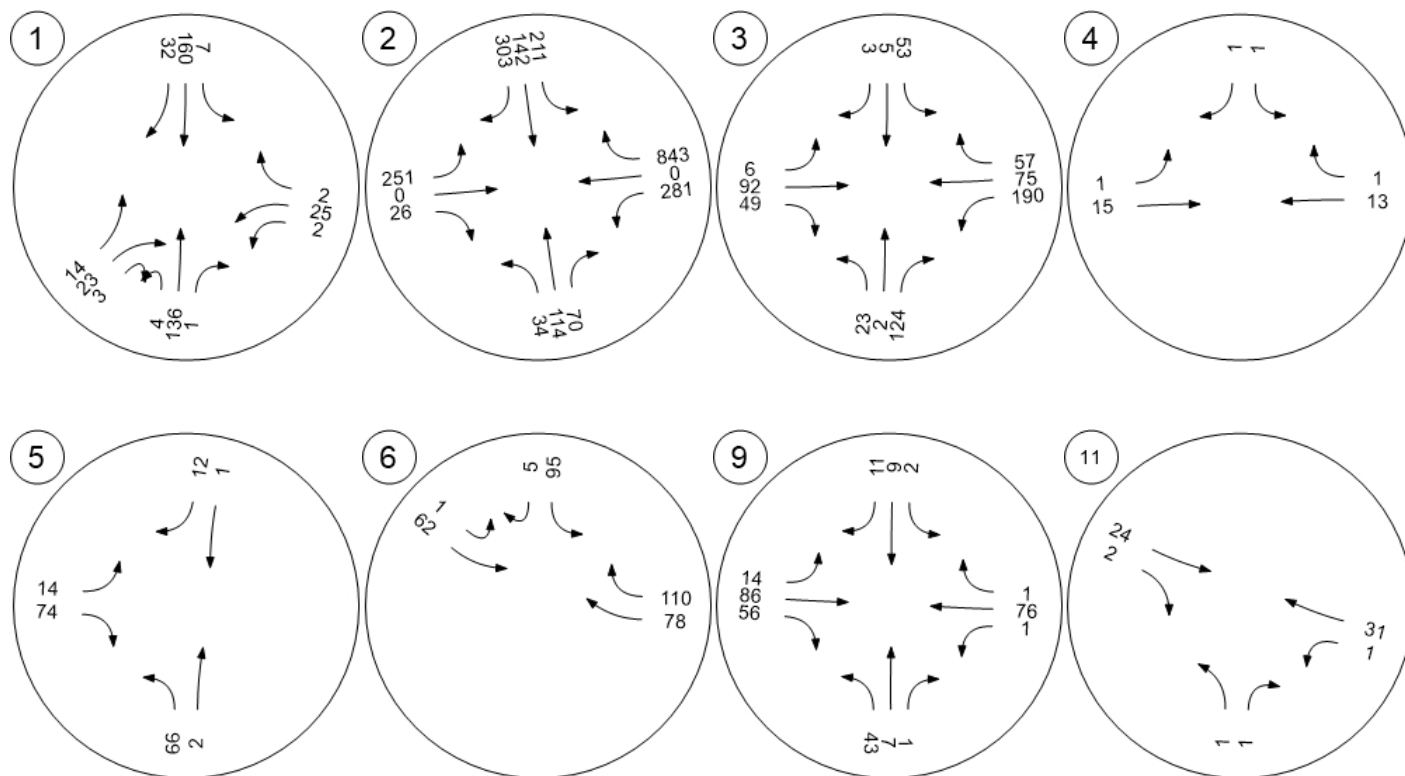
Traffic Volume - Net New Site Trips



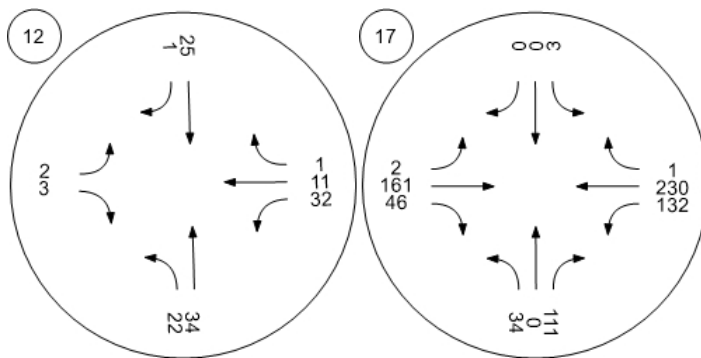
Traffic Volume - Net New Site Trips



Traffic Volume - Future Total Volume



Traffic Volume - Future Total Volume



APPENDIX E - TURNING LANE WARRANTS

DRAFT

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2021

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

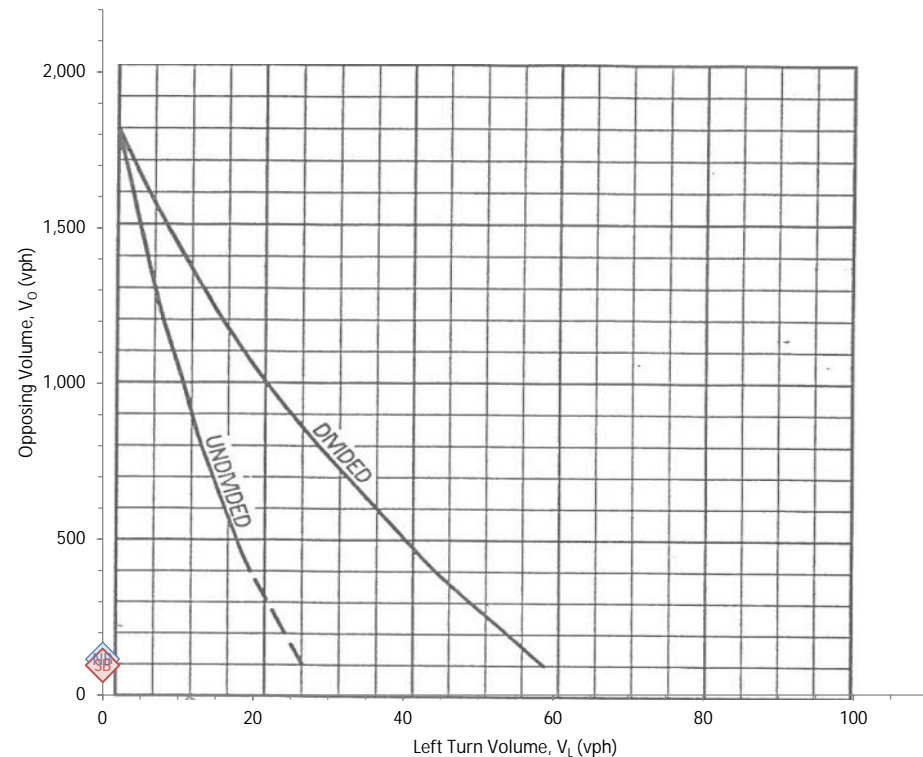
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	0	89	0	89
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	95	0	95
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	95	0	95
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	93	14	107
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	100	15	115
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	100	15	115
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	0	0	0	0
Opposing Volume, V_O	115	95	115	95

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2021

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

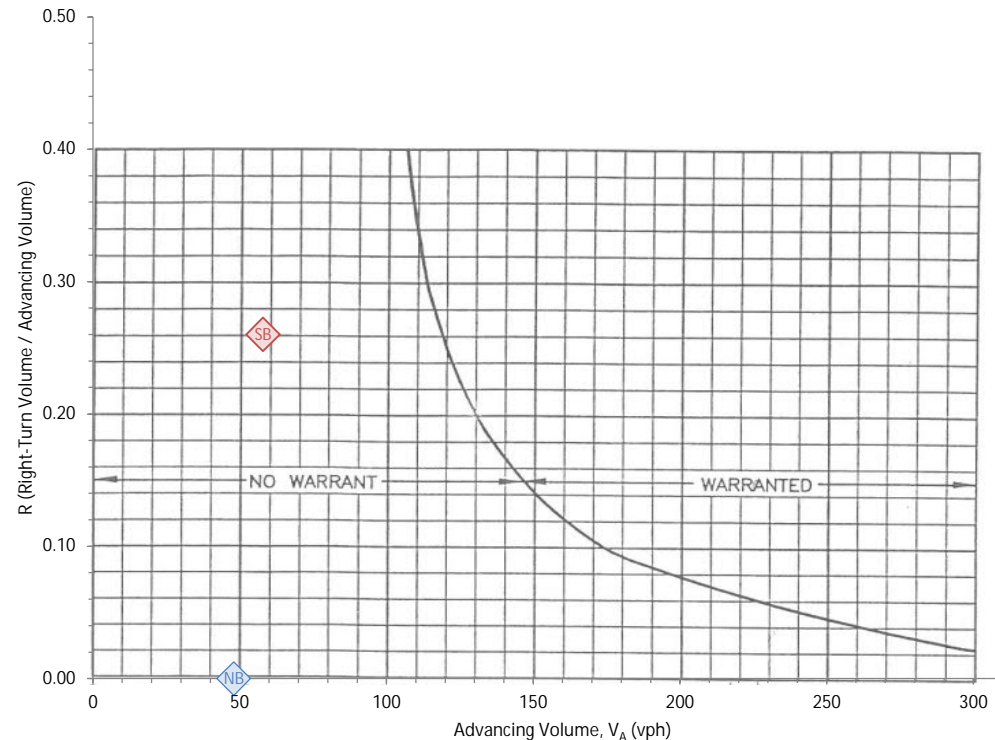
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	0	89	0	89
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	95	0	95
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	95	0	95
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	93	14	107
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	100	15	115
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	100	15	115
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V _A	48	58	48	58
R (V _R / V _A)	0	0.26	0.00	0.26

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: PM Peak - 2021

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

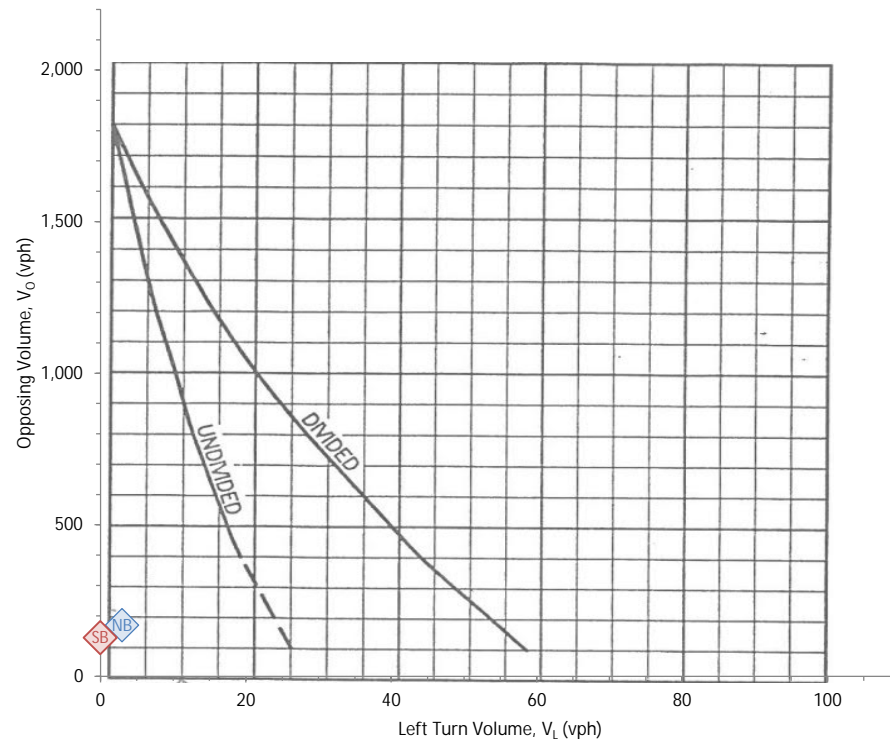
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	3	117	0	120
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	3	125	0	128
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	3	125	0	128
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	146	12	158
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	156	13	169
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	156	13	169
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	3	0	3	0
Opposing Volume, V_O	169	128	169	128

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway:	Highway 2
Crossroad:	Valleyview Court
Scenario:	PM Peak - 2021

Highway Direction A:	NB	Usually WB or NB
Highway Direction B:	SB	Usually EB or SB
Truck Equivalency (E_T)	1.7	MHI Standard: 1.7

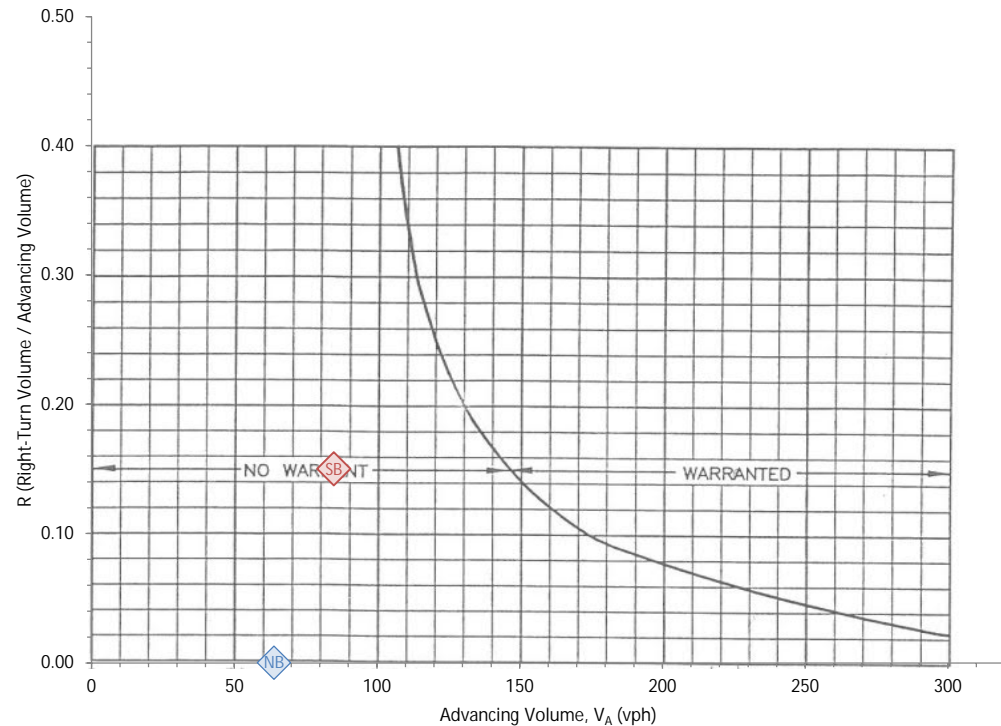
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	3	117	0	120
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	3	125	0	128
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	3	125	0	128
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	146	12	158
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	156	13	169
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	156	13	169
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	64	85	64	85
$R (V_R / V_A)$	0	0.15	0.00	0.15

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2043 - With Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

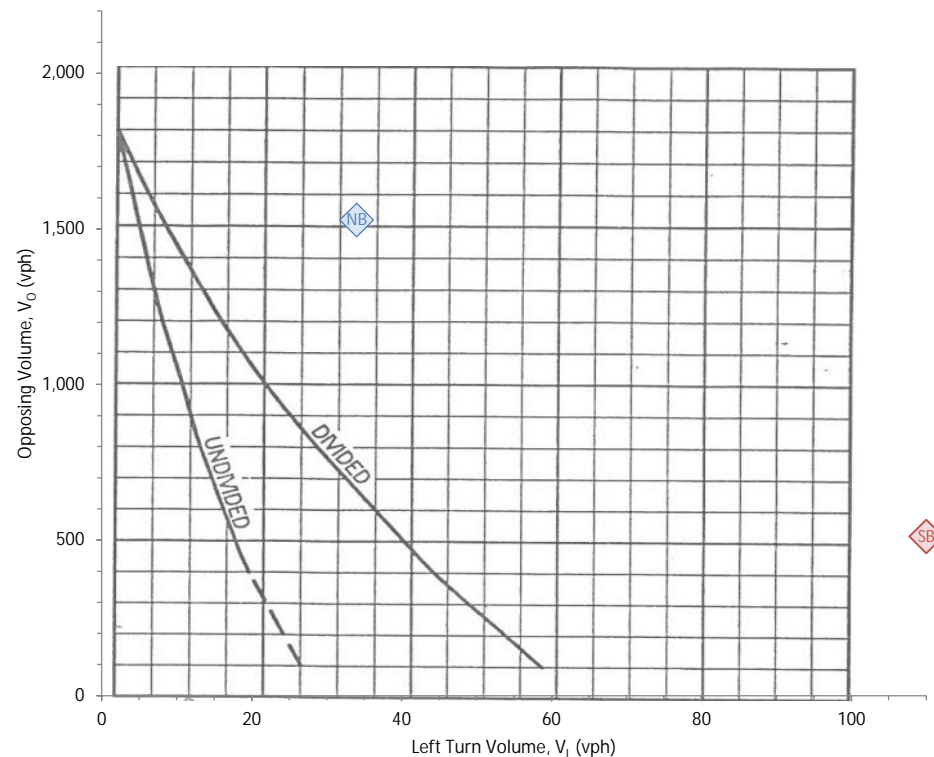
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	32	89	358	479
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	34	95	383	512
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	34	95	383	512
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	1076	93	260	1429
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1151	100	278	1529
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1151	100	278	1529
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	34	1151	34	110
Opposing Volume, V_O	1529	512	1529	512

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2043 - With Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

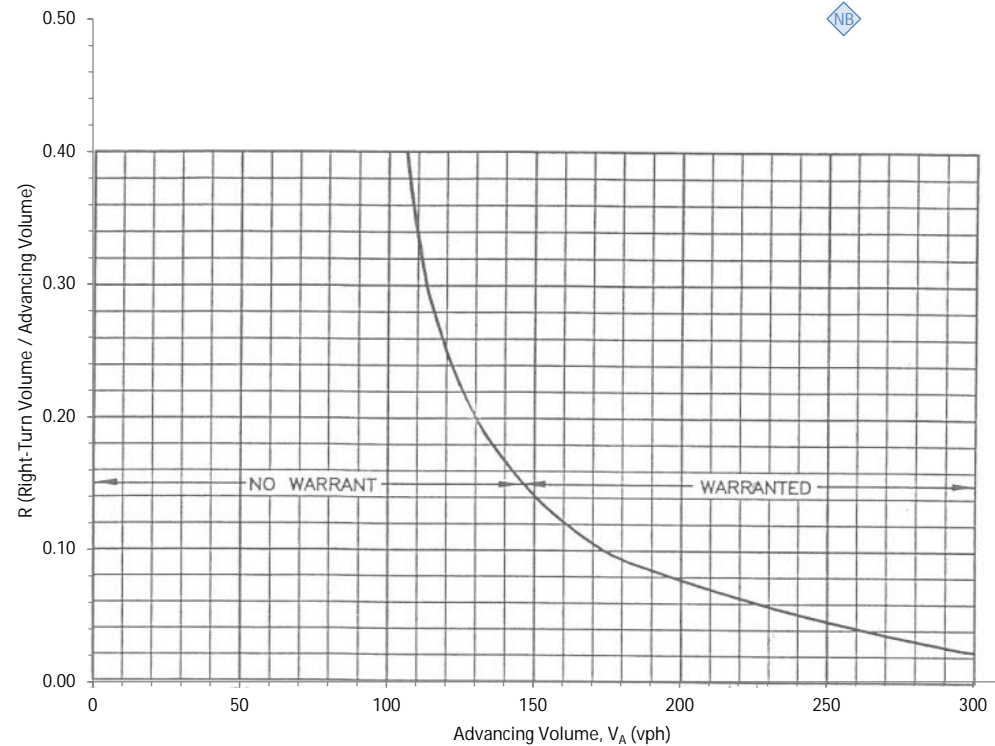
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	32	89	358	479
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	34	95	383	512
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	34	95	383	512
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	1076	93	260	1429
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1151	100	278	1529
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1151	100	278	1529
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	256	765	256	320
$R (V_R / V_A)$	1.5	0.36	0.50	0.36

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: PM Peak - 2043 - With Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

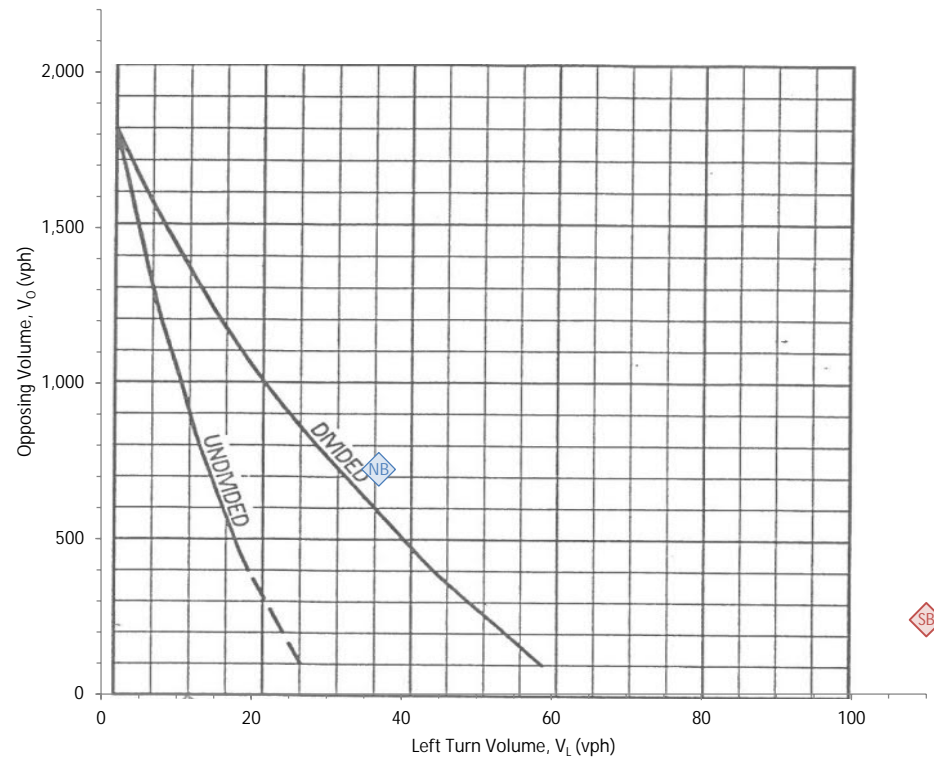
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	35	117	72	224
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	37	125	77	239
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	37	125	77	239
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	217	146	312	675
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	232	156	334	722
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	232	156	334	722
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	37	232	37	110
Opposing Volume, V_O	722	239	722	239

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: PM Peak - 2043 - With Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

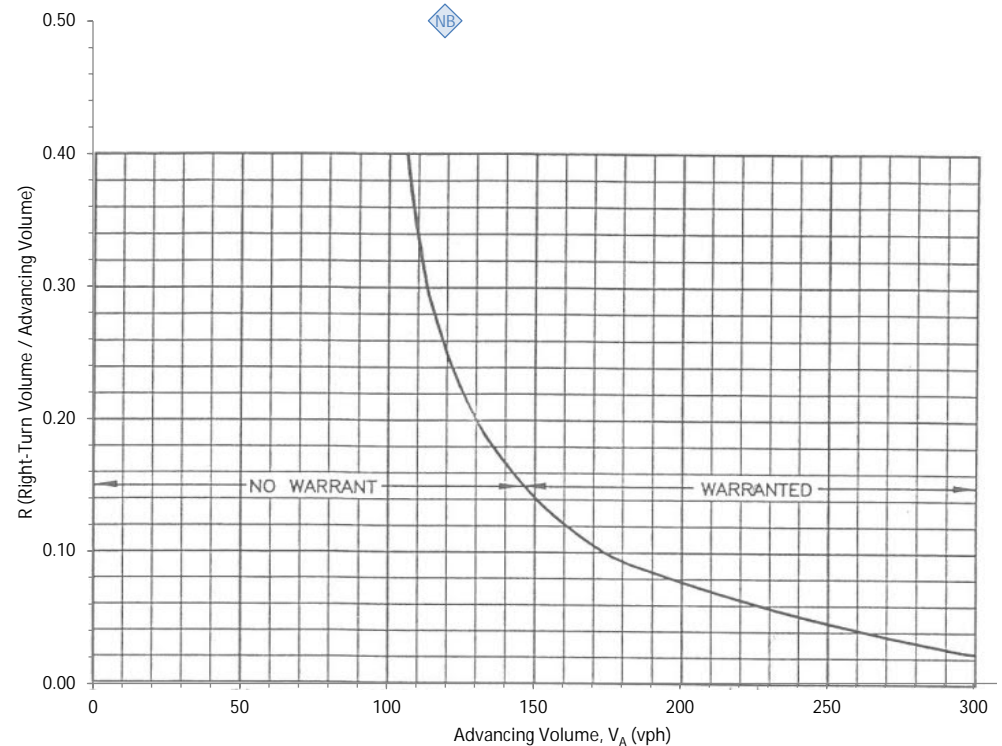
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	35	117	72	224
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	37	125	77	239
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	37	125	77	239
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	217	146	312	675
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	232	156	334	722
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	232	156	334	722
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	120	361	120	320
$R (V_R / V_A)$	0.64	0.93	0.50	0.50

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2043 - No Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

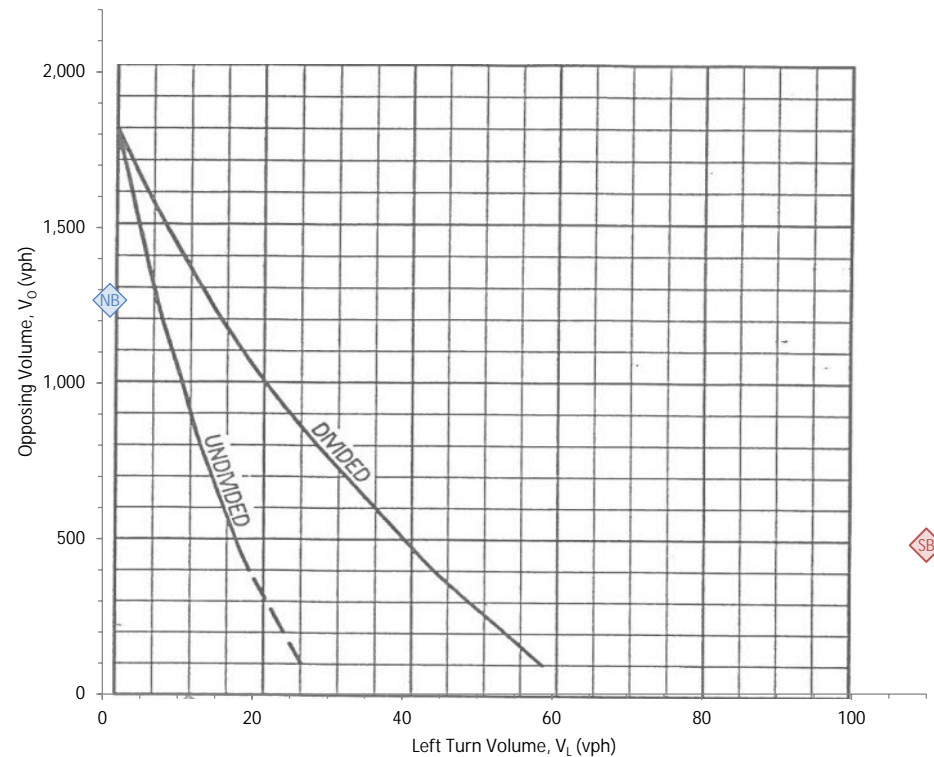
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	1	89	358	448
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1	95	383	479
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1	95	383	479
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	1076	93	14	1183
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1151	100	15	1266
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1151	100	15	1266
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	1	1151	1	110
Opposing Volume, V_O	1266	479	1266	479

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: AM Peak - 2043 - No Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

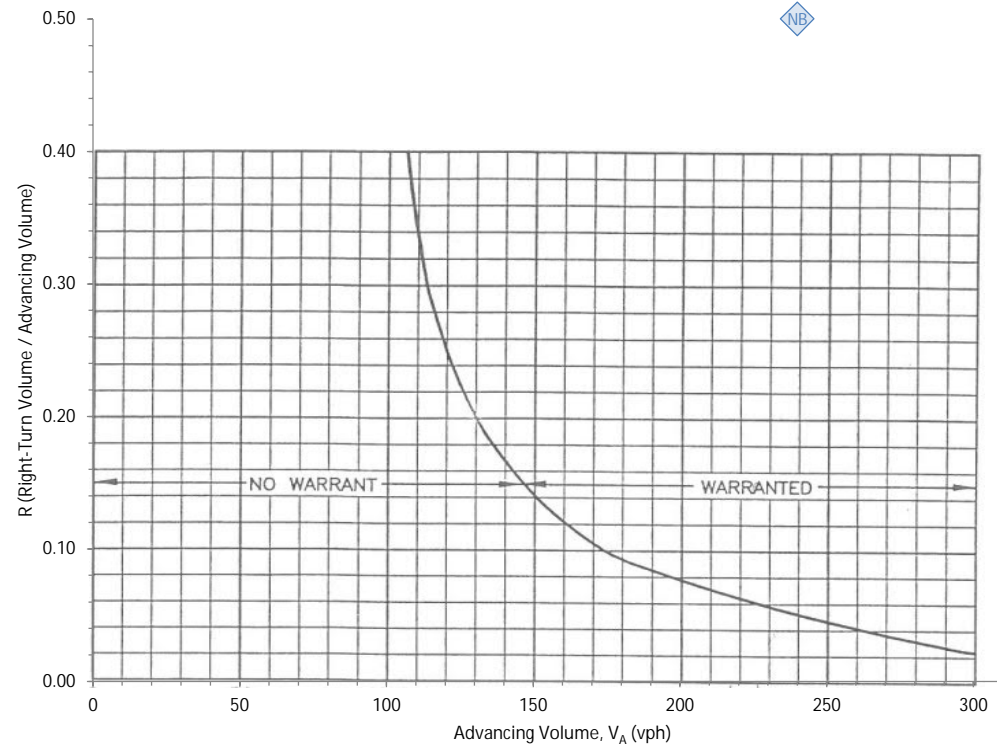
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	1	89	358	448
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1	95	383	479
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1	95	383	479
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	1076	93	14	1183
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	1151	100	15	1266
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	1151	100	15	1266
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	240	633	240	320
$R (V_R / V_A)$	1.6	0.02	0.50	0.02

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: PM Peak - 2043 - No Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

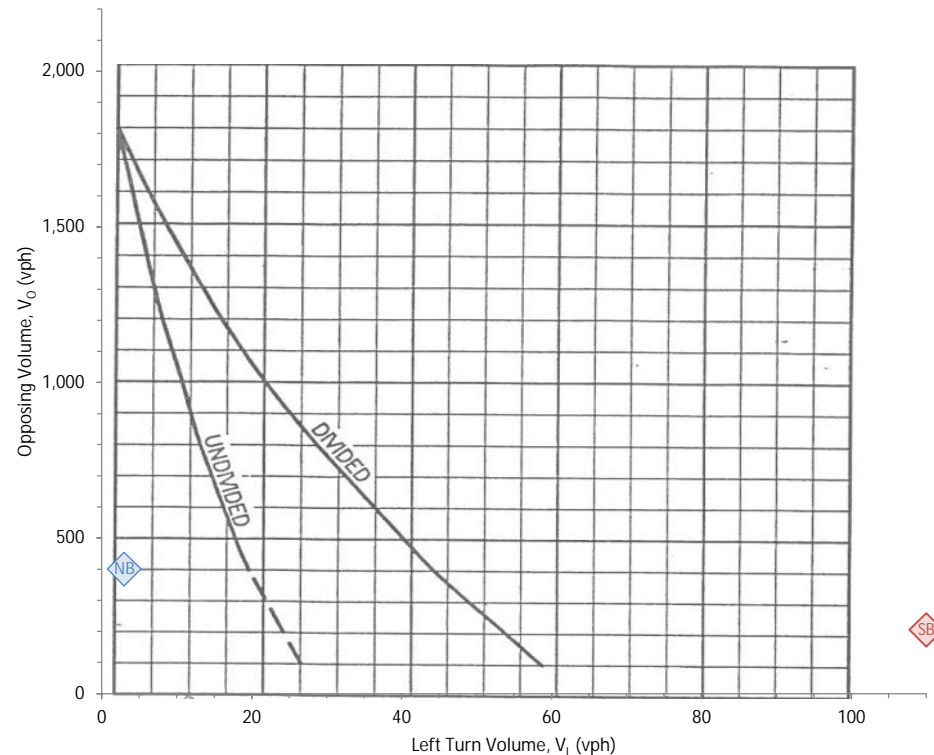
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	3	117	72	192
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	3	125	77	205
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	3	125	77	205
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	217	146	12	375
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	232	156	13	401
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	232	156	13	401
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	3	232	3	110
Opposing Volume, V_O	401	205	401	205

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: Highway 2
Crossroad: Valleyview Court
Scenario: PM Peak - 2043 - No Development

Highway Direction A: NB Usually WB or NB
Highway Direction B: SB Usually EB or SB
Truck Equivalency (E_T): 1.7 MHI Standard: 1.7

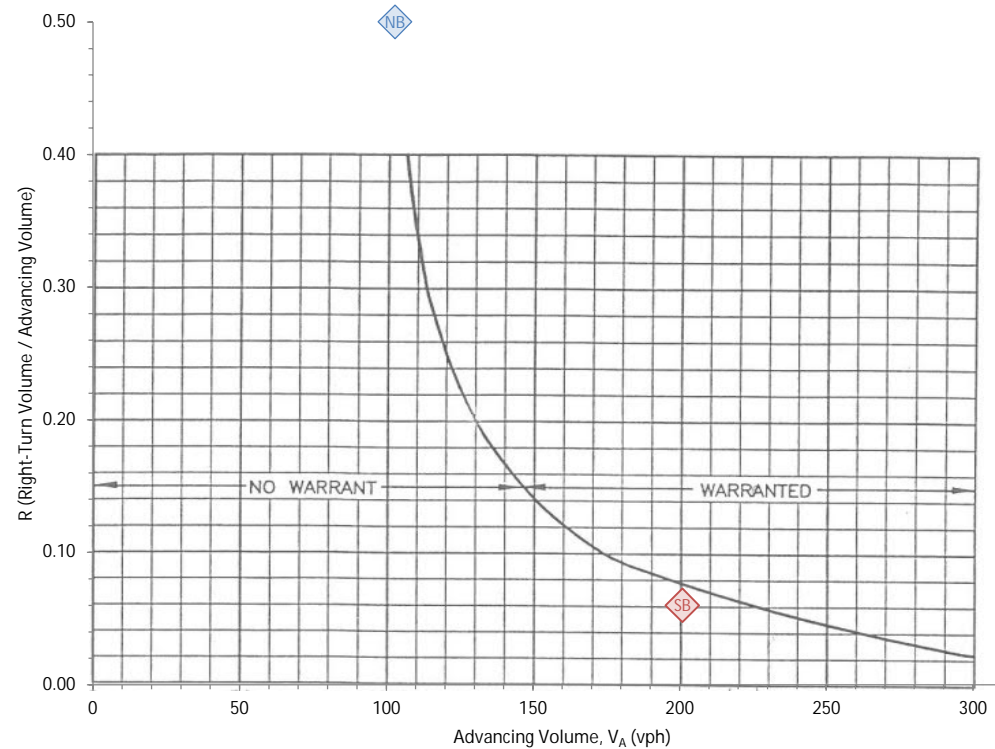
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	3	117	72	192
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	3	125	77	205
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	3	125	77	205
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	217	146	12	375
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	232	156	13	401
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	232	156	13	401
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	103	201	103	201
$R (V_R / V_A)$	0.75	0.06	0.50	0.06

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: **Highway 2**
Crossroad: **Valleyview Court**
Scenario: **AM Peak - 2043 - No Industrial**

Highway Direction A: **NB** Usually WB or NB
Highway Direction B: **SB** Usually EB or SB
Truck Equivalency (E_T): **1.7** MHI Standard: 1.7

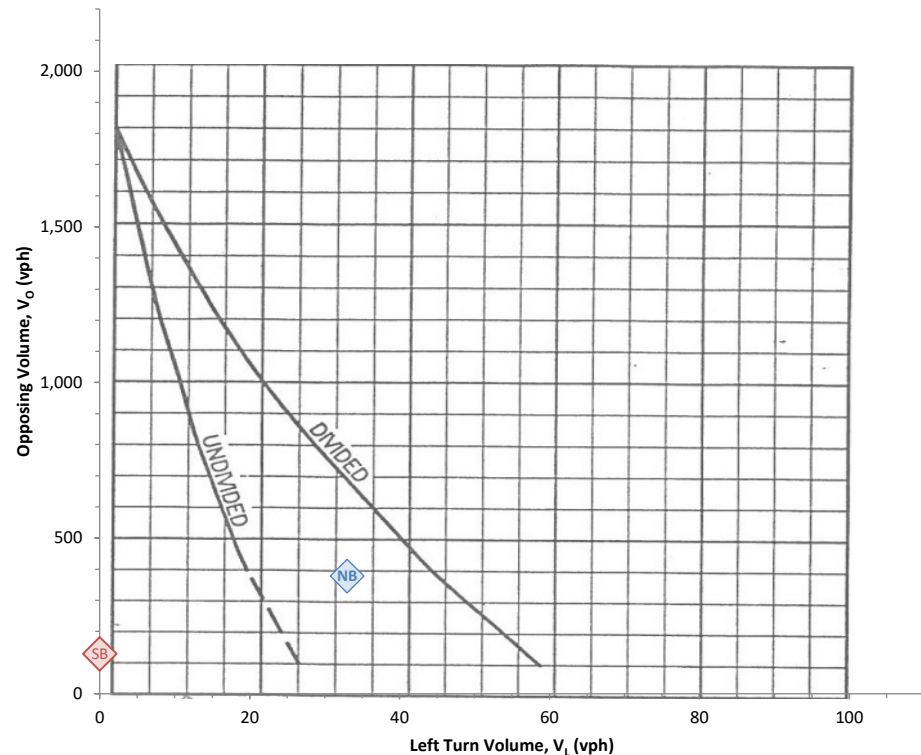
NB Data				
	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	31	89	0	120
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	33	95	0	128
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	33	95	0	128
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data				
	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	93	260	353
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	100	278	378
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	100	278	378
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	33	0	33	0
Opposing Volume, V_O	378	128	378	128

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: **Highway 2**
Crossroad: **Valleyview Court**
Scenario: **AM Peak - 2043 - No Industrial**

Highway Direction A: **NB** Usually WB or NB
Highway Direction B: **SB** Usually EB or SB
Truck Equivalency (E_T): **1.7** MHI Standard: 1.7

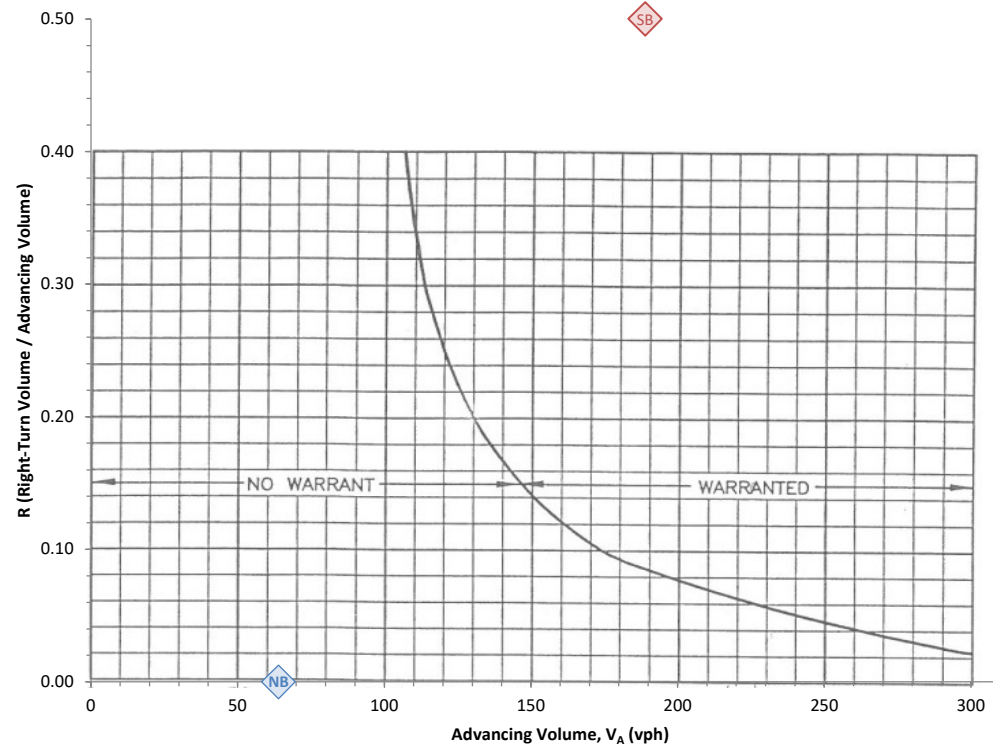
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	31	89	0	120
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	33	95	0	128
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	33	95	0	128
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	93	260	353
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	100	278	378
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	100	278	378
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	64	189	64	189
$R (V_R / V_A)$	0	1.47	0.00	0.50

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: **Highway 2**
Crossroad: **Valleyview Court**
Scenario: **PM Peak - 2043 - No Industrial**

Highway Direction A: **NB** Usually WB or NB
Highway Direction B: **SB** Usually EB or SB
Truck Equivalency (E_T): **1.7** MHI Standard: 1.7

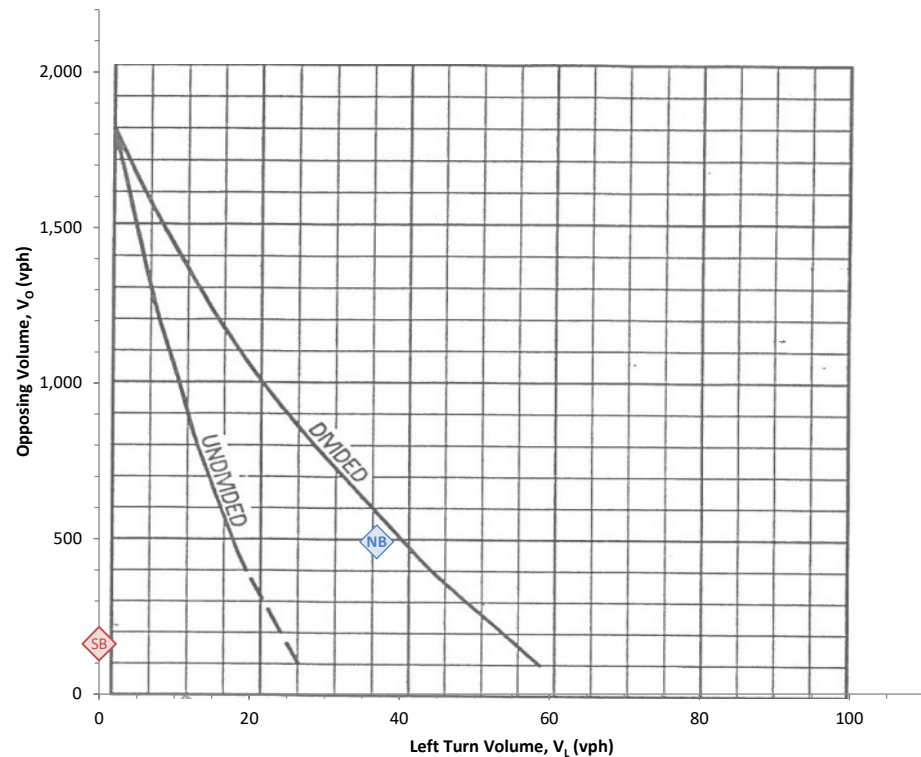
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	35	117	0	152
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	37	125	0	162
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	37	125	0	162
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	146	312	458
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	156	334	490
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	156	334	490
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Left Turn Lanes - 4 Lane Rural Highways Standard Plan STP 20610



	Calculated		Plotted	
	NB	SB	NB	SB
Left Turn Volume, V_L	37	0	37	0
Opposing Volume, V_O	490	162	490	162

Turning Lane Warrants Worksheet for Four Lane Rural Highways

Highway: **Highway 2**
Crossroad: **Valleyview Court**
Scenario: **PM Peak - 2043 - No Industrial**

Highway Direction A: **NB** Usually WB or NB
Highway Direction B: **SB** Usually EB or SB
Truck Equivalency (E_T): **1.7** MHI Standard: 1.7

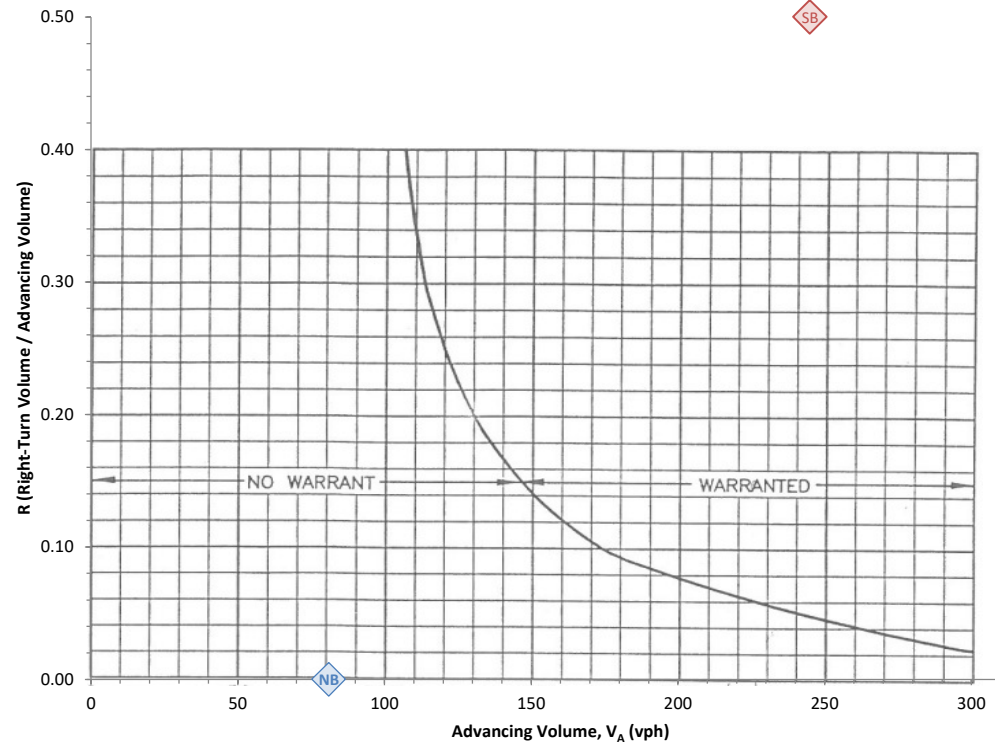
NB Data	NBL	NBT	NBR	NB Total
Hourly Vol (veh/h)	35	117	0	152
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	37	125	0	162
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	37	125	0	162
Opposing Conflict?	1	1	1	Yes: 1 No: 0

SB Data	SBL	SBT	SBR	SB Total
Hourly Vol. (veh/h)	0	146	312	458
Truck %	10.0%	10.0%	10.0%	10%
Equiv Vol (pce/h)	0	156	334	490
Growth Factor	1.00	1.00	1.00	
Future Equiv Vol (pce/h)	0	156	334	490
Opposing Conflict?	1	1	1	Yes: 1 No: 0

Notes:

- No warrant if the plotted point falls to the left of the applicable line
- Right and left turn lanes are warranted at:
 - Intersections with other Provincial Highways
 - Industrial Access Roads
 - Provincial Campgrounds and Picnic Sites
- Length of turning lane is related to speed. See SP 20618.
- For right turn lane on four-lane highways, advancing volume should be half of the directional volume with no further reduction for left turning vehicles.
- Use the corrected peak hour volumes (vph) projected to the 10th year after construction. See SKS 2.3.1-C (formerly DM 502-3) for correction factors.

Saskatchewan Ministry of Highways and Infrastructure Warrants for Right Turn Lanes - Rural Highways Standard Plan 20614



	Calculated		Plotted	
	NB	SB	NB	SB
Advancing Volume, V_A	81	245	81	245
$R (V_R / V_A)$	0	1.36	0.00	0.50