

City and County of Grande Prairie Transportation Study – Final Report

November 8, 2023 | Final Report

Submitted to: City of Grande Prairie & County of Prairie
Prepared by McElhanney

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A faint, stylized topographic map of a mountainous region, likely the Sierra Nevada, is visible in the upper portion of the page. The map features contour lines and a dashed line representing a boundary or path.

**Your Challenge.
Our Passion.**

Authorization and Signatory Page

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Executive Summary

Project Purpose and Objectives

The City of Grande Prairie (the City) and the County of Grande Prairie (the County) jointly undertook this Transportation Study to identify the recommended long-term (25-year) road network within four quarter sections of lands located in the City and the County. As illustrated in [Figure ES-1](#), the study area is bounded by 100 Avenue to the north, 124 Street/Range Road 64 to the east, 132 Street/Range Road 65 to the west and south of Silver Pointe Drive/Township Road 713A to the south.

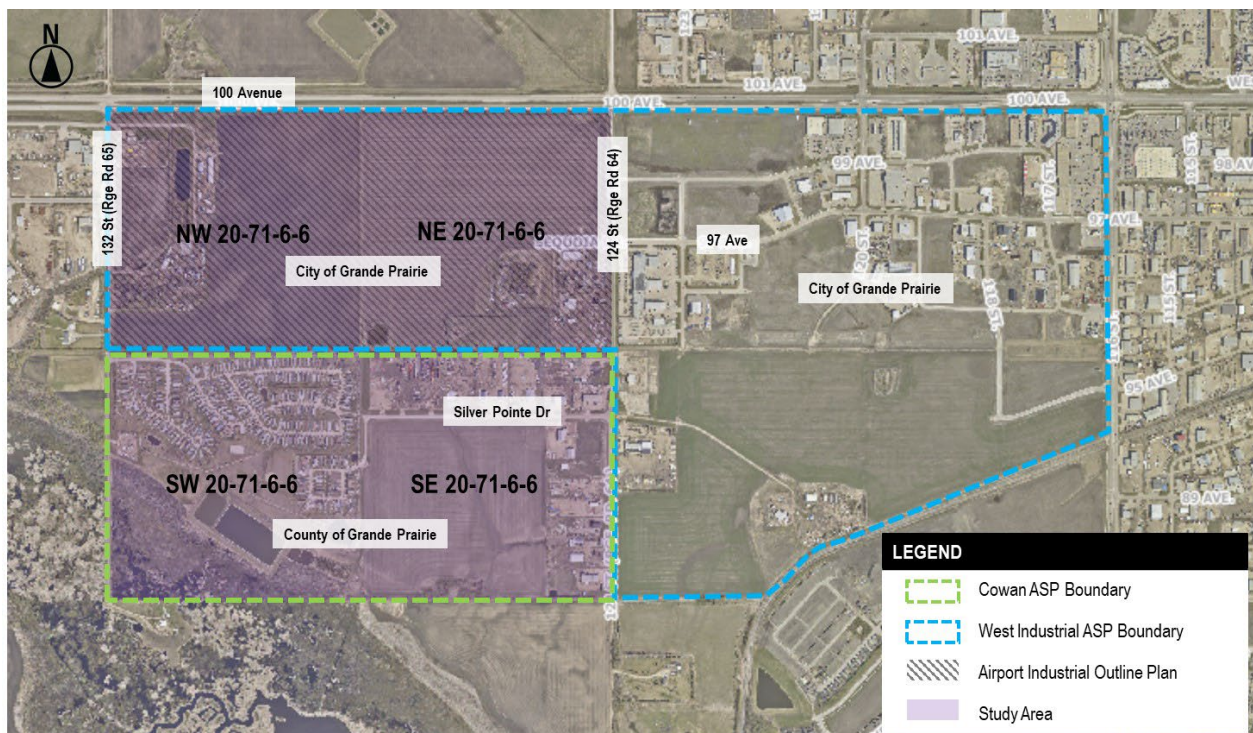


Figure ES-1: Project Limits

The purpose of this study is to develop a harmonized road network based on the proposed transportation network identified in the City of Grande Prairie's West Industrial Area Structure Plan (ASP) and Airport Industrial Outline Plan (OP), as well as the County of Grande Prairie's Cowan ASP. The study recommendations will guide both municipalities in developing an efficient and coordinated road network that can accommodate future development over the next 25-years.

Concept Development & Evaluation

Detailed traffic analysis was conducted for the study intersections to identify potential operational constraints and to evaluate alternative improvement concepts to address these constraints. Future planned municipal and regional road connections were also considered in the analysis to ensure future traffic projections captured the traffic impacts of these improvements.

The technical evaluations indicate that the following intersection upgrades are required to accommodate full build out (25-year horizon) of the ASPs and OP:

- 100 Avenue & 124 Street/Range 64
- 100 Avenue & 132 Street/Range Road 65
- 97 Avenue & 124 Street/Range Road 64

Other intersection treatments, such as right-in/right-out only accesses are also necessary to facilitate the safe and efficient movement of vehicles through the study area.

Stakeholder Engagement

The Transportation Study was completed with two rounds of public engagement between June 2023 and September 2023, which include two (2) public open houses and two (2) online surveys. Through these engagement activities, participants provided input and feedback on the overall project as well as the recommended plan for the study area. The complete results, presented as a What We Heard Summary is available in [Appendix D](#).

Recommended Concept Plan

Figure ES-2 illustrates the recommended long-term road network for the study area, which builds on the network identified in the Airport OP and the West Industrial and Cowan ASPs. It also incorporates findings from the traffic review and stakeholder input.

The recommended network includes upgrading 124 Street/Range Road 64 to a four-lane urban arterial standard, while 132 Street/Range Road 65 is maintained as two-lane industrial collector standard. Intersection improvements are also recommended at key locations to maintain acceptable intersection operations, including:

- Addition of turn lanes at 100 Avenue & 124 Street/Range Road 64.
- Add signals the intersections of 100 Avenue & 132 Street/Range 65 and 97 Avenue & 124 Street/Range Road 64.
- Provide right-in/right-out only access at the intersections of 99 Avenue & 132 Street/Range Road 65 and 98 Avenue & 124 Street/Range Road 64.
- Provide new right-in/right-out only access at 100 Avenue & 130 Street.



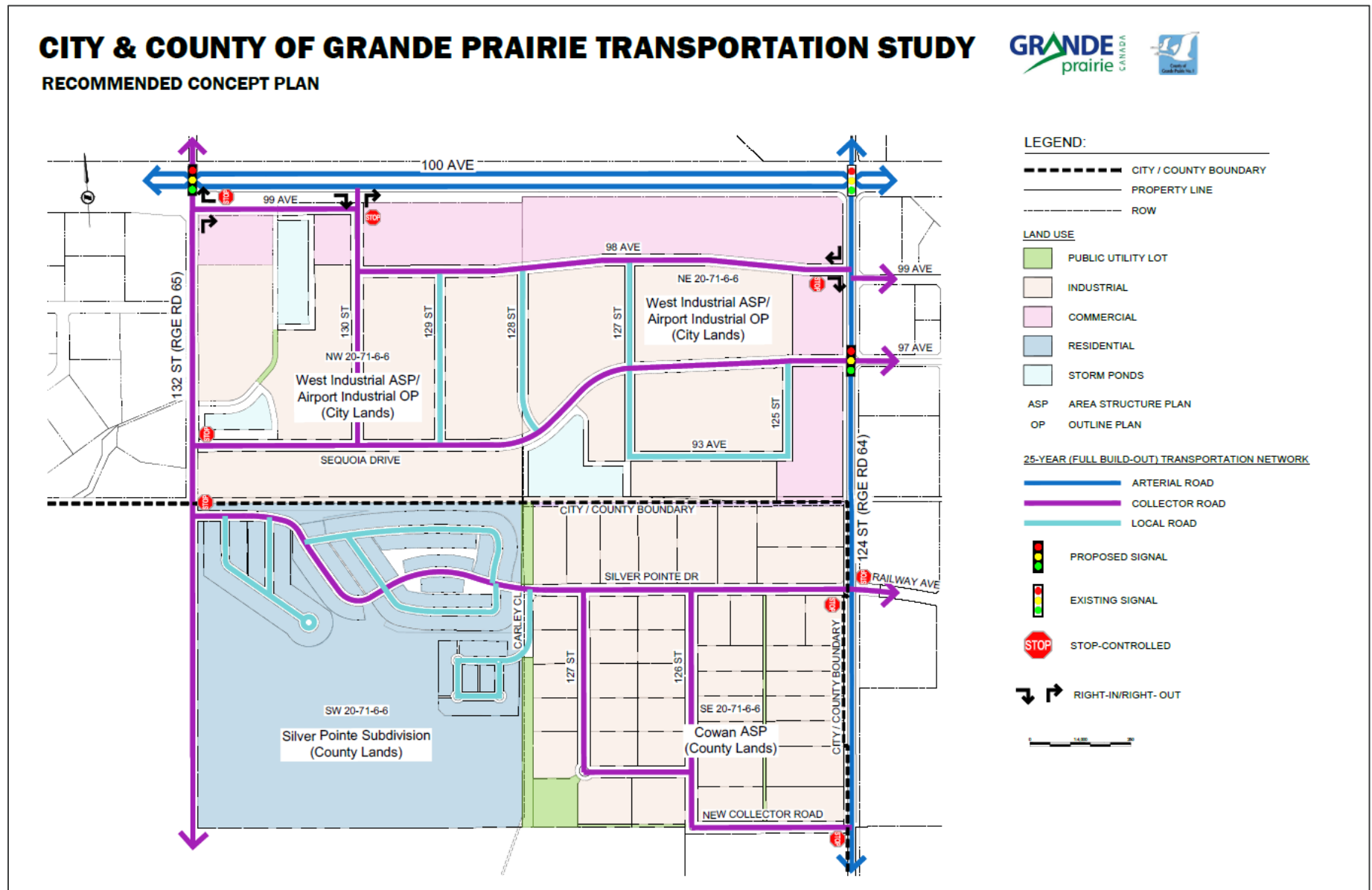


Figure ES-2: Recommended 25-Year Transportation Network Concept Plan



In addition to the intersection upgrades, the following improvements or upgrades should be considered to enhance the movement of people and goods within the Study Area:

- Future consideration for trail connection and transit services as development occurs – to be addressed at a larger network scale through the Transportation Master Plan or other City/County-wide transportation planning initiatives.
- Confirm Access Management strategies on 124 Street/Range Road 64 through further planning and design studies.
- Provide illumination at key signalized intersections and other locations as per design guidelines or as warranted by traffic volumes and/or pedestrian activity.
- Revise posted speed limits to 60 km/h on 100 Avenue between 124 Street and 132 Street as development builds out and ensure speed limits throughout the Study Area are consistent based on road classification.

Both the City and County of Grande Prairie should amend the respective Area Structure and Outline Plans to reflect the recommendations outlined in this study. This will ensure future planning of the study area is consistent, reflective of community needs and achieves the goals and vision of both municipalities.



1. Introduction

1.1. PROJECT BACKGROUND

McElhanney Ltd. (McElhanney) was retained by the City of Grande Prairie (the City) and the County of Grande Prairie (the County) jointly to undertake a review of the road network within four quarter sections of lands located south of 100 Avenue (formerly Highway 43) between 132 Street/Range Road 65 and 124 Street/Range Road 64 to facilitate future development and connectivity to the City's and County's road networks.

This study is a result of the Mediation Agreement enacted between the City and County in July 2021 for the subject lands, which requires a transportation study to be completed prior to any further subdivision or land development within the Cowan Area Structure Plan (ASP). The purpose of this study is to develop a harmonized road network within the study area based on technical evaluations and stakeholder input, including feedback from the public, businesses and City and County internal stakeholders. Building from the ASP's proposed road network, the recommended improvements from this study will guide both municipalities in developing an efficient and coordinated road network that can accommodate future development while meeting the needs of all road users over the next 25-years.

1.2. STUDY AREA

As illustrated in *Figure 1*, the study area encompasses the lands within the City's West Industrial Area ASP and the Airport Industrial Outline Plan (OP) as well as the County's Cowan ASP. The study area is bounded by 100 Avenue to the north, 124 Street/Range Road 64 to the east, 132 Street/Range Road 65 to the west and south of Silver Pointe Drive/Township Road 713A to the south. The key intersections on 100 Avenue, 124 Street and 132 Street will be evaluated as part of this study, including:

- 100 Avenue & 124 Street/Range Road 64
- 99 Avenue & 124 Street/Range Road 64
- 97 Avenue & 124 Street/Range Road 64
- Silver Pointe Drive (Township Road 713A) & 124 Street/Range Road 64
- Service Road #1 (Township Road 714) & 132 Street/Range Road 65 – approximately 65 m south of 100 Avenue
- Service Road #2 (713068 Range Road 65) & 132 Street/Range Road 65 – approximately 310 m south of 100 Avenue

The internal ASP roadways along with the accesses on 124 Street and 132 Street are also part of the study area.

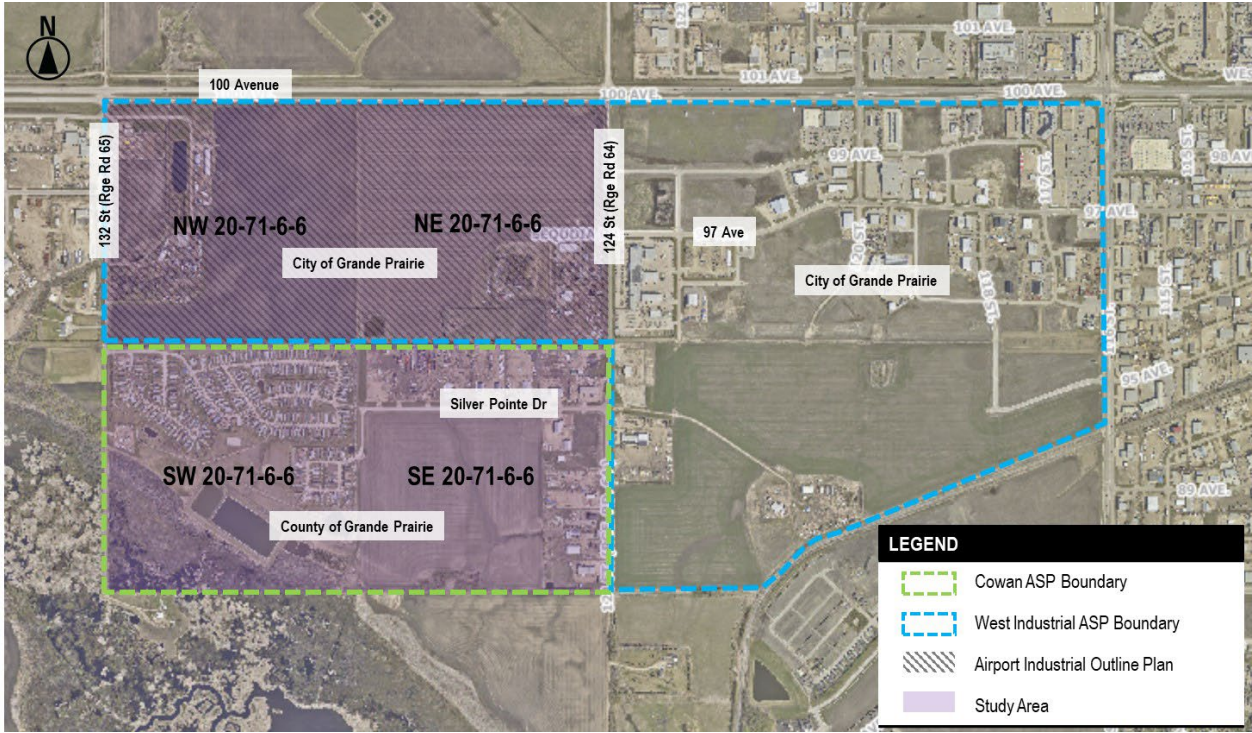


Figure 1: Project Limits

2. Existing and Future Base Network Conditions

2.1. AREA STRUCTURE PLANS & OUTLINE PLANS

A safe and efficient road network is critical to the successful development of the West Industrial and Cowan ASPs. The following discussion highlights each of the ASPs and how the proposed land uses will influence the road network. The assessment of future conditions for this study considers a future horizon of 25 years (2048), and it is expected that both of these ASP areas will be fully built out within this horizon.

2.1.1. West Industrial ASP

The West Industrial ASP was adopted in 2017 by the City of Grande Prairie and includes all of Section 21-71-6-W6M except for the lands south of the railway line, as well as a half section of land (N½ 20-71-6-W6M) to the west. As shown in [Figure 2](#), the ASP encompasses a total area of approximately 357 ha (882 acres) with land use zoned for industrial, commercial, and agricultural uses. The area is bounded to the north by the Grande Prairie Airport and Westgate West, to the east by the Richmond Industrial Park, and to the west and south by agricultural and industrial lands and a small amount of country residential development. Road access to the site is available from 100 Avenue that borders the Plan area to the north, 116 Street to the east, a gravelled County road in between Sections 21 and 20, 124 Street/Range Road 64 and 132 Street/Range Road 65 to the west. A portion of the Plan area is bordered to the south by a railway line. The ASP is planned to be completed in six phases, with Phase 1 and Phase 2 currently partially (about 95% and 45%, respectively) built out. Phases 3 and 4 are situated within this study's project limits. Overall, the West Industrial ASP is approximately 40% built out.

The proposed road network within the ASP comprises of a combination of arterials, collectors including:

- **Arterial Road Access**
 - 100 Avenue – Four-lane Divided Rural Arterial
 - 124 Street/Range Road 64 – Four-lane Divided Urban
 - 116 Street – Six-Lane Divided Arterial
- **Collector Road Access**
 - 120 Street at 100 Avenue, opposite the entrance to the Westgate West;
 - 132 Street/Range Road 65 at 100 Avenue;
 - 95 and 97 Avenues at 116 Street at (all directional);
 - 84, 95, 97 Avenues at 124 Street/Range Road 64 at (97 Avenue becomes Sequoia Drive west of 124 Street/Range Road 64 and 98 Avenue); and
 - 99 Avenue and Sequoia at 132 Street/Range Road 65.

Several east-west and north-south local roads are also proposed to facilitate internal access and connections to the arterial and collector network.

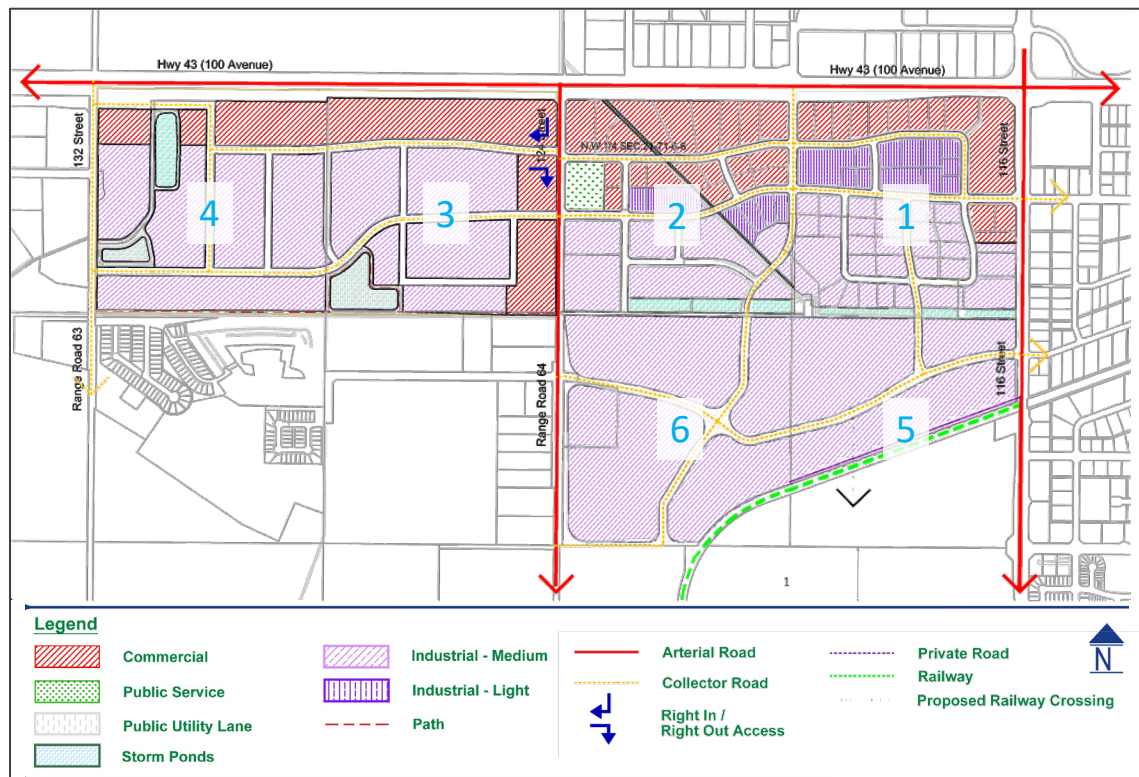


Image Source: West Industrial Area Structure Plan, Bylaw C-1329, May 29, 2017

Figure 2: West Industrial ASP Land Use and Road Network

2.1.2. Cowan ASP

The Cowan ASP is located adjacent to the West Industrial ASP in the County of Grande Prairie and encompasses one quarter section of land (SE 20-71-6-W6M) along Range Road 64 (124 Street), south of 100 Avenue, adjacent to the south and west boundary of the City of Grande Prairie.

The Plan area is bounded to the east and north by the West Industrial lands, to the west by the manufactured home community of Silver Pointe, and to the south by agricultural lands and the Flyingshot marsh. As shown in [Figure 3](#), the Plan area totals approximately 64.8 hectares and is zoned for light industrial uses. Access to the area is facilitated by Range Road 64 to the east and Township Road 713A (90 Avenue), which bisects the plan area and connects to Silver Pointe Drive to the west. Internal roads include Township Road 713A at the future 126 Street and 127 Street, which will connect to the future 84 Avenue at the south end of the Plan area. The area is anticipated to be developed through three phases, with the majority of the first phase almost full built-out.

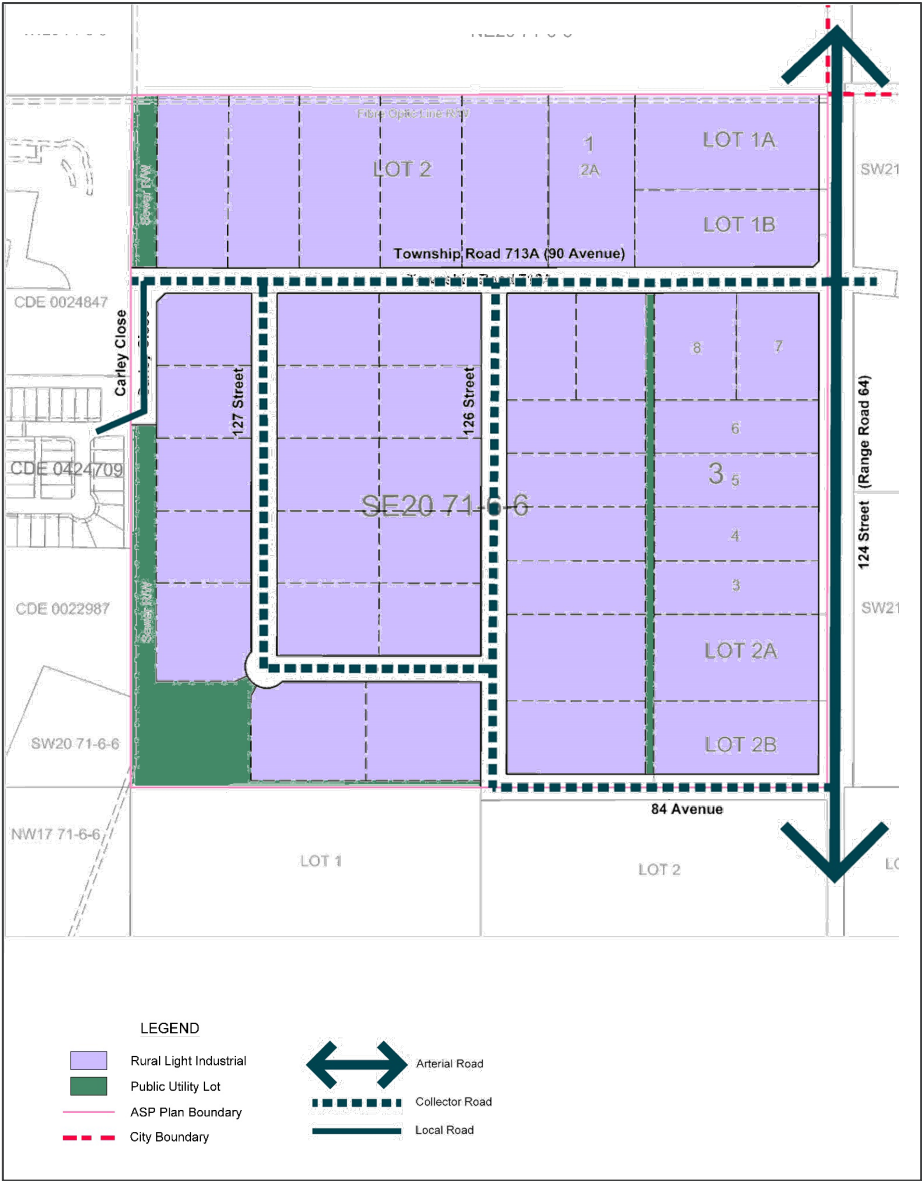


Image Source: Cowan ASP, By-Law No. 3039, Map

Figure 3: Cowan ASP Land Use and Road Network



2.1.3. Airport Industrial Outline Plan

The Airport Industrial Outline Plan (OP) was adopted in 2017 by the City of Grande Prairie (Bylaw C-1322) and provides a detailed framework for the development of a half section of land located within the West Industrial ASP boundary (NE 20-71-6-W6M and NW 20-71-6-W6M). As shown in [Figure 4](#), the proposed transportation network in the Outline Plan does not change from the network proposed in the West Industrial ASP, which includes:

- **Arterial Road Access**
 - 100 Avenue – Four-lane Divided Rural Arterial
 - 124 Street/Range Road 64 – Four-lane Divided Urban Arterial
- **Collector Road Access**
 - 132 Street/Range Road 65 – Two-Lane Collector;
 - 124 Street/Range Road 64 at Sequoia Drive (97 Avenue);
 - 124 Street/Range Road 64 at 98 Avenue (right-in/right-out only);
 - 132 Street/Range Road 65 at 99 Avenue; and
 - 132 Street/Range Road 65 at Sequoia Drive.
- **Internal Local Road Access**
 - East-West Roads: 93 Avenue, Sequoia Drive, 98 Avenue and 99 Avenue
 - North-South Roads: 125 Street, 127 Street, 128 Street, 129 Street and 130 Street

It is also proposed that the specific collector road alignments and location of internal roads are to be confirmed by the developer. In addition, the public transit system may be extended into the OP area as warranted by development.

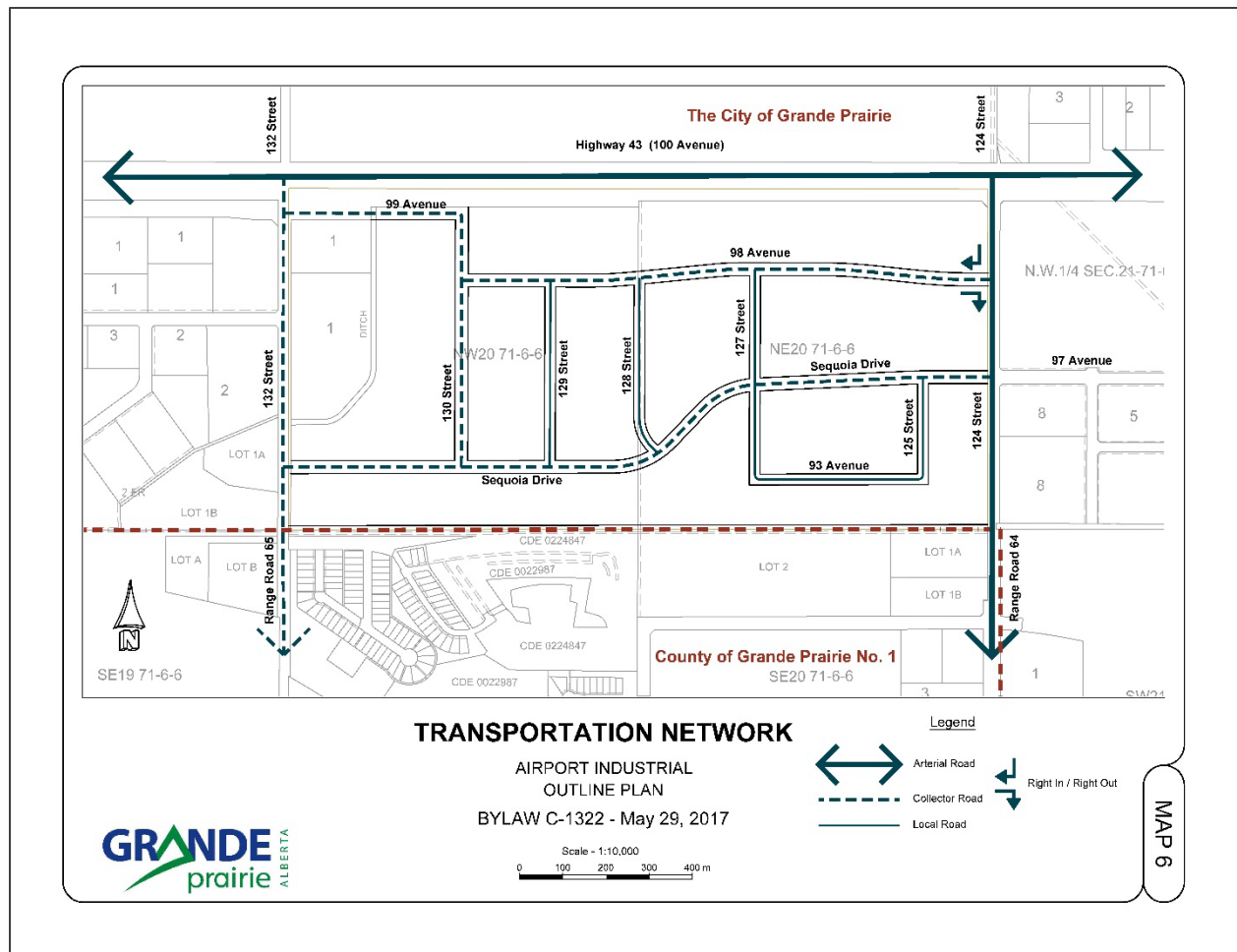


Figure 4: Airport Industrial Outline Plan Recommended Transportation Network

2.2. EXISTING & PLANNED ROAD NETWORK

This section describes the road network that provides key access and connections within the project limits:

2.2.1. 100 Avenue

100 Avenue (formerly Highway 43) is currently a four-lane divided highway that facilitates east-west connection to/from the City. 100 Avenue has a posted speed of 100 km/h within part of the study area and intersects with 132 Street through an unsignalized intersection constructed to Alberta Transportation and Economic Corridor's Type V intersection treatment. The posted speed is reduced to 80 km/h and then 60 km/h prior to the 124 Street/Range Road 64 intersection, which is signalized. At both intersections, two highway travel lanes are generally provided with auxiliary turn lanes separated by a large median/centre ditch.

2.2.2. 124 Street/Range Road 64

124 Street (City limits) or Range Road 64 (County limits) is currently a two-lane roadway that connects 100 Avenue in the north to Township Road 712A. Between 100 Avenue and just north of Silver Pointe Drive (Township Road 713A), 124 Street is a two-lane roadway that is currently constructed to a two-lane undivided urban standard. Illumination is only provided at key intersections. South of Silver Pointe Drive, 124 Street is maintained as a two-lane roadway with a rural cross-section, which includes open ditches and no illumination. 124 Street has a posted speed of 70 km/h and facilitates access to the developments within both West Industrial and Cowan ASP. Multiple direct accesses are provided along with unsignalized intersections at 99 Avenue, 97 Avenue, and Silver Pointe Drive.

The City's Transportation Master Plan indicates that 124 Street/Range Road 64 will ultimately be developed to a four-lane divided urban standard and will require right-of-way to facilitate the road upgrades. In addition, the West Industrial ASP proposes two new connections to 124 Street – a right-in right-out intersection at 98 Avenue (offset with 99 Avenue to the east) and an extension of the existing intersection at 97 Avenue/Sequoia Drive. The Cowan ASP also proposes a new intersection at 84 Avenue, however, the proposed alignment of the future 84 Avenue extension have changed since the Cowan ASP was adopted.

2.2.3. 132 Street/Range Road 65

132 Street or Range Road 65 is currently a two-lane rural roadway that connects 100 Avenue in the north to just south of Silver Point Drive. Within the study area, 132 Street has a posted speed of 70 km/h and generally has a rural cross-section with open ditches and no shoulders or illumination. Provisions for pedestrian connections such as sidewalks are also not present. Passing opportunities are also provided along the corridor. 132 Street/Range Road 65 provides primary access to the Mountview Business Park to the west, as well as the County's Silver Pointe community in the south.

Based on the City and County's plans, 132 Street/Range Road 65 is planned as a collector road. As proposed in the West Industrial ASP/Airport Industrial Outline Plan, an intersection at 99 Avenue and Sequoia Drive will facilitate access into the development. Through previous planning studies (as further discussed in **Section 2.3**), there are plans to extend Township Road 715 from Highway 43X to 132



Street, connecting to the 100 Avenue / 132 Street intersection. There are also plans for a potential resource road connection from Dimsdale to 132 Street/Range Road 65 at Silver Pointe Drive/Township Road 713A, which is intended to facilitate east-west connection to the Dimsdale area when the Highway 43X/Highway 40X interchange is constructed at Highway 43.

2.2.4. Silver Pointe Drive / Township Road 713A

Silver Pointe Drive is a two-lane local road that traverses east-west between 124 Street and 132 Street. It is the primary road through the Silver Pointe community as well as the main east-west connection through the Cowan ASP.

2.3. CITY OF GRANDE PRAIRIE TRANSPORTATION MASTER PLAN

The City's 2020 Transportation Master Plan (TMP) includes several short-term to long-term recommendations for transportation investments within the City that would influence traffic patterns in vicinity of the study area. The TMP was developed based on a review of several population growth horizons, including the 70,000 population (short-term), 90,000 population (10-year horizon), and 120,000 population (20-year horizon). The future horizon for this study is 25 years, therefore the full build-out analyses include consideration of the proposed improvements identified for the 120,000-population horizon within the TMP.

The following transportation improvements relevant to the study area are noted in the TMP for the 90,000-population horizon:

- Extension of Township Road 715 from 132 Street to Highway 43X. As shown in [Figure 5](#), Township Road 715 is anticipated to connect to 132 Street. Any improvements to the 100 Avenue / 132 Street intersection should also consider the anticipated trips facilitated by this extension.
- North section of the Highway 40X southwest ring road, from 100 Avenue to 84 Avenue with a new interchange at 100 Avenue. As shown in [Figure 5](#), this includes an extension of 84 Avenue from 116 Street to Highway 40X. The implementation of the Highway 40X southwest ring road is identified as a priority for truck route improvements, to facilitate travel to and from Highway 40, south of Grande Prairie. The County has also identified Highway 40X to be a key addition to the regional transportation network and has advocated for the province to prioritize the project in their capital plan. The project is currently listed on Alberta Transportation and Economic Corridor (TEC) Major Projects online map, with proposed construction dates of 2023 to 2026 noted. The southwest ring road may serve as an alternate route for traffic entering and exiting the City via 100 Avenue, particularly for commercial vehicles.

The following transportation improvements relevant to the study area are noted in the TMP for the 120,000-population horizon:

- 124 Street connector from 76 Avenue to 97 Avenue – upgrade and pave as an arterial road and construct a roundabout at the connection with the future 84 Avenue extension (see [Figure 5](#)).
- Complete southern portion of the SW section of Highway 40X ring road (see [Figure 5](#)).

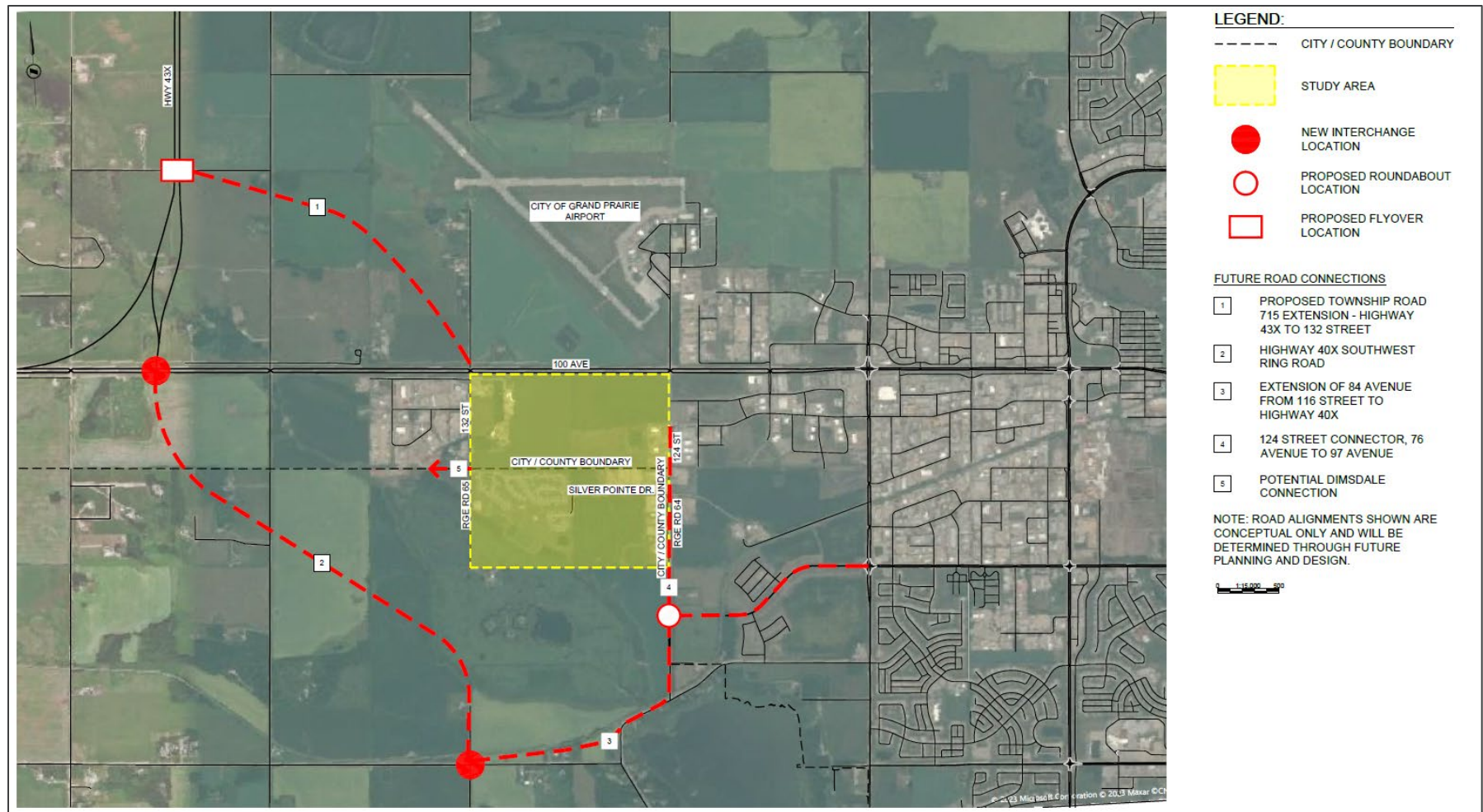


Figure 5: Future Regional Connections



Both of the noted 120,000-population upgrades will serve to reduce congestion along 100 Avenue while 124 Street will provide an additional north-south connection between 84 Avenue and 100 Avenue, and provided increased capacity within the study area as development of the ASPs progresses. Based on a review of the transportation modelling completed in the TMP, the impact of the SW section of the Highway 40X ring road and the 84 Avenue connection is not expected to significantly increase traffic on 124 Street.

Figure 6 identifies the protection of ROW for future expansions, including beyond the 120,000-population horizon and shows that 124 Street should be protected for a four-lane roadway.

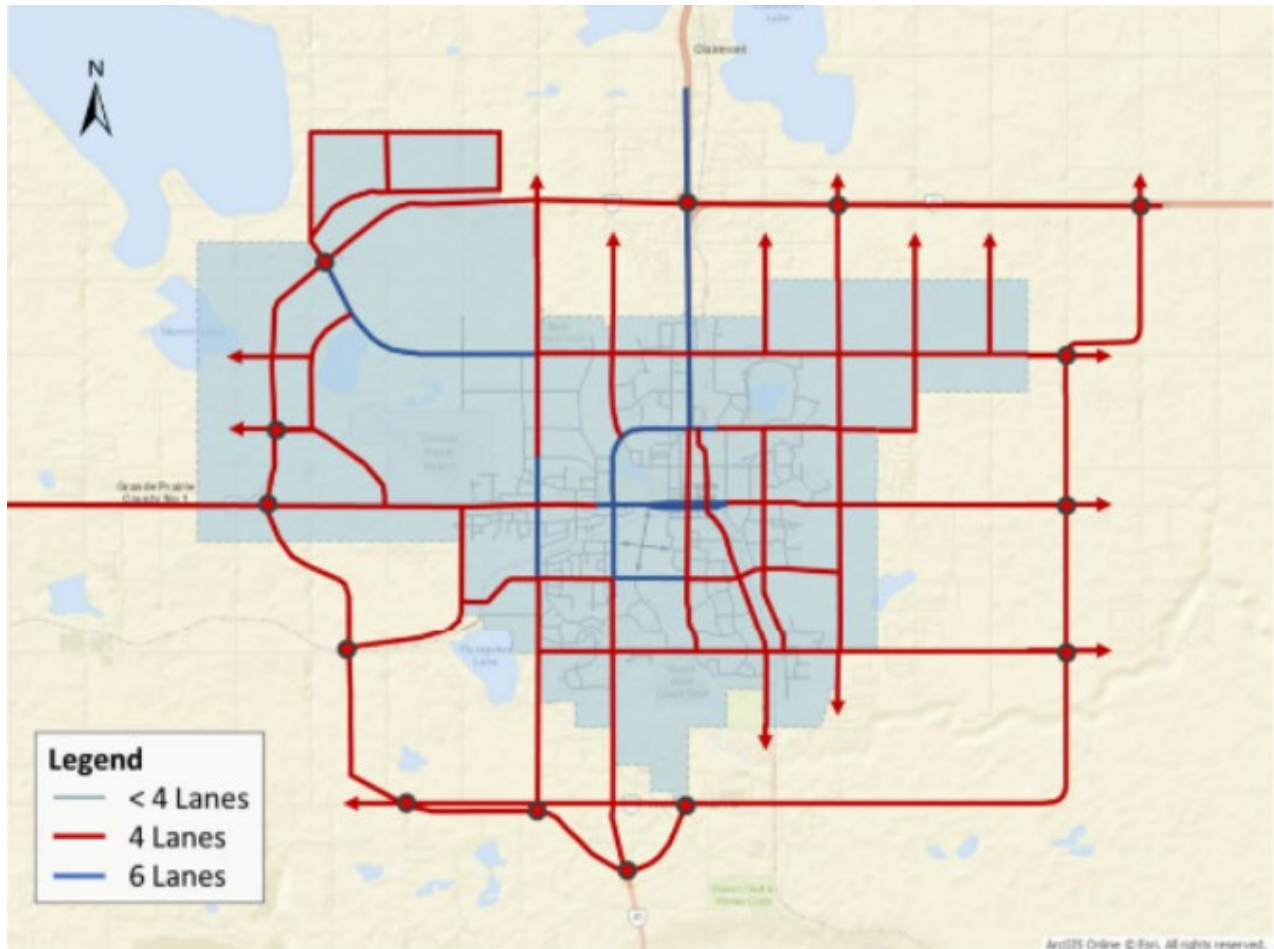


Figure 6: Recommended Right-of-Way Protection (City of Grande Prairie TMP)

3. Existing Safety Conditions

The City's TMP included a high-level review of existing safety concerns. The City's TMP notes that there are existing active transportation network gaps, particularly in industrial areas of the City that generally have insufficient sidewalk infrastructure. It is noted that there is a disconnect between some publicly provided routes and connections to private development areas. The TMP suggests that industrial and future industrial/commercial zones should have dedicated and barrier-free pedestrian connectivity between commercial units and industrial businesses.

Potential upgrades are recommended in the TMP to address existing active transportation infrastructure gaps, such as a multi-use trail along 100 Avenue from 116 Street to the airport.

3.1. COLLISION HISTORY REVIEW

Collision records provided by the City for 2017 to 2021 were reviewed to identify potential safety issues and collision trends at the following intersections within the study area:

- 100 Avenue & 124 Street
- 97 Avenue & 124 Street

The following discussion includes a summary of collision severity and types for each of the intersections within the 5-year collision history.

100 Avenue & 124 Street

Over a period of 5-years (2017 to 2021), a total of seven (7) collisions were reported at the intersection of 100 Avenue and 124 Street. Almost 60% of collisions resulted in injury and just over 40% resulted in property damage. Right angle collisions made up over 40% of the collision. *Figure 7* highlights the historic collision severity and type at 100 Avenue/124 Street.

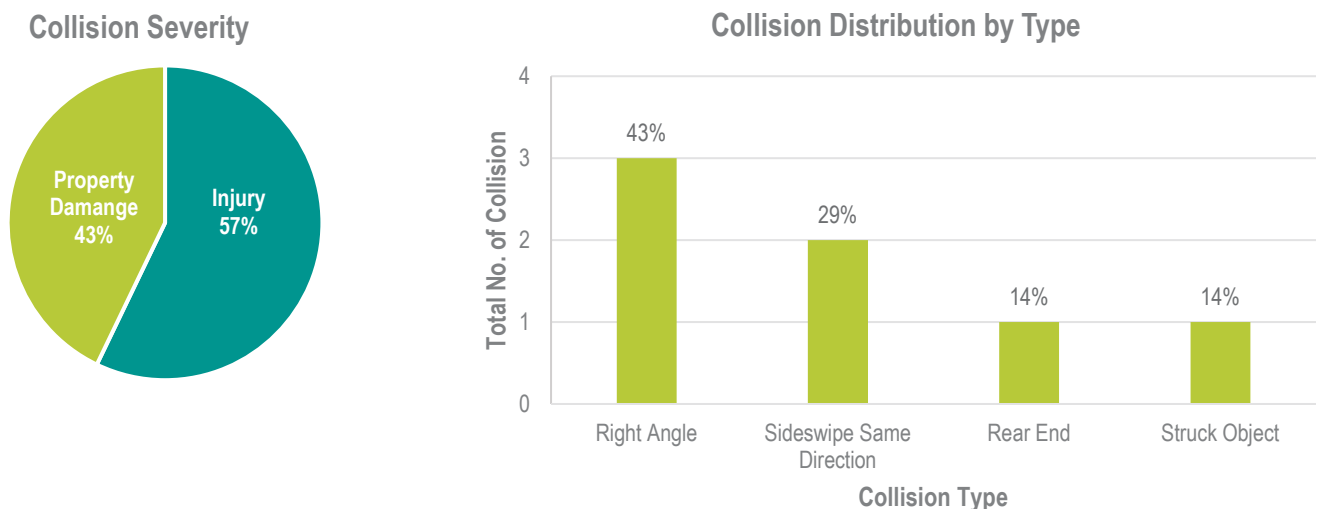


Figure 7: 100 Avenue/124 Street Intersection Collision History (2017-2022)

97 Avenue & 124 Street

The historical collision records included one rear-end type collision that occurred on November 2, 2019, at 8:00 AM. The collision resulted in property damage and no information was provided for traffic control devices, or light and road surface conditions.

Overall, the collision types observed at the study intersections are typical of larger intersections located in an urban area. Opportunities to enhance safety at these intersections should be reviewed as part of other road upgrades.

4. Traffic Volumes

4.1. EXISTING 2023 TRAFFIC VOLUMES

McElhanney completed 24-hour traffic counts at the following intersections to identify the a.m. and p.m. peak hour traffic volumes:

- 97 Avenue & 124 Street/Range Road 64
- 100 Avenue & 124 Street/Range Road 64
- 100 Avenue & 132 Street/Range Road 65

Details of the traffic counts are included in **Appendix B**. The traffic counts at the above intersections were used to estimate the existing traffic volumes for the following intersections:

- 99 Avenue & 124 Street/Range Road 64
- Silver Pointe Drive (Township Road 713A) & 124 Street/Range Road 64
- Service Road #1 (Township Road 714) & 132 Street/Range Road 65 – approximately 65 m south of 100 Avenue
- Service Road #2 (713068 Range Road 65) & 132 Street/Range Road 65 – approximately 310 m south of 100 Avenue

The *Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition* was used to estimate existing traffic associated with the Silver Pointe residential community to assist in establishing the through volumes on 132 Street/Range Road 65 between Silver Pointe Drive and 100 Avenue. The number of existing homes were counted based on recent aerial imagery and the trip generation rate for single family detached housing was applied.

The existing a.m. and p.m. peak hour traffic volumes for each of the study intersections are shown in *Figure 8*.



EXISTING (2023) AM and PM PEAK HOUR VOLUME

#(#) = AM (PM) Peak Hour Volume (Rounded to Nearest 5 veh/hr)

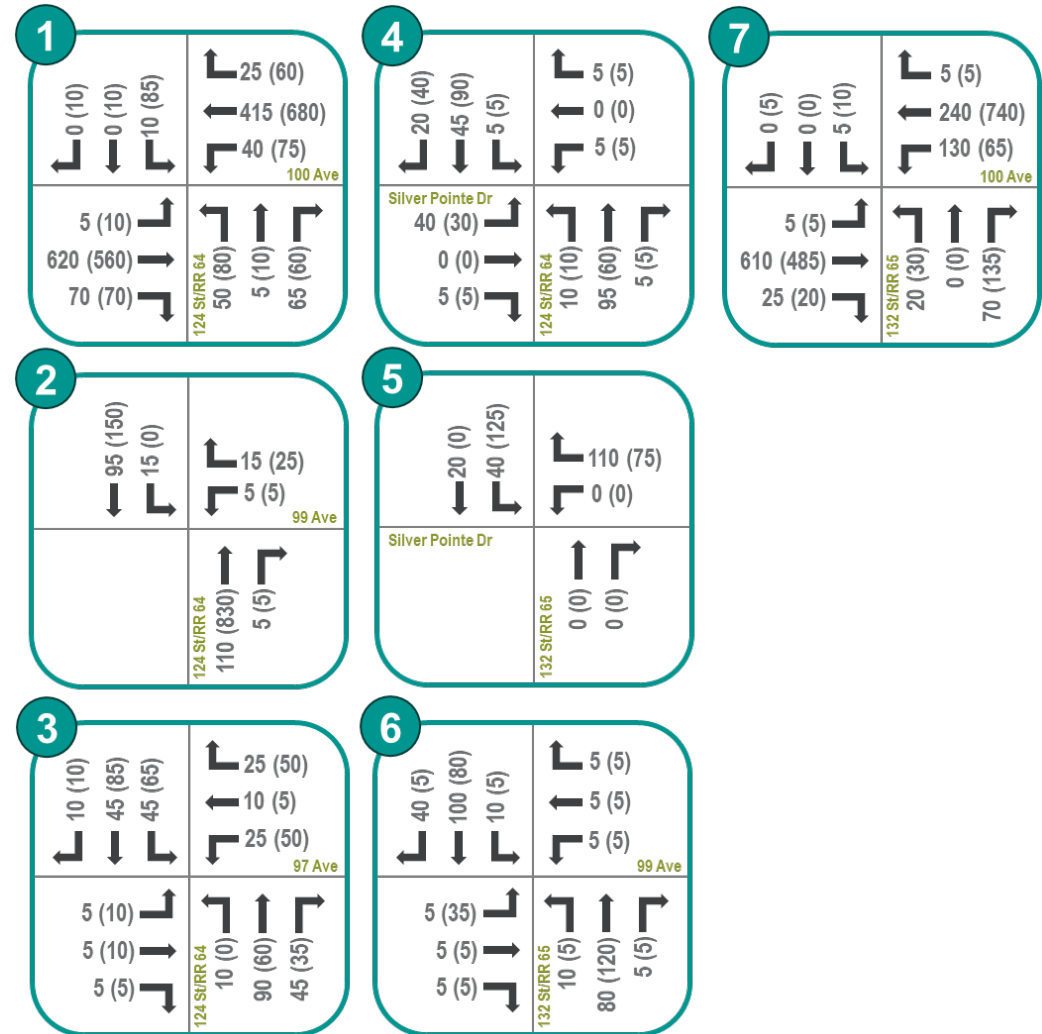
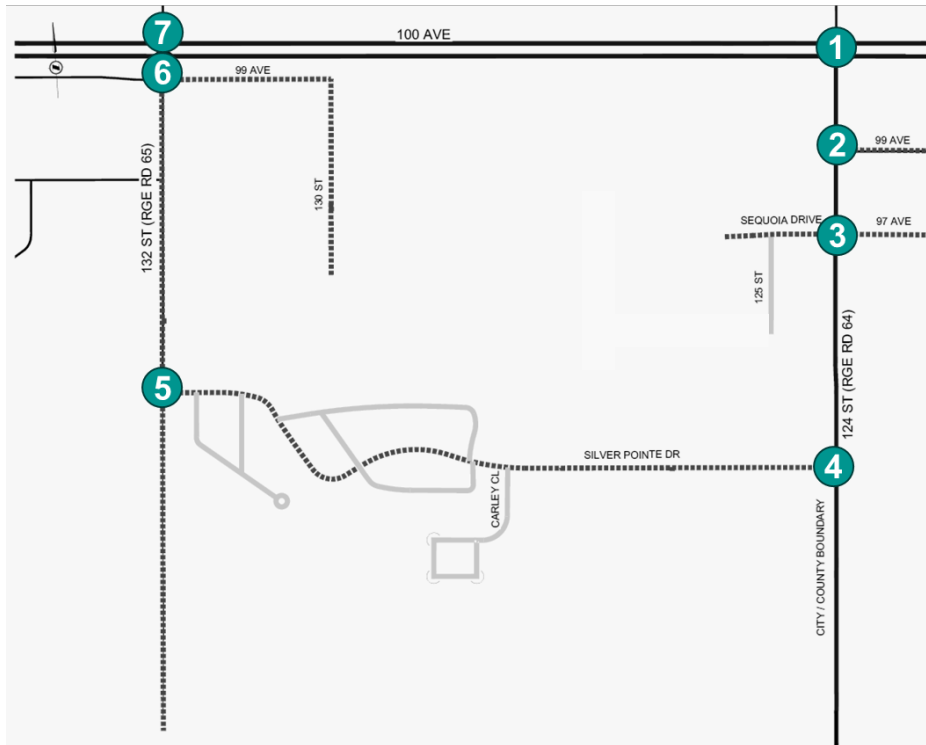


Figure 8: Future (2048) A.M. and P.M. Peak Hour Intersection Volumes



4.2. FUTURE 2048 TRAFFIC PROJECTIONS

The future 25-year horizon traffic projections were established based on estimated regional growth along 100 Avenue and trip generation estimates associated with the full build out of the West Industrial and Cowan ASPs. Since the growth along the roadways within the ASP networks will be development driven, an overall growth rate was not applied to the background traffic on 124 Street and 132 Street. The future scenario includes the addition of trips generated from the development of the ASP areas on these roadways.

4.2.1. 100 Avenue

Historical traffic volumes along 100 Avenue (formerly Highway 43) were obtained from AT's database and reviewed. Data from three automated traffic recorder (ATR) stations at locations west and east of the study was used to calculate 5-, 10-, 15-, 20- and 25-year growth rates. Due to the anomalies associated with impacts of the COVID-19 pandemic, growth rates were reviewed with the base year of 2019 and 2021. Long term growth along 100 Avenue was identified to be approximately 2.0% per year based on this review.

Therefore, an initial 2.0% per year linear average growth rate was applied to the eastbound and westbound traffic on 100 Avenue to the 25-year horizon. As discussed in [Section 2.3](#), the Highway 40X south ring road is identified to be implemented by the 120,000-population horizon, or approximately 20-year horizon. The northern ring road section of Highway 43X opened in 2019, therefore available traffic data between 2019 and 2022 was reviewed at ATR 50430330, located on 100 Avenue 700 m west of Highway 40 to quantify the estimated reduction in traffic on 100 Avenue associated with the 43X bypass. A 20% decrease in traffic volumes was observed between 2021 and 2019, and a 13% decrease between 2022 and 2019. Traffic volumes in 2022 from other surrounding intersection counts and ATR appear to have generally normalized following anomalies recorded in 2020 and 2021 due to the COVID-19 pandemic, therefore it is anticipated that the difference between the 2022 and 2019 data is due to the Highway 43X bypass.

Traffic projections from the Grande Prairie Transportation Model indicate that the implementation of the Highway 40X southern bypass will result in a reduction of approximately 15% of eastbound and westbound through traffic on 100 Avenue within the study area. Therefore, following the projection of eastbound and westbound traffic on 100 Avenue with a 2.0% per year growth rate, the eastbound and westbound traffic volumes were then decreased by 15% to account for the revised traffic patterns following implementation of the Highway 40X bypass.

4.2.2.ASP Full Build Out

The *Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition* was used to estimate the additional traffic associated with the full build out of the West Industrial and Cowan ASPs. The following land use codes were applied to estimate the future industrial and commercial traffic:

- 130 Industrial Park
- 820 Shopping Center

Aerial imagery was reviewed to estimate the existing developed area and remaining undeveloped area within the ASP land sections. The trip generation rates for the above noted land use codes were applied to the remaining “to be developed” area within both the West Industrial and Cowan ASPs. A floor area ratio of 0.25 was also applied to the development areas to account for the anticipated building area vs the site area. This ratio was determined based on industry experience as well as reviewing the estimated proportion of existing building to site areas within the West Industrial and Cowan ASP lands.

A summary of the total number of trips generated by the ASPs within the study area during the peak hours is provided in the following table.

Table 1: Estimated Total Peak Hour Trips Generated by West Industrial and Cowan ASPs

ASP and Land Use Type	AM Peak Trips			PM Peak Trips		
	Entering	Exiting	Total	Entering	Exiting	Total
West Industrial ASP - Commercial and Industrial	921	382	1303	1001	1525	2527
Cowan ASP - Industrial	19	4	23	5	18	23
Total	940	386	1326	1006	1543	2550

The following assumptions were used in establishing the future traffic volumes (phasing diagram of West Industrial ASP included below for reference):

- Traffic associated with the Cowan ASP developments enter / exit from 124 Street/Range Road 64
- 50% of the traffic associated with the Phase 2 area of the West Industrial Area ASP enter / exit from 124 Street/Range Road 64 and 50% enter / exit from 120 Street (do not use 124 Street/Range Road 64).
- Traffic associated with the Phase 3 and Phase 6 areas of the West Industrial ASP enter / exit from 124 Street/Range Road 64.
- Traffic associated with the Phase 4 area of the West Industrial ASP enter / exit from 132 Street/Range Road 65.
- Traffic associated with the Phase 1 area of the West Industrial ASP enter / exit from 120 Street or 116 Street.
- Traffic associated with the Phase 5 area of the West Industrial ASP enter / exit from 116 Street.
- 75% of trips entering / exiting the West Industrial and Cowan ASP areas are generated from the east and 25% of trips entering / exiting are generated from the west.



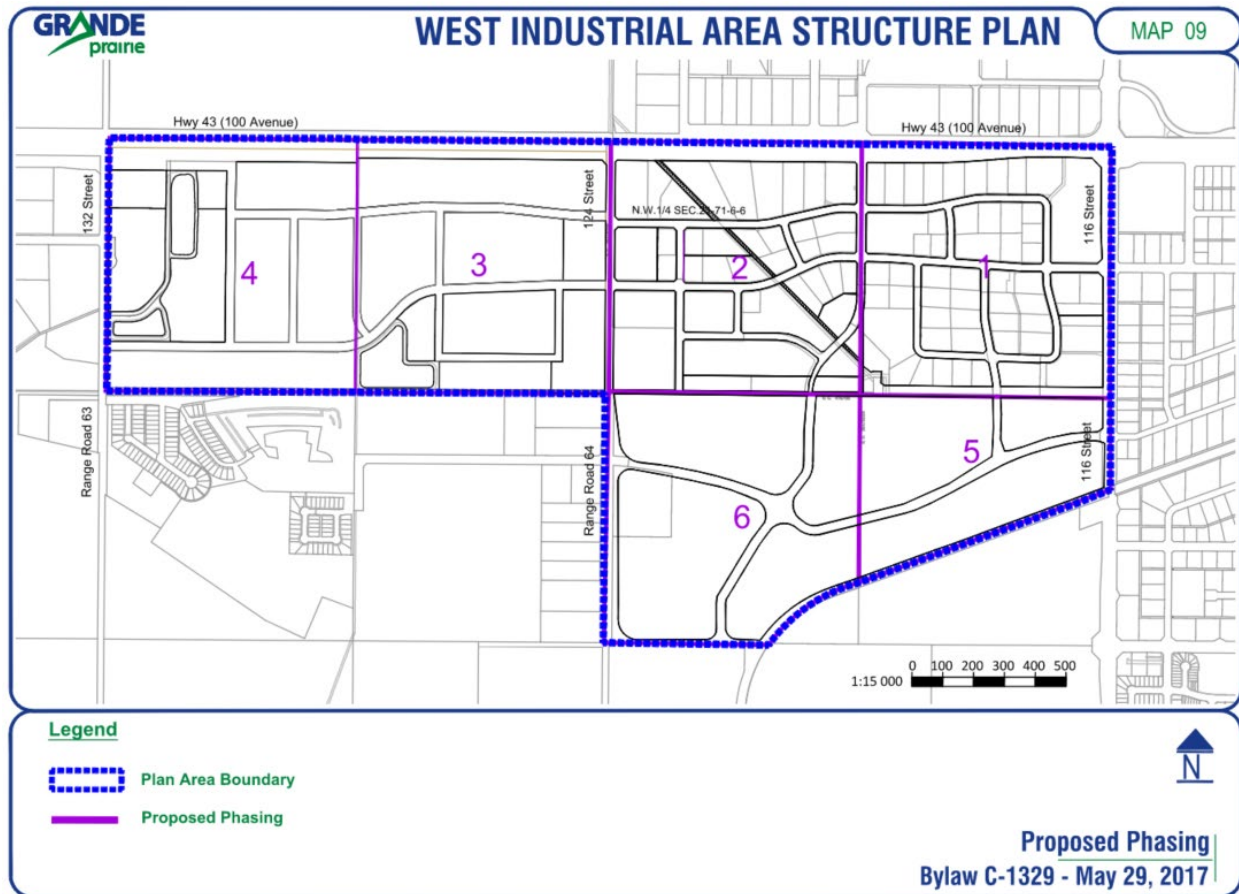


Figure 9: West Industrial ASP Phasing

The estimated 2048 a.m. and p.m. peak hour volumes at the study intersections are included in the figure below. Traffic volumes throughout the study area are generally anticipated to be higher during the p.m. peak compared to the a.m. peak. The p.m. peak hour traffic on 124 Street is expected to be approximately 2,100 vehicles per hour. Traffic volumes on 132 Street are expected to be approximately 900 vehicles per hour during the p.m. peak.

FUTURE (2048) AM and PM PEAK HOUR VOLUME

#(##) = AM (PM) Peak Hour Volume (Rounded to Nearest 5 veh/hr)

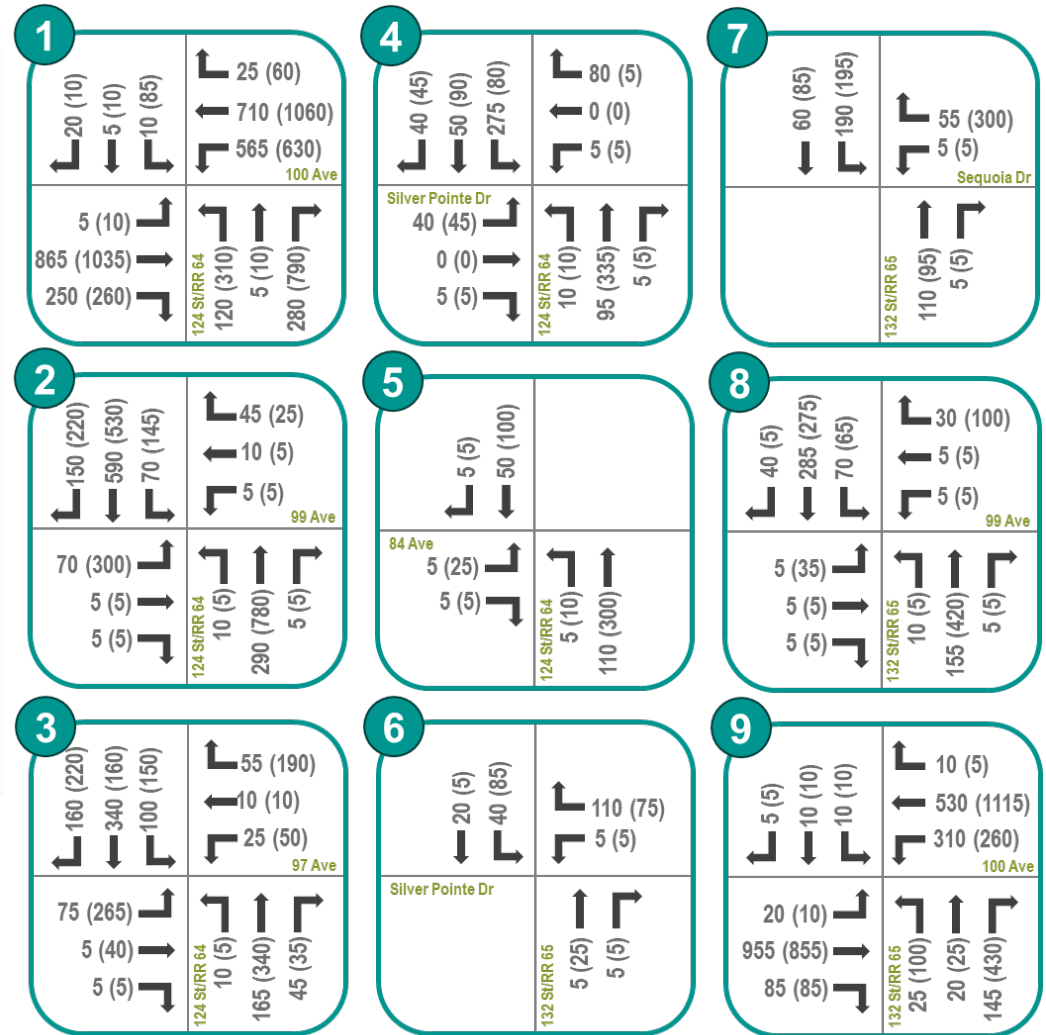
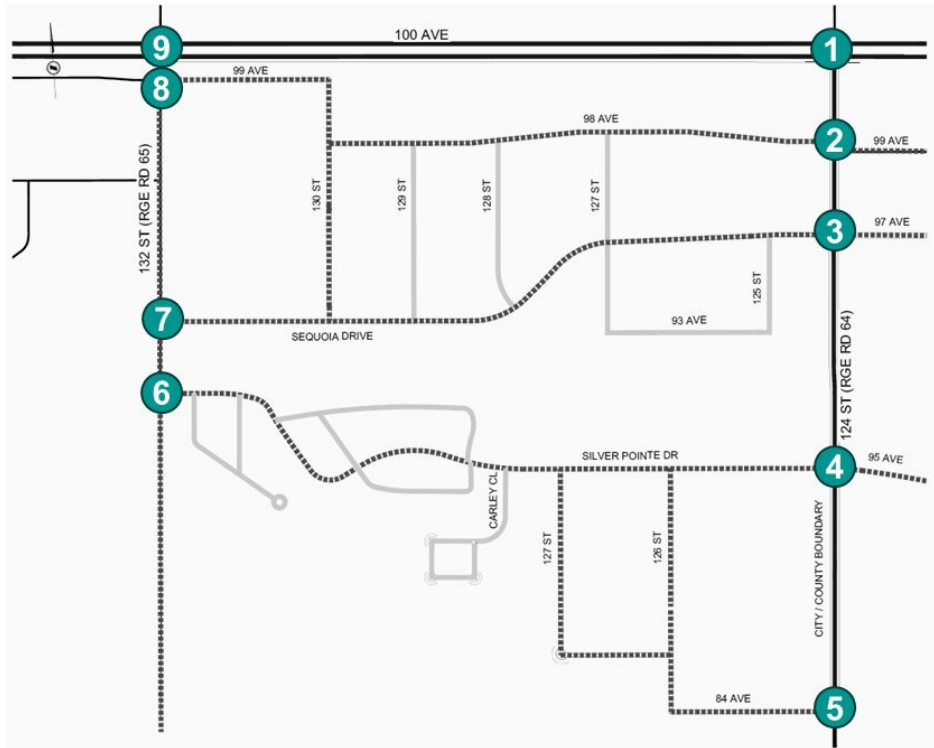


Figure 10: Future (2048) Peak Hour Volume



5. Traffic Operations Analysis

Traffic operations analysis for the study intersections was completed utilizing Synchro 11 for the existing (2023) and future (2048) AM and PM peak hour. The model inputs were based on existing lane configurations, existing and forecast traffic volumes, and signal timings.

The Level of Service (LOS) is a performance metric used to assess operating conditions of intersections and their respective approaches. LOS reported in the analysis scenarios are based on the methodology outlined in the Highway Capacity Manual 6th Edition. For unsignalized intersections, the LOS is based on the computed delays on each of the critical movements. LOS 'A' represents minimal delays for minor street traffic movements, and LOS 'F' represents a scenario with an insufficient number of gaps on the major street for minor street motorists to complete their movements without significant delays.

For signalized intersections, the methodology considers the intersection geometry, traffic volumes, the traffic signal phasing/timing plan, as well as pedestrian and cyclist volumes. The average delay for each lane group is calculated, as well as the delay for the overall intersection. The operating conditions can also be expressed in terms of volume-to-capacity (v/c) ratio. The signalized and unsignalized LOS criteria as summarized in HCM are also shown in [Table 2](#).

For planning purposes, a LOS D or better and v/c ratio of less than 0.85 are considered acceptable operational standards in the context of the study area.

Table 2: Highway Capacity Manual 6th Edition Level of Service Criteria

Level of Service	Description	Unsignalized Intersection Delay (s)	Signalized Intersection Delay (s)
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	< 10	< 10
B	Stable flow, but the presence of others begins to be noticeable. Occasionally minor delay due to conflicting traffic.	> 10 to 15	> 10 to 20
C	Stable flow, but occasionally some delay due to conflicting traffic. Delay is noticeable, but not inconveniencing.	> 15 to 25	> 20 to 35
D	Represents high-density, but stable flow. Delay is noticeable and irritating.	> 25 to 35	> 35 to 55
E	Represents operating conditions at or near the capacity level. Delay approaching tolerance levels.	> 35 to 50	> 55 to 80
F	Traffic demand exceeds capacity of intersection, very long queues, and delays. Represents forced or breakdown flow. Delay exceeds tolerance level.	> 50	> 80

5.1. EXISTING 2023 CONDITIONS

The intersection analysis results for the existing conditions are summarized in [Table 3](#). Detailed Synchro reports are included in [Appendix C](#). The existing intersections, along with the individual movements within the Study Area are currently operating adequately with a LOS of C or better. The northbound / southbound approaches on 124 Street/Range Road 64 and 132 Street/Range Road 65 at the intersections with 100 Avenue are the most constrained (LOS of C) due to the high traffic volumes on 100 Avenue and longer delays associated with finding appropriate gaps to execute a turning movement. However, these delays are still considered within acceptable levels of service.



Table 3: Intersection Analysis Summary- 2023 Existing Conditions AM (PM) Peak Hour

Intersection	Peak Hour	Existing (2023) Level of Service					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
100 Avenue & 124 Street/Range Road 64	AM	A	A	A	B	B	N/A
	PM	B	B	B	B	C	N/A
124 Street/Range Road 64 & 99 Avenue	AM	A	A	A	A	A	N/A
	PM	A	A	A	A	A	N/A
124 Street/Range Road 64 & 97 Avenue	AM	A	B	B	A	A	N/A
	PM	A	B	B	A	A	N/A
124 Street/Range Road 64 & Silver Pointe Dr	AM	A	A	A	A	A	N/A
	PM	A	B	A	A	A	N/A
100 Avenue & 132 Street/Range Road 65	AM	A	A	A	C	C	N/A
	PM	A	A	A	C	C	N/A
132 Street/Range Road 65 & Township Rd 714	AM	A	A	A	A	A	N/A
	PM	A	B	A	A	A	N/A
132 Street/Range Road 65 & 713068 Range Road 65	AM	A	A	N/A	A	A	N/A
	PM	A	A	N/A	A	A	N/A
132 Street/Range Road 65 & Silver Pointe Dr	AM	A	N/A	A	A	A	N/A
	PM	A	N/A	A	A	A	N/A

⁽¹⁾Reported as Movement, LOS, Volume-to-Capacity Ratio, 95th Percentile Queue (m); Critical movements are considered as movements with a LOS E or F, Volume-to-Capacity Ratio greater than 0.90 and/or queues longer than 50m.



5.2. FUTURE 2048 CONDITIONS

The intersection analysis results for the 2048 traffic volumes based on the existing intersection configurations are summarized in [Table 4](#). Detailed Synchro reports are included in [Appendix C](#). Several constraints are identified based on the existing study intersection configurations with the increase in traffic associated with the build out of the ASPs.

The westbound left, northbound movements, and southbound movements at the intersection of 124 Street and 100 Avenue are expected to operate with a LOS of F due to significant queues and delays. The existing configuration and signal timing plan are not able to accommodate the increased traffic volumes.

Similarly, the westbound left and northbound movements at the intersection of 132 Street and 100 Avenue are expected to operate with a LOS of F due to the additional traffic and lack of appropriate gaps to execute turning movements.

The eastbound and / or westbound movements at the intersections of 99 Avenue and 97 Avenue on 124 Street/Range Road 64 are also anticipated to deteriorate to a LOS of F with the ASP full build out traffic.

Delays are increased at other study intersections, but the expected LOS remains D or better for the remaining locations, as shown in the table below.

Overall, the analysis results indicate that intersection upgrades at key study locations are required to accommodate full build-out of the Study Area. The 124 Street/Range Road 64 corridor would also require additional lanes to provide sufficient roadway capacity for the anticipated development traffic.

Table 4: Intersection Analysis Summary - 2048 Traffic Volumes with Existing Configurations AM (PM) Peak Hour

Intersection	Peak Hour	Existing (2023) Level of Service					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
100 Avenue & 124 Street/Range Road 64	AM	F	A	F	F	B	WBL, F, >1.0, 130m NB, F, >1.0, 47m
	PM	F	A	F	F	F	WBL, F, >1.0, 177m NB, F, >1.0, >150m NB, F, >1.0, 21m
124 Street/Range Road 64 & 99 Avenue	AM	B	F	C	A	A	EB, F, 0.92, 40m
	PM	F	F	F	A	A	EB, F, >1.0, >150m WB, F, 0.50, 98m
124 Street/Range Road 64 & 97 Avenue	AM	F	F	D	A	A	EB, F, >1.0, 147m
	PM	F	F	F	A	A	EB, F, >1.0, >150m WB, F, >1.0, >123m
124 Street/Range Road 64 & Silver Pointe Dr	AM	A	D	A	A	A	N/A
	PM	A	C	B	A	A	N/A
100 Avenue & 132 Street/Range Road 65	AM	F	A	D	F	F	WBL, F, >1.0, 110m NB, F, >1.0, >150m SB, F, >1.0, >150m
	PM	F	A	A	F	F	NB, F, >1.0, >150m SB, F, >1.0, >150m
132 Street/Range Road 65 & Township Rd 714	AM	A	B	A	A	A	N/A
	PM	A	D	B	A	A	N/A
132 Street/Range Road 65 & 713068 Range Road 65	AM	A	B	N/A	A	A	N/A
	PM	A	C	N/A	A	A	N/A
132 Street/Range Road 65 & Silver Pointe Dr	AM	A	N/A	A	A	A	N/A
	PM	A	N/A	A	A	A	N/A

⁽¹⁾Reported as Movement, LOS, Volume-to-Capacity Ratio, 95th Percentile Queue (m); Critical movements are considered as movements with a LOS E or F, Volume-to-Capacity Ratio greater than 0.90 and/or queues longer than 50m



6. Stakeholder Engagement

Two phases of community engagement with the general public and internal stakeholders was completed through various engagement activities to seek input on the future transportation network within the Study Area. The first phase of engagement focused on understanding the Study Area's key transportation issue and opportunities, while the second phase focused on presenting the Draft Transportation Network for final input. The following engagement activities were completed throughout the duration of this project:

- **Internal Stakeholders** – Regular meetings were held with City and County representatives to identify project objectives and goals, discuss and confirm direction of the transportation network and finally, confirm the recommended ultimate transportation network for the Study Area.
- **Public Open Houses** – Two Public Open Houses were held throughout the project to first, seek public input on the existing transportation network and potential improvement opportunities and secondly, to present the Draft Transportation Network for final input.
- **Online Surveys** – Each Public Open House was accompanied with an opportunity for the public to complete an online survey that was posted on the project engagement website for approximately one month.

The following sections provide a more detailed overview and summary of findings from the Public Open Houses and Online Surveys. More information about the community engagement process and the results are documented in the *What We Heard Summary*, provided in [Appendix D](#).

6.1. PHASE 1 ENGAGEMENT

Public Open House #1

The first Public Open House was held on Thursday, June 15th, 2023 from 5pm to 7pm at the Ernie Radbourne Pavilion in Muskoseepi Park. The Open House was promoted online through the *Engage City of Grande Prairie* project page, on the City of Grande Prairie's website, on social media, and through a mail-out.

During the event, 23 people attended. This included 8 residents from the city and 7 residents from the county. The other 8 residents did not identify whether they lived in the City or County. McElhanney, City, and County staff were in attendance to discuss the transportation study with participants. Participants also had the opportunity to provide written comments through sticky notes, printed maps of the study area and paper copy of the Online Survey questions.

The results of the Open House indicated three major areas of concern, including:

1. 124 St/Range Road 64

- Improve road maintenance and/or pave the gravel portion of 124 Street from Silver Pointe Drive to Township Road 712A
- Lots of heavy traffic
- Street lighting improvements

2. 100 Avenue

- Inconsistent speed limits
- Danger of uncontrolled crossing at 132 Street

3. Silver Pointe Community

- Noise concerns along 97 Avenue as due to increased traffic
- New road connections create opportunities and threats to safety and theft in community
- Lack of bus or active transportation connections to Silver Pointe
- Removal of existing green space / farmland located north of the community

Online Survey

The *Transportation Study Online Survey #1* was open to the public from June 1st to June 30th, 2023. The survey was also promoted online through the *Engage City of Grande Prairie* project page, on the City of Grande Prairie's website, on social media, and through a mail-out.

The survey received 198 responses, with the majority of respondents living in either the City or County. With respect to the transportation network, the results of the survey indicated that:

- Participants utilize the network within the Study Area more for east-west than north-south travel, suggesting the importance of the 100 Avenue corridor.
- The existing transportation network is in good condition.
- 124 Street/Range Road 64 should be paved between Silver Pointe Drive to the train tracks near Township Road 712A.
- The Grande Prairie Airport is a regional destination and generates traffic that impacts the surrounding network and intersections.
- Residents are seeking opportunities for future transit and trail connections.

6.2. PHASE 2 ENGAGEMENT

Public Open House #2

The second Public Open House was held on Thursday, September 21st, 2023 from 5pm to 7pm at the Ernie Radbourne Pavilion in Muskoseepi Park. The Open House was also promoted online through the *Engage City of Grande Prairie* project page, on the City of Grande Prairie's website, on social media, and through a mail-out.



During the event, 16 people attended, which included some residents from the City and the County. McElhanney, City, and County staff were in attendance to discuss the draft Transportation Concept Plan with participants. Participants also had the opportunity to provide written comments through sticky notes, and printed maps of the study area.

Open House participants were generally focused on the proposed transportation concept plan and was attending mostly for information. The attendees did not leave any comments using sticky notes nor had any objections to the proposed plan.

Online Survey

The *Transportation Study Online Survey #2* was open to the public from September 6th to September 30th, 2023. The survey was also promoted online through the *Engage City of Grande Prairie* project page, on the City of Grande Prairie's website, on social media, and through a mail-out.

The survey received 54 responses, with almost equal responses provided by City and County residents. The survey asked respondents to review the proposed study area transportation plan and comment on specific transportation elements, including connectivity, intersection improvements, road upgrades, and general transportation. Overall, City residents were more receptive of the concept plan, while County residents were less receptive of the plan. With respect to the study area's transportation network, the results of the survey indicated that:

- Most respondents felt that the proposed transportation plan addresses connectivity within the study area. Some respondents were concerned with the lack of connections between the study area and Township Road 712A, between Range Road 64 and Range Road 65.
- Most respondents felt that the proposed transportation plan addresses intersection improvements within the study area. Some respondents were concerned about the financial costs of the improvements, while others were concerned how the improvements would reduce vehicle speed and traffic noise.
- Many respondents feel the proposed transportation plan considered everything related to transportation in the study area. General transportation concerns include the perceived negative impacts of transit, the lack of consideration for vehicle noise, and poor crossing maintenance at the railway crossing south of the study area along Range Road 64.
- Some respondents highlight how industrial traffic and noise will reduce quality of life and safety within the community.
- Respondents provided other transportation-related comments which include encouraging, and discouraging, traffic circles, reviewing snow dump policies and environmental considerations, and highlighting the airport's impact on transportation and traffic.

Many respondents also noted the community impacts the proposed industrial development would have on the Silver Pointe community. While these comments did not apply to the scope of this study, they were noted to the City and County.



7. Concept Development & Evaluation

As shown in the results presented in **Section 5.2**, several capacity constraints are expected with the future traffic generated by the full build out of the ASPs. Intersection upgrades are required to accommodate the future traffic volumes at several key locations.

Based on a review of the analyses results with the existing (base) configurations, the planned transportation improvements identified in the TMP and other regional initiatives, as well as results from the first phase of engagement, the following section describes the future (25-year) intersection and roadway upgrades and roadway strategies considered in this study.

7.1. ROAD & INTERSECTION UPGRADES

7.1.1. Overall Road Upgrades

Building from the City/County's plans and confirmed by traffic volumes projected in this study, the following corridor improvements are recommended:

- **Upgrade 124 Street / Range Road 64 from two to four lanes** between 100 Avenue and 84 Avenue. This upgrade can be completed in stages as warranted by development and growth. Based on the projected traffic volumes, the section between 100 Avenue and 97 Avenue will require a four-lane upgrade under the 25-year horizon. South of 97 Avenue, the corridor can be paved and maintained as a two-lane roadway until warranted.
- **Upgrade 132 Street / Range Road 64 to a two-lane collector** standard (as per City and County design guidelines) between 100 Avenue and Silver Pointe Drive/Township Road 713A.
- Local internal road network to be constructed to a rural cross-section standard suitable for industrial and commercial traffic. This is aligned with the current roadways constructed.

7.1.2. 100 Avenue & 124 Street/Range Road 64 Intersection:

The westbound left turn movement at the 100 Avenue and 124 Street/Range Road 64 intersection is estimated to be over 600 vehicles during the p.m. peak hour; therefore, a second westbound left turn lane is required to accommodate this volume. Additionally, the existing signal timing plan does not include protected left turn phases, which will need to be implemented for the westbound left to accommodate the traffic associated with the full build out of the ASPs in addition to growth in traffic volumes on 100 Avenue.

There is also a significant increase in northbound right traffic volume anticipated associated with the ASP traffic, and the addition of a northbound to eastbound channelized right turn with an added lane improves the operation of this movement and optimization of the signal to better serve other movements at the intersection.

Eastbound traffic turning right towards the ASP lands increase with the full build out scenario, and these are also better accommodated through the addition of a channelized right turn lane. With the overall

additional traffic at the intersection and the increased cycle length required, a dedicated southbound left turn lane and coordinated signal timing plan is required to ensure adequate LOS.

As discussed in **Section 7.1.7**, there is consideration for a new right-in/right-out (RI/RO) access on 100 Avenue between 124 Street and 132 Street. This access would help alleviate some of the traffic pressures along 124 Street/Range Road 64, improving the overall traffic flow on the corridor.

As summarized in [Table 5](#), the proposed improvements – with or without the new RI/RO access on 100 Avenue, will provide sufficient capacity to accommodate the development traffic while reducing intersection delays. The proposed improvements also reduce delays at the intersection and on the individual movements, in particular the westbound and northbound movements, where the LOS improves from LOS F to LOS B/C during the peak hours.

Table 5: 100 Avenue & 124 Street/Range Road 64 Intersection Improvement Performance Summary

Scenario	Peak Hour	100 Avenue & 124 Street/Range Road 64					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
Base Configuration	AM	F	A	F	F	B	WBL, F, >1.0, 130m NB, F, >1.0, 47m
	PM	F	A	F	F	F	WBL, F, >1.0, 177m NB, F, >1.0, >150m NB, F, >1.0, 21m
Intersection Upgrades	AM	C	D	C	B	C	EBT, D, 0.95, 129m WBL, D, 0.97, 41m
	PM	C	C	C	B	C	EBT, D, 0.84, 146m WBT, D, 0.62, 120m
Intersection Upgrades + New RI/RO Access on 100 Ave	AM	C	D	C	C	C	EBT, D, 0.94, 147m WBL, D, 0.97, 47m
	PM	C	C	C	B	C	EBT, D, 0.92, 189m WBL, D, 0.88, 91m WBT, B, 0.58, 114m

Recommendation:

- Addition of protected left turn phases and modifications to signal timing.
- Channelized eastbound right turn lane.
- Channelized northbound to eastbound right turn lane with added lane on 100 Avenue eastbound.
- Additional westbound left turn lane.
- Dedicated southbound left turn lane.

The proposed intersection upgrades are highlighted in [Figure 11](#).



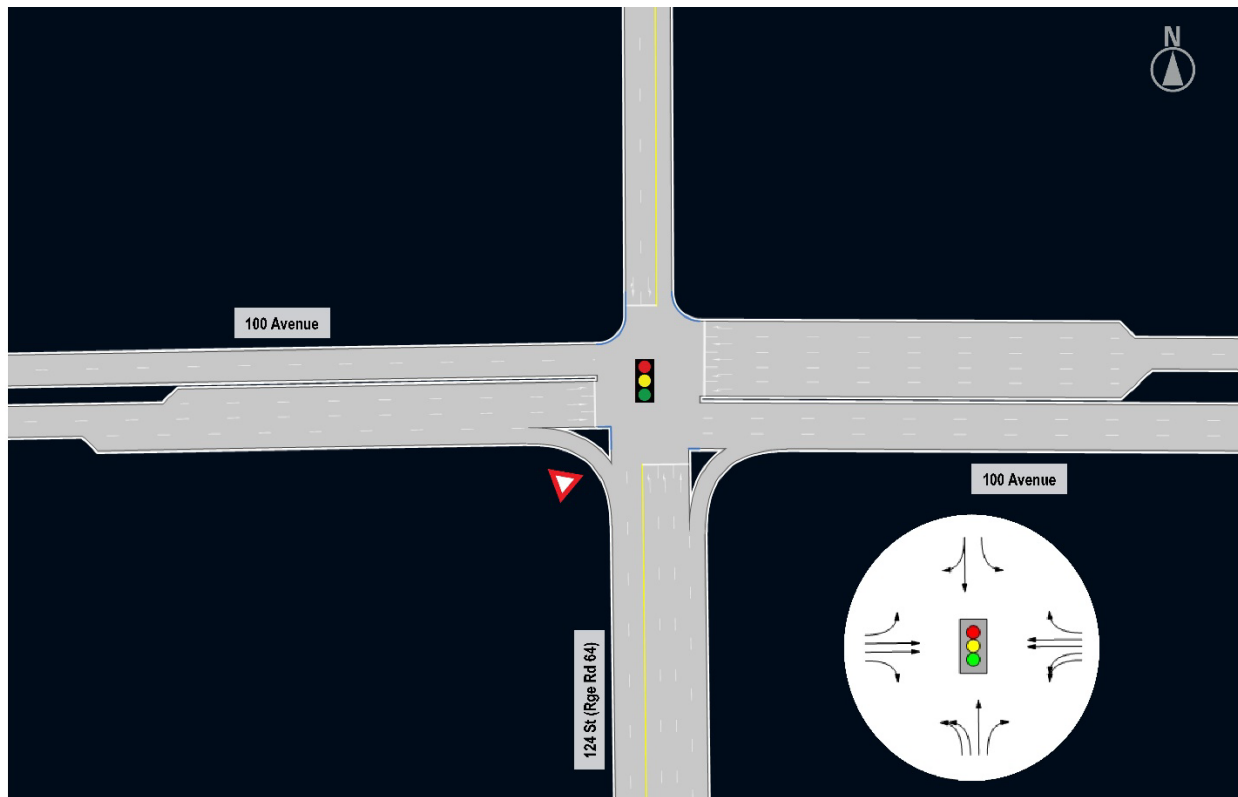


Figure 11: Proposed 100 Avenue & 124 Street / Range Road 64 Upgrades

7.1.3. 124 Street/Range Road 64 & 98 Avenue/99 Avenue

The *West Industrial ASP* recommended a right-in/right-out only at the intersection of 124 Street/Range Road 64 and 98 Avenue. As part of this study's concept development process, a four-legged full-movement intersection with 99 Avenue was also evaluated. The analysis indicates that with the full build-out of the ASP, the delays for the eastbound and westbound traffic at 98 Avenue/99 Avenue would increase significantly as adequate gaps available for turning movements due to the increased through traffic along 124 Street are limited. A traffic signal along with dedicated turning lanes would be required to allow the intersection to function under acceptable levels of service.

Through discussions with the City and County's project team, it was determined that a signal would not be feasible and that right-in/right-out (RI/RO) operations at 98 Avenue and 99 Avenue would be more ideal given the intersection's proximity to 100 Avenue (~240m). There is also a need to signalize the 124 Street/Range Road 64 and 97 Avenue intersection (see discussion further below).

As summarized in [Table 6](#), the intersection operates at a LOS F during the p.m. peak hour without any intersection improvements (aside from the addition of the 98 Avenue leg). The RI/RO access would allow the intersection to operate under acceptable levels of service (LOS C or better). The RI/RO would improve overall intersection safety and operations as the queues of southbound left turning vehicles do not impact the 100 Avenue and 124 Street/Range Road 64 intersection.

Table 6: 124 Street/Range Road 64 & 98 Avenue/99 Avenue Intersection Improvement Performance Summary

Scenario	Peak Hour	124 Street/Range Road 64 and 98 Avenue/99 Avenue					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
Base Configuration*	AM	B	F	C	A	A	EB, F, 0.92, 40m
	PM	F	F	F	A	A	EB, F, >1.0, >150m WB, F, 0.50, 98m
RI/RO Access at 98/99 Avenue	AM	A	A	B	A	A	N/A
	PM	A	A	B	A	A	N/A

*Base Configuration assumes the 98 Avenue connection (west leg) to 124 Street is open.

Recommendation:

- Right-in/Right-out access at 98 Avenue and 99 Avenue

The proposed intersection upgrades are highlighted in [Figure 12](#).



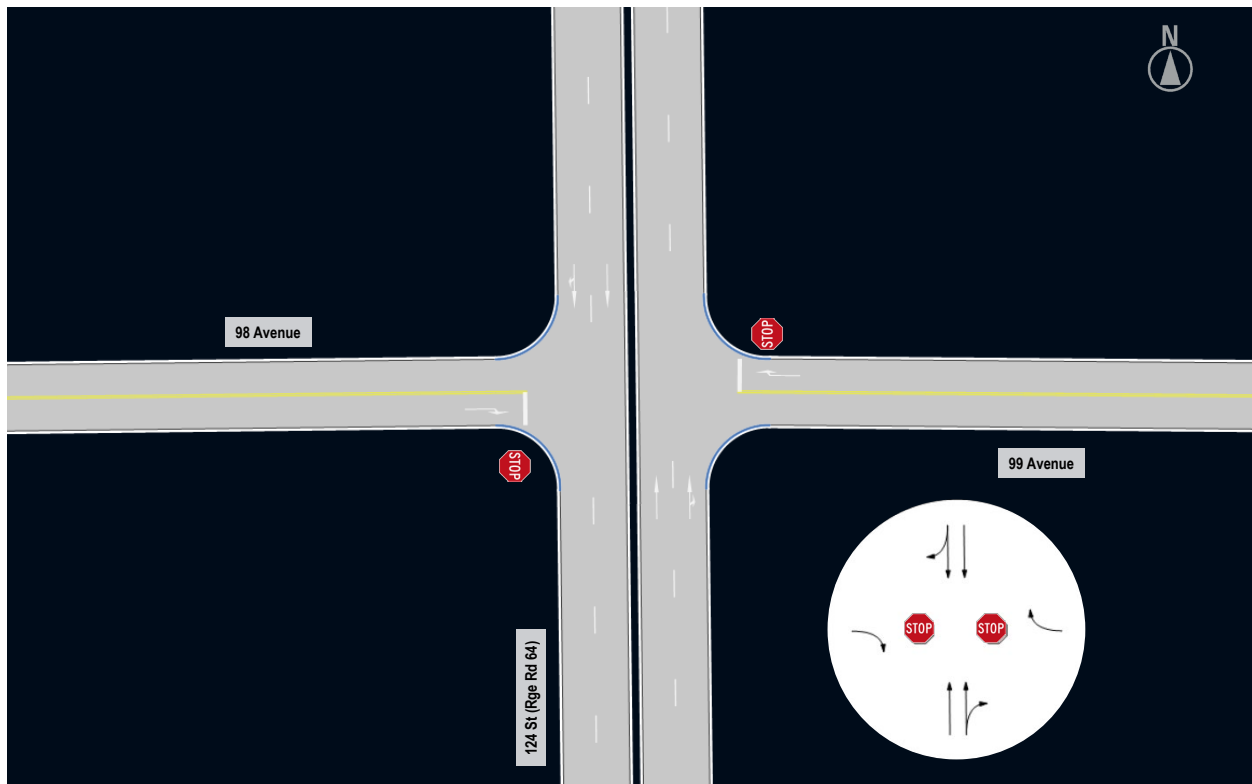


Figure 12: Proposed 124 Street/Range Road 64 and 98/99 Avenue Intersection Upgrades

7.1.4.124 Street/Range Road 64 & 97 Avenue

The delays for eastbound and westbound traffic at 97 Avenue with the full build out of the ASP are expected to be long as adequate gaps available for turning movements are limited due to the increased through traffic along 124 Street/Range Road 64. Provision of a traffic signal allows better accommodation for all movements. A dedicated eastbound left turn and southbound left turn lane are also required to accommodate traffic turning in and out of the ASP land area. A dedicated northbound left-turn lane can be considered to enhance traffic flow and improve corridor safety.

As summarized in [Table 7](#), the proposed improvements would reduce intersections, particularly for the eastbound and westbound movements. The proposed RI/RO accesses on 98 Avenue and 100 Avenue would require some traffic to utilize 97 Avenue, generating additional traffic to the intersection. However, the proposed improvements would continue to have capacity to accommodate the additional traffic under acceptable levels of service (LOS D or better).

Table 7: 124 Street/Range Road 64 & 97 Avenue Intersection Improvement Performance Summary

Scenario	Peak Hour	124 Street/Range Road 64 and 97 Avenue					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
Base Configuration	AM	F	F	D	A	A	EB, F, >1.0, 147m
	PM	F	F	F	A	A	EB, F, >1.0, >150m WB, F, >1.0, >123m
Intersection Upgrades with Signal	AM	A	B	A	A	A	N/A
	PM	C	D	D	D	B	EBL, D, 0.91, 44m
Intersection Upgrades with Signal + RI/RO Accesses on 98 Ave and 100 Ave	AM	A	C	A	A	A	N/A
	PM	C	D	C	D	B	EBL, D, 0.95, 59m

Recommendation:

- Installation of a traffic signal.
- Dedicated eastbound, southbound and northbound left turn lane.

The proposed intersection upgrades are highlighted in [Figure 13](#).

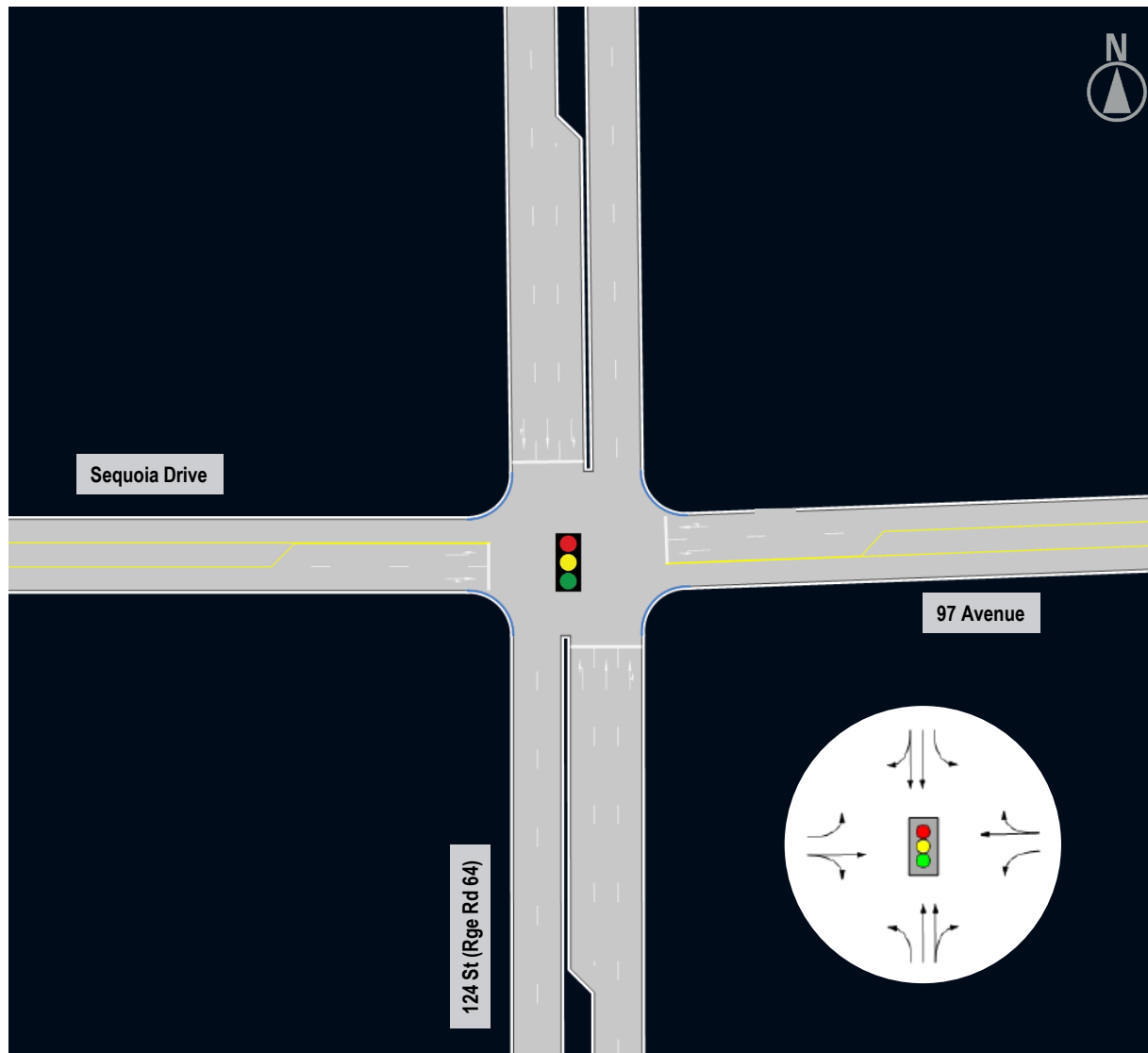


Figure 13: Proposed 124 Street & 97 Avenue Upgrades

7.1.5. 100 Avenue & 132 Street/Range Road 65

The intersection of 100 Avenue and 132 Street no longer operates at an acceptable level with the expected traffic volumes for the 2048 horizon. Adequate gaps are not provided for the northbound and southbound movements to execute turning maneuvers based on the high traffic volumes travelling eastbound and westbound on 100 Avenue. The installation of a traffic signal would improve operations by allocating adequate green time for all movements accordingly.

Additionally, a high volume of vehicles is anticipated to utilize the northbound right turn at this intersection exiting the ASP lands. The addition of a dedicated, channelized right turn lane with yield control provides improved operations for this movement. A new RI/RO access on 100 Avenue would help alleviate some of the traffic pressures for northbound right turn movement as a secondary right-turn access is provided.

As summarized in [Table 8](#), the proposed improvements would significantly improve the delays at the intersections and allow the intersection and individual movements to operate at a LOS C or better during

the peak hours. The addition of the new RI/RO access also improves the traffic operations for the northbound movement, particularly during the p.m. peak hour where the northbound right-turn movement is the heaviest.

Table 8: 100 Avenue & 132 Street/Range Road 65 Intersection Improvement Performance Summary

Scenario	Peak Hour	100 Avenue & 132 Street/Range Road 65					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
Base Configuration	AM	F	A	D	F	F	WBL, F , >1.0, 110m NB, F , >1.0, >150m SB, F , >1.0, >150m
	PM	F	A	A	F	F	NB, F , >1.0, >150m SB, F , >1.0, >150m
Signal + Additional Lanes	AM	C	C	C	B	C	N/A
	PM	C	D	C	C	C	NBT, C, 0.92, 132m
Signal + Additional Lanes + RI/RO Access	AM	C	D	B	C	C	EBT, D, 0.93, 146m
	PM	C	C	C	C	C	N/A

Recommendation:

- Installation of a traffic signal.
- Northbound channelized right turn lane.

The proposed intersection upgrades are highlighted in *Figure 14*. It should be noted that the proposed lane configuration on the north leg is based on projected traffic¹ from the future Township Road 715 extension from Highway 43X to 132 Street. The ultimate intersection configuration at 100 Avenue and 132 Street/Range Road 65 should be reviewed and confirmed as further planning and design occurs for the Township Road 715 extension.

¹ Extracted from the City of Grande Prairie Transportation Model, which was considered the best traffic information available at the time this study was completed.

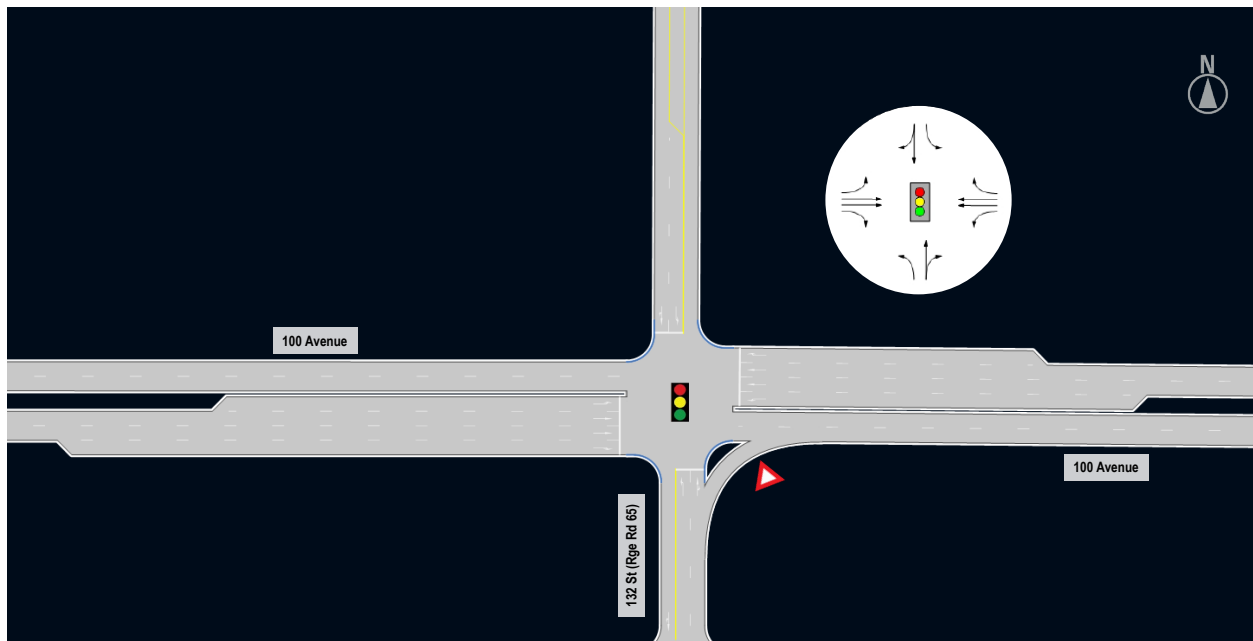


Figure 14: Proposed 100 Avenue & 132 Street/Range Road 65 Upgrades

7.1.6. 132 Street/Range Road 65 & 99 Avenue

The 132 Street/Range Road 65 and 99 Avenue intersection is located less than 100m south of the 100 Avenue and 132 Street/Range Road 65 intersection, which is not ideal intersection spacing from a major arterial like 100 Avenue. To ensure that traffic turning left into and out of the intersection does not impede traffic flows at the 100 Avenue and 132 Street/Range Road 65 intersection, the 132 Street and 99 Avenue can operate as a RI/RO access. This would prohibit the southbound left and the westbound left movement, however, these movements can be accommodated through the new RI/RO access on 100 Avenue, as further discussed in the next section and other accesses throughout the network.

Based on the 90,000-population horizon in the City's TMP, Township Road 715 (located north of 100 Avenue) is anticipated to connect from Highway 43X to 132 Street, increasing traffic activity at the 100 Avenue and 132 Street/Range Road 65 intersection. There is a need to maintain efficient and safe movements at the intersection to facilitate regional and local access.

As summarized in [Table 9](#), acceptable levels of service (LOS D or better) is anticipated with an unsignalized, full movement intersection (base configuration) at 132 Street/Range Road 65 and 99 Avenue. Acceptable levels of service will continue to be maintained with the RI/RO Access at 99 Avenue. The RI/RO access also provides safety benefits by reducing the number of conflict points.

Table 9: 132 Street/Range Road 65 & 99 Avenue Intersection Improvement Performance Summary

Scenario	Peak Hour	132 Street/Range Road 65 and 99 Avenue					Critical Movement(s) ⁽¹⁾
		Intersection	Eastbound	Westbound	Northbound	Southbound	
Base Configuration	AM	A	B	A	A	A	N/A
	PM	A	D	B	A	A	N/A
RI/RO Access at 99 Avenue	AM	A	B	A	A	A	N/A
	PM	A	C	B	A	A	N/A

Recommendation:

- RI/RO at 99 Avenue in conjunction with a RI/RO access at 100 Avenue/130 Street.

The proposed intersection upgrades are highlighted in [Figure 15](#).

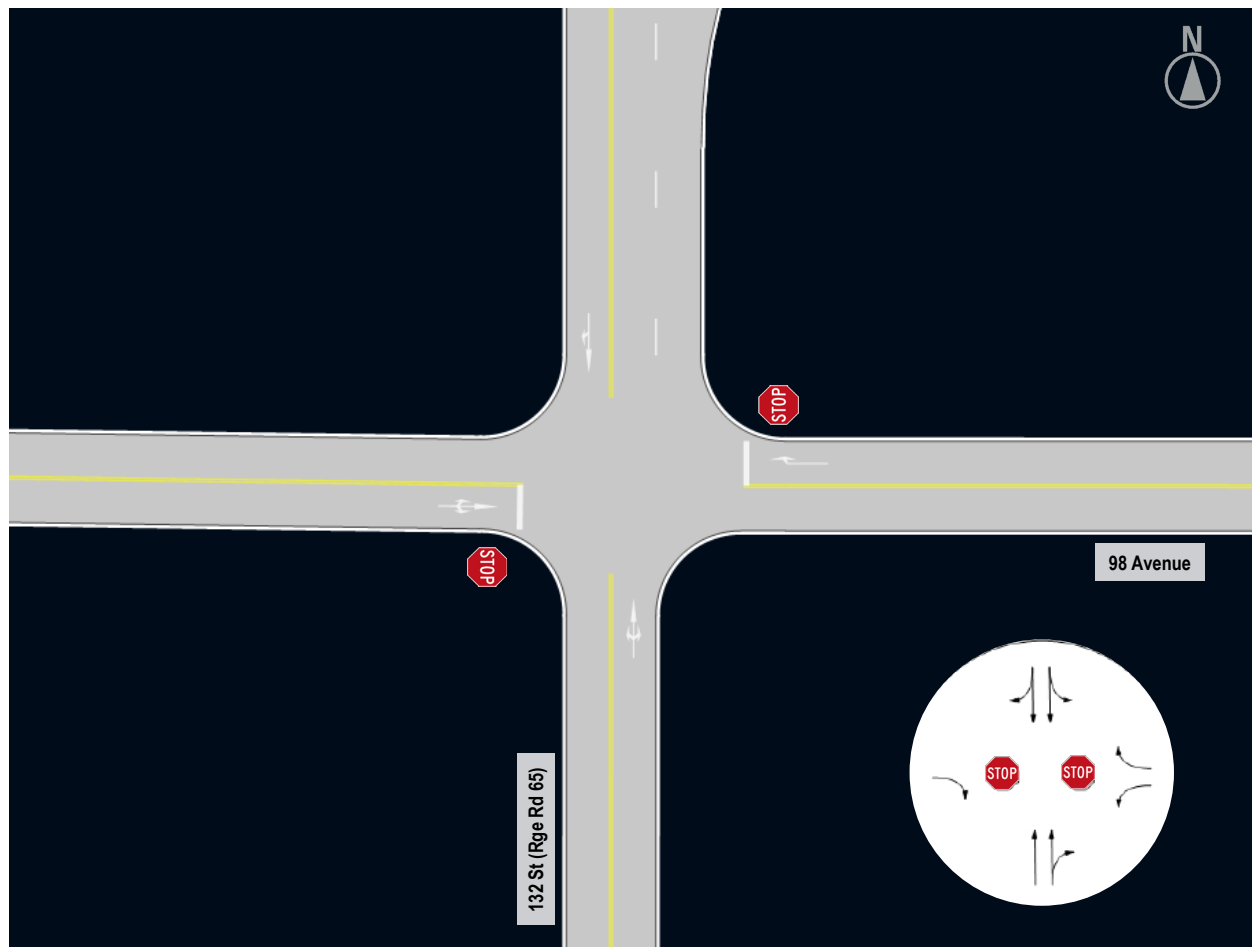


Figure 15: Proposed 132 Street/Range Road 65 & 99 Avenue RI/RO Upgrades

7.1.7. New Right-in/Right-Out Access on 100 Avenue

A new right-in/right-out (RI/RO) access on 100 Avenue was considered to augment the proposed right-in/right-out access at 132 Street/99 Avenue as well as the right-in/right-out access at 124 Street/98 Avenue. The new RI/RO access would redistribute traffic throughout the network resulting in minimal changes to the overall intersection delays but provide safer turning movements near 100 Avenue.

To minimize impact to landowners, the new local road 130 Street can be extended to intersect with 100 Avenue as a RI/RO access as shown in [Figure 16](#). This access would be located approximately 250m east of the 100 Avenue/132 Street intersection, which meets the minimum deceleration length of 110m based on the province's design guidelines.



Figure 16: Proposed RI/RO Access on 100 Avenue

7.2. 124 STREET/RANGE ROAD 64 ACCESS MANAGEMENT

As development continues within the Study Area, opportunities for access consolidation or reallocation should be explored to ensure 124 Street/Range Road 64 functions efficiently and effectively as a four-lane divided arterial. *Figure 17* illustrates a potential alternative to manage access along the corridor. The Public Utility Lot (PUL) that currently exists behind the properties fronting 124 Street/Range Road 64 can be utilized to provide access. The PUL has a 9.0m right-of-way, which would be sufficient to accommodate two-directional travel for larger vehicles. Access to the PUL can be provided on Silver Pointe Drive/Township Road 713A and/or the future new collector road along the southern study area boundary. Both of these roads are anticipated to have full movement access at 124 Street/Range Road 64, which will enhance traffic circulation while maintaining efficient traffic flows in the area.

Another alternative that was considered is to provide a short northbound left-turn bay for one of the midpoint accesses via a break in the median. However, this is a less than ideal alternative due to available right-of-way, potential queue spillbacks and inequitable access to properties. It is recommended that further access management opportunities be explored when the City/County plans and designs the upgrade of 124 Street/Range Road 64 from two to four-lanes. Other strategies to consolidate and reallocate some of the accesses can also be explored during the planning and design stage of the four-laning and would require further consultation with property owners.



Figure 17: Access Management Alternatives on 124 Street/Range Road 64



7.3. ALTERNATIVE TRANSPORTATION

Input received from the community engagement indicated public interest in future trail and transit connections. Within Silver Pointe Village, there is a paved walking trail that loops around the community with part of the trail traversing along the City's southern and County's northern boundary within the Study area. The Airport Outline Plan also identifies a future path connection (see [Figure 18](#)) that traverses east-west along the public utility line and Municipal Reserve (MR). Future consideration for extending this trail to the 124 Street/Range Road 64/ 97 Avenue intersection can be given to connect pedestrians to the City's sidewalk network east of 124 Street and to provide a safe crossing location for pedestrians.

There is currently no transit service connecting to the West Industrial area or Silver Pointe Community. As development continues within the Study Area, the City or County may consider providing transit services to these areas as warranted. These opportunities should be explored and addressed in the City or County's overall transportation planning through the Transportation Master Plan or other City/County-wide transportation planning initiatives.

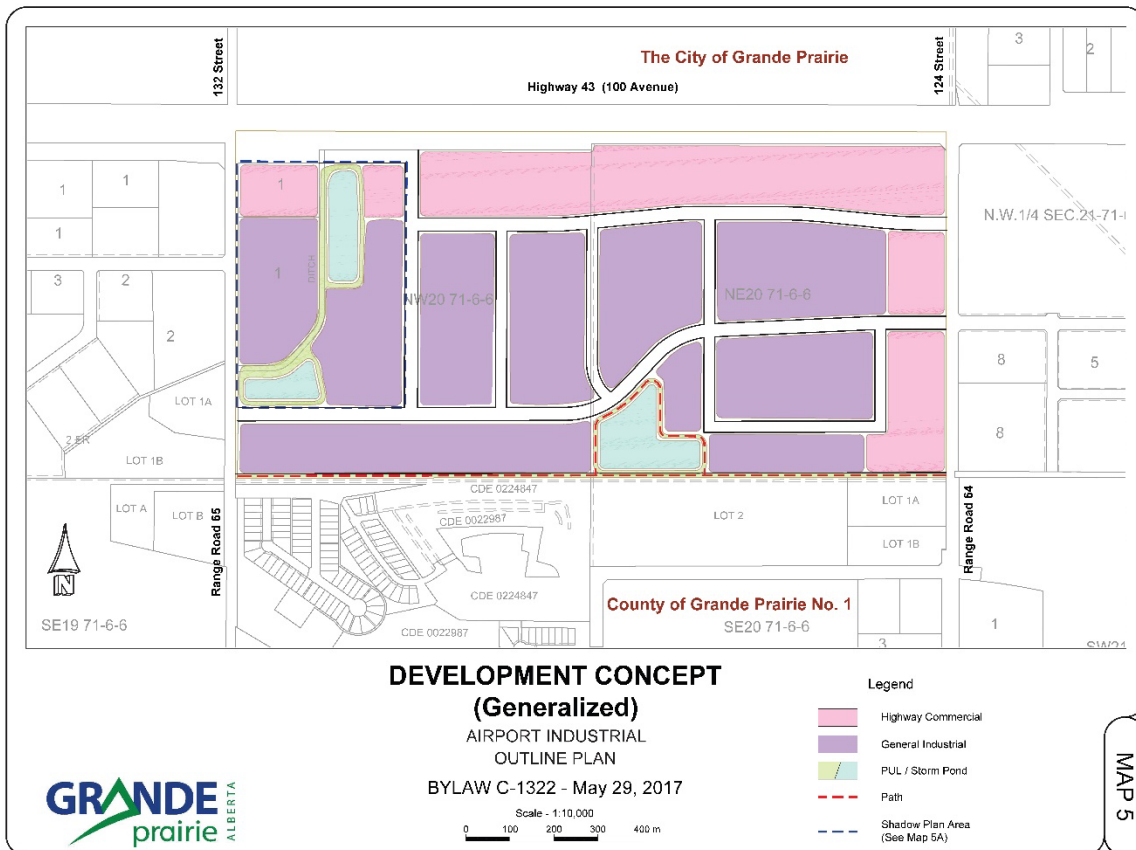


Image Source: Airport Industrial Outline Plan, Bylaw C-1322, May 29, 2017, Map 6

Figure 18: Airport Industrial Outline Plan General Development Concept

7.4. OTHER DESIGN CONSIDERATION

As the Study Area becomes more developed and urbanized, particularly along 100 Avenue, the City may want to consider reducing the posted speed to 60 km/h between 124 Street and 132 Street, which is consistent with the posted speed on 100 Avenue east of 124 Street. Consistency in posted speed helps drivers anticipate road conditions and ensures safe and efficient traffic flow. Posted speeds along 124 Street/Range Road 64, 132 Street/Range Road 65 and the internal local road network should also be consistent and determined based on road classification as per the City/County's road design guidelines.

Similarly, illumination should be provided at the key signalized intersections and/or as warranted based on the City/County's road design guidelines. Both posted speeds and illumination should be confirmed during the design stages of the transportation network.



8. Recommended Concept

Figure 19 illustrates the recommended roadway network within the Study Area based on the outcome of technical evaluations (as outlined in **Section 7**) and the community engagement. The recommended network includes upgrading 124 Street to a four-lane urban arterial standard, while 132 Street is maintained as two-lane industrial collector standard.

The four-lane upgrade on 124 Street/Range Road 64 can be completed in stages as warranted by growth and development. The section between 100 Avenue and 97 Avenue will require four-lanes by the 25-year build out horizon (2048). While the section south of 97 Avenue can function as a two-lane roadway until warranted by growth and development, it is recommended that interim improvements, such as paving the section south of Silver Pointe Drive, are made to address existing concerns. The interim improvements can be staged in a manner that allows the City/County to protect and build towards the ultimate four-lane cross-section to minimize throw-away costs along the County's section of 124 Street/Range Road 64. This staged approach should be confirmed through further planning and design for the 124 Street/Range Road 64 upgrade. The proposed intersection configuration and control are summarized in *Table 10*.

Table 10: Summary of Recommended Intersection Improvements

Road/Intersection	Proposed Improvements	Recommended Intersection Control
100 Avenue & 124 Street/Range Road 64	Add eastbound and northbound right turn lane, southbound and second westbound left turn lane. Modify signal timing plans.	Signal
100 Avenue & New RI/RO Access	Extend 130 Street north to 100 Avenue with new RI/RO access ~240m east of 100 Avenue/132 Street/Range Road 65 intersection.	Right-in/Right-out
124 Street/Range Road 64 & 98/99 Avenue	RI/RO access at 98 Avenue and 99 Avenue.	Right-in/Right-out
124 Street/Range Road 64 & 97 Avenue	Signalized intersection with dedicated eastbound, southbound and northbound left turn lane	Signal
124 Street/Range Road 64 & Silver Pointe Road/95 Avenue	Four-legged intersection with completion of east leg (95 Avenue)	Stop-Controlled
124 Street/Range Road 64 & Silver Pointe Road/84 Avenue	Three-Legged Intersection	Stop-Controlled
132 Street/Range Road 65 & 99 Avenue	RI/RO access at 99 Avenue	Right-in/Right-out
132 Street/Range Road 65 & 97 Avenue	Three-Legged Intersection	Stop-Controlled
132 Street/Range Road 65 & Silver Pointe Road	No Change, maintain existing intersection configuration	Stop-Controlled

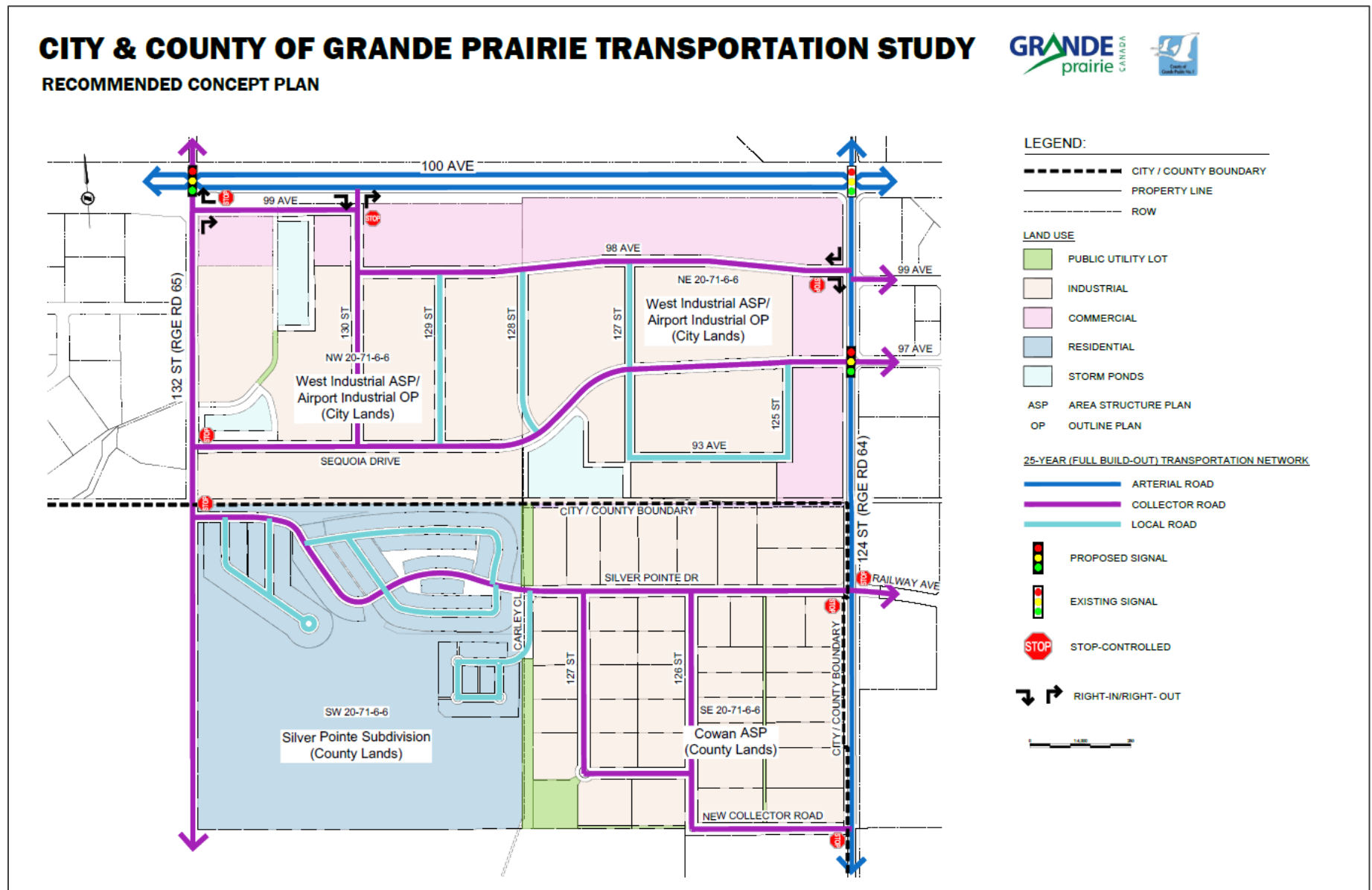


Figure 19: Recommended 25-Year Transportation Network Concept Plan



In addition to the intersection upgrades, the following improvements or upgrades should be considered to enhance the movement of people and goods within the Study Area:

- Future consideration for trail connection and transit services as development occurs – to be addressed at a larger network scale through the Transportation Master Plan or other City/County-wide transportation planning initiatives.
- Confirm Access Management strategies on 124 Street/Range Road 64 through further planning and design studies.
- Provide illumination at key signalized intersections and other locations as per design guidelines or as warranted by traffic volumes and/or pedestrian activity.
- Revise posted speed limits to 60 km/h on 100 Avenue between 124 Street and 132 Street as development builds out and ensure speed limits throughout the Study Area are consistent based on road classification and function.

Both the City and County of Grande Prairie should also amend the respective Area Structure and Outline Plans to reflect the recommendations outlined in this study. This will ensure future planning of the study area is consistent and is reflective of community needs and the goals and vision of both municipalities.



APPENDIX A

Statement of Limitations

Statement of Limitations

Use of this Report. This report was prepared by McElhanney Ltd. ("McElhanney") for the particular site, design objective, development and purpose (the "**Project**") described in this report and for the exclusive use of the client identified in this report (the "**Client**"). The data, interpretations and recommendations pertain to the Project and are not applicable to any other project or site location and this report may not be reproduced, used or relied upon, in whole or in part, by a party other than the Client, without the prior written consent of McElhanney. The Client may provide copies of this report to its affiliates, contractors, subcontractors and regulatory authorities for use in relation to and in connection with the Project provided that any reliance, unauthorized use, and/or decisions made based on the information contained within this report are at the sole risk of such parties. McElhanney will not be responsible for the use of this report on projects other than the Project, where this report or the contents hereof have been modified without McElhanney's consent, to the extent that the content is in the nature of an opinion, and if the report is preliminary or draft. This is a technical report and is not a legal representation or interpretation of laws, rules, regulations, or policies of governmental agencies.

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Information from Client and Third Parties. McElhanney has relied in good faith on information provided by the Client and third parties noted in this report and has assumed such information to be accurate, complete, reliable, non-fringing, and fit for the intended purpose without independent verification. McElhanney accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions or errors in information provided by third parties or for omissions, misstatements or fraudulent acts of persons interviewed.

Effect of Changes. All evaluations and conclusions stated in this report are based on facts, observations, site-specific details, legislation and regulations as they existed at the time of the report preparation. Some conditions are subject to change over time and the Client recognizes that the passage of time, natural occurrences, and direct or indirect human intervention at or near the site may substantially alter such evaluations and conclusions. McElhanney should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein upon any of the following events: a) any changes (or possible changes) as to the site, purpose, or development plans upon which this report was based, b) any changes to applicable laws subsequent to the issuance of the report, or c) new information is discovered in the future.

Independent Judgments. McElhanney will not be responsible for the independent conclusions, interpretations, interpolations and/or decisions of the Client, or others, who may come into possession of this report, or any part thereof. This restriction of liability includes decisions made to purchase, finance or sell land or with respect to public offerings for the sale of securities.



APPENDIX B

Traffic Count Data

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-30 12:00AM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
12:15AM	0	0	1	0	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	4
12:30AM	0	0	1	0	1	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
12:45AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Hourly Total	0	0	3	0	3	2	0	0	0	2	2	3	0	0	5	0	0	0	0	0	10
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1:15AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1:30AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
1:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	6	0	0	6	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	8
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2:30AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Hourly Total	0	2	0	0	2	2	0	1	0	3	0	2	0	0	2	0	0	0	0	0	7
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3:15AM	0	2	0	0	2	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	4
3:30AM	0	3	0	0	3	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	7
3:45AM	0	2	0	0	2	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	4
Hourly Total	0	7	0	0	7	2	0	1	0	3	1	5	0	0	6	0	0	0	0	0	16
4:00AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3
4:15AM	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	3
4:30AM	0	3	0	0	3	1	1	1	0	3	3	2	0	0	5	0	0	0	0	0	11
4:45AM	3	3	1	0	7	1	0	2	0	3	4	5	0	0	9	0	0	0	0	0	19
Hourly Total	3	7	2	0	12	2	1	4	0	7	9	8	0	0	17	0	0	0	0	0	36
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6:45AM	1	9	7	0	17	5	3	5	0	13	12	18	1	0	31	0	4	1	0	5	66
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Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
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2:45PM	3	12	5	0	20	5	3	7	0	15	3	10	0	0	13	2	4	1	0	7	55
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3:15PM	3	13	5	0	21	6	1	9	0	16	8	10	0	0	18	1	3	2	0	6	61
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3:45PM	1	18	7	0	26	12	3	12	0	27	4	9	0	0	13	1	2	3	0	6	72
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4:00PM	3	16	9	0	28	20	0	11	0	31	6	10	0	0	16	0	2	0	0	2	77
4:15PM	1	16	11	0	28	20	0	9	0	29	6	14	0	0	20	2	2	0	0	4	81
4:30PM	0	20	13	0	33	14	1	8	0	23	3	9	0	0	12	0	2	1	0	3	71
4:45PM	0	18	7	1	26	8	2	9	0	19	6	14	0	0	20	3	2	5	0	10	75
Hourly Total	4	70	40	1	115	62	3	37	0	102	21	47	0	0	68	5	8	6	0	19	304
5:00PM	1	24	9	0	34	16	0	22	0	38	10	21	0	0	31	0	4	4	0	8	111
5:15PM	0	22	9	0	31	14	1	12	0	27	14	16	0	0	30	0	0	0	0	0	88
5:30PM	0	15	9	0	24	13	2	9	0	24	4	10	0	0	14	1	0	1	0	2	64
5:45PM	0	17	2	0	19	6	0	8	0	14	8	18	0	0	26	0	1	0	0	1	60
Hourly Total	1	78	29	0	108	49	3	51	0	103	36	65	0	0	101	1	5	5	0	11	323
6:00PM	2	14	3	0	19	9	0	12	0	21	5	13	0	0	18	0	0	0	0	0	58
6:15PM	1	15	7	0	23	13	1	5	0	19	4	9	0	0	13	1	1	0	0	2	57
6:30PM	2	17	7	0	26	8	1	8	0	17	5	8	0	0	13	0	0	1	0	1	57
6:45PM	0	10	4	0	14	6	0	7	0	13	6	5	1	0	12	0	1	4	0	5	44
Hourly Total	5	56	21	0	82	36	2	32	0	70	20	35	1	0	56	1	2	5	0	8	216
7:00PM	0	14	3	0	17	4	0	4	0	8	5	12	0	0	17	0	0	0	0	0	42
7:15PM	0	9	3	0	12	4	0	2	0	6	2	7	0	0	9	0	0	0	0	0	27
7:30PM	0	8	3	0	11	4	0	8	0	12	3	10	0	0	13	0	1	1	0	2	38
7:45PM	0	6	2	0	8	2	0	4	0	6	4	10	0	0	14	0	0	0	0	0	28
Hourly Total	0	37	11	0	48	14	0	18	0	32	14	39	0	0	53	0	1	1	0	2	135
8:00PM	1	7	3	0	11	0	0	4	0	4	4	2	0	0	6	0	0	0	0	0	21
8:15PM	0	12	3	0	15	4	0	2	0	6	3	5	1	0	9	0	0	1	0	1	31
8:30PM	0	13	5	0	18	4	0	10	0	14	3	3	0	0	6	0	0	1	0	1	39
8:45PM	0	10	1	0	11	5	0	3	0	8	3	7	0	0	10	0	0	0	0	0	29
Hourly Total	1	42	12	0	55	13	0	19	0	32	13	17	1	0	31	0	0	2	0	2	120
9:00PM	0	5	2	0	7	1	1	2	0	4	5	5	0	0	10	0	0	0	0	0	21
9:15PM	0	3	0	0	3	1	0	4	0	5	2	2	0	0	4	0	0	0	0	0	12
9:30PM	0	6	0	0	6	2	0	5	0	7	3	2	0	0	5	0	0	0	0	0	18
9:45PM	0	11	0	0	11	0	0	5	0	5	1	3	0	0	4	0	0	1	0	1	21
Hourly Total	0	25	2	0	27	4	1	16	0	21	11	12	0	0	23	0	0	1	0	1	72
10:00PM	2	5	1	0	8	2	0	4	0	6	3	2	0	0	5	0	1	0	0	1	20
10:15PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	1	1	0	2	8

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
10:30PM	0	1	0	0	1	0	0	3	0	3	1	3	0	0	4	0	0	0	0	0	8
10:45PM	0	2	0	0	2	2	0	1	0	3	1	1	0	0	2	0	0	0	0	0	7
Hourly Total	2	12	1	0	15	4	0	8	0	12	5	8	0	0	13	0	2	1	0	3	43
11:00PM	0	1	0	0	1	1	0	1	0	2	4	2	0	0	6	0	0	0	0	0	9
11:15PM	0	4	0	0	4	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	7
11:30PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:45PM	0	4	0	0	4	2	0	0	0	2	0	2	0	0	2	0	0	0	0	0	8
Hourly Total	0	11	0	0	11	3	0	2	0	5	6	4	0	0	10	0	0	0	0	0	26
Total	87	794	386	1	1268	456	67	447	0	970	440	790	23	3	1256	25	85	69	0	179	3673
% Approach	6.9%	62.6%	30.4%	0.1%	-	47.0%	6.9%	46.1%	0%	-	35.0%	62.9%	1.8%	0.2%	-	14.0%	47.5%	38.5%	0%	-	-
% Total	2.4%	21.6%	10.5%	0%	34.5%	12.4%	1.8%	12.2%	0%	26.4%	12.0%	21.5%	0.6%	0.1%	34.2%	0.7%	2.3%	1.9%	0%	4.9%	-
Lights	76	726	353	1	1156	420	61	414	0	895	402	726	22	3	1153	25	77	60	0	162	3366
% Lights	87.4%	91.4%	91.5%	100%	91.2%	92.1%	91.0%	92.6%	0%	92.3%	91.4%	91.9%	95.7%	100%	91.8%	100%	90.6%	87.0%	0%	90.5%	91.6%
Single-Unit Trucks	5	22	15	0	42	22	0	17	0	39	15	24	1	0	40	0	3	3	0	6	127
% Single-Unit Trucks	5.7%	2.8%	3.9%	0%	3.3%	4.8%	0%	3.8%	0%	4.0%	3.4%	3.0%	4.3%	0%	3.2%	0%	3.5%	4.3%	0%	3.4%	3.5%
Recreational Vehicles (1)	1	1	0	0	2	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	5
% Recreational Vehicles (1)	1.1%	0.1%	0%	0%	0.2%	0%	0%	0.2%	0%	0.1%	0.2%	0.1%	0%	0%	0.2%	0%	0%	0%	0%	0%	0.1%
Articulated Trucks	5	43	15	0	63	9	5	14	0	28	21	37	0	0	58	0	5	6	0	11	160
% Articulated Trucks	5.7%	5.4%	3.9%	0%	5.0%	2.0%	7.5%	3.1%	0%	2.9%	4.8%	4.7%	0%	0%	4.6%	0%	5.9%	8.7%	0%	6.1%	4.4%
Buses	0	2	3	0	5	5	1	1	0	7	1	2	0	0	3	0	0	0	0	0	15
% Buses	0%	0.3%	0.8%	0%	0.4%	1.1%	1.5%	0.2%	0%	0.7%	0.2%	0.3%	0%	0%	0.2%	0%	0%	0%	0%	0%	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 2584

In: 1268

Out: 1316

87

794

386

1

[W] West

Total: 356

In: 179 Out: 177

69

85

25

456

67

447

Out: 911 In: 970

Total: 1881

[E] East

3

23

790

440

Out: 1269

In: 1256

Total: 2525

[S] South

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-30 7:15AM	2	11	11	0	24	8	2	5	0	15	15	17	1	0	33	0	1	1	0	2	74
7:30AM	0	8	8	0	16	3	2	5	0	10	14	23	2	0	39	0	0	0	0	0	65
7:45AM	3	16	17	0	36	3	5	10	0	18	11	30	3	0	44	0	2	0	0	2	100
8:00AM	2	10	9	0	21	8	2	3	0	13	4	17	2	0	23	1	1	2	0	4	61
Total	7	45	45	0	97	22	11	23	0	56	44	87	8	0	139	1	4	3	0	8	300
% Approach	7.2%	46.4%	46.4%	0%	-	39.3%	19.6%	41.1%	0%	-	31.7%	62.6%	5.8%	0%	-	12.5%	50.0%	37.5%	0%	-	-
% Total	2.3%	15.0%	15.0%	0%	32.3%	7.3%	3.7%	7.7%	0%	18.7%	14.7%	29.0%	2.7%	0%	46.3%	0.3%	1.3%	1.0%	0%	2.7%	-
PHF	0.583	0.703	0.662	-	0.674	0.688	0.550	0.575	-	0.778	0.733	0.725	0.667	-	0.790	0.250	0.500	0.375	-	0.500	0.750
Lights	7	44	43	0	94	20	11	20	0	51	42	82	8	0	132	1	3	2	0	6	283
% Lights	100%	97.8%	95.6%	0%	96.9%	90.9%	100%	87.0%	0%	91.1%	95.5%	94.3%	100%	0%	95.0%	100%	75.0%	66.7%	0%	75.0%	94.3%
Single-Unit Trucks	0	0	2	0	2	2	0	0	0	2	0	1	0	0	1	0	1	0	0	1	6
% Single-Unit Trucks	0%	0%	4.4%	0%	2.1%	9.1%	0%	0%	0%	3.6%	0%	1.1%	0%	0%	0.7%	0%	25.0%	0%	0%	12.5%	2.0%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.1%	0%	0%	0.7%	0%	0%	0%	0%	0%	0.3%
Articulated Trucks	0	1	0	0	1	0	0	3	0	3	1	1	0	0	2	0	0	1	0	1	7
% Articulated Trucks	0%	2.2%	0%	0%	1.0%	0%	0%	13.0%	0%	5.4%	2.3%	1.1%	0%	0%	1.4%	0%	0%	33.3%	0%	12.5%	2.3%
Buses	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	3
% Buses	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2.3%	2.3%	0%	0%	2.2%	0%	0%	0%	0%	0%	1.0%

*L: Left, R: Right, T: Thru, U: U-Turn

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 209

In: 97

Out: 112

7 45 45

[W] West

Total: 34

In: 8 Out: 26

3

4

1

22
11
23

Out: 93 In: 56

Total: 149

[E] East

8

87

44

Out: 69

In: 139

Total: 208

[S] South

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

Midday Peak (12 PM - 1 PM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-30 12:00PM	2	12	5	0	19	7	2	8	0	17	20	19	0	0	39	0	5	2	0	7	82
12:15PM	2	15	4	0	21	8	0	15	0	23	7	9	0	0	16	2	1	0	0	3	63
12:30PM	2	8	13	0	23	9	2	9	0	20	8	11	0	0	19	0	1	0	0	1	63
12:45PM	1	14	9	0	24	6	3	8	0	17	12	5	2	1	20	0	2	4	0	6	67
Total	7	49	31	0	87	30	7	40	0	77	47	44	2	1	94	2	9	6	0	17	275
% Approach	8.0%	56.3%	35.6%	0%	-	39.0%	9.1%	51.9%	0%	-	50.0%	46.8%	2.1%	1.1%	-	11.8%	52.9%	35.3%	0%	-	-
% Total	2.5%	17.8%	11.3%	0%	31.6%	10.9%	2.5%	14.5%	0%	28.0%	17.1%	16.0%	0.7%	0.4%	34.2%	0.7%	3.3%	2.2%	0%	6.2%	-
PHF	0.875	0.817	0.596	-	0.906	0.833	0.583	0.667	-	0.837	0.588	0.579	0.250	0.250	0.603	0.250	0.450	0.375	-	0.607	0.838
Lights	6	46	27	0	79	26	6	40	0	72	44	41	2	1	88	2	8	6	0	16	255
% Lights	85.7%	93.9%	87.1%	0%	90.8%	86.7%	85.7%	100%	0%	93.5%	93.6%	93.2%	100%	100%	93.6%	100%	88.9%	100%	0%	94.1%	92.7%
Single-Unit Trucks	0	1	2	0	3	3	0	0	0	3	2	2	0	0	4	0	0	0	0	0	10
% Single-Unit Trucks	0%	2.0%	6.5%	0%	3.4%	10.0%	0%	0%	0%	3.9%	4.3%	4.5%	0%	0%	4.3%	0%	0%	0%	0%	0%	3.6%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	1	2	1	0	4	1	1	0	0	2	1	1	0	0	2	0	1	0	0	1	9
% Articulated Trucks	14.3%	4.1%	3.2%	0%	4.6%	3.3%	14.3%	0%	0%	2.6%	2.1%	2.3%	0%	0%	2.1%	0%	11.1%	0%	0%	5.9%	3.3%
Buses	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Buses	0%	0%	3.2%	0%	1.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

Midday Peak (12 PM - 1 PM)

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 167

In: 87

Out: 80

7

49

31

[W] West

Total: 33

In: 17 Out: 16

6

9

2

30

7

40

Out: 87 In: 77

Total: 164

[E] East

1 2

44

47

Out: 92

In: 94

Total: 186

[S] South

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave NW, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-30 4:30PM	0	20	13	0	33	14	1	8	0	23	3	9	0	0	12	0	2	1	0	3	71
4:45PM	0	18	7	1	26	8	2	9	0	19	6	14	0	0	20	3	2	5	0	10	75
5:00PM	1	24	9	0	34	16	0	22	0	38	10	21	0	0	31	0	4	4	0	8	111
5:15PM	0	22	9	0	31	14	1	12	0	27	14	16	0	0	30	0	0	0	0	0	88
Total	1	84	38	1	124	52	4	51	0	107	33	60	0	0	93	3	8	10	0	21	345
% Approach	0.8%	67.7%	30.6%	0.8%	-	48.6%	3.7%	47.7%	0%	-	35.5%	64.5%	0%	0%	-	14.3%	38.1%	47.6%	0%	-	-
% Total	0.3%	24.3%	11.0%	0.3%	35.9%	15.1%	1.2%	14.8%	0%	31.0%	9.6%	17.4%	0%	0%	27.0%	0.9%	2.3%	2.9%	0%	6.1%	-
PHF	0.250	0.875	0.731	0.250	0.912	0.813	0.500	0.580	-	0.704	0.589	0.714	-	-	0.750	0.250	0.500	0.500	-	0.525	0.777
Lights	0	83	36	1	120	52	4	49	0	105	33	59	0	0	92	3	8	10	0	21	338
% Lights	0%	98.8%	94.7%	100%	96.8%	100%	100%	96.1%	0%	98.1%	100%	98.3%	0%	0%	98.9%	100%	100%	100%	0%	100%	98.0%
Single-Unit Trucks	1	0	1	0	2	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	4
% Single-Unit Trucks	100%	0%	2.6%	0%	1.6%	0%	0%	2.0%	0%	0.9%	0%	1.7%	0%	0%	1.1%	0%	0%	0%	0%	0%	1.2%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
% Articulated Trucks	0%	1.2%	0%	0%	0.8%	0%	0%	2.0%	0%	0.9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.6%
Buses	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Buses	0%	0%	2.6%	0%	0.8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%

*L: Left, R: Right, T: Thru, U: U-Turn

124 Street & 97 Avenue - TMC

Thu Mar 30, 2023

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

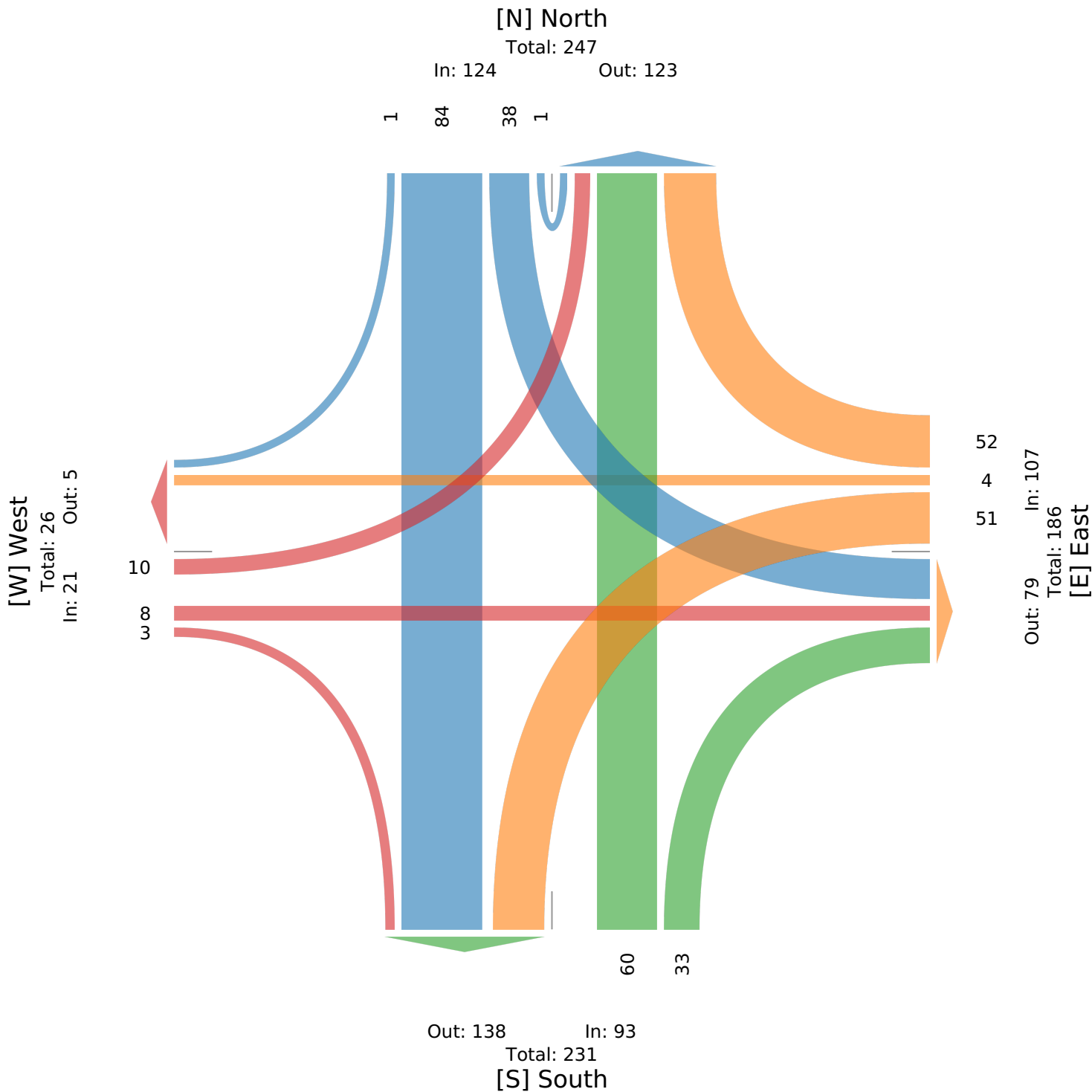
ID: 1053150, Location: 55.166469, -118.871839



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA



Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182,

Site Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 12:00AM	0	0	1	0	1	5	9	3	1	18	1	0	0	0	1	1	12	0	0	13	33
12:15AM	0	0	0	0	0	4	8	1	0	13	1	0	0	0	1	0	7	0	0	7	21
12:30AM	0	0	1	0	1	9	9	0	0	18	0	3	1	0	4	0	5	0	0	5	28
12:45AM	5	0	21	0	26	3	11	0	0	14	1	1	1	0	3	0	2	0	0	2	45
Hourly Total	5	0	23	0	28	21	37	4	1	63	3	4	2	0	9	1	26	0	0	27	127
1:00AM	4	5	15	0	24	5	8	1	0	14	0	0	0	0	0	0	3	0	0	3	41
1:15AM	0	0	4	0	4	0	8	2	0	10	0	0	1	0	1	0	1	0	0	1	16
1:30AM	1	0	1	0	2	0	5	0	0	5	0	0	1	0	1	0	5	0	0	5	13
1:45AM	0	1	2	0	3	0	2	1	0	3	0	0	0	0	0	0	7	0	0	7	13
Hourly Total	5	6	22	0	33	5	23	4	0	32	0	0	2	0	2	0	16	0	0	16	83
2:00AM	0	0	0	0	0	0	11	1	0	12	1	0	0	0	1	0	2	0	0	2	15
2:15AM	0	0	0	0	0	0	5	0	0	5	1	0	0	0	1	2	3	0	0	5	11
2:30AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
2:45AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	1	0	6	10
Hourly Total	0	0	0	0	0	0	25	1	0	26	2	0	0	0	2	2	11	1	0	14	42
3:00AM	0	0	0	0	0	0	9	0	0	9	2	1	1	0	4	0	10	0	0	10	23
3:15AM	0	0	0	0	0	1	3	1	0	5	1	0	0	0	1	0	3	0	0	3	9
3:30AM	0	0	1	0	1	9	6	0	0	15	1	0	1	0	2	0	6	1	0	7	25
3:45AM	0	0	2	0	2	5	3	1	0	9	0	0	0	0	0	0	4	0	0	4	15
Hourly Total	0	0	3	0	3	15	21	2	0	38	4	1	2	0	7	0	23	1	0	24	72
4:00AM	0	0	2	0	2	4	8	2	0	14	0	0	0	0	0	0	9	0	0	9	25
4:15AM	0	0	5	0	5	10	15	2	0	27	0	0	1	0	1	0	9	0	0	9	42
4:30AM	0	1	8	0	9	15	13	0	0	28	4	2	0	0	6	0	5	1	0	6	49
4:45AM	0	2	7	0	9	15	28	3	0	46	1	5	1	0	7	2	13	1	0	16	78
Hourly Total	0	3	22	0	25	44	64	7	0	115	5	7	2	0	14	2	36	2	0	40	194
5:00AM	1	1	15	0	17	9	23	3	0	35	3	0	1	0	4	1	15	1	0	17	73
5:15AM	1	0	8	1	10	12	31	2	0	45	2	0	4	0	6	3	24	1	0	28	89
5:30AM	0	1	6	0	7	10	71	7	0	88	1	2	5	0	8	4	36	0	0	40	143
5:45AM	0	0	8	0	8	8	63	5	0	76	4	0	9	0	13	3	28	1	0	32	129
Hourly Total	2	2	37	1	42	39	188	17	0	244	10	2	19	0	31	11	103	3	0	117	434
6:00AM	0	0	5	0	5	5	75	3	0	83	5	0	9	0	14	7	58	0	0	65	167
6:15AM	0	0	0	0	0	3	84	2	0	89	5	0	8	0	13	5	68	0	0	73	175
6:30AM	0	0	0	0	0	2	121	2	0	125	2	0	14	0	16	13	84	0	0	97	238
6:45AM	0	1	4	0	5	4	103	7	0	114	6	0	15	0	21	11	107	0	0	118	258
Hourly Total	0	1	9	0	10	14	383	14	0	411	18	0	46	0	64	36	317	0	0	353	838
7:00AM	0	1	0	0	1	1	71	2	0	74	5	2	13	0	20	17	106	0	0	123	218
7:15AM	0	0	4	0	4	1	110	10	0	121	14	0	8	0	22	7	106	0	0	113	260
7:30AM	0	0	1	0	1	5	124	8	0	137	10	0	15	0	25	19	162	0	0	181	344
7:45AM	0	0	0	0	0	9	111	21	0	141	19	1	13	0	33	27	180	3	0	210	384
Hourly Total	0	1	5	0	6	16	416	41	0	473	48	3	49	0	100	70	554	3	0	627	1206
8:00AM	0	0	6	0	6	7	88	5	0	100	14	2	15	0	31	16	128	0	0	144	281
8:15AM	0	0	4	0	4	3	90	5	0	98	21	3	9	0	33	9	150	1	0	160	295
8:30AM	0	0	3	0	3	5	93	9	0	107	16	1	10	0	27	11	100	0	0	111	248
8:45AM	0	0	2	0	2	6	69	3	0	78	8	1	13	0	22	10	96	0	0	106	208
Hourly Total	0	0	15	0	15	21	340	22	0	383	59	7	47	0	113	46	474	1	0	521	1032
9:00AM	0	0	7	0	7	5	78	5	0	88	13	3	4	0	20	7	94	0	0	101	216
9:15AM	0	1	9	0	10	5	65	7	0	77	4	3	4	0	11	7	99	1	0	107	205
9:30AM	1	0	3	0	4	10	69	4	1	84	12	1	10	0	23	8	85	0	0	93	204
9:45AM	0	3	4	0	7	8	74	5	0	87	5	2	6	0	13	6	85	1	0	92	199
Hourly Total	1	4	23	0	28	28	286	21	1	336	34	9	24	0	67	28	363	2	0	393	824
10:00AM	0	3	8	0	11	12	68	7	0	87	8	4	8	0	20	8	77	2	0	87	205

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
10:15AM	0	1	10	0	11	9	65	5	0	79	9	2	7	0	18	9	91	1	0	101	209
10:30AM	2	0	10	0	12	16	55	6	0	77	7	1	5	0	13	6	94	1	0	101	203
10:45AM	0	1	13	0	14	16	58	6	1	81	8	0	8	0	16	11	79	1	0	91	202
Hourly Total	2	5	41	0	48	53	246	24	1	324	32	7	28	0	67	34	341	5	0	380	819
11:00AM	0	4	10	0	14	13	67	8	0	88	6	1	7	0	14	5	98	1	0	104	220
11:15AM	0	1	12	0	13	21	73	6	0	100	7	1	7	0	15	8	109	2	0	119	247
11:30AM	1	2	9	0	12	12	71	11	0	94	13	1	4	0	18	6	101	1	0	108	232
11:45AM	1	0	38	0	39	12	64	9	0	85	17	0	11	0	28	10	144	0	0	154	306
Hourly Total	2	7	69	0	78	58	275	34	0	367	43	3	29	0	75	29	452	4	0	485	1005
12:00PM	1	2	36	0	39	5	76	13	0	94	7	2	12	0	21	8	103	0	0	111	265
12:15PM	1	3	6	0	10	8	109	9	0	126	8	1	10	0	19	13	86	0	0	99	254
12:30PM	2	1	3	0	6	9	102	9	1	121	14	1	16	0	31	10	131	0	0	141	299
12:45PM	1	1	7	0	9	10	108	11	0	129	11	1	15	0	27	3	91	0	0	94	259
Hourly Total	5	7	52	0	64	32	395	42	1	470	40	5	53	0	98	34	411	0	0	445	1077
1:00PM	0	1	5	0	6	4	103	16	1	124	12	4	5	0	21	6	111	0	0	117	268
1:15PM	0	1	7	0	8	5	108	14	0	127	14	0	8	0	22	7	91	0	0	98	255
1:30PM	0	0	4	0	4	6	92	7	0	105	11	0	5	0	16	10	89	0	0	99	224
1:45PM	0	4	3	0	7	5	93	15	0	113	11	0	12	0	23	4	88	0	0	92	235
Hourly Total	0	6	19	0	25	20	396	52	1	469	48	4	30	0	82	27	379	0	0	406	982
2:00PM	0	0	7	0	7	7	89	9	0	105	12	2	7	0	21	12	97	0	0	109	242
2:15PM	0	0	3	0	3	5	99	9	0	113	8	1	10	0	19	7	103	0	0	110	245
2:30PM	1	0	4	0	5	5	98	14	0	117	7	3	6	0	16	9	99	0	0	108	246
2:45PM	0	0	12	0	12	8	97	11	0	116	10	0	10	0	20	8	99	1	0	108	256
Hourly Total	1	0	26	0	27	25	383	43	0	451	37	6	33	0	76	36	398	1	0	435	989
3:00PM	1	0	7	0	8	11	100	10	0	121	16	0	15	0	31	13	105	3	0	121	281
3:15PM	1	0	7	0	8	8	91	13	0	112	9	0	14	0	23	15	106	3	0	124	267
3:30PM	1	0	9	0	10	12	120	15	0	147	14	0	13	0	27	6	112	2	0	120	304
3:45PM	1	1	7	0	9	19	128	20	0	167	7	0	16	0	23	16	114	1	0	131	330
Hourly Total	4	1	30	0	35	50	439	58	0	547	46	0	58	0	104	50	437	9	0	496	1182
4:00PM	0	1	10	0	11	21	144	14	0	179	7	0	22	0	29	10	99	0	0	109	328
4:15PM	1	1	8	0	10	16	138	13	1	168	11	1	17	0	29	7	108	0	0	115	322
4:30PM	6	3	37	0	46	17	144	20	0	181	10	1	13	0	24	21	148	1	0	170	421
4:45PM	3	4	25	0	32	13	156	13	2	184	12	3	16	0	31	17	135	2	0	154	401
Hourly Total	10	9	80	0	99	67	582	60	3	712	40	5	68	0	113	55	490	3	0	548	1472
5:00PM	1	0	12	0	13	13	195	19	0	227	19	2	27	0	48	13	134	1	0	148	436
5:15PM	1	0	9	0	10	15	186	19	0	220	16	2	21	0	39	20	141	4	0	165	434
5:30PM	1	1	16	0	18	11	178	8	0	197	13	3	17	0	33	16	131	2	1	150	398
5:45PM	1	1	7	0	9	12	156	11	0	179	9	2	13	0	24	10	97	3	0	110	322
Hourly Total	4	2	44	0	50	51	715	57	0	823	57	9	78	0	144	59	503	10	1	573	1590
6:00PM	1	2	8	0	11	23	120	6	0	149	9	2	6	0	17	10	108	1	0	119	296
6:15PM	1	4	7	0	12	20	101	4	1	126	7	4	13	0	24	8	116	1	0	125	287
6:30PM	4	4	23	0	31	19	87	7	0	113	11	2	10	0	23	7	107	0	0	114	281
6:45PM	6	1	54	0	61	15	89	12	0	116	9	0	8	0	17	4	88	3	0	95	289
Hourly Total	12	11	92	0	115	77	397	29	1	504	36	8	37	0	81	29	419	5	0	453	1153
7:00PM	0	0	16	0	16	8	78	10	0	96	13	0	5	0	18	7	85	0	0	92	222
7:15PM	1	1	9	0	11	1	68	3	0	72	7	0	6	0	13	2	72	0	0	74	170
7:30PM	1	3	9	0	13	0	80	4	0	84	10	1	10	0	21	5	62	1	0	68	186
7:45PM	0	2	1	0	3	1	69	4	0	74	9	0	3	0	12	6	50	0	0	56	145
Hourly Total	2	6	35	0	43	10	295	21	0	326	39	1	24	0	64	20	269	1	0	290	723
8:00PM	0	2	4	0	6	1	76	4	0	81	2	1	8	0	11	1	52	0	0	53	151
8:15PM	0	2	1	0	3	3	69	4	0	76	1	1	3	0	5	5	37	0	0	42	126
8:30PM	0	1	5	0	6	2	54	8	0	64	1	1	5	0	7	6	40	0	0	46	123
8:45PM	1	0	2	0	3	2	54	5	0	61	4	1	4	0	9	3	27	0	0	30	103
Hourly Total	1	5	12	0	18	8	253	21	0	282	8	4	20	0	32	15	156	0	0	171	503
9:00PM	0	0	2	0	2	14	65	7	0	86	2	0	1	0	3	3	26	0	0	29	120
9:15PM	1	0	7	0	8	14	58	3	0	75	0	0	4	0	4	4	31	1	0	36	123
9:30PM	3	2	37	0	42	8	33	4	0	45	0	0	2	0	2	0	22	0	0	22	111
9:45PM	0	0	10	0	10	1	43	2	0	46	4	0	2	0	6	1	19	0	0	20	82
Hourly Total	4	2	56	0	62	37	199	16	0	252	6	0	9	0	15	8	98	1	0	107	436
10:00PM	2	2	0	0	4	1	31	3	0	35	0	0	1	0	1	0	22	0	0	22	62

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
10:15PM	1	0	2	0	3	2	30	1	0	33	0	0	2	0	2	1	36	0	0	37	75
10:30PM	1	0	3	0	4	1	26	0	0	27	0	1	2	0	3	0	16	0	0	16	50
10:45PM	0	0	0	0	0	0	19	1	0	20	1	1	1	0	3	1	15	0	0	16	39
Hourly Total	4	2	5	0	11	4	106	5	0	115	1	2	6	0	9	2	89	0	0	91	226
11:00PM	0	1	1	0	2	0	9	3	0	12	1	0	0	0	1	1	25	0	0	26	41
11:15PM	0	0	1	0	1	2	19	1	0	22	1	0	0	0	1	2	13	0	0	15	39
11:30PM	0	0	0	0	0	1	7	1	0	9	1	0	0	0	1	1	8	0	0	9	19
11:45PM	0	0	0	0	0	1	7	1	0	9	1	0	2	0	3	1	12	0	0	13	25
Hourly Total	0	1	2	0	3	4	42	6	0	52	4	0	2	0	6	5	58	0	0	63	124
Total	64	81	722	1	868	699	6506	601	9	7815	620	87	668	0	1375	599	6423	52	1	7075	17133
% Approach	7.4%	9.3%	83.2%	0.1%	-	8.9%	83.3%	7.7%	0.1%	-	45.1%	6.3%	48.6%	0%	-	8.5%	90.8%	0.7%	0%	-	-
% Total	0.4%	0.5%	4.2%	0%	5.1%	4.1%	38.0%	3.5%	0.1%	45.6%	3.6%	0.5%	3.9%	0%	8.0%	3.5%	37.5%	0.3%	0%	41.3%	-
Lights	63	78	718	1	860	693	5926	563	8	7190	585	82	619	0	1286	554	5856	51	1	6462	15798
% Lights	98.4%	96.3%	99.4%	100%	99.1%	99.1%	91.1%	93.7%	88.9%	92.0%	94.4%	94.3%	92.7%	0%	93.5%	92.5%	91.2%	98.1%	100%	91.3%	92.2%
Single-Unit Trucks	1	3	4	0	8	6	185	18	0	209	17	4	17	0	38	15	161	1	0	177	432
% Single-Unit Trucks	1.6%	3.7%	0.6%	0%	0.9%	0.9%	2.8%	3.0%	0%	2.7%	2.7%	4.6%	2.5%	0%	2.8%	2.5%	2.5%	1.9%	0%	2.5%	2.5%
Recreational Vehicles (1)	0	0	0	0	0	0	6	0	0	6	0	0	2	0	2	0	14	0	0	14	22
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0.1%	0%	0%	0.1%	0%	0%	0.3%	0%	0.1%	0%	0.2%	0%	0%	0.2%	0.1%
Articulated Trucks	0	0	0	0	0	0	371	18	1	390	16	1	26	0	43	29	375	0	0	404	837
% Articulated Trucks	0%	0%	0%	0%	0%	0%	5.7%	3.0%	11.1%	5.0%	2.6%	1.1%	3.9%	0%	3.1%	4.8%	5.8%	0%	0%	5.7%	4.9%
Buses	0	0	0	0	0	0	18	2	0	20	2	0	4	0	6	1	17	0	0	18	44
% Buses	0%	0%	0%	0%	0%	0%	0.3%	0.3%	0%	0.3%	0.3%	0%	0.6%	0%	0.4%	0.2%	0.3%	0%	0%	0.3%	0.3%

* L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182, Site

Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 1707

In: 868 Out: 839

64
81
722
1

[W] West

Total: 14314

Out: 7239

In: 7075

1
52

6423

599

699

6506

601
9

In: 7815

Out: 7774

Total: 15589

[E] East

Out: 1281 In: 1375

Total: 2656

[S] South

668
87
620

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182,

Site Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 7:30AM	0	0	1	0	1	5	124	8	0	137	10	0	15	0	25	19	162	0	0	181	344
7:45AM	0	0	0	0	0	9	111	21	0	141	19	1	13	0	33	27	180	3	0	210	384
8:00AM	0	0	6	0	6	7	88	5	0	100	14	2	15	0	31	16	128	0	0	144	281
8:15AM	0	0	4	0	4	3	90	5	0	98	21	3	9	0	33	9	150	1	0	160	295
Total	0	0	11	0	11	24	413	39	0	476	64	6	52	0	122	71	620	4	0	695	1304
% Approach	0%	0%	100%	0%	-	5.0%	86.8%	8.2%	0%	-	52.5%	4.9%	42.6%	0%	-	10.2%	89.2%	0.6%	0%	-	-
% Total	0%	0%	0.8%	0%	0.8%	1.8%	31.7%	3.0%	0%	36.5%	4.9%	0.5%	4.0%	0%	9.4%	5.4%	47.5%	0.3%	0%	53.3%	-
PHF	-	-	0.458	-	0.458	0.667	0.833	0.464	-	0.844	0.762	0.500	0.867	-	0.924	0.657	0.861	0.333	-	0.827	0.849
Lights	0	0	10	0	10	23	374	38	0	435	59	6	49	0	114	69	587	4	0	660	1219
% Lights	0%	0%	90.9%	0%	90.9%	95.8%	90.6%	97.4%	0%	91.4%	92.2%	100%	94.2%	0%	93.4%	97.2%	94.7%	100%	0%	95.0%	93.5%
Single-Unit Trucks	0	0	1	0	1	1	18	1	0	20	2	0	2	0	4	1	13	0	0	14	39
% Single-Unit Trucks	0%	0%	9.1%	0%	9.1%	4.2%	4.4%	2.6%	0%	4.2%	3.1%	0%	3.8%	0%	3.3%	1.4%	2.1%	0%	0%	2.0%	3.0%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	0	0	0	0	0	21	0	0	21	1	0	1	0	2	1	17	0	0	18	41
% Articulated Trucks	0%	0%	0%	0%	0%	0%	5.1%	0%	0%	4.4%	1.6%	0%	1.9%	0%	1.6%	1.4%	2.7%	0%	0%	2.6%	3.1%
Buses	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	3	0	0	3	5
% Buses	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3.1%	0%	0%	0%	1.6%	0%	0.5%	0%	0%	0.4%	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182, Site

Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 45

In: 11 Out: 34

11

[W] West

Total: 1160

Out: 465

In: 695

4

620

71

24

413

39

In: 476

Out: 695

Total: 1171

[E] East

52

6

64

Out: 110 In: 122

Total: 232

[S] South

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182,

Site Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 11:45AM	1	0	38	0	39	12	64	9	0	85	17	0	11	0	28	10	144	0	0	154	306
12:00PM	1	2	36	0	39	5	76	13	0	94	7	2	12	0	21	8	103	0	0	111	265
12:15PM	1	3	6	0	10	8	109	9	0	126	8	1	10	0	19	13	86	0	0	99	254
12:30PM	2	1	3	0	6	9	102	9	1	121	14	1	16	0	31	10	131	0	0	141	299
Total	5	6	83	0	94	34	351	40	1	426	46	4	49	0	99	41	464	0	0	505	1124
% Approach	5.3%	6.4%	88.3%	0%	-	8.0%	82.4%	9.4%	0.2%	-	46.5%	4.0%	49.5%	0%	-	8.1%	91.9%	0%	0%	-	-
% Total	0.4%	0.5%	7.4%	0%	8.4%	3.0%	31.2%	3.6%	0.1%	37.9%	4.1%	0.4%	4.4%	0%	8.8%	3.6%	41.3%	0%	0%	44.9%	-
PHF	0.625	0.500	0.546	-	0.603	0.708	0.805	0.769	0.250	0.845	0.676	0.500	0.766	-	0.798	0.788	0.806	-	-	0.820	0.918
Lights	5	6	82	0	93	33	315	36	1	385	42	4	46	0	92	35	426	0	0	461	1031
% Lights	100%	100%	98.8%	0%	98.9%	97.1%	89.7%	90.0%	100%	90.4%	91.3%	100%	93.9%	0%	92.9%	85.4%	91.8%	0%	0%	91.3%	91.7%
Single-Unit Trucks	0	0	1	0	1	1	13	3	0	17	3	0	1	0	4	3	12	0	0	15	37
% Single-Unit Trucks	0%	0%	1.2%	0%	1.1%	2.9%	3.7%	7.5%	0%	4.0%	6.5%	0%	2.0%	0%	4.0%	7.3%	2.6%	0%	0%	3.0%	3.3%
Recreational Vehicles (1)	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.1%
Articulated Trucks	0	0	0	0	0	0	21	1	0	22	1	0	2	0	3	3	24	0	0	27	52
% Articulated Trucks	0%	0%	0%	0%	0%	0%	6.0%	2.5%	0%	5.2%	2.2%	0%	4.1%	0%	3.0%	7.3%	5.2%	0%	0%	5.3%	4.6%
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Buses	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.2%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.4%	0.3%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

Midday Peak (11:45 AM - 12:45 PM)

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182, Site

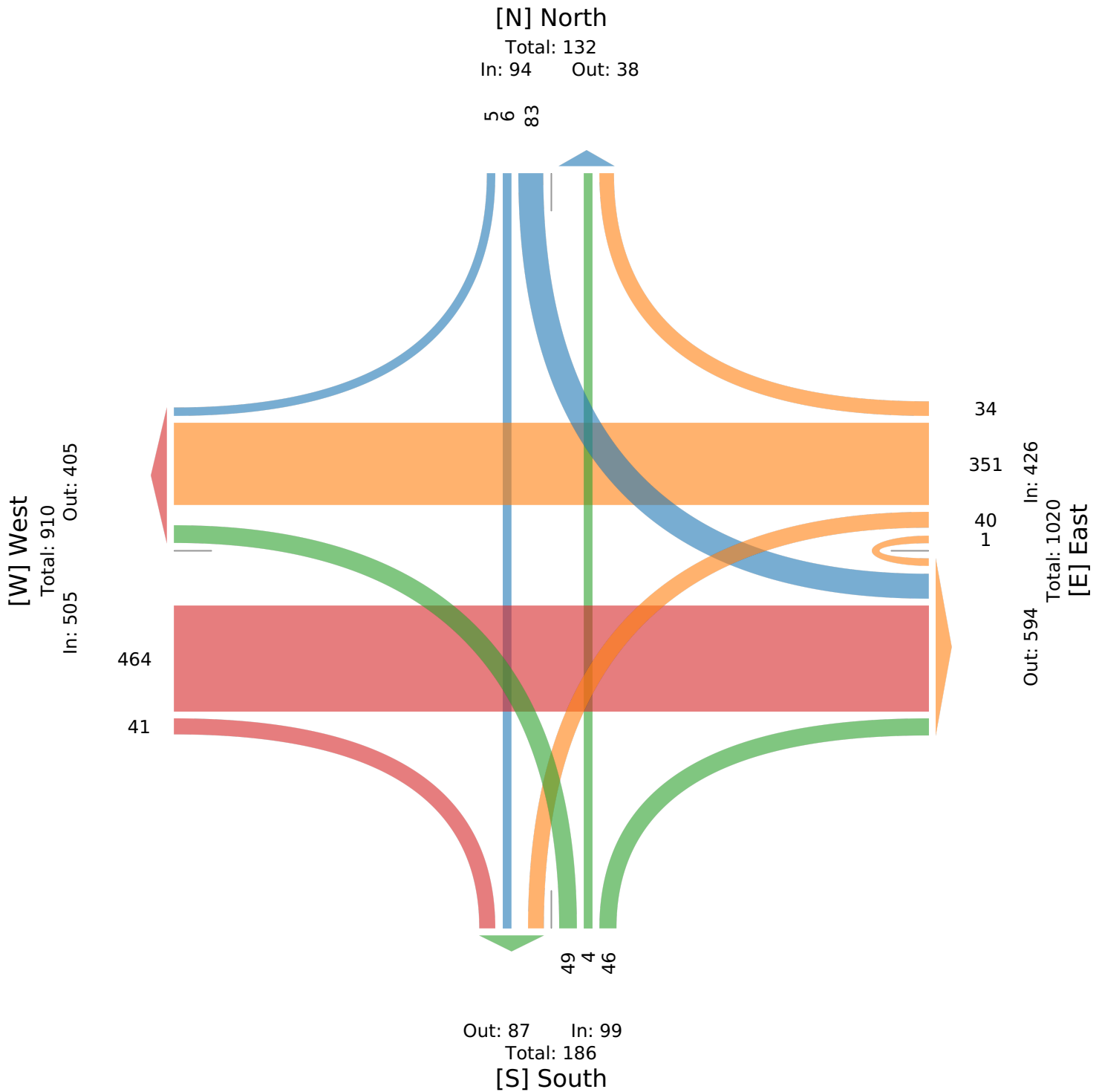
Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA



Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182,

Site Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave NW, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 4:30PM	6	3	37	0	46	17	144	20	0	181	10	1	13	0	24	21	148	1	0	170	421
4:45PM	3	4	25	0	32	13	156	13	2	184	12	3	16	0	31	17	135	2	0	154	401
5:00PM	1	0	12	0	13	13	195	19	0	227	19	2	27	0	48	13	134	1	0	148	436
5:15PM	1	0	9	0	10	15	186	19	0	220	16	2	21	0	39	20	141	4	0	165	434
Total	11	7	83	0	101	58	681	71	2	812	57	8	77	0	142	71	558	8	0	637	1692
% Approach	10.9%	6.9%	82.2%	0%	-	7.1%	83.9%	8.7%	0.2%	-	40.1%	5.6%	54.2%	0%	-	11.1%	87.6%	1.3%	0%	-	-
% Total	0.7%	0.4%	4.9%	0%	6.0%	3.4%	40.2%	4.2%	0.1%	48.0%	3.4%	0.5%	4.6%	0%	8.4%	4.2%	33.0%	0.5%	0%	37.6%	-
PHF	0.458	0.438	0.561	-	0.549	0.853	0.873	0.888	0.250	0.894	0.750	0.667	0.713	-	0.740	0.845	0.943	0.500	-	0.937	0.970
Lights	11	7	83	0	101	58	641	68	2	769	56	8	75	0	139	65	533	8	0	606	1615
% Lights	100%	100%	100%	0%	100%	100%	94.1%	95.8%	100%	94.7%	98.2%	100%	97.4%	0%	97.9%	91.5%	95.5%	100%	0%	95.1%	95.4%
Single-Unit Trucks	0	0	0	0	0	0	9	0	0	9	0	0	1	0	1	2	8	0	0	10	20
% Single-Unit Trucks	0%	0%	0%	0%	0%	0%	1.3%	0%	0%	1.1%	0%	0%	1.3%	0%	0.7%	2.8%	1.4%	0%	0%	1.6%	1.2%
Recreational Vehicles (1)	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0.1%	0%	0%	0.1%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.3%	0.2%
Articulated Trucks	0	0	0	0	0	0	30	3	0	33	1	0	1	0	2	3	12	0	0	15	50
% Articulated Trucks	0%	0%	0%	0%	0%	0%	4.4%	4.2%	0%	4.1%	1.8%	0%	1.3%	0%	1.4%	4.2%	2.2%	0%	0%	2.4%	3.0%
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	4
% Buses	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.4%	0.5%	0%	0%	0.6%	0.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & 124 Street - TMC

Tue Mar 28, 2023

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053139, Location: 55.170549, -118.87182, Site

Code: 2131-00685-00



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

[N] North

Total: 175

In: 101 Out: 74

11 7 83

[W] West

Total: 1406

In: 637 Out: 769

8

558

71

58

681

In: 812

71 2

Total: 1512

[E] East

Out: 700

77 8 57

Out: 149 In: 142

Total: 291

[S] South

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 12:00AM	0	0	0	0	0	0	9	1	0	10	1	0	1	0	2	1	15	0	0	16	28
12:15AM	0	0	0	0	0	0	4	1	1	6	1	0	0	0	1	0	2	0	1	3	10
12:30AM	0	0	0	0	0	0	10	1	0	11	1	0	0	0	1	0	4	0	0	4	16
12:45AM	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	2	0	0	2	17
Hourly Total	0	0	0	0	0	0	38	3	1	42	3	0	1	0	4	1	23	0	1	25	71
1:00AM	0	0	0	0	0	0	12	1	0	13	0	0	0	0	0	0	3	0	0	3	16
1:15AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	10
1:30AM	0	0	0	0	0	0	4	4	0	8	2	0	1	0	3	0	2	0	0	2	13
1:45AM	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	0	6	0	0	6	9
Hourly Total	0	0	0	0	0	0	26	5	0	31	3	0	1	0	4	0	13	0	0	13	48
2:00AM	0	0	0	0	0	0	10	1	0	11	2	0	0	0	2	0	2	0	0	2	15
2:15AM	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	0	2	0	0	2	9
2:30AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
2:45AM	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	6	0	0	6	10
Hourly Total	0	0	0	0	0	0	24	2	0	26	3	0	0	0	3	0	11	0	0	11	40
3:00AM	0	0	0	0	0	0	9	1	0	10	0	0	0	0	0	0	10	0	0	10	20
3:15AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	1	2	0	0	3	7
3:30AM	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	0	6	0	0	6	14
3:45AM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	5	0	0	5	8
Hourly Total	0	0	0	0	0	0	21	2	0	23	2	0	0	0	2	1	23	0	0	24	49
4:00AM	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	0	8	0	0	8	15
4:15AM	0	0	0	0	0	0	13	3	0	16	1	0	0	0	1	0	8	0	0	8	25
4:30AM	0	0	0	0	0	0	12	1	0	13	0	0	0	0	0	1	6	0	0	7	20
4:45AM	0	0	0	0	0	0	17	6	0	23	1	0	1	0	2	0	16	0	0	16	41
Hourly Total	0	0	0	0	0	0	48	11	0	59	2	0	1	0	3	1	38	0	0	39	101
5:00AM	0	0	0	0	0	0	24	6	0	30	0	0	2	0	2	2	18	0	0	20	52
5:15AM	0	0	0	0	0	0	25	7	0	32	5	0	3	0	8	2	25	0	1	28	68
5:30AM	0	0	0	0	0	0	65	12	0	77	6	0	3	0	9	2	31	0	0	33	119
5:45AM	0	0	0	0	0	0	52	22	0	74	1	0	2	0	3	6	29	0	0	35	112
Hourly Total	0	0	0	0	0	0	166	47	0	213	12	0	10	0	22	12	103	0	1	116	351
6:00AM	0	0	0	0	0	0	61	16	0	77	8	0	2	0	10	5	63	0	0	68	155
6:15AM	0	0	0	0	0	0	70	27	0	97	11	0	1	0	12	7	64	0	0	71	180
6:30AM	0	0	0	0	0	0	81	42	1	124	13	0	3	0	16	6	82	0	0	88	228
6:45AM	0	0	0	0	0	0	80	39	0	119	19	0	4	0	23	6	100	0	0	106	248
Hourly Total	0	0	0	0	0	0	292	124	1	417	51	0	10	0	61	24	309	0	0	333	811
7:00AM	0	0	0	0	0	0	66	19	0	85	18	0	5	0	23	10	103	0	0	113	221
7:15AM	0	0	0	0	0	0	102	20	0	122	11	0	2	0	13	5	100	0	0	105	240
7:30AM	0	0	0	0	0	0	101	30	0	131	23	0	12	0	35	6	160	0	0	166	332
7:45AM	0	0	0	0	0	0	78	52	1	131	17	0	2	0	19	12	186	0	0	198	348
Hourly Total	0	0	0	0	0	0	347	121	1	469	69	0	21	0	90	33	549	0	0	582	1141
8:00AM	0	0	0	0	0	0	80	31	1	112	15	0	2	0	17	3	130	0	0	133	262
8:15AM	0	0	0	0	0	1	80	15	0	96	15	0	2	0	17	3	136	0	1	140	253
8:30AM	2	0	1	0	3	0	72	33	0	105	12	0	2	0	14	2	103	0	0	105	227
8:45AM	0	0	0	0	0	0	69	16	1	86	12	0	5	0	17	2	91	0	0	93	196
Hourly Total	2	0	1	0	3	1	301	95	2	399	54	0	11	0	65	10	460	0	1	471	938
9:00AM	0	0	0	0	0	0	69	10	2	81	14	0	2	0	16	2	81	1	0	84	181
9:15AM	0	0	1	0	1	0	65	8	2	75	10	0	1	0	11	0	93	0	0	93	180
9:30AM	0	0	1	0	1	0	59	17	1	77	10	0	3	0	13	3	86	0	0	89	180
9:45AM	0	0	0	0	0	0	70	14	0	84	15	0	1	0	16	2	73	0	0	75	175
Hourly Total	0	0	2	0	2	0	263	49	5	317	49	0	7	0	56	7	333	1	0	341	716
10:00AM	0	0	0	0	0	1	60	14	0	75	16	0	1	0	17	3	75	1	0	79	171
10:15AM	4	0	0	0	4	1	56	14	0	71	14	0	2	0	16	1	87	0	0	88	179

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
10:30AM	0	0	1	0	1	0	55	8	1	64	12	0	2	0	14	1	90	0	0	91	170
10:45AM	0	0	0	0	0	1	56	5	1	63	13	0	0	0	13	2	82	0	0	84	160
Hourly Total	4	0	1	0	5	3	227	41	2	273	55	0	5	0	60	7	334	1	0	342	680
11:00AM	0	0	1	0	1	0	62	15	0	77	19	0	3	0	22	2	90	2	0	94	194
11:15AM	0	0	0	0	0	0	69	15	0	84	19	0	1	0	20	0	95	0	0	95	199
11:30AM	0	0	0	0	0	0	54	13	0	67	14	0	2	0	16	4	100	0	0	104	187
11:45AM	0	0	1	0	1	0	67	11	1	79	39	0	0	0	39	3	109	0	0	112	231
Hourly Total	0	0	2	0	2	0	252	54	1	307	91	0	6	0	97	9	394	2	0	405	811
12:00PM	0	0	0	0	0	1	68	17	1	87	37	0	1	0	38	2	74	0	0	76	201
12:15PM	0	0	2	0	2	0	100	23	0	123	19	0	0	0	19	1	87	0	0	88	232
12:30PM	1	0	0	0	1	0	91	25	0	116	21	0	2	0	23	1	109	0	2	112	252
12:45PM	0	0	0	0	0	1	94	33	1	129	15	0	1	0	16	0	82	0	0	82	227
Hourly Total	1	0	2	0	3	2	353	98	2	455	92	0	4	0	96	4	352	0	2	358	912
1:00PM	0	0	2	0	2	0	80	29	1	110	15	1	3	0	19	3	98	0	0	101	232
1:15PM	0	0	0	0	0	0	94	19	4	117	17	0	0	0	17	2	83	0	0	85	219
1:30PM	0	1	0	0	1	0	78	17	1	96	14	0	3	0	17	3	80	0	0	83	197
1:45PM	0	0	0	0	0	0	87	17	0	104	16	0	2	0	18	3	79	0	0	82	204
Hourly Total	0	1	2	0	3	0	339	82	6	427	62	1	8	0	71	11	340	0	0	351	852
2:00PM	0	0	0	0	0	0	97	9	0	106	20	0	1	0	21	3	99	0	0	102	229
2:15PM	0	0	0	0	0	0	78	18	1	97	12	0	1	0	13	3	93	0	0	96	206
2:30PM	1	0	0	0	1	0	101	12	1	114	29	0	1	0	30	2	84	0	0	86	231
2:45PM	0	0	0	0	0	0	101	9	1	111	17	0	2	0	19	3	88	0	0	91	221
Hourly Total	1	0	0	0	1	0	377	48	3	428	78	0	5	0	83	11	364	0	0	375	887
3:00PM	0	0	0	0	0	0	97	15	1	113	11	1	6	0	18	2	104	0	0	106	237
3:15PM	1	0	0	0	1	0	89	15	1	105	23	0	1	0	24	3	111	1	0	115	245
3:30PM	0	0	0	0	0	0	124	14	1	139	14	0	1	0	15	4	99	0	0	103	257
3:45PM	1	0	0	0	1	0	115	19	1	135	17	0	2	0	19	4	107	0	0	111	266
Hourly Total	2	0	0	0	2	0	425	63	4	492	65	1	10	0	76	13	421	1	0	435	1005
4:00PM	0	0	0	0	0	0	143	15	0	158	22	0	6	0	28	3	89	0	0	92	278
4:15PM	0	0	0	0	0	1	147	12	1	161	21	0	5	0	26	2	97	0	0	99	286
4:30PM	0	0	0	0	0	1	160	11	0	172	45	0	5	0	50	2	123	0	0	125	347
4:45PM	1	0	0	0	1	0	171	16	1	188	28	0	6	0	34	5	117	0	0	122	345
Hourly Total	1	0	0	0	1	2	621	54	2	679	116	0	22	0	138	12	426	0	0	438	1256
5:00PM	0	0	0	0	0	0	195	15	0	210	52	0	13	0	65	3	104	0	1	108	383
5:15PM	1	0	0	0	1	1	186	21	0	208	29	0	1	0	30	7	135	0	0	142	381
5:30PM	0	0	0	0	0	0	186	11	1	198	25	0	6	0	31	5	128	0	0	133	362
5:45PM	0	0	0	0	0	1	165	8	2	176	14	0	7	0	21	0	86	1	0	87	284
Hourly Total	1	0	0	0	1	2	732	55	3	792	120	0	27	0	147	15	453	1	1	470	1410
6:00PM	0	0	0	0	0	0	114	9	0	123	16	0	8	0	24	2	101	0	0	103	250
6:15PM	0	0	0	0	0	1	100	10	0	111	18	0	6	0	24	4	111	0	0	115	250
6:30PM	0	0	0	0	0	1	97	7	0	105	17	0	1	0	18	2	93	0	0	95	218
6:45PM	2	0	0	0	2	0	96	2	1	99	4	0	1	0	5	1	88	0	0	89	195
Hourly Total	2	0	0	0	2	2	407	28	1	438	55	0	16	0	71	9	393	0	0	402	913
7:00PM	0	0	1	0	1	1	78	5	0	84	11	0	3	0	14	7	86	0	0	93	192
7:15PM	0	0	0	0	0	0	70	3	0	73	6	0	0	0	6	1	62	0	0	63	142
7:30PM	0	0	0	0	0	2	71	10	0	83	9	0	0	0	9	1	61	0	0	62	154
7:45PM	0	0	1	0	1	0	63	7	0	70	7	0	1	0	8	0	46	0	0	46	125
Hourly Total	0	0	2	0	2	3	282	25	0	310	33	0	4	0	37	9	255	0	0	264	613
8:00PM	0	0	0	0	0	0	81	5	0	86	12	0	0	0	12	1	43	0	0	44	142
8:15PM	0	0	0	0	0	0	60	8	0	68	6	0	3	0	9	1	36	0	0	37	114
8:30PM	0	0	0	0	0	1	54	3	0	58	5	0	2	0	7	0	39	0	0	39	104
8:45PM	0	0	0	0	0	0	56	3	0	59	0	0	0	0	0	1	29	0	0	30	89
Hourly Total	0	0	0	0	0	1	251	19	0	271	23	0	5	0	28	3	147	0	0	150	449
9:00PM	0	0	0	0	0	0	57	3	0	60	1	0	1	0	2	0	28	1	0	29	91
9:15PM	0	0	0	0	0	0	67	4	0	71	2	0	3	0	5	0	34	0	0	34	110
9:30PM	0	0	0	0	0	1	36	2	0	39	2	0	1	0	3	1	20	0	0	21	63
9:45PM	0	0	0	0	0	0	40	1	0	41	2	0	1	0	3	0	16	0	0	16	60
Hourly Total	0	0	0	0	0	1	200	10	0	211	7	0	6	0	13	1	98	1	0	100	324
10:00PM	0	0	0	0	0	0	36	4	0	40	2	0	0	0	2	0	24	0	0	24	66
10:15PM	0	0	0	0	0	1	29	2	0	32	2	0	0	0	2	0	30	0	0	30	64

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
10:30PM	0	0	0	0	0	0	30	1	0	31	1	0	0	0	1	0	16	0	0	16	48
10:45PM	0	0	0	0	0	0	20	1	0	21	4	0	0	0	4	0	13	0	0	13	38
Hourly Total	0	0	0	0	0	1	115	8	0	124	9	0	0	0	9	0	83	0	0	83	216
11:00PM	0	0	1	0	1	0	8	1	0	9	3	0	0	0	3	0	20	0	0	20	33
11:15PM	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	0	15	0	0	15	32
11:30PM	0	0	0	0	0	0	7	1	0	8	2	0	1	0	3	0	9	0	0	9	20
11:45PM	0	0	0	0	0	0	7	2	0	9	6	0	0	0	6	1	5	0	0	6	21
Hourly Total	0	0	1	0	1	1	38	4	0	43	11	0	1	0	12	1	49	0	0	50	106
Total	14	1	13	0	28	19	6145	1048	34	7246	1065	2	181	0	1248	194	5971	7	6	6178	14700
% Approach	50.0%	3.6%	46.4%	0%	-	0.3%	84.8%	14.5%	0.5%	-	85.3%	0.2%	14.5%	0%	-	3.1%	96.6%	0.1%	0.1%	-	-
% Total	0.1%	0%	0.1%	0%	0.2%	0.1%	41.8%	7.1%	0.2%	49.3%	7.2%	0%	1.2%	0%	8.5%	1.3%	40.6%	0%	0%	42.0%	-
Lights	13	1	13	0	27	17	5624	939	33	6613	961	2	141	0	1104	151	5468	7	4	5630	13374
% Lights	92.9%	100%	100%	0%	96.4%	89.5%	91.5%	89.6%	97.1%	91.3%	90.2%	100%	77.9%	0%	88.5%	77.8%	91.6%	100%	66.7%	91.1%	91.0%
Single-Unit Trucks	1	0	0	0	1	2	135	67	0	204	67	0	18	0	85	24	106	0	0	130	420
% Single-Unit Trucks	7.1%	0%	0%	0%	3.6%	10.5%	2.2%	6.4%	0%	2.8%	6.3%	0%	9.9%	0%	6.8%	12.4%	1.8%	0%	0%	2.1%	2.9%
Recreational Vehicles (1)	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	0	14	0	0	14	20
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0.1%	0.1%	0%	0.1%	0.1%	0%	0%	0%	0.1%	0%	0.2%	0%	0%	0.2%	0.1%
Articulated Trucks	0	0	0	0	0	0	364	38	1	403	35	0	19	0	54	17	368	0	2	387	844
% Articulated Trucks	0%	0%	0%	0%	0%	0%	5.9%	3.6%	2.9%	5.6%	3.3%	0%	10.5%	0%	4.3%	8.8%	6.2%	0%	33.3%	6.3%	5.7%
Buses	0	0	0	0	0	0	18	3	0	21	1	0	3	0	4	2	15	0	0	17	42
% Buses	0%	0%	0%	0%	0%	0%	0.3%	0.3%	0%	0.3%	0.1%	0%	1.7%	0%	0.3%	1.0%	0.3%	0%	0%	0.3%	0.3%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

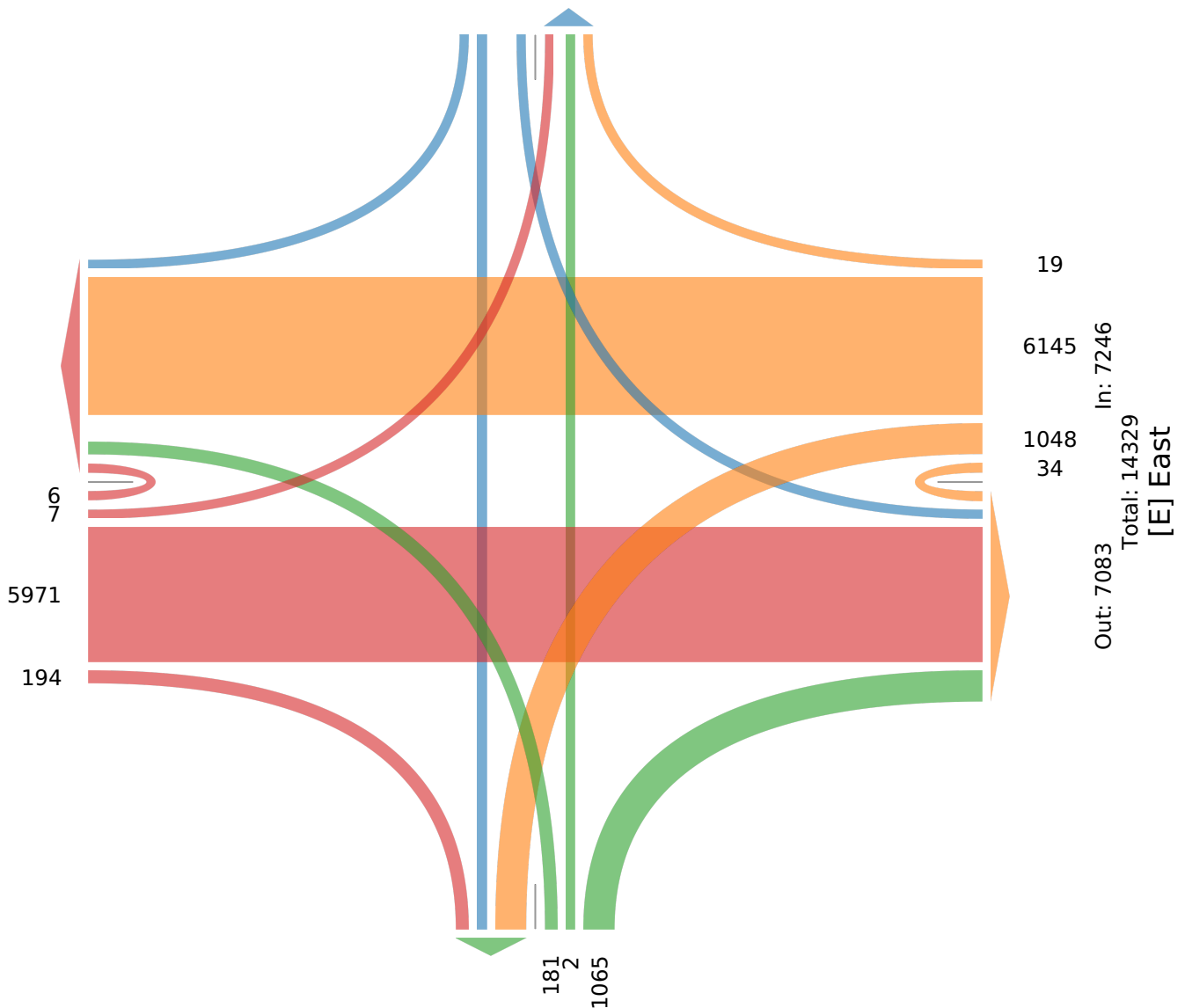
[N] North

Total: 56

In: 28 Out: 28

14
1 13

[W] West
Total: 12524
In: 6178 Out: 6346



Out: 1243 In: 1248

Total: 2491

[S] South

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 7:30AM	0	0	0	0	0	0	101	30	0	131	23	0	12	0	35	6	160	0	0	166	332
7:45AM	0	0	0	0	0	0	78	52	1	131	17	0	2	0	19	12	186	0	0	198	348
8:00AM	0	0	0	0	0	0	80	31	1	112	15	0	2	0	17	3	130	0	0	133	262
8:15AM	0	0	0	0	0	1	80	15	0	96	15	0	2	0	17	3	136	0	1	140	253
Total	0	0	0	0	0	1	339	128	2	470	70	0	18	0	88	24	612	0	1	637	1195
% Approach	0%	0%	0%	0%	-	0.2%	72.1%	27.2%	0.4%	-	79.5%	0%	20.5%	0%	-	3.8%	96.1%	0%	0.2%	-	-
% Total	0%	0%	0%	0%	0%	0.1%	28.4%	10.7%	0.2%	39.3%	5.9%	0%	1.5%	0%	7.4%	2.0%	51.2%	0%	0.1%	53.3%	-
PHF	-	-	-	-	-	0.250	0.839	0.615	0.500	0.897	0.761	-	0.375	-	0.629	0.500	0.823	-	0.250	0.804	0.858
Lights	0	0	0	0	0	1	305	122	2	430	56	0	10	0	66	20	593	0	0	613	1109
% Lights	0%	0%	0%	0%	-	100%	90.0%	95.3%	100%	91.5%	80.0%	0%	55.6%	0%	75.0%	83.3%	96.9%	0%	0%	96.2%	92.8%
Single-Unit Trucks	0	0	0	0	0	0	11	5	0	16	9	0	6	0	15	1	5	0	0	6	37
% Single-Unit Trucks	0%	0%	0%	0%	-	0%	3.2%	3.9%	0%	3.4%	12.9%	0%	33.3%	0%	17.0%	4.2%	0.8%	0%	0%	0.9%	3.1%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Recreational Vehicles (1)	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Articulated Trucks	0	0	0	0	0	0	23	1	0	24	4	0	1	0	5	1	13	0	1	15	44
% Articulated Trucks	0%	0%	0%	0%	-	0%	6.8%	0.8%	0%	5.1%	5.7%	0%	5.6%	0%	5.7%	4.2%	2.1%	0%	100%	2.4%	3.7%
Buses	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2	1	0	0	3	5
% Buses	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	1.4%	0%	5.6%	0%	2.3%	8.3%	0.2%	0%	0%	0.5%	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

Midday Peak (12:15 PM - 1:15 PM)

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 12:15PM	0	0	2	0	2	0	100	23	0	123	19	0	0	0	19	1	87	0	0	88	232
12:30PM	1	0	0	0	1	0	91	25	0	116	21	0	2	0	23	1	109	0	2	112	252
12:45PM	0	0	0	0	0	1	94	33	1	129	15	0	1	0	16	0	82	0	0	82	227
1:00PM	0	0	2	0	2	0	80	29	1	110	15	1	3	0	19	3	98	0	0	101	232
Total	1	0	4	0	5	1	365	110	2	478	70	1	6	0	77	5	376	0	2	383	943
% Approach	20.0%	0%	80.0%	0%	-	0.2%	76.4%	23.0%	0.4%	-	90.9%	1.3%	7.8%	0%	-	1.3%	98.2%	0%	0.5%	-	-
% Total	0.1%	0%	0.4%	0%	0.5%	0.1%	38.7%	11.7%	0.2%	50.7%	7.4%	0.1%	0.6%	0%	8.2%	0.5%	39.9%	0%	0.2%	40.6%	-
PHF	0.250	-	0.500	-	0.625	0.250	0.913	0.833	0.500	0.926	0.833	0.250	0.500	-	0.837	0.417	0.862	-	0.250	0.855	0.936
Lights	1	0	4	0	5	1	330	93	1	425	66	1	4	0	71	3	337	0	2	342	843
% Lights	100%	0%	100%	0%	100%	100%	90.4%	84.5%	50.0%	88.9%	94.3%	100%	66.7%	0%	92.2%	60.0%	89.6%	0%	100%	89.3%	89.4%
Single-Unit Trucks	0	0	0	0	0	0	7	14	0	21	3	0	1	0	4	2	9	0	0	11	36
% Single-Unit Trucks	0%	0%	0%	0%	0%	0%	1.9%	12.7%	0%	4.4%	4.3%	0%	16.7%	0%	5.2%	40.0%	2.4%	0%	0%	2.9%	3.8%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.3%	0.1%
Articulated Trucks	0	0	0	0	0	0	25	3	1	29	1	0	1	0	2	0	28	0	0	28	59
% Articulated Trucks	0%	0%	0%	0%	0%	0%	6.8%	2.7%	50.0%	6.1%	1.4%	0%	16.7%	0%	2.6%	0%	7.4%	0%	0%	7.3%	6.3%
Buses	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
% Buses	0%	0%	0%	0%	0%	0%	0.8%	0%	0%	0.6%	0%	0%	0%	0%	0%	0%	0.3%	0%	0%	0.3%	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

Midday Peak (12:15 PM - 1:15 PM)

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

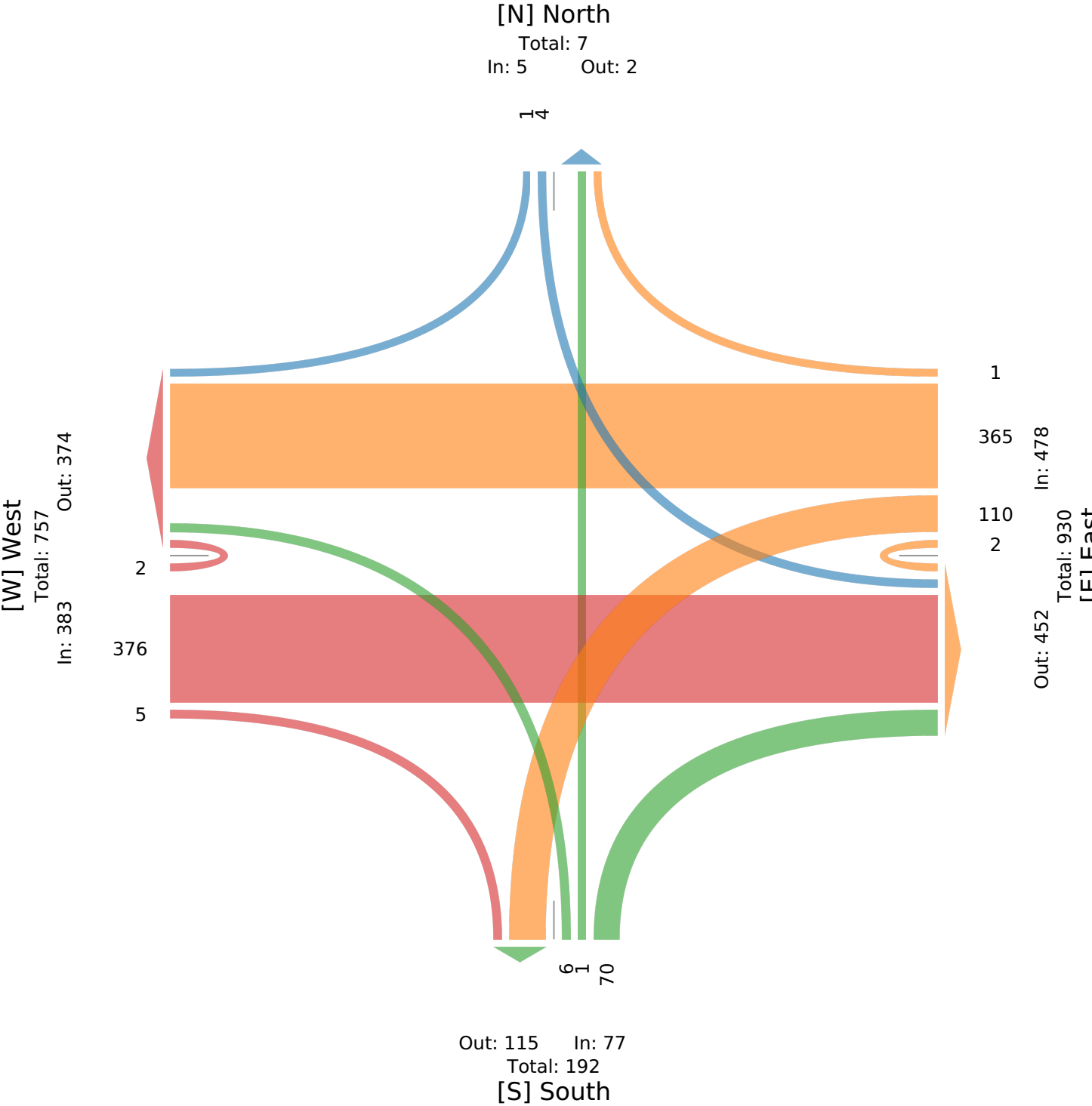
All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA



Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks,
Recreational Vehicles (1), Articulated Trucks,
Buses)

All Movements

ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton
#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA

Leg Direction	North Southbound					East Westbound					South Northbound					West Eastbound					
Time	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	R	T	L	U	App	Int
2023-03-28 4:45PM	1	0	0	0	1	0	171	16	1	188	28	0	6	0	34	5	117	0	0	122	345
5:00PM	0	0	0	0	0	0	195	15	0	210	52	0	13	0	65	3	104	0	1	108	383
5:15PM	1	0	0	0	1	1	186	21	0	208	29	0	1	0	30	7	135	0	0	142	381
5:30PM	0	0	0	0	0	0	186	11	1	198	25	0	6	0	31	5	128	0	0	133	362
Total	2	0	0	0	2	1	738	63	2	804	134	0	26	0	160	20	484	0	1	505	1471
% Approach	100%	0%	0%	0%	-	0.1%	91.8%	7.8%	0.2%	-	83.8%	0%	16.3%	0%	-	4.0%	95.8%	0%	0.2%	-	-
% Total	0.1%	0%	0%	0%	0.1%	0.1%	50.2%	4.3%	0.1%	54.7%	9.1%	0%	1.8%	0%	10.9%	1.4%	32.9%	0%	0.1%	34.3%	-
PHF	0.500	-	-	-	0.500	0.250	0.946	0.750	0.500	0.957	0.644	-	0.500	-	0.615	0.714	0.896	-	0.250	0.889	0.960
Lights	2	0	0	0	2	1	702	58	2	763	132	0	25	0	157	17	455	0	1	473	1395
% Lights	100%	0%	0%	0%	100%	100%	95.1%	92.1%	100%	94.9%	98.5%	0%	96.2%	0%	98.1%	85.0%	94.0%	0%	100%	93.7%	94.8%
Single-Unit Trucks	0	0	0	0	0	0	10	1	0	11	1	0	0	0	1	1	12	0	0	13	25
% Single-Unit Trucks	0%	0%	0%	0%	0%	0%	1.4%	1.6%	0%	1.4%	0.7%	0%	0%	0%	0.6%	5.0%	2.5%	0%	0%	2.6%	1.7%
Recreational Vehicles (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Recreational Vehicles (1)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.2%	0%	0%	0.2%	0.1%
Articulated Trucks	0	0	0	0	0	0	26	3	0	29	1	0	1	0	2	2	14	0	0	16	47
% Articulated Trucks	0%	0%	0%	0%	0%	0%	3.5%	4.8%	0%	3.6%	0.7%	0%	3.8%	0%	1.3%	10.0%	2.9%	0%	0%	3.2%	3.2%
Buses	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	3
% Buses	0%	0%	0%	0%	0%	0%	0%	1.6%	0%	0.1%	0%	0%	0%	0%	0%	0%	0.4%	0%	0%	0.4%	0.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Highway 43 & Range Road 65 - TMC

Tue Mar 28, 2023

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Single-Unit Trucks, Recreational Vehicles (1), Articulated Trucks, Buses)

All Movements

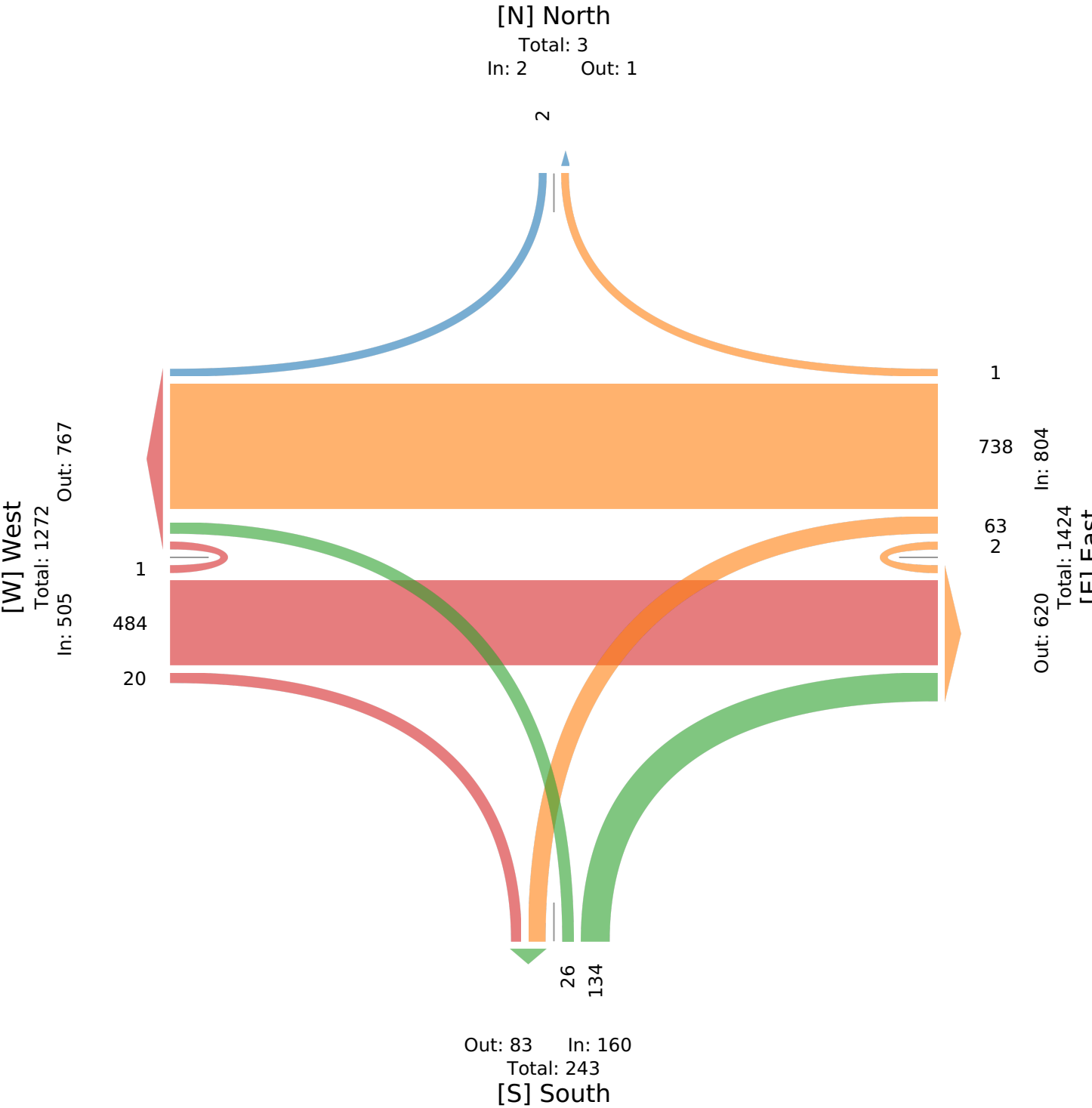
ID: 1053149, Location: 55.170513, -118.897525



McElhanney

Provided by: McElhanney Edmonton

#201, 13455 - 114 Ave Nw, Edmonton, AB, T5M 2E2, CA























APPENDIX C

Synchro Reports













Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

2023 AM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	620	71	39	413	24	52	6	64	11	0	0
Future Volume (vph)	4	620	71	39	413	24	52	6	64	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.927				
Flt Protected	0.950			0.950				0.981			0.950	
Satd. Flow (prot)	1825	3476	1585	1772	3349	1570	0	1639	0	0	1674	0
Flt Permitted	0.470			0.378				0.864			0.658	
Satd. Flow (perm)	903	3476	1585	705	3349	1570	0	1443	0	0	1160	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			108			85		79				
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		1627.5			843.2			233.6			476.4	
Travel Time (s)		73.2			37.9			14.0			28.6	
Peak Hour Factor	0.33	0.86	0.66	0.46	0.83	0.67	0.87	0.50	0.76	0.46	0.46	0.46
Heavy Vehicles (%)	0%	5%	3%	3%	9%	4%	6%	0%	8%	9%	0%	0%
Adj. Flow (vph)	12	721	108	85	498	36	60	12	84	24	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	721	108	85	498	36	0	156	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue













2023 AM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	18.0	18.0		18.0	18.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	19.0	19.0		19.0	19.0	
Total Split (%)	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.5		3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.0			8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Act Effect Green (s)	20.4	20.4	20.4	20.4	20.4	20.4		10.3			10.3	
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51		0.26			0.26	
v/c Ratio	0.03	0.41	0.13	0.24	0.29	0.04		0.36			0.08	
Control Delay	8.2	9.9	2.8	11.3	9.1	0.8		10.7			13.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	8.2	9.9	2.8	11.3	9.1	0.8		10.7			13.9	
LOS	A	A	A	B	A	A		B			B	
Approach Delay		9.0			8.9			10.7			13.9	
Approach LOS		A			A			B			B	
90th %ile Green (s)	19.8	19.8	19.8	19.8	19.8	19.8	11.0	11.0		11.0	11.0	
90th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Hold	Max	Max		Hold	Hold	
70th %ile Green (s)	16.5	16.5	16.5	16.5	16.5	16.5	10.0	10.0		10.0	10.0	
70th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Hold	Min	Min		Hold	Hold	
50th %ile Green (s)	13.8	13.8	13.8	13.8	13.8	13.8	10.0	10.0		10.0	10.0	
50th %ile Term Code	Gap	Gap	Gap	Hold	Hold	Hold	Min	Min		Hold	Hold	
30th %ile Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	10.0	10.0		10.0	10.0	
30th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Min	Min		Hold	Hold	
10th %ile Green (s)	25.0	25.0	25.0	25.0	25.0	25.0	0.0	0.0		0.0	0.0	
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Skip	Skip		Skip	Skip	
Stops (vph)	3	390	12	27	244	1		56			10	
Fuel Used(l)	1	107	10	4	44	2		5			1	
CO Emissions (g/hr)	13	1981	185	83	824	31		98			17	
NOx Emissions (g/hr)	3	382	36	16	159	6		19			3	
VOC Emissions (g/hr)	3	457	43	19	190	7		23			4	
Dilemma Vehicles (#)	0	65	0	0	44	0		14			1	
Queue Length 50th (m)	0.5	19.7	0.0	4.0	12.6	0.0		4.0			1.2	
Queue Length 95th (m)	0.9	30.1	2.8	5.1	19.5	0.0		6.0			2.8	
Internal Link Dist (m)		1603.5			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0						
Base Capacity (vph)	827	3186	1461	646	3069	1446		458			322	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	

Lanes, Volumes, Timings

6: 124 Street/Range Road 64 & 100 Avenue

2023 AM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.01	0.23	0.07	0.13	0.16	0.02		0.34			0.07	

Intersection Summary

Area Type: Other

Cycle Length: 64

Actuated Cycle Length: 40.1

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 53.0%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 46.3

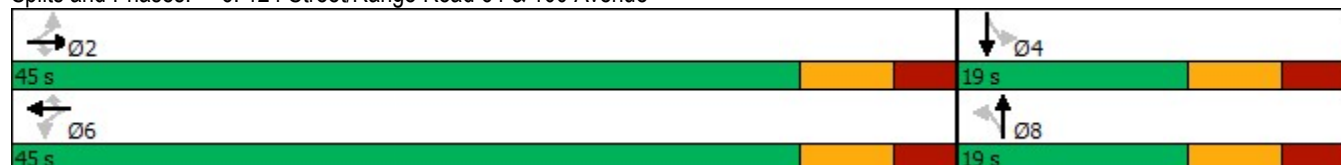
70th %ile Actuated Cycle: 42

50th %ile Actuated Cycle: 39.3

30th %ile Actuated Cycle: 40.5






















10th %ile Actuated Cycle: 32.5

Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue















Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

2023 PM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	558	71	73	681	58	77	8	57	85	7	11
Future Volume (vph)	8	558	71	73	681	58	77	8	57	85	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.948			0.983	
Flt Protected	0.950			0.950				0.973			0.962	
Satd. Flow (prot)	1825	3444	1512	1755	3444	1633	0	1730	0	0	1817	0
Flt Permitted	0.348			0.428				0.726			0.646	
Satd. Flow (perm)	669	3444	1512	791	3444	1633	0	1291	0	0	1220	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85			85		43			10	
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		1627.5			843.2			233.6			476.4	
Travel Time (s)		73.2			37.9			14.0			28.6	
Peak Hour Factor	0.50	0.94	0.84	0.89	0.87	0.85	0.71	0.67	0.75	0.56	0.44	0.46
Heavy Vehicles (%)	0%	6%	8%	4%	6%	0%	3%	0%	2%	0%	0%	0%
Adj. Flow (vph)	16	594	85	82	783	68	108	12	76	152	16	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	594	85	82	783	68	0	196	0	0	192	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

2023 PM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	18.0	18.0		18.0	18.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	19.0	19.0		19.0	19.0	
Total Split (%)	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.5		3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.0			8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Act Effect Green (s)	15.8	15.8	15.8	15.8	15.8	15.8		10.8			10.8	
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37		0.26			0.26	
v/c Ratio	0.06	0.46	0.14	0.28	0.61	0.10		0.54			0.60	
Control Delay	8.8	11.1	3.1	11.8	12.8	2.4		19.0			25.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	8.8	11.1	3.1	11.8	12.8	2.4		19.0			25.5	
LOS	A	B	A	B	B	A		B			C	
Approach Delay		10.1			12.0			19.0			25.5	
Approach LOS		B			B			B			C	
90th %ile Green (s)	21.2	21.2	21.2	21.2	21.2	21.2	11.0	11.0		11.0	11.0	
90th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max		Max	Max	
70th %ile Green (s)	17.6	17.6	17.6	17.6	17.6	17.6	11.0	11.0		11.0	11.0	
70th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Max	Max		Max	Max	
50th %ile Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	11.0	11.0		11.0	11.0	
50th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Hold	Hold		Max	Max	
30th %ile Green (s)	13.5	13.5	13.5	13.5	13.5	13.5	10.6	10.6		10.6	10.6	
30th %ile Term Code	Hold	Hold	Hold	Gap	Gap	Gap	Hold	Hold		Gap	Gap	
10th %ile Green (s)	12.5	12.5	12.5	12.5	12.5	12.5	10.0	10.0		10.0	10.0	
10th %ile Term Code	Dwell	Dwell	Dwell	Dwell	Dwell	Dwell	Min	Min		Min	Min	
Stops (vph)	7	372	13	49	490	9		92			77	
Fuel Used(l)	1	98	10	8	80	4		8			9	
CO Emissions (g/hr)	28	1815	186	155	1488	83		147			163	
NOx Emissions (g/hr)	5	350	36	30	287	16		28			31	
VOC Emissions (g/hr)	6	419	43	36	343	19		34			38	
Dilemma Vehicles (#)	0	65	0	0	79	0		16			11	
Queue Length 50th (m)	0.7	16.4	0.0	4.0	23.1	0.0		9.0			11.1	
Queue Length 95th (m)	1.7	25.6	4.5	10.7	33.4	3.3		17.5			12.1	
Internal Link Dist (m)		1603.5			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0						
Base Capacity (vph)	598	3081	1361	707	3081	1469		370			327	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	

Lanes, Volumes, Timings

6: 124 Street/Range Road 64 & 100 Avenue

2023 PM Existing

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.03	0.19	0.06	0.12	0.25	0.05		0.53			0.59	

Intersection Summary

Area Type: Other

Cycle Length: 64

Actuated Cycle Length: 42.2

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 54.8%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 47.7

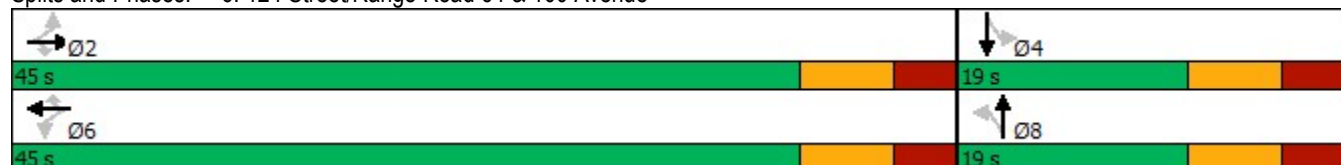
70th %ile Actuated Cycle: 44.1

50th %ile Actuated Cycle: 41.5

30th %ile Actuated Cycle: 39.6

10th %ile Actuated Cycle: 38






















Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue



Lanes, Volumes, Timings













6: 124 Street/Range Road 64 & 100 Avenue

2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	791	71	39	527	24	52	6	64	11	0	0
Future Volume (vph)	4	866	247	563	709	24	122	6	279	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.905				
Flt Protected	0.950			0.950				0.987			0.950	
Satd. Flow (prot)	1825	3476	1585	1772	3349	1570	0	1600	0	0	1674	0
Flt Permitted	0.320			0.258				0.900			0.364	
Satd. Flow (perm)	615	3476	1585	481	3349	1570	0	1459	0	0	642	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			374			85		112				
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		1627.5			843.2			233.6			476.4	
Travel Time (s)		73.2			37.9			14.0			28.6	
Peak Hour Factor	0.33	0.86	0.66	0.46	0.83	0.67	0.87	0.50	0.76	0.46	0.46	0.46
Heavy Vehicles (%)	0%	5%	3%	3%	9%	4%	6%	0%	8%	9%	0%	0%
Adj. Flow (vph)	12	1007	374	1224	854	36	140	12	367	24	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1007	374	1224	854	36	0	519	0	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue













2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	18.0	18.0		18.0	18.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	19.0	19.0		19.0	19.0	
Total Split (%)	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.5		3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.0			8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Act Effect Green (s)	37.5	37.5	37.5	37.5	37.5	37.5		11.0			11.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59	0.59		0.17			0.17	
v/c Ratio	0.03	0.49	0.35	4.36	0.44	0.04		1.51			0.22	
Control Delay	6.0	8.8	1.8	1529.7	8.2	0.3		267.0			28.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	6.0	8.8	1.8	1529.7	8.2	0.3		267.0			28.5	
LOS	A	A	A	F	A	A		F			C	
Approach Delay		6.9			889.0			267.0			28.5	
Approach LOS		A			F			F			C	
90th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
70th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
70th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Hold	Hold	
50th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
50th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Hold	Hold	
30th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Hold	Hold	
10th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
10th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Hold	Hold	
Stops (vph)	2	462	16	723	358	1		245			11	
Fuel Used(l)	1	143	33	742	72	2		100			1	
CO Emissions (g/hr)	12	2665	612	13794	1341	31		1856			20	
NOx Emissions (g/hr)	2	514	118	2662	259	6		358			4	
VOC Emissions (g/hr)	3	615	141	3181	309	7		428			5	
Dilemma Vehicles (#)	0	68	0	0	56	0		21			1	
Queue Length 50th (m)	0.5	32.4	0.0	~248.4	26.1	0.0		~77.0			2.5	
Queue Length 95th (m)	0.8	41.8	1.4	#127.4	32.8	0.0		#45.8			4.1	
Internal Link Dist (m)		1603.5			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0						
Base Capacity (vph)	360	2036	1083	281	1962	955		343			110	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	

Lanes, Volumes, Timings

6: 124 Street/Range Road 64 & 100 Avenue

2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.03	0.49	0.35	4.36	0.44	0.04		1.51			0.22	

Intersection Summary

Area Type: Other

Cycle Length: 64

Actuated Cycle Length: 64

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 4.36

Intersection Signal Delay: 500.8

Intersection LOS: F

Intersection Capacity Utilization 53.7%

ICU Level of Service A

Analysis Period (min) 15

90th %ile Actuated Cycle: 64

70th %ile Actuated Cycle: 64

50th %ile Actuated Cycle: 64

30th %ile Actuated Cycle: 64

10th %ile Actuated Cycle: 64





~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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






















Queue shown is maximum after two cycles.

Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue

 Ø2	 Ø4
45 s	19 s
 Ø6	 Ø8
45 s	19 s













Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	711	71	71	868	58	77	8	57	83	7	11
Future Volume (vph)	8	1009	256	631	1062	58	362	8	918	83	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.905			0.983	
Flt Protected	0.950			0.950				0.986			0.962	
Satd. Flow (prot)	1825	3444	1512	1755	3444	1633	0	1676	0	0	1817	0
Flt Permitted	0.186			0.234				0.865			0.399	
Satd. Flow (perm)	357	3444	1512	432	3444	1633	0	1470	0	0	753	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			305			85		96			10	
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		1627.5			843.2			233.6			476.4	
Travel Time (s)		73.2			37.9			14.0			28.6	
Peak Hour Factor	0.50	0.94	0.84	0.89	0.87	0.85	0.71	0.67	0.75	0.56	0.44	0.46
Heavy Vehicles (%)	0%	6%	8%	4%	6%	0%	3%	0%	2%	0%	0%	0%
Adj. Flow (vph)	16	1073	305	709	1221	68	510	12	1224	148	16	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1073	305	709	1221	68	0	1746	0	0	188	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue












2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	32.5	32.5	32.5	32.5	32.5	32.5	18.0	18.0		18.0	18.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0	45.0	19.0	19.0		19.0	19.0	
Total Split (%)	70.3%	70.3%	70.3%	70.3%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.5		3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.0			8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min	Min	Min	Min	Min	None	None		None	None	
Act Effect Green (s)	37.5	37.5	37.5	37.5	37.5	37.5		11.0			11.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59	0.59		0.17			0.17	
v/c Ratio	0.08	0.53	0.30	2.80	0.61	0.07		5.26			1.37	
Control Delay	6.9	9.2	1.7	837.4	10.1	1.4		1933.2			233.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	6.9	9.2	1.7	837.4	10.1	1.4		1933.2			233.7	
LOS	A	A	A	F	B	A		F			F	
Approach Delay		7.5			303.4			1933.2			233.7	
Approach LOS		A			F			F			F	
90th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
90th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
70th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
70th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
50th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
50th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
30th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
30th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
10th %ile Green (s)	37.5	37.5	37.5	37.5	37.5	37.5	11.0	11.0		11.0	11.0	
10th %ile Term Code	Hold	Hold	Hold	Max	Max	Max	Max	Max		Max	Max	
Stops (vph)	5	556	18	571	625	5		1930			71	
Fuel Used(l)	1	168	34	481	115	4		2004			25	
CO Emissions (g/hr)	25	3130	636	8952	2132	78		37284			458	
NOx Emissions (g/hr)	5	604	123	1728	411	15		7196			88	
VOC Emissions (g/hr)	6	722	147	2065	492	18		8599			106	
Dilemma Vehicles (#)	0	79	0	0	83	0		19			5	
Queue Length 50th (m)	0.7	35.4	0.0	~120.9	43.2	0.0		~401.6			~29.5	
Queue Length 95th (m)	1.6	49.4	6.3	#177.2	56.2	2.7		#341.4			#21.4	
Internal Link Dist (m)		1603.5			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0						
Base Capacity (vph)	209	2017	1012	253	2017	992		332			137	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	

Lanes, Volumes, Timings

6: 124 Street/Range Road 64 & 100 Avenue

2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio	0.08	0.53	0.30	2.80	0.61	0.07		5.26			1.37	

Intersection Summary

Area Type: Other

Cycle Length: 64

Actuated Cycle Length: 64

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 5.26

Intersection Signal Delay: 757.8

Intersection LOS: F

Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15

90th %ile Actuated Cycle: 64

70th %ile Actuated Cycle: 64

50th %ile Actuated Cycle: 64

30th %ile Actuated Cycle: 64

10th %ile Actuated Cycle: 64





~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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






















Queue shown is maximum after two cycles.

Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue

 Ø2	 Ø4
45 s	19 s
 Ø6	 Ø8
45 s	19 s













Lanes, Volumes, Timings
3: Range Road 65/132 Street & Highway 43/100 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	780	24	128	432	1	18	0	70	0	0	0
Future Volume (vph)	0	948	94	310	485	1	60	0	145	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		140.0	100.0		50.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected				0.950				0.950				
Satd. Flow (prot)	1883	3544	1408	1738	3318	1633	0	1267	1361	0	1883	0
Flt Permitted				0.115				0.757				
Satd. Flow (perm)	1883	3544	1408	210	3318	1633	0	1010	1361	0	1883	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188			18			191			
Link Speed (k/h)		100			100			60			60	
Link Distance (m)		505.6			962.6			68.1			284.7	
Travel Time (s)		18.2			34.7			4.1			17.1	
Peak Hour Factor	0.92	0.82	0.50	0.61	0.84	0.25	0.38	0.92	0.76	0.92	0.92	0.92
Heavy Vehicles (%)	2%	3%	16%	5%	10%	0%	44%	2%	20%	2%	2%	2%
Adj. Flow (vph)	0	1156	188	508	577	4	158	0	191	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1156	188	508	577	4	0	158	191	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm			
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings
3: Range Road 65/132 Street & Highway 43/100 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	3	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	36.0	36.0	36.0	29.0	65.0	65.0	25.0	25.0	25.0	25.0	25.0	
Total Split (%)	40.0%	40.0%	40.0%	32.2%	72.2%	72.2%	27.8%	27.8%	27.8%	27.8%	27.8%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Act Effect Green (s)		30.2	30.2	57.7	57.7	57.7		16.9	16.9			
Actuated g/C Ratio		0.36	0.36	0.69	0.69	0.69		0.20	0.20			
v/c Ratio		0.90	0.30	0.90	0.25	0.00		0.77	0.45			
Control Delay		37.9	4.7	42.9	5.6	0.0		58.3	8.3			
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0			
Total Delay		37.9	4.7	42.9	5.6	0.0		58.3	8.3			
LOS		D	A	D	A	A		E	A			
Approach Delay		33.3			23.0			30.9				
Approach LOS		C			C			C				
Queue Length 50th (m)		98.3	0.0	66.4	17.5	0.0		25.1	0.0			
Queue Length 95th (m)		111.1	0.0	55.4	23.0	0.0		#52.7	9.0			
Internal Link Dist (m)		481.6			938.6			44.1			260.7	
Turn Bay Length (m)			140.0	100.0		50.0			30.0			
Base Capacity (vph)		1353	654	598	2433	1202		251	481			
Starvation Cap Reductn		0	0	0	0	0		0	0			
Spillback Cap Reductn		0	0	0	0	0		0	0			
Storage Cap Reductn		0	0	0	0	0		0	0			
Reduced v/c Ratio		0.85	0.29	0.85	0.24	0.00		0.63	0.40			

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 29.0

Intersection LOS: C

Intersection Capacity Utilization 44.1%

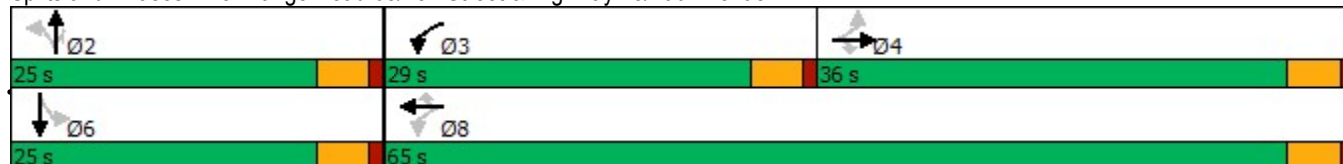
ICU Level of Service A

Analysis Period (min) 15

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

























Queue shown is maximum after two cycles.

Splits and Phases: 3: Range Road 65/132 Street & Highway 43/100 Avenue















Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	791	71	39	527	24	52	6	64	11	0	0
Future Volume (vph)	4	902	164	563	709	24	105	6	242	11	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	150.0		100.0	100.0		0.0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950	0.961		0.950		
Satd. Flow (prot)	1825	3476	1585	3437	3349	1570	1636	1672	1512	1674	1921	0
Flt Permitted	0.331			0.103			0.430	0.434		0.712		
Satd. Flow (perm)	636	3476	1585	373	3349	1570	740	755	1512	1255	1921	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			248			153			318			
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		664.9			843.2			233.6			476.4	
Travel Time (s)		29.9			37.9			14.0			28.6	
Peak Hour Factor	0.33	0.86	0.66	0.46	0.83	0.67	0.87	0.50	0.76	0.46	0.46	0.46
Heavy Vehicles (%)	0%	5%	3%	3%	9%	4%	6%	0%	8%	9%	0%	0%
Adj. Flow (vph)	12	1049	248	1224	854	36	121	12	318	24	0	0
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1049	248	1224	854	36	67	66	318	24	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm		
Protected Phases	5	2		1	6		3	8			4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	3	8	8	4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	9.5	32.5	32.5	9.5	32.5	32.5	9.5	18.0	18.0	18.0	18.0	
Total Split (s)	9.5	38.4	38.4	34.0	62.9	62.9	9.6	27.6	27.6	18.0	18.0	
Total Split (%)	9.5%	38.4%	38.4%	34.0%	62.9%	62.9%	9.6%	27.6%	27.6%	18.0%	18.0%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	3.5	3.5	3.5	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	7.5	7.5	4.5	7.5	7.5	4.5	8.0	8.0	8.0	8.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Act Effect Green (s)	38.9	30.9	30.9	68.0	63.2	63.2	17.6	14.0	14.0	10.0		
Actuated g/C Ratio	0.41	0.33	0.33	0.72	0.67	0.67	0.19	0.15	0.15	0.11		
v/c Ratio	0.04	0.92	0.36	1.00	0.38	0.03	0.30	0.41	0.64	0.18		
Control Delay	9.5	45.9	5.1	51.8	8.7	0.0	35.9	44.0	10.7	44.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	9.5	45.9	5.1	51.8	8.7	0.0	35.9	44.0	10.7	44.0		
LOS	A	D	A	D	A	A	D	D	B	D		
Approach Delay		37.8			33.5			19.3			44.0	
Approach LOS		D			C			B			D	
Queue Length 50th (m)	0.6	92.4	0.0	93.2	27.3	0.0	11.0	11.3	0.0	4.0		
Queue Length 95th (m)	0.9	#136.5	2.4	44.3	56.8	0.0	22.1	12.6	9.3	6.0		
Internal Link Dist (m)		640.9			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0	150.0		100.0	100.0		
Base Capacity (vph)	324	1138	686	1226	2237	1099	222	206	566	132		
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	0.04	0.92	0.36	1.00	0.38	0.03	0.30	0.32	0.56	0.18		

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 94.6

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 33.4

Intersection LOS: C

Intersection Capacity Utilization 58.1%

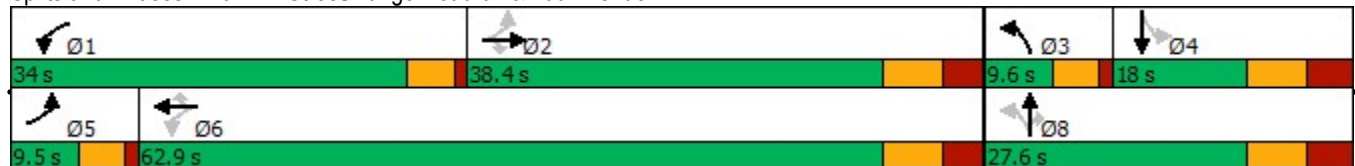
ICU Level of Service B

Analysis Period (min) 15

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






















Queue shown is maximum after two cycles.

Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue















Lanes, Volumes, Timings
9: 124 Street & 97 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	4	1	23	21	54	8	163	44	168	337	157
Future Volume (vph)	76	4	1	23	21	54	8	163	44	168	337	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Satd. Flow (prot)	1372	1555	0	1615	1618	0	1825	3334	0	1755	3422	0
Flt Permitted	0.682			0.750			0.364			0.573		
Satd. Flow (perm)	985	1555	0	1275	1618	0	699	3334	0	1058	3422	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			78			66			223	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		195.7			223.4			557.0			224.8	
Travel Time (s)		14.1			16.1			33.4			13.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.38	0.50	0.25	0.57	0.55	0.69	0.73	0.72	0.67	0.58	0.70	0.66
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	33%	25%	2%	13%	0%	10%	0%	6%	5%	4%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	12	0	40	116	0	11	292	0	290	719	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		27.0	27.0		27.0	27.0	
Total Split (%)	46.0%	46.0%		46.0%	46.0%		54.0%	54.0%		54.0%	54.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effect Green (s)	12.9	12.9		12.6	12.6		22.4	22.4		22.4	22.4	
Actuated g/C Ratio	0.32	0.32		0.31	0.31		0.56	0.56		0.56	0.56	
v/c Ratio	0.63	0.02		0.10	0.21		0.03	0.15		0.49	0.36	
Control Delay	22.4	8.8		11.0	6.0		7.9	6.0		13.1	5.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.4	8.8		11.0	6.0		7.9	6.0		13.1	5.9	

Lanes, Volumes, Timings
9: 124 Street & 97 Avenue

w RIROs
2048 AM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A		B	A		A	A		B	A	
Approach Delay		21.7			7.3			6.0			8.0	
Approach LOS		C			A			A			A	
Queue Length 50th (m)	11.7	0.4		1.9	1.8		0.4	4.5		14.1	10.7	
Queue Length 95th (m)	9.6	1.4		4.2	3.8		2.0	8.3		19.6	15.4	
Internal Link Dist (m)		171.7			199.4			533.0			200.8	
Turn Bay Length (m)	30.0			30.0			50.0			50.0		
Base Capacity (vph)	480	761		622	829		415	2005		628	2121	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.42	0.02		0.06	0.14		0.03	0.15		0.46	0.34	

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 40.2

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 9.3

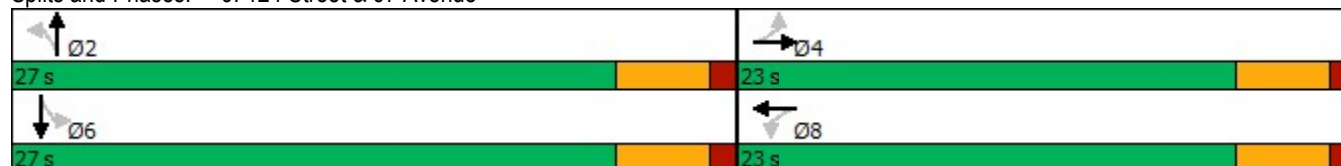
Intersection LOS: A





Intersection Capacity Utilization 40.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: 124 Street & 97 Avenue



Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	0	5	2	0	5	10	96	5	5	45	19
Future Vol, veh/h	41	0	5	2	0	78	10	96	5	276	47	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	0	5	2	0	85	11	104	5	300	51	41
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	843	803	72	803	821	107	92	0	0	109	0	0
Stage 1	672	672	-	129	129	-	-	-	-	-	-	-
Stage 2	171	131	-	674	692	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	284	317	990	302	309	947	1503	-	-	1481	-	-
Stage 1	445	454	-	875	789	-	-	-	-	-	-	-
Stage 2	831	788	-	444	445	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	214	247	990	249	241	947	1503	-	-	1481	-	-
Mov Cap-2 Maneuver	214	247	-	249	241	-	-	-	-	-	-	-
Stage 1	441	356	-	868	783	-	-	-	-	-	-	-
Stage 2	751	782	-	347	349	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	24.5		9.5		0.7		6.2					
HCM LOS	C		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1503	-	-	234	885	1481	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.214	0.098	0.203	-	-				
HCM Control Delay (s)	7.4	0	-	24.5	9.5	8	0	-				
HCM Lane LOS	A	A	-	C	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.8	0.3	0.8	-	-				

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Traffic Vol, veh/h	0	0	5	0	0	45	0	290	3	0	657	150
Future Vol, veh/h	0	0	5	0	0	45	0	290	3	0	657	150
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	0	0	49	0	315	3	0	714	163

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	357	-	-	159	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	639	0	0	858	0	-	-	0	-	0
Stage 1	0	0	-	0	0	-	0	-	-	0	-	0
Stage 2	0	0	-	0	0	-	0	-	-	0	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	-	-	639	-	-	858	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-




Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.7		9.4		0		0	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT
Capacity (veh/h)	-	-	639 858	-
HCM Lane V/C Ratio	-	-	0.009 0.057	-
HCM Control Delay (s)	-	-	10.7 9.4	-
HCM Lane LOS	-	-	B A	-
HCM 95th %tile Q(veh)	-	-	0 0.2	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↰			↰	
Traffic Vol, veh/h	0	1	3	0	1	3	0	80	2	0	102	40
Future Vol, veh/h	0	1	3	0	1	3	0	197	2	0	354	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	3	0	1	3	0	214	2	0	385	43
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	623	407	-	643	215	-	0	0	-	-	0
Stage 1	-	407	-	-	215	-	-	-	-	-	-	-
Stage 2	-	216	-	-	428	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	-	6.52	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	-	4.018	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	402	644	0	392	825	0	-	-	0	-	-
Stage 1	0	597	-	0	725	-	0	-	-	0	-	-
Stage 2	0	724	-	0	585	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	402	644	-	392	825	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	402	-	-	392	-	-	-	-	-	-	-
Stage 1	-	597	-	-	725	-	-	-	-	-	-	-
Stage 2	-	724	-	-	585	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.5		10.6		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR EBLn1WBLn1		SBT SBR							
Capacity (veh/h)	-		560 646		-							
HCM Lane V/C Ratio	-		0.008 0.007		-							
HCM Control Delay (s)	-		11.5 10.6		-							
HCM Lane LOS	-		B B		-							
HCM 95th %tile Q(veh)	-		0 0		-							

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	2	12	87	61	45
Future Vol, veh/h	10	2	12	204	313	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	2	13	222	340	49

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	613	365	389
Stage 1	365	-	-
Stage 2	248	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	456	680	1170
Stage 1	702	-	-
Stage 2	793	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	450	680	1170
Mov Cap-2 Maneuver	450	-	-
Stage 1	693	-	-
Stage 2	793	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1170	-	477	-	-
HCM Lane V/C Ratio	0.011	-	0.027	-	-
HCM Control Delay (s)	8.1	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-






















Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	850	0	0	579	0	0
Future Vol, veh/h	1018	75	0	814	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1107	82	0	885	0	39
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	595
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	447
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	447
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		13.8	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBT	
Capacity (veh/h)	447		-	-	-	
HCM Lane V/C Ratio	0.088		-	-	-	
HCM Control Delay (s)	13.8		-	-	-	
HCM Lane LOS	B		-	-	-	
HCM 95th %tile Q(veh)	0.3		-	-	-	

Lanes, Volumes, Timings

w RIROs













3: Range Road 65/132 Street & Highway 43/100 Avenue

2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	617	20	63	941	1	26	0	134	0	0	2
Future Volume (vph)	0	783	103	257	1156	1	196	0	581	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		140.0	100.0		50.0	0.0		30.0	0.0		0.0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.865	
Flt Protected				0.950				0.950				
Satd. Flow (prot)	1883	3444	1420	1690	3476	1633	0	1755	1617	0	1662	0
Flt Permitted				0.181				0.755				
Satd. Flow (perm)	1883	3444	1420	322	3476	1633	0	1395	1617	0	1662	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			27			675		109	
Link Speed (k/h)		100			100			60			60	
Link Distance (m)		505.6			962.6			68.1			284.7	
Travel Time (s)		18.2			34.7			4.1			17.1	
Peak Hour Factor	0.92	0.90	0.71	0.75	0.95	0.25	0.50	0.92	0.64	0.50	0.50	0.50
Heavy Vehicles (%)	2%	6%	15%	8%	5%	0%	4%	2%	1%	2%	2%	0%
Adj. Flow (vph)	0	870	145	343	1217	4	392	0	908	0	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	870	145	343	1217	4	0	392	908	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Free		NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings
3: Range Road 65/132 Street & Highway 43/100 Avenue

w RIROs
2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		Free	6		
Detector Phase	4	4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	22.6	22.6	22.6	14.0	36.6	36.6	23.4	23.4		23.4	23.4	
Total Split (%)	37.7%	37.7%	37.7%	23.3%	61.0%	61.0%	39.0%	39.0%		39.0%	39.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5			4.5	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	None	None	None	None	None	None	C-Max	C-Max		C-Max	C-Max	
Act Effect Green (s)		17.6	17.6	31.6	31.6	31.6		19.4	60.0		19.4	
Actuated g/C Ratio		0.29	0.29	0.53	0.53	0.53		0.32	1.00		0.32	
v/c Ratio		0.86	0.28	0.89	0.66	0.00		0.87	0.56		0.01	
Control Delay		30.7	5.0	40.0	12.4	0.0		43.1	1.4		0.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay		30.7	5.0	40.0	12.4	0.0		43.1	1.4		0.0	
LOS		C	A	D	B	A		D	A		A	
Approach Delay		27.0			18.4			14.0				
Approach LOS		C			B			B				
Queue Length 50th (m)		46.4	0.0	21.2	45.6	0.0		40.4	0.0		0.0	
Queue Length 95th (m)		#74.9	5.3	#41.7	63.8	0.0		#85.3	0.0		0.0	
Internal Link Dist (m)		481.6			938.6			44.1			260.7	
Turn Bay Length (m)			140.0	100.0		50.0			30.0			
Base Capacity (vph)		1038	529	385	1859	886		450	1617		610	
Starvation Cap Reductn		0	0	0	0	0		0	0		0	
Spillback Cap Reductn		0	0	0	0	0		0	0		0	
Storage Cap Reductn		0	0	0	0	0		0	0		0	
Reduced v/c Ratio		0.84	0.27	0.89	0.65	0.00		0.87	0.56		0.01	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 19.2

Intersection LOS: B

Intersection Capacity Utilization 49.5%

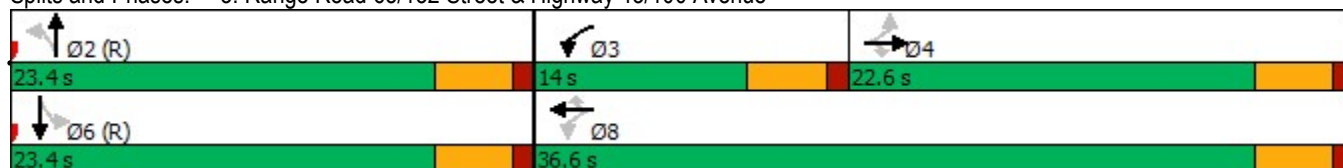
ICU Level of Service A

Analysis Period (min) 15

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

























Queue shown is maximum after two cycles.

Splits and Phases: 3: Range Road 65/132 Street & Highway 43/100 Avenue















Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

w RIROs
2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	711	71	71	868	58	77	8	57	83	7	11
Future Volume (vph)	8	1307	197	631	1062	58	292	8	620	83	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	100.0		120.0	100.0		100.0	150.0		100.0	100.0		0.0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (m)	25.0			25.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.910	
Flt Protected	0.950			0.950			0.950	0.955		0.950		
Satd. Flow (prot)	1825	3444	1512	3404	3444	1633	1683	1695	1601	1825	1748	0
Flt Permitted	0.201			0.087			0.429	0.416		0.625		
Satd. Flow (perm)	386	3444	1512	312	3444	1633	760	738	1601	1201	1748	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235			153			298		24	
Link Speed (k/h)		80			80			60			60	
Link Distance (m)		664.9			843.2			233.6			476.4	
Travel Time (s)		29.9			37.9			14.0			28.6	
Peak Hour Factor	0.50	0.94	0.84	0.89	0.87	0.85	0.71	0.67	0.75	0.56	0.44	0.46
Heavy Vehicles (%)	0%	6%	8%	4%	6%	0%	3%	0%	2%	0%	0%	0%
Adj. Flow (vph)	16	1390	235	709	1221	68	411	12	827	148	16	24
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	16	1390	235	709	1221	68	210	213	827	148	40	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		20.0			20.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	

Lanes, Volumes, Timings
6: 124 Street/Range Road 64 & 100 Avenue

w RIROs
2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2		2	6		6	8		Free	4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0		5.0	10.0	
Minimum Split (s)	9.5	32.5	32.5	9.5	32.5	32.5	9.5	18.0		9.5	18.0	
Total Split (s)	9.5	46.3	46.3	21.1	57.9	57.9	13.9	23.0		9.6	18.7	
Total Split (%)	9.5%	46.3%	46.3%	21.1%	57.9%	57.9%	13.9%	23.0%		9.6%	18.7%	
Yellow Time (s)	3.5	4.5	4.5	3.5	4.5	4.5	3.5	4.5		3.5	4.5	
All-Red Time (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	3.5		1.0	3.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	7.5	7.5	4.5	7.5	7.5	4.5	8.0		4.5	8.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	
Act Effect Green (s)	46.8	38.8	38.8	62.9	56.1	56.1	27.4	21.8	99.4	13.6	10.4	
Actuated g/C Ratio	0.47	0.39	0.39	0.63	0.56	0.56	0.28	0.22	1.00	0.14	0.10	
v/c Ratio	0.06	1.03	0.32	0.99	0.63	0.07	0.58	0.75	0.52	0.76	0.20	
Control Delay	8.9	64.7	4.0	60.7	17.4	0.1	38.2	54.9	1.2	59.8	25.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	8.9	64.7	4.0	60.7	17.4	0.1	38.2	54.9	1.2	59.8	25.1	
LOS	A	E	A	E	B	A	D	D	A	E	C	
Approach Delay		55.4			32.2			16.6			52.4	
Approach LOS		E			C			B			D	
Queue Length 50th (m)	1.1	~154.1	0.0	55.5	71.8	0.0	35.1	~38.1	0.0	22.4	2.8	
Queue Length 95th (m)	1.9	#195.0	11.0	#91.5	109.2	0.0	43.2	#49.6	0.0	22.8	3.7	
Internal Link Dist (m)		640.9			819.2			209.6			452.4	
Turn Bay Length (m)	100.0		120.0	100.0		100.0	150.0		100.0	100.0		
Base Capacity (vph)	254	1345	733	714	1944	988	360	289	1601	196	209	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.06	1.03	0.32	0.99	0.63	0.07	0.58	0.74	0.52	0.76	0.19	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99.4

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 36.6

Intersection LOS: D

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Lanes, Volumes, Timings
 6: 124 Street/Range Road 64 & 100 Avenue






















w RIROs
 2048 PM Full Build

Splits and Phases: 6: 124 Street/Range Road 64 & 100 Avenue















Lanes, Volumes, Timings
9: 124 Street & 97 Avenue

w RIROs
2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	314	158	3	51	4	188	5	339	33	295	160	222
Future Volume (vph)	314	158	3	51	4	188	5	339	33	295	160	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Satd. Flow (prot)	1789	1874	0	1825	1643	0	1789	3529	0	1738	3192	0
Flt Permitted	0.299			0.562			0.267			0.175		
Satd. Flow (perm)	563	1874	0	1080	1643	0	503	3529	0	320	3192	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			232			10			888	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		195.7			223.4			557.0			224.8	
Travel Time (s)		14.1			16.1			33.4			13.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.50	0.50	0.25	0.58	0.50	0.81	0.92	0.71	0.59	0.73	0.88	0.25
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	2%	2%	0%	5%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	628	328	0	88	240	0	5	533	0	404	1070	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		22.5	22.5		9.5	22.5	
Total Split (s)	37.0	49.0		10.6	22.6		24.4	24.4		26.0	50.4	
Total Split (%)	33.6%	44.5%		9.6%	20.5%		22.2%	22.2%		23.6%	45.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	None		None	None		Min	Min		None	Min	
Act Effect Green (s)	45.1	36.7		14.1	8.0		18.4	18.4		44.5	44.5	
Actuated g/C Ratio	0.46	0.37		0.14	0.08		0.19	0.19		0.45	0.45	
v/c Ratio	0.95	0.47		0.44	0.69		0.05	0.80		0.89	0.56	
Control Delay	50.0	27.1		27.8	17.8		36.0	47.9		48.1	4.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.0	27.1		27.8	17.8		36.0	47.9		48.1	4.5	

Lanes, Volumes, Timings
9: 124 Street & 97 Avenue

w RIROs
2048 PM Full Build

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C		C	B		D	D		D	A	
Approach Delay		42.2			20.5			47.8			16.4	
Approach LOS		D			C			D			B	
Queue Length 50th (m)	102.1	49.6		9.6	1.5		0.8	49.2		56.7	9.8	
Queue Length 95th (m)	59.2	36.1		11.3	0.0		4.1	55.2		#79.8	22.6	
Internal Link Dist (m)		171.7			199.4			533.0			200.8	
Turn Bay Length (m)	30.0			30.0			50.0			50.0		
Base Capacity (vph)	662	848		200	491		101	721		454	1962	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.95	0.39		0.44	0.49		0.05	0.74		0.89	0.55	

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 98.6

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 29.4

Intersection LOS: C

Intersection Capacity Utilization 71.0%

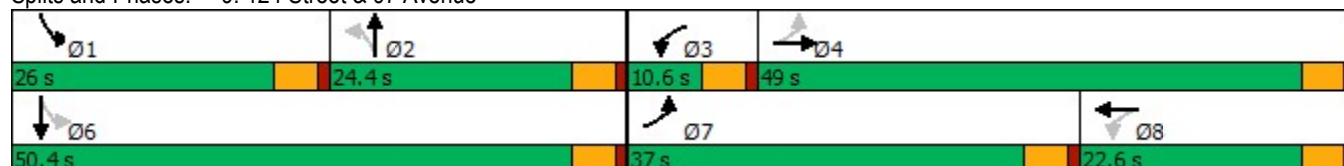
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: 124 Street & 97 Avenue



Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	0	5	2	0	5	10	60	5	5	92	41
Future Vol, veh/h	45	0	5	2	0	265	10	62	5	78	92	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	0	5	2	0	288	11	67	5	85	100	48
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	530	388	124	389	410	70	148	0	0	72	0	0
Stage 1	294	294	-	92	92	-	-	-	-	-	-	-
Stage 2	236	94	-	297	318	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	547	927	570	531	993	1434	-	-	1528	-	-
Stage 1	714	670	-	915	819	-	-	-	-	-	-	-
Stage 2	767	817	-	712	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	310	509	927	537	494	993	1434	-	-	1528	-	-
Mov Cap-2 Maneuver	310	509	-	537	494	-	-	-	-	-	-	-
Stage 1	708	629	-	908	812	-	-	-	-	-	-	-
Stage 2	540	810	-	665	614	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	18		10.2			1			2.7			
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1434	-	-	332	987	1528	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.164	0.294	0.055	-	-				
HCM Control Delay (s)	7.5	0	-	18	10.2	7.5	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.6	1.2	0.2	-	-				

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕			↕	
Traffic Vol, veh/h	0	0	5	4	0	25	0	831	5	0	673	221
Future Vol, veh/h	0	0	5	4	0	25	0	831	5	0	673	221
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	4	0	27	0	903	5	0	732	240
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	366	1272	-	454	-	0	0	-	-	0
Stage 1	-	-	-	906	-	-	-	-	-	-	-	-
Stage 2	-	-	-	366	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	7.54	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	6.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.52	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	631	125	0	553	0	-	-	0	-	0
Stage 1	0	0	-	297	0	-	0	-	-	0	-	0
Stage 2	0	0	-	626	0	-	0	-	-	0	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	631	124	-	553	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	124	-	-	-	-	-	-	-	-
Stage 1	-	-	-	297	-	-	-	-	-	-	-	-
Stage 2	-	-	-	621	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		11.8		0		0					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBT		NBR EBLn1WBLn1		SBT							
Capacity (veh/h)	-		631 553		-							
HCM Lane V/C Ratio	-		0.009 0.049		-							
HCM Control Delay (s)	-		10.8 11.8		-							
HCM Lane LOS	-		B B		-							
HCM 95th %tile Q(veh)	-		0 0.2		-							




Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱			↱			↱	
Traffic Vol, veh/h	0	1	3	0	1	3	0	122	1	0	79	3
Future Vol, veh/h	0	1	3	0	1	3	0	739	1	0	356	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	3	0	1	3	0	803	1	0	387	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	1193	389	-	1194	804	-	0	0	-	-	0
Stage 1	-	389	-	-	804	-	-	-	-	-	-	-
Stage 2	-	804	-	-	390	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	-	6.52	6.22	-	-	-	-	-	-
Critical Hdwy Stg 1	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	-	4.018	3.318	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	187	659	0	187	383	0	-	-	0	-	-
Stage 1	0	608	-	0	396	-	0	-	-	0	-	-
Stage 2	0	396	-	0	608	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	187	659	-	187	383	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	187	-	-	187	-	-	-	-	-	-	-
Stage 1	-	608	-	-	396	-	-	-	-	-	-	-
Stage 2	-	396	-	-	608	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	14		17.1		0		0					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBT		NBR EBLn1WBLn1		SBT		SBR					
Capacity (veh/h)	-		404 303		-		-					
HCM Lane V/C Ratio	-		0.011 0.014		-		-					
HCM Control Delay (s)	-		14 17.1		-		-					
HCM Lane LOS	-		B C		-		-					
HCM 95th %tile Q(veh)	-		0 0		-		-					

HCM 6th TWSC
31: Range Road 65 & 713068 Range Road 65

w RIROs
2048 PM Full Build

Intersection

Int Delay, s/veh 2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	70	2	8	91	82	2
Future Vol, veh/h	70	2	8	708	359	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	76	2	9	770	390	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1179	391	392
Stage 1	391	-	-
Stage 2	788	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	211	658	1167
Stage 1	683	-	-
Stage 2	448	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	208	658	1167
Mov Cap-2 Maneuver	208	-	-
Stage 1	674	-	-
Stage 2	448	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.6	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	212	-	-
HCM Lane V/C Ratio	0.007	-	0.369	-	-
HCM Control Delay (s)	8.1	0	31.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	1.6	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱			↑↑		↱
Traffic Vol, veh/h	751	0	0	945	0	0
Future Vol, veh/h	1324	40	0	1354	0	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1439	43	0	1472	0	162
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	741
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	359
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	359
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		23	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	359	-	-	-		
HCM Lane V/C Ratio	0.451	-	-	-		
HCM Control Delay (s)	23	-	-	-		
HCM Lane LOS	C	-	-	-		
HCM 95th %tile Q(veh)	2.3	-	-	-		

APPENDIX D

What We Heard Summary

October 5th, 2023

McElhanney File: 2131-00685-00

For Information Only

RE: TRANSPORTATION STUDY – PHASE 2: WHAT WE HEARD SUMMARY

Summary

The City of Grande Prairie and the County of Grande Prairie have hired McElhanney to conduct a Transportation Study for a section of land split equally between the City and County (20-71-6-W6). McElhanney previously organized Phase I public engagement in June 2023. Based on engagement findings and further review, McElhanney revised the transportation study and organized Phase 2 of public engagement in September 2023. Phase 2 included an open house and an online survey.

Open house attendees discussed several themes. These include:

- Silver Pointe residents concern about industrial development in the area and believe the City and County are planning for industrial growth without community involvement; and
- The proposed transportation map is appropriate for the study area.

Survey respondents further highlighted several topics in their responses. These include:

- The proposed transportation concept plan adequately addresses connectivity, intersection and road upgrades, and general transportation within the study area;
- Areas of concern include maintenance along Rge Rd 64, the financial costs of implementing transportation improvements, and the impact traffic noise will have on neighbouring properties; and
- Silver Pointe respondents do not feel the transportation study appropriately considers residents' perspectives and attitudes towards industrial development in the study area.

Open House

McElhanney hosted a second open house on Thursday, September 21st, 2023, from 5 to 7 PM at the Ernie Radbourne Pavilion in Muskoseepi Park. The open house was advertised through the Engage City of Grande Prairie project page, the City of Grande Prairie website, the County of Grande Prairie website, social media, an email newsletter, and a mail-out.

During the event, 16 people attended. This included residents from the City and the County. McElhanney, City, and County staff discussed the revised transportation study with attendees. Attendees could also use sticky notes to provide additional written comments.

Open House Findings

Attendees were generally focused on the proposed transportation concept plan and was there mostly for information. Open House attendees did not leave any comments using sticky notes nor had any objections to the proposed plan.

Online Survey

The online survey was open to the public from September 6th to September 30th, 2023. The survey was promoted through the Engage City of Grande Prairie project page, the City of Grande Prairie website, the County of Grande Prairie website, social media, an email newsletter, and a mail-out.

The survey received 54 responses. Of these responses, there was almost an equal split between City residents (29, 54%) and County residents (25, 46%).

- A majority (34, 63%) do not live, work, or own property within the study area.
- Comparatively, 12 respondents (22%) live in the study area,
- 5 respondents (9%) work in the study area,
- 6 respondents (11%) own property in the study area (with 3 respondents (5%) living and owning property in the study area).

Most respondents:

- travel through the study area daily (23, 43%).
- A lesser number travel through the study area weekly (10, 18%),
- monthly (17, 31%), or yearly (3, 6%).
- A single respondent never travels through the study area (1, 2%).

Online Survey Findings

The survey asked respondents to review the proposed study area transportation plan and comment on specific transportation elements, including connectivity, intersection improvements, road upgrades, and general transportation. In general, City residents were more receptive towards the transportation plan, while County residents were less receptive of the proposed plan. For a list of all survey responses, please see **Appendix A: Survey Data**. For a copy of the proposed study area transportation map, please see **Appendix B: Transportation Map**.

Connectivity

Respondents overwhelmingly feel the proposed transportation map addresses connectivity within the study area (50 (93%) to 4 (7%)). Connectivity concerns include a lack of connections between Rge Rd 64 and Rge Rd 65 and between the study area and Tp Rd 712A. Respondents also mention that overall connectivity should be increased to mitigate traffic, especially along Silver Pointe Dr through the Silver Pointe community.



Intersection Improvements

Respondents overwhelmingly feel the proposed transportation map addresses intersection improvements within the study area (48 (91%) to 5 (9%)). Intersection improvement concerns focus on topics outside the study area, including the Rg Rd 64 and Tp Rd 712A intersection. Other respondents were concerned about the financial cost of intersection improvements and the role intersection improvements play in reducing vehicle speed and traffic noise. Some respondents also find the proposed transportation map confusing to understand.

Road Upgrades

Many respondents feel the proposed transportation map addresses road upgrades within the study area (41 (77%) to 12 (23%)). Road upgrade concerns highlight maintenance, including paving, on Rge Rd 64 as a priority. Respondents also believe 97 Ave requires improved maintenance outside the study area between 116 St and 124 St. Other respondents are concerned about road upgrade costs and believe the transportation study should use straight instead of curved roads. Some respondents also find the proposed transportation map confusing to understand.

General Transportation

Many respondents feel the proposed transportation map considered everything related to transportation in the study area (37 (70%) to 16 (30%)). General transportation concerns include the perceived negative impacts of transit, the lack of consideration for vehicle noise, and poor crossing maintenance at the railway crossing south of the study area along Rge Rd 64. Other respondents feel the study does not appropriately consider the Silver Pointe community, as discussed below.

Major Theme: Silver Pointe Community

In discussing the proposed transportation map, many respondents feel the City and County are imposing industrial development on the Silver Pointe community and failing to consider residents' opinions or perspectives in the study process. Respondents highlight how industrial traffic and noise will reduce quality of life and safety within the community. They mention how industrial development will negatively impact property values and force people to leave the area. Some respondents understand the need for industrial development and encourage the City and County to promote growth in existing industrial subdivisions. These areas include Centre West Industrial Park and Clairmont, where development will not impact existing residential communities.

Other Comments

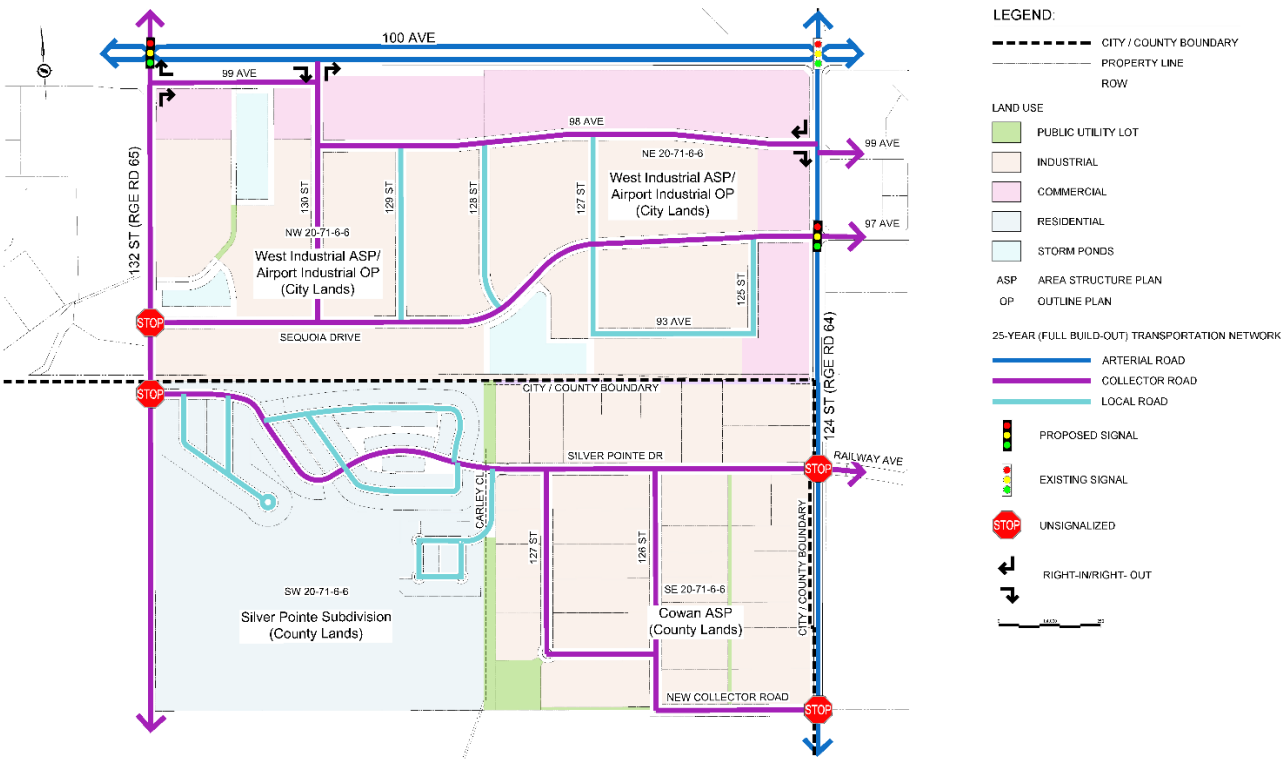
Respondents provided other comments about the transportation study. These include encouraging, and discouraging, traffic circles, reviewing snow dump policies and environmental considerations, and highlighting the airport's impact on transportation and traffic.

Appendix A: Survey Data

Please see attached PDF labelled 'Transportation Study Phase 2 Survey Results' from Bang the Table Engagement HQ.

Appendix B: Transportation Map





July 6th, 2023

McElhanney File: 21310068500

For Information Only

RE: TRANSPORTATION STUDY – PHASE I: WHAT WE HEARD SUMMARY

Summary

The City of Grande Prairie and the County of Grande Prairie have hired McElhanney to conduct a Transportation Study for a section of land split equally between the city and county (20-71-6-6). As part of this process, McElhanney organized an online survey and open house to gather public feedback.

Survey respondents highlight several themes in their responses. These include:

- Respondents use roads within the study area to access the Silver Pointe Mobile Home Park, the airport, and industrial businesses internal and external to the study area.
- The two most travelled routes in the study area include Hwy 43 and 124 St/Range Rd 64.
- Respondents feel the existing transportation network within the study area is generally adequate, though there is room for improvement.
- Silver Pointe residents feel the transportation study (and future industrial development) threatens their rural way of life. As such, they feel residents deserve additional consideration.
- The airport positively serves the community – while also negatively affecting travel along Hwy 43.
- Specific concerns surrounding speed limits, industrial traffic, and transit influence how survey respondents travel through the study area and their general attitude toward transportation.

Open house attendees had similar concerns to those outlined in the survey, including:

- The city and county can improve road safety and reduce vehicle nuisance in the study area by adding streetlights, road improvements, and by mitigating the effects of truck traffic.

Recommendations for future consideration include:

- Prioritize connectivity and route options for travellers moving through the study area and to/from the airport.
- Look at standardising speed limits along Hwy 43 and finding ways to improve AT and transit in the study area.
- Ensure roads are adequately maintained to support overall traffic flow, including industrial traffic. This includes making specific improvements to 124 St/Range Rd 64.

- Take a long-term perspective on transportation within the study area. Ensure decisions reflect future development potential and aren't limited to current assumptions and analysis. These decisions should involve specific Silver Pointe engagement.

Open House

McElhanney hosted an open house on Thursday, June 15th, 2023, from 5 to 7 PM at the Ernie Radbourne Pavilion in Muskoseepi Park. The open house was promoted online through the Engage City of Grande Prairie project page, on the City of Grande Prairie website, on social media, and through a mail-out.

During the event, 23 residents attended. This included 8 residents from the city and 7 residents from the county. The other 8 residents did not identify whether they lived in the city or county. McElhanney, city, and county staff discussed the transportation study with attendees. Attendees could also use sticky notes on printed maps of the study area to provide additional written comments.

Open House Comments

Attendee comments (written and verbal) focused on several major themes, including road maintenance, road safety, and vehicle nuisances.

Many comments concerned traffic and road maintenance on 124 St/Range Rd 64. Attendees indicated that the road is poorly maintained and features heavy truck traffic. One proposed solution was to pave the road. This would improve road quality while also reducing the negative effects of industrial traffic.

Attendees commented on how speed, illumination, and intersections affected road safety in the study area. Attendees saw inconsistent speed limits within the study area as affecting safety. They also discussed how a lack of street illumination along 124 St/Range Rd 64 was a concern for drivers. Lastly, they discussed how congestion at intersections along Hwy 43 could be improved, notably by limiting the number of uncontrolled crossings along the corridor.

Alongside road maintenance and road safety, attendees also discussed vehicle nuisances. This included vehicle noise along 97 Ave. and for Silver Pointe residents. Attendees were concerned that removing the green space north of Silver Pointe may exacerbate these issues.

Open house attendees presented personalised perspectives on transportation within the study area. Their comments support many survey findings and reflect an overall attitude towards the region. These perspectives deserve consideration throughout the transportation study process.

Survey Collection

The 'Transportation Study Survey' was open to the public from June 1st to June 30th, 2023. The survey was promoted online through the Engage City of Grande Prairie project page, on the City of Grande Prairie website, on social media, and through a mail-out.

The survey received 198 responses. Most respondents (131, 66%) live in the City, and 33% (64) live in the County. A majority (118, 60%) do not live, work, or own a business within the study area. Comparatively, 23% (46) live in the study area, 15% (30) work in the study area, and 15% (30) own



property in the study area (with 22 respondents living and working, living and owning property, or living, working, and owning property within the study area).

Major Themes

Methodology: The list of major themes was influenced by the number of times specific ideas were mentioned in survey responses. These themes emerged as a result of survey analysis. Some survey answers were counted in multiple themes if the survey discussed different ideas. For specific counts, please see Appendix A: Survey Data.

Current Use and Evaluation of Existing Transportation Systems

Many respondents use the transportation system within the study area daily or frequently, with many travelling through the area when leaving the city going west. Of all travel directions, western travel was the most mentioned, followed by eastern travel, southern travel, and northern travel. This indicates that many respondents primarily use the study area to travel east-west along Hwy 43, with a fewer number of respondents travelling north-south along 124 St/Range Rd 64 and 65.

The most popular destinations within and around the study area were the Silver Pointe community, the airport, and businesses within the study area and in the surrounding industrial parks. Respondents valued travelling through the study area because it has low traffic and connects to surrounding communities.

In general, respondents viewed the existing transportation network as good (71, 36%) or fair (63, 32%). A minority considered the network to be poor (31, 16%) or very poor (14, 7%), compared to a small number of respondents who considered the network to be excellent (16, 8%). This percentage spread indicates that, while there is room for improvement, the network is adequate for existing uses. As the area develops, however, the transportation system will need to improve to meet increased demand.

Potential Improvements to Transportation System

The most mentioned improvement requested by respondents to the study area's transportation system was upgrading 124 St/Range Rd 64. Specifically, survey comments focused on paving the road from Silver Pointe Dr to the train tracks north of Township Rd 712A and making general improvements to 124 St/Range Rd 64 between Hwy 43 and the airport. Respondents also mentioned a desire for general maintenance improvements to roads within the study area.

Silver Pointe Mobile Home Park

Many respondents indicated that they are residents of Silver Pointe Mobile Home Park. These residents interact with the transportation system in the study area daily and have a unique interest in the study's outcomes. Many felt that further development of the area, specifically to the north and east, endangered their rural way of life. In this way, some respondents were adjectively critical of the transportation study as an exercise in planning, with some believing the transportation study indicates a presupposed desire by the city and county to develop the area and increase industrial density. Throughout the transportation study and into the future, the city and county should treat Silver Pointe residents as stakeholders who will be uniquely affected by future development.

Speed Limits

Interestingly, many respondents were critical of the speed limit along Hwy 43. Survey responses highlighted changes in speed along the highway as confusing, dangerous, and frustrating. Some

responses went so far as to say that the varied speed limit was implemented as a funding source (through speeding tickets) for the government. As such, the city may wish to explore standardising the speed limit along this section of highway.

Airport

Excluding the Silver Pointe community, the Grande Prairie Airport was the most mentioned destination within and adjacent to the study area. Not only is the airport a significant destination for area, city, and county residents, but respondents see it as having a significant influence on transportation. Survey respondents believe airport traffic negatively affects travel conditions through the study area, specifically at the Hwy 43 and 124 St/Range Rd 64 intersection. The transportation study should account for this important regional destination and present potential intersection improvements to augment traffic efficiency.

Industrial Development and Traffic

There is significant industrial development within the study area and to the west (in Mountview Business Park) and east (along 97 Ave). Many survey respondents travel through the study area to access these industrial areas, while other respondents (specifically those who live in and around the study area) see the industrial areas as a source of nuisance traffic. This nuisance traffic includes loud and dirty trucks, dangerous drivers, and other associated challenges. Further, as the area develops through the West Industrial/Airport Industrial and Cowan subdivisions, industrial traffic will become an increasing concern. The transportation study should account for this industrial traffic and mitigate potential transportation concerns with industrial vehicles. If possible, transportation networks should separate industrial traffic from residential areas.

AT and Transit

While not a primary focus of survey respondents, many mentioned the importance of active transportation (AT) and transit within the study area. In the context of AT, this involved ensuring road design allowed for kids who take the bus to school, cyclists, and residents walking through their community. Survey responses dealing with transit primarily critiqued changes to the city's transit schedule, a lack of transit stops within the area, and limited opportunities for transit to the airport. While not a primary focus of the transportation study, AT and transit should be utilised as a means of reducing traffic, improving modal options, and connecting the study area to the greater community for non-drivers.

Future Considerations

In planning for future transportation within the study area, survey respondents highlight several aspects they believe should be prioritised. Alongside the recommendations presented above, many respondents believe the transportation study should highlight connectivity through the study area. This includes connectivity within the study area and accessibility to the highway and locations external to the study area. Respondents specifically discussed the need for more connectivity to western areas of the city.

Survey responses also highlighted road maintenance as an ongoing concern. Road maintenance included washboard gravel roads and potholes. These comments largely focused on internal roads, though many respondents had a negative opinion towards road maintenance throughout the city and county. The transportation study should account for the city and county's ability to maintain new roads

and consider how the city and county will incorporate newly developed roads into public works responsibilities.

Lastly, survey respondents encouraged the city and county to take a long-term view of transportation within the study area. Some respondents believe the city and county make decisions by focusing on short-term benefits and challenges. By taking a long-term view of transportation planning, the study area can be planned with growth and development in mind, thus reducing the need for changes in the future.

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