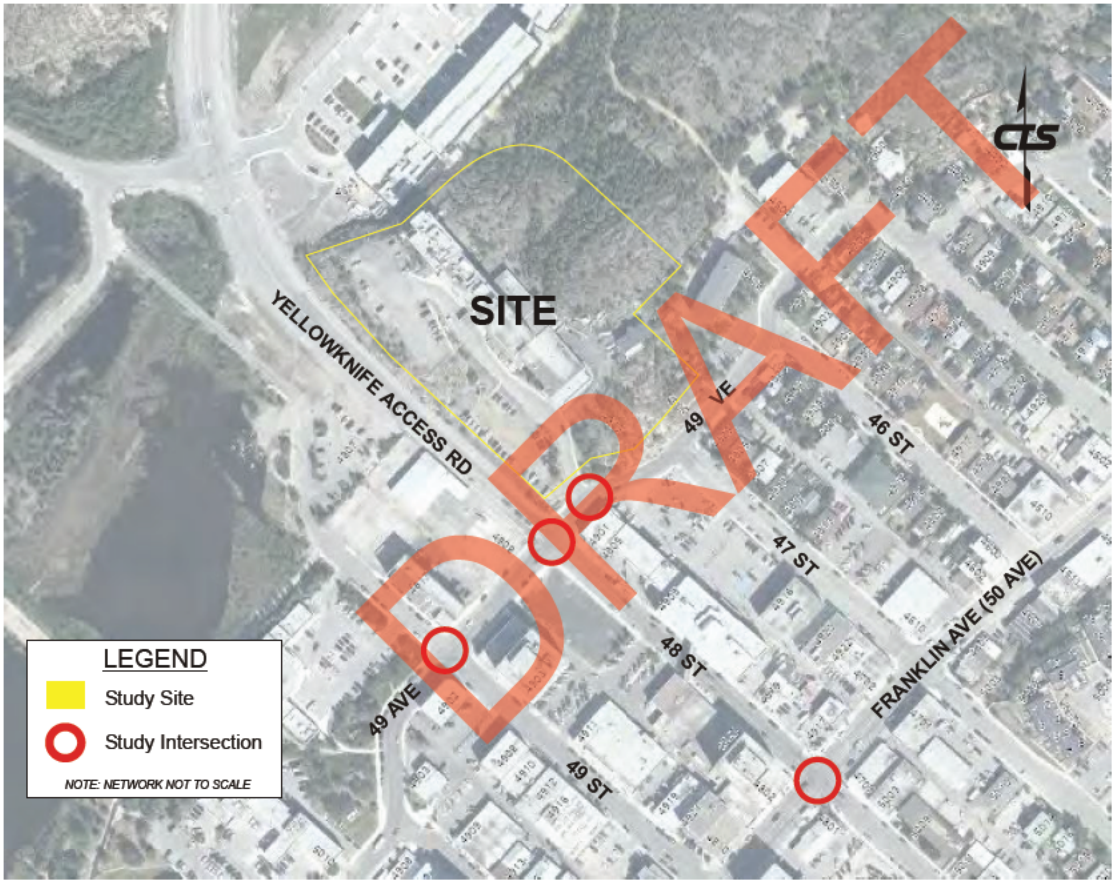
Explorer Hotel Expansion
Traffic Impact Study

Prepared for:

Nunastar Properties Inc.



Prepared by:

CTS Traffic Engineering Specialists

MARCH 2026

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EXPLORER HOTEL EXPANSION
TRAFFIC IMPACT STUDY

Prepared for:

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Prepared by:

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CTS PERMIT TO PRACTICE	CTS ENGINEER OF RECORD

3 March 2026

File no: 9562-101

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EXECUTIVE SUMMARY

Nunastar Properties Inc. is proposing to expand the Explorer Hotel located at 4610 – 49th Avenue in downtown Yellowknife by constructing a 5-story hotel building consisting of up to 150 additional guest rooms. The new building would share the existing hotel access on 49th Avenue. For the purposes of the traffic impact assessment, it was assumed that the Hotel Expansion development would be constructed completely and fully occupied by the year 2028.

CTS staff conducted a detailed site visit and collected traffic, pedestrian and bicycle volume data on Monday, 01 September 2025, Tuesday, 02 September 2025, and Wednesday, 03 September 2025 to document existing conditions at the following intersections:

- 49th Avenue & Explorer Hotel Access;
- 49th Avenue & 48th Street / Yellowknife Access Road;
- 49th Avenue & 49th Street; and
- Franklin Avenue (50 Avenue) & 48th Street.

It was noted that at the intersection of 49th Avenue & 4 h Street / Yell wknife Access Road, that there were two eastbound "through" lanes on Yellowknife Access Road but only one (1) receiving lane on 48th Street. Most of the vehicles using this urb lane were observed turning right onto 49th Avenue. However, it was noted that there was a b s stop on the far side of the intersection in the receiving lane.

The Explorer hotel is located in next to downt wn Yellowknife and is serviced by Bus Route #3 (Niven Loop), which operates in the c tercloc ise direction on Yellowknife Access Road. The nearest bus stop is located on 48th Stree mmed ately south of 49th Avenue which is 170 metres (or 3 minutes walking distance) f om the Explorer Hotel. Within 350 metres of the hotel on Franklin Avenue are two more bus routes ith bus stops. Therefore, access to public transit from this site is very good.

CTS also measured vehicle trip generation rates from the existing Explorer Hotel on both "conference day" and on-conference day" to document existing conditions. When comparing the measured vehicle ge eration rates from the Explorer Hotel to the published vehicle trip generation rates (12th Editi n) from the institute of Transportation Engineers (ITE), it was determined the ITE's rates were higher. In order to examine the worst-case scenario, the ITE's rates were used to forecast the traffic from the proposed hotel expansion. Using the ITE's vehicle trip generation rates, the proposed Hotel expansion is estimated to generate 51 vehicle trips (27 inbound, 24 outbound) during the weekday morning peak hour, and 71 vehicle trips (36 inbound, 35 outbound) during the weekday afternoon peak hour. This is equivalent to an average of one additional vehicle movement every minute during the two peak hours, which from a traffic engineering point of view is not considered significant.

Intersection capacity analysis was undertaken of the adjacent key intersections for both base conditions and with the addition of the hotel expansion traffic for the years 2028, and 2033. It was determined that the traffic impacts of the additional site generated traffic volumes to be minor as none of the intersection performances and Level of Service measurements changed with the addition of the site traffic.

A traffic signal warrant assessment was done for both a full signal and a pedestrian (or half) signal at the intersection of 48th Street & 49th Avenue. It was determined that a full traffic is currently 88% warranted with 2025 traffic volumes and forecast to be 97% warranted by the year 2028 base conditions. Addition of the hotel expansion traffic by the year 2028 will increases the warrant value to 104% which then meets the signal warrant threshold. Therefore, a full traffic signal is warranted for the 2028 base + hotel expansion traffic volumes at the intersection of 49th Avenue and 48th Street / Yellowknife Access Road. However, it should be noted that the site traffic volumes from the hotel expansion only contribute to the year 2028 entering intersection volumes by 4.9% (47 veh/hr) during the weekday morning peak hour and 6.6% (65 veh/hr) during the weekday afternoon peak hour.

A review of the vehicle circulation determined that the proposed site access can accommodate the design fire truck (Engine 9) for the City as it was determined that the access width is enough for the design fire truck to enter, manoeuvre on site and exit. For the loading access on 49th Avenue, a heavy single unit truck (HSU) can be accommodated however it requires the truck to back into the bay from 49th Avenue. Given that the traffic volumes on 49th Avenue next to the proposed loading bay are low, traffic conflicts between a truck and a vehicle are expected to be very low. However, it is noted that access to the loading bay on 49th Avenue is restricted and will require trucks to access the loading bay via the intersection of 49th Avenue & 47th Street east of the site.

Based on the data, analysis and conclusions documented by this study, the following are recommended:

1) That the City of Yellowknife to designate the eastbound curb lane on Yellowknife Access Road at 49th Avenue for right turn only and install a “right-turn” only lane sign with “EXCEPT BUSES” tab sign; and
2) That the City of Yellowknife signalize the intersection of 48th Street & 49th Avenue by the year 2028 and that Nunastar Properties Inc. contribute up to 6.6% of the construction cost of the new traffic signal to accommodate both the forecast base traffic volumes and the hotel expansion traffic volumes.

1.0 BACKGROUND

1.1 Study Site

Nunastar Properties Inc. is proposing to expand the Explorer Hotel located at 4610 – 49th Avenue in downtown Yellowknife by constructing a 5-story hotel building consisting of up to 150 additional guest rooms. The new building would share the existing hotel access on 49th Avenue. For the purposes of the traffic impact assessment, it was assumed that the Hotel Expansion development would be constructed completely and fully occupied by the year 2028. A copy of the site plan referenced by this traffic impact study is included as **APPENDIX A**.

1.2 Study Area

The study area was bounded by hotel property line to the north, Franklin Avenue (50th Avenue) to the east, 49th Street to the south, and 49th Avenue to the west. **FIGURE 1** illustrates the study area and the road network adjacent to the site.

FIGURE 1
STUDY AREA AND ADJACENT ROAD NETWORK

For the purposes of this study, the following key intersections were included in the traffic impact assessment:

1) 49th Avenue & the Explorer Hotel Access (unsignalized);
2) 49th Avenue & 48th Street / Yellowknife Access Road (unsignalized);
3) 49th Avenue & 49th Street (unsignalized); and
4) Franklin Avenue (50 Avenue) & 48th Street (signalized).

1.3 Study Periods

Weekday morning and afternoon peak hours were selected as the design hours for this study as that is when both the adjacent road network typically carries the highest vehicle volumes each day and the proposed development will generate the maximum volume of traffic. For the purposes of this traffic impact study, it was assumed that the proposed development is anticipated to be fully built-out by the year 2028.

The following years horizon years were selected for this study:

- 2025 Existing Base (i.e. existing base traffic conditions);
- 2028 Future Base (i.e. future base conditions) ;
- 2028 Future Base + Site (i.e. future base with study site traffic);
- 2033 Future Base (i.e. future base conditions) ;
- 2033 Future Base + Site (i.e. future base with study site traffic);

1.4 Existing Road Network and Intersections

CTS conducted a comprehensive site visit on Monday, 1 September 2025, Tuesday, 2 September 2025 and Wednesday, 3 September 2025. The key observations and a brief description of each study intersection / or roadway follows:

- Yellowknife Access Road is a major roadway (snow plowing ranked priority #1) connecting downtown to the east/south with Highway 3 to the north/west. The speed limit is 45 km/h within the study area. There is a bus route on Yellowknife Access Road.
- Franklin Avenue (50th Avenue) is an arterial roadway (snow plowing ranked priority #1) connecting downtown to the south area with Old Town to the north. The speed limit is 45 km/h within the study area. There is a bus route on Franklin Avenue.
- 48th Street is a municipal local street with two lane urban cross section (snow plowing ranked priority #1). The speed is 45 km/h within the study area.
- 49th Avenue is a municipal local street with two lane urban cross section (snow plowing ranked priority #3). The speed is 45 km/h within the study area.

49th Avenue and Explorer Hotel Access

- 49th Avenue intersects Hotel Access as an unsignalized 3-leg intersection with stop control on the Hotel Access. There is a shared left/through lane on the south approach of 49th Avenue, a shared through/right turn lane on the north approach of 49th Avenue, and a shared left/right turn lane on the hotel approach.
- Sidewalks are provided on the north side of 49th Avenue connecting 48th Street with the hotel access and on the south side of 49th Avenue. In addition, there is a sidewalk on the east side of the hotel access that connects the hotel lobby with 49th Avenue.

49th Avenue and 48th Street / Yellowknife Access Road

- 49th Avenue intersects 48th Street as an unsigna zed intersection with 4-way stop control. There is a shared left/through/right- urn lane on each of the north, south, and east approaches. For the west appr ach, there i a shared left/through lane and a shared through/right turn lane. There are no pavement markings or signage in place that restrict this curb lane to ght tur movements only.
- There was frequent vehicle queuing ob erved on three of the four approaches during the weekday morning and afternoon peak hours.
- Paved sidewalks are provided n all app oaches.
- There is a far-side bus st p on 48 h Street for eastbound transit buses, which is the receiving lane for the 2nd th ough l ne. No bench or shelter is provided for waiting passengers at th s bus st p
- On-street parking is permitted on 48th Street east of 49th Avenue and on 49th Avenue s uth o 48th treet. No on-street parking is permitted on Yellowknife Access Road.

49th Avenue and 49 h Stre t

- 49th Avenue intersects 49th Street as an unsignalized 4-leg intersection with 4-way stop control.
- There is a shared left/through/right turn lane on all approaches.
- There are sidewalks on both sides of 49th Avenue and 49th Street. On-Street parking is allowed on both 49th Street and 49th Avenue.
- There is a loading zone on the east side of 49th south of 49th Street.

Franklin Avenue (50th Avenue) and 48th Street

- Franklin Avenue (50th Avenue) intersects 48th Street as a signalized intersection. During peak times, vehicle queuing was frequently observed on each of the four approaches to the intersection, however these cleared with each signal cycle.

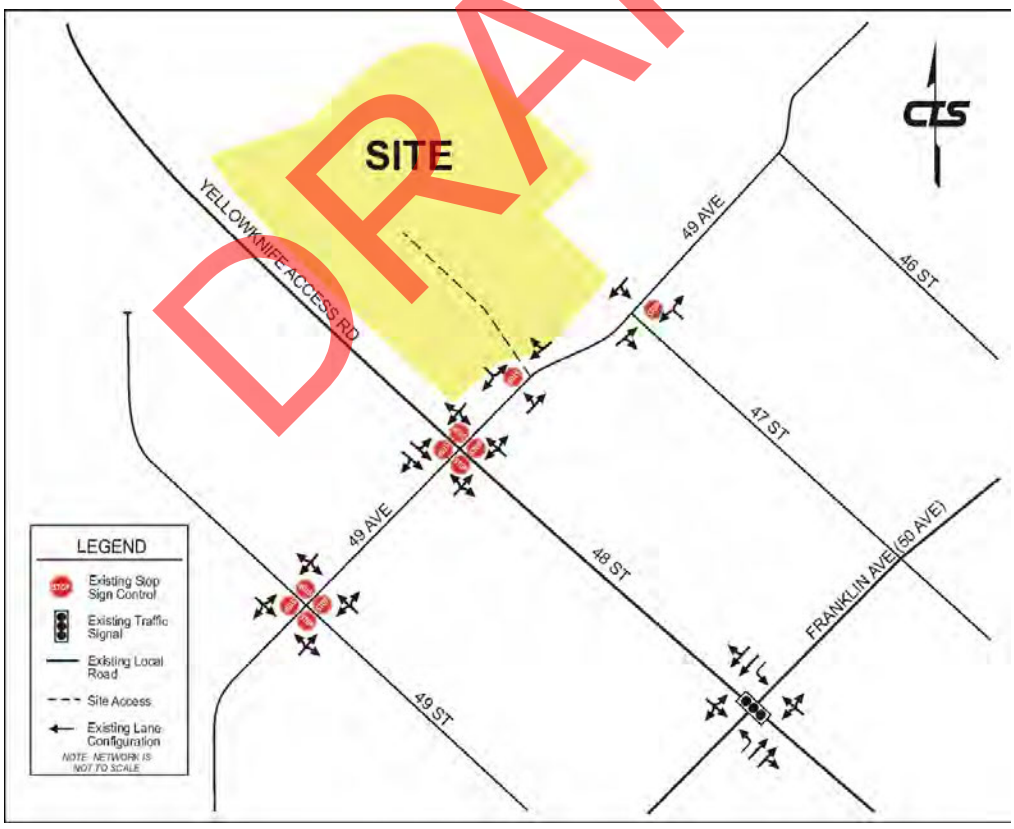
- There is a left-turn lane, through lane, and shared through/right turn lane on both approaches of Franklin Avenue (50 Avenue) and a shared left/through/right turn lane on both approaches of 48th Street.
- On-street parking is permitted on both 48th Street and Franklin Avenue with time restrictions.
- There are sidewalks on both sides of Franklin Avenue and 48th Street

49th Avenue and 47th Street

- 49th Avenue intersects 47th Street as an unsignalized T intersection with 1-way stop control on 47th Street.
- There is a shared lane on all approaches.

The existing laning configuration for the study intersections is illustrated in **FIGURE 2**.

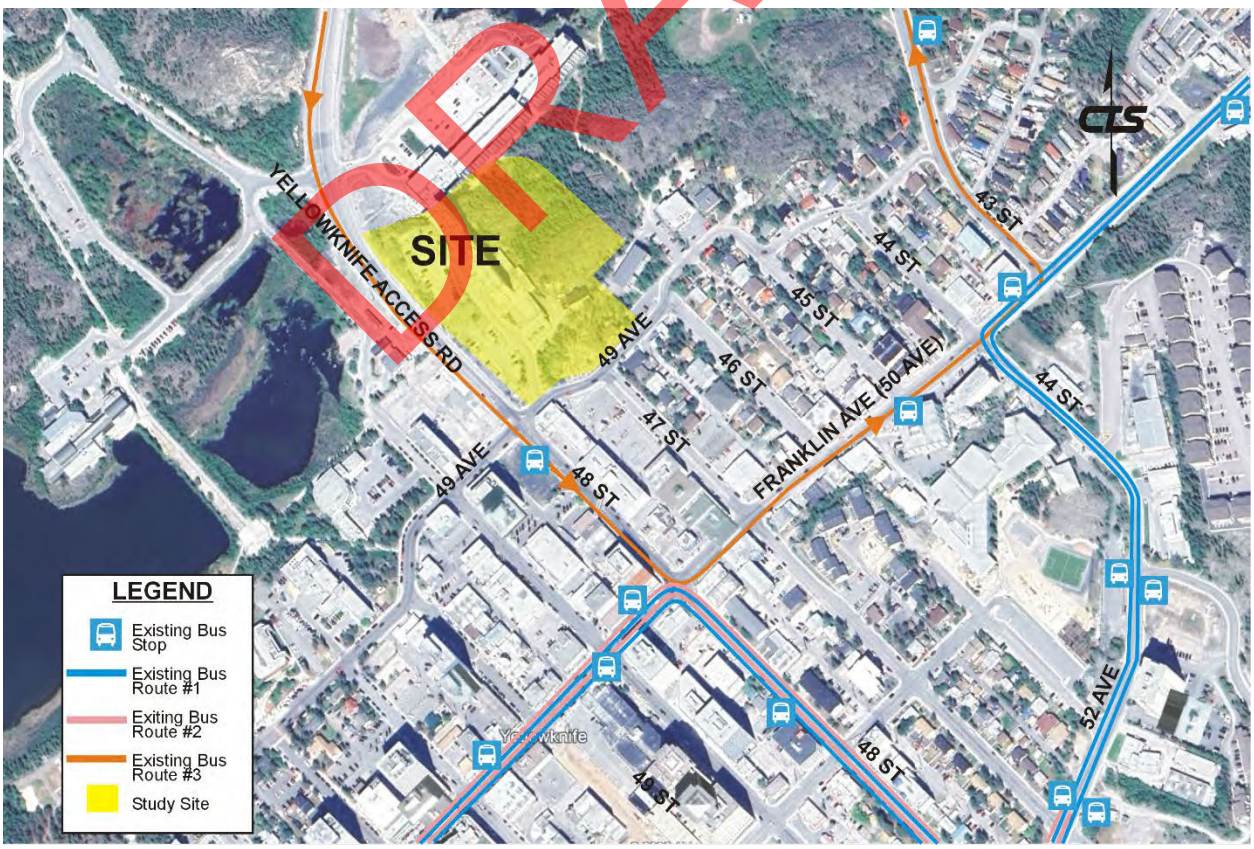
FIGURE 2
EXISTING LANING CONF GURATION



The Explorer hotel is located in next to downtown Yellowknife and serviced by Bus Route #3 (Niven Loop), which operates in the counter clockwise direction on Yellowknife Access Road. The nearest bus stop is located on 48th street immediately south of 49th Avenue which is 170 metres (or 3 minutes walking distance) from the Explorer Hotel. Within 350 metres from the hotel on Franklin Avenue there are two more bus routes with bus stops. Therefore, access to public transit from this site is very good. Below is a summary of the three bus routes within 350 metres of the Explorer Hotel and which are illustrated in **FIGURE 3**.

- Route #1 YK Connector – This bus route operates from 6:55 to 20:05 on variable headways ranging from 20 to 60 minutes on weekdays and operates hourly on Saturday.
- Route #2 Borden / Forrest – This bus route operates from 6:55 to 18:49 on variable headways ranging from 20 to 60 minutes on weekdays and operates hourly on Saturday.
- Route #3 Niven Loop – This bus route operates from 7:20 to 19:05 on variable headways ranging from 25 to 60 minutes on weekdays and operates hourly on Saturday.

FIGURE 3
EXISTING BUS ROUTES AND BUS STOPS IN STUDY AREA



2.0 BASE TRAFFIC VOLUMES

CTS conducted traffic turning movements count on Monday, September 1st, Tuesday, September 2nd, and Wednesday, September 3rd, 2025 from 7:30 to 9:30 and 15:30 to 17:30 to measure both the morning and afternoon peak periods. Of note, the Monday September 1st traffic count which was a statutory holiday, was only done at the hotel entrance and the intersection of 48th Street & 49th Avenue to document hotel vehicle traffic as there was a conference underway that day at the hotel. The traffic turning movement count data was tabulated and reviewed to ensure data integrity and validity. The tabulated traffic turning movement count data sheets are included as **APPENDIX B**.

When compared to the traffic movement count data at 48th Street and 49th Avenue, it was determined that the peak hour traffic volumes for the conference day (September 1st, 2025) were lower than the non-conference day (September 2nd, 2025). Therefore, no "conference" adjustment factor was applied to the traffic count data for the study. **TABLE 1** summarizes the entering intersection traffic volumes during the AM and PM peak hours at 48th Street & 49th Avenue.

TABLE
ENTERING INTERSECTION PEAK HOUR TRAFFIC VOLUMES
(48TH STREET AT 49TH AVENUE)

49 Avenue & 48 reet / Y ow fe Access Road															
PEAK	DATE	PEAK HOUR	EASTBOUN			WESTBOUND			NORTHBOUND			SOUTHBOUND			TOTAL
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	Mon, 01-Sep-2025 Conferenc Day	8:30 30	19	45	4	9	58	8	25	6	5	8	8	24	255
			104			75			36			40			
	Tue, 02-Sep-2025 Non-Conference Day	8:00-9:		158	3	33	134	21	78	41	13	10	32	77	896
			457			188			132			119			
PM	Mon, 01-Sep-202 Conferenc y	15:3 6:30	4	154	110	24	101	18	73	21	18	20	24	43	660
			318			143			112			87			
	Tue, 02-S 2025 Non-Conferenc Day	16:15-17:	74	110	142	27	148	33	169	43	35	19	50	84	934
			326			208			247			153			

The following peak hours were selected, based on the peak hours observed by the study intersection counts conducted on Tuesday, September 2nd, 2025:

- Weekday AM Peak Hour – 8:00 to 9:00
- Weekday PM Peak Hour – 16:15 to 17:15

2025 Base Traffic Volumes

The 2025 base traffic volumes for the weekday AM and PM peak hours are illustrated by **FIGURE 4** and **FIGURE 5** respectively. **FIGURE 6** and **FIGURE 7** illustrates the bicycle traffic volumes for the weekday AM and PM peak hours. Similarly, the pedestrian volumes are illustrated on **FIGURE 8** and **FIGURE 9**.

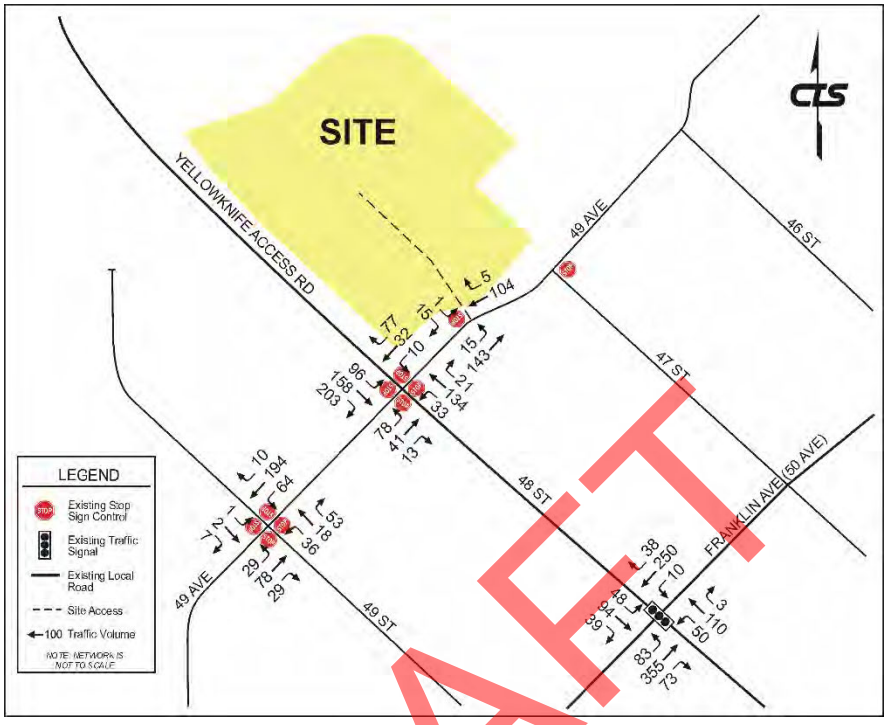
2028 Future Base Traffic Volumes

The 2025 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent the 2028 base traffic volumes. **FIGURE 10** and **FIGURE 11** illustrate the weekday AM and PM peak hour for the 2028 future base traffic volumes.

2033 Future Base + Background Traffic Volumes

The 2025 base traffic volumes were factored up by a traffic volume growth rate of 2.0% per annum (simple straight line) to represent initial base year 2033 volumes. **FIGURE 12** and **FIGURE 13** illustrate the weekday AM and PM peak hour for the 2033 future base traffic volumes.

FIGURE 4
2025 WEEKDAY MORNING PEAK HOUR BASE VEHICLE VOLUMES



FIGU E 5
2025 WEEKDAY AF ERNOON PEAK HOUR BASE VEHICLE VOLUMES

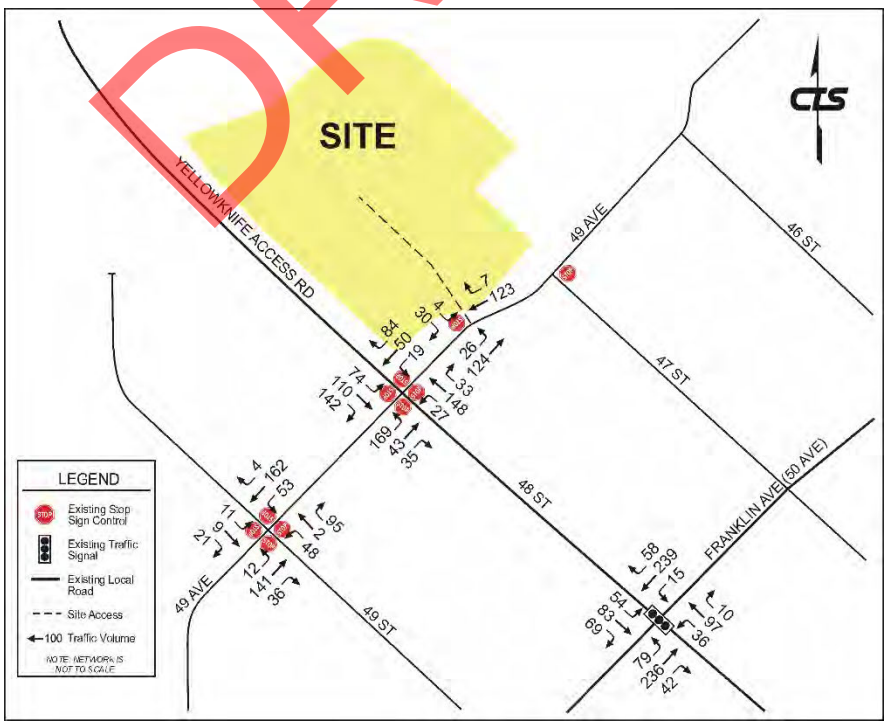


FIGURE 6
2025 WEEKDAY MORNING PEAK HOUR BICYCLE VOLUMES

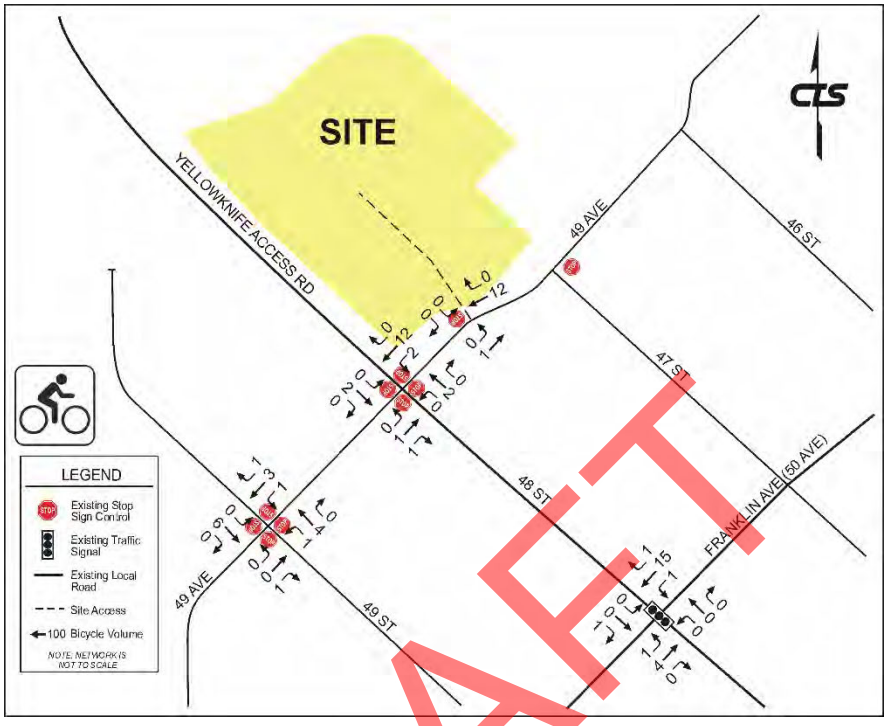


FIGURE 7
2025 WEEKDAY AFTERNOON PEAK HOUR BICYCLE VOLUMES

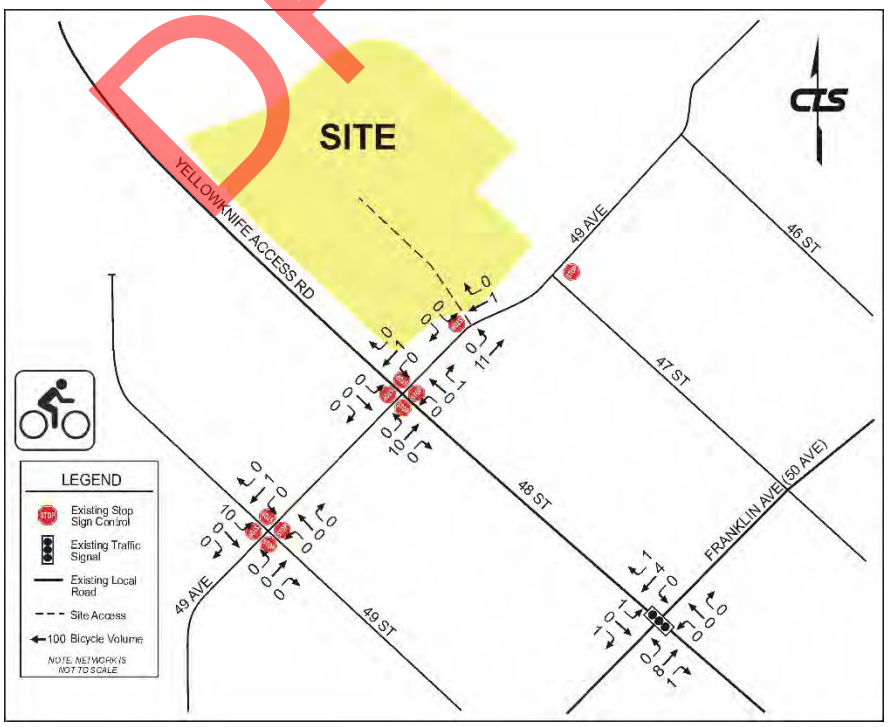


FIGURE 8
2025 WEEKDAY MORNING PEAK HOUR PEDESTRIAN VOLUMES

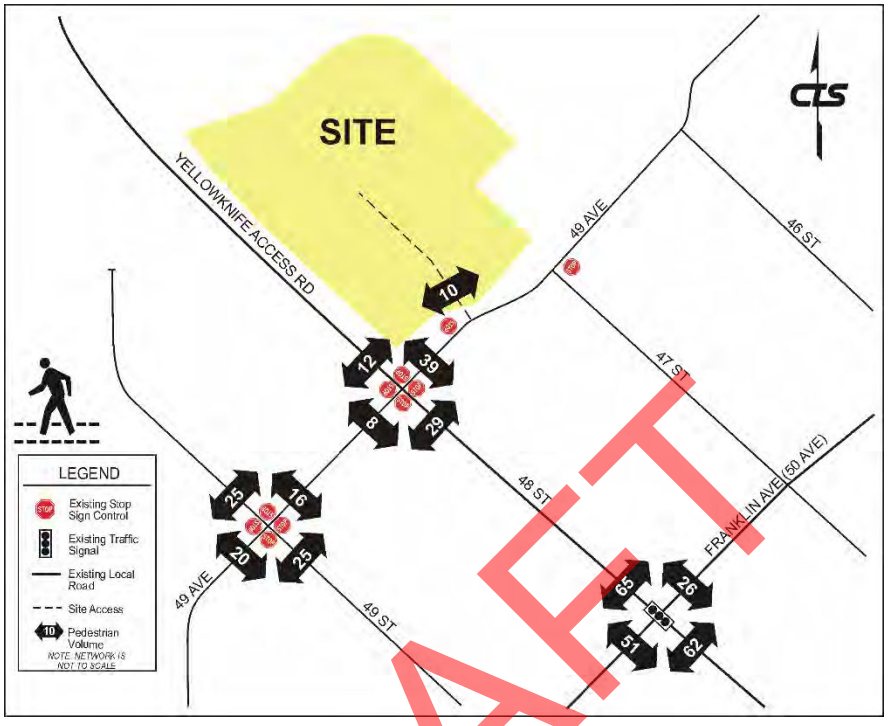


FIGURE 9
2025 WEEKDAY AFTERNOON PEAK HOUR PEDESTRIAN VOLUMES

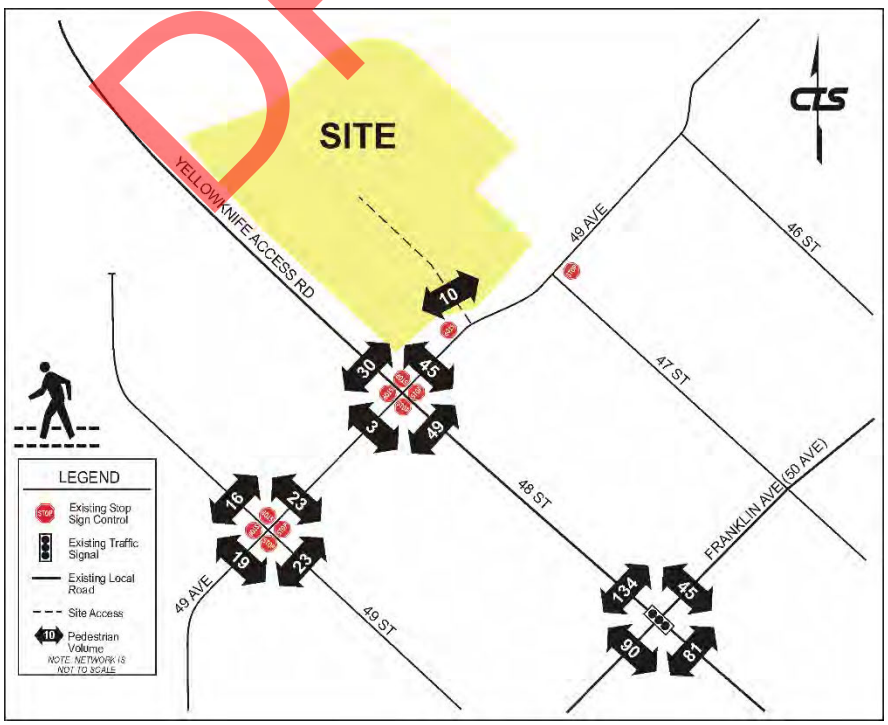


FIGURE 10
2028 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES

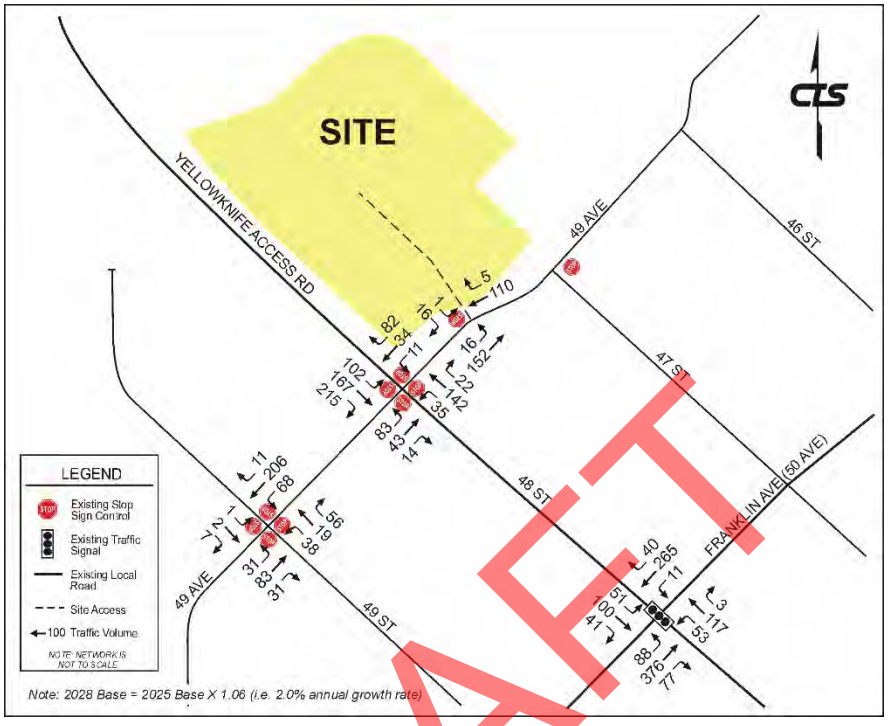


FIGURE 11
2028 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES

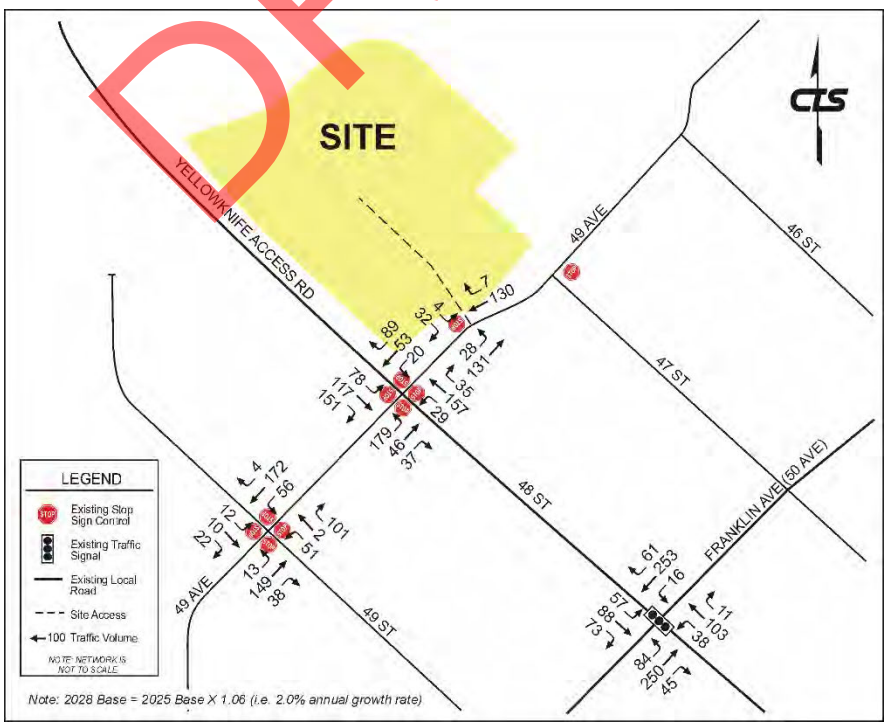


FIGURE 12
2033 WEEKDAY MORNING PEAK HOUR BASE TRAFFIC VOLUMES

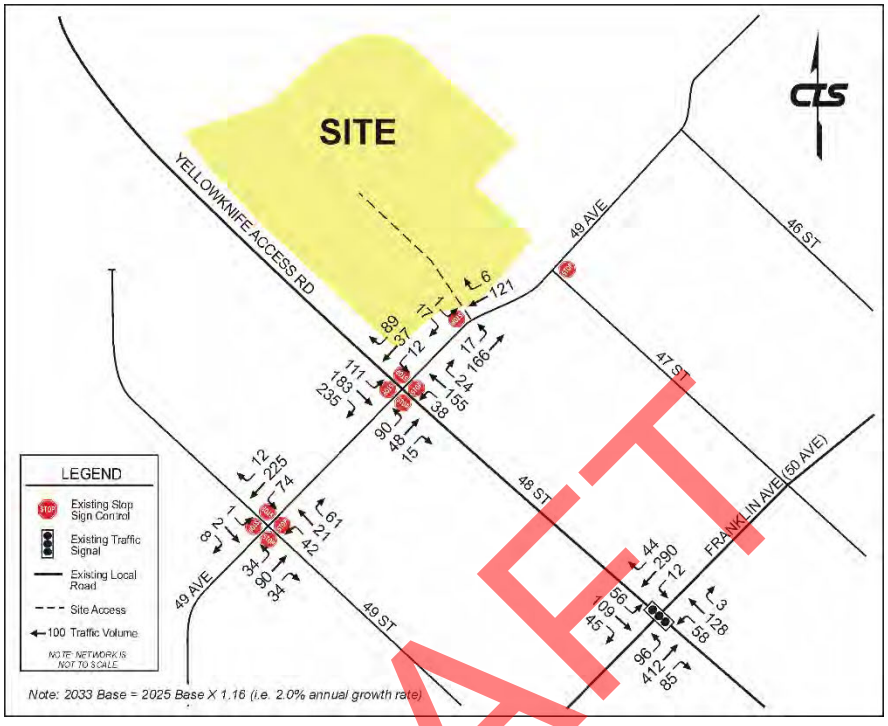
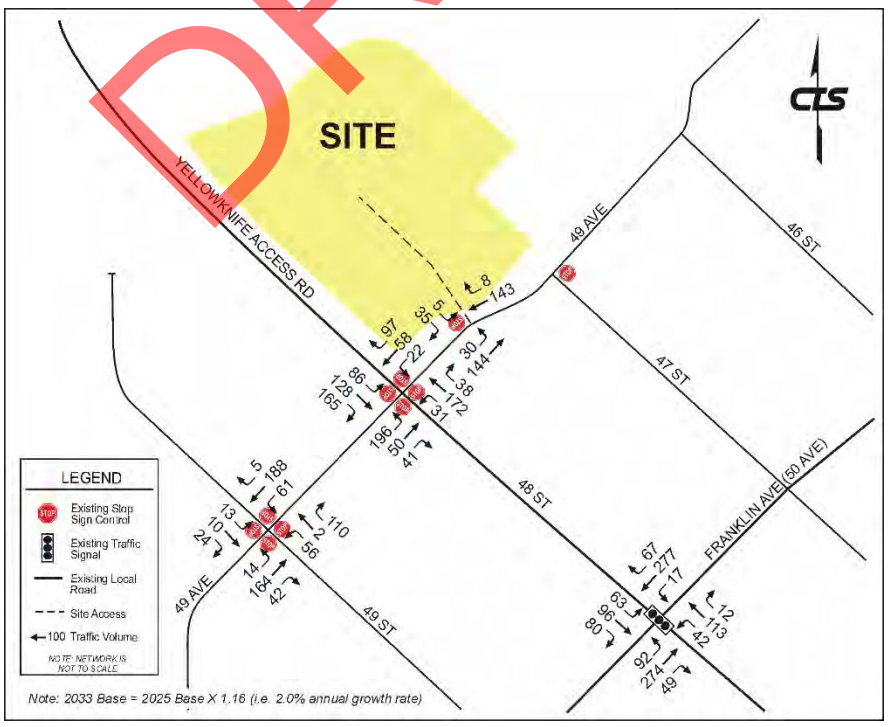


FIGURE 13
2033 WEEKDAY AFTERNOON PEAK HOUR BASE TRAFFIC VOLUMES



3.0 SITE TRAFFIC VOLUMES

3.1 Trip Generation

CTS conducted a vehicle trip generation survey of the exiting Explorer Hotel, which contain 259 guest rooms, 9 meeting rooms, and conference rooms to accommodate up to 350 people. The survey was conducted on Monday, 01 September 2025 (conference day), and Tuesday, 02 September 2025 (non-conference day) to determine the local trip rate. The occupancy rate of the hotel was 88.4% on Monday, and 91.9% on Tuesday.

From the surveys, it was determined that there were 60 vehicle trips (19 inbound, 41 outbound) generated by the hotel during Monday morning peak hour and 65 vehicle trips (34 inbound, 31 outbound) generated by the hotel during Monday afternoon peak hour.

On Tuesday, the hotel generated 36 vehicle trips (20 inbound, 16 outbound) during the morning peak hour, and 71 vehicle trips (37 inbound, 34 outbound) during the afternoon peak hour. Of note, the occupancy rate of the hotel was 88.4% on Monday, and 91.9% on Tuesday. The local trip rate sheets are included in **APPENDIX C**.

When comparing the measured vehicle generation rates from the existing Explorer Hotel to published vehicle trip generation rates (12th Edition) from the Institute of Transportation Engineers (ITE), it was determined the ITE rates were higher. **TABLE 2** summarizes the vehicle trip rates form the surveys and the ITE Manual. For this study, the published ITE trip rates were selected as they represent a more conservative assessment of the hotel traffic impacts.

TABLE 2
VEHICLE TRIP GENERATION RATE COMPARISON

VEHICLE TRIP GENERATION RATE (2-WAY)				
PEAK HOUR	Trip Generation Variable	Mon, Sep 01, 2025 (Conference Day)	Tues, Sep 02, 2026 (Non- Conference)	ITE 12th Edition Code 130 - Hotel
Weekday Morning	Number of Rooms	0.23	0.14	0.34
Weekday Afternoon		0.25	0.27	0.47

For the purposes of this study, pass-by traffic was assumed to be zero so that the projected volumes would represent the worst-case scenario and will result in a more conservative assessment. **TABLE 3** summarizes the forecast site generated traffic for the proposed development.

TABLE 3
SUMMARY OF SITE GENERATED TRAFFIC

Land Use	Peak Hour	Trip Generation Variable	Scope of Development	Vehicle Trip Generation Rate	Trip Rate Source	Directional Split		Peak Hour Volumes (vph)		
						% in	% out	in	out	total
Hotel	Weekday Morning	Number of Room	150	0.34	ITE 12th Edition - Code 310	52%	48%	27	24	51
	Weekday Afternoon			0.47		51%	49%	36	35	71

From **TABLE 3**, the proposed development is forecasted to generate a total of 51 vehicle trips (27 inbound, 24 outbound) during the weekday morning peak hour and 71 vehicle trips (36 inbound, 35 outbound) during the weekday afternoon peak hour.

The projected site volumes from the hotel expansion a not considered to be significant from a traffic engineering point of view as it only r prese ts on average one additional vehicle movement every minute.

3.2 Site Trip Distribution

Trip distribution percentages for sit g nerated v hicle trips to/from for the proposed townhouse development were developed from xisting traffic patterns entering and exiting the study area. The trip distribution er entages for the proposed development are summarized by **TABLE 4**.

TABLE 4
RIP DI TRIBUTION PERCENTAGES
FOR SITE GENERATED TRAFFIC

FROM / TO	W EKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	NBOUND	OUTBOUND	INBOUND	OUTBOUND
North/East - 49 Ave	6.5%	9.0%	8.9%	8.3%
North/East - Franklin Ave	17.8%	25.5%	21.4%	19.4%
East/South - 48 St	9.7%	11.1%	9.8%	9.1%
South/West - Franklin Ave	30.5%	21.3%	24.5%	22.3%
South/West - 49 Ave	8.1%	14.9%	13.0%	15.0%
North/West - 48 St	27.3%	18.2%	22.4%	26.0%
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**

The trip distribution percentages for the proposed development were used to calculate the trip distribution vehicle volumes. The trip distribution vehicle volumes for the proposed development are summarized by **TABLE 5**.

TABLE 5
TRIP DISTRIBUTION VEHICLE VOLUMES
FOR SITE GENERATED TRAFFIC

FROM / TO	WEEKDAY MORNING PEAK HOUR		WEEKDAY AFTERNOON PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
North/East - 49 Ave	2	2	3	3
North/East - Franklin Ave	5	6	8	7
East/South - 48 St	3	3	3	3
South/West - Franklin Ave	8	5	9	8
South/West - 49 Ave	2	4	5	5
North/West - 48 St	7	4	8	9
TOTAL	27	24	36	35
	51		71	

Trip distribution parameters to distribute the site generated vehicle trips to/from the site were developed from existing traffic patterns entering and exiting the study area for the afternoon peak hour. The weekday morning and afternoon peak hour site generated traffic volumes of the proposed development for the build-out year of 2028 are illustrated in **FIGURE 14** and **FIGURE 15**.

FIGURE 14
2028 WEEKDAY MORNING PEAK HOUR SITE GENERATED TRAFFIC VOLUMES

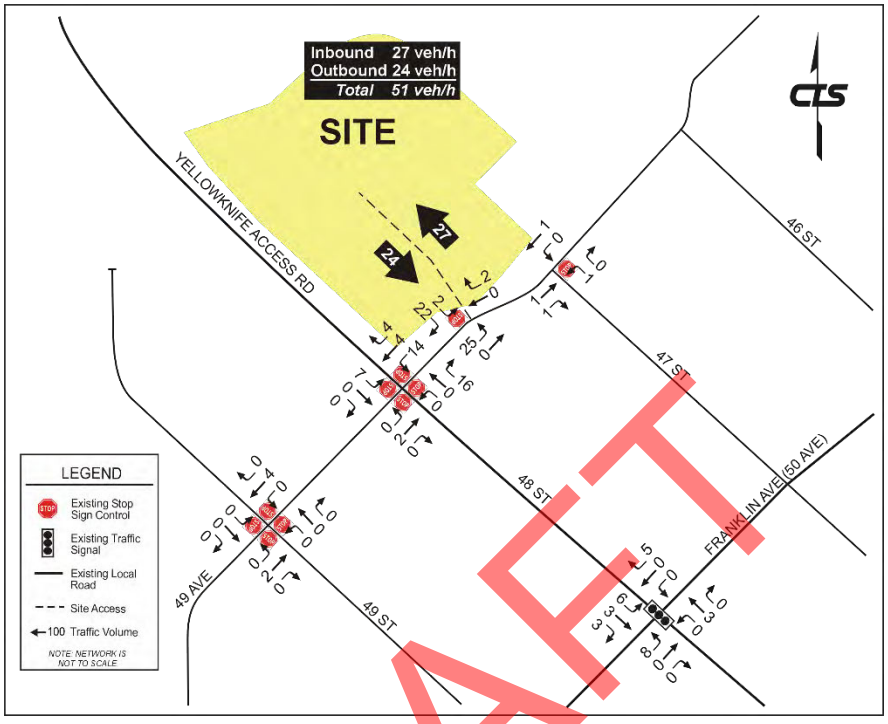
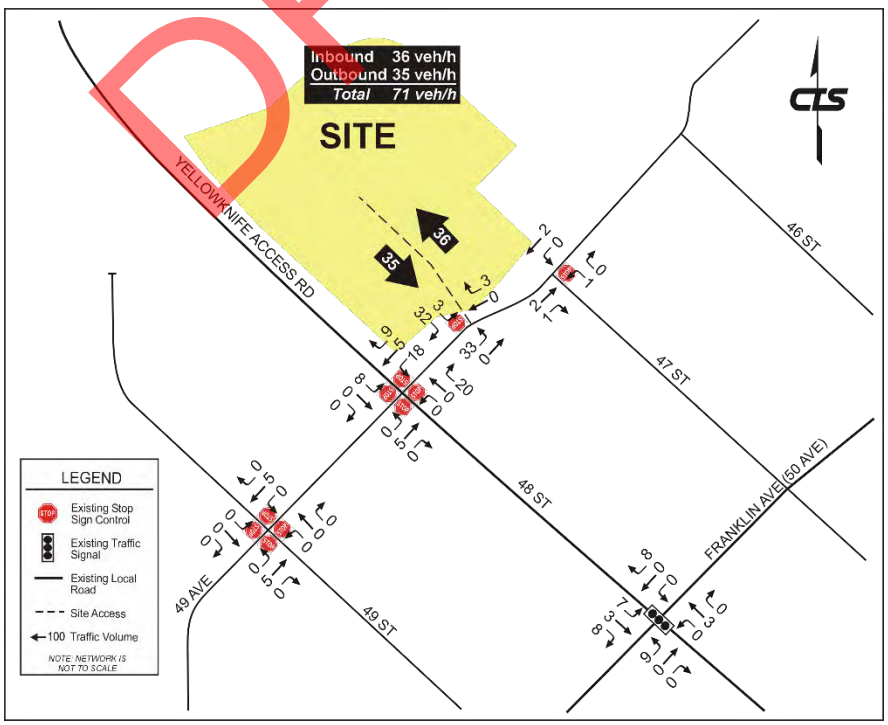


FIGURE 15
2028 WEEKDAY AFTERNOON PEAK HOUR SITE GENERATED TRAFFIC VOLUMES



4.0 BASE + SITE TRAFFIC VOLUMES

2028 Future Base + Site Traffic Volumes (Build-out)

FIGURE 16 illustrates the total projected traffic for the weekday morning peak hour consisting of both base, and site generated traffic resulting from the proposed development. It is the result of superimposing **FIGURE 14** onto **FIGURE 10**.

FIGURE 17 illustrates the total projected traffic for the weekday afternoon peak hour consisting of both base, and site generated traffic resulting from the proposed development. It is the result of superimposing **FIGURE 15** onto **FIGURE 11**.

2033 Future Base + Background + Site Traffic Volumes (Post Build-out)

FIGURE 18 illustrates the total projected traffic for the weekday morning peak hour consisting of base, background, and site generated traffic resulting from the proposed development. It is the result of superimposing **FIGURE 14** onto **FIGURE 12**.

FIGURE 19 illustrates the total projected traffic for the weekday afternoon peak hour consisting of base, background, and site generated traffic resulting from the proposed development. It is the result of superimposing **FIGURE 15** onto **FIGURE 13**.

FIGURE 16
2028 WEEKDAY MORNING PEAK HOUR BASE + SITE TRAFFIC VOLUMES

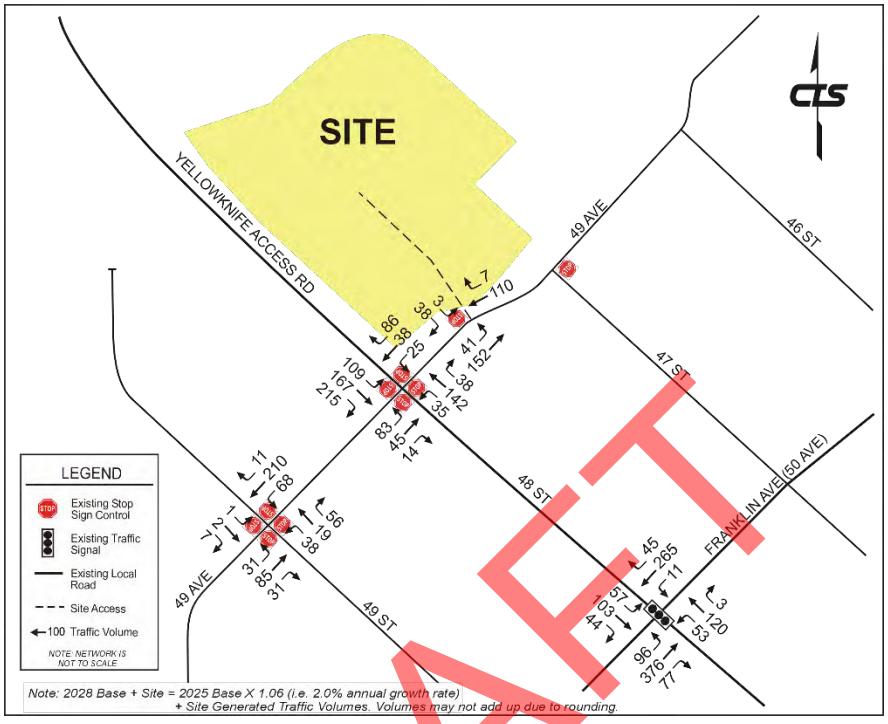


FIGURE 17
2028 WEEKDAY AFTERNOON EAK HOUR BASE + SITE TRAFFIC VOLUMES

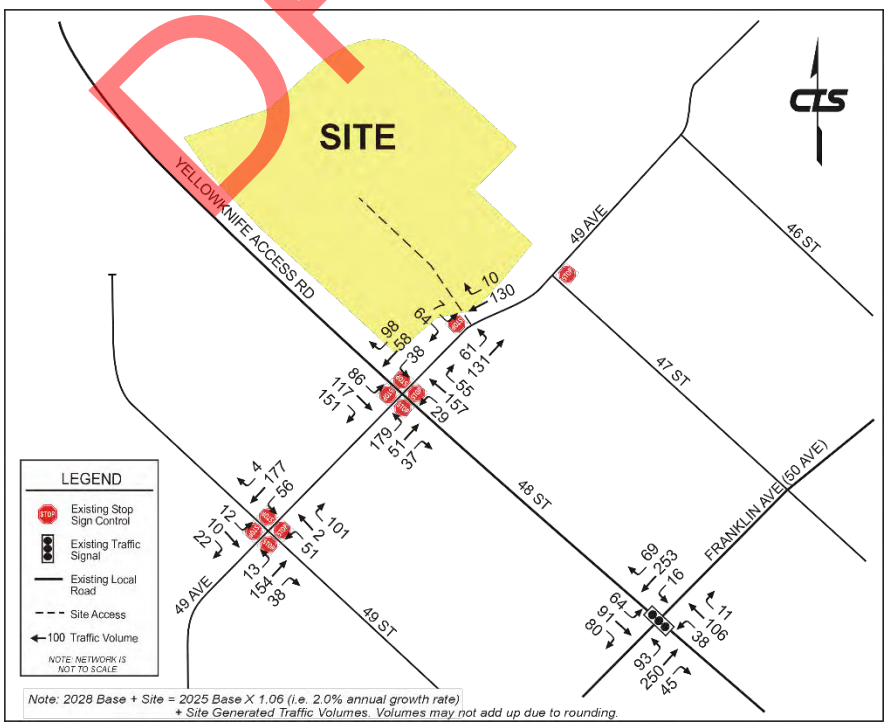


FIGURE 18
2033 WEEKDAY AM PEAK HOUR BASE + BACKGROUND + SITE TRAFFIC VOLUMES

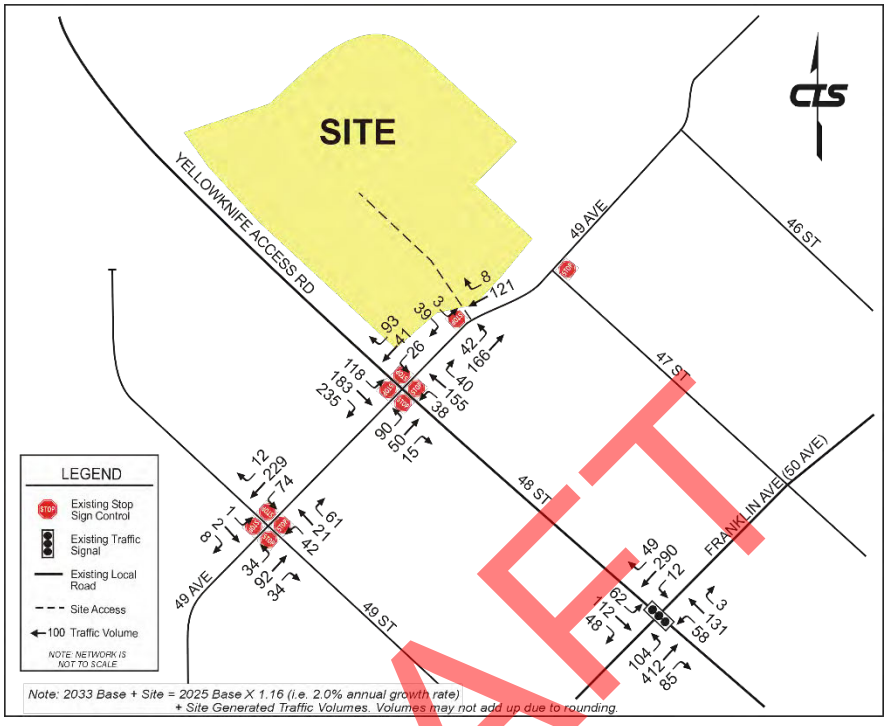
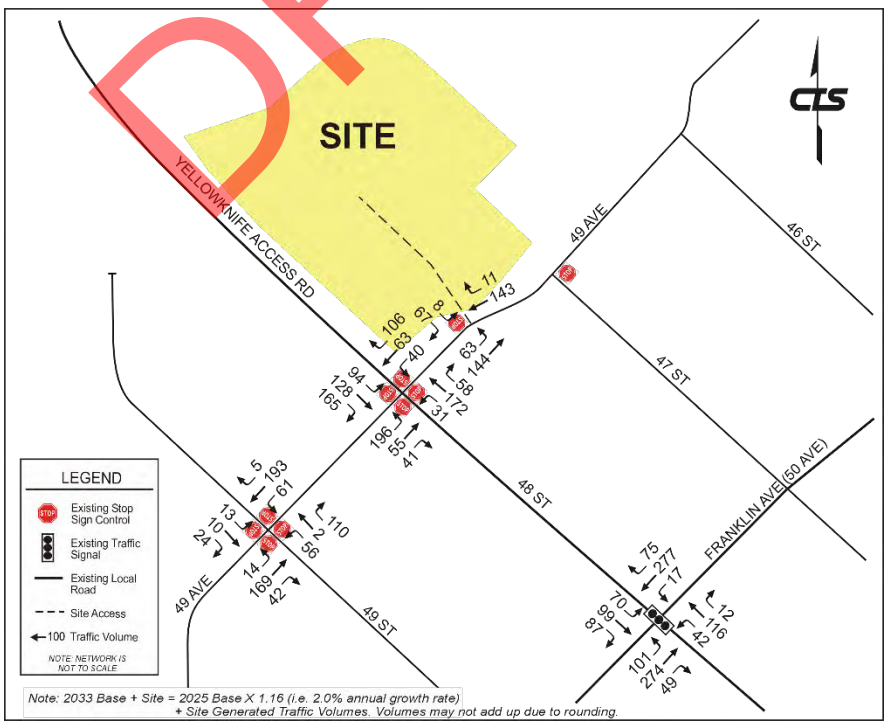


FIGURE 19
2033 WEEKDAY PM PEAK HOUR BASE + BACKGROUND + SITE TRAFFIC VOLUMES



5.0 TRAFFIC ANALYSIS

5.1 Capacity Analysis

Capacity analysis was performed at each study intersection to determine the overall intersection and individual movement Level of Service (LOS) that is provided to motorists. The LOS for intersections and individual movements is defined in terms of delay (seconds per vehicle) which is a measure of driver discomfort and frustration, fuel consumption and lost travel time.

An intersection or movement LOS can range from "A" (Excellent) to "F" (Fail). A LOS of "F" (Fail) indicates that an intersection or movement is failing because the intersection or movement is over capacity and delays are considered excessive. A LOS of "D" during the critical peak hours is considered acceptable by many public agencies in large urban areas for overall intersection operation and a LOS of "E" or better is considered acceptable for left turn movements as it recognizes that the intersections normally perform much better the remaining 90% of the day. However, for a community like the City of Yellowknife where motorists typically have a lower level of tolerance to traffic congestion, a LOS of "C" or better during the critical peak hours is considered acceptable for overall intersection operation and a LOS of "D" or better is considered acceptable for left turn movements at signalized intersections.

The study area intersections were analysed based on capacity analysis methods from the *Highway Capacity Manual* published by the Transportation Research Board of the National Academies of Science in the United States. Synchro Version 11.0 was used to analyze the intersection and individual movement level of service for signalized intersections. Highway Capacity Software (HCS 2025) was used for the analysis of the unsignalized intersections. The following assumptions were made with respect to the intersection capacity analysis:

- Saturation flow rate → 1800 passenger cars/hour of green/lane (pcphgpl).
- Truck percentage → 2% for all roads.
- Peak Hour Factor (PHF) → For this study, 0.84 for the weekday morning peak hour and 0.82 for the weekday afternoon peak hour was used for unsignalized intersections. For signalized intersections, a PHF of 0.90 for the weekday morning peak hour and 0.78 for the weekday afternoon peak hour was used, which are the average of the measured PHF's from the traffic turning movement counts.

TABLE 6, TABLE 7, TABLE 8, and **TABLE 9** summarize and compare the main performance parameters of the intersection capacity analysis for unsignalized intersections and signalized intersection respectively. Leve of Service and the delay per vehicle (in seconds) for each lane group is summarized for unsignalized intersections while the volume to capacity ratio is summarized for signalized intersection. Delay is additional travel time experienced by a driver, passenger, bicyclist, or pedestrian beyond that required to travel at the desired speed.

Wherever necessary, attempts at improvements have been made to maintain intersection and approach movement level of service standards for each of the post-development

scenarios. The capacity analysis worksheets with level of services for each individual movement are included in **APPENDIX D**.

TABLE 6
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
HOTEL ACCESS AT 49TH AVENUE

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
49 Avenue (N/S) and Hotel Access (E/W)	Weekday Morning Peak Hour	2025 Base	Volumes	1		15				15	143			104	5	A	OK
			Delay	9.1						0.8				0.0			
			95% Queue (veh)	0.1						0.0				0.0			
		2028 Base	Volumes	1		16				16	152			110	5	A	OK
			Delay	9.2						0.8				0.0			
			95% Queue (veh)	0.1						0				0.0			
		2028 Base + Site	Volumes	3		38					2			110	7	A	OK
			Delay	9.4						1.9				0.0			
			95% Queue (veh)	0.2						0.0				0.0			
		2033 Base	Volumes	1		17				17	166			121	6	A	OK
			Delay	9.2						0.8				0.0			
			95% Queue (veh)	0.1						0.0				0.0			
		2033 Base + Site	Volumes	3		39				42	166			121	8	A	OK
			Delay	9.5						1.8				0.0			
			95% Queue (veh)	0.2						0.0				0.0			
	Weekday Afternoon Peak Hour	2025 Base	Volumes	4		30				26	124			123	7	A	OK
			Delay	9.5						1.5				0.0			
			95% Queue (veh)	0						0.1				0.0			
		2028 Base	Volumes	4		32				28	131			130	7	A	OK
			Delay							1.5				0.0			
			95% Queue (veh)	0.2						0.1				0.0			
		2028 Base + Site	s			64				61	131			130	10	A	OK
			Delay	9						2.8				0.0			
			95% Queue (veh)	0.3						0.2				0.0			
		2033 Base	Volumes	5		35				30	144			143	8	A	OK
			Delay	9.7						1.5				0.0			
			95% eue (v	0.2						0.1				0.0			
		2033 Base + Site	Volu	8		67				63	144			143	11	A	OK
			Delay	10.1						2.7				0.0			
			95% Queue (veh)	0.4						0.2				0.0			

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); or medium approach delays (25sec to <50sec) or Municipal threshold for when improvements will be considered

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 7
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
48TH STREET / YELLOWKNIFE ACCESS RD AT 49TH AVENUE

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
49 Avenue (N/S) and 48 Street / Yellowknife Access Rd (E/W)	Weekday Morning Peak Hour	2025 Base	Volumes	96	158	203	33	134	21	78	41	13	10	32	77	B	OK
			Delay	11.9	12.5	12.9	11.5			11.3			10.4				
			95% Queue (veh)	1.6	2.2	2.7	1.6			1.1			0.9				
		2028 Base	Volumes	102	167	215	35	142	22	83	43	14	11	34	82	B	OK
			Delay	12.5	13.4	14.0	12.3			11.8			10.8				
			95% Queue (veh)	1.8	2.5	3.1	1.8			1.2			1.0				
		2028 Base + Site	Volumes	109	167	215	35	142	38	83	45	14	25	38	86	B	OK
			Delay	13.2	14.1	14.7	13.1			12.2			11.6				
			95% Queue (veh)	1.9	2.6	3.3	2.1			1.3			1.2				
		2033 Base	Volumes	111	183	235	38	155	24	90		15	12	37	89	B	OK
			Delay	13.7	15.3	16.3	13.5			12.7			11.5				
			95% Queue (veh)	2.1	3.1	4.0	2.2						1.1				
		2033 Base + Site	Volumes	118	183	235	38	155	40	90	50	15	26	41	93	B	OK
			Delay	14.6	16.3	17.3	14.6			13.2			12.5				
			95% Queue (veh)	2.3	3.3	4.3	2			1.5			1.5				
	Weekday Afternoon Peak Hour	2025 Base	Volumes	74	110	142	27	8	33	69	43	35	19	50	84	B	OK
			Delay	12.5	12.7	12.9	14.2			15.9			12.1				
			95% Queue (veh)	1.3	1.7	2.0	2.3			3.0			1.4				
		2028 Base	Volumes	78	117	1	9	157	35	179	46	37	20	53	89	C	OK
			Delay	13.2	13.7	14.				17.8			13.0				
			95% Queue (veh)	1.4	1.9	2.3	2.7			3.6			1.6				
		2028 Base + Site	Volumes	86	7	151		157	55	179	51	37	38	58	98	C	OK
			Delay	4.4	14	15.1	18.0			20.1			15.1				
			95% Queue (v)	1.7	2	2.5	3.4			4.1			2.3				
		2033 Base	Volumes	86	8		1	172	38	196	50	41	22	58	97	C	OK
			Delay		15.8	16.4	18.8			22.5			14.8				
			9 eh)	1.8	2.4	3.0	3.5			4.9			2.0				
		2033 Bas Site	Volumes	94	8	165	31	172	58	196	55	41	40	63	106	C	OK
			Delay	6.5	17.7	18.5	23.2			27.2			18.2				
			95% Queue (veh)	1	2.8	3.4	4.6			5.9			3.0				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (L D' or 'E') medium approach delays (25sec to <50sec) or Municipal threshold for when improvements will be considered

Intersection equals or exceeds capacity ( ); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 7A
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
48th STREET / YELLOWKNIFE ACCESS RD AT 49TH AVENUE
(RIGHT-TURN LANE)

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
49 Avenue (N/S) and 48 Street / Yellowknife Access Rd (E/W)	Weekday Morning Peak Hour	2025 Base	Volumes	96	158	203	33	134	21	78	41	13	10	32	77	B	OK
			Delay	14.5		10.3	11.7			11.3			10.4				
			95% Queue (veh)	2.8		1.5	1.6			1.1			0.9				
		2028 Base	Volumes	102	167	215	35	142	22	83	43	14	11	34	82	B	OK
			Delay	15.7		10.8	12.3			11.8			10.8				
			95% Queue (veh)	3.2		1.7	1.8			1.2			1.0				
		2028 Base + Site	Volumes	109	167	215	35	142	38	83	45	14	25	38	86	B	OK
			Delay	16.9		11.3	13.1			12.2			11.7				
			95% Queue (veh)	3.6		1.8	2.1			1.3			1.3				
		2033 Base	Volumes	111	183	235	38	155	24	9	48	15	12	37	89	B	OK
			Delay	18.3		11.8	13.5			12			11.6				
			95% Queue (veh)	4.1		2.1	2.2			1.4			1.1				
		2033 Base + Site	Volumes	118	183	235	38	155	40	90	50	15	26	41	93	C	OK
			Delay	20.1		12.4	1			13.2			12.6				
			95% Queue (veh)	4.6		2.2				1.5			1.5				
	Weekday Afternoon Peak Hour	2025 Base	Volumes	74	110	142	27	148		169	43	35	19	50	84	B	OK
			Delay	14.4		10.9	14.2			15.9			12.1				
			95% Queue (veh)	2.1		1	2.3			3.0			1.4				
		2028 Base	Volumes	78	117	151	29		35	179	46	37	20	53	89	C	OK
			Delay	15.6		11.5	15.6			17.9			13.0				
			95% Queue (veh)			1.3	2.7			3.6			1.6				
		2028 Base + Site	Volumes	86	11	151	2	157	55	179	51	37	38	58	98	C	OK
			Delay	17.4		12.3	18.1			20.2			15.2				
			95% Queue (ve	2		1.	3.4			4.2			2.3				
		2033 Base	Volumes		128	165	31	172	38	196	50	41	22	58	97	C	OK
			Delay	5		12.9	18.8			22.6			14.8				
			95% Queue (veh	3.1		1.7	3.5			4.9			2.0				
		2033 Base + Site	Volumes	4	128	165	31	172	58	196	55	41	40	63	106	C	OK
			Delay	21.6		14.1	23.3			27.4			18.3				
			95 Queue (veh)	3.8		1.8	4.7			5.9			3.0				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D E'); or medium approach delays (25sec to <50sec) or Municipal threshold for when improvements will be considered

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 8
UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
49TH STREET AT 49TH AVENUE

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
49 Avenue (N/S) and 49 Street (E/W)	Weekday Morning Peak Hour	2025 Base	Volumes	1	2	7	36	18	53	29	78	29	64	194	10	A	OK
			Delay	7.9			8.8			8.7			10.5				
			95% Queue (veh)	0.0			0.6			0.8			1.9				
		2028 Base	Volumes	1	2	7	38	19	56	31	83	31	68	206	11	A	OK
			Delay	8.0			9.0			8.9			10.9				
			95% Queue (veh)	0.0			0.7			0.8			2.2				
		2028 Base + Site	Volumes	1	2	7	38	19	56	31	85	31	68	210	11	B	OK
			Delay	8.0			9.0			9.0			11.0				
			95% Queue (veh)	0.0			0.7			0.9			2.2				
		2033 Base	Volumes	1	2	8	42	21	61	4	90	34	74	225	12	B	OK
			Delay	8.2			9.3			9.2			11.7				
			95% Queue (veh)	0.1			0.8			1.0			2.6				
		2033 Base + Site	Volumes	1	2	8	42	2	61	34	9	34	74	229	12	B	OK
			Delay	8.2			9.4			9.3			11.8				
			95% Queue (veh)	0.1			0.8			1.0			2.6				
	Weekday Afternoon Peak Hour	2025 Base	Volumes	11	9	21	48	2	95	12	141	36	53	162	4	A	OK
			Delay	8.6			9.			9.8			10.6				
			95% Queue (veh)	0.2			0.9			1.3			1.6				
		2028 Base	Volumes	12	10	22	51	2	101	13	149	38	56	172	4	B	OK
			Delay	8.7			9.7			10.2			11.0				
			95% Queue (veh)	0.3			1.0			1.4			1.8				
		2028 Base + Site	Volumes	12	0	22	51	2	101	13	154	38	56	177	4	B	OK
			Del	8.8			9.8			10.3			11.1				
			95% Queue (	0.3			1.0			1.5			1.9				
		2033 Base	Volumes	13	10	24	56	2	110	14	164	42	61	188	5	B	OK
			Del	9.0			10.3			10.9			11.9				
			95% Queue (v	0.3			1.2			1.7			2.2				
		2033 Base Site	Volumes	13	10	24	56	2	110	14	169	42	61	193	5	B	OK
			Delay	9.1			10.3			11.0			12.0				
			9 Queue eh)	0.3			1.2			1.8			2.3				

Delay = Average Delay (seconds/vehicle)

Intersection approaching capacity (LOS 'D' or 'E'); or medium approach delays (25sec to <50sec) or Municipal threshold for when improvements will be considered

Intersection equals or exceeds capacity (LOS 'F'); or high approach delays (=> 50sec)

95% Queue = UNSIGNALIZED QUEUE IS PER VEHICLE

TABLE 9
SIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY
48TH STREET AT FRANKLIN AVENUE / 50TH AVENUE

Intersection	Time of Day	Scenario	Performance Measure	Eastbound			Westbound			Northbound			Southbound			LOS	Notes
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Franklin Avenue / 50 Avenue (N/S) and 48 Street (E/W)	Weekday Afternoon Peak Hour	2025 Base	Volumes	48	94	39	50	110	3	83	355	73	10	250	38	B	Optimized signal timing
			V/C	0.32			0.29			0.23	0.34	0.34	0.03	0.23	0.23		
			95% Queue (m)	23.9			24.1			14.2	23.6	23.6	3.0	16.1	16.1		
		2028 Base	Volumes	51	100	41	53	117	3	88	376	77	11	265	40	B	Optimized signal timing
			V/C	0.34			0.31			0.25	0.36	0.36	0.04	0.24	0.24		
			95% Queue (m)	25.9			25.5			15.2	25.2	25.2	3.2	17.1	17.1		
		2028 Base + Site	Volumes	57	103	44	53	120	3	96	376	77	11	265	45	B	Optimized signal timing
			V/C	0.36			0.32			0.27	0.36	0.36	0.04	0.25	0.25		
			95% Queue (m)	27.4			26.0			16.5	25.2	25.2	3.2	17.2	17.2		
		2033 Base	Volumes	56	109	45	58	128	3	96	41	85	12	290	44	B	Optimized signal timing
			V/C	0.37			0.34			0.28	39	0.39	0.04	0.26	0.26		
			95% Queue (m)	28.5			27.9			16	0	28.0	3.4	18.7	18.7		
		2033 Base + Site	Volumes	62	112	48	58	131	3	04	412	85	12	290	49	B	Optimized signal timing
			V/C	0.40			0.35			0.31	0.39		0.04	0.27	0.27		
			95% Queue (m)	30.6			28.5			18.0	28.0	28.0	3.4	18.8	18.8		
	Weekday Afternoon Peak Hour	2025 Base	Volumes	54	83	69	36		10	7	236	42	15	239	58	A	Optimized signal timing
			V/C	0.34			0			0.24	0.23	0.23	0.04	0.24	0.24		
			95% Queue (m)	23.8			19.4			14.1	15.7	15.7	3.9	16.0	16.0		
		2028 Base	Volumes	57	88	73	38	103	1	84	250	45	16	253	61	A	Optimized signal timing
			V/C	0.38			0.26			25	0.23	0.23	0.04	0.25	0.25		
			95% Queue (m)	26.9			2			14.4	15.8	15.8	4.0	16.1	16.1		
		2028 Base + Site	Volumes	64	91	80	38	106	11	93	250	45	16	253	69	B	Optimized signal timing
			V/C	1			0.27			0.28	0.23	0.23	0.04	0.25	0.25		
			95% Queue (m)	29			21.8			16.0	15.8	15.8	4.0	16.2	16.2		
		2033 Base	Volume	63	9	80	42	113	12	92	274	49	17	277	67	B	Optimized signal timing
			V/C	.42			0.29			0.28	0.25	0.25	0.05	0.27	0.27		
			95% Queue (m)	29.9			23.7			15.9	17.4	17.4	4.1	17.7	17.7		
		2033 Base Site	Vo	70	99	87	42	116	12	101	274	49	17	277	75	B	Optimized signal timing
			V/C	5			0.30			0.31	0.25	0.25	0.05	0.28	0.28		
			95% Queue (m)	32.9			24.0			17.5	17.4	17.4	4.1	17.8	17.8		

Intersection approaching c city (LOS 'D' or 'E'); or proach demand near capacity (v/c 0.85 to 0.99)

Intersection equals or exceeds acity (LOS 'F'); igh approach demand over capacity (v/c => 1.0)

95% Queue length exceeds the c ity of exist storage bay.

Based on the capacity analyses summarized by **TABLE 6 - 9**, the following observations can be made:

49th Avenue (N/S) and Hotel Access (E/W)

- This location currently operates as unsignalized intersection with stop control on Hotel Access. The intersection operates at an overall level of service A (Excellent) under existing conditions, and no operational problems were noted. By the year 2028, and 2033 under base conditions, the overall level of service is projected to remain at LOS A (Excellent) during the morning and afternoon peak hours.
- Addition of site traffic to 2028 base traffic conditions results in no change to the overall intersection level of service. The overall intersection level of service remains at LOS A (Excellent) during the weekday morning and afternoon peak hours. All movements are under capacity, and no operational problems were noted.
- By the year 2033 under base + site traffic conditions (i.e. 5 years post buildout) results in no change to the overall intersection level of service. The overall intersection level of service remains at LOS A (Excellent) during the weekday morning and afternoon peak hours. All movements are under capacity, and no operational problems were noted.
- No operational improvement and/or geometrical improvements are recommended at this location to accommodate the additional forecast vehicle volumes.

49th Avenue (N/S) and 48th Street / Yellowknife Access Road (E/W)

- This location currently operates as a 4-way stop controlled intersection. Under the existing conditions, the intersection operates an overall Level of Service B (Good) during the three day morning and afternoon peak hours. No operational problems were noted.
- By the year 2028, and 2033 under base conditions, the weekday morning LOS is forecast to remain at B (Good) while the weekday afternoon LOS drops from B to C (fair). All movements are under capacity. However increased queuing and vehicle delays are forecast occur during the weekday afternoon peak hour with the projected LOS C.
- Addition of site traffic to the year 2028 base traffic conditions result in no change to the overall intersection level of service. The overall intersection level of service remains at LOS B (Good) during the weekday morning and LOS C (fair) during the weekday afternoon peak hours. All movements are under capacity.
- A review of the site generated traffic for the buildout year of 2028 determined that the site generated traffic volumes would increase the entering intersection volume by 4.9% (47 veh/hr) during the weekday morning peak hour and 6.6% (65 veh/hr) during the weekday afternoon peak hour. From a traffic engineering perspective, this increase in traffic volume is not considered to be significant.
- By the year 2033 under base + site traffic conditions (i.e. 5 years post buildout) results in no change to the overall intersection level of service. The overall intersection level of service remains at LOS B (Good) during the weekday morning

and LOS C (fair) during the weekday afternoon peak hours. However, the northbound movement is approaching capacity during the weekday afternoon peak hour.

- Of note, there are two approaching lanes on Yellowknife Access Road from the north/west currently, however, only one receiving lane on 48th Street due to the bus stop Also, there was a high percentage of the right-turn movements from Yellowknife Access Road onto 49th Avenue during the weekday morning peak hour (43.8%) and afternoon peak hour (42.7%) in the build-out year 2028.
- It is recommended the curb lane be designated a right-turn lane on Yellowknife Access Road from the north approach and that a "Right-Turn" lane traffic sign with "Expect Buses" tab be installed on Yellowknife Access Road (see below figure). The delays for the right-turn will be improved during the weekday morning and afternoon peak hours.

FIGURE 20
SAMPE OF "RIGHT-TURN" LANE TRAFFIC S GNAGE

- The intersection of 48th S reet / ellowknife Access Road at 49th Avenue is the primary entry point to the Yellow nife's downtown area. Therefore, it is also recommended tha the C y f Yellowknife continues to monitor intersection traffic volumes and associ t d delay, and signalize when warranted.

49th Avenue (N/S) and 49th treet (E/W)

- This location urr ntly operates as a 4-way stop controlled intersection. Under the existing conditions, the intersection operates at an overall level of service A (Excellent) under existing conditions, and no operational problems were noted. By the year 2028 base scenario, the overall level of service is projected to operate at LOS A (Excellent) during the morning peak hour and LOS B (Good) during the afternoon peak hour.
- By the year 2033 under base conditions, the overall intersection level of service is projected to operate at LOS B (Good) during the weekday morning and afternoon peak hours. No operational problems were noted.
- Addition of site traffic to 2028 base traffic conditions results in no change to the overall intersection level of service. The overall intersection level of service remains at LOS B (Good) during the weekday morning and afternoon peak hours. All movements are under capacity, and no operational problems were noted.
- By the year 2033 under base + site traffic conditions (i.e. 5 years post buildout) results in no change to the overall intersection level of service. The overall

intersection level of service remains at LOS B (Good) during the weekday morning and afternoon peak hours. All movements are under capacity, and no operational problems were noted.

- No operational improvement and/or geometrical improvements are recommended at this location to accommodate the additional forecast vehicle volumes.

Franklin Avenue (50th Avenue) (N/S) and 48th Street (E/W)

- This location is currently signalized and operates at an overall LOS B (Good) and LOS A (Excellent) under existing morning and afternoon peak hour conditions with optimized signal timing. By the year 2028 under base conditions with optimized signal timing, the overall level of service is still operated to be LOS B (Good) and LOS A (Excellent) for the weekday morning and afternoon peak hour.
- By the year 2033 under base conditions, the intersection is forecasted to operate at LOS B (Good) during the weekday morning and afternoon peak hours.
- Addition of site traffic to 2028 base traffic conditions results in no change to the overall intersection level of service. The overall intersection level of service remains at LOS B (Good) during the weekday morning and LOS A (Excellent) during the afternoon peak hours. All movements are under capacity, and no operational problems were noted.
- The addition of site traffic in 2028 represents a 2.3% (28 vehicle) increase in weekday AM peak hour and 3.6% (37 vehicle) increase in weekday PM peak hour intersection volume. From a traffic engineering perspective, this increase in traffic volume is not considered to be significant.
- By the year 2033 under base site traffic conditions (i.e. 5 years post buildout) results in no change to the overall intersection level of service. The overall intersection level of service operates at B (Good) during the weekday morning and afternoon peak hours. All movements are under capacity, and no operational problems were noted.
- No operational and/or geometrical improvements are recommended at this location to accommodate the additional forecast vehicle volumes.

49th Avenue (N/S) and 47th Street (E/W)

- This location currently operates as unsignalized intersection with stop control on 47th Street.
- Based on existing turning volumes on 49th Avenue at the Explorer Hotel, the expansion is forecast to increase the volume of traffic at this intersection by only 2 vehicles during the weekday morning peak hour and 3 vehicle trips during the weekday afternoon peak hour. This is because the majority of the observed hotel traffic was destined to and from 48th Street.
- The proposed site generated traffic volumes are not considered to be significant from a traffic engineering point of view at this intersection. Addition of site traffic to 2028 base traffic conditions should result in no change to the overall intersection level of service.

5.2 Traffic Signal Warrant Analysis

A traffic signal warrant assessment was done for both a full signal and a pedestrian (or half) signal at the intersection of 48th Street & 49th Avenue. The Traffic Signal & Pedestrian Signal Warrant analysis was undertaken by using the *Canadian Traffic Signal Warrant Matrix Procedure of Transportation Association of Canada 2014 (TAC*). The TAC signal warrant procedure is based on a point system method. In order for a location to be considered to meet the signal installation warrant the following two conditions must be met:

- 100 points or more of warrant factor "W" to be achieved based on the TAC calculation method; and
- TAC factor "Vs" to be greater than 75.

Traffic Signal Warrant

The traffic signal warrant factor "W_{SIG}" equation is illustrated below:

$$W_{SIG} = C_{bt} (X_{v\text{-}v}) / K_1 + (F (X_{v\text{-}p}) L) / K_2 \times C_i$$

- W = Warrant factor
- $X_{v\text{-}v}$ = Sum of the individual cross products of the actual vehicle-vehicle conflicting movements
- $X_{v\text{-}p}$ = Sum of the individual cross products of the actual vehicle-pedestrian conflicting movements
- K_1 = Vehicle-Vehicle denominator constant
- K_2 = Vehicle-Pedestrian denominator constant
- C_{bt} = Side street bus / truck factor
- F = Pedestrian demographics factor
- L = Number of lanes on the main street (i.e. the cross-section)
- C_i = Product of the roadway characteristics factors

Pedestrian Signal Warrant

The pedestrian signal warrant factor "W_{PED}" equation is illustrated below:

$W_{PED} = F((X_{PEDm})\, d_m / K_2) + (X_{PEDs})\, d_s / K_3))$

- W = Warrant factor
- F = Pedestrian demographics factor
- X_{PEDm} = Pedestrian crossing main street
- X_{PEDs} = Pedestrian crossing side street
- d_m = Main street distance crossed by the pedestrian
- d_s = Side street distance crossed by the pedestrian
- K_2 = Pedestrian signal warrant denominator constant for main street
- K_3 = Pedestrian signal warrant denominator consta t for side street
- K_3 = PVehicle-Pedestrian denominator constant

The TAC factor "Vs" is the highest volume of the minor stre t

TABLE 10 illustrates the summary table for fu traffic signal warrant and pedestrian signal head warrant at the intersection of 49th Avenu and 8th Street / Yellowknife Access Road.

TABLE 10
FULL TRAFFIC SIGNAL WARRANT & PEDESTRIAN SIGNAL WARRANT ANALYSIS SUMMARY

Scenario	Full Tr fic Signal Warrant		Pedestrian Signal Head Warrant	
	Y/N	W_{SIG}	Y/N	W_{PED}
2025 B se	N	88	N	82
2028 Base	N	97	N	87
2028 Base+Site	Y	104	N	94
2033 Base	Y	113	N	95
2033 Base+Site	Y	122	Y	102

From the full traffic signal warrant analysis, it was determined that the W_{SIG} values are 88 and 97, which does not meet the threshold of 100 under the 2025 and 2028 base scenarios. Therefore, a full traffic signal is currently 88% warranted with 2025 traffic volumes and forecast to be 97% warranted by the year 2028 base conditions. Addition of the hotel expansion traffic by the year 2028 increases the W_{SIG} value to 104 which meets the signal warrant threshold. Therefore, a full traffic signal is warranted for the 2028 base + hotel expansion traffic volumes at the intersection of 49th Avenue and 48th Street / Yellowknife Access Road.

However, it should be noted that the site traffic volumes from the hotel expansion only contribute to the entering intersection volume 4.9% (47 veh/hr) during the weekday morning peak hour and 6.6% (65 veh/hr) during the weekday afternoon peak hour.

From the pedestrian signal warrant analysis, it was determined that the W_{PED} value is 95 by the year 2033 base scenario, which does not meet the threshold of 100. Therefore, a pedestrian signal is not warranted at this intersection based on the forecast base traffic volumes for the year 2033. However, the W_{PED} value increased to 102 under the 2033 base + site scenario, which meets the threshold of 100. Therefore, a pedestrian signal head is warranted for the 2033 base + site conditions at the intersection of 49th Avenue and 48th Street / Yellowknife Access Road.

A copy of the full traffic signal warrant and pedestrian signal head warrant analysis is included in **APPENDIX E**.

5.3 Swept Path Analysis

FIGURE 21 illustrates the recommended emergency vehicle access and circulation plan for the proposed study site. The design truck is a Yellowknife fire truck (Engine 9) that is 11.8 m long (38.6 feet) and which was provided by Yellowknife Fire Hall #1 for a previous CTS project. From the analysis, it was determined that the access width is enough for the design vehicle to enter, maneuver on site and exit.

FIGURE 22 illustrates the recommended truck and fuel truck access and circulation plan for the site. The design truck selected is Heavy Single Unit (HSU) truck with 2 rear axles which replicates the vehicle path for loading activities. From the analysis, it was determined that the driveway width is sufficient for the design vehicle to back into the loading area. However, it was determined that the design vehicle has to the intersection of 47th Street & 49th Avenue to access the loading area.

FIGURE 23 and **FIGURE 2** illustrate the recommended pedestrian circulation plan and bicycle circulation plan for the site. It is assumed that cyclists will share the internal roads with motor vehicles

FIGURE 21
EMERGENCY VEHICLE ACCESS AND CIRCULATION PLAN

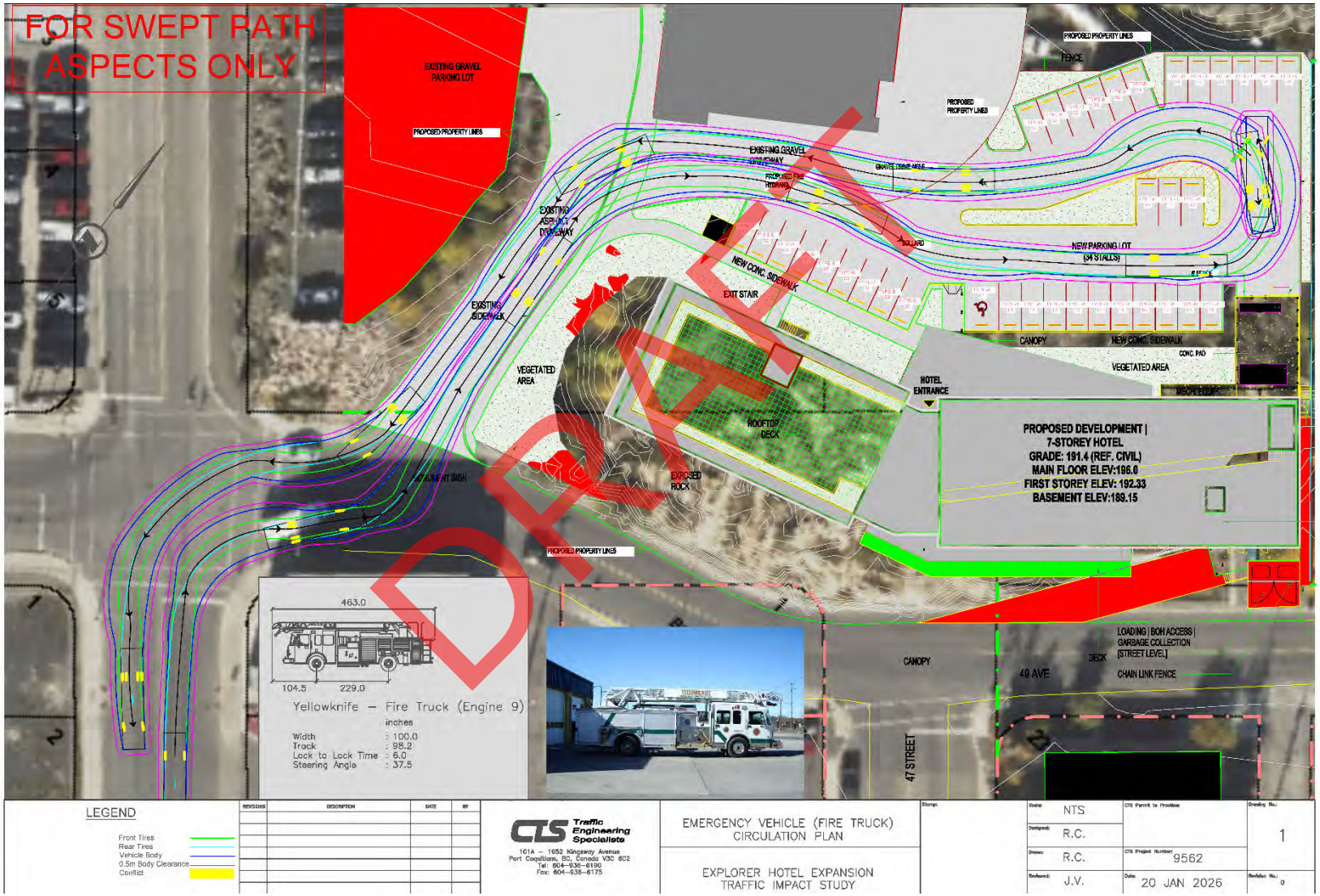


FIGURE 22
TRUCK ACCESS AND CIRCULATION PLAN

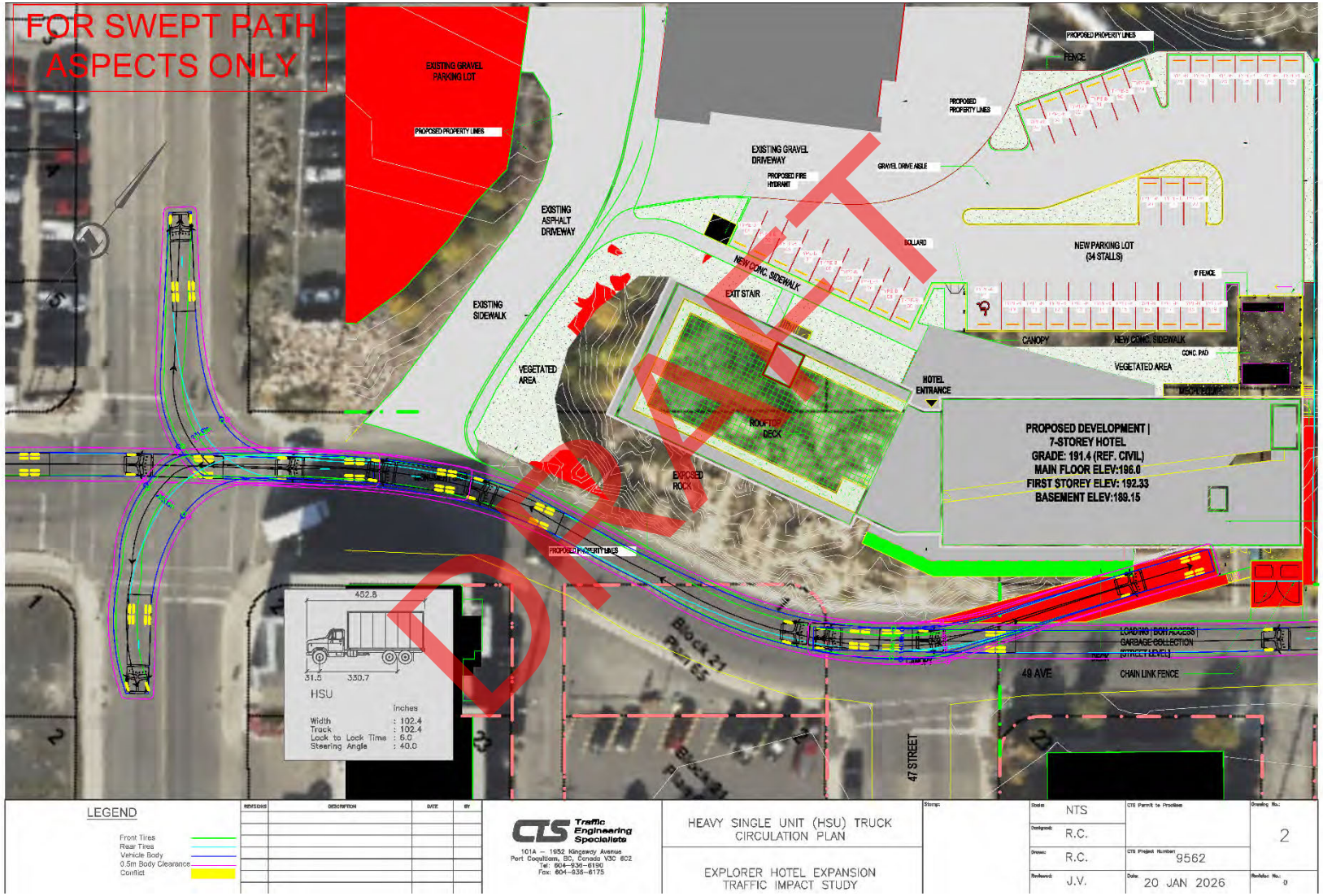


FIGURE 23
PEDESTRIAN CIRCULATION PLAN

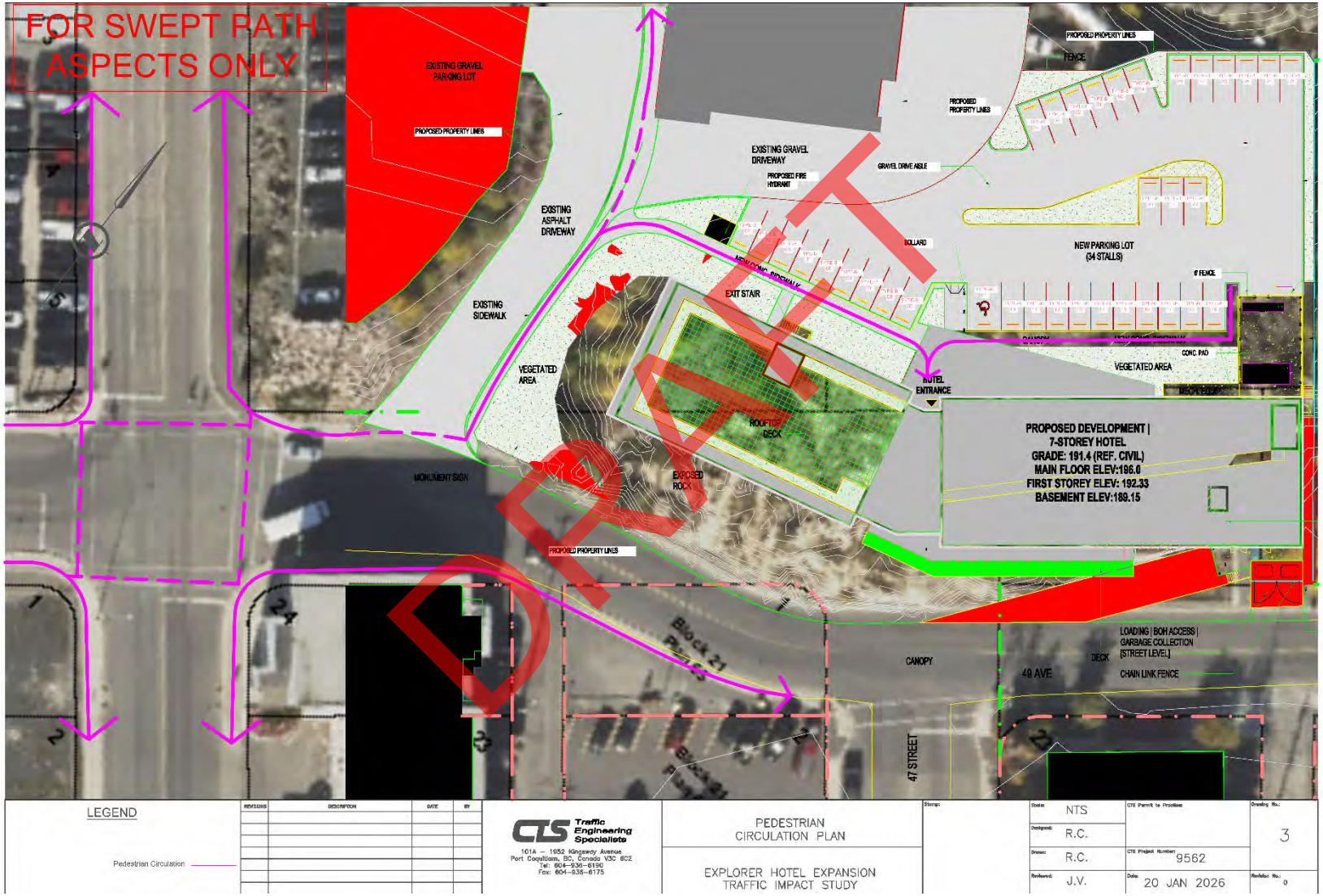
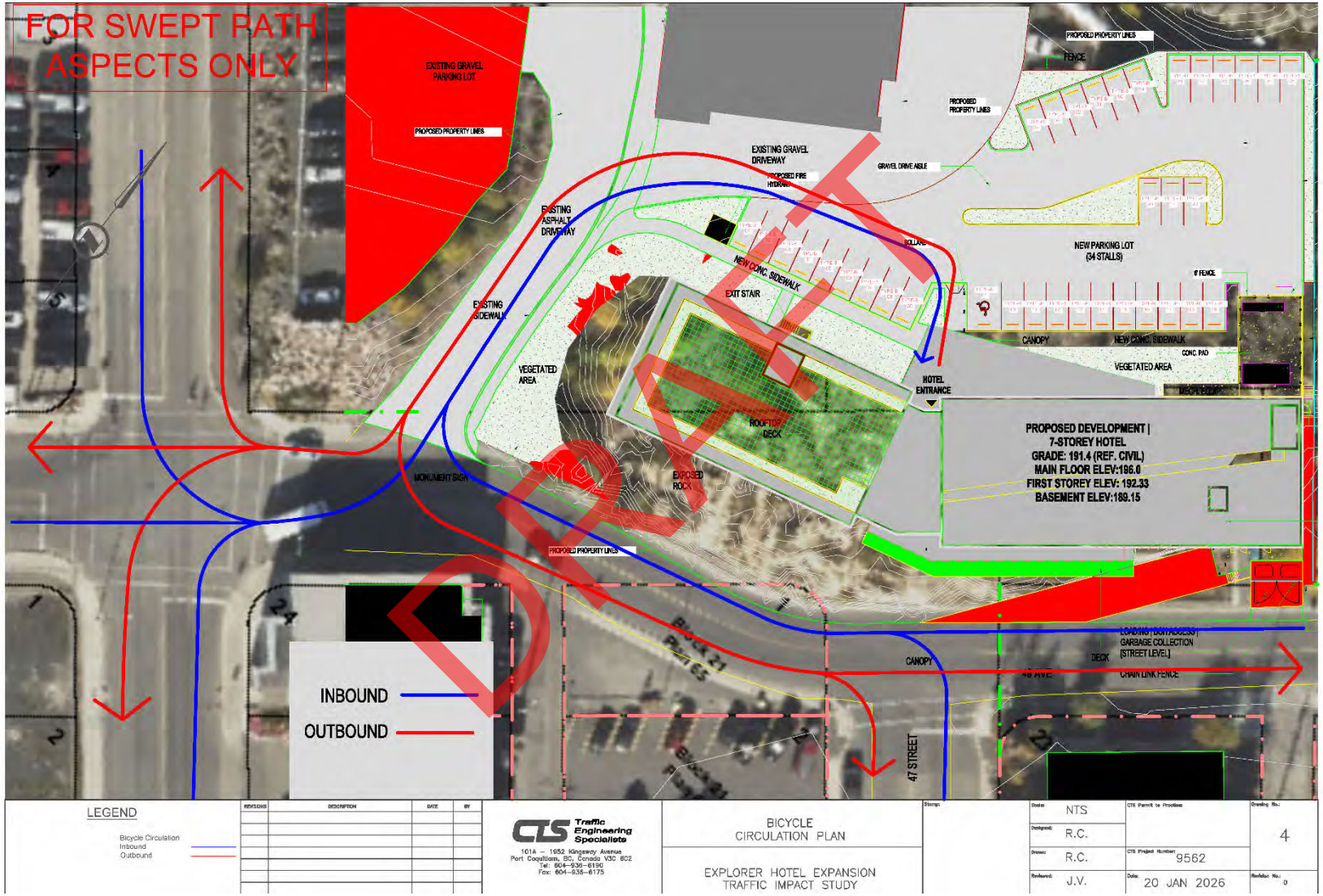


FIGURE 24
BICYCLE CIRCULATION PLAN



6.0 CONCLUSIONS

1) Nunastar Properties Inc. is proposing to expand the Explorer Hotel located at 4610 – 49th Avenue in downtown Yellowknife by constructing a 5 story hotel building consisting of up to 150 additional guest rooms. The new building would share the existing hotel access on 49th Avenue. For the purposes of the traffic impact assessment, it was assumed that the Hotel Expansion development would be constructed completely and fully occupied by the year 2028.

2) CTS staff conducted a detailed site visit on Monday, 1 September 2025, Tuesday, 2 September 2025 and on Wednesday 3 September 2025. In addition, CTS staff conducted intersection traffic turning movement counts at all key intersections in the study area in September 1st to 3rd in order to document existing baseline vehicle, pedestrian and bicycle demand. On the day of the Sept 2nd and 3rd traffic counts, all public schools in Yellowknife were open and ther w s no weather event that could have adversely affected traffic patterns. When compared to the traffic movement count data at 48th Street and 49th Avenue, it was dete mined that the peak hour traffic volumes for the conference day (September 1st, 2025) were lower than the non-conference day (September 2nd, 2025). Therefore, no "c nference" adjustment factor was applied to the traffic count data for the study.

3) The Explorer hotel is located in n xt t downtown Yellowknife and serviced by Bus Route #3 (Niven Loop), which operat s the counter clockwise direction on Yellowknife Access Road. The near s bus stop is located on 48th street immediately south of 49th Avenue which is 170 m tres (or 3 minutes walking distance) from the Explorer Hotel. Withi 350 m tres of t e hotel on Franklin Avenue are two more bus routes with bus stops. Ther fore, a ess to public transit from this site is very good.

4) CTS staff also conduc ed a ehicle trip generation survey of the exiting Explorer Hotel, which cont ins 259 gu st rooms, 9 meeting rooms, and a conference rooms to accommodat up to 350 eople. The survey was conducted on both "conference day" and "non-confe ence day". When comparing the measured vehicle generation rates from the existing Expl rer Hotel to published vehicle trip generation rates (12th Edition) from the Institute of Transportation Engineers (ITE), it was determined the ITE rates were higher. In order to ensure that the traffic impact study examined the worst-case scenario, the ITE vehicle trip generation rates were used to forecast traffic volumes for the proposed hotel expansion.

5) The proposed hotel expansion development analyzed in this report is estimated to conservatively generate up to 51 vehicles during the weekday morning peak hour (i.e., 27 inbound and 24 outbound) and up to 71 vehicles during the weekday afternoon peak hour (i.e., 36 inbound and 35 inbound). Of note, the projected site volumes are not considered to be significant from a traffic engineering point of view as it only represents on average one vehicle movement every minute during peak hours.

6) Intersection capacity analysis was undertaken of the adjacent key intersections for both base conditions and with the addition of the site traffic for the years 2025, 2028 and 2033. Based on the analysis the following was determined:

I) The unsignalized intersection of existing Explorer Hotel Access at 49th Avenue will operate at Level of Service (LOS) A which is excellent during the weekday morning and afternoon peak hours for all scenarios by the year 2025, 2028 and 2033. All turning movements are under capacity.

II) The unsignalized intersection of Yellowknife Access Road / 48th Street at 49th Avenue will operate at LOS C (fair) or above during the weekday morning and afternoon peak hours for all scenarios by the year 2025, 2028, and 2033. The northbound movements are approaching capacity in the afternoon by the year 2033 base + site scenario. Frequent vehicle queuing was observed.

III) The unsignalized intersection of 49th Avenue at 49th Street will operate at LOS B (good) or above during the weekday morning and afternoon peak hours for all scenarios by the year 2025, 2028 and 2033. All turning movements are under capacity

IV) The signalized intersection of Franklin Avenue at 48th Street will operate at LOS B (good) or above during the weekday morning and afternoon peak hours for all scenarios by the year 2025, 2028 and 2033. All turning movements are under capacity. Of note, frequent vehicle queuing was observed during the morning and afternoon peak hours but the majority of vehicles were observed to clear the intersection within a single signal cycle.

7) A traffic signal warrant assessment was done for both a full signal and a pedestrian (or half) signal at the intersection of 48th Street & 49th Avenue. It was determined that a full traffic is currently 88% warranted with 2025 traffic volumes and forecast to be 97% warranted by the year 2028 base conditions. Addition of the hotel expansion traffic by the year 2028 will increases the warrant value to 104% which meets the signal warrant threshold. Therefore, a full traffic signal is warranted for the 2028 base + hotel expansion traffic volumes at the intersection of 49th Avenue and 48th Street / Yellowknife Access Road. However it should be noted that the site traffic volumes from the hotel expansion only contribute to the entering intersection volume 4.9% (47 veh/hr) during the weekday morning peak hour and 6.6% (65 veh/hr) during the weekday afternoon peak hour.

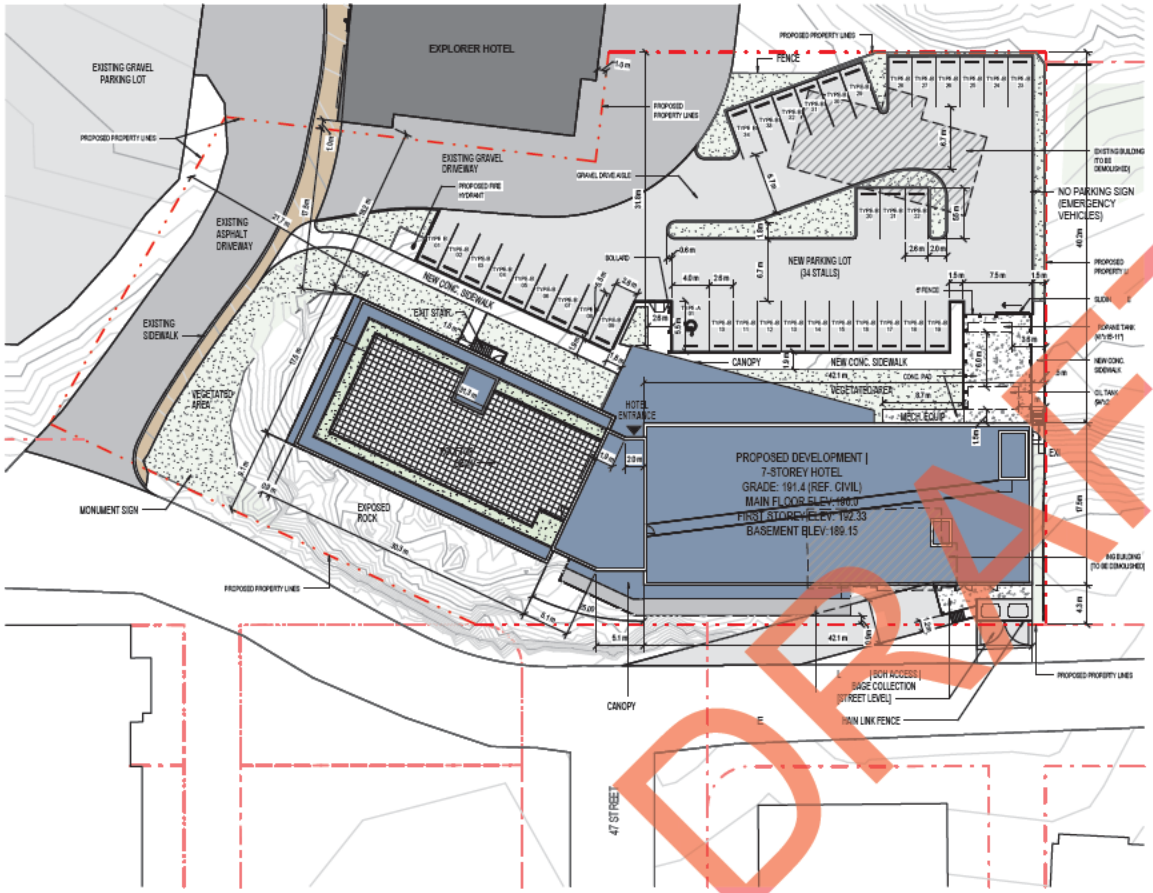
8) A review of the vehicle circulation determined that the proposed site access can accommodate the design fire truck for the City. For the loading access on 49th Avenue, a heavy single unit truck (HSU) can be accommodated however it requires the truck to back into the bay from 49th Avenue. Given that the traffic volumes on 49th Avenue next to the proposed loading bay are low, traffic conflicts between a truck and a vehicle are expected to be very low. However, it is noted that access to the loading bay on 49th Avenue is restricted and will require trucks to access the loading bay via the intersection of 49th Avenue & 47th Street.

7.0 RECOMMENDATIONS

Based on the data, analysis and conclusions documented by this study, the following is recommended:

1) That the City of Yellowknife to provide a designated right-turn lane on north/west approach from Yellowknife Access Road at 49th Avenue and Install a “right-turn” only lane sign with “EXCEPT BUSES” tab sign; and
2) That the City of Yellowknife signalizes the intersection of 48th Street & 49th Avenue by the year 2028 and that Nunastar Properties Inc. contribute up to 6.6% of the construction cost of the new traffic signal to accommodate the hotel expansion traffic volumes.

Appendix A
Site Plan



1 DP-01 ENLARGED SITE PLAN
1 : 250

2 DP-01 DP-KEY PLAN
1 : 1250

TOTAL UNIT COUNT		
Name	Count	Percentage
ACCESSIBLE HOTEL RM	2	1%
DOUBLE QUEEN	23	15%
DOUBLE QUEEN w/ KITCHEN	15	10%
MICRO SUITE	32	21%
PREMIUM 1 BDRM SUITE	1	1%
PREMIUM KING	9	6%
SINGLE QUEEN	4	3%
STANDARD KING	49	33%
STANDARD KING w/ KITCHEN	15	10%
TOTAL	150	100%

PROJECT INFORMATION	
ADDRESS:	4610 49th AVE, YELLOWKNIFE
LEGAL ADDRESS:	LOT 1, BLOCK 21A, PLAN 480 LOT 3, BLOCK 67A, PLAN 486
ZONING:	DT-DOWNTOWN
7 STOREY HOTEL 1 STOREY BASEMENT	
BUILDING HEIGHT (ABOVE FIRST STOREY):	
MAXIMUM	45 M
PROPOSED	±26.1 M
GFA:	
LEVEL 01-05	1,373.1 m² x 5 = 6,865.5 m²
MECH. PENTHOUSE	145.4 m²
	7,010.9 m²
BASEMENT	260.1 m²
FIRST STOREY (INCL. CRWAL SPACE)	1,109.6 m²
TOTAL	8,380.6 m²
HOTEL ROOMS:	150
PARKING:	
REQUIRED	NO MIN. PARKING REQUIRED DT
PROVIDED	35 STALLS (1 TYPE A, 34 TYPE B)
SETBACKS:	
ALL LOT LINES	0 M

Appendix B
Turning Movement Count Summary Sheets

Monday, September 01, 2025

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny

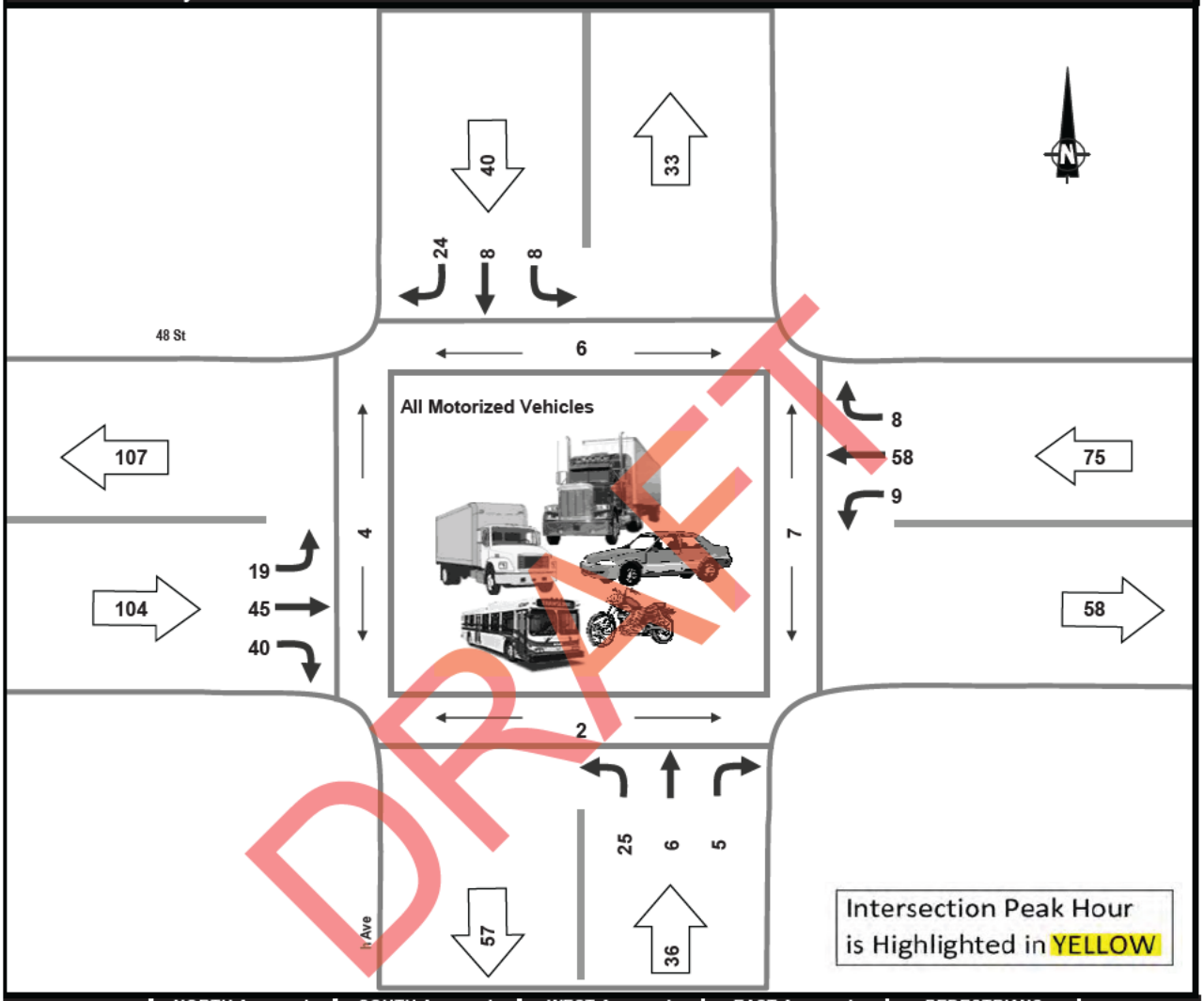
Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	466	4				**470**
	%	99.1%	0.9%				**100.0%**
Afternoon (15:30 - 17:30)	Volume	1,204	6				**1,210**
	%	99.5%	0.5%				**100.0%**
Total (4 Hours)	**Volume**	**1,670**	**10**				**1,680**
	%	**99.4%**	**0.6%**				**100.0%**

49th Ave & 48 St
Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 8:30 AM to 9:30 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	8	8	24	25	6	5	19	45	40	9	58	8	6	2	4	7	255
PHF	1.00	0.67	0.75	0.57	0.75	0.63	0.68	0.70	0.83	0.56	0.85	0.67	0.38	0.50	0.50	0.44	0.87
Peak 15 X 4	8	12	32	44	8	8	28	64	48	16	68	12	16	4	8	16	292
Average Hour	8	9	25	26	5	4	17	39	31	9	58	8	4	2	6	9	239
Survey Total	15	18	49	51	9	8	34	77	61	17	115	16	8	3	11	17	470
7:30	2	1	2	5	1	1	3	6	2	0	10	3	0	0	2	2	36
7:45	1	2	8	10	0	2	1	6	8	4	23	2	1	0	3	2	67
8:00	2	5	8	5	1	0	5	12	8	2	17	1	0	1	1	1	66
8:15	2	2	7	6	1	0	6	8	3	2	7	2	1	0	1	5	46
8:30	2	3	6	4	2	2	5	9	7	3	12	1	0	0	1	1	56
8:45	2	0	6	11	1	0	7	16	9	4	14	3	2	1	2	0	73
9:00	2	2	8	6	2	2	4	9	12	2	15	1	4	1	1	2	65
9:15	2	3	4	4	1	1	3	11	12	0	17	3	0	0	0	4	61

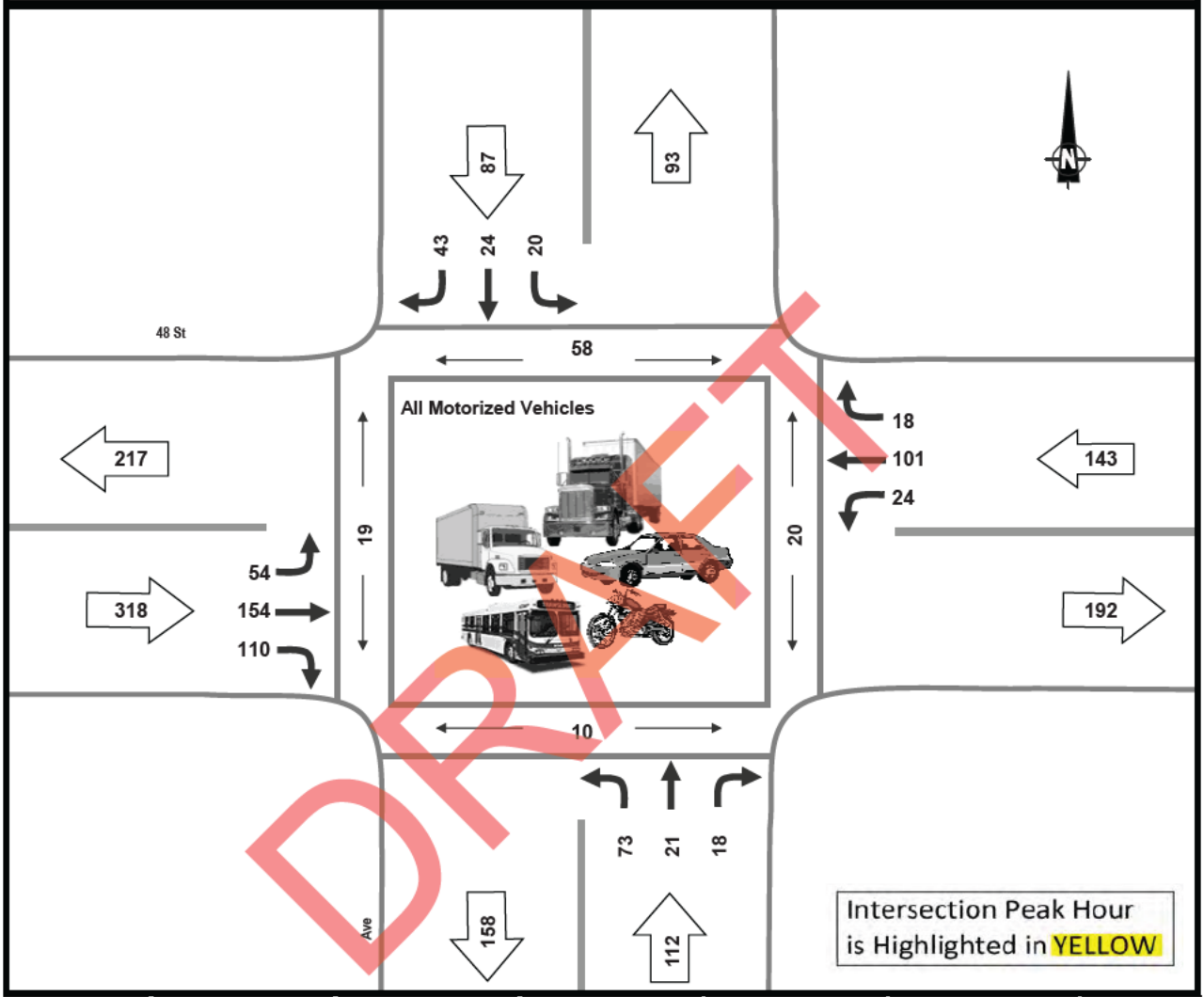
49th Ave & 48 St

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 3:30 PM to 4:30 PM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	20	24	43	73	21	18	54	154	110	24	101	18	58	10	19	20	660
PHF	0.71	0.67	0.77	0.83	0.66	0.75	0.71	0.94	0.81	0.75	0.94	0.56	0.85	0.63	0.68	0.63	0.90
Peak 15 X 4	28	36	56	88	32	24	76	164	136	32	108	32	68	16	28	32	732
Average Hour	16	18	42	73	22	22	49	130	98	19	102	18	64	6	19	19	609
Survey Total	31	35	83	145	43	44	97	259	196	37	204	36	127	11	37	38	1,210
15:30	6	7	14	20	8	5	15	41	28	8	27	4	17	2	4	7	183
15:45	5	6	10	19	6	4	8	38	20	5	25	8	13	1	5	8	154
16:00	2	9	9	12	4	6	12	38	28	6	27	3	16	3	3	2	156
16:15	7	2	10	22	3	3	19	37	34	5	22	3	12	4	7	3	167
16:30	3	4	9	21	8	6	12	27	19	5	32	10	15	0	3	7	156
16:45	4	4	7	16	3	9	13	36	28	4	28	2	16	1	5	7	154
17:00	1	3	12	24	6	5	7	17	19	1	22	3	19	0	9	2	120
17:15	3	0	12	11	5	6	11	25	20	3	21	3	19	0	1	2	120

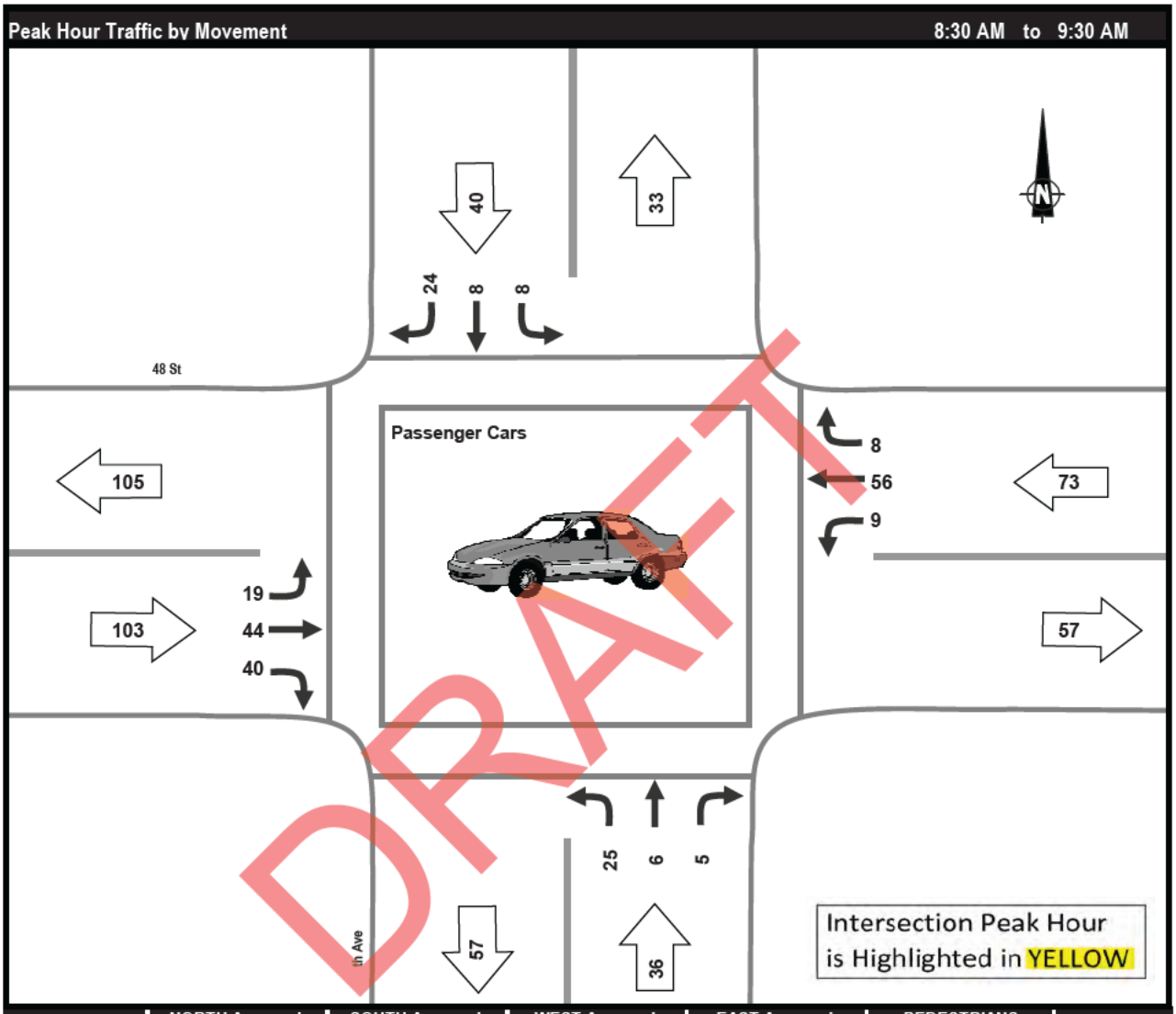
49th Ave & 48 St

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars

Peak Hour Traffic by Movement 8:30 AM to 9:30 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	8	8	24	25	6	5	19	44	40	9	56	8					252
PHF	1.00	0.67	0.75	0.57	0.75	0.63	0.68	0.69	0.83	0.56	0.82	0.67					0.86
Peak 15 X 4	8	12	32	44	8	8	28	64	48	16	68	12					292
Average Hour	8	9	25	26	5	4	17	38	31	9	57	8					237
Survey Total	15	18	49	51	9	8	34	75	61	17	113	16					466
7:30	2	1	2	5	1	1	3	6	2	0	10	3					36
7:45	1	2	8	10	0	2	1	6	8	4	23	2					67
8:00	2	5	8	5	1	0	5	11	8	2	17	1					65
8:15	2	2	7	6	1	0	6	8	3	2	7	2					46
8:30	2	3	6	4	2	2	5	9	7	3	11	1					55
8:45	2	0	6	11	1	0	7	16	9	4	14	3					73
9:00	2	2	8	6	2	2	4	9	12	2	14	1					64
9:15	2	3	4	4	1	1	3	10	12	0	17	3					60

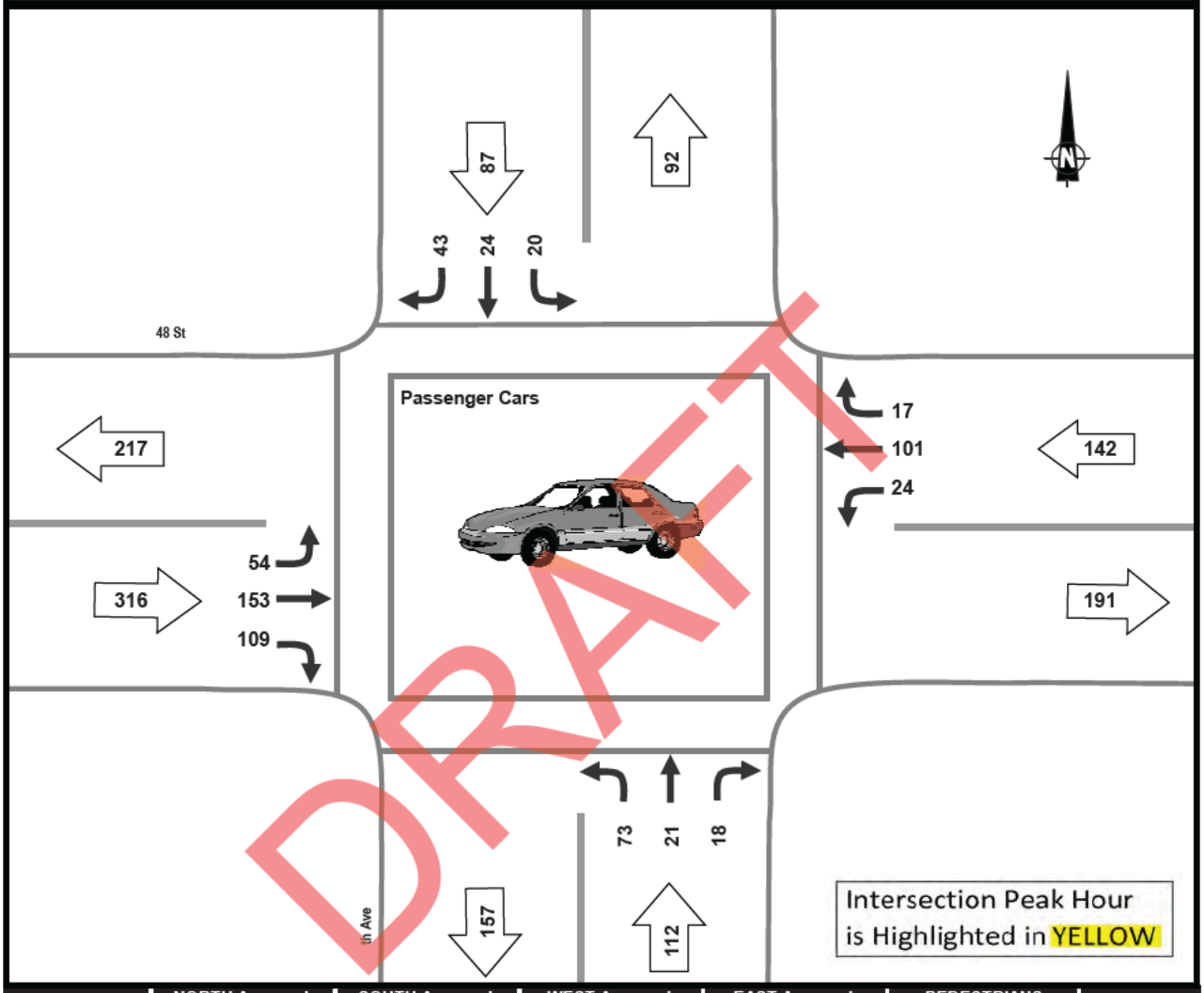
49th Ave & 48 St

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars

Peak Hour Traffic by Movement 3:30 PM to 4:30 PM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**20**	**24**	**43**	**73**	**21**	**18**	**54**	**153**	**109**	**24**	**101**	**17**					**657**
PHF	0.71	0.67	0.77	0.83	0.66	0.75	0.71	0.93	0.83	0.75	0.94	0.53					0.90
Peak 15 X 4	28	36	56	88	32	24	76	164	132	32	108	32					732
Average Hour	15	18	42	73	22	22	49	129	98	19	102	18					607
Survey Total	30	35	83	145	43	44	97	257	195	37	203	35					1,204
15:30	6	7	14	20	8	5	15	41	28	8	27	4					183
15:45	5	6	10	19	6	4	8	37	20	5	25	8					153
16:00	2	9	9	12	4	6	12	38	28	6	27	2					155
16:15	7	2	10	22	3	3	19	37	33	5	22	3					166
16:30	2	4	9	21	8	6	12	27	19	5	31	10					154
16:45	4	4	7	16	3	9	13	36	28	4	28	2					154
17:00	1	3	12	24	6	5	7	16	19	1	22	3					119
17:15	3	0	12	11	5	6	11	25	20	3	21	3					120

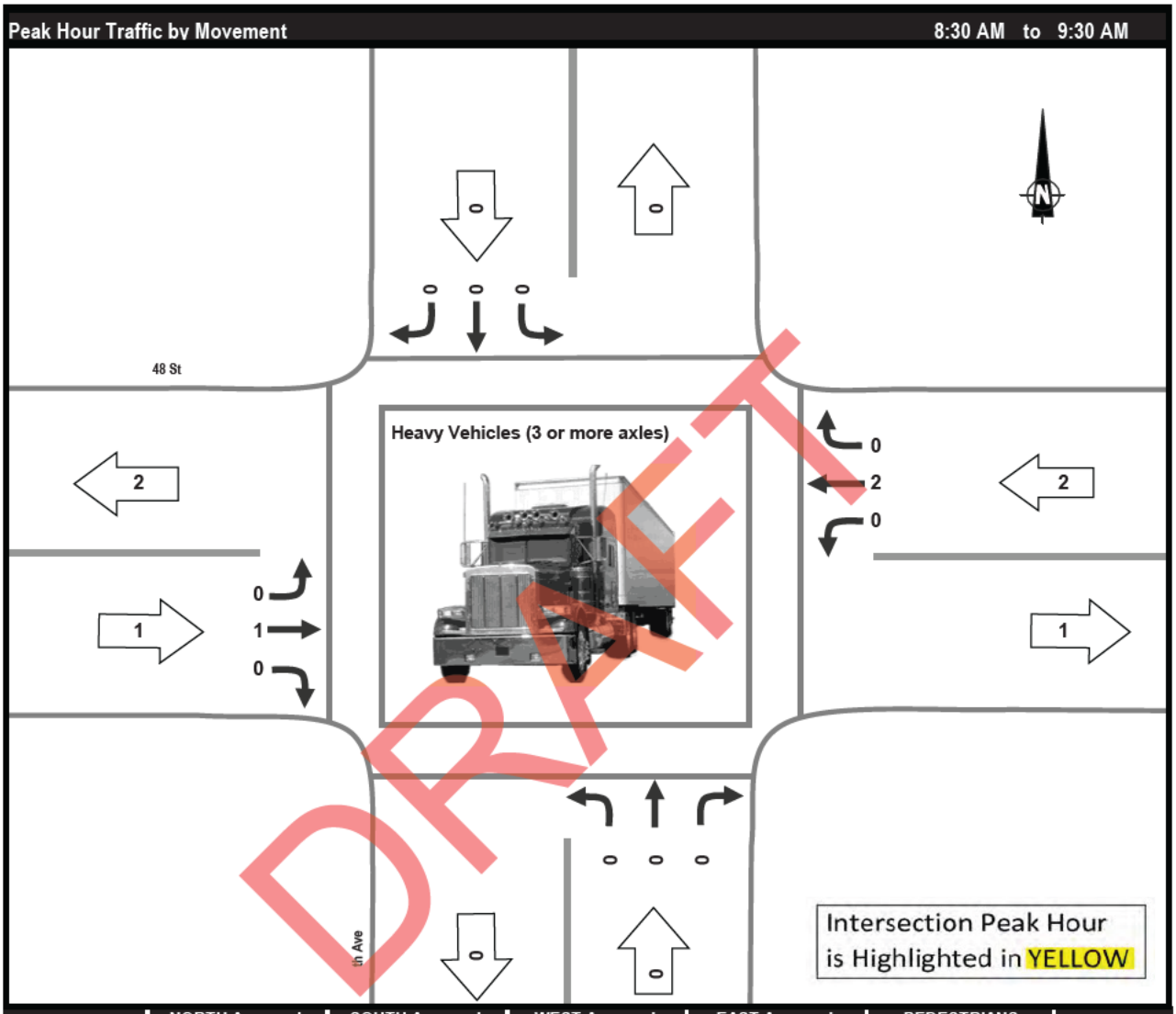
49th Ave & 48 St

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)

Peak Hour Traffic by Movement 8:30 AM to 9:30 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	0	0	0	0	0	0	1	0	0	2	0					3
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.50	0.00					0.75
Peak 15 X 4	0	0	0	0	0	0	0	4	0	0	4	0					4
Average Hour	0	0	0	0	0	0	0	1	0	0	1	0					2
Survey Total	0	0	0	0	0	0	0	2	0	0	2	0					4
7:30	0	0	0	0	0	0	0	0	0	0	0	0					0
7:45	0	0	0	0	0	0	0	0	0	0	0	0					0
8:00	0	0	0	0	0	0	0	1	0	0	0	0					1
8:15	0	0	0	0	0	0	0	0	0	0	0	0					0
8:30	0	0	0	0	0	0	0	0	0	0	1	0					1
8:45	0	0	0	0	0	0	0	0	0	0	0	0					0
9:00	0	0	0	0	0	0	0	0	0	0	1	0					1
9:15	0	0	0	0	0	0	0	1	0	0	0	0					1

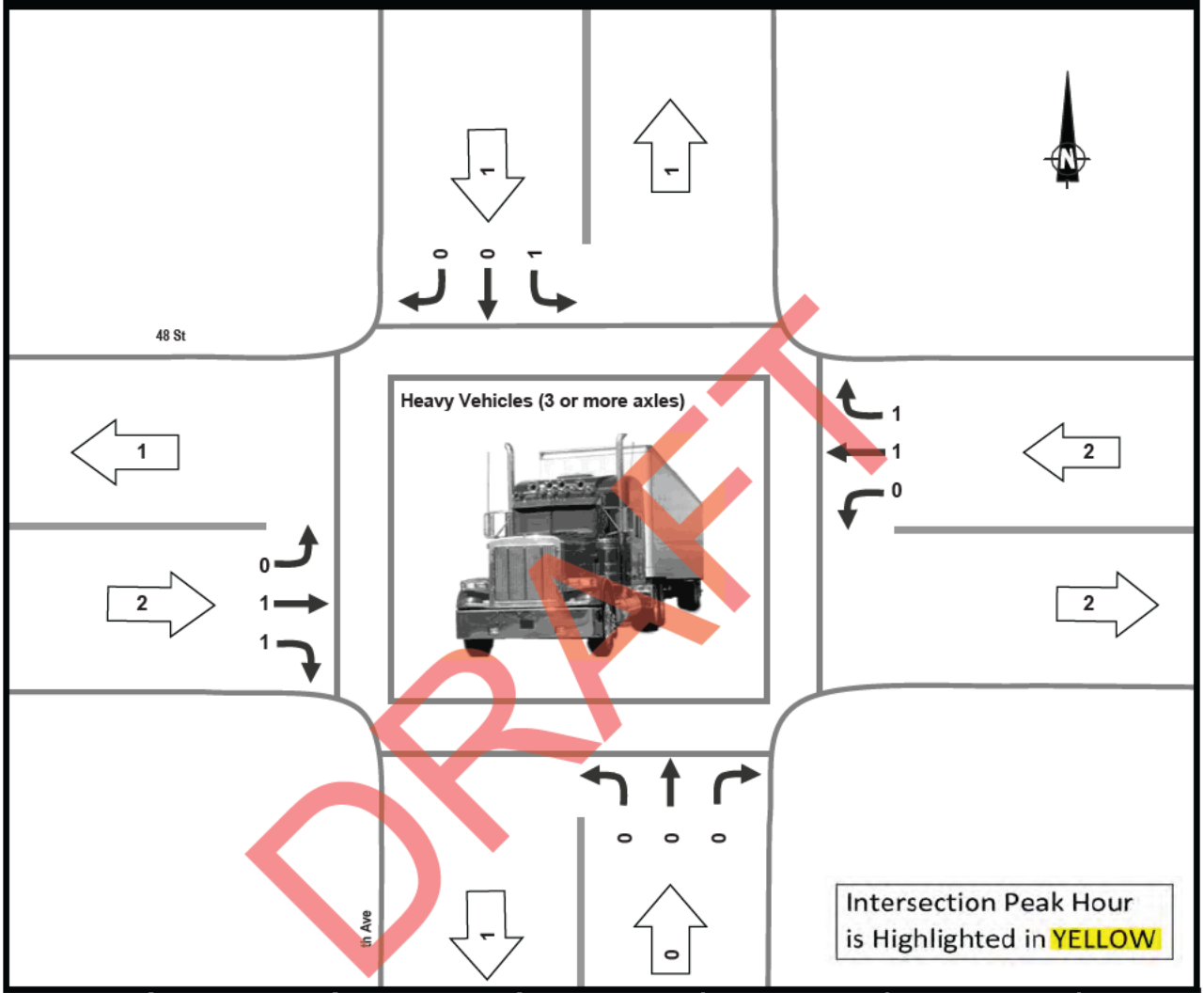
49th Ave & 48 St

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)

Peak Hour Traffic by Movement 3:45 PM to 4:45 PM



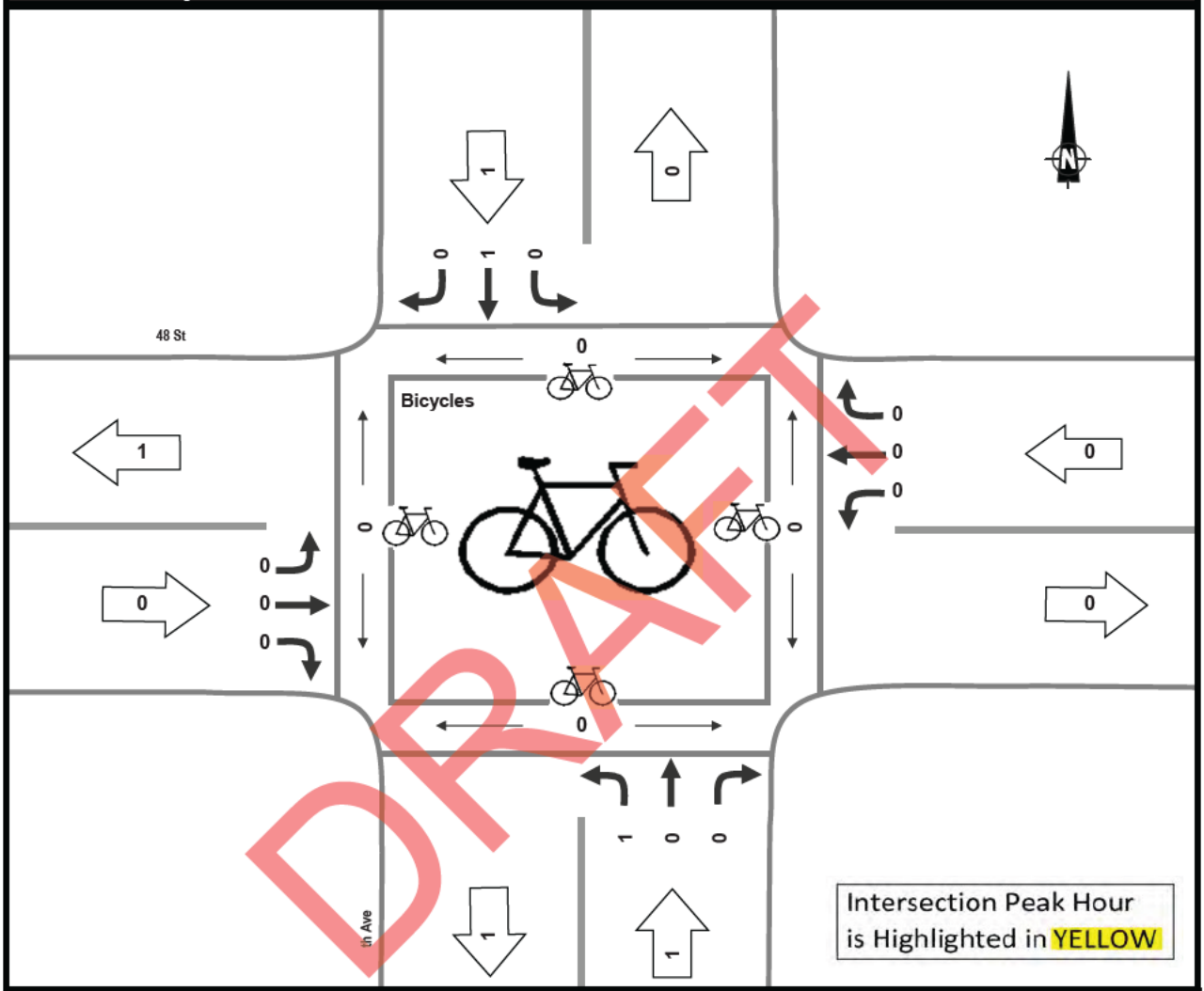
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	1	0	0	0	0	0	0	1	1	0	1	1					5
PHF	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.00	0.25	0.25					0.63
Peak 15 X 4	4	0	0	0	0	0	0	4	4	0	4	4					8
Average Hour	1	0	0	0	0	0	0	1	1	0	1	1					5
Survey Total	1	0	0	0	0	0	0	2	1	0	1	1					6
15:30	0	0	0	0	0	0	0	0	0	0	0	0					0
15:45	0	0	0	0	0	0	0	1	0	0	0	0					1
16:00	0	0	0	0	0	0	0	0	0	0	0	1					1
16:15	0	0	0	0	0	0	0	0	1	0	0	0					1
16:30	1	0	0	0	0	0	0	0	0	0	1	0					2
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	1	0	0	0	0					1
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0

49th Ave & 48 St
Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 7:30 AM to 8:30 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
PHF	0.00	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Peak 15 X 4	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8
Average Hour	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Survey Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

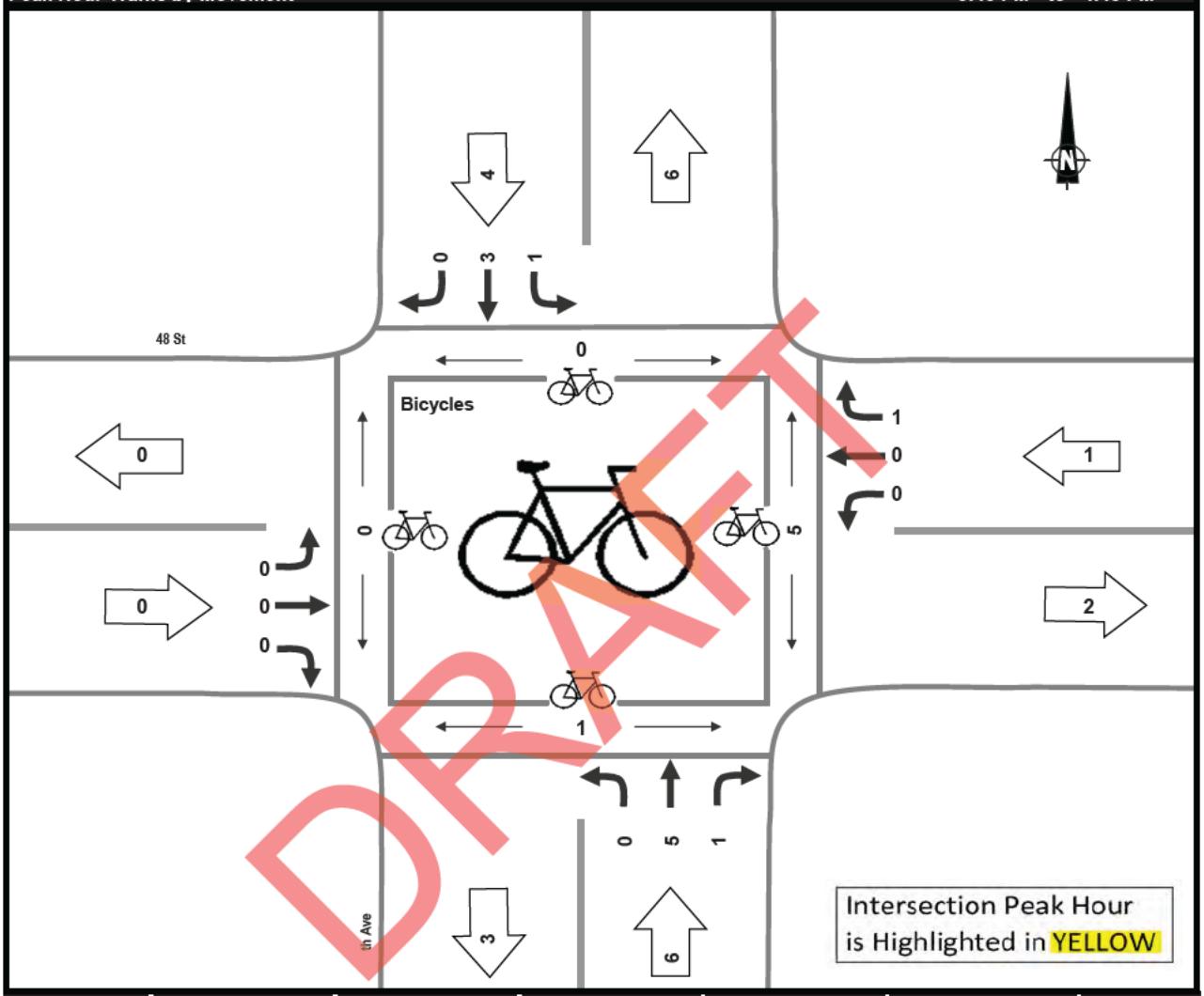
49th Ave & 48 St

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 3:45 PM to 4:45 PM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	1	3	0	0	5	1	0	0	0	0	0	1	0	1	0	5	17
PHF	0.25	0.38	0.00	0.00	0.42	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.25	0.53
Peak 15 X 4	4	8	0	0	12	4	0	0	0	0	0	4	0	4	0	20	32
Average Hour	1	2	0	0	5	1	0	0	0	0	0	1	0	1	0	3	14
Survey Total	1	3	0	0	10	1	0	0	0	0	0	1	0	1	0	6	23
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
16:00	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	5	8
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

Tuesday, September 02, 2025

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny

Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	1,458	9				**1,467**
	%	99.4%	0.6%				**100.0%**
Afternoon (15:30 - 17:30)	Volume	1,803	4				**1,807**
	%	99.8%	0.2%				**100.0%**
Total (4 Hours)	**Volume**	**3,261**	**13**				**3,274**
	%	**99.6%**	**0.4%**				**100.0%**

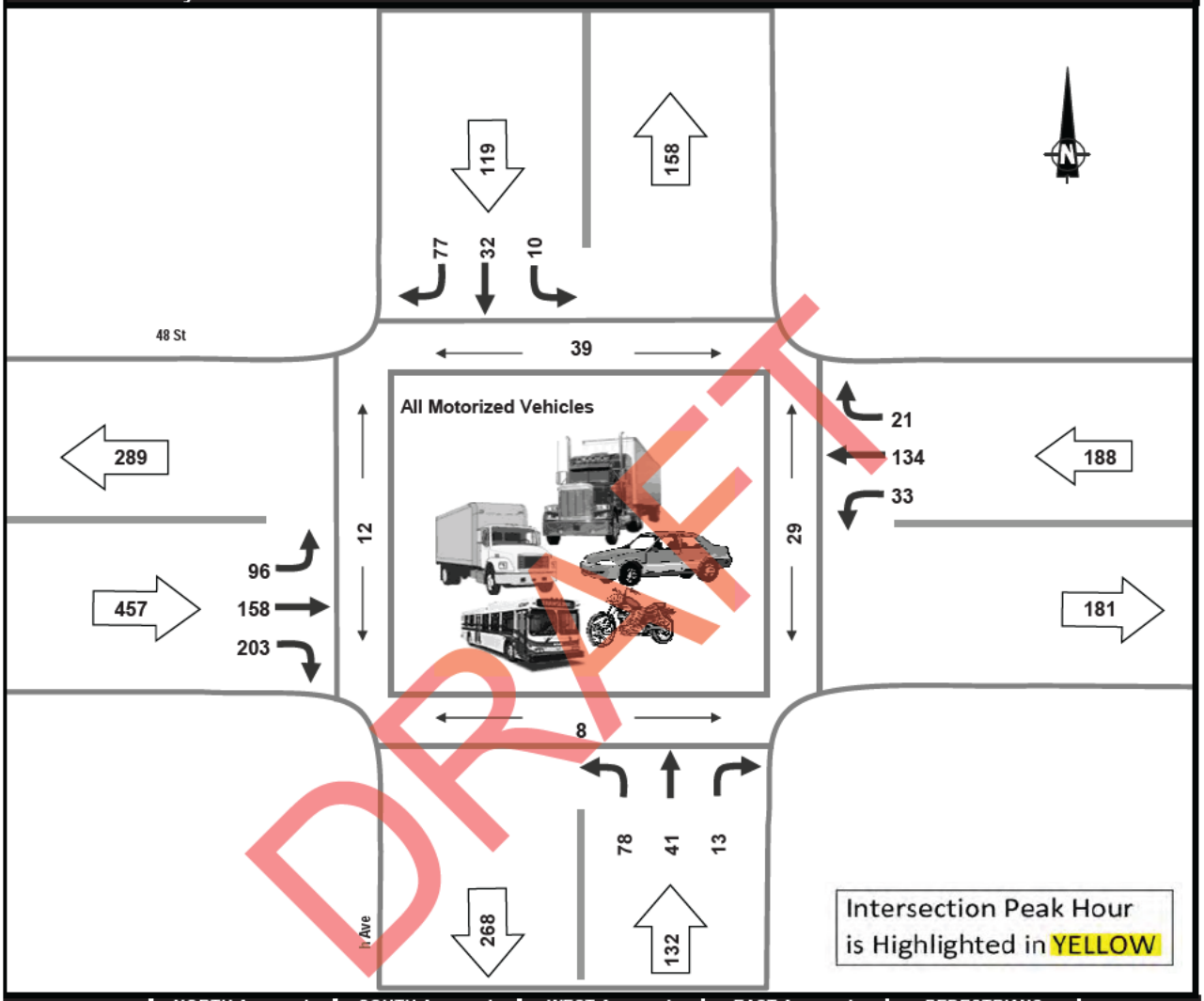
49th Ave & 48 St

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 8:00 AM to 9:00 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	10	32	77	78	41	13	96	158	203	33	134	21	39	8	12	29	896
PHF	0.63	0.62	0.74	0.72	0.73	0.54	0.71	0.79	0.70	0.83	0.82	0.88	0.65	0.50	0.38	0.66	0.84
Peak 15 X 4	16	52	104	108	56	24	136	200	292	40	164	24	60	16	32	44	1,064
Average Hour	9	32	58	74	34	17	67	130	161	25	111	17	27	7	13	25	735
Survey Total	18	63	116	148	67	34	134	259	322	50	222	34	54	14	26	49	1,467
7:30	1	6	7	11	1	3	6	19	28	2	20	3	4	4	4	3	107
7:45	1	10	6	14	6	6	13	35	45	2	30	6	4	2	8	8	174
8:00	0	6	15	15	8	1	23	49	63	9	26	5	6	1	3	3	220
8:15	2	7	26	15	11	5	34	50	73	8	29	6	14	2	1	11	266
8:30	4	13	19	27	14	6	20	32	39	10	38	5	15	4	0	11	227
8:45	4	6	17	21	8	1	19	27	28	6	41	5	4	1	8	4	183
9:00	2	9	13	15	7	4	8	17	34	6	20	1	1	0	2	4	136
9:15	4	6	13	30	12	8	11	30	12	7	18	3	6	0	0	5	154

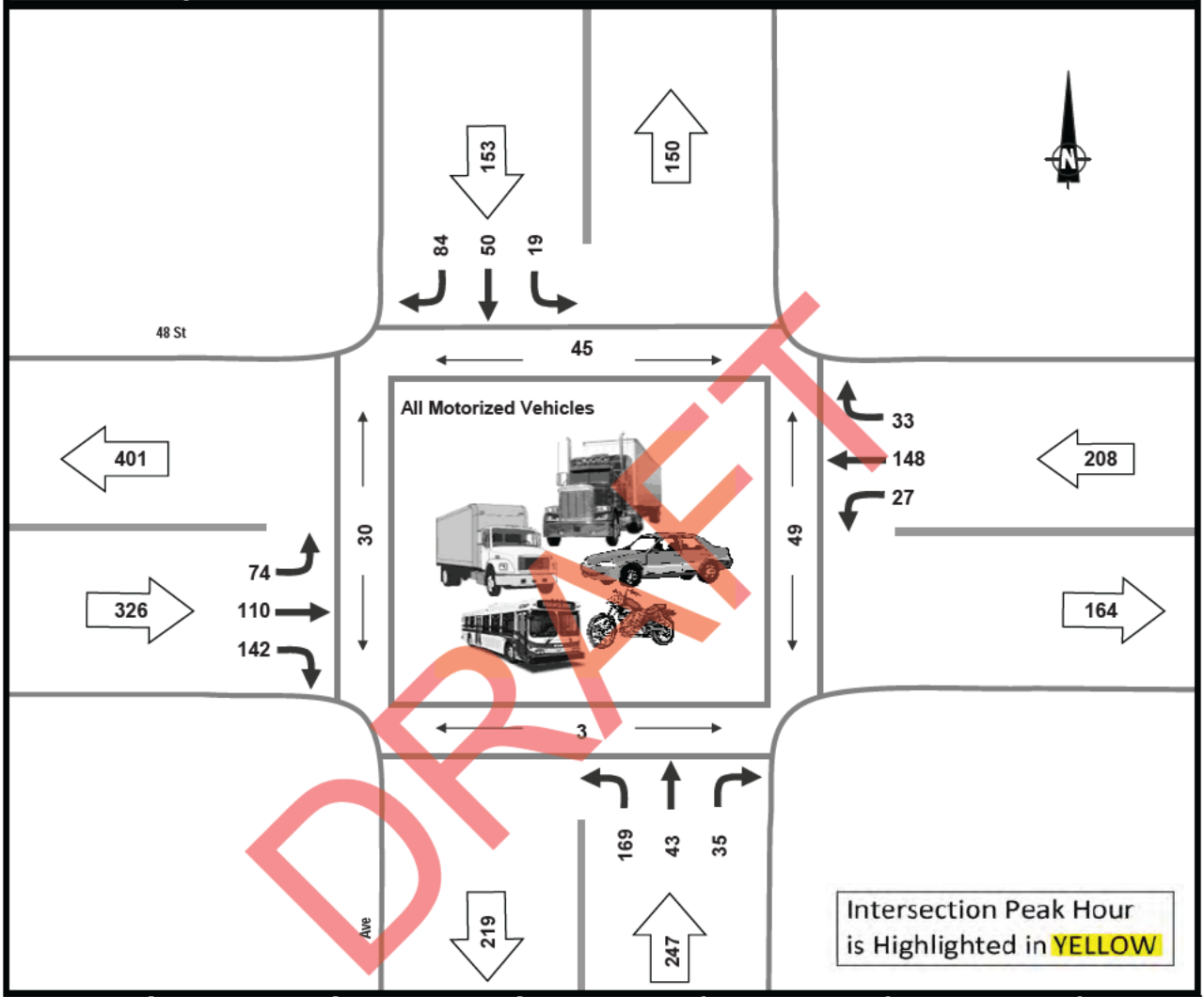
49th Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 4:15 PM to 5:15 PM



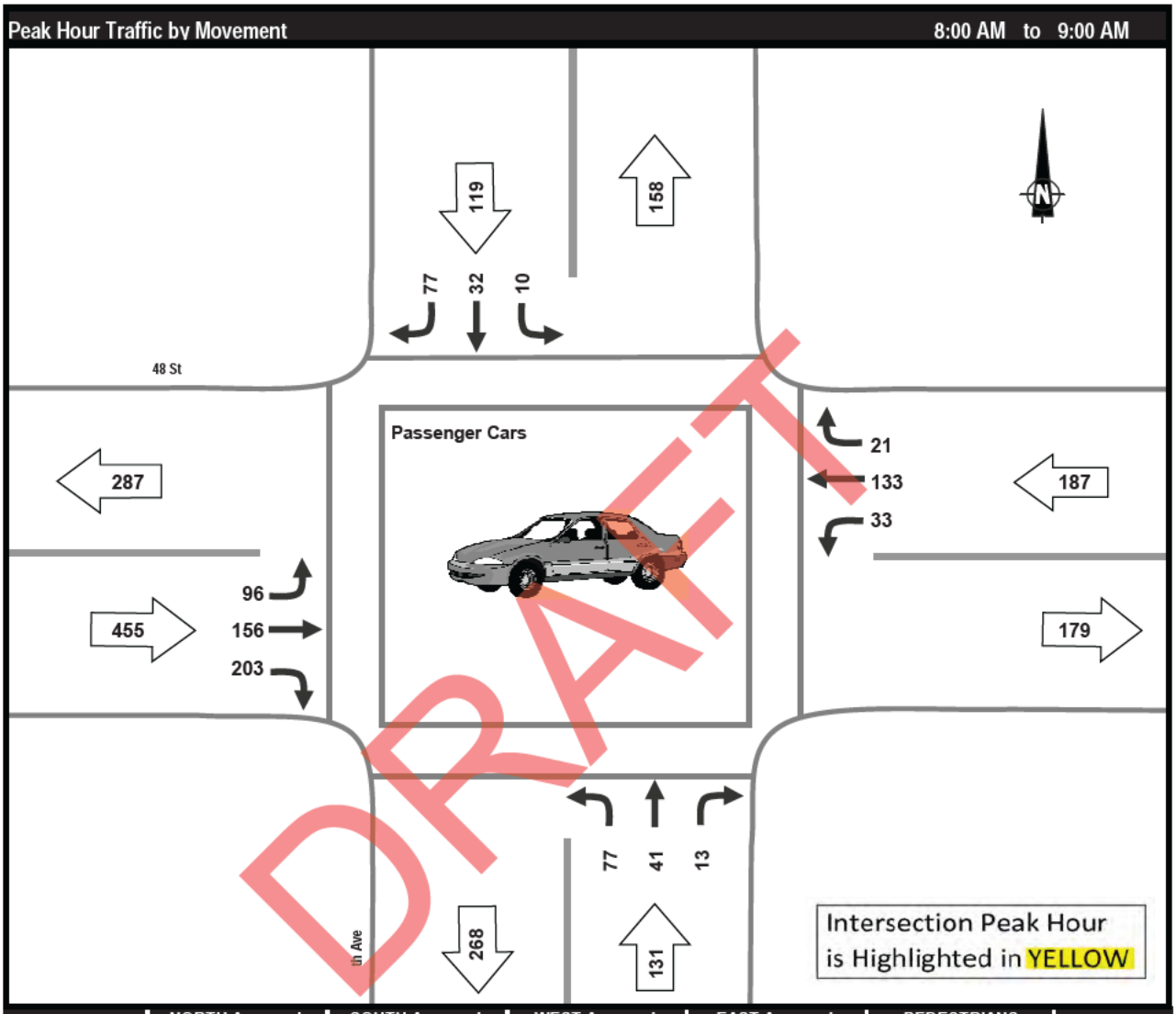
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	19	50	84	169	43	35	74	110	142	27	148	33	45	3	30	49	934
PHF	0.59	0.83	0.64	0.85	0.90	0.73	0.80	0.89	0.83	0.84	0.77	0.69	0.59	0.38	0.68	0.82	0.83
Peak 15 X 4	32	60	132	200	48	48	92	124	172	32	192	48	76	8	44	60	1,128
Average Hour	19	48	82	154	43	30	68	110	126	23	176	27	43	9	27	41	906
Survey Total	37	95	164	307	86	60	135	220	252	46	352	53	85	18	54	82	1,807
15:30	5	10	28	42	11	6	18	22	26	7	57	3	17	5	5	13	235
15:45	3	12	14	24	9	8	14	33	33	6	43	6	9	3	6	2	205
16:00	6	15	16	44	12	8	17	24	26	4	53	6	9	5	5	7	231
16:15	2	8	13	40	12	6	17	31	31	7	34	4	6	2	9	13	205
16:30	4	13	19	50	12	6	15	31	31	8	31	5	19	0	11	15	225
16:45	5	14	19	31	10	11	19	25	37	4	35	12	6	0	9	9	222
17:00	8	15	33	48	9	12	23	23	43	8	48	12	14	1	1	12	282
17:15	4	8	22	28	11	3	12	31	25	2	51	5	5	2	8	11	202

49th Ave & 48 St

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**10**	**32**	**77**	**77**	**41**	**13**	**96**	**156**	**203**	**33**	**133**	**21**					**892**
PHF	0.63	0.62	0.74	0.71	0.73	0.54	0.71	0.78	0.70	0.83	0.81	0.88					0.84
Peak 15 X 4	16	52	104	108	56	24	136	200	292	40	164	24					1,056
Average Hour	9	32	58	74	34	17	67	129	161	25	109	17					732
Survey Total	18	63	115	147	67	33	134	257	322	50	218	34					1,458
7:30	1	6	7	11	1	3	6	19	28	2	19	3					106
7:45	1	10	6	14	6	6	13	35	45	2	30	6					174
8:00	0	6	15	15	8	1	23	48	63	9	26	5					219
8:15	2	7	26	14	11	5	34	50	73	8	28	6					264
8:30	4	13	19	27	14	6	20	32	39	10	38	5					227
8:45	4	6	17	21	8	1	19	26	28	6	41	5					182
9:00	2	9	13	15	7	3	8	17	34	6	19	1					134
9:15	4	6	12	30	12	8	11	30	12	7	17	3					152

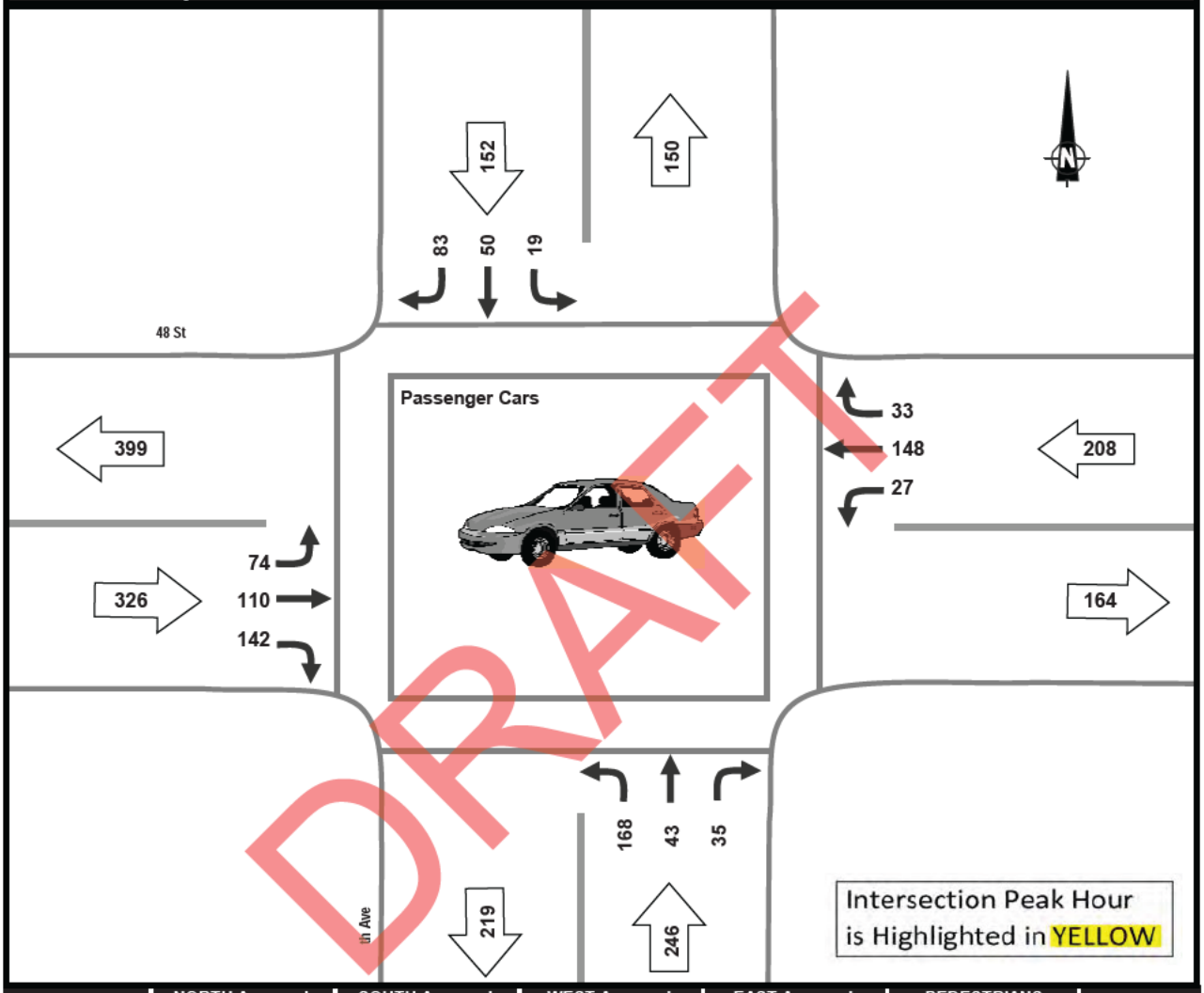
49th Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars

Peak Hour Traffic by Movement 4:15 PM to 5:15 PM



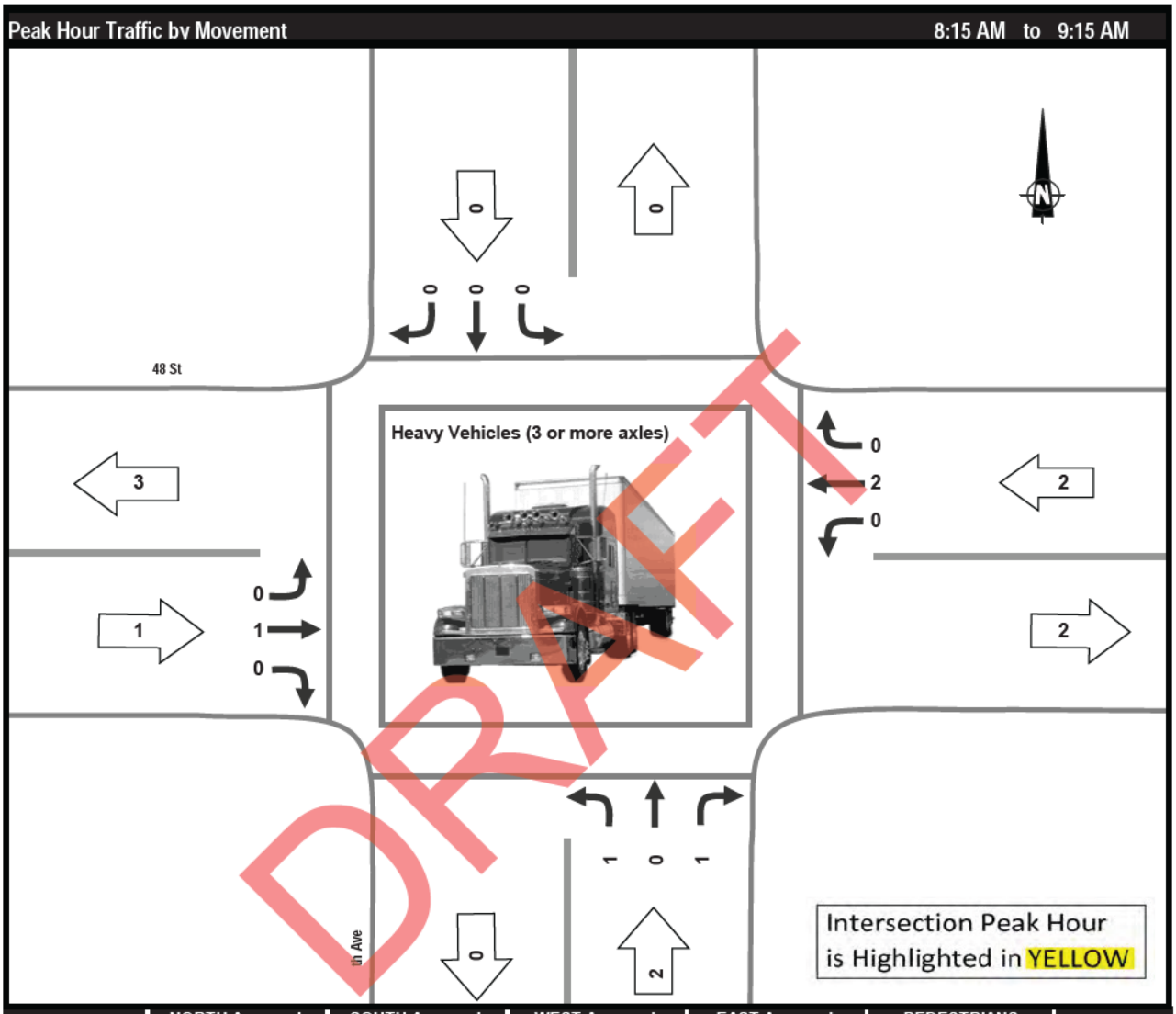
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	19	50	83	168	43	35	74	110	142	27	148	33					932
PHF	0.59	0.83	0.63	0.84	0.90	0.73	0.80	0.89	0.83	0.84	0.77	0.69					0.83
Peak 15 X 4	32	60	132	200	48	48	92	124	172	32	192	48					1,128
Average Hour	19	48	82	153	43	30	68	110	126	23	176	27					905
Survey Total	37	95	163	306	86	60	135	219	252	46	351	53					1,803
15:30	5	10	28	42	11	6	18	22	26	7	57	3					235
15:45	3	12	14	24	9	8	14	32	33	6	42	6					203
16:00	6	15	16	44	12	8	17	24	26	4	53	6					231
16:15	2	8	12	39	12	6	17	31	31	7	34	4					203
16:30	4	13	19	50	12	6	15	31	31	8	31	5					225
16:45	5	14	19	31	10	11	19	25	37	4	35	12					222
17:00	8	15	33	48	9	12	23	23	43	8	48	12					282
17:15	4	8	22	28	11	3	12	31	25	2	51	5					202

49th Ave & 48 St

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)



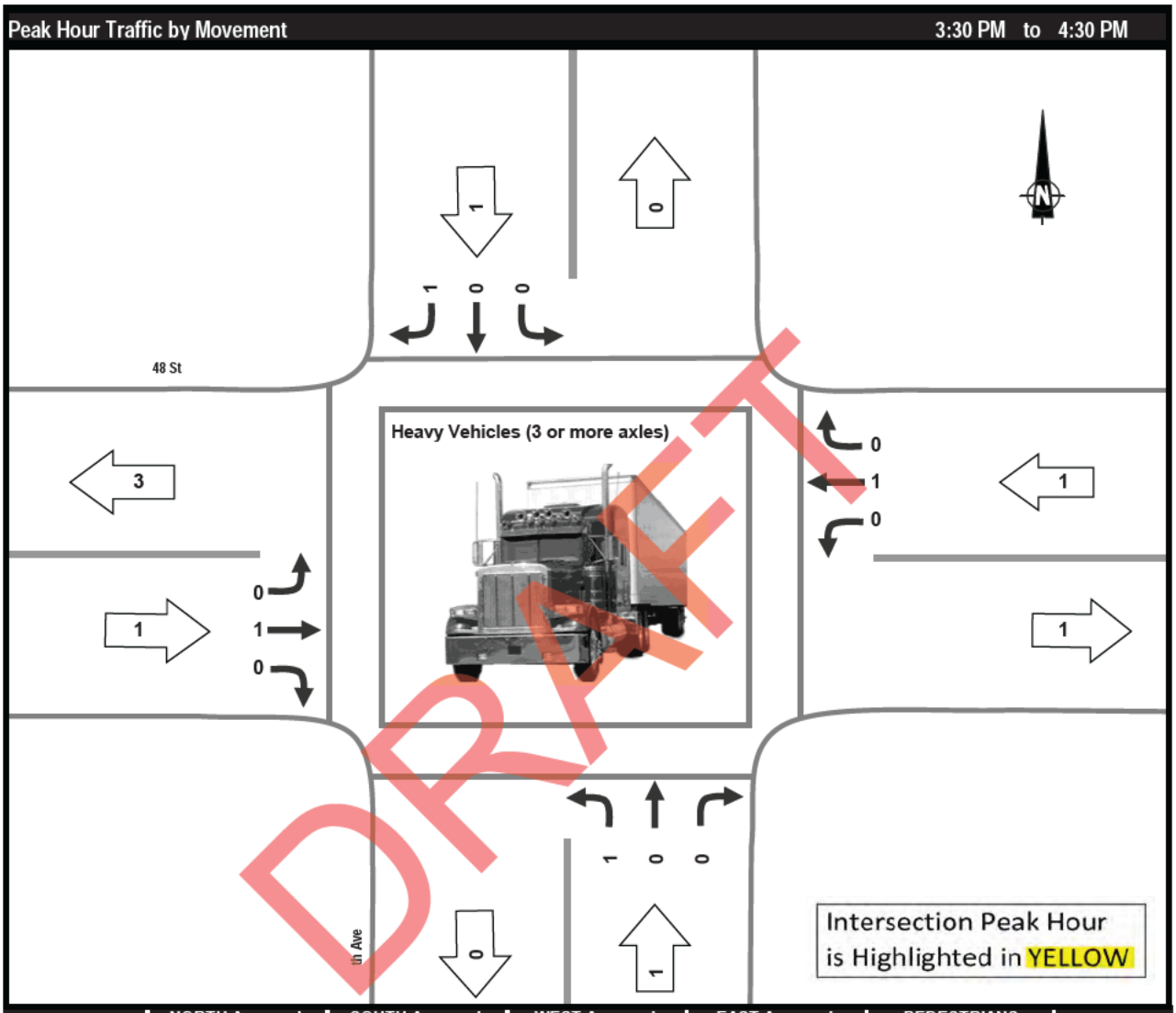
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**2**	**0**					**5**
PHF	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.00	0.50	0.00					0.63
Peak 15 X 4	0	0	0	4	0	4	0	4	0	0	4	0					8
Average Hour	0	0	1	1	0	1	0	1	0	0	2	0					6
Survey Total	0	0	1	1	0	1	0	2	0	0	4	0					9
7:30	0	0	0	0	0	0	0	0	0	0	1	0					1
7:45	0	0	0	0	0	0	0	0	0	0	0	0					0
8:00	0	0	0	0	0	0	0	1	0	0	0	0					1
8:15	0	0	0	1	0	0	0	0	0	0	1	0					2
8:30	0	0	0	0	0	0	0	0	0	0	0	0					0
8:45	0	0	0	0	0	0	0	1	0	0	0	0					1
9:00	0	0	0	0	0	1	0	0	0	0	1	0					2
9:15	0	0	1	0	0	0	0	0	0	0	1	0					2

49th Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	0	1	1	0	0	0	1	0	0	1	0					4
PHF	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.25	0.00					0.50
Peak 15 X 4	0	0	4	4	0	0	0	4	0	0	4	0					8
Average Hour	0	0	1	1	0	0	0	1	0	0	1	0					4
Survey Total	0	0	1	1	0	0	0	1	0	0	1	0					4
15:30	0	0	0	0	0	0	0	0	0	0	0	0					0
15:45	0	0	0	0	0	0	0	1	0	0	1	0					2
16:00	0	0	0	0	0	0	0	0	0	0	0	0					0
16:15	0	0	1	1	0	0	0	0	0	0	0	0					2
16:30	0	0	0	0	0	0	0	0	0	0	0	0					0
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	0	0	0	0	0					0
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0

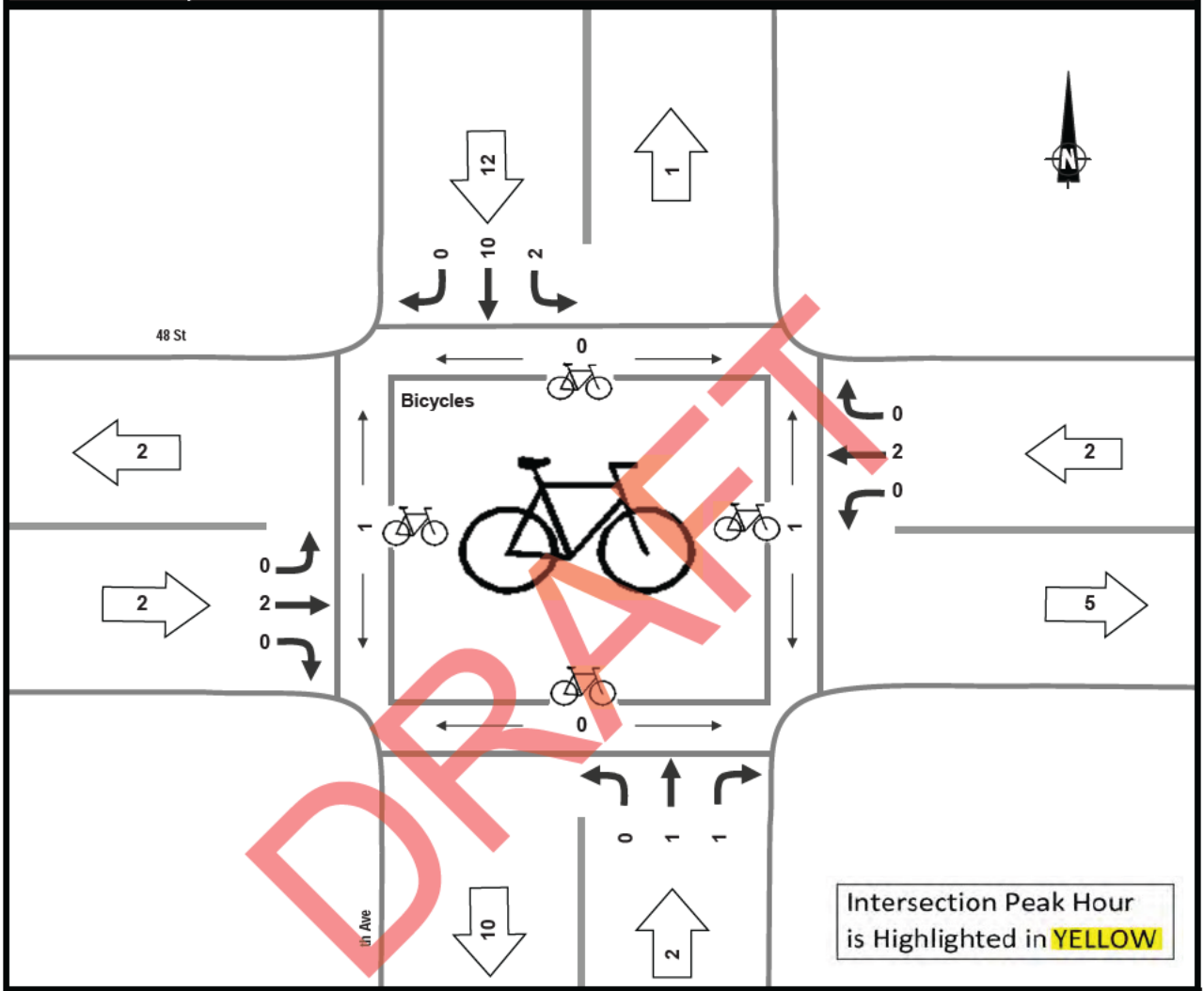
49th Ave & 48 St

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 7:45 AM to 8:45 AM



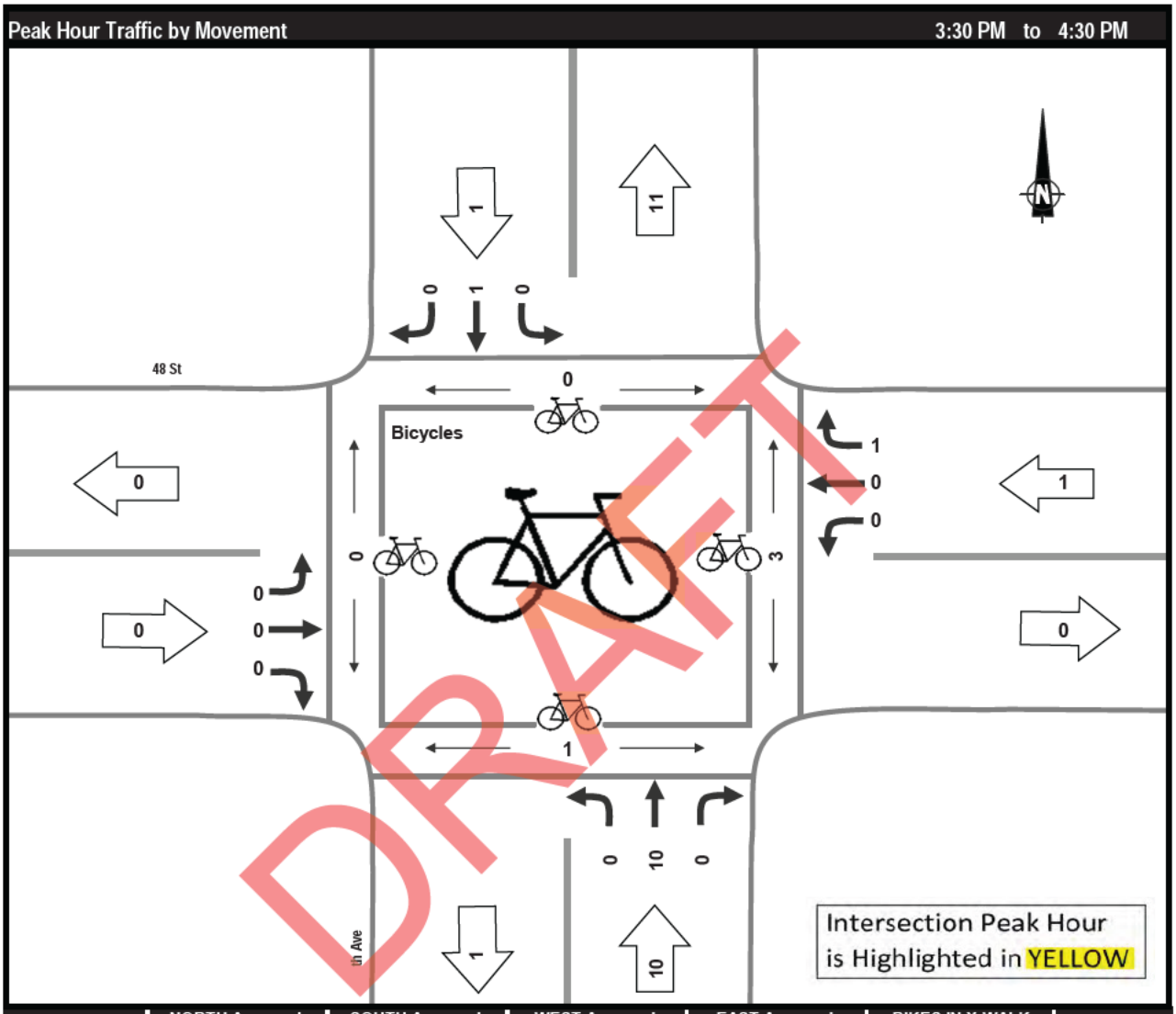
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**2**	**10**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**20**
PHF	0.25	0.50	0.00	0.00	0.25	0.25	0.00	0.25	0.00	0.00	0.50	0.00	0.00	0.00	0.25	0.25	0.63
Peak 15 X 4	8	20	0	0	4	4	0	8	0	0	4	0	0	0	4	4	32
Average Hour	1	6	0	0	1	1	1	2	0	0	1	0	1	0	1	1	16
Survey Total	2	12	0	0	2	1	1	3	0	0	2	0	1	0	1	1	26
7:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
8:00	2	2	0	0	0	0	0	2	0	0	1	0	0	0	0	1	8
8:15	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
8:30	0	5	0	0	1	0	0	0	0	0	1	0	0	0	0	0	7
8:45	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
9:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
9:15	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2

49th Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	1	0	0	10	0	0	0	0	0	0	1	0	1	0	3	16
PHF	0.00	0.25	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.00	0.25	0.57
Peak 15 X 4	0	4	0	0	12	0	0	0	0	0	0	4	0	4	0	12	28
Average Hour	1	2	1	1	7	0	0	0	0	0	0	1	0	1	0	2	16
Survey Total	1	3	1	1	14	0	0	0	0	0	0	2	0	1	0	3	26
15:30	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	3	7
15:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
16:00	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4
16:15	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	3
16:30	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
16:45	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3
17:00	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
17:15	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Wednesday, September 03, 2025

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy

Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	851	3				**854**
	%	99.6%	0.4%				**100.0%**
Afternoon (14:30 - 16:30)	Volume	992	1				**993**
	%	99.9%	0.1%				**100.0%**
Total (4 Hours)	**Volume**	**1,843**	**4**				**1,847**
	%	**99.8%**	**0.2%**				**100.0%**

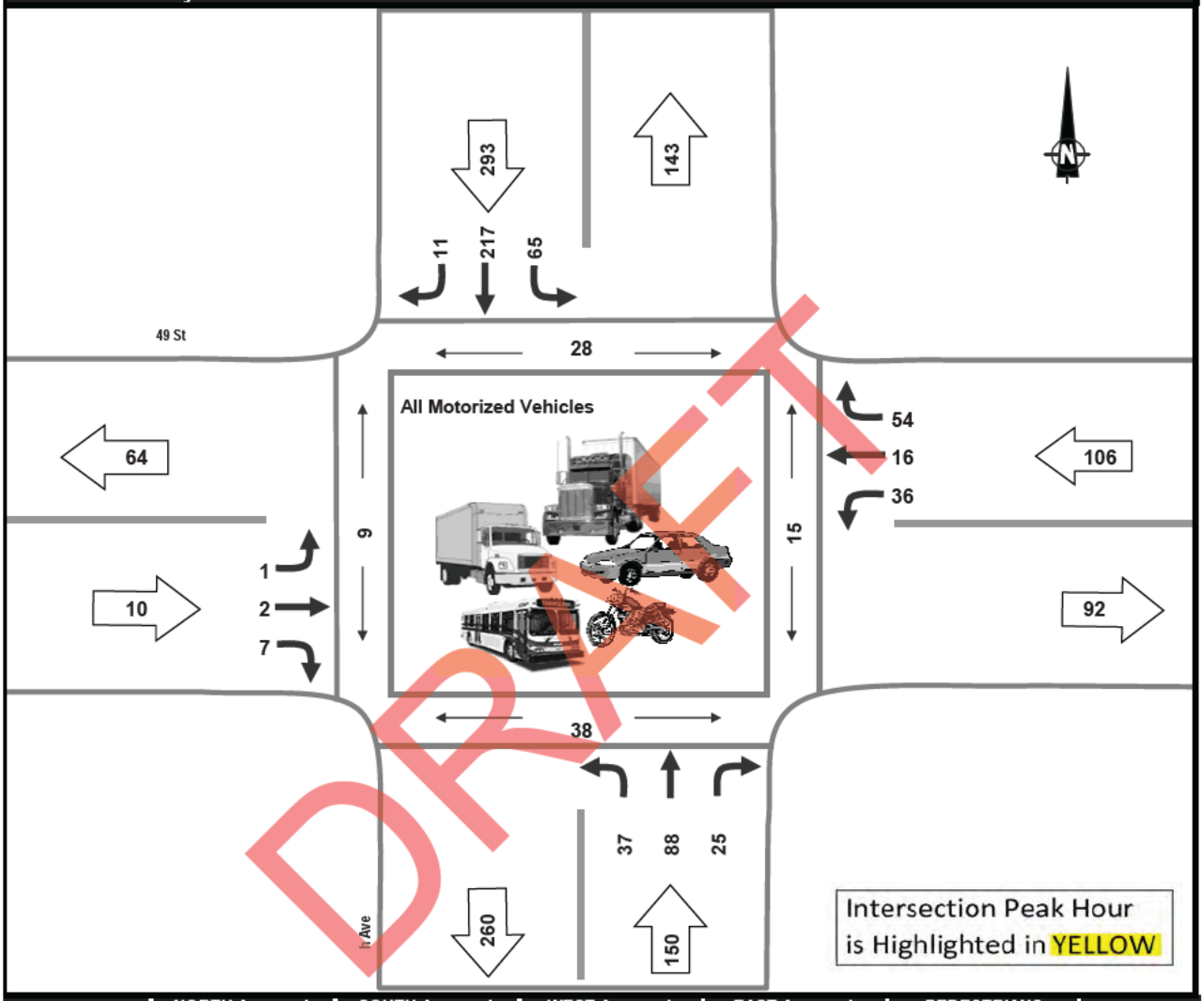
49th Ave & 49 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 7:45 AM to 8:45 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	65	217	11	37	88	25	1	2	7	36	16	54	28	38	9	15	559
PHF	0.63	0.90	0.69	0.62	0.88	0.69	0.25	0.25	0.58	0.75	0.67	0.79	0.50	0.59	0.38	0.63	0.90
Peak 15 X 4	104	240	16	60	100	36	4	8	12	48	24	68	56	64	24	24	624
Average Hour	50	156	9	25	69	20	1	2	8	31	16	43	19	32	13	13	430
Survey Total	99	311	18	50	138	40	1	3	16	61	31	86	37	64	26	26	854
7:30	6	19	0	3	10	1	0	1	0	3	0	5	5	13	2	1	48
7:45	9	56	4	15	25	3	0	0	3	12	2	13	5	16	0	4	142
8:00	20	51	2	12	21	5	0	0	1	5	3	13	14	4	2	2	133
8:15	26	60	3	5	18	8	1	0	2	11	5	17	6	10	6	6	156
8:30	10	50	2	5	24	9	0	2	1	8	6	11	3	8	1	3	128
8:45	10	39	3	7	20	7	0	0	3	12	4	15	2	3	11	5	120
9:00	5	20	1	2	12	5	0	0	5	4	5	8	1	5	0	3	67
9:15	13	16	3	1	8	2	0	0	1	6	6	4	1	5	4	2	60

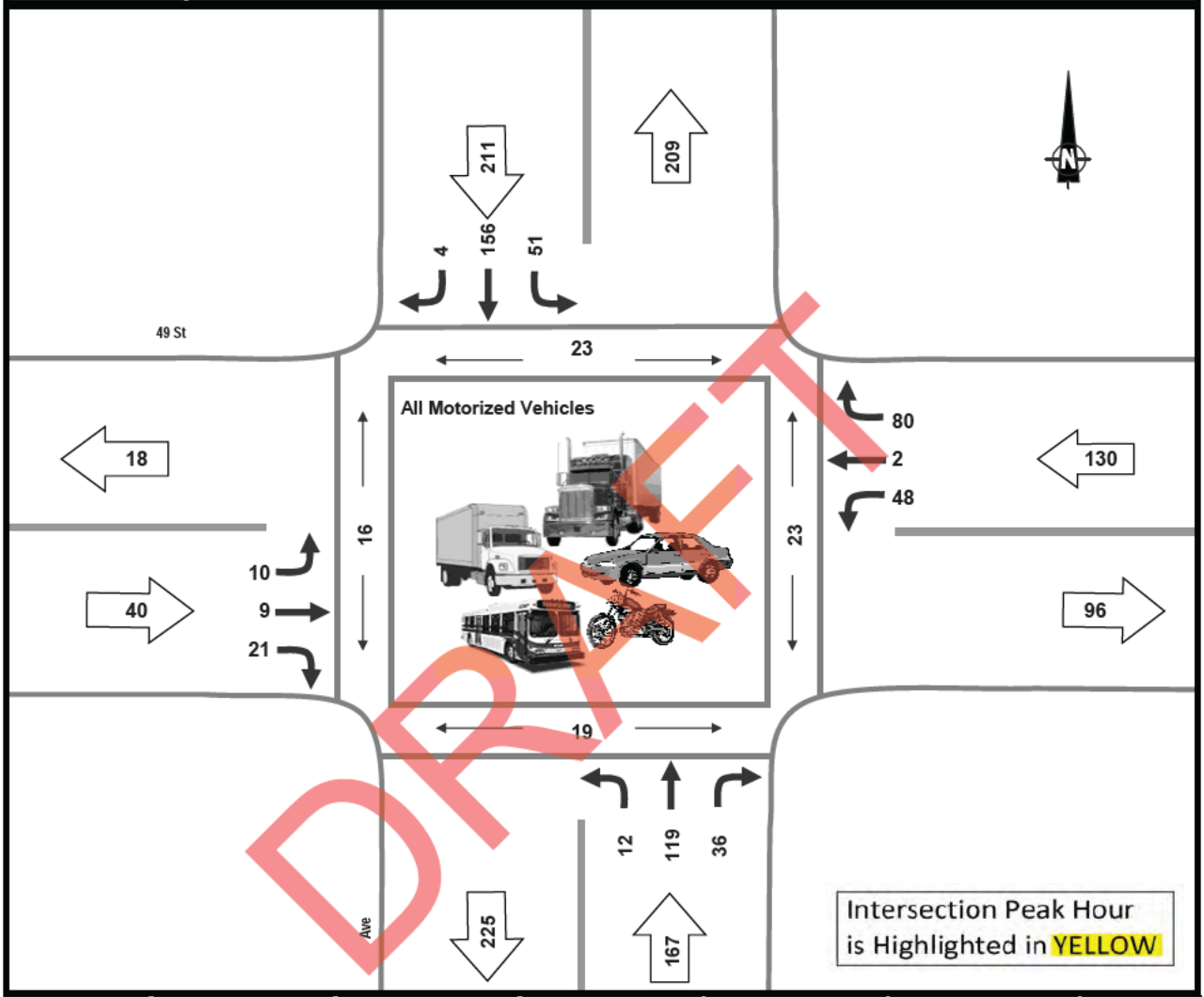
49th Ave & 49 St

Wednesday, September 03, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 3:30 PM to 4:30 PM



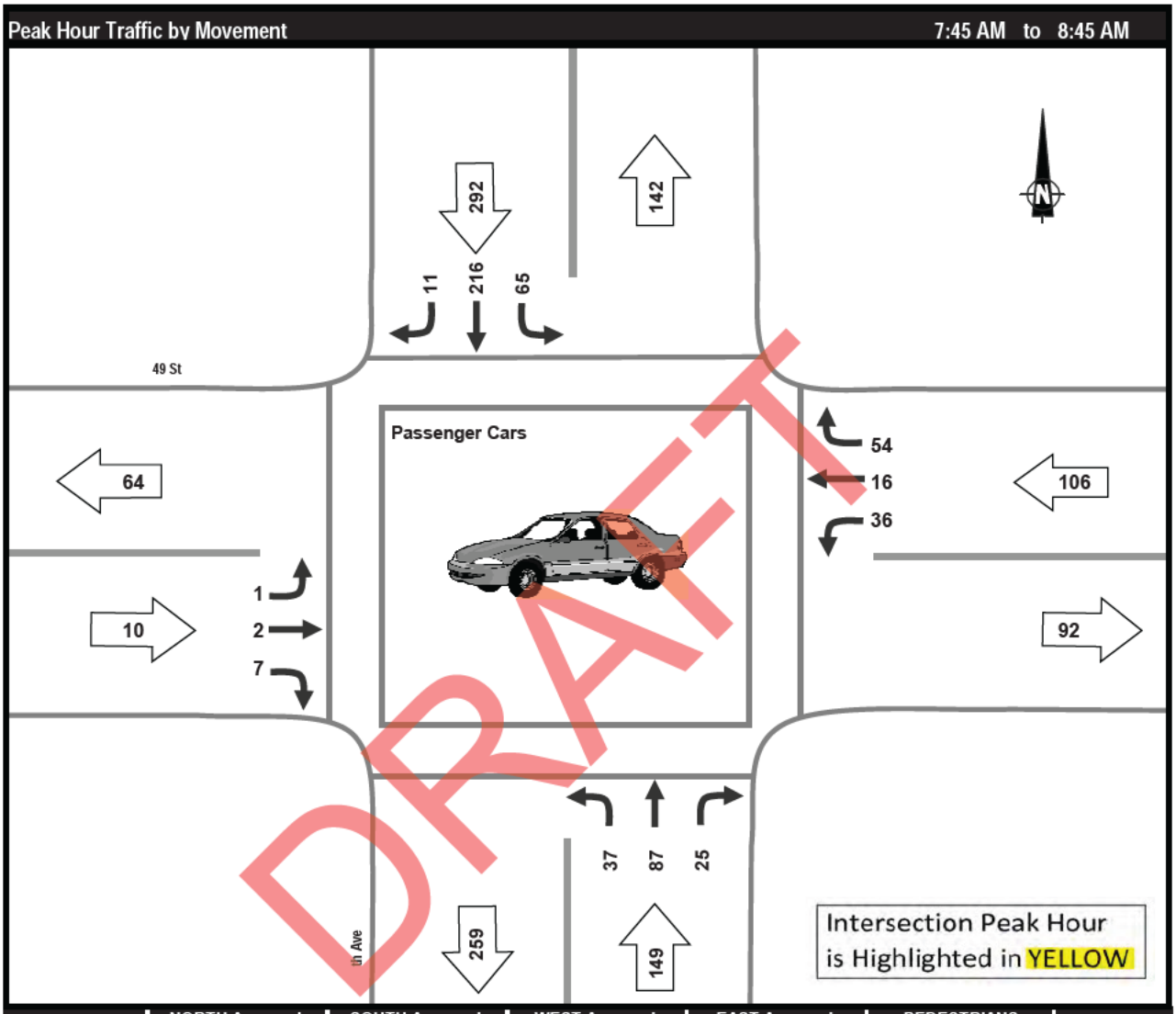
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**51**	**156**	**4**	**12**	**119**	**36**	**10**	**9**	**21**	**48**	**2**	**80**	**23**	**19**	**16**	**23**	**548**
PHF	0.91	0.95	0.50	0.60	0.90	0.82	0.50	0.45	0.75	0.75	0.50	0.83	0.72	0.48	0.67	0.52	0.87
Peak 15 X 4	56	164	8	20	132	44	20	20	28	64	4	96	32	40	24	44	628
Average Hour	54	139	8	11	101	33	10	10	16	39	8	70	24	24	16	23	499
Survey Total	108	278	15	22	202	66	19	19	32	77	16	139	47	47	32	45	993
14:30	14	27	1	3	17	10	1	0	4	6	5	18	13	6	4	5	106
14:45	14	28	5	3	22	8	5	3	4	11	2	16	5	6	4	4	121
15:00	16	24	2	2	20	2	1	3	2	6	1	12	2	9	7	5	91
15:15	13	43	3	2	24	10	2	4	1	6	6	13	4	7	1	8	127
15:30	13	41	1	1	28	7	2	2	2	14	1	19	5	0	2	8	131
15:45	10	38	0	3	27	11	1	2	6	10	0	19	8	8	2	11	127
16:00	14	40	2	3	33	11	2	5	7	16	0	24	4	10	6	2	157
16:15	14	37	1	5	31	7	5	0	6	8	1	18	6	1	6	2	133

49th Ave & 49 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Passenger Cars



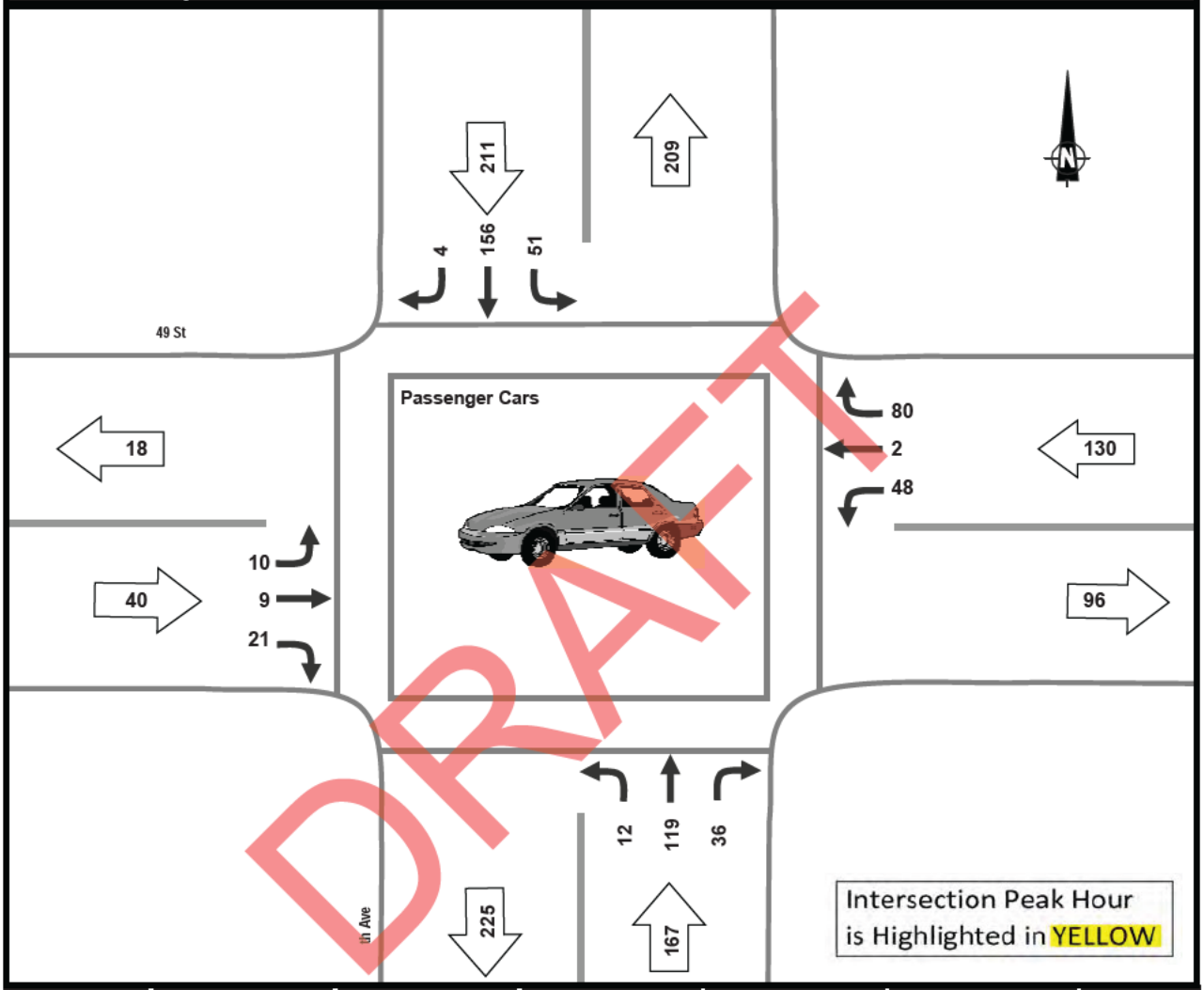
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	65	216	11	37	87	25	1	2	7	36	16	54					557
PHF	0.63	0.90	0.69	0.62	0.91	0.69	0.25	0.25	0.58	0.75	0.67	0.79					0.89
Peak 15 X 4	104	240	16	60	96	36	4	8	12	48	24	68					624
Average Hour	50	155	9	25	68	20	1	2	8	31	16	43					428
Survey Total	99	310	18	50	136	40	1	3	16	61	31	86					851
7:30	6	19	0	3	10	1	0	1	0	3	0	5					48
7:45	9	56	4	15	24	3	0	0	3	12	2	13					141
8:00	20	50	2	12	21	5	0	0	1	5	3	13					132
8:15	26	60	3	5	18	8	1	0	2	11	5	17					156
8:30	10	50	2	5	24	9	0	2	1	8	6	11					128
8:45	10	39	3	7	20	7	0	0	3	12	4	15					120
9:00	5	20	1	2	12	5	0	0	5	4	5	8					67
9:15	13	16	3	1	7	2	0	0	1	6	6	4					59

49th Ave & 49 St
Wednesday, September 03, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Passenger Cars

Peak Hour Traffic by Movement 3:30 PM to 4:30 PM



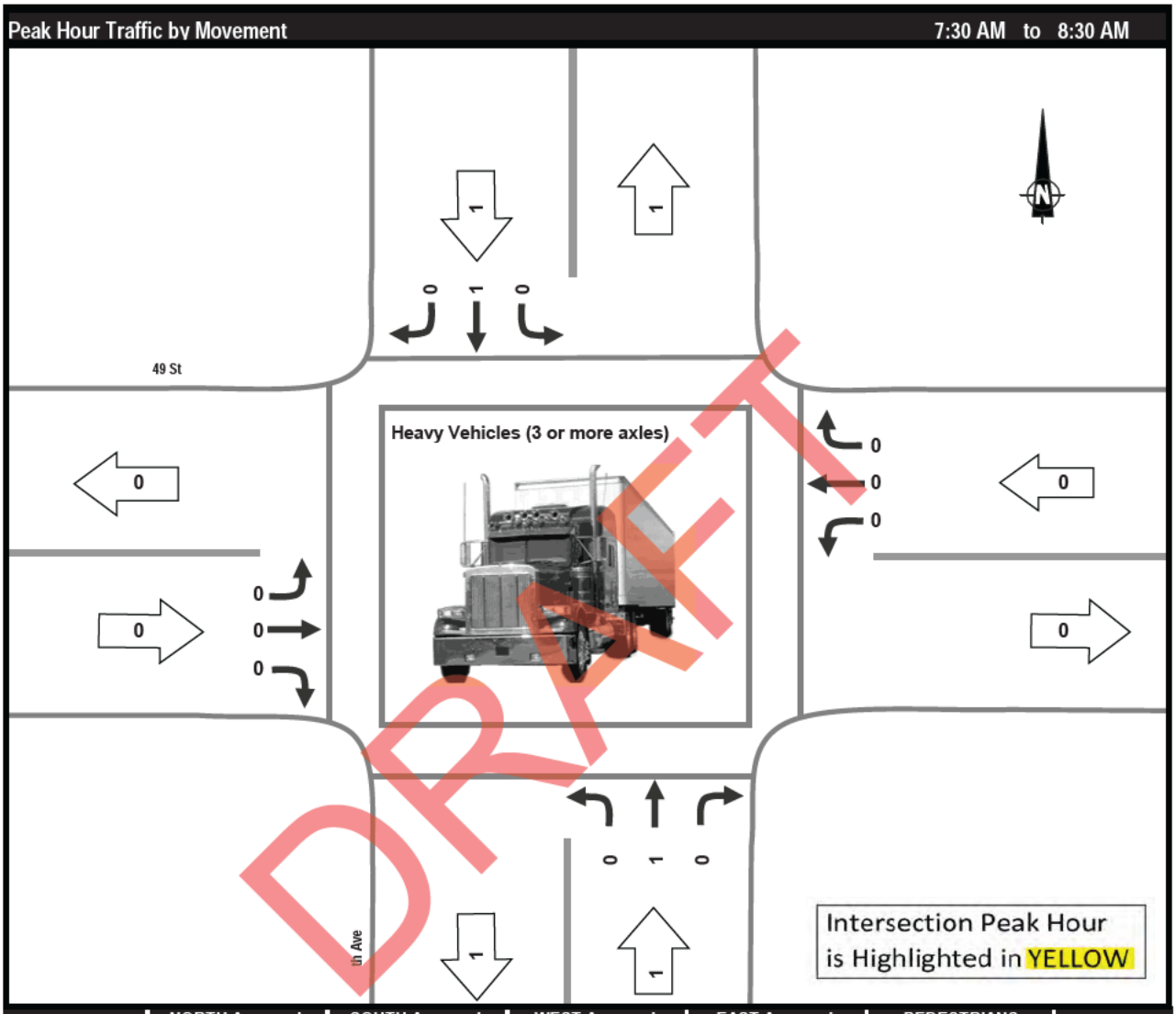
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**51**	**156**	**4**	**12**	**119**	**36**	**10**	**9**	**21**	**48**	**2**	**80**					**548**
PHF	0.91	0.95	0.50	0.60	0.90	0.82	0.50	0.45	0.75	0.75	0.50	0.83					0.87
Peak 15 X 4	56	164	8	20	132	44	20	20	28	64	4	96					628
Average Hour	54	139	8	11	101	33	10	10	16	39	8	69					498
Survey Total	108	278	15	22	202	66	19	19	32	77	16	138					992
14:30	14	27	1	3	17	10	1	0	4	6	5	17					105
14:45	14	28	5	3	22	8	5	3	4	11	2	16					121
15:00	16	24	2	2	20	2	1	3	2	6	1	12					91
15:15	13	43	3	2	24	10	2	4	1	6	6	13					127
15:30	13	41	1	1	28	7	2	2	2	14	1	19					131
15:45	10	38	0	3	27	11	1	2	6	10	0	19					127
16:00	14	40	2	3	33	11	2	5	7	16	0	24					157
16:15	14	37	1	5	31	7	5	0	6	8	1	18					133

49th Ave & 49 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Heavy Vehicles (3 or more axles)



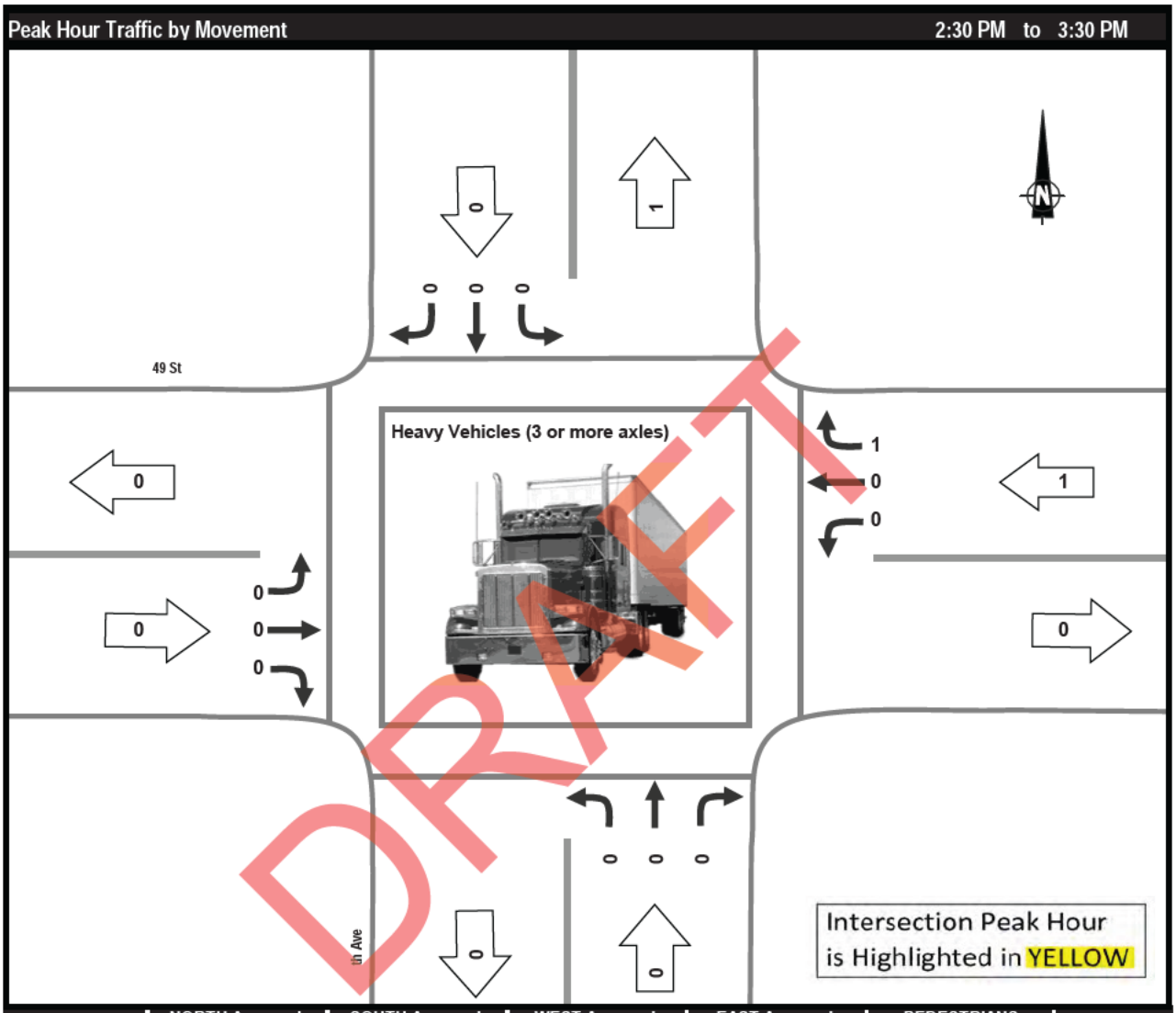
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	1	0	0	1	0	0	0	0	0	0	0					2
PHF	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.50
Peak 15 X 4	0	4	0	0	4	0	0	0	0	0	0	0					4
Average Hour	0	1	0	0	1	0	0	0	0	0	0	0					2
Survey Total	0	1	0	0	2	0	0	0	0	0	0	0					3
7:30	0	0	0	0	0	0	0	0	0	0	0	0					0
7:45	0	0	0	0	1	0	0	0	0	0	0	0					1
8:00	0	1	0	0	0	0	0	0	0	0	0	0					1
8:15	0	0	0	0	0	0	0	0	0	0	0	0					0
8:30	0	0	0	0	0	0	0	0	0	0	0	0					0
8:45	0	0	0	0	0	0	0	0	0	0	0	0					0
9:00	0	0	0	0	0	0	0	0	0	0	0	0					0
9:15	0	0	0	0	1	0	0	0	0	0	0	0					1

49th Ave & 49 St

Wednesday, September 03, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1					1
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25					0.25
Peak 15 X 4	0	0	0	0	0	0	0	0	0	0	0	4					4
Average Hour	0	0	0	0	0	0	0	0	0	0	0	1					1
Survey Total	0	0	0	0	0	0	0	0	0	0	0	1					1
14:30	0	0	0	0	0	0	0	0	0	0	0	1					1
14:45	0	0	0	0	0	0	0	0	0	0	0	0					0
15:00	0	0	0	0	0	0	0	0	0	0	0	0					0
15:15	0	0	0	0	0	0	0	0	0	0	0	0					0
15:30	0	0	0	0	0	0	0	0	0	0	0	0					0
15:45	0	0	0	0	0	0	0	0	0	0	0	0					0
16:00	0	0	0	0	0	0	0	0	0	0	0	0					0
16:15	0	0	0	0	0	0	0	0	0	0	0	0					0

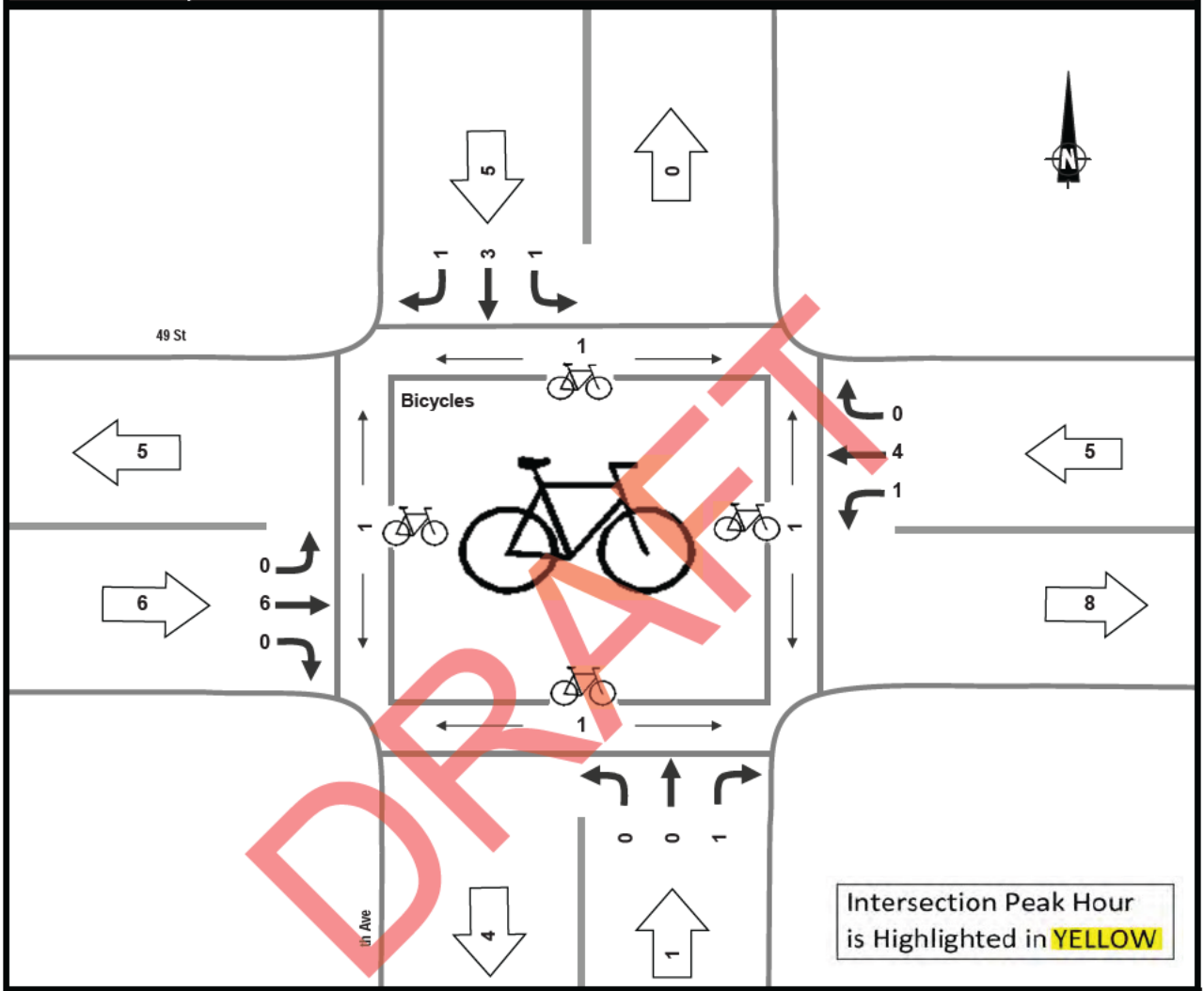
49th Ave & 49 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 7:45 AM to 8:45 AM



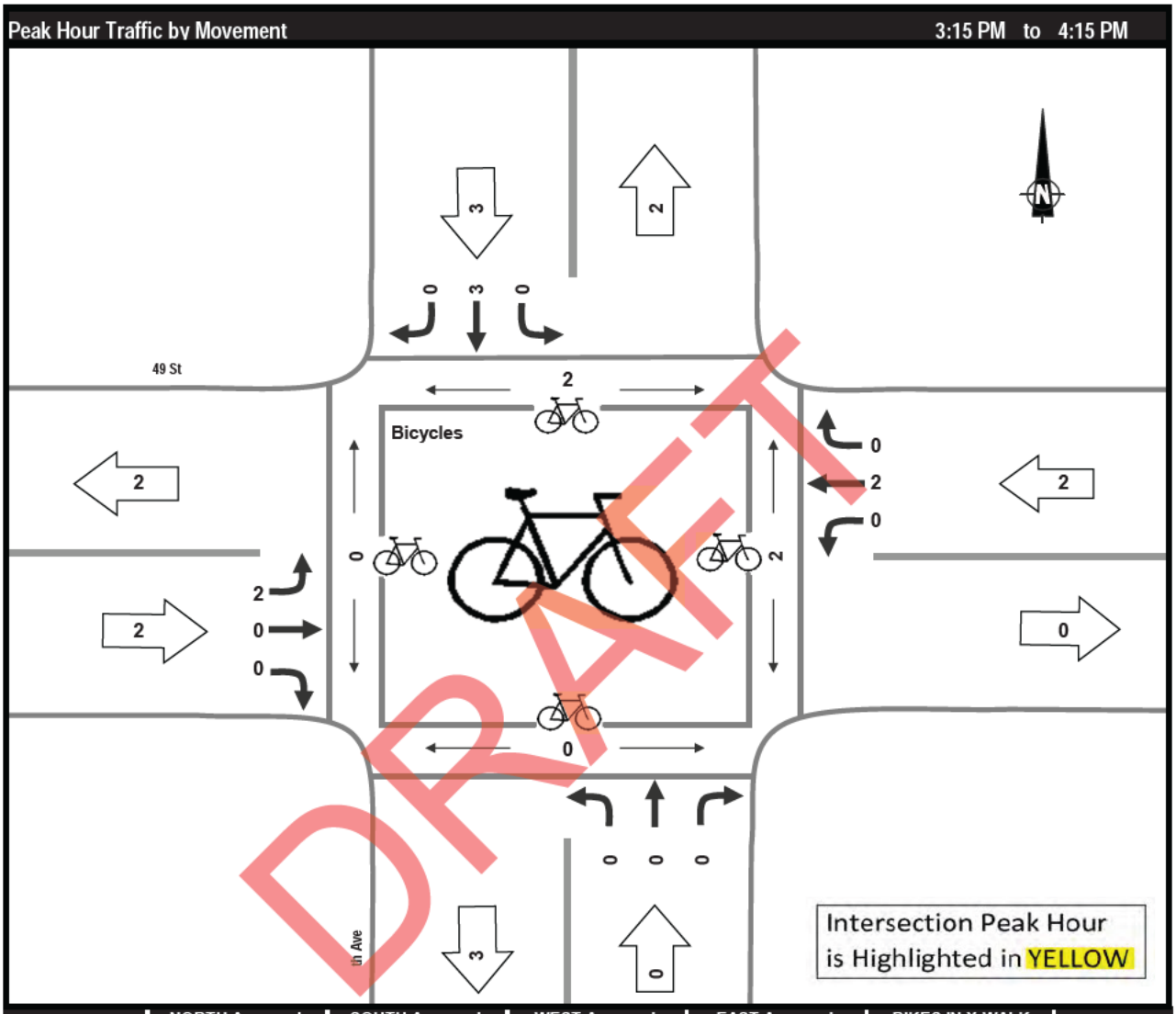
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	1	3	1	0	0	1	0	6	0	1	4	0	1	1	1	1	21
PHF	0.25	0.75	0.25	0.00	0.00	0.25	0.00	0.75	0.00	0.25	0.33	0.00	0.25	0.25	0.25	0.25	0.66
Peak 15 X 4	4	4	4	0	0	4	0	8	0	4	12	0	4	4	4	4	32
Average Hour	1	2	1	0	1	2	0	4	0	1	2	0	1	1	1	1	18
Survey Total	2	3	1	0	1	3	0	7	0	1	4	0	1	1	1	1	26
7:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7:45	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2
8:00	0	1	1	0	0	0	0	2	0	1	0	0	0	1	1	1	8
8:15	0	1	0	0	0	0	0	1	0	0	3	0	0	0	0	0	5
8:30	1	1	0	0	0	1	0	2	0	0	1	0	0	0	0	0	6
8:45	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
9:00	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

49th Ave & 49 St

Wednesday, September 03, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Bicycles



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	3	0	0	0	0	2	0	0	0	2	0	2	0	0	2	11
PHF	0.00	0.38	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.50	0.69
Peak 15 X 4	0	8	0	0	0	0	4	0	0	0	4	0	4	0	0	4	16
Average Hour	0	2	0	1	0	0	2	1	0	1	2	1	1	0	0	1	12
Survey Total	0	3	0	1	0	0	4	1	0	1	4	1	2	0	0	2	19
14:30	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	3
14:45	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	3
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	2	0	0	0	0	1	0	0	0	1	0	0	0	0	0	4
15:30	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
15:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
16:00	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	3
16:15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2

Monday, September 01, 2025

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny

Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	160	0				**160**
	%	100.0%	0.0%				**100.0%**
Afternoon (15:30 - 17:30)	Volume	342	2				**344**
	%	99.4%	0.6%				**100.0%**
Total (4 Hours)	**Volume**	**502**	**2**				**504**
	%	**99.6%**	**0.4%**				**100.0%**

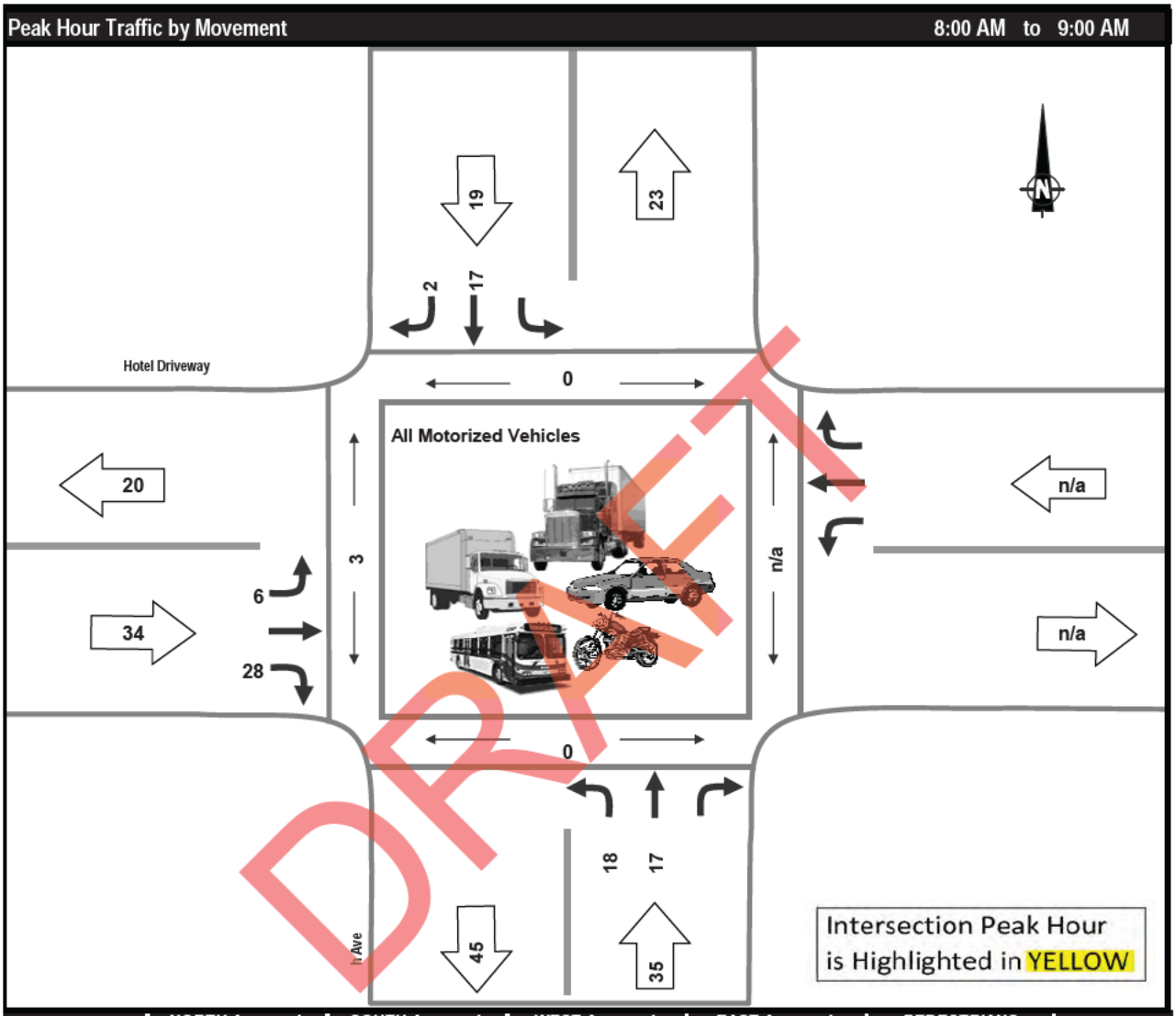
49th Ave & Hotel Driveway

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 8:00 AM to 9:00 AM



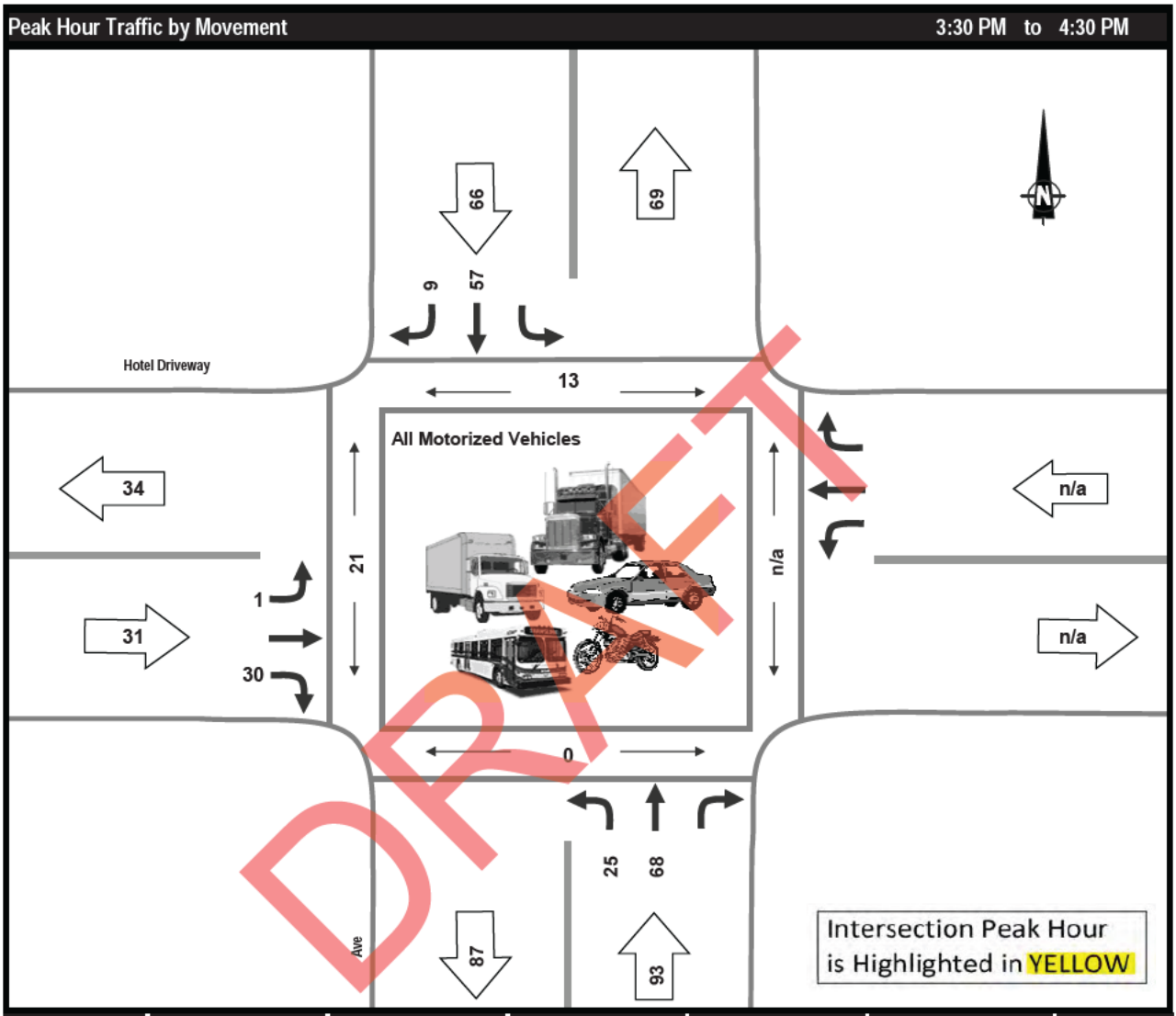
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		17	2	18	17		6		28				0	0	3		88
PHF		0.53	0.50	0.90	0.61		0.75		0.70				0.00	0.00	0.25		0.92
Peak 15 X 4		32	4	20	28		8		40				0	0	12		96
Average Hour		13	3	17	13		7		28				0	0	2		81
Survey Total		26	6	34	25		13		56				0	0	4		160
7:30		1	0	6	1		2		4				0	0	0		14
7:45		2	1	2	1		3		9				0	0	0		18
8:00		8	1	5	2		1		7				0	0	3		24
8:15		4	0	4	5		2		7				0	0	0		22
8:30		1	1	5	3		2		10				0	0	0		22
8:45		4	0	4	7		1		4				0	0	0		20
9:00		4	0	3	4		2		8				0	0	1		21
9:15		2	3	5	2		0		7				0	0	0		19

49th Ave & Hotel Driveway

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles



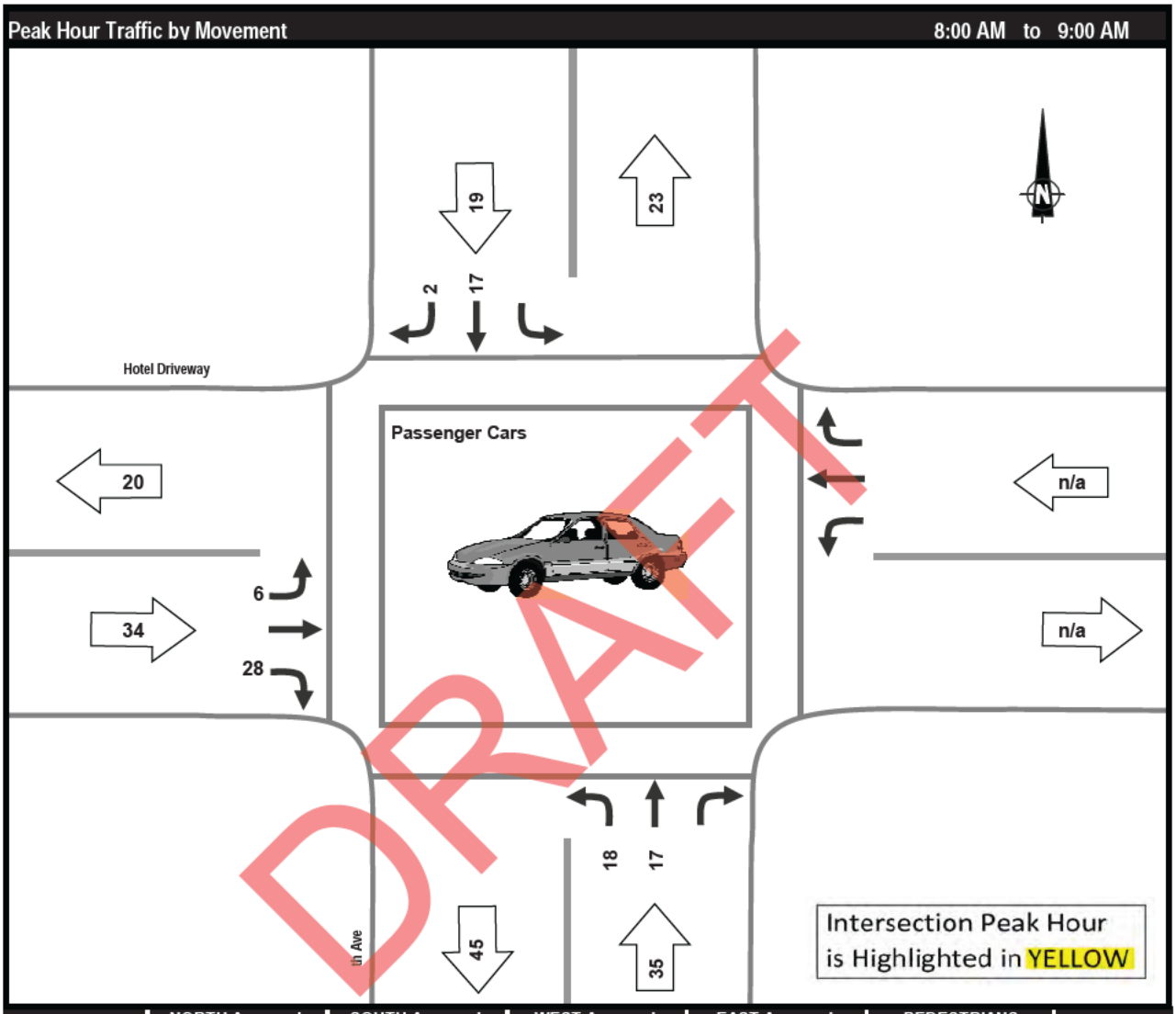
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		57	9	25	68		1		30				13	0	21		190
PHF		0.79	0.56	0.57	0.71		0.25		0.68				0.54	0.00	0.58		0.88
Peak 15 X 4		72	16	44	96		4		44				24	0	36		216
Average Hour		50	7	22	66		3		25				23	0	17		173
Survey Total		100	14	44	132		5		49				46	0	34		344
15:30		18	0	11	16		0		9				2	0	2		54
15:45		10	2	8	14		1		11				3	0	7		46
16:00		16	4	5	14		0		4				2	0	9		43
16:15		13	3	1	24		0		6				6	0	3		47
16:30		9	1	8	22		2		7				18	0	6		49
16:45		11	1	2	16		0		4				4	0	7		34
17:00		10	1	8	8		1		6				6	0	0		34
17:15		13	2	1	18		1		2				5	0	0		37

49th Ave & Hotel Driveway

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		17	2	18	17		6		28								88
PHF		0.53	0.50	0.90	0.61		0.75		0.70								0.92
Peak 15 X 4		32	4	20	28		8		40								96
Average Hour		13	3	17	13		7		28								81
Survey Total		26	6	34	25		13		56								160
7:30		1	0	6	1		2		4								14
7:45		2	1	2	1		3		9								18
8:00		8	1	5	2		1		7								24
8:15		4	0	4	5		2		7								22
8:30		1	1	5	3		2		10								22
8:45		4	0	4	7		1		4								20
9:00		4	0	3	4		2		8								21
9:15		2	3	5	2		0		7								19

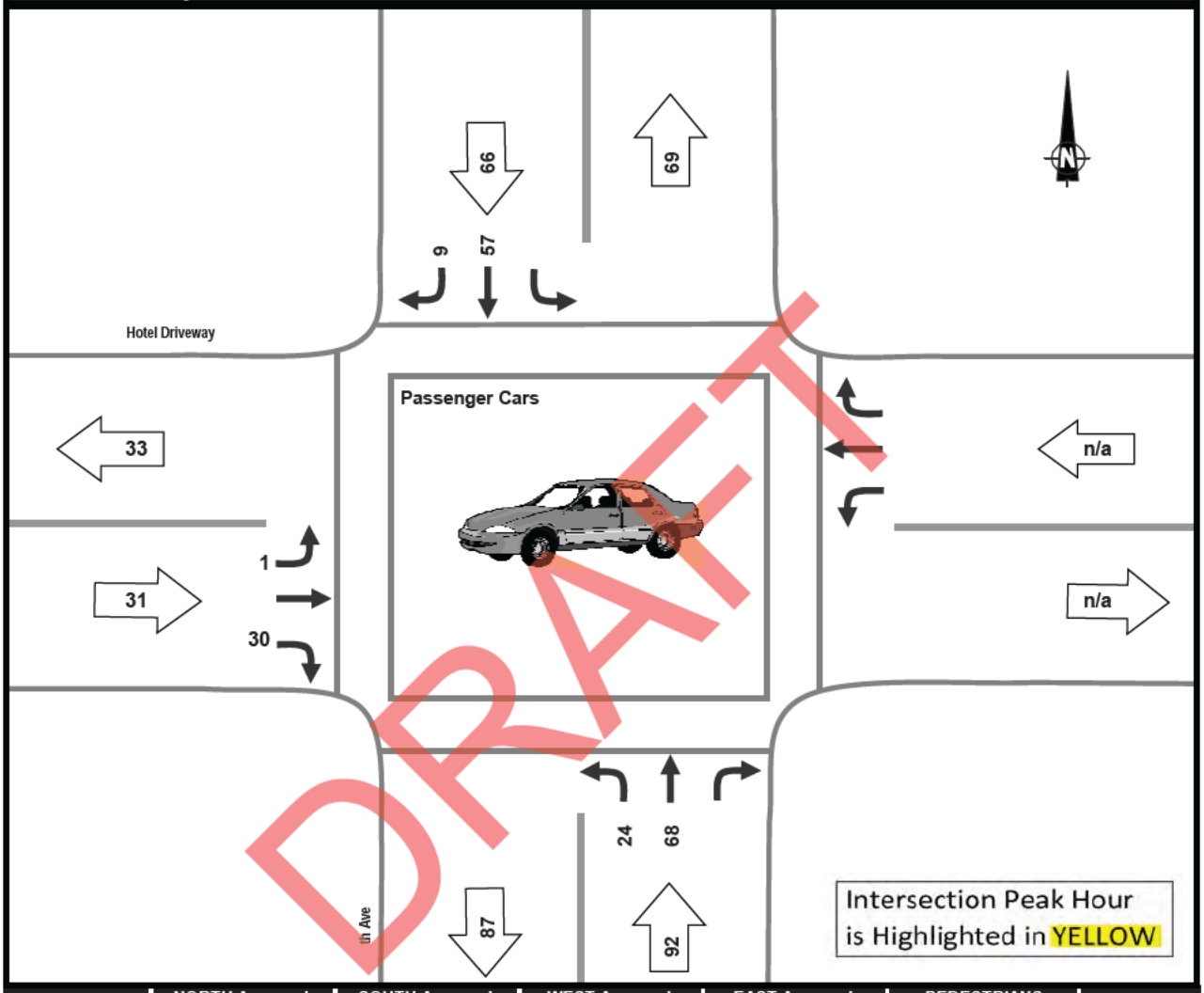
49th Ave & Hotel Driveway

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars

Peak Hour Traffic by Movement 3:30 PM to 4:30 PM



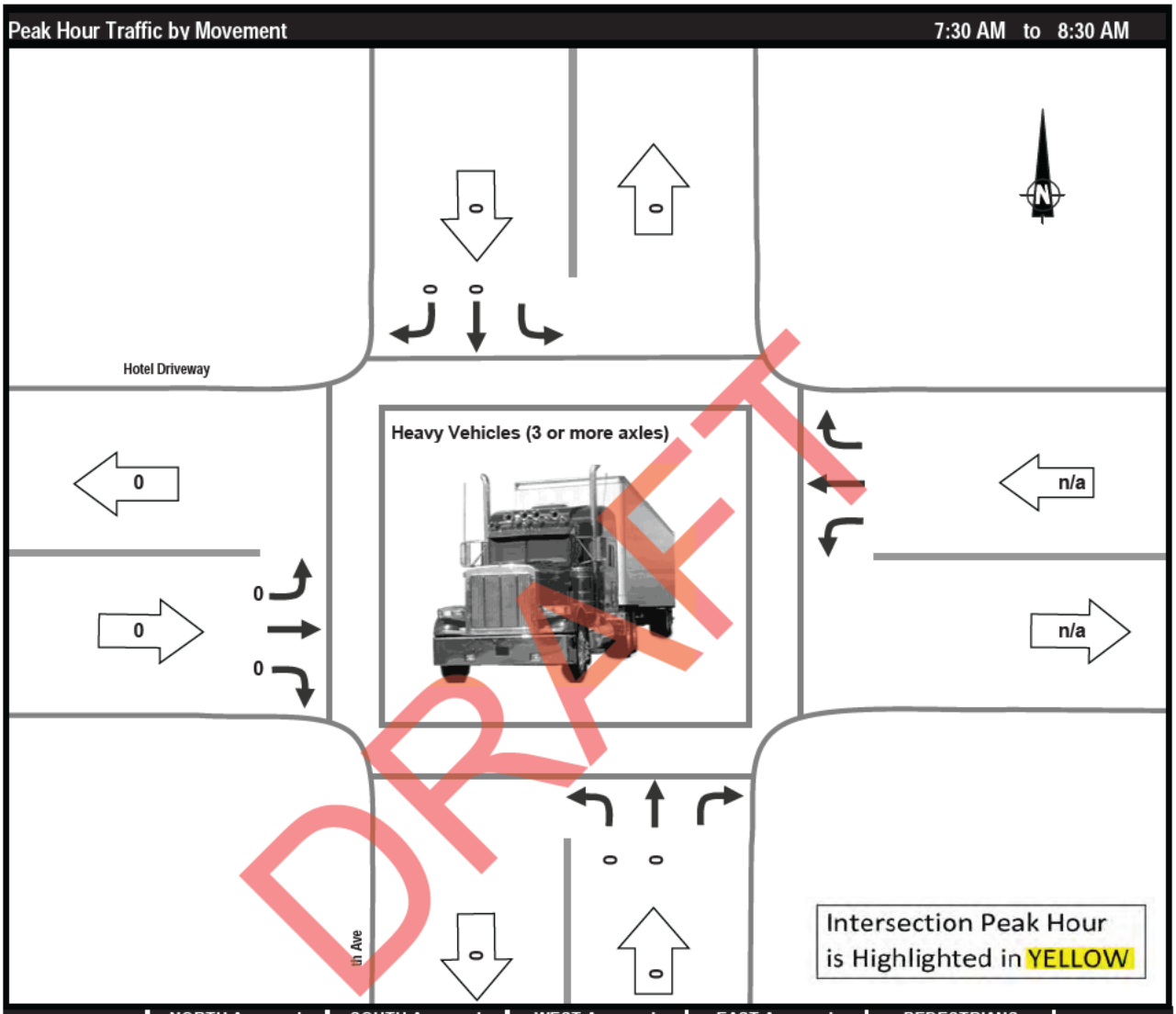
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		57	9	24	68		1		30								189
PHF		0.79	0.56	0.55	0.71		0.25		0.68								0.88
Peak 15 X 4		72	16	44	96		4		44								216
Average Hour		50	7	22	66		3		24								172
Survey Total		100	14	43	132		5		48								342
15:30		18	0	11	16		0		9								54
15:45		10	2	8	14		1		11								46
16:00		16	4	4	14		0		4								42
16:15		13	3	1	24		0		6								47
16:30		9	1	8	22		2		6								48
16:45		11	1	2	16		0		4								34
17:00		10	1	8	8		1		6								34
17:15		13	2	1	18		1		2								37

49th Ave & Hotel Driveway

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)



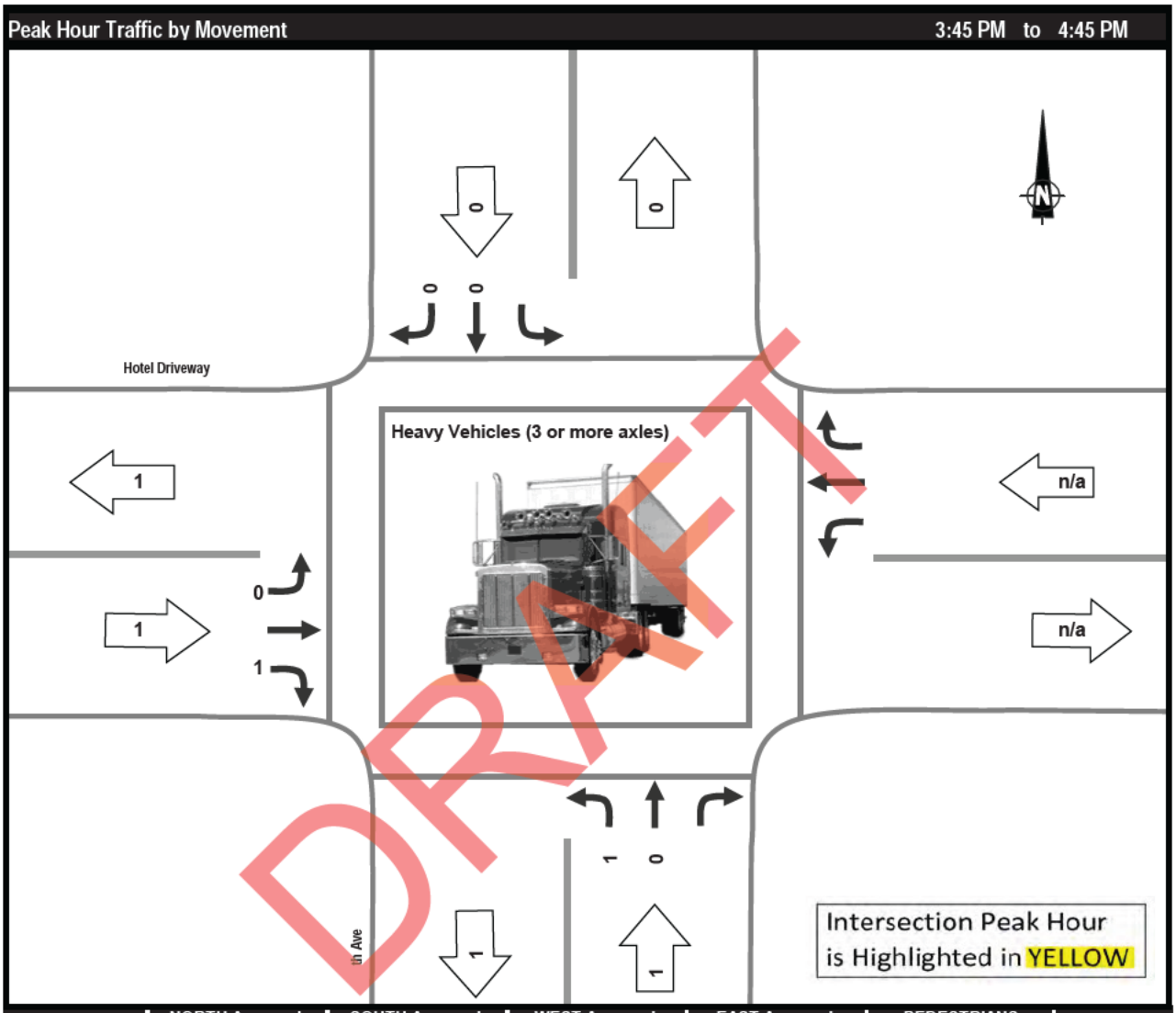
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		0	0	0	0		0		0								0
PHF		0.00	0.00	0.00	0.00		0.00		0.00								0.00
Peak 15 X 4		0	0	0	0		0		0								0
Average Hour		0	0	0	0		0		0								0
Survey Total		0	0	0	0		0		0								0
7:30		0	0	0	0		0		0								0
7:45		0	0	0	0		0		0								0
8:00		0	0	0	0		0		0								0
8:15		0	0	0	0		0		0								0
8:30		0	0	0	0		0		0								0
8:45		0	0	0	0		0		0								0
9:00		0	0	0	0		0		0								0
9:15		0	0	0	0		0		0								0

49th Ave & Hotel Driveway

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		**0**	**0**	**1**	**0**		**0**		**1**								**2**
PHF		0.00	0.00	0.25	0.00		0.00		0.25								0.50
Peak 15 X 4		0	0	4	0		0		4								4
Average Hour		0	0	1	0		0		1								2
Survey Total		0	0	1	0		0		1								2
15:30		0	0	0	0		0		0								0
15:45		0	0	0	0		0		0								0
16:00		0	0	1	0		0		0								1
16:15		0	0	0	0		0		0								0
16:30		0	0	0	0		0		1								1
16:45		0	0	0	0		0		0								0
17:00		0	0	0	0		0		0								0
17:15		0	0	0	0		0		0								0

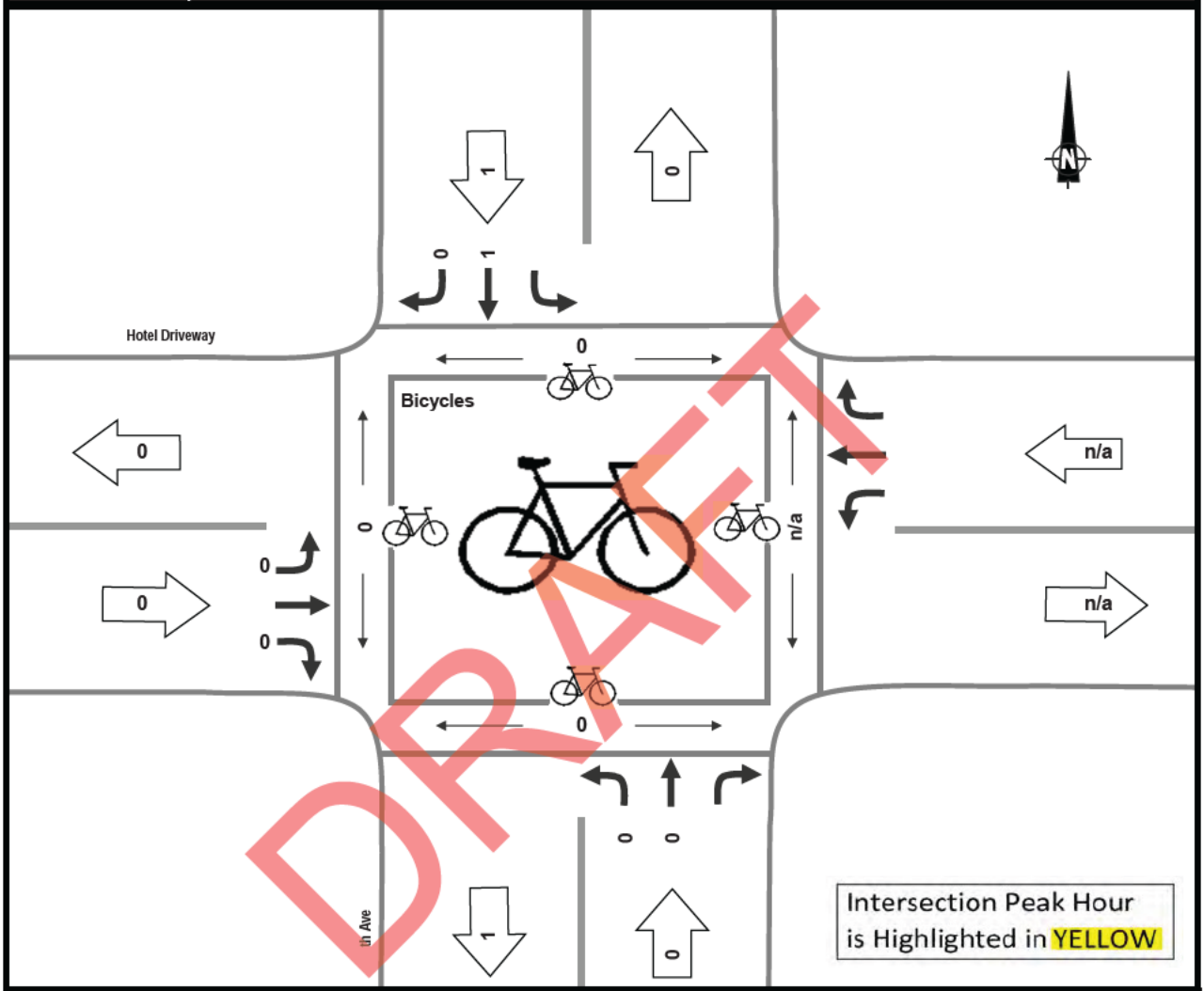
49th Ave & Hotel Driveway

Monday, September 01, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 7:30 AM to 8:30 AM



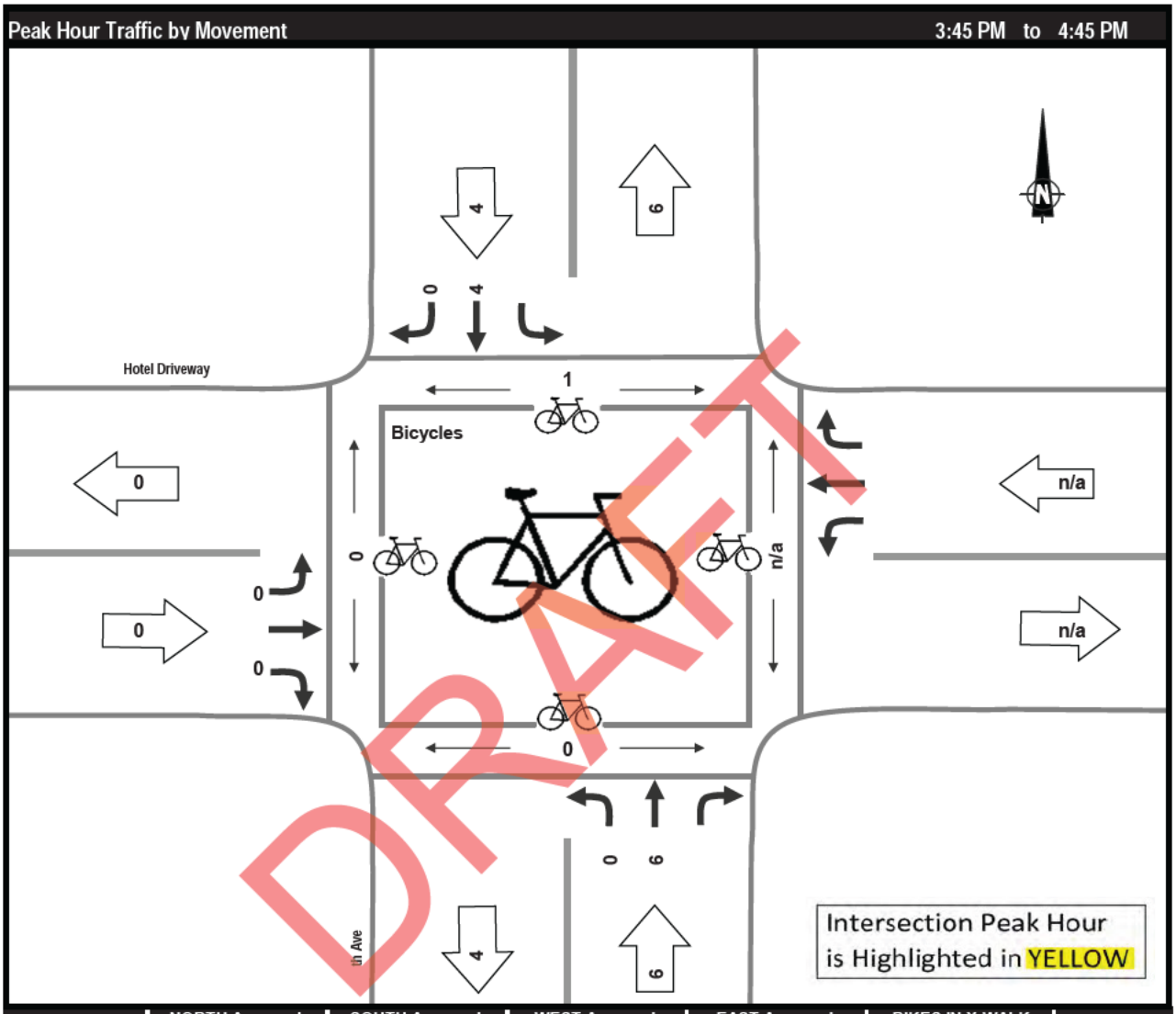
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		**1**	**0**	**0**	**0**		**0**		**0**				**0**	**0**	**0**		**1**
PHF		0.25	0.00	0.00	0.00		0.00		0.00				0.00	0.00	0.00		0.25
Peak 15 X 4		4	0	0	0		0		0				0	0	0		4
Average Hour		1	0	0	0		0		0				0	0	0		1
Survey Total		1	0	0	0		0		0				0	0	0		1
7:30		0	0	0	0		0		0				0	0	0		0
7:45		1	0	0	0		0		0				0	0	0		1
8:00		0	0	0	0		0		0				0	0	0		0
8:15		0	0	0	0		0		0				0	0	0		0
8:30		0	0	0	0		0		0				0	0	0		0
8:45		0	0	0	0		0		0				0	0	0		0
9:00		0	0	0	0		0		0				0	0	0		0
9:15		0	0	0	0		0		0				0	0	0		0

49th Ave & Hotel Driveway

Monday, September 01, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		4	0	0	6		0		0				1	0	0		11
PHF		0.50	0.00	0.00	0.50		0.00		0.00				0.25	0.00	0.00		0.46
Peak 15 X 4		8	0	0	12		0		0				4	0	0		24
Average Hour		2	0	0	6		0		0				1	0	0		9
Survey Total		4	0	0	11		0		0				1	0	0		16
15:30		0	0	0	0		0		0				0	0	0		0
15:45		2	0	0	1		0		0				0	0	0		3
16:00		0	0	0	2		0		0				0	0	0		2
16:15		0	0	0	0		0		0				0	0	0		0
16:30		2	0	0	3		0		0				1	0	0		6
16:45		0	0	0	0		0		0				0	0	0		0
17:00		0	0	0	5		0		0				0	0	0		5
17:15		0	0	0	0		0		0				0	0	0		0

Tuesday, September 02, 2025

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Notes: **The PM pedestrian data could not be counted.**

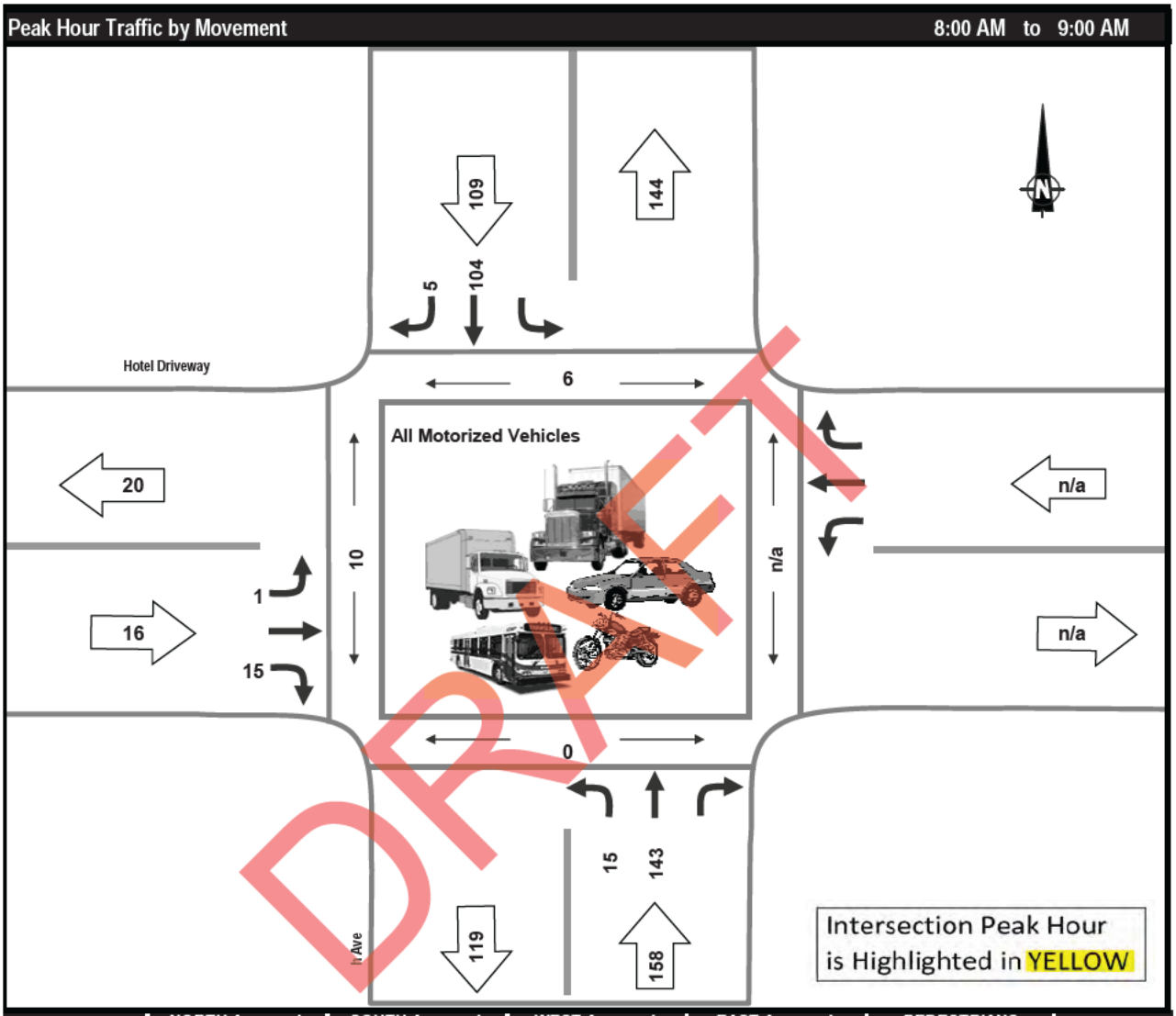
Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	443	1				**444**
	%	99.8%	0.2%				**100.0%**
Afternoon (15:30 - 17:30)	Volume	590	1				**591**
	%	99.8%	0.2%				**100.0%**
Total (4 Hours)	**Volume**	**1,033**	**2**				**1,035**
	%	**99.8%**	**0.2%**				**100.0%**

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles
Notes: The PM pedestrian data could not be counted.



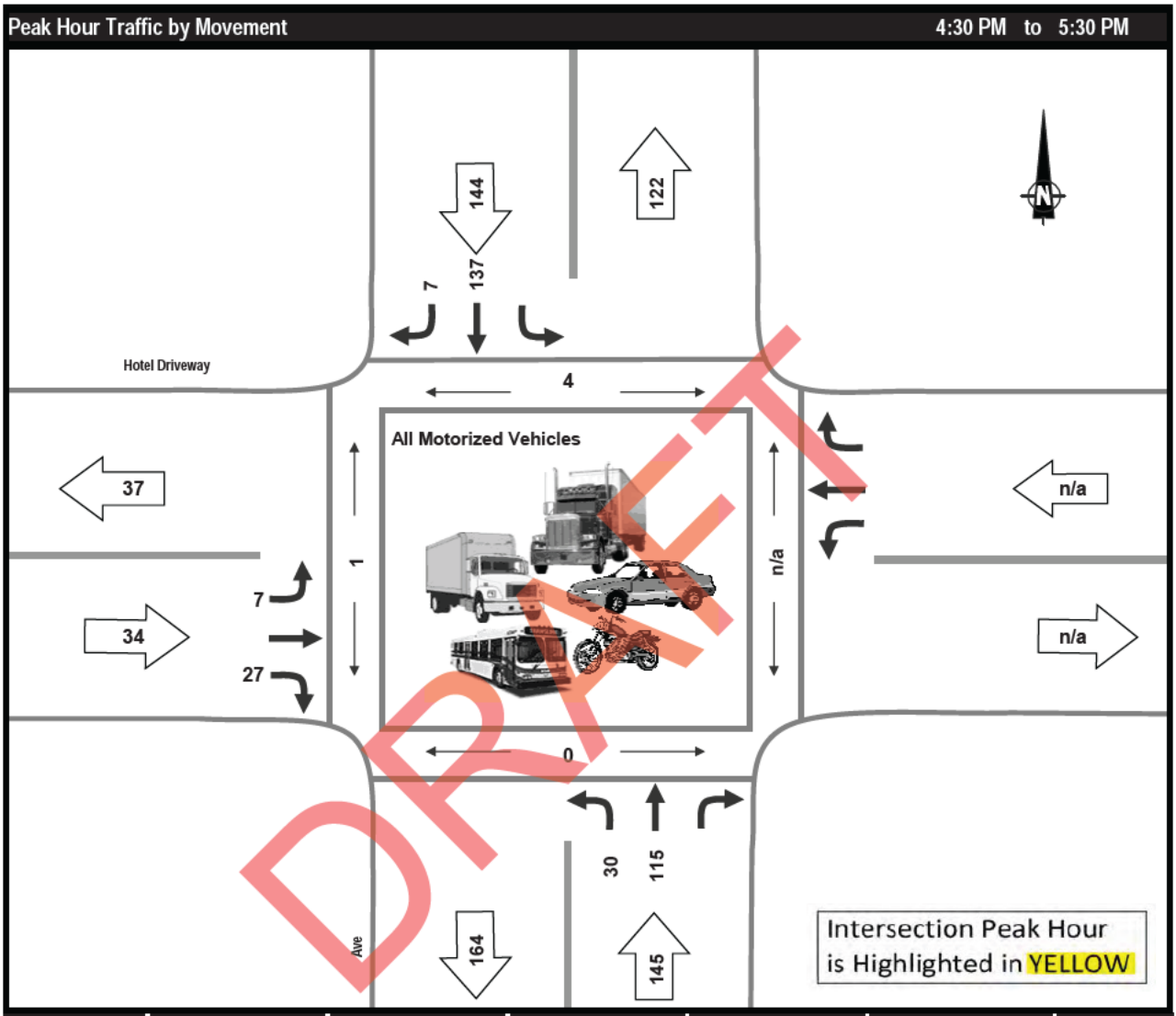
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		104	5	15	143		1		15				6		10		283
PHF		0.79	0.63	0.75	0.73		0.25		0.47				0.75		0.42		0.81
Peak 15 X 4		132	8	20	196		4		32				8		24		348
Average Hour		82	4	13	105		3		17				9		6		224
Survey Total		164	7	26	209		5		33				18		12		444
7:30		8	0	2	8		1		6				1		1		25
7:45		15	0	3	22		0		2				6		1		42
8:00		19	1	5	31		0		2				1		1		58
8:15		33	1	2	49		0		2				2		2		87
8:30		33	1	3	36		1		3				2		6		77
8:45		19	2	5	27		0		8				1		1		61
9:00		22	1	1	15		2		2				4		0		43
9:15		15	1	5	21		1		8				1		0		51

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: All Motorized Vehicles
Notes: The PM pedestrian data could not be counted.



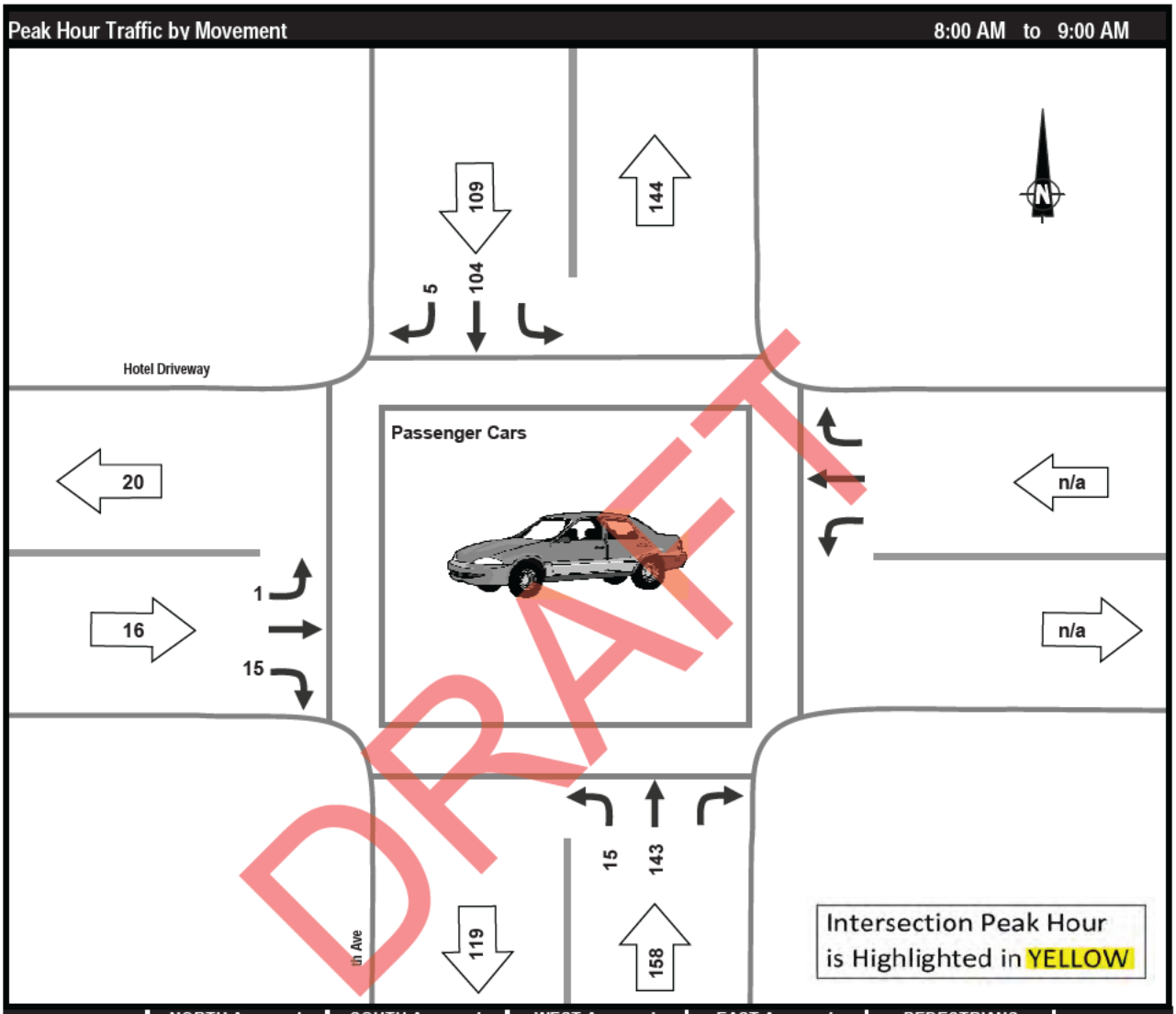
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		137	7	30	115		7		27				4	0	1		323
PHF		0.70	0.58	0.75	0.78		0.58		0.84				0.50	0.00	0.25		0.77
Peak 15 X 4		196	12	40	148		12		32				8	0	4		420
Average Hour		121	5	29	109		6		27				7	0	2		297
Survey Total		242	10	57	217		11		54				14	0	3		591
15:30		36	0	7	25		2		7				2	0	1		77
15:45		27	1	6	23		0		2				1	0	0		59
16:00		30	1	10	25		2		7				4	0	0		75
16:15		12	1	4	29		0		11				3	0	1		57
16:30		30	3	5	27		1		6				0	0	0		72
16:45		32	1	10	31		0		6				2	0	0		80
17:00		49	2	7	37		3		7				2	0	1		105
17:15		26	1	8	20		3		8				0	0	0		66

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars
Notes: The PM pedestrian data could not be counted.



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		104	5	15	143		1		15								283
PHF		0.79	0.63	0.75	0.73		0.25		0.47								0.81
Peak 15 X 4		132	8	20	196		4		32								348
Average Hour		82	4	13	105		3		16								223
Survey Total		164	7	26	209		5		32								443
7:30		8	0	2	8		1		6								25
7:45		15	0	3	22		0		2								42
8:00		19	1	5	31		0		2								58
8:15		33	1	2	49		0		2								87
8:30		33	1	3	36		1		3								77
8:45		19	2	5	27		0		8								61
9:00		22	1	1	15		2		2								43
9:15		15	1	5	21		1		7								50

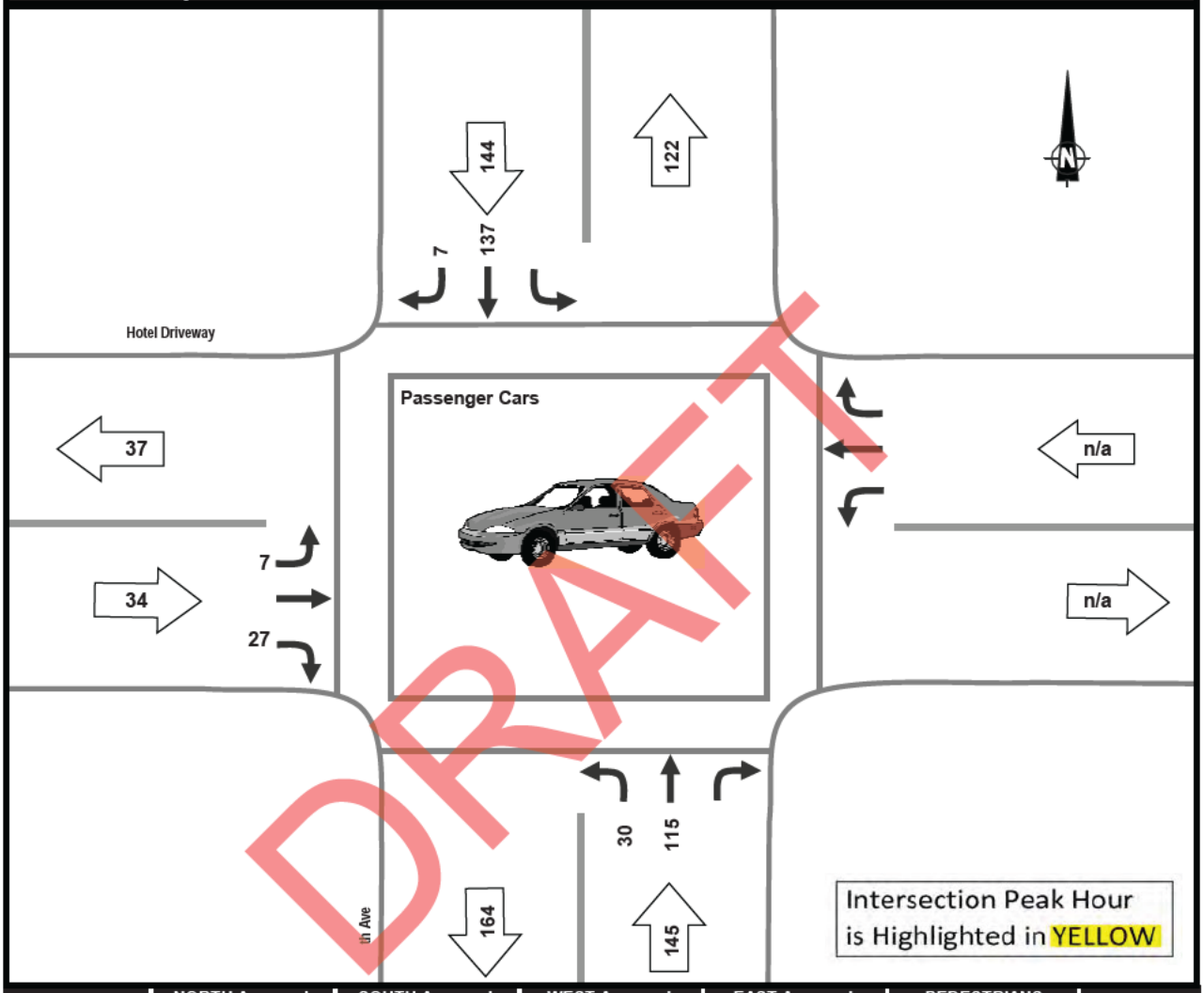
49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Passenger Cars
Notes: The PM pedestrian data could not be counted.

Peak Hour Traffic by Movement 4:30 PM to 5:30 PM



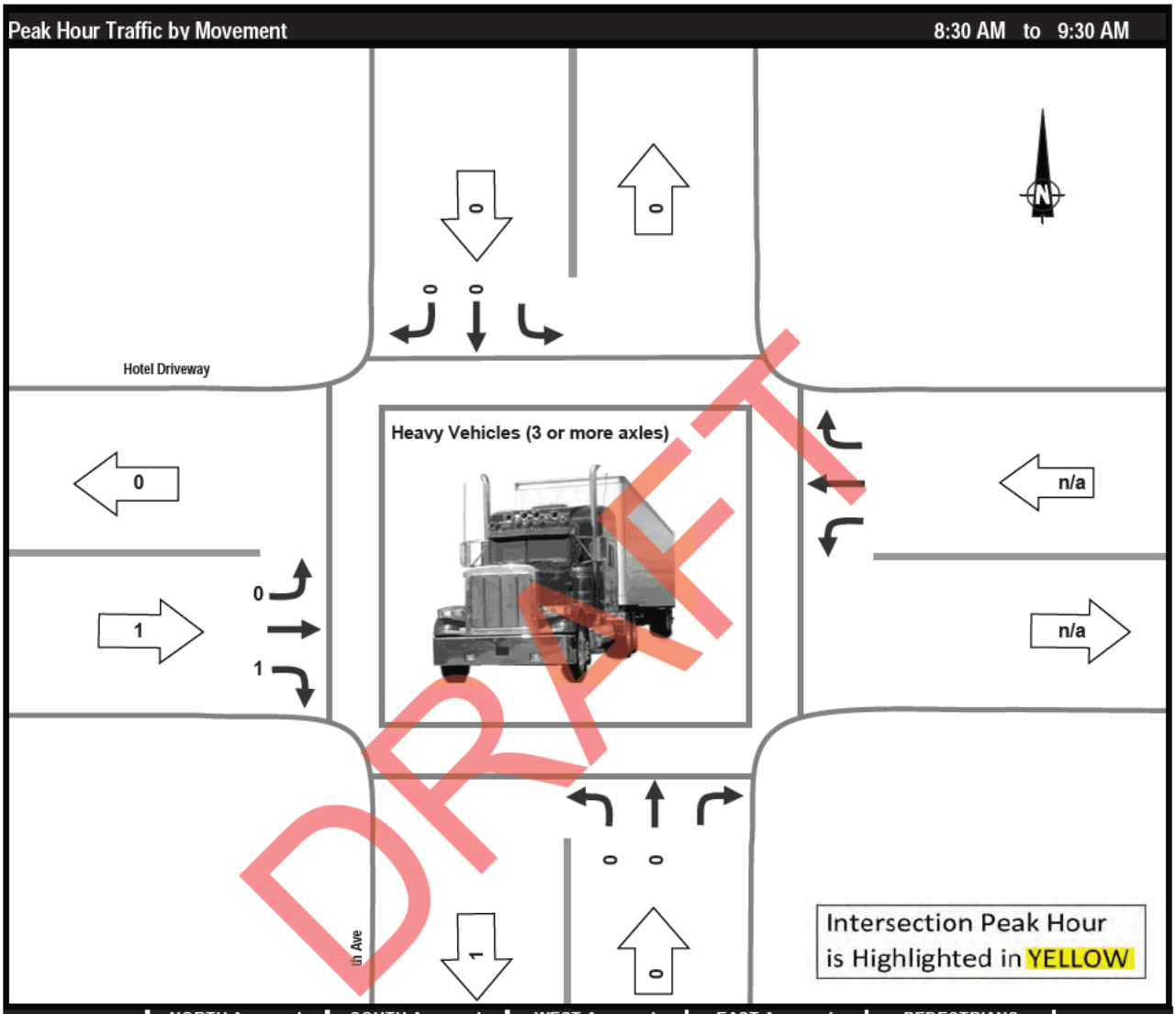
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		137	7	30	115		7		27								323
PHF		0.70	0.58	0.75	0.78		0.58		0.84								0.77
Peak 15 X 4		196	12	40	148		12		32								420
Average Hour		121	5	29	109		6		27								297
Survey Total		242	10	57	217		11		53								590
15:30		36	0	7	25		2		7								77
15:45		27	1	6	23		0		2								59
16:00		30	1	10	25		2		7								75
16:15		12	1	4	29		0		10								56
16:30		30	3	5	27		1		6								72
16:45		32	1	10	31		0		6								80
17:00		49	2	7	37		3		7								105
17:15		26	1	8	20		3		8								66

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)
Notes: The PM pedestrian data could not be counted.



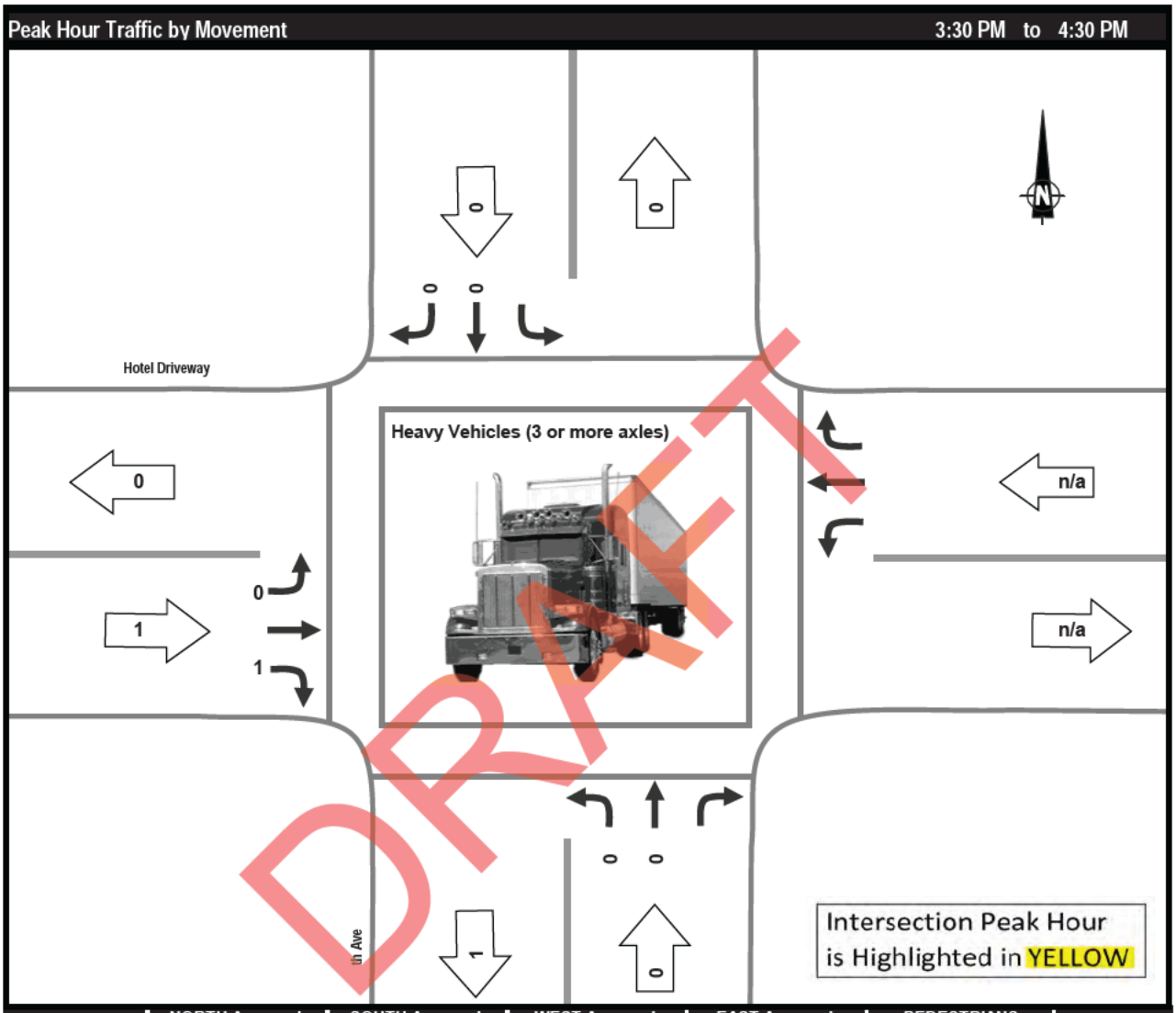
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		0	0	0	0		0		1								1
PHF		0.00	0.00	0.00	0.00		0.00		0.25								0.25
Peak 15 X 4		0	0	0	0		0		4								4
Average Hour		0	0	0	0		0		1								1
Survey Total		0	0	0	0		0		1								1
7:30		0	0	0	0		0		0								0
7:45		0	0	0	0		0		0								0
8:00		0	0	0	0		0		0								0
8:15		0	0	0	0		0		0								0
8:30		0	0	0	0		0		0								0
8:45		0	0	0	0		0		0								0
9:00		0	0	0	0		0		0								0
9:15		0	0	0	0		0		1								1

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Heavy Vehicles (3 or more axles)
Notes: The PM pedestrian data could not be counted.



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		0	0	0	0		0		1								1
PHF		0.00	0.00	0.00	0.00		0.00		0.25								0.25
Peak 15 X 4		0	0	0	0		0		4								4
Average Hour		0	0	0	0		0		1								1
Survey Total		0	0	0	0		0		1								1
15:30		0	0	0	0		0		0								0
15:45		0	0	0	0		0		0								0
16:00		0	0	0	0		0		0								0
16:15		0	0	0	0		0		1								1
16:30		0	0	0	0		0		0								0
16:45		0	0	0	0		0		0								0
17:00		0	0	0	0		0		0								0
17:15		0	0	0	0		0		0								0

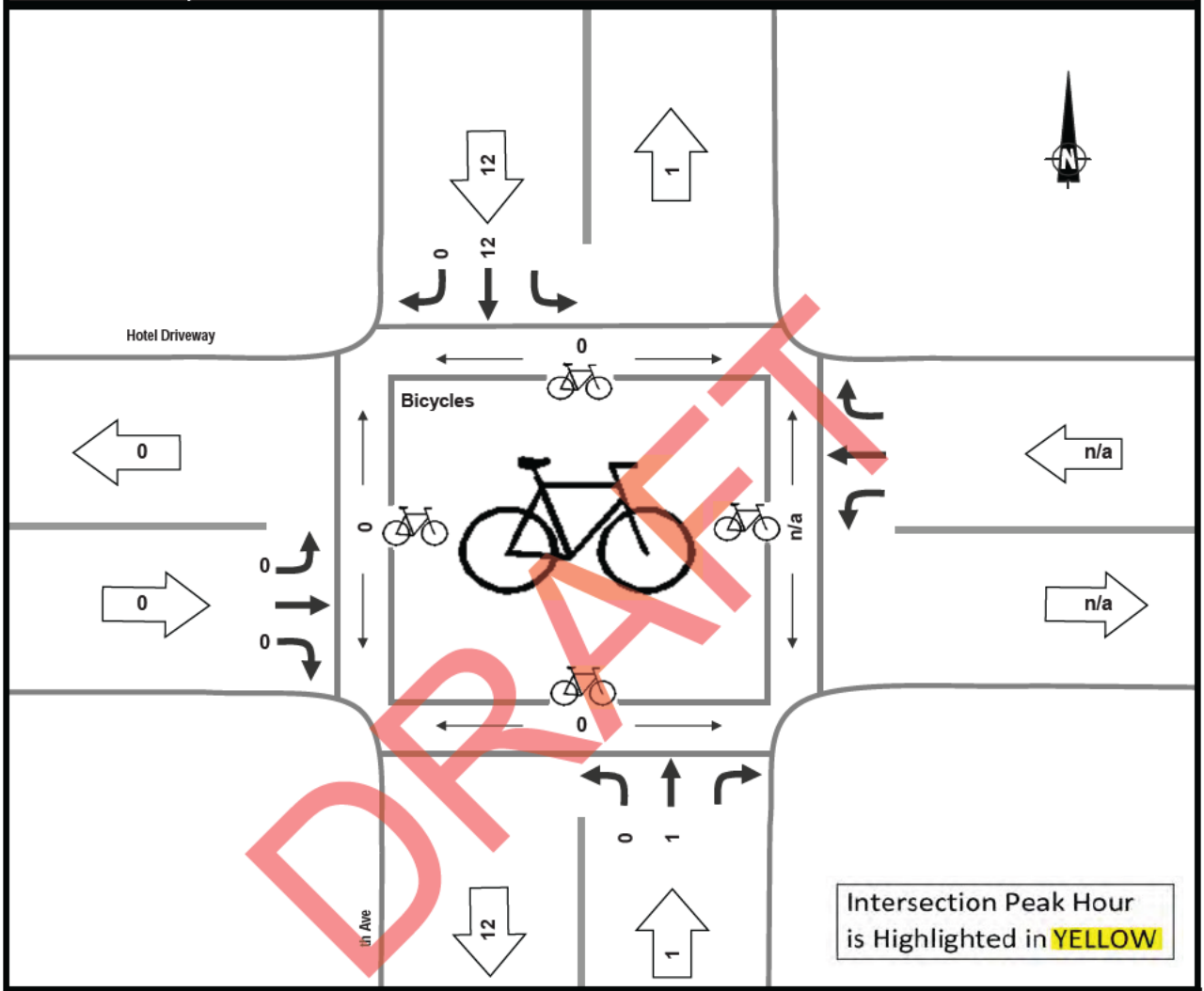
49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles
Notes: The PM pedestrian data could not be counted.

Peak Hour Traffic by Movement 7:45 AM to 8:45 AM



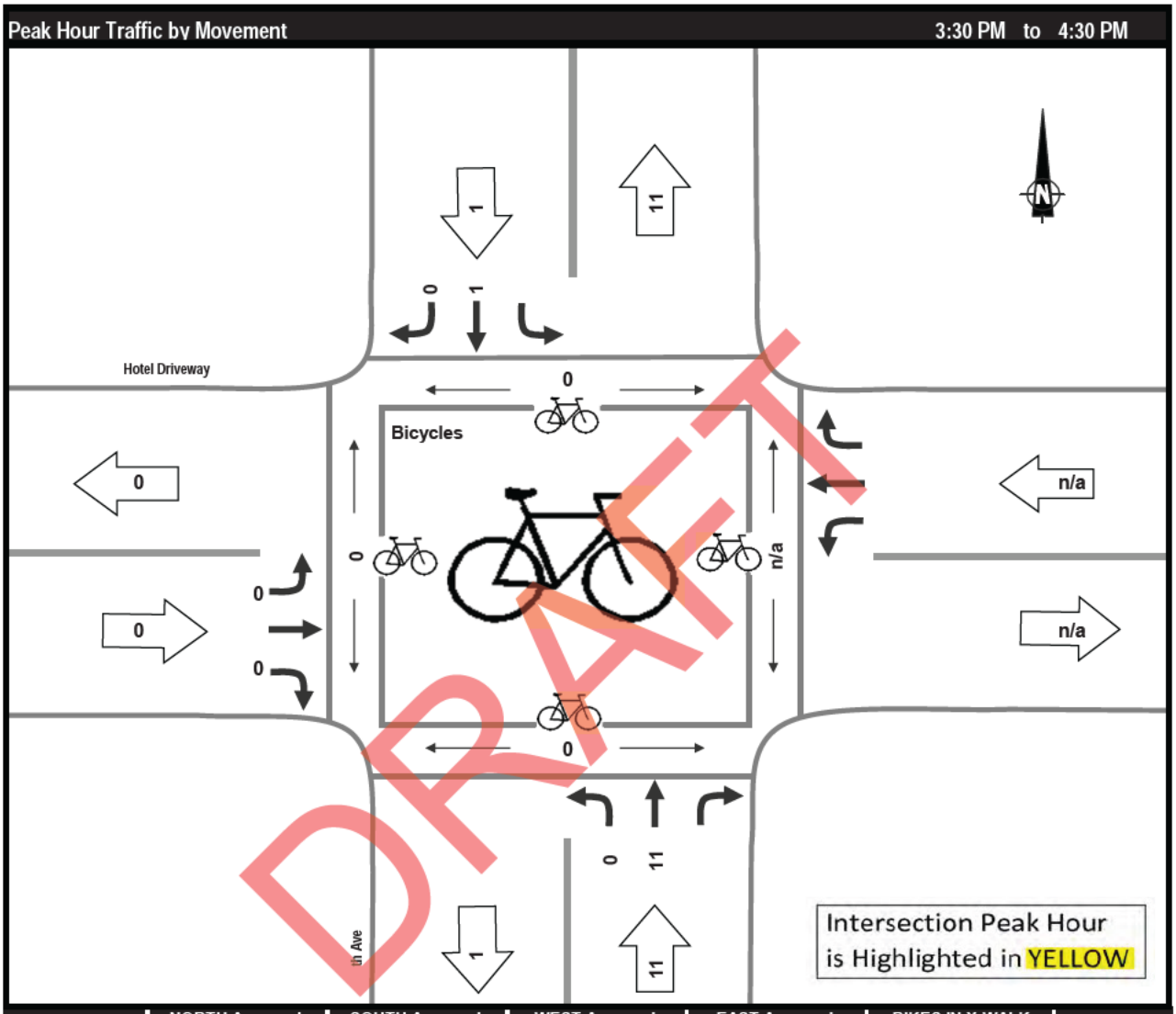
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		**12**	**0**	**0**	**1**		**0**		**0**				**0**	**0**	**0**		**13**
PHF		0.60	0.00	0.00	0.25		0.00		0.00				0.00	0.00	0.00		0.54
Peak 15 X 4		20	0	0	4		0		0				0	0	0		24
Average Hour		7	0	0	2		0		0				0	0	0		9
Survey Total		14	0	0	3		0		0				0	0	0		17
7:30		1	0	0	0		0		0				0	0	0		1
7:45		2	0	0	0		0		0				0	0	0		2
8:00		4	0	0	0		0		0				0	0	0		4
8:15		1	0	0	0		0		0				0	0	0		1
8:30		5	0	0	1		0		0				0	0	0		6
8:45		1	0	0	0		0		0				0	0	0		1
9:00		0	0	0	1		0		0				0	0	0		1
9:15		0	0	0	1		0		0				0	0	0		1

49th Ave & Hotel Driveway

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smoky, Cloudy, Sunny
Vehicle Class: Bicycles
Notes: The PM pedestrian data could not be counted.



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour		1	0	0	11		0		0				0	0	0		12
PHF		0.25	0.00	0.00	0.69		0.00		0.00				0.00	0.00	0.00		0.75
Peak 15 X 4		4	0	0	16		0		0				0	0	0		16
Average Hour		3	0	0	8		0		0				0	0	0		11
Survey Total		5	0	0	16		0		0				0	0	0		21
15:30		0	0	0	4		0		0				0	0	0		4
15:45		0	0	0	2		0		0				0	0	0		2
16:00		1	0	0	3		0		0				0	0	0		4
16:15		0	0	0	2		0		0				0	0	0		2
16:30		1	0	0	1		0		0				0	0	0		2
16:45		1	0	0	2		0		0				0	0	0		3
17:00		0	0	0	2		0		0				0	0	0		2
17:15		2	0	0	0		0		0				0	0	0		2

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smokey

Time Period	Entering Intersection	Vehicle Classification					Total
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Afternoon (15:30 - 17:30)	Volume	2,111	7				**2,118**
	%	99.7%	0.3%				**100.0%**
Total (2 Hours)	**Volume**	**2,111**	**7**				**2,118**
	%	**99.7%**	**0.3%**				**100.0%**

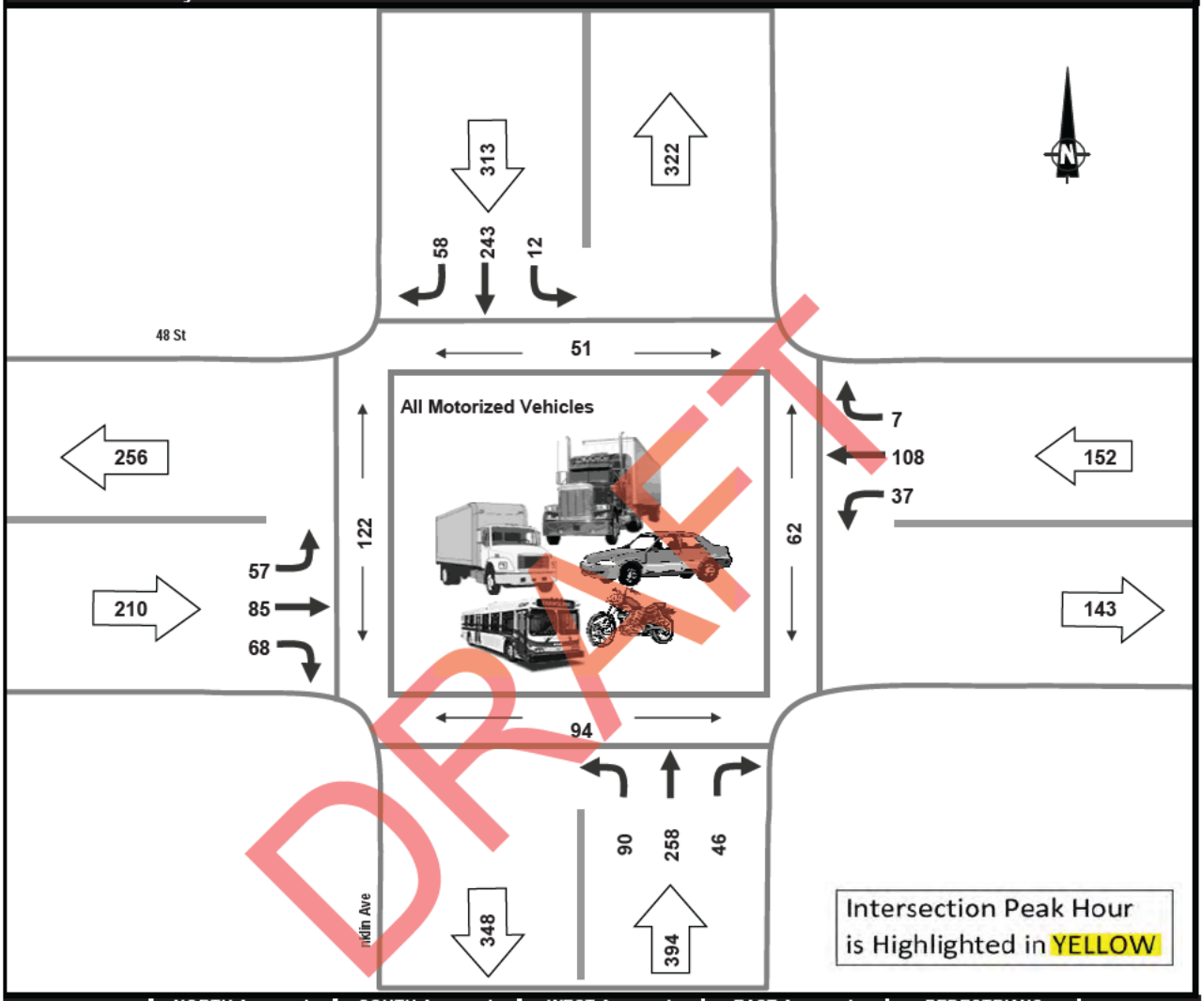
Franklin Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smokey
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 4:30 PM to 5:30 PM



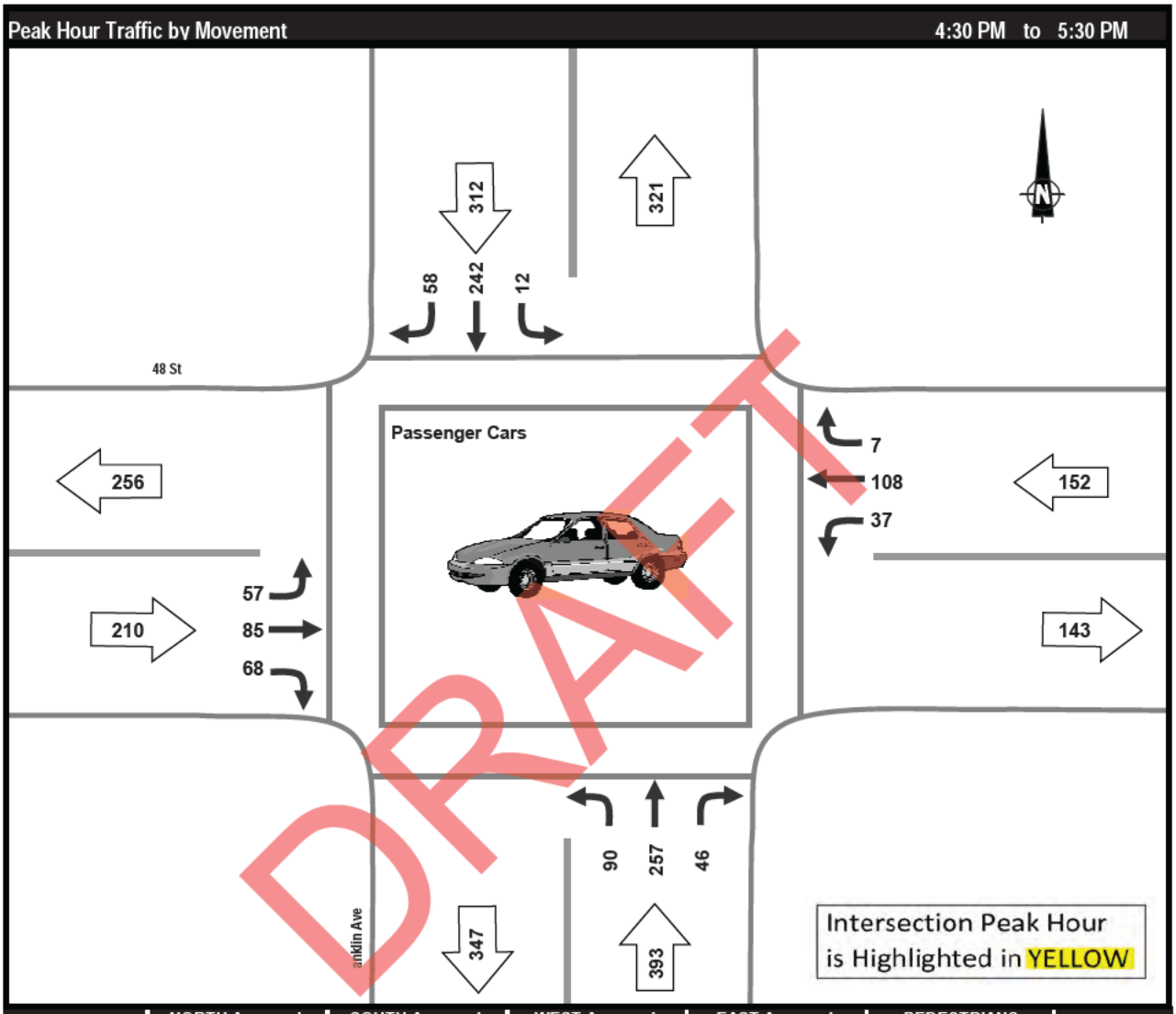
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	12	243	58	90	258	46	57	85	68	37	108	7	51	94	122	62	1,069
PHF	0.60	0.76	0.76	0.90	0.75	0.77	0.89	0.89	0.74	0.84	0.73	0.58	0.71	0.59	0.71	0.53	0.82
Peak 15 X 4	20	320	76	100	344	60	64	96	92	44	148	12	72	160	172	116	1,304
Average Hour	13	247	56	90	259	40	53	81	61	43	112	7	44	82	103	81	1,062
Survey Total	25	493	112	179	518	80	106	162	122	85	223	13	88	164	205	162	2,118
15:30	6	81	15	31	90	11	12	13	17	17	32	0	11	25	18	24	325
15:45	0	73	10	25	67	9	12	22	12	13	38	0	8	14	13	22	281
16:00	3	47	18	19	62	8	12	20	6	9	22	2	12	18	19	28	228
16:15	4	49	11	14	41	6	13	22	19	9	23	4	6	13	33	26	215
16:30	2	60	10	24	51	15	12	24	12	11	17	3	14	19	37	20	241
16:45	5	50	18	18	58	7	15	21	15	7	20	2	8	18	21	6	236
17:00	4	80	19	23	86	14	14	16	23	9	37	1	18	40	43	29	326
17:15	1	53	11	25	63	10	16	24	18	10	34	1	11	17	21	7	266

Franklin Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smokey
Vehicle Class: Passenger Cars



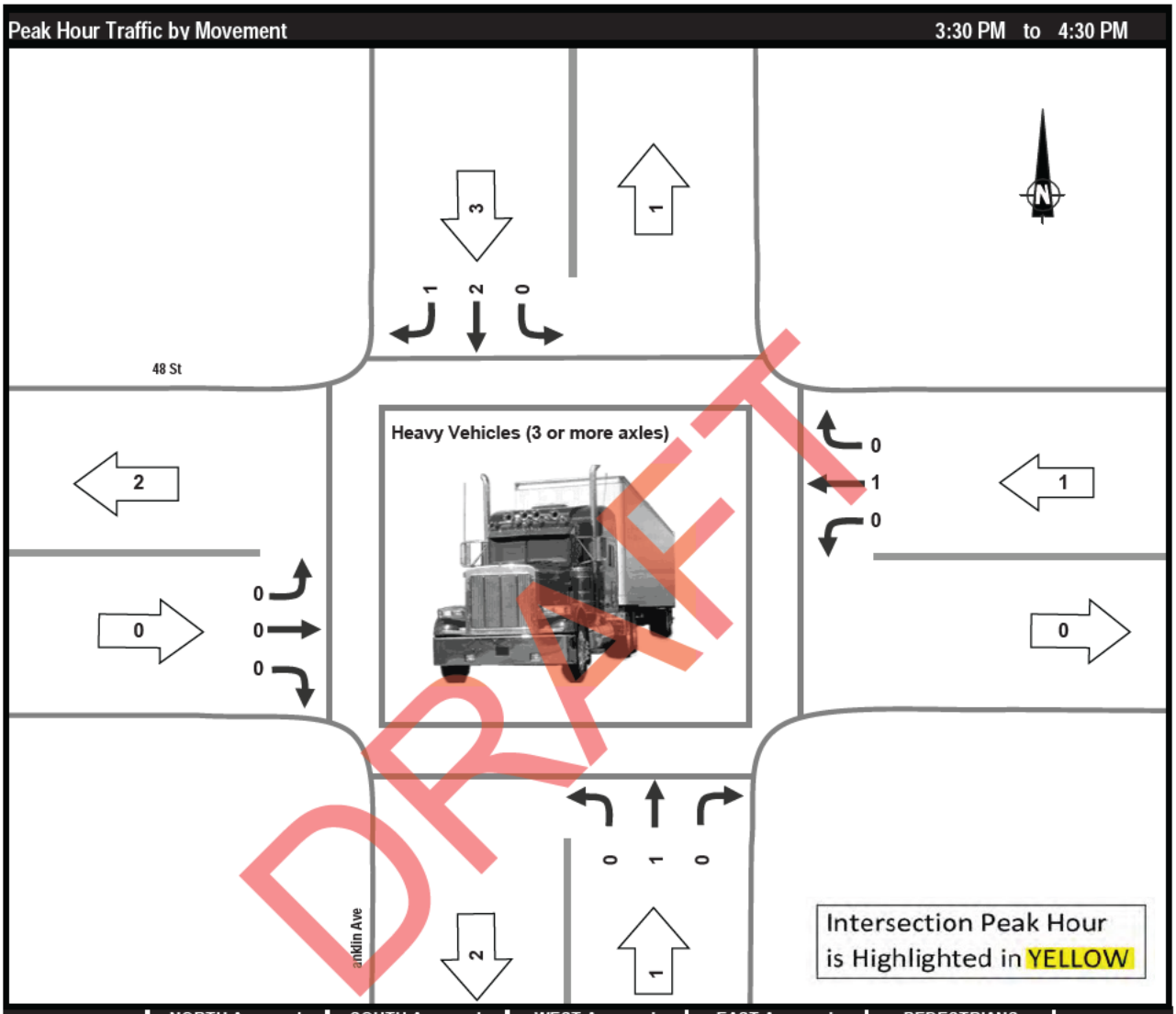
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**12**	**242**	**58**	**90**	**257**	**46**	**57**	**85**	**68**	**37**	**108**	**7**					**1,067**
PHF	0.60	0.76	0.76	0.90	0.75	0.77	0.89	0.89	0.74	0.84	0.73	0.58					**0.82**
Peak 15 X 4	20	320	76	100	344	60	64	96	92	44	148	12					**1,304**
Average Hour	13	245	56	90	258	40	53	81	61	43	111	7					1,058
Survey Total	25	490	111	179	516	80	106	162	122	85	222	13					2,111
15:30	6	80	15	31	89	11	12	13	17	17	31	0					322
15:45	0	73	10	25	67	9	12	22	12	13	38	0					281
16:00	3	46	18	19	62	8	12	20	6	9	22	2					227
16:15	4	49	10	14	41	6	13	22	19	9	23	4					214
16:30	2	59	10	24	50	15	12	24	12	11	17	3					239
16:45	5	50	18	18	58	7	15	21	15	7	20	2					236
17:00	4	80	19	23	86	14	14	16	23	9	37	1					326
17:15	1	53	11	25	63	10	16	24	18	10	34	1					266

Franklin Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smokey
Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**					**5**
PHF	0.00	0.50	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.25	0.00					0.42
Peak 15 X 4	0	4	4	0	4	0	0	0	0	0	4	0					12
Average Hour	0	2	1	0	1	0	0	0	0	0	1	0					5
Survey Total	0	3	1	0	2	0	0	0	0	0	1	0					7
15:30	0	1	0	0	1	0	0	0	0	0	1	0					3
15:45	0	0	0	0	0	0	0	0	0	0	0	0					0
16:00	0	1	0	0	0	0	0	0	0	0	0	0					1
16:15	0	0	1	0	0	0	0	0	0	0	0	0					1
16:30	0	1	0	0	1	0	0	0	0	0	0	0					2
16:45	0	0	0	0	0	0	0	0	0	0	0	0					0
17:00	0	0	0	0	0	0	0	0	0	0	0	0					0
17:15	0	0	0	0	0	0	0	0	0	0	0	0					0

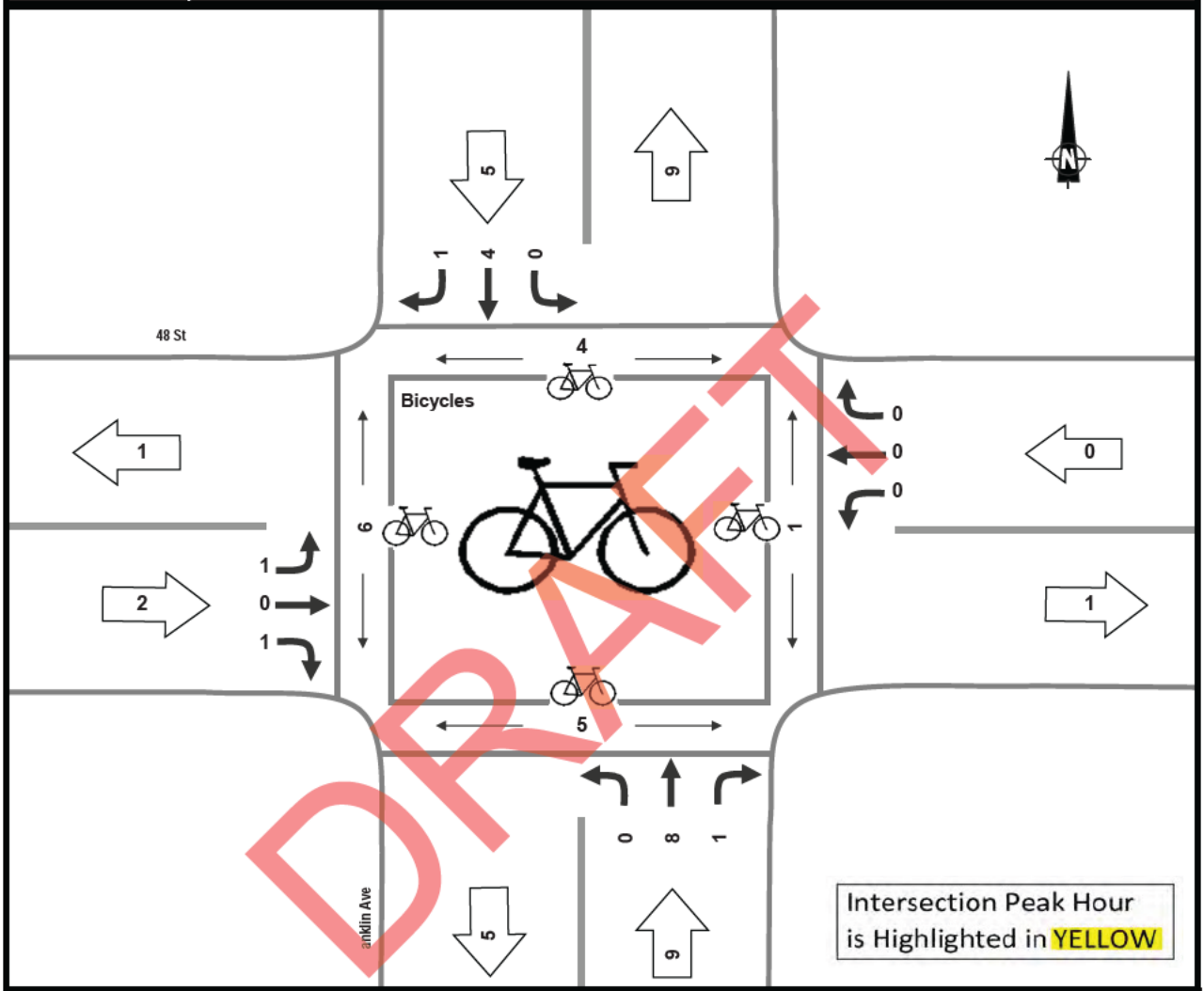
Franklin Ave & 48 St

Tuesday, September 02, 2025

Afternoon Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Smokey
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 4:15 PM to 5:15 PM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	0	4	1	0	8	1	1	0	1	0	0	0	4	5	6	1	32
PHF	0.00	0.33	0.25	0.00	0.67	0.25	0.25	0.00	0.25	0.00	0.00	0.00	0.50	0.63	0.50	0.25	0.73
Peak 15 X 4	0	12	4	0	12	4	4	0	4	0	0	0	8	8	12	4	44
Average Hour	0	3	1	0	5	1	1	0	1	1	0	0	3	3	5	1	25
Survey Total	0	6	1	0	10	1	1	0	1	1	0	0	6	5	9	2	43
15:30	0	1	0	0	1	0	0	0	0	1	0	0	1	0	2	0	6
15:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	3
16:15	0	0	1	0	3	0	0	0	0	0	0	0	0	1	1	0	6
16:30	0	1	0	0	1	1	0	0	0	0	0	0	0	2	0	0	5
16:45	0	0	0	0	3	0	0	0	1	0	0	0	2	1	2	1	10
17:00	0	3	0	0	1	0	1	0	0	0	0	0	2	1	3	0	11
17:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Vehicle Classification Summary

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy

Time Period	Entering Intersection	Vehicle Classification					**Total**
		Passenger Cars	Heavy Vehicles (3 or more axles)				
Morning (07:30 - 09:30)	Volume	1,815	19				**1,834**
	%	99.0%	1.0%				**100.0%**
Total (2 Hours)	**Volume**	**1,815**	**19**				**1,834**
	%	**99.0%**	**1.0%**				**100.0%**

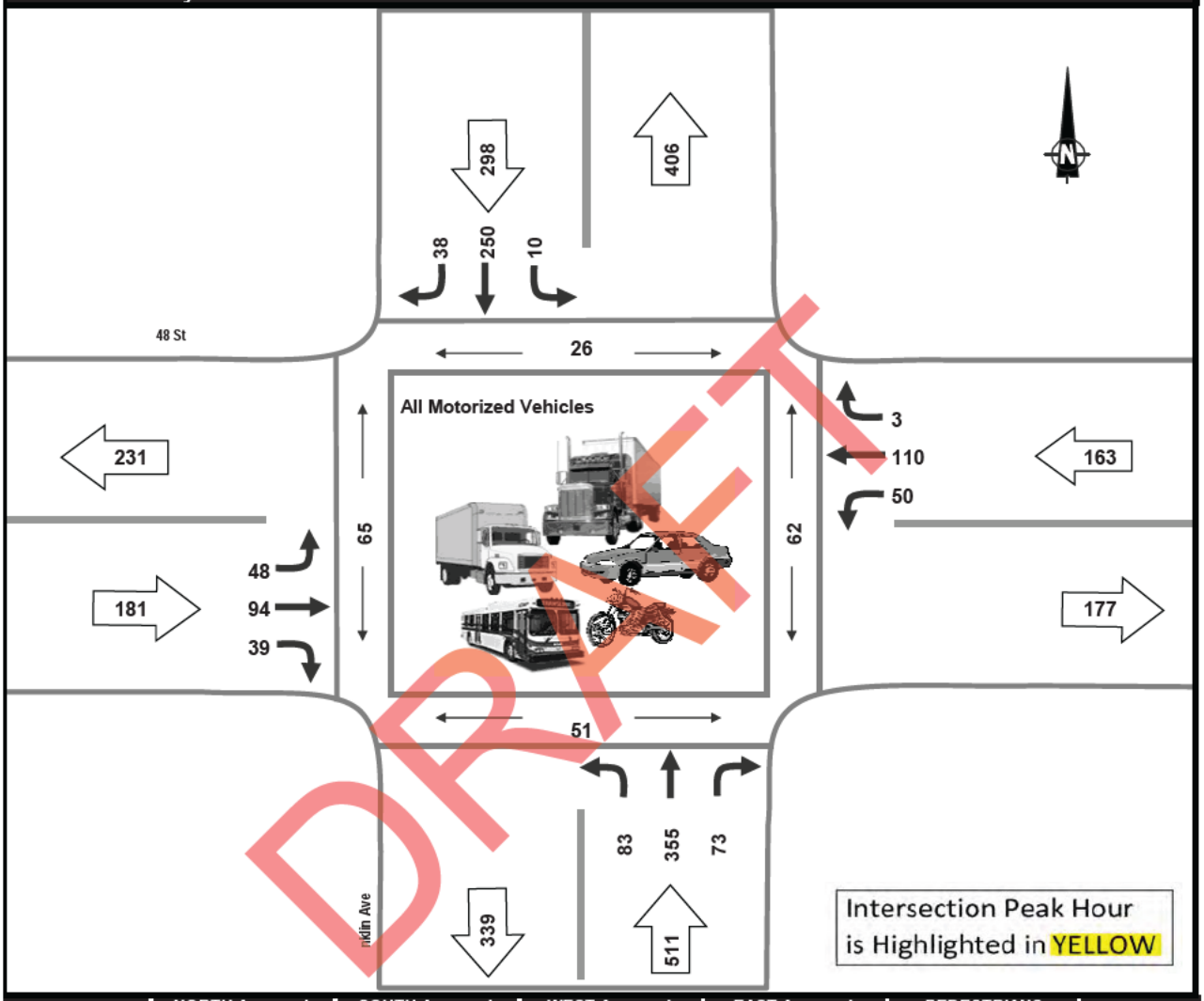
Franklin Ave & 48 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: All Motorized Vehicles

Peak Hour Traffic by Movement 8:00 AM to 9:00 AM



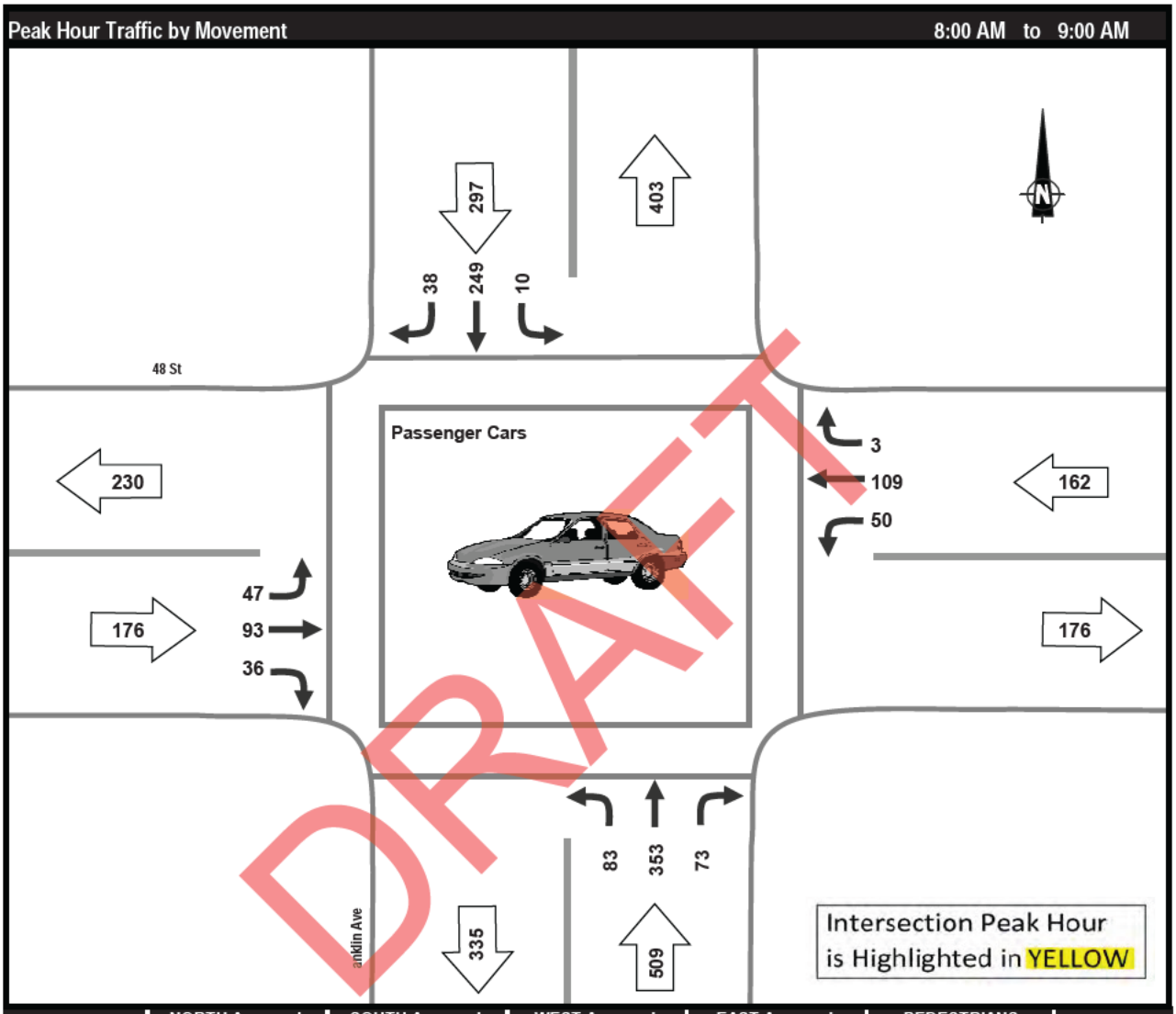
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**10**	**250**	**38**	**83**	**355**	**73**	**48**	**94**	**39**	**50**	**110**	**3**	**26**	**51**	**65**	**62**	**1,153**
PHF	0.50	0.86	0.59	0.77	0.89	0.73	0.75	0.78	0.81	0.66	0.79	0.38	0.65	0.71	0.86	0.82	0.90
Peak 15 X 4	20	292	64	108	400	100	64	120	48	76	140	8	40	72	76	76	1,288
Average Hour	8	220	35	67	269	51	37	73	44	32	77	7	25	36	50	45	920
Survey Total	16	439	70	134	537	101	73	145	88	64	153	14	50	72	100	89	1,834
7:30	1	41	6	11	32	8	6	12	12	5	6	2	2	2	3	1	142
7:45	1	64	8	18	51	13	7	18	12	5	12	3	8	4	11	3	212
8:00	1	73	5	16	76	20	12	29	12	5	22	2	3	11	12	14	273
8:15	5	58	11	26	94	25	10	30	11	17	30	0	10	15	17	16	317
8:30	3	59	16	27	100	18	16	19	9	19	35	1	9	18	19	13	322
8:45	1	60	6	14	85	10	10	16	7	9	23	0	4	7	17	19	241
9:00	3	47	10	9	66	3	6	13	11	2	11	5	8	8	13	10	186
9:15	1	37	8	13	33	4	6	8	14	2	14	1	6	7	8	13	141

Franklin Ave & 48 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Passenger Cars



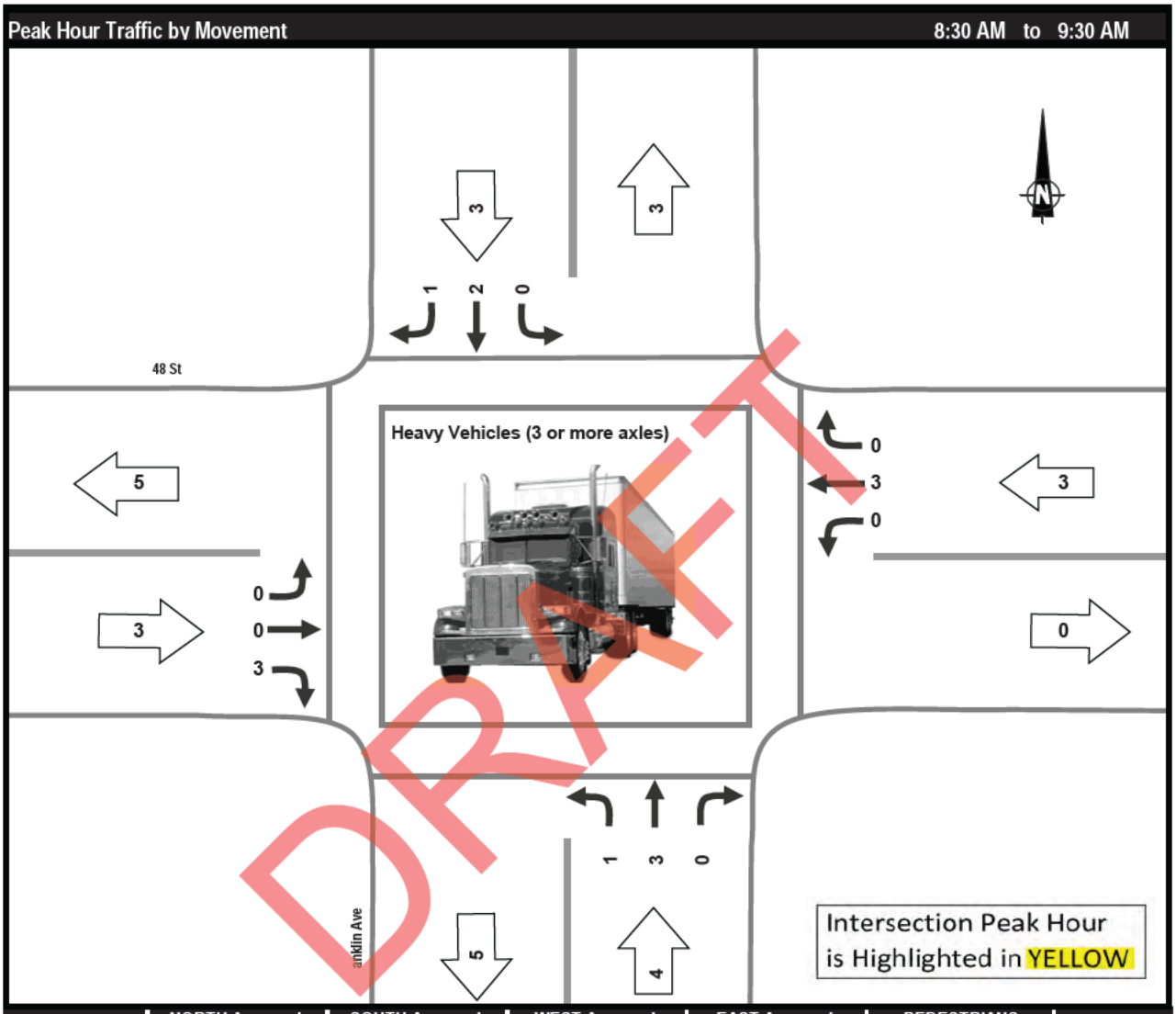
Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**10**	**249**	**38**	**83**	**353**	**73**	**47**	**93**	**36**	**50**	**109**	**3**					**1,144**
PHF	0.50	0.85	0.59	0.77	0.89	0.73	0.73	0.78	0.82	0.66	0.80	0.38					0.89
Peak 15 X 4	20	292	64	108	396	100	64	120	44	76	136	8					1,280
Average Hour	8	219	35	67	267	51	36	72	42	32	75	7					911
Survey Total	16	437	69	133	534	101	71	143	84	64	149	14					1,815
7:30	1	41	6	11	32	8	5	12	12	5	5	2					140
7:45	1	64	8	18	51	13	7	17	12	5	12	3					211
8:00	1	73	5	16	76	20	11	28	11	5	22	2					270
8:15	5	58	11	26	94	25	10	30	11	17	30	0					317
8:30	3	59	16	27	99	18	16	19	9	19	34	1					320
8:45	1	59	6	14	84	10	10	16	5	9	23	0					237
9:00	3	47	10	8	66	3	6	13	11	2	11	5					185
9:15	1	36	7	13	32	4	6	8	13	2	12	1					135

Franklin Ave & 48 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Heavy Vehicles (3 or more axles)



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			PEDESTRIANS				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	**0**	**2**	**1**	**1**	**3**	**0**	**0**	**0**	**3**	**0**	**3**	**0**					**13**
PHF	0.00	0.50	0.25	0.25	0.75	0.00	0.00	0.00	0.38	0.00	0.38	0.00					0.54
Peak 15 X 4	0	4	4	4	4	0	0	0	8	0	8	0					24
Average Hour	0	1	1	1	2	0	1	1	2	0	2	0					11
Survey Total	0	2	1	1	3	0	2	2	4	0	4	0					19
7:30	0	0	0	0	0	0	1	0	0	0	1	0					2
7:45	0	0	0	0	0	0	0	1	0	0	0	0					1
8:00	0	0	0	0	0	0	1	1	1	0	0	0					3
8:15	0	0	0	0	0	0	0	0	0	0	0	0					0
8:30	0	0	0	0	1	0	0	0	0	0	1	0					2
8:45	0	1	0	0	1	0	0	0	2	0	0	0					4
9:00	0	0	0	1	0	0	0	0	0	0	0	0					1
9:15	0	1	1	0	1	0	0	0	1	0	2	0					6

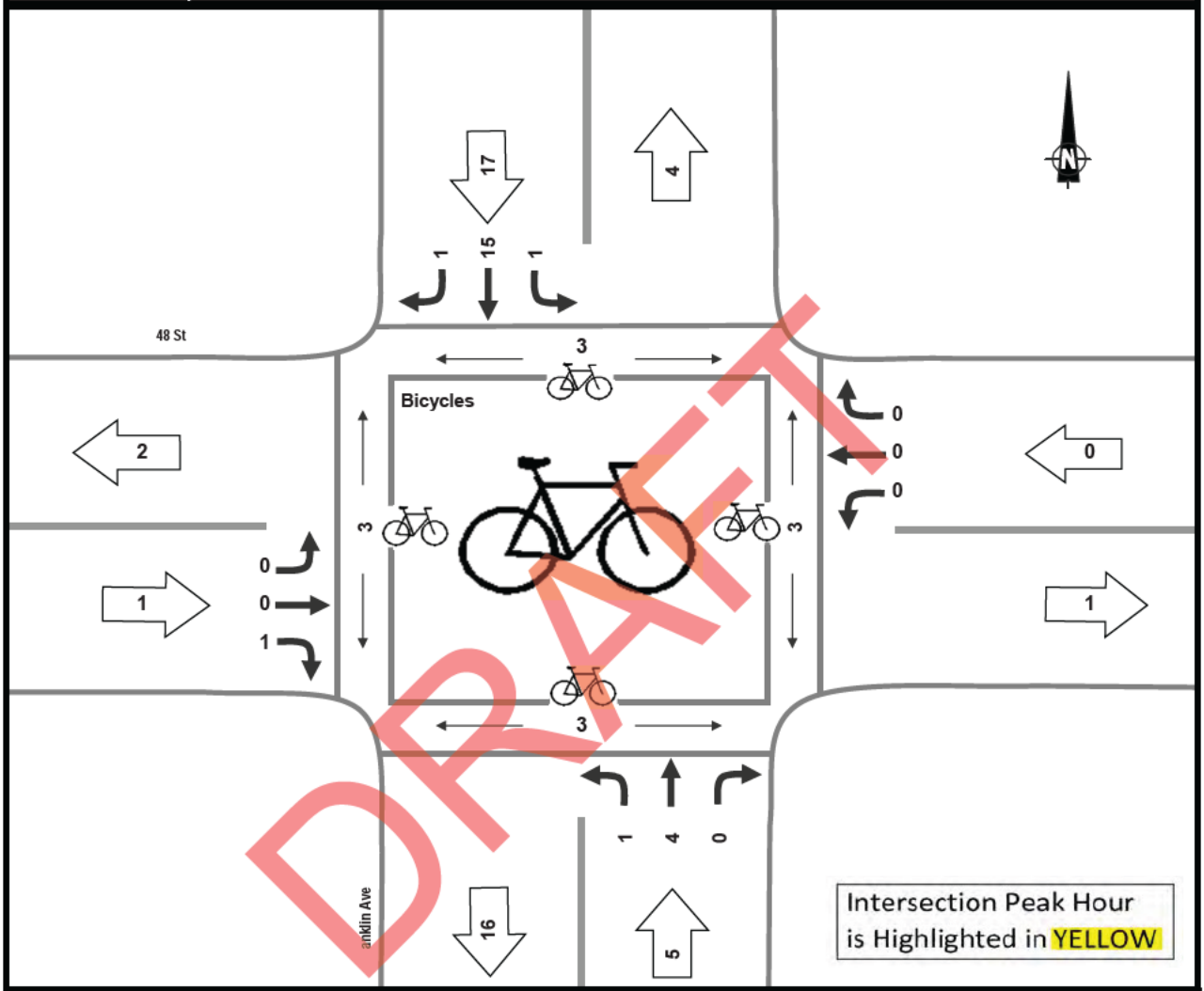
Franklin Ave & 48 St

Wednesday, September 03, 2025

Morning Peak Period

Project: #9562: Explorer Hotel Expansion TIA
Municipality: City of Yellowknife
Weather: Rain, Cloudy
Vehicle Class: Bicycles

Peak Hour Traffic by Movement 7:45 AM to 8:45 AM



Time	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			BIKES IN X-WALK				Total Volumes
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	N	S	W	E	
Peak Hour	1	15	1	1	4	0	0	0	1	0	0	0	3	3	3	3	35
PHF	0.25	0.63	0.25	0.25	0.50	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.75	0.38	0.38	0.75	0.88
Peak 15 X 4	4	24	4	4	8	0	0	0	4	0	0	0	4	8	8	4	40
Average Hour	1	10	1	1	2	0	0	0	1	0	0	0	2	3	2	2	25
Survey Total	1	19	1	1	4	0	0	0	2	0	0	0	4	6	4	3	45
7:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45	0	3	1	0	0	0	0	0	0	0	0	0	0	2	0	0	6
8:00	0	4	0	0	2	0	0	0	0	0	0	0	1	0	1	1	9
8:15	0	6	0	0	0	0	0	0	1	0	0	0	1	1	0	1	10
8:30	1	2	0	1	2	0	0	0	0	0	0	0	1	0	2	1	10
8:45	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
9:15	0	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	4

Appendix C
Local Trip Rate Summary Sheets

CREATIVE TRANSPORTATION SOLUTIONS
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
84A Moody Street, Port Moody, BC CANADA V3H2P5

VEHICLE TRIP GENERATION SURVEY

Hotel

PROJECT NO.:	**9562**
PROJECT:	**Explorer Hotel Expansion Traffic Impact Study**
CITY:	**Yellownife, NT**
DATE OF SURVEY:	**Mon,September 01,2025**
LOCATION:	**The Explorer Hotel - 4825 49th Avenue**

SURVEY DATA

TIME	From East/North			From West/South			TOTAL			Hourly		
	InB	OutB	2-Way	InB	OutB	2-Way	InB	OutB	2-Way	InB	OutB	2-Way
7:30 - 7:45	0	2	2	6	4	10	6	6	12	19	35	54
7:45 - 8:00	1	3	4	2	9	11	3	12	15	19	41	60
8:00 - 8:15	1	1	2	5	7	12	6	8	14	20	34	54
8:15 - 8:30	0	2	2	4	7	11	4	9	13	17	36	53
8:30 - 8:45	1	2	3	5	10	15	6	12	18	21	34	55
8:45 - 9:00	0	1	1	4	4	8	4	5	9			
9:00 - 9:15	0	2	2	3	8	11	3	10	13			
9:15 - 9:30	3	0	3	5	7	12	8	7	15			
WED AM TOTAL	**6**	**13**	**19**	**34**		**90**	**40**	**69**	**109**			
15:30 - 15:45	0	0	0	11	9	0	11	9	20	34	31	65
15:45 - 16:00	2	1	3	8		19	10	12	22	32	31	63
16:00 - 16:15	4	0	4	5	4	9	9	4	13	25	23	48
16:15 - 16:30	3	0		1	6	7	4	6	10	25	26	51
16:30 - 16:45	1	2	3	8		15	9	9	18	24	23	47
16:45 - 17:00	1	0	1	2	4	6	3	4	7			
17:00 - 17:15	1	1			6	14	9	7	16			
17:15 - 17:30	2	1	3	1	2	3	3	3	6			
TUE PM TOTAL	**14**	**5**	**19**	**44**	**49**	**93**	**58**	**54**	**112**			

VEHICLE	WEEKDAY AM (7:30 - 9:30)			WEEKDAY PM (15:30 - 17:30)		
	INBOUND	OUTBOUND	2 WAY	INBOUND	OUTBOUND	2 WAY
2 Hour Total	40	69	109	58	54	112
Peak Hour (vph)	19	41	60	34	31	65

Average Vehicle Trip Ends vs: Rooms

Number of Units: 229 Rooms (88.4% Occupancy of 259 rooms)

Hotel - Local Trip Rate (veh/unit)						
PEAK HOUR	Volume Split			Trip/unit (veh/unit)		
	IN %	OUT %	2 WAY	IN	OUT	2 WAY
Weekday Morning	32%	68%	100%	0.08	0.18	0.26
Weekday Afternoon	52%	48%	100%	0.15	0.14	0.28

ITE 12th Ed, Code 310		
IN %	OUT %	RATE
52%	48%	0.34
51%	49%	0.47

CTS CREATIVE TRANSPORTATION SOLUTIONS
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
84A Moody Street, Port Moody, BC CANADA V3H2P5

VEHICLE TRIP GENERATION SURVEY

Hotel

PROJECT NO.:	**9562**
PROJECT:	**Explorer Hotel Expansion Traffic Impact Study**
CITY:	**Yellownife, NT**
DATE OF SURVEY:	**Tue,September 02,2025**
LOCATION:	**The Explorer Hotel - 4825 49th Avenue**

SURVEY DATA

TIME	From East/North			From West/South			TOTAL			Hourly		
	InB	OutB	2-Way	InB	OutB	2-Way	InB	OutB	2-Way	InB	OutB	2-Way
7:30 - 7:45	0	1	1	6	2	8	6	3	9	14	13	27
7:45 - 8:00	0	0	0	2	3	5	2	3	5	12	14	26
8:00 - 8:15	1	0	1	2	5	7	3	5	8	20	16	36
8:15 - 8:30	1	0	1	2	2	4	3	2	5	20	14	34
8:30 - 8:45	1	1	2	3	3	6	4	4	8	26	18	44
8:45 - 9:00	2	0	2	8	5	13	10	5	15			
9:00 - 9:15	1	2	3	2	1	3	3	3	6			
9:15 - 9:30	1	1	2	8	5	13	9	6	15			
WED AM TOTAL	**7**	**5**	**12**	**33**	**2**	**59**	**40**	**31**	**71**			
15:30 - 15:45	0	2	2	7	7	4	7	9	16	30	31	61
15:45 - 16:00	1	0	1	6		8	7	2	9	31	29	60
16:00 - 16:15	1	2	3	10	7	17	11	9	20	35	33	68
16:15 - 16:30	1	0		4	11	15	5	11	16	33	34	67
16:30 - 16:45	3	1	4	5		11	8	7	15	37	34	71
16:45 - 17:00	1	0	1	10	6	16	11	6	17			
17:00 - 17:15	2	3			7	14	9	10	19			
17:15 - 17:30	1	3	4	8	8	16	9	11	20			
TUE PM TOTAL	**10**	**11**	**21**	**57**	**54**	**111**	**67**	**65**	**132**			

VEHICLE	WEEKDAY AM (7:30 - 9:30)			WEEKDAY PM (15:30 - 17:30)		
	INBOUND	OUTBOUND	2 WAY	INBOUND	OUTBOUND	2 WAY
2 Hour Total	40	31	71	67	65	132
Peak Hour (vph)	20	16	36	37	34	71

Average Vehicle Trip Ends vs: Rooms

Number of Units: 238 Rooms (91.9% Occupancy of 259 rooms)

Hotel - Local Trip Rate (veh/unit)						
PEAK HOUR	Volume Split			Trip/unit (veh/unit)		
	IN %	OUT %	2 WAY	IN	OUT	2 WAY
Weekday Morning	56%	44%	100%	0.08	0.07	0.15
Weekday Afternoon	52%	48%	100%	0.16	0.14	0.30

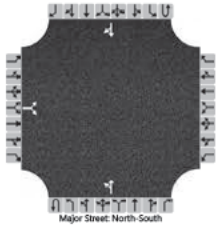
ITE 12th Ed, Code 310		
IN %	OUT %	RATE
52%	48%	0.34
51%	49%	0.47

Appendix D
Capacity Analysis Summary Sheets

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base	East/West Street	Hotel Access
Analysis Year	2025	North/South Street	49 Avenue
Time Analyzed	Wkdy AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		15						15	143				104	
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

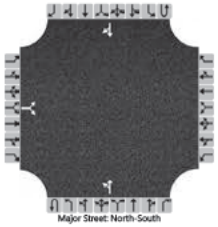
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19								18						
Capacity, c (veh/h)		894								1430						
v/c Ratio		0.02								0.01						
95% Queue Length, Q_{95} (veh)		0.1								0.0						
95% Queue Length, Q_{95} (m)		0.77								0.00						
Control Delay (s/veh)		9.1								7.5	0.1					
Level of Service (LOS)		A								A	A					
Approach Delay (s/veh)		9.1								0.8						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base	East/West Street	Hotel Access
Analysis Year	2028	North/South Street	49 Avenue
Time Analyzed	Wkdy AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehi Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Prio		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		16						16	152				110	5
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

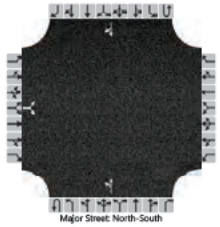
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20								19						
Capacity, c (veh/h)		886								1421						
v/c Ratio		0.02								0.01						
95% Queue Length, Q_{95} (veh)		0.1								0.0						
95% Queue Length, Q_{95} (m)		0.77								0.00						
Control Delay (s/veh)		9.2								7.6	0.1					
Level of Service (LOS)		A								A	A					
Approach Delay (s/veh)		9.2								0.8						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base+Site	East/West Street	Hotel Access
Analysis Year	2028	North/South Street	49 Avenue
Time Analyzed	Wkdy AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						
Volume (veh/h)		3		38						41	152				110	
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)			-3													
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2					4.1							
Critical Headway (sec)		5.82		5.92					4.12							
Base Follow-Up Headway (sec)		3.5		3.3					2.2							
Follow-Up Headway (sec)		3.52		3.32					2.22							

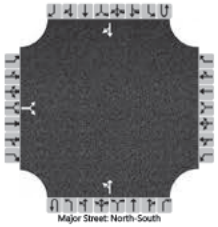
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			49						49							
Capacity, c (veh/h)			872						1418							
v/c Ratio			0.06						0.03							
95% Queue Length, Q_{95} (veh)			0.2						0.1							
95% Queue Length, Q_{95} (m)			1.55						0.77							
Control Delay (s/veh)			9.4						7.6	0.3						
Level of Service (LOS)			A						A	A						
Approach Delay (s/veh)		9.4							1.9							
Approach LOS		A							A							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base	East/West Street	Hotel Access
Analysis Year	2033	North/South Street	49 Avenue
Time Analyzed	Wkdy AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehi Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Prio		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		17						17	166				121	6
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)			-3													
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

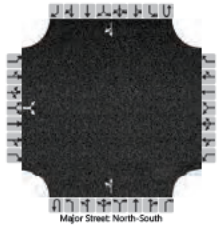
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			21							20						
Capacity, c (veh/h)			871							1404						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
95% Queue Length, Q_{95} (m)			0.77							0.00						
Control Delay (s/veh)			9.2							7.6	0.1					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.2								0.8						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base+Site	East/West Street	Hotel Access
Analysis Year	2033	North/South Street	49 Avenue
Time Analyzed	Wkdy AM Peak Hour	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						
Volume (veh/h)		3		39						42	166				121	
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)			-3													
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

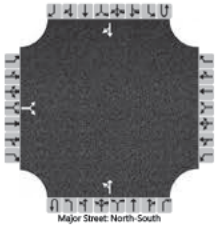
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			50							50						
Capacity, c (veh/h)			856							1401						
v/c Ratio			0.06							0.04						
95% Queue Length, Q_{95} (veh)			0.2							0.1						
95% Queue Length, Q_{95} (m)			1.55							0.77						
Control Delay (s/veh)			9.5							7.7	0.3					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.5								1.8						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base	East/West Street	Hotel Access
Analysis Year	2025	North/South Street	49 Avenue
Time Analyzed	Wkdy PM Peak Hour	Peak Hour Factor	0.82
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehi Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Prio		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		30						26	124				123	7
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)			-3													
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			41							32						
Capacity, c (veh/h)			846							1396						
v/c Ratio			0.05							0.02						
95% Queue Length, Q_{95} (veh)			0.2							0.1						
95% Queue Length, Q_{95} (m)			1.55							0.77						
Control Delay (s/veh)			9.5							7.6	0.2					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.5								1.5						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

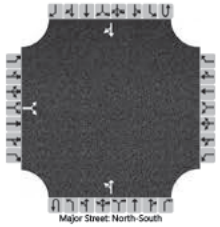
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Time Analyzed	Wkdy PM Peak Hour
Intersection Orientation	North-South
Project Description	9562 - Explorer Hotal Expansion TIS

Site Information

Intersection	49 Avenue & Hotel Access
Jurisdiction	Yellowknife, NT
East/West Street	Hotel Access
North/South Street	49 Avenue
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		4		32						28	131				130	
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		44								34						
Capacity, c (veh/h)		837								1386						
v/c Ratio		0.05								0.02						
95% Queue Length, Q_{95} (veh)		0.2								0.1						
95% Queue Length, Q_{95} (m)		1.55								0.77						
Control Delay (s/veh)		9.5								7.7	0.2					
Level of Service (LOS)		A								A	A					
Approach Delay (s/veh)		9.5								1.5						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

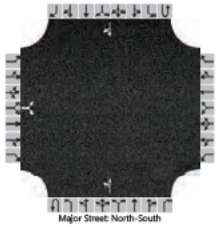
General Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Time Analyzed	Wkdy PM Peak Hour
Intersection Orientation	North-South
Project Description	9562 - Explorer Hotal Expansion TIS

Site Information

Intersection	49 Avenue & Hotel Access
Jurisdiction	Yellowknife, NT
East/West Street	Hotel Access
North/South Street	49 Avenue
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
ement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
iority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		7		64						61	131				130	10
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

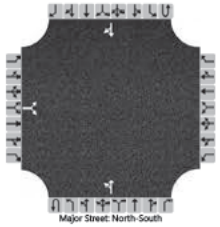
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			87							74						
Capacity, c (veh/h)			825							1381						
v/c Ratio			0.10							0.05						
95% Queue Length, Q_{95} (veh)			0.4							0.2						
95% Queue Length, Q_{95} (m)			3.10							1.55						
Control Delay (s/veh)			9.9							7.8	0.5					
Level of Service (LOS)			A							A	A					
Approach Delay (s/veh)		9.9								2.8						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base	East/West Street	Hotel Access
Analysis Year	2033	North/South Street	49 Avenue
Time Analyzed	Wkdy PM Peak Hour	Peak Hour Factor	0.82
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		5		35						30	144				143	
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

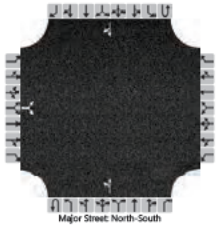
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		49								37						
Capacity, c (veh/h)		813								1366						
v/c Ratio		0.06								0.03						
95% Queue Length, Q_{95} (veh)		0.2								0.1						
95% Queue Length, Q_{95} (m)		1.55								0.77						
Control Delay (s/veh)		9.7								7.7	0.2					
Level of Service (LOS)		A								A	A					
Approach Delay (s/veh)		9.7								1.5						
Approach LOS		A								A						

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	RC	Intersection	49 Avenue & Hotel Access
Agency/Co.	CTS	Jurisdiction	Yellowknife, NT
Date Performed	Base+Site	East/West Street	Hotel Access
Analysis Year	2033	North/South Street	49 Avenue
Time Analyzed	Wkdy PM Peak Hour	Peak Hour Factor	0.82
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	9562 - Explorer Hotal Expansion TIS		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
ement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
iority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		8		67						63	144				143	11
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		-3														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		5.82		5.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

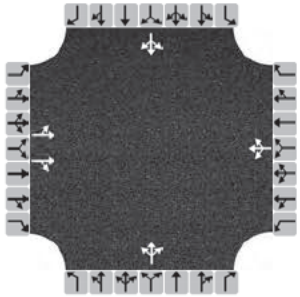
Flow Rate, v (veh/h)			91							77						
Capacity, c (veh/h)			801							1362						
v/c Ratio			0.11							0.06						
95% Queue Length, Q_{95} (veh)			0.4							0.2						
95% Queue Length, Q_{95} (m)			3.10							1.55						
Control Delay (s/veh)			10.1							7.8	0.5					
Level of Service (LOS)			B							A	A					
Approach Delay (s/veh)		10.1								2.7						
Approach LOS		B								A						

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	96	158	203	33	134	21	78	41	13	10	32	77
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	208	336		224			157			142		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.185	0.298		0.199			0.140			0.126		
Final Departure Headway, h_d (s)	6.04	5.25		5.64			6.10			5.73		
Final Degree of Utilization, x	0.349	0.490		0.350			0.266			0.226		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.74	2.95		3.64			4.10			3.73		

Capacity, Delay and Level of Service

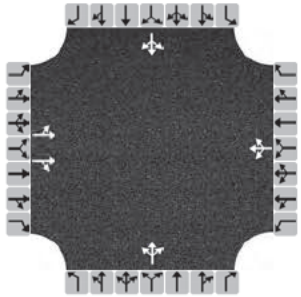
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	208	336		224			157			142		
Capacity (veh/h)	596	686		639			590			629		
95% Queue Length, Q_{95} (veh)	1.6	2.7		1.6			1.1			0.9		
95% Queue Length, Q_{95} (m)	12.39	20.90		12.39			8.52			6.97		
Control Delay (s/veh)	11.9	12.9		11.6			11.3			10.4		
Level of Service, LOS	B	B		B			B			B		
Approach Delay (s/veh) | LOS	12.5	B		11.6	B		11.3	B		10.4	B	
Intersection Delay (s/veh) | LOS	11.9	B										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	102	167	215	35	142	22	83	43	14	11	34	82
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	221	355		237			167			151		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.196	0.316		0.211			0.148			0.134		
Final Departure Headway, h_d (s)	6.16	5.37		5.78			6.26			5.89		
Final Degree of Utilization, x	0.378	0.530		0.380			0.290			0.247		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.86	3.07		3.78			4.26			3.89		

Capacity, Delay and Level of Service

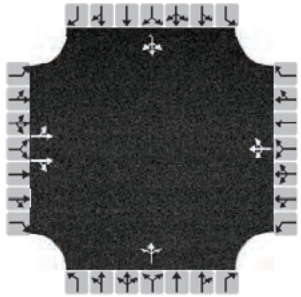
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	221	355		237			167			151		
Capacity (veh/h)	585	671		623			575			611		
95% Queue Length, Q_{95} (veh)	1.8	3.1		1.8			1.2			1.0		
95% Queue Length, Q_{95} (m)	13.94	24.00		13.94			9.29			7.74		
Control Delay (s/veh)	12.5	14.0		12.3			11.8			10.8		
Level of Service, LOS	B	B		B			B			B		
Approach Delay (s/veh) | LOS	13.4	B		12.3	B		11.8	B		10.8	B	
Intersection Delay (s/veh) | LOS	12.6	B										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	109	167	215	35	142	38	83	45	14	25	38	86
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	229	355		256			169			177		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.		
Initial Degree of Utilization, x	0.204	0.316		0.228			0.150			0.158		
Final Departure Headway, h_d (s)	6.33	5.53		5.91			6.45			6.07		
Final Degree of Utilization, x	0.403	0.546		0.420			0.303			0.		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.03	3.23		3.91			4.45			4.07		

Capacity, Delay and Level of Service

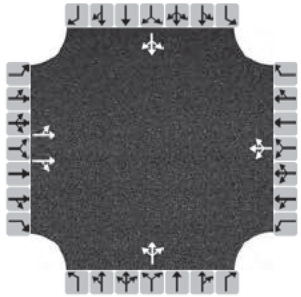
Approach	Eastbound			Westbound			Northbound			uthbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3		L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	229	355		256			169			177		
Capacity (veh/h)	568	650		610			559			593		
95% Queue Length, Q_{95} (veh)	1.9	3.3		2.1			1.3			1.3		
95% Queue Length, Q_{95} (m)	14.71	25.55		16.26			10.06			10.06		
Control Delay (s/veh)	13.2	14.7		13.1			12.2			11.6		
Level of Service, LOS	B	B		B			B			B		
Approach Delay (s/veh) | LOS	14.1	B		13.1	B		12.2	B		11.6	B	
Intersection Delay (s/veh) | LOS	13.3						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South et	49 Avenue
Peak Hour Factor	0.84

Lanes



Tur ng Movement Dema Volumes

pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
me h/h)	111	183	235	38	155	24	90	48	15	12	37	89
% Th n Shared Lane	50		50									

Lane Flo Rate and Adjustments

pproach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	241	389		258			182			164		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.214	0.346		0.230			0.162			0.146		
Final Departure Headway, h_d (s)	6.35	5.56		6.01			6.51			6.16		
Final Degree of Utilization, x	0.425	0.601		0.432			0.330			0.281		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.05	3.26		4.01			4.51			4.16		

Capacity, Delay and Level of Service

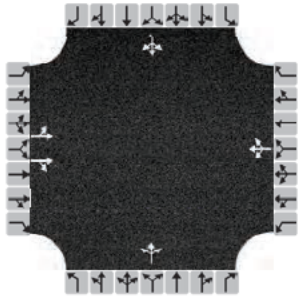
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	241	389		258			182			164		
Capacity (veh/h)	567	647		599			553			585		
95% Queue Length, Q_{95} (veh)	2.1	4.0		2.2			1.4			1.1		
95% Queue Length, Q_{95} (m)	16.26	30.97		17.03			10.84			8.52		
Control Delay (s/veh)	13.7	16.3		13.5			12.7			11.5		
Level of Service, LOS	B	C		B			B			B		
Approach Delay (s/veh) | LOS	15.3	C		13.5	B		12.7	B		11.5	B	
Intersection Delay (s/veh) | LOS	14.0						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	118	183	235	38	155	40	90	50	15	26	41	93
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	249	389		277			185			190		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.		
Initial Degree of Utilization, x	0.222	0.346		0.247			0.164			0.169		
Final Departure Headway, h_d (s)	6.54	5.75		6.16			6.72			6.35		
Final Degree of Utilization, x	0.453	0.620		0.474			0.344			0.		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.24	3.45		4.16			4.72			4.35		

Capacity, Delay and Level of Service

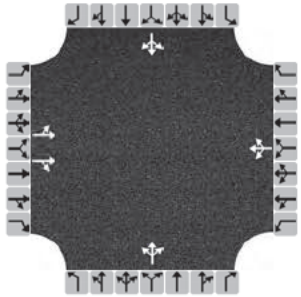
Approach	Eastbound			Westbound			Northbound			uthbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3		L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	249	389		277			185			190		
Capacity (veh/h)	550	627		585			536			567		
95% Queue Length, Q_{95} (veh)	2.3	4.3		2.5			1.5			1.5		
95% Queue Length, Q_{95} (m)	17.81	33.29		19.35			11.61			11.61		
Control Delay (s/veh)	14.6	17.4		14.6			13.2			12.5		
Level of Service, LOS	B	C		B			B			B		
Approach Delay (s/veh) | LOS	16.3	C		14.6	B		13.2	B		12.5	B	
Intersection Delay (s/veh) | LOS	14.9			B								

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South et	49 Avenue
Peak Hour Factor	0.82

Lanes



Tur ng Movement Dema Volumes

pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
me h/h)	74	110	142	27	148	33	169	43	35	19	50	84
% Th n Shared Lane	50		50									

Lane Flo Rate and Adjustments

pproach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	157	240		254			301			187		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.140	0.214		0.225			0.268			0.166		
Final Departure Headway, h_d (s)	6.88	6.07		6.29			6.26			6.21		
Final Degree of Utilization, x	0.301	0.405		0.443			0.523			0.322		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.58	3.77		4.29			4.26			4.21		

Capacity, Delay and Level of Service

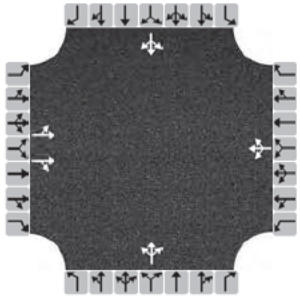
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	157	240		254			301			187		
Capacity (veh/h)	523	593		572			575			580		
95% Queue Length, Q_{95} (veh)	1.3	2.0		2.3			3.0			1.4		
95% Queue Length, Q_{95} (m)	10.06	15.48		17.81			23.23			10.84		
Control Delay (s/veh)	12.5	12.9		14.2			15.9			12.1		
Level of Service, LOS	B	B		B			C			B		
Approach Delay (s/veh) | LOS	12.7	B		14.2	B		15.9	C		12.1	B	
Intersection Delay (s/veh) | LOS	13.8						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	78	117	151	29	157	35	179	46	37	20	53	89
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	166	255		270			320			198		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			0		
Initial Degree of Utilization, x	0.148	0.227		0.240			0.284			0.17		
Final Departure Headway, h_d (s)	7.10	6.29		6.52			6.47			6.46		
Final Degree of Utilization, x	0.328	0.447		0.488			0.574			5		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.80	3.99		4.52			4.47			4.46		

Capacity, Delay and Level of Service

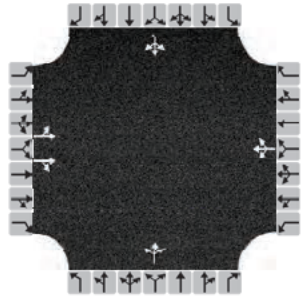
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	166	255		270			320			198		
Capacity (veh/h)	507	572		552			556			557		
95% Queue Length, Q_{95} (veh)	1.4	2.3		2.7			3.6			1.6		
95% Queue Length, Q_{95} (m)	10.84	17.81		20.90			27.87			12.39		
Control Delay (s/veh)	13.2	14.0		15.6			17.8			13.0		
Level of Service, LOS	B	B		C			C			B		
Approach Delay (s/veh) | LOS	13.7	B		15.6	C		17.8	C		13.0	B	
Intersection Delay (s/veh) | LOS	15.1	C										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Str	49 Avenue
Peak Hour Factor	0.82

Lanes



Turni g Movement Demand Volumes

A oach	Eastbound			Westbound			Northbound			Southbound		
ovement	L	T	R	L	T	R	L	T	R	L	T	R
Vo (v	86	117	151	29	157	55	179	51	37	38	58	98
% Thrus hared Lane	50		50									

Lane Flow te and Adjustments

oach	Eastbound			Westbound			Northbound			Southbound		
ane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	176	255		294			326			237		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.157	0.227		0.261			0.289			0.210		
Final Departure Headway, h_d (s)	7.46	6.64		6.82			6.81			6.78		
Final Degree of Utilization, x	0.365	0.471		0.556			0.616			0.446		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.16	4.34		4.82			4.81			4.78		

Capacity, Delay and Level of Service

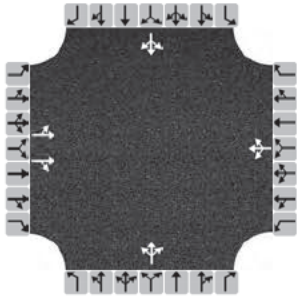
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	176	255		294			326			237		
Capacity (veh/h)	483	542		528			528			531		
95% Queue Length, Q_{95} (veh)	1.7	2.5		3.4			4.1			2.3		
95% Queue Length, Q_{95} (m)	13.16	19.35		26.32			31.74			17.81		
Control Delay (s/veh)	14.4	15.1		18.0			20.1			15.1		
Level of Service, LOS	B	C		C			C			C		
Approach Delay (s/veh) | LOS	14.8	B		18.0	C		20.1	C		15.1	C	
Intersection Delay (s/veh) | LOS	17.0	C										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	86	128	165	31	172	38	196	50	41	22	58	97
% Thrus in Shared Lane	50		50									

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	183	279		294			350			216		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.163	0.248		0.261			0.311			0.192		
Final Departure Headway, h_d (s)	7.51	6.70		6.97			6.86			6.94		
Final Degree of Utilization, x	0.382	0.520		0.569			0.667			0.415		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.21	4.40		4.97			4.86			4.94		

Capacity, Delay and Level of Service

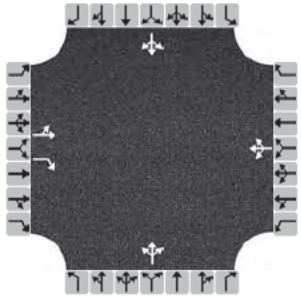
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	183	279		294			350			216		
Capacity (veh/h)	479	537		517			525			519		
95% Queue Length, Q_{95} (veh)	1.8	3.0		3.5			4.9			2.0		
95% Queue Length, Q_{95} (m)	13.94	23.23		27.10			37.94			15.48		
Control Delay (s/veh)	14.8	16.4		18.8			22.5			14.8		
Level of Service, LOS	B	C		C			C			B		
Approach Delay (s/veh) | LOS	15.8	C		18.8	C		22.5	C		14.8	B	
Intersection Delay (s/veh) | LOS	18.1				C							

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	96	158	203	33	134	21	78	41	13	10	32	77
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	302	242		224			157			142		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.269	0.215		0.199			0.140			0.126		
Final Departure Headway, h_d (s)	5.95	5.05		5.64			6.11			5.73		
Final Degree of Utilization, x	0.500	0.339		0.351			0.266			0.226		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.65	2.75		3.64			4.11			3.73		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	302	242		224			157			142		
Capacity (veh/h)	605	712		638			590			628		
95% Queue Length, Q_{95} (veh)	2.8	1.5		1.6			1.1			0.9		
95% Queue Length, Q_{95} (m)	21.68	11.61		12.39			8.52			6.97		
Control Delay (s/veh)	14.5	10.3		11.7			11.3			10.4		
Level of Service, LOS	B	B		B			B			B		
Approach Delay (s/veh) | LOS	12.6	B		11.7	B		11.3	B		10.4	B	
Intersection Delay (s/veh) | LOS	11.9						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
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Time Analyzed	Wkday AM Peak Hour
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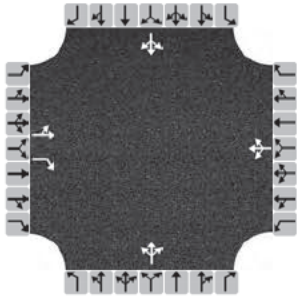
Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	102	167	215	35	142	22	83	43	14	11	34	82
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	320	256		237			167			151		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			0		
Initial Degree of Utilization, x	0.285	0.228		0.211			0.148			0.13		
Final Departure Headway, h_d (s)	6.07	5.17		5.78			6.26			5.89		
Final Degree of Utilization, x	0.540	0.368		0.381			0.290			7		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.77	2.87		3.78			4.26			3.89		

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	320	256		237			167			151		
Capacity (veh/h)	593	696		623			575			611		
95% Queue Length, Q_{95} (veh)	3.2	1.7		1.8			1.2			1.0		
95% Queue Length, Q_{95} (m)	24.77	13.16		13.94			9.29			7.74		
Control Delay (s/veh)	15.7	10.8		12.3			11.8			10.8		
Level of Service, LOS	C	B		B			B			B		
Approach Delay (s/veh) | LOS	13.5	B		12.3	B		11.8	B		10.8	B	
Intersection Delay (s/veh) | LOS	12.7			B								

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
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North/South Str	49 Avenue
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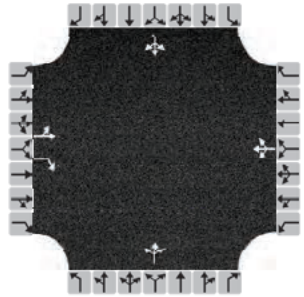
Lanes



Turni g Movement Demand Volumes

A oach	Eastbound			Westbound			Northbound			Southbound		
ovement	L	T	R	L	T	R	L	T	R	L	T	R
Vo (v	109	167	215	35	142	38	83	45	14	25	38	86
% Thrus hared Lane												

Lane Flow te and Adjustments

oach	Eastbound			Westbound			Northbound			Southbound		
ane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	329	256		256			169			177		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.292	0.228		0.228			0.150			0.158		
Final Departure Headway, h_d (s)	6.25	5.34		5.91			6.45			6.08		
Final Degree of Utilization, x	0.570	0.380		0.420			0.303			0.300		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.95	3.04		3.91			4.45			4.08		

Capacity, Delay and Level of Service

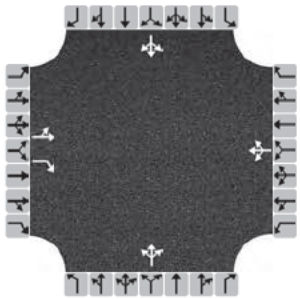
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	329	256		256			169			177		
Capacity (veh/h)	576	674		609			558			592		
95% Queue Length, Q_{95} (veh)	3.6	1.8		2.1			1.3			1.3		
95% Queue Length, Q_{95} (m)	27.87	13.94		16.26			10.06			10.06		
Control Delay (s/veh)	16.9	11.3		13.1			12.2			11.7		
Level of Service, LOS	C	B		B			B			B		
Approach Delay (s/veh) | LOS	14.4	B		13.1	B		12.2	B		11.7	B	
Intersection Delay (s/veh) | LOS	13.4						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	111	183	235	38	155	24	90	48	15	12	37	89
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	350	280		258			182			164		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			0		
Initial Degree of Utilization, x	0.311	0.249		0.230			0.162			0.14		
Final Departure Headway, h_d (s)	6.27	5.37		6.02			6.52			6.16		
Final Degree of Utilization, x	0.609	0.417		0.432			0.330			1		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	3.97	3.07		4.02			4.52			4.16		

Capacity, Delay and Level of Service

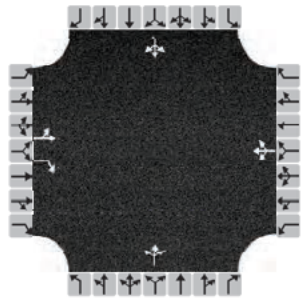
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	350	280		258			182			164		
Capacity (veh/h)	574	671		598			552			584		
95% Queue Length, Q_{95} (veh)	4.1	2.1		2.2			1.4			1.1		
95% Queue Length, Q_{95} (m)	31.74	16.26		17.03			10.84			8.52		
Control Delay (s/veh)	18.3	11.8		13.5			12.7			11.6		
Level of Service, LOS	C	B		B			B			B		
Approach Delay (s/veh) | LOS	15.4	C		13.5	B		12.7	B		11.6	B	
Intersection Delay (s/veh) | LOS	14.1						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd (EBRT)
North/South Str	49 Avenue
Peak Hour Factor	0.84

Lanes



Turni g Movement Demand Volumes

A oach	Eastbound			Westbound			Northbound			Southbound		
ovement	L	T	R	L	T	R	L	T	R	L	T	R
Vo (v	118	183	235	38	155	40	90	50	15	26	41	93
% Thrus hared Lane												

Lane Flow te and Adjustments

oach	Eastbound			Westbound			Northbound			Southbound		
ane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	358	280		277			185			190		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.319	0.249		0.247			0.164			0.169		
Final Departure Headway, h_d (s)	6.46	5.55		6.16			6.73			6.36		
Final Degree of Utilization, x	0.643	0.431		0.475			0.345			0.337		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.16	3.25		4.16			4.73			4.36		

Capacity, Delay and Level of Service

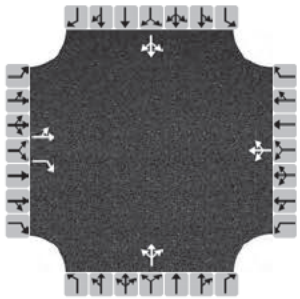
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	358	280		277			185			190		
Capacity (veh/h)	557	649		584			535			566		
95% Queue Length, Q_{95} (veh)	4.6	2.2		2.5			1.5			1.5		
95% Queue Length, Q_{95} (m)	35.61	17.03		19.35			11.61			11.61		
Control Delay (s/veh)	20.1	12.4		14.6			13.2			12.6		
Level of Service, LOS	C	B		B			B			B		
Approach Delay (s/veh) | LOS	16.7	C		14.6	B		13.2	B		12.6	B	
Intersection Delay (s/veh) | LOS	15.1						C					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	74	110	142	27	148	33	169	43	35	19	50	84
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	224	173		254			301			187		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.199	0.154		0.225			0.268			0.166		
Final Departure Headway, h_d (s)	6.80	5.88		6.29			6.26			6.21		
Final Degree of Utilization, x	0.424	0.283		0.443			0.524			0.322		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.50	3.58		4.29			4.26			4.21		

Capacity, Delay and Level of Service

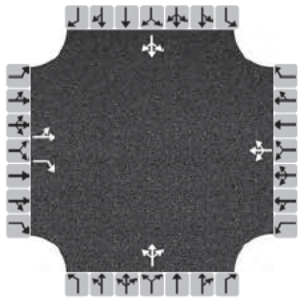
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	224	173		254			301			187		
Capacity (veh/h)	530	613		572			575			579		
95% Queue Length, Q_{95} (veh)	2.1	1.2		2.3			3.0			1.4		
95% Queue Length, Q_{95} (m)	16.26	9.29		17.81			23.23			10.84		
Control Delay (s/veh)	14.4	10.9		14.2			15.9			12.1		
Level of Service, LOS	B	B		B			C			B		
Approach Delay (s/veh) | LOS	12.9	B		14.2	B		15.9	C		12.1	B	
Intersection Delay (s/veh) | LOS	13.9	B										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	78	117	151	29	157	35	179	46	37	20	53	89
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	238	184		270			320			198		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.211	0.164		0.240			0.284			0.176		
Final Departure Headway, h_d (s)	7.01	6.09		6.53			6.48			6.47		
Final Degree of Utilization, x	0.463	0.312		0.489			0.575			0.355		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	4.71	3.79		4.53			4.48			4.47		

Capacity, Delay and Level of Service

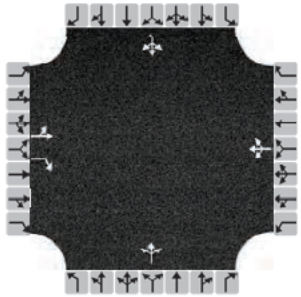
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	238	184		270			320			198		
Capacity (veh/h)	513	591		551			556			556		
95% Queue Length, Q_{95} (veh)	2.4	1.3		2.7			3.6			1.6		
95% Queue Length, Q_{95} (m)	18.58	10.06		20.90			27.87			12.39		
Control Delay (s/veh)	15.6	11.5		15.6			17.9			13.0		
Level of Service, LOS	C	B		C			C			B		
Approach Delay (s/veh) | LOS	13.8	B		15.6	C		17.9	C		13.0	B	
Intersection Delay (s/veh) | LOS	15.2	C										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd (EBRT)
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	86	117	151	29	157	55	179	51	37	38	58	98
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	248	184		294			326			237		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.		
Initial Degree of Utilization, x	0.220	0.164		0.261			0.289			0.210		
Final Departure Headway, h_d (s)	7.38	6.44		6.83			6.83			6.80		
Final Degree of Utilization, x	0.507	0.330		0.558			0.618			0.		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.08	4.14		4.83			4.83			4.80		

Capacity, Delay and Level of Service

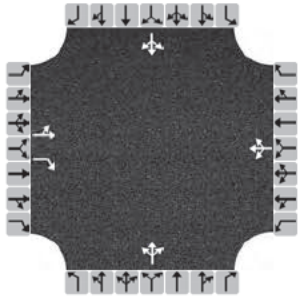
Approach	Eastbound			Westbound			Northbound			uthbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3		L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	248	184		294			326			237		
Capacity (veh/h)	488	559		527			527			529		
95% Queue Length, Q_{95} (veh)	2.8	1.4		3.4			4.2			2.3		
95% Queue Length, Q_{95} (m)	21.68	10.84		26.32			32.52			17.81		
Control Delay (s/veh)	17.4	12.3		18.1			20.2			15.2		
Level of Service, LOS	C	B		C			C			C		
Approach Delay (s/veh) | LOS	15.2	C		18.1	C		20.2	C		15.2	C	
Intersection Delay (s/veh) | LOS	17.1						C					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South et	49 Avenue
Peak Hour Factor	0.82

Lanes



Tur ng Movement Dema Volumes

pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
me h/h)	86	128	165	31	172	38	196	50	41	22	58	97
% Th n Shared Lane												

Lane Flo Rate and Adjustments

pproach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	261	201		294			350			216		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.232	0.179		0.261			0.311			0.192		
Final Departure Headway, h_d (s)	7.43	6.50		6.97			6.87			6.95		
Final Degree of Utilization, x	0.538	0.364		0.569			0.668			0.417		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.13	4.20		4.97			4.87			4.95		

Capacity, Delay and Level of Service

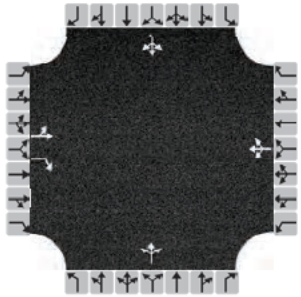
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	261	201		294			350			216		
Capacity (veh/h)	485	554		516			524			518		
95% Queue Length, Q_{95} (veh)	3.1	1.7		3.5			4.9			2.0		
95% Queue Length, Q_{95} (m)	24.00	13.16		27.10			37.94			15.48		
Control Delay (s/veh)	18.5	12.9		18.8			22.6			14.8		
Level of Service, LOS	C	B		C			C			B		
Approach Delay (s/veh) | LOS	16.0	C		18.8	C		22.6	C		14.8	B	
Intersection Delay (s/veh) | LOS	18.2						C					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd (EBRT)
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	94	128	165	31	172	58	196	55	41	40	63	106
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	271	201		318			356			255		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.		
Initial Degree of Utilization, x	0.241	0.179		0.283			0.317			0.227		
Final Departure Headway, h_d (s)	7.91	6.97		7.40			7.34			7.40		
Final Degree of Utilization, x	0.595	0.390		0.654			0.726			0.		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.61	4.67		5.40			5.34			5.40		

Capacity, Delay and Level of Service

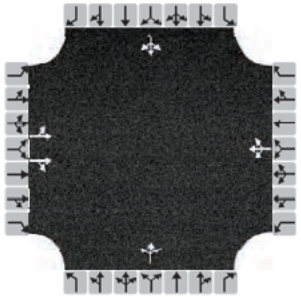
Approach	Eastbound			Westbound			Northbound			uthbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3		L2	L3
Configuration	LT	R		LTR			LTR			LTR		
Flow Rate, v (veh/h)	271	201		318			356			255		
Capacity (veh/h)	455	516		486			490			486		
95% Queue Length, Q_{95} (veh)	3.8	1.8		4.7			5.9			3.0		
95% Queue Length, Q_{95} (m)	29.42	13.94		36.39			45.68			23.23		
Control Delay (s/veh)	21.6	14.1		23.3			27.4			18.3		
Level of Service, LOS	C	B		C			D			C		
Approach Delay (s/veh) | LOS	18.4	C		23.3	C		27.4	D		18.3	C	
Intersection Delay (s/veh) | LOS	21.8			C								

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 48 Street
Jurisdiction	Yellowknife, NT
East/West Street	48 Street / Yellowknife Access Rd
North/South Str	49 Avenue
Peak Hour Factor	0.82

Lanes



Turni g Movement Demand Volumes

A oach	Eastbound			Westbound			Northbound			Southbound		
ovement	L	T	R	L	T	R	L	T	R	L	T	R
Vo (v	94	128	165	31	172	58	196	55	41	40	63	106
% Thrus hared Lane	50		50									

Lane Flow te and Adjustments

oach	Eastbound			Westbound			Northbound			Southbound		
ane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	193	279		318			356			255		
Percent Heavy Vehicles	2	2		2			2			2		
Initial Departure Headway, h_d (s)	3.20	3.20		3.20			3.20			3.20		
Initial Degree of Utilization, x	0.171	0.248		0.283			0.317			0.227		
Final Departure Headway, h_d (s)	7.99	7.17		7.38			7.32			7.38		
Final Degree of Utilization, x	0.428	0.556		0.653			0.724			0.523		
Move-Up Time, m (s)	2.3	2.3		2.0			2.0			2.0		
Service Time, t_s (s)	5.69	4.87		5.38			5.32			5.38		

Capacity, Delay and Level of Service

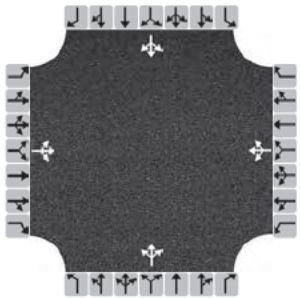
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LT	TR		LTR			LTR			LTR		
Flow Rate, v (veh/h)	193	279		318			356			255		
Capacity (veh/h)	450	502		488			492			488		
95% Queue Length, Q_{95} (veh)	2.1	3.4		4.6			5.9			3.0		
95% Queue Length, Q_{95} (m)	16.26	26.32		35.61			45.68			23.23		
Control Delay (s/veh)	16.5	18.5		23.2			27.2			18.2		
Level of Service, LOS	C	C		C			D			C		
Approach Delay (s/veh) | LOS	17.7	C		23.2	C		27.2	D		18.2	C	
Intersection Delay (s/veh) | LOS	21.4			C								

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	2	7	36	18	53	29	78	29	64	194	10
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			127			162			319		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			0		
Initial Degree of Utilization, x	0.011			0.113			0.144			0.28		
Final Departure Headway, h_d (s)	4.84			4.83			4.57			4.50		
Final Degree of Utilization, x	0.016			0.171			0.205			9		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.84			2.83			2.57			2.50		

Capacity, Delay and Level of Service

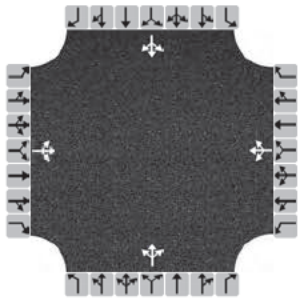
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			127			162			319		
Capacity (veh/h)	744			745			788			800		
95% Queue Length, Q_{95} (veh)	0.0			0.6			0.8			1.9		
95% Queue Length, Q_{95} (m)	0.00			4.65			6.19			14.71		
Control Delay (s/veh)	7.9			8.8			8.7			10.5		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	7.9	A		8.8	A		8.7	A		10.5	B	
Intersection Delay (s/veh) | LOS	9.6						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South [illegible]et	49 Avenue
Peak Hour Factor	0.84

Lanes



Tur[illegible]ng Movement Dema[illegible] Volumes

[illegible]pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
[illegible]me [illegible]h/h)	1	2	7	38	19	56	31	83	31	68	206	11
% Th[illegible]n Shared Lane												

Lane Flo[illegible]Rate and Adjustments

[illegible]proach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			135			173			339		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.011			0.120			0.153			0.302		
Final Departure Headway, h_d (s)	4.94			4.91			4.62			4.54		
Final Degree of Utilization, x	0.016			0.183			0.221			0.428		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.94			2.91			2.62			2.54		

Capacity, Delay and Level of Service

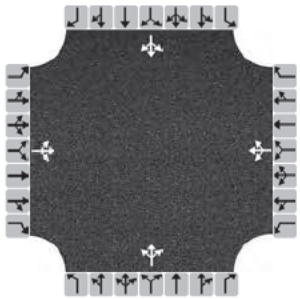
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			135			173			339		
Capacity (veh/h)	729			733			779			793		
95% Queue Length, Q_{95} (veh)	0.0			0.7			0.8			2.2		
95% Queue Length, Q_{95} (m)	0.00			5.42			6.19			17.03		
Control Delay (s/veh)	8.0			9.0			8.9			10.9		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	8.0	A		9.0	A		8.9	A		10.9	B	
Intersection Delay (s/veh) | LOS	9.9						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	2	7	38	19	56	31	85	31	68	210	11
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			135			175			344		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			0		
Initial Degree of Utilization, x	0.011			0.120			0.156			0.30		
Final Departure Headway, h_d (s)	4.95			4.93			4.63			4.55		
Final Degree of Utilization, x	0.016			0.184			0.225			4		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	2.95			2.93			2.63			2.55		

Capacity, Delay and Level of Service

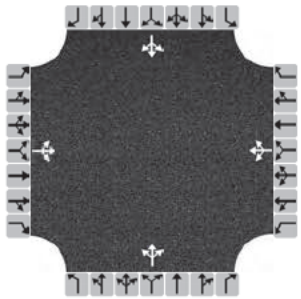
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	12			135			175			344		
Capacity (veh/h)	727			731			778			792		
95% Queue Length, Q_{95} (veh)	0.0			0.7			0.9			2.2		
95% Queue Length, Q_{95} (m)	0.00			5.42			6.97			17.03		
Control Delay (s/veh)	8.0			9.0			9.0			11.0		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	8.0	A		9.0	A		9.0	A		11.0	B	
Intersection Delay (s/veh) | LOS	10.0						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South [illegible]et	49 Avenue
Peak Hour Factor	0.84

Lanes



Tur[illegible]ng Movement Dema[illegible] Volumes

[illegible]pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
[illegible]me [illegible]h/h)	1	2	8	42	21	61	34	90	34	74	225	12
% Th[illegible]n Shared Lane												

Lane Flo[illegible]Rate and Adjustments

[illegible]proach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	13			148			188			370		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.012			0.131			0.167			0.329		
Final Departure Headway, h_d (s)	5.07			5.03			4.71			4.61		
Final Degree of Utilization, x	0.018			0.206			0.246			0.474		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.07			3.03			2.71			2.61		

Capacity, Delay and Level of Service

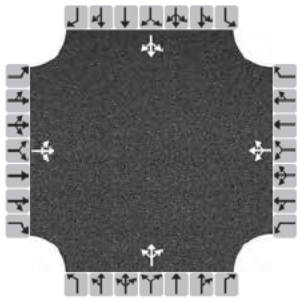
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	13			148			188			370		
Capacity (veh/h)	709			715			764			780		
95% Queue Length, Q_{95} (veh)	0.1			0.8			1.0			2.6		
95% Queue Length, Q_{95} (m)	0.77			6.19			7.74			20.13		
Control Delay (s/veh)	8.2			9.3			9.2			11.7		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	8.2	A		9.3	A		9.2	A		11.7	B	
Intersection Delay (s/veh) | LOS	10.5						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday AM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.84

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	1	2	8	42	21	61	34	92	34	74	229	12
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	13			148			190			375		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			0		
Initial Degree of Utilization, x	0.012			0.131			0.169			0.33		
Final Departure Headway, h_d (s)	5.09			5.05			4.72			4.62		
Final Degree of Utilization, x	0.019			0.207			0.250			1		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.09			3.05			2.72			2.62		

Capacity, Delay and Level of Service

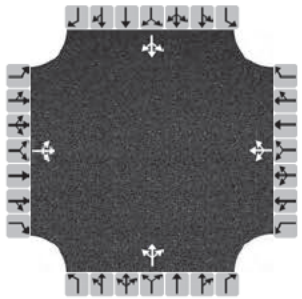
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	13			148			190			375		
Capacity (veh/h)	707			713			763			780		
95% Queue Length, Q_{95} (veh)	0.1			0.8			1.0			2.6		
95% Queue Length, Q_{95} (m)	0.77			6.19			7.74			20.13		
Control Delay (s/veh)	8.2			9.4			9.3			11.8		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	8.2	A		9.4	A		9.3	A		11.8	B	
Intersection Delay (s/veh) | LOS	10.6						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	11	9	21	48	2	95	12	141	36	53	162	4
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	50			177			230			267		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.044			0.157			0.205			0.237		
Final Departure Headway, h_d (s)	5.17			4.89			4.76			4.85		
Final Degree of Utilization, x	0.072			0.240			0.305			0.360		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.17			2.89			2.76			2.85		

Capacity, Delay and Level of Service

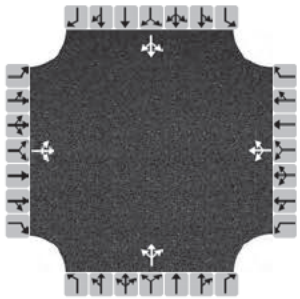
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	50			177			230			267		
Capacity (veh/h)	696			736			756			742		
95% Queue Length, Q_{95} (veh)	0.2			0.9			1.3			1.6		
95% Queue Length, Q_{95} (m)	1.55			6.97			10.06			12.39		
Control Delay (s/veh)	8.6			9.4			9.8			10.6		
Level of Service, LOS	A			A			A			B		
Approach Delay (s/veh) | LOS	8.6	A		9.4	A		9.8	A		10.6	B	
Intersection Delay (s/veh) | LOS	9.9						A					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	12	10	22	51	2	101	13	149	38	56	172	4
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	54			188			244			283		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.048			0.167			0.217			0.25		
Final Departure Headway, h_d (s)	5.29			4.98			4.84			4.93		
Final Degree of Utilization, x	0.079			0.260			0.328			0.3		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.29			2.98			2.84			2.93		

Capacity, Delay and Level of Service

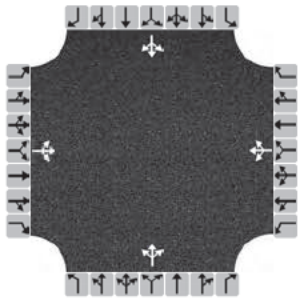
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	54			188			244			283		
Capacity (veh/h)	680			722			743			731		
95% Queue Length, Q_{95} (veh)	0.3			1.0			1.4			1.8		
95% Queue Length, Q_{95} (m)	2.32			7.74			10.84			13.94		
Control Delay (s/veh)	8.7			9.7			10.2			11.0		
Level of Service, LOS	A			A			B			B		
Approach Delay (s/veh) | LOS	8.7	A		9.7	A		10.2	B		11.0	B	
Intersection Delay (s/veh) | LOS	10.3						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2028
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South [illegible]et	49 Avenue
Peak Hour Factor	0.82

Lanes



Tur[illegible]ng Movement Dema[illegible]Volumes

[illegible]pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
[illegible]me [illegible]h/h)	12	10	22	51	2	101	13	154	38	56	177	4
% Th[illegible]n Shared Lane												

Lane Flo[illegible]Rate and Adjustments

[illegible]proach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	54			188			250			289		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.048			0.167			0.222			0.257		
Final Departure Headway, h_d (s)	5.33			5.02			4.86			4.94		
Final Degree of Utilization, x	0.079			0.262			0.337			0.396		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.33			3.02			2.86			2.94		

Capacity, Delay and Level of Service

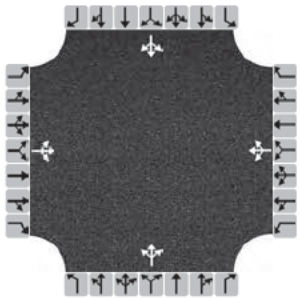
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	54			188			250			289		
Capacity (veh/h)	676			718			741			729		
95% Queue Length, Q_{95} (veh)	0.3			1.0			1.5			1.9		
95% Queue Length, Q_{95} (m)	2.32			7.74			11.61			14.71		
Control Delay (s/veh)	8.8			9.8			10.3			11.1		
Level of Service, LOS	A			A			B			B		
Approach Delay (s/veh) | LOS	8.8	A		9.8	A		10.3	B		11.1	B	
Intersection Delay (s/veh) | LOS	10.4						B					

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South Street	49 Avenue
Peak Hour Factor	0.82

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	13	10	24	56	2	110	14	164	42	61	188	5
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	57			205			268			310		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.051			0.182			0.238			0.27		
Final Departure Headway, h_d (s)	5.49			5.15			4.97			5.05		
Final Degree of Utilization, x	0.087			0.293			0.371			5		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.49			3.15			2.97			3.05		

Capacity, Delay and Level of Service

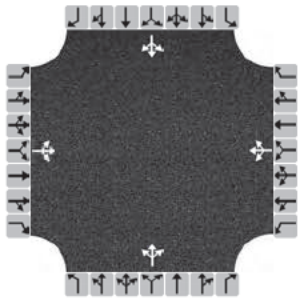
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	57			205			268			310		
Capacity (veh/h)	656			699			724			713		
95% Queue Length, Q_{95} (veh)	0.3			1.2			1.7			2.2		
95% Queue Length, Q_{95} (m)	2.32			9.29			13.16			17.03		
Control Delay (s/veh)	9.0			10.3			10.9			11.9		
Level of Service, LOS	A			B			B			B		
Approach Delay (s/veh) | LOS	9.0	A		10.3	B		10.9	B		11.9	B	
Intersection Delay (s/veh) | LOS	11.0	B										

HCS All-Way Stop Control Report

General and Site Information

Analyst	RC
Agency/Co.	CTS
Date Performed	Base+Site
Analysis Year	2033
Analysis Time Period (hrs)	0.25
Time Analyzed	Wkday PM Peak Hour
Project Description	9562 - Explorer Hotel Expansion TIS
Intersection	49 Avenue & 49 Street
Jurisdiction	Yellowknife, NT
East/West Street	49 Street
North/South [illegible]et	49 Avenue
Peak Hour Factor	0.82

Lanes



Tur[illegible]ng Movement Dema[illegible] Volumes

[illegible]pproach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
[illegible]me [illegible]h/h)	13	10	24	56	2	110	14	169	42	61	193	5
% Th[illegible]n Shared Lane												

Lane Flo[illegible]Rate and Adjustments

[illegible]pproach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	57			205			274			316		
Percent Heavy Vehicles	2			2			2			2		
Initial Departure Headway, h_d (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.051			0.182			0.244			0.281		
Final Departure Headway, h_d (s)	5.53			5.18			4.99			5.06		
Final Degree of Utilization, x	0.088			0.295			0.380			0.444		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, t_s (s)	3.53			3.18			2.99			3.06		

Capacity, Delay and Level of Service

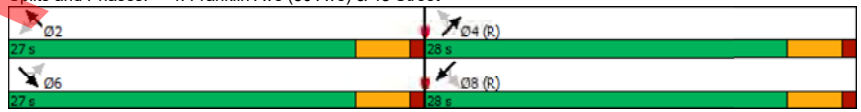
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	57			205			274			316		
Capacity (veh/h)	651			695			721			711		
95% Queue Length, Q_{95} (veh)	0.3			1.2			1.8			2.3		
95% Queue Length, Q_{95} (m)	2.32			9.29			13.94			17.81		
Control Delay (s/veh)	9.1			10.3			11.0			12.0		
Level of Service, LOS	A			B			B			B		
Approach Delay (s/veh) | LOS	9.1	A		10.3	B		11.0	B		12.0	B	
Intersection Delay (s/veh) | LOS	11.1	B										

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	48	94	39	50	110	3	83	355	73	10	250	38
Future Volume (vph)	48	94	39	50	110	3	83	355	73	10	250	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.95	0.98		0.96	0.99	
Frt		0.971			0.998			0.974			0.980	
Flt Protected		0.987			0.985		0.950			0.950		
Satd. Flow (prot)	0	1673	0	0	1734	0	1676	3211	0	1676	3238	0
Flt Permitted		0.891			0.868		0.558			0.468		
Satd. Flow (perm)	0	1505	0	0	1515	0	933	3211	0	793	3238	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			2			55			38	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	26		51	51		26	65		62	62		65
Confl. Bikes (#/hr)									4			15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	200	0	0	181	0	92	475	0	11	320	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Maximum Green (s)	22.5	22.5		22.5	22.5		23.5	23.5		23.5	23	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5		23.5	23.5		2	23.5	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0.43	
v/c Ratio		0.32			0.29		0.23	0.34		0.03	0.23	
Control Delay		11.0			12.4		12.0	10.1		9.6	9.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.0			12.4		12.0	10.1		9.6	9.3	
LOS		B			B		B	B		A	A	
Approach Delay		11.0			12.4			10.4			9.3	
Approach LOS		B			B			B			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		11.3			12.0		5.8	14.4		0.6	9.2	
Queue Length 95th (m)		23.9			24.1		14.2	23.6		3.0	16.1	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		633			620		398	1403		338	1405	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.32			0.29		0.23	0.34		0.03	0.23	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 0 (0%), Reference o phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.34
tersection Signal Delay: 10.5 Intersection LOS: B
rsection Capacity Utilization 53.8% ICU Level of Service A
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

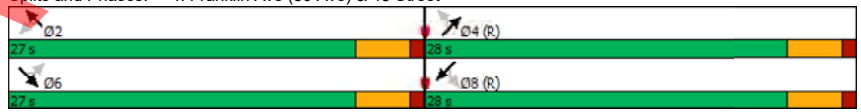


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	51	100	41	53	117	3	88	376	77	11	265	40
Future Volume (vph)	51	100	41	53	117	3	88	376	77	11	265	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.95	0.98		0.96	0.99	
Frt		0.971			0.998			0.974			0.980	
Flt Protected		0.987			0.985		0.950			0.950		
Satd. Flow (prot)	0	1673	0	0	1734	0	1676	3211	0	1676	3238	0
Flt Permitted		0.885			0.863		0.548			0.448		
Satd. Flow (perm)	0	1495	0	0	1507	0	918	3211	0	761	3238	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			2			55			38	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	26		51	51		26	65		62	62		65
Confl. Bikes (#/hr)									4			15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	192	0	98	504	0	12	338	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Maximum Green (s)	22.5	22.5		22.5	22.5		23.5	23.5		23.5	23	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5		23.5	23.5		2	23.5	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0.43	
v/c Ratio		0.34			0.31		0.25	0.36		0.04	0.24	
Control Delay		11.4			12.7		12.3	10.3		9.7	9.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.4			12.7		12.3	10.3		9.7	9.4	
LOS		B			B		B	B		A	A	
Approach Delay		11.4			12.7			10.6			9.4	
Approach LOS		B			B			B			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		12.4			12.8		6.2	15.5		0.7	9.8	
Queue Length 95th (m)		25.9			25.5		15.2	25.2		3.2	17.1	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		629			617		392	1403		325	1405	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.34			0.31		0.25	0.36		0.04	0.24	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 0 (0%), Reference o phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.36
tersection Signal Delay: 10.7 Intersection LOS: B
rsection Capacity Utilization 53.8% ICU Level of Service A
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

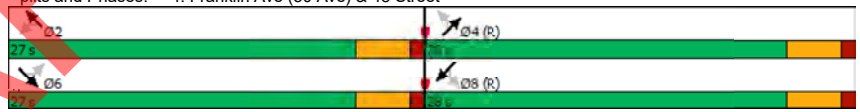


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	57	103	44	53	120	3	96	376	77	11	265	45
Future Volume (vph)	57	103	44	53	120	3	96	376	77	11	265	45
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.95	0.98		0.96	0.98	
Frt		0.971			0.998			0.974			0.978	
Flt Protected		0.986			0.985		0.950			0.950		
Satd. Flow (prot)	0	1671	0	0	1734	0	1676	3211	0	1676	3226	0
Flt Permitted		0.876			0.862		0.545			0.448		
Satd. Flow (perm)	0	1479	0	0	1505	0	913	3211	0	761	3226	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			2			55			44	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	26		51	51		26	65		62	62		65
Confl. Bikes (#/hr)									4			15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	195	0	107	504	0	12	344	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3	
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	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.5			22.5		23.5	23.5		23.5	23	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0	
v/c Ratio		0.36			0.32		0.27	0.36		0.04	25	
Control Delay		11.7			12.7		12.7	10.3		9.7	9.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.7			12.7		12.7	10.3		9.7	9.3	
LOS		B			B		B	B		A	A	
Approach Delay		11.7			12.7			10.7			9.3	
Approach LOS		B			B			B			A	
Queue Length 50th (m)		13.2			13.0		6.9	15.5		0.7	9.8	
Queue Length 95th (m)		27.4			26.0		16.5	25.2		3.2	17.2	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Base Capacity (vph)		623			616		390	1403		325	1403	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.36			0.32		0.27	0.36		0.04	0.25	

Intersection Sum ary
Area Type: Other
Cycle Len 55
Actuate y Length: 55
Offse 0 (0%), ferenced to phase 4:NETL and 8:SWTL, Start of Green
Natural Cycle: 55
ntrol Type: Pretim
Maximum v/c Ratio: 0.3
Intersection Signal Delay: .8 Intersection LOS: B
Interse ion Capacity Utilization 53.8% ICU Level of Service A
Anal is Period (min) 15

plits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

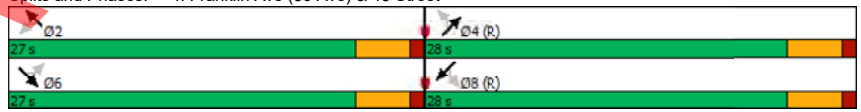


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	56	109	45	58	128	3	96	412	85	12	290	44
Future Volume (vph)	56	109	45	58	128	3	96	412	85	12	290	44
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.95	0.98		0.97	0.99	
Frt		0.971			0.998			0.974			0.980	
Flt Protected		0.987			0.985		0.950			0.950		
Satd. Flow (prot)	0	1673	0	0	1734	0	1676	3211	0	1676	3237	0
Flt Permitted		0.878			0.855		0.531			0.416		
Satd. Flow (perm)	0	1483	0	0	1493	0	892	3211	0	709	3237	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			2			55			38	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	26		51	51		26	65		62	62		65
Confl. Bikes (#/hr)									4			15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	233	0	0	209	0	107	552	0	13	371	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Maximum Green (s)	22.5	22.5		22.5	22.5		23.5	23.5		23.5	23	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5		23.5	23.5		2	23.5	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0.43	
v/c Ratio		0.37			0.34		0.28	0.39		0.04	0.26	
Control Delay		11.9			13.1		12.8	10.7		9.8	9.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.9			13.1		12.8	10.7		9.8	9.7	
LOS		B			B		B	B		A	A	
Approach Delay		11.9			13.1			11.0			9.7	
Approach LOS		B			B			B			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		13.9			14.2		6.9	17.5		0.8	11.1	
Queue Length 95th (m)		28.5			27.9		16.6	28.0		3.4	18.7	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		624			611		381	1403		302	1404	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.37			0.34		0.28	0.39		0.04	0.26	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 0 (0%), Reference o phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.39
tersection Signal Delay: 11.1 Intersection LOS: B
rsection Capacity Utilization 53.8% ICU Level of Service A
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

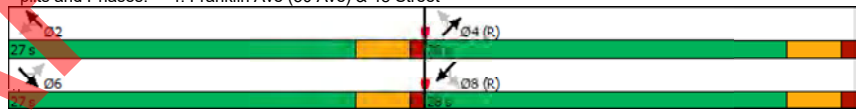


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	62	112	48	58	131	3	104	412	85	12	290	49
Future Volume (vph)	62	112	48	58	131	3	104	412	85	12	290	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			0.99		0.95	0.98		0.97	0.98	
Frt		0.971			0.998			0.974			0.978	
Flt Protected		0.986			0.985		0.950			0.950		
Satd. Flow (prot)	0	1672	0	0	1734	0	1676	3211	0	1676	3227	0
Flt Permitted		0.867			0.853		0.529			0.416		
Satd. Flow (perm)	0	1464	0	0	1490	0	888	3211	0	709	3227	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			2			55			43	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	26		51	51		26	65		62	62		65
Confl. Bikes (#/hr)									4			15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	0	0	213	0	116	552	0	13	376	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3	
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	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.5			22.5		23.5	23.5		23.5	23	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0	
v/c Ratio		0.40			0.35		0.31	0.39		0.04	27	
Control Delay		12.4			13.2		13.2	10.7		9.8	9.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		12.4			13.2		13.2	10.7		9.8	9.6	
LOS		B			B		B	B		A	A	
Approach Delay		12.4			13.2			11.1			9.6	
Approach LOS		B			B			B			A	
Queue Length 50th (m)		14.9			14.5		7.6	17.5		0.8	11.1	
Queue Length 95th (m)		30.6			28.5		18.0	28.0		3.4	18.8	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Base Capacity (vph)		616			610		379	1403		302	1403	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.40			0.35		0.31	0.39		0.04	0.27	

Intersection Sum ary
Area Type: Other
Cycle Len 55
Actuate y Length: 55
Offse 0 (0%), ferenced to phase 4:NETL and 8:SWTL, Start of Green
Natural Cycle: 55
ntrol Type: Pretim
Maximum v/c Ratio: 0.4
Intersection Signal Delay: .2 Intersection LOS: B
Interse ion Capacity Utilization 54.0% ICU Level of Service A
Anal is Period (min) 15

plits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

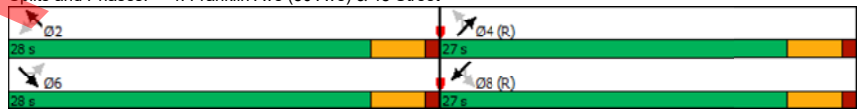


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	54	83	69	36	97	10	79	236	42	15	239	58
Future Volume (vph)	54	83	69	36	97	10	79	236	42	15	239	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.99		0.89	0.98		0.93	0.96	
Frt		0.955			0.990			0.977			0.971	
Flt Protected		0.987			0.988		0.950			0.950		
Satd. Flow (prot)	0	1620	0	0	1721	0	1676	3213	0	1676	3137	0
Flt Permitted		0.895			0.897		0.556			0.567		
Satd. Flow (perm)	0	1459	0	0	1544	0	876	3213	0	934	3137	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			9			45			63	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	45		90	90		45	134		81	81		134
Confl. Bikes (#/hr)									8			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	224	0	0	155	0	86	303	0	16	323	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	28.0	28.0		28.0	28.0		27.0	27.0		27.0	27.0	
Total Split (%)	50.9%	50.9%		50.9%	50.9%		49.1%	49.1%		49.1%	4 %	
Maximum Green (s)	23.5	23.5		23.5	23.5		22.5	22.5		22.5	22	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		23.5			23.5		22.5	22.5		2	22.5	
Actuated g/C Ratio		0.43			0.43		0.41	0.41		0.41	0.41	
v/c Ratio		0.34			0.23		0.24	0.23		0.04	0.24	
Control Delay		9.5			10.6		12.9	9.5		10.3	9.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		9.5			10.6		12.9	9.5		10.3	9.1	
LOS		A			B		B	A		B	A	
Approach Delay		9.5			10.6			10.2			9.1	
Approach LOS		A			B			B			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		10.7			9.2		5.6	8.7		1.0	8.7	
Queue Length 95th (m)		23.8			19.4		14.1	15.7		3.9	16.0	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		656			664		358	1341		382	1320	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.34			0.23		0.24	0.23		0.04	0.24	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 28 (51%), Referen d to phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.34
tersection Signal Delay: 9.8 Intersection LOS: A
rsection Capacity Utilization 53.8% ICU Level of Service A
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

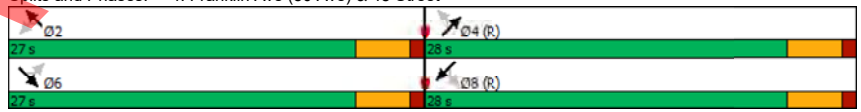


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	57	88	73	38	103	11	84	250	45	16	253	61
Future Volume (vph)	57	88	73	38	103	11	84	250	45	16	253	61
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.99		0.90	0.98		0.94	0.96	
Frt		0.955			0.990			0.977			0.971	
Flt Protected		0.987			0.988		0.950			0.950		
Satd. Flow (prot)	0	1620	0	0	1720	0	1676	3213	0	1676	3138	0
Flt Permitted		0.891			0.893		0.547			0.557		
Satd. Flow (perm)	0	1452	0	0	1538	0	865	3213	0	919	3138	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			9			47			66	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	45		90	90		45	134		81	81		134
Confl. Bikes (#/hr)									8			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	237	0	0	165	0	91	321	0	17	341	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Maximum Green (s)	22.5	22.5		22.5	22.5		23.5	23.5		23.5	23	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5		23.5	23.5		2	23.5	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0.43	
v/c Ratio		0.38			0.26		0.25	0.23		0.04	0.25	
Control Delay		10.7			11.5		12.4	9.0		9.7	8.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		10.7			11.5		12.4	9.0		9.7	8.6	
LOS		B			B		B	A		A	A	
Approach Delay		10.7			11.5			9.7			8.7	
Approach LOS		B			B			A			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		12.3			10.2		5.8	8.9		1.0	9.0	
Queue Length 95th (m)		26.9			21.4		14.4	15.8		4.0	16.1	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		626			634		369	1399		392	1378	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.38			0.26		0.25	0.23		0.04	0.25	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 28 (51%), Referen d to phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.38
tersection Signal Delay: 9.9 Intersection LOS: A
rsection Capacity Utilization 54.8% ICU Level of Service A
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

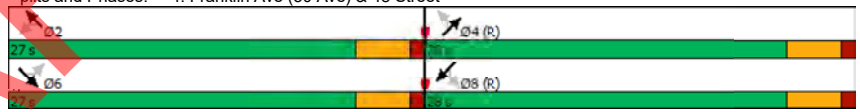


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	64	91	80	38	106	11	93	250	45	16	253	69
Future Volume (vph)	64	91	80	38	106	11	93	250	45	16	253	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.99		0.90	0.98		0.94	0.96	
Frt		0.954			0.990			0.977			0.968	
Flt Protected		0.987			0.988		0.950			0.950		
Satd. Flow (prot)	0	1618	0	0	1721	0	1676	3213	0	1676	3116	0
Flt Permitted		0.882			0.890		0.542			0.557		
Satd. Flow (perm)	0	1435	0	0	1533	0	858	3213	0	919	3116	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			9			47			75	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	45		90	90		45	134		81	81		134
Confl. Bikes (#/hr)									8			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	256	0	0	168	0	101	321	0	17	350	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3	
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	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.5			22.5		23.5	23.5		23.5	23	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0	
v/c Ratio		0.41			0.27		0.28	0.23		0.04	25	
Control Delay		11.3			11.6		12.8	9.0		9.7	8.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.3			11.6		12.8	9.0		9.7	8.4	
LOS		B			B		B	A		A	A	
Approach Delay		11.3			11.6			9.9			8.5	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		13.6			10.4		6.5	8.9		1.0	9.0	
Queue Length 95th (m)		29.4			21.8		16.0	15.8		4.0	16.2	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Base Capacity (vph)		620			632		366	1399		392	1374	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.41			0.27		0.28	0.23		0.04	0.25	

Intersection Sum ary
Area Type: Other
Cycle Len 55
Actuate y Length: 55
Offse 28 (51% Referenced to phase 4:NETL and 8:SWTL, Start of Green
Natural Cycle: 55
ntrol Type: Pretim
Maximum v/c Ratio: 0.4
Intersection Signal Delay: .0 Intersection LOS: B
Interse ion Capacity Utilization 56.7% ICU Level of Service B
Anal is Period (min) 15

plits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

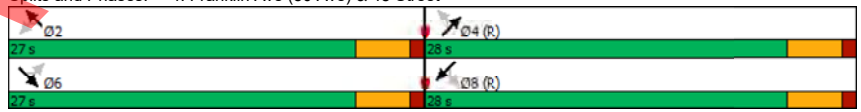


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	63	96	80	42	113	12	92	274	49	17	277	67
Future Volume (vph)	63	96	80	42	113	12	92	274	49	17	277	67
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.99		0.90	0.98		0.94	0.96	
Frt		0.955			0.990			0.977			0.971	
Flt Protected		0.987			0.988		0.950			0.950		
Satd. Flow (prot)	0	1620	0	0	1721	0	1676	3214	0	1676	3137	0
Flt Permitted		0.883			0.882		0.530			0.541		
Satd. Flow (perm)	0	1439	0	0	1519	0	842	3214	0	895	3137	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			9			46			67	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	45		90	90		45	134		81	81		134
Confl. Bikes (#/hr)									8			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	259	0	0	182	0	100	351	0	18	374	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Maximum Green (s)	22.5	22.5		22.5	22.5		23.5	23.5		23.5	23	
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.	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5		4.5	4		4.5	5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	9.0	9.0		9.0	9.0		9.0	9.0		9.0	9	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		13.0	13.0		13.0	.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5		23.5	23.5		2	23.5	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0.43	
v/c Ratio		0.42			0.29		0.28	0.25		0.05	0.27	
Control Delay		11.4			11.9		12.9	9.3		9.8	8.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.4			11.9		12.9	9.3		9.8	8.9	
LOS		B			B		B	A		A	A	
Approach Delay		11.4			11.9			10.1			8.9	
Approach LOS		B			B			B			A	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Queue Length 50th (m)		13.9			11.5		6.4	10.0		1.1	10.1	
Queue Length 95th (m)		29.9			23.7		15.9	17.4		4.1	17.7	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		
Base Capacity (vph)		621			626		359	1399		382	1378	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap R ductn		0			0		0	0		0	0	
Storage Cap eductn		0			0		0	0		0	0	
Reduced Ratio		0.42			0.29		0.28	0.25		0.05	0.27	

Inters tion Su mary
Area Type: Other
cle Length: 55
Actuated Cycle Length 5
Offset: 28 (51%), Referen d to phase 4:NETL and 8:SWTL, Start of Green
Natura Cycle: 55
Con l Type: Pretimed
M imum v/c Ratio: 0.42
tersection Signal Delay: 10.3 Intersection LOS: B
rsection Capacity Utilization 56.5% ICU Level of Service B
An sis Period (min) 15

Splits and Phases: 4: Franklin Ave (50 Ave) & 48 Street

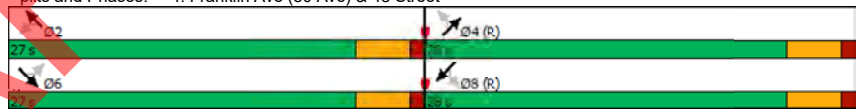


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	70	99	87	42	116	12	101	274	49	17	277	75
Future Volume (vph)	70	99	87	42	116	12	101	274	49	17	277	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	28.0		0.0	28.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.97			0.99		0.90	0.98		0.94	0.96	
Frt		0.954			0.991			0.977			0.968	
Flt Protected		0.987			0.988		0.950			0.950		
Satd. Flow (prot)	0	1617	0	0	1722	0	1676	3214	0	1676	3116	0
Flt Permitted		0.874			0.879		0.525			0.541		
Satd. Flow (perm)	0	1422	0	0	1516	0	835	3214	0	895	3116	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			8			46			78	
Link Speed (k/h)		45			45			45			45	
Link Distance (m)		202.5			211.6			93.0			93.8	
Travel Time (s)		16.2			16.9			7.4			7.5	
Confl. Peds. (#/hr)	45		90	90		45	134		81	81		134
Confl. Bikes (#/hr)									8			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	279	0	0	185	0	110	351	0	18	383	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8		
Minimum Split (s)	26.5	26.5		26.5	26.5		26.5	26.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		28.0	28.0		28.0	28.0	
Total Split (%)	49.1%	49.1%		49.1%	49.1%		50.9%	50.9%		50.9%	5 %	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3	
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	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		22.5			22.5		23.5	23.5		23.5	23	
Actuated g/C Ratio		0.41			0.41		0.43	0.43		0.43	0	
v/c Ratio		0.45			0.30		0.31	0.25		0.05	28	
Control Delay		12.1			12.1		13.5	9.3		9.8	8.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		12.1			12.1		13.5	9.3		9.8	8.7	
LOS		B			B		B	A		A	A	
Approach Delay		12.1			12.1			10.3			8.7	
Approach LOS		B			B			B			A	
Queue Length 50th (m)		15.5			11.8		7.2	10.0		1.1	10.1	
Queue Length 95th (m)		32.9			24.0		17.5	17.4		4.1	17.8	
Internal Link Dist (m)		178.5			187.6			69.0			69.8	
Turn Bay Length (m)							28.0			28.0		

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Base Capacity (vph)		615			624		356	1399		382	1376	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.45			0.30		0.31	0.25		0.05	0.28	

Intersection Sum ary
Area Type: Other
Cycle Len 55
Actuate y Length: 55
Offse 28 (51% Referenced to phase 4:NETL and 8:SWTL, Start of Green
Natural Cycle: 55
ntrol Type: Pretim
Maximum v/c Ratio: 0.4
Intersection Signal Delay: .5 Intersection LOS: B
Interse ion Capacity Utilization 58.4% ICU Level of Service B
Anal is Period (min) 15

plits and Phases: 4: Franklin Ave (50 Ave) & 48 Street



Appendix E
Full Traffic Signal Warrant Analysis Summary Sheets

Yellowknife, NT - Traffic Signal & Pedestrian Signal Head Warrant Analysis

Main Street (name):	48 Street	Direction (EW or NS):	EW
Side Street (name):	49 Avenue	Direction (EW or NS):	NS
Quadrant / Int #:		Comments:	2025 Base
	CHECK SHEET		
for Warrant Calculation Results, please hit 'Page Down'			

Road Authority:	Yellowknife, NT
City:	Yellowknife, NT
Analysis Date:	
Count Date:	2025 Sep 02, Tue
Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Rtod LT	Th & LT	Through	Th+RT+LT	Th & RT	Rtod RT	RT Channelization (y/n)	Upstream Signal (m)	# of Thru Lanes	LT Phase Type	RTOR Allowed (y/n)	Actuated Thru Phase
48 Street	WB	0	0	1	0	1	0	n	200	1	perm	y	n
48 Street	EB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	NB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	SB	0	0	0	1	0	0	n	2,000	1	perm	y	n

Saturation Flow Rates (if not default) (vphpl)	Default Saturation Flow Rates (vphpl)
Left Turn 1,650	1,650
Through 1,800	1,800
Right Turn 1,500	1,500

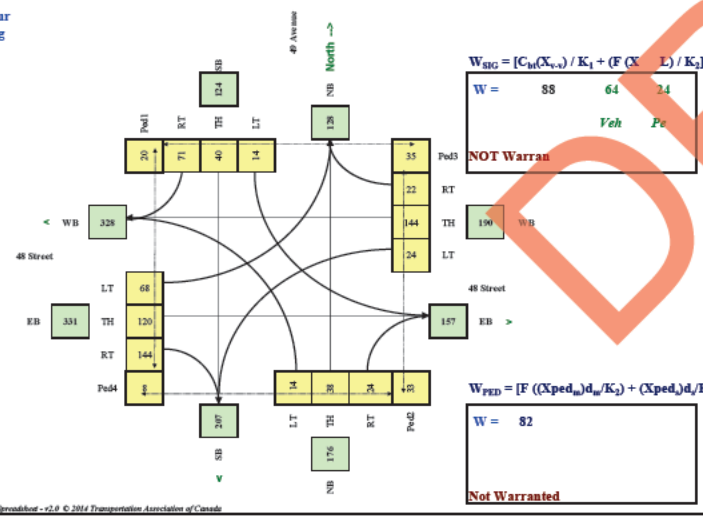
Are the 49 Avenue NB right turns significantly impeded by through movements? (y/n)	y
Are the 49 Avenue SB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street WB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street EB right turns significantly impeded by through movements? (y/n)	y

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	20,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
48 Street	EW	45	2.0%	y	0.0
49 Avenue	NS		2.0%	n	0.0

Traffic Input	NB			SB			WB			EB			Ped1	Ped2	Ped3	Ped4
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW
													W Side	E Side	N Side	S Side
730 - 830	55	26	15	4	29	54	21	105	20	76	153	209	16	25	28	9
830 - 930	93	41	19	14	34	62	29	117	14	58	106	113	10	24	26	5
930 - 1030	76	32	16	8	32	60	24	112	16	68	128	160	12	24	28	8
1500 - 1600	150	44	28	16	45	71	24	187	19	66	110	116	25	35	41	15
1600 - 1700	157	42	32	21	50	93	22	165	34	69	110	136	29	47	44	3
1700 - 1800	152	44	32	20	48	84	24	176	28	68	112	128	28	40	44	8
Total (6-hour peak)	683	229	142	83	238	424	144	862	131	465	719	862	126	195	211	48
Average (6-hour peak)	114	38	24	14	40	71	24	144	22	68	120	144	20	33	35	8
Actual Pedestrian Crossing Distance (m)													18.0	18.0	18.0	18.0

Average 6-hour Peak Turning Movements



$W_{SIG} = [C_{hi}(X_{v,i}) / K_1 + (F (X_{v,i}) L) / K_2] \times C_i$

W =	88	64	24
		Veh	Ped

NOT Warran

$W_{PED} = [F ((Xped_m)d_m/K_2) + (Xped_s)d_s/K_3)]$

W =	82

Not Warranted

Yellowknife, NT - Traffic Signal & Pedestrian Signal Head Warrant Analysis

Main Street (name):	48 Street	Direction (EW or NS):	EW
Side Street (name):	49 Avenue	Direction (EW or NS):	NS
Quadrant / Int #:		Comments:	2028 Base
	CHECK SHEET		
for Warrant Calculation Results, please hit 'Page Down'			

Road Authority:	Yellowknife, NT
City:	Yellowknife, NT
Analysis Date:	
Count Date:	2025 Sep 02, Tue
Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Rtod LT	Th & LT	Through	Th+RT+LT	Th & RT	Rtod RT	RT Channelization (y/n)	Upstream Signal (m)	# of Thru Lanes	LT Phase Type	RTOR Allowed (y/n)	Actuated Thru Phase
[illegible]	WB	0	0	1	0	1	0	n	200	1	perm	y	n
[illegible] Street	EB	0	0	0	1	0	0	n	2,000	1	perm	y	n
[illegible] 49 Avenue	NB	0	0	0	1	0	0	n	2,000	1	perm	y	n
[illegible] 49 Avenue	SB	0	0	0	1	0	0	n	2,000	1	perm	y	n

Saturation Flow Rates (if not default) (vphpl)	Default Saturation Flow Rates (vphpl)
Left Turn 1,650	1,650
Through 1,800	1,800
Right Turn 1,500	1,500

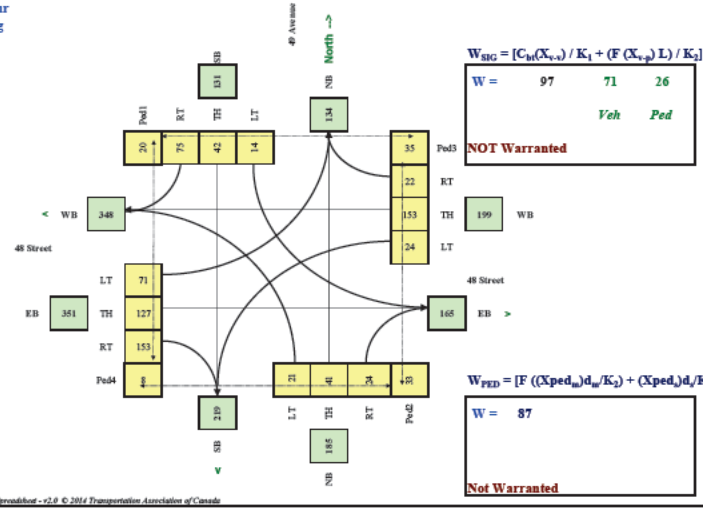
Are the 49 Avenue NB right turns significantly impeded by through movements? (y/n)	y
Are the 49 Avenue SB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street WB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street EB right turns significantly impeded by through movements? (y/n)	y

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	20,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
[illegible] Street	EW	45	2.0%	y	0.0
[illegible] Avenue	NS		2.0%	n	0.0

Traffic Input	NB			SB			WB			EB			Ped1	Ped2	Ped3	Ped4
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	NS	NS	EW	EW
													W Side	E Side	N Side	S Side
730 - 830	59	27	15	4	30	57	22	112	20	80	162	222	16	25	28	9
830 - 930	99	43	19	14	36	66	30	123	14	61	113	120	10	24	26	5
930 - 1030	80	32	16	8	32	64	24	120	16	72	136	168	12	24	28	8
[illegible] 1600	159	48	28	16	48	76	24	198	19	70	116	124	25	35	41	15
[illegible] 1700	167	46	34	21	53	98	22	175	36	73	117	145	29	47	44	3
[illegible] 1800	160	48	32	20	52	88	24	188	28	72	120	136	28	40	44	8
Total (6-hour peak)	724	244	144	83	251	449	146	916	133	428	764	915	120	195	211	48
[illegible] (6-hour peak)	121	41	24	14	42	75	24	153	22	71	127	153	20	33	35	8
Actual Pedestrian Crossing Distance (m)													18.0	18.0	18.0	18.0

Average 6-hour Peak Turning Movements



$W_{SIG} = [C_{hi}(X_{v,i}) / K_1 + (F (X_{v,i}) L) / K_2] \times C_i$

W =	97	71	26
		Veh	Ped

NOT Warranted

$W_{PED} = [F ((Xped_m)d_m/K_2) + (Xped_s)d_s/K_3)]$

W =	87

Not Warranted

Yellowknife, NT - Traffic Signal & Pedestrian Signal Head Warrant Analysis

Main Street (name):	48 Street	Direction (EW or NS):	EW
Side Street (name):	49 Avenue	Direction (EW or NS):	NS
Quadrant / Int #:		Comments:	2028 Base + Site
CHECK SHEET			
for Warrant Calculation Results, please hit 'Page Down'		Road Authority:	Yellowknife, NT
		City:	Yellowknife, NT
		Analysis Date:	
		Count Date:	2025 Sep 02, Tue
		Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Rtod LT	Th & LT	Through	Th+RT+LT	Th & RT	Rtod RT	RT Channelization (y/n)	Upstream Signal (m)	# of Thru Lanes	LT Phase Type	RTOR Allowed (y/n)	Actuated Thru Phase
48 Street	WB	0	0	1	0	1	0	n	200	1	perm	y	n
48 Street	EB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	NB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	SB	0	0	0	1	0	0	n	2,000	1	perm	y	n

Saturation Flow Rates (if not default) (vphpl)	Default Saturation Flow Rates (vphpl)
Left Turn 1,650	1,650
Through 1,800	1,800
Right Turn 1,500	1,500

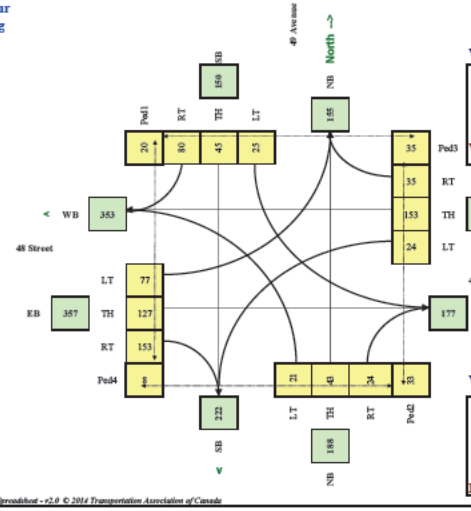
Are the 49 Avenue NB right turns significantly impeded by through movements? (y/n) y
Are the 49 Avenue SB right turns significantly impeded by through movements? (y/n) y
Are the 48 Street WB right turns significantly impeded by through movements? (y/n) y
Are the 48 Street EB right turns significantly impeded by through movements? (y/n) y

Demographics		
Elem School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	20,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
48 Street	EW	45	2.0%	y	0.0
49 Avenue	NS		2.0%	n	0.0

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
730 - 830	59	28	15	16	32	59	22	112	34	87	162	222	16	25	28	9
830 - 930	99	44	19	25	40	70	30	123	26	65	113	120	10	24	26	5
930 - 1030	80	32	16	16	33	68	24	120	23	73	136	168	12	24	28	8
1500 - 1600	159	52	28	26	52	81	24	198	31	77	116	124	25	35	41	15
1600 - 1700	167	51	34	38	57	106	22	175	55	81	117	145	29	47	44	3
1700 - 1800	160	52	32	30	57	94	24	188	39	77	120	136	28	40	44	8
Total (6-hour peak)	724	259	144	151	271	478	146	916	208	460	764	915	120	195	211	48
Average (6-hour peak)	121	43	24	25	45	80	24	153	35	77	127	153	20	33	35	8
Actual Pedestrian Crossing Distance (m)													18.0	18.0	18.0	18.0

Average 6-hour Peak Turning Movements



$W_{SIG} = [C_{hi}(X_{v,i}) / K_1 + (F (X_{v,i}) L) / K_2] \times C_i$

W = 104 78 26

Veh *Ped*

Warranted

$W_{PED} = [F ((Xped_m)d_m/K_2) + (Xped_s)d_s/K_3)]$

W = 94

Not Warranted

Yellowknife, NT - Traffic Signal & Pedestrian Signal Head Warrant Analysis

Main Street (name):	48 Street	Direction (EW or NS):	EW
Side Street (name):	49 Avenue	Direction (EW or NS):	NS
Quadrant / Int #:		Comments:	2033 Base
CHECK SHEET			
for Warrant Calculation Results, please hit 'Page Down'		Road Authority:	Yellowknife, NT
		City:	Yellowknife, NT
		Analysis Date:	
		Count Date:	2025 Sep 02, Tue
		Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Rtod LT	Th & LT	Through	Th+RT+LT	Th & RT	Rtod RT	RT Channelization (y/n)	Upstream Signal (m)	# of Thru Lanes	LT Phase Type	RTOR Allowed (y/n)	Actuated Thru Phase
[illegible]	WB	0	0	1	0	1	0	n	200	1	perm	y	n
[illegible]Street	EB	0	0	0	1	0	0	n	2,000	1	perm	y	n
[illegible] Avenue	NB	0	0	0	1	0	0	n	2,000	1	perm	y	n
[illegible] Avenue	SB	0	0	0	1	0	0	n	2,000	1	perm	y	n

Saturation Flow Rates (if not default) (vphpl)	Default Saturation Flow Rates (vphpl)
Left Turn 1,650	1,650
Through 1,800	1,800
Right Turn 1,500	1,500

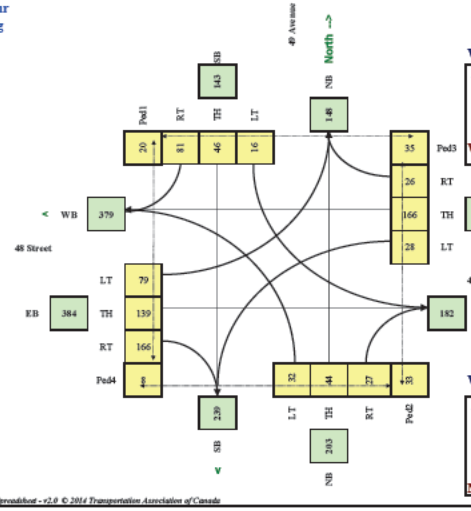
Are the 49 Avenue NB right turns [illegible] significantly impeded by through movements? (y/n) y
Are the 49 Avenue SB right turns [illegible] significantly impeded by through movements? (y/n) y
Are the 48 Street WB right turns [illegible] significantly impeded by through movements? (y/n) y
Are the 48 Street EB right turns [illegible] significantly impeded by through movements? (y/n) y

Demographics		
Elem School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	20,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
[illegible]Street	EW	45	2.0%	y	0.0
[illegible] Avenue	NS		2.0%	n	0.0

[illegible]ic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
730 - 830	63	30	17	4	34	62	23	122	23	88	178	242	16	25	28	9
830 - 930	107	47	22	17	39	72	34	136	16	67	123	130	10	24	26	5
[illegible]930 - 1030	88	36	20	8	36	68	28	128	20	80	148	184	12	24	28	8
[illegible]00 - 1600	174	51	32	18	52	82	28	216	22	77	128	134	25	35	41	15
[illegible]1700	182	49	37	25	57	108	25	192	40	80	128	158	29	47	44	3
[illegible]00 - 1800	176	52	36	24	56	96	28	204	32	80	128	148	28	40	44	8
Total (6-hour peak)	790	265	164	96	274	488	166	998	153	472	833	996	120	195	211	48
[illegible]verage (6-hour peak)	132	44	27	16	46	81	28	166	26	79	139	166	20	33	35	8
Actual Pedestrian Crossing Distance (m)													18.0	18.0	18.0	18.0

Average 6-hour Peak Turning Movements



$W_{SIG} = [C_{hi}(X_{v,i}) / K_1 + (F (X_{v,i}) L) / K_2] \times C_i$

W = 113 86 27

Veh *Ped*

Warranted

$W_{PED} = [F ((Xped_m)d_m/K_2) + (Xped_s)d_s/K_3)]$

W = 95

Not Warranted

Yellowknife, NT - Traffic Signal & Pedestrian Signal Head Warrant Analysis

Main Street (name):	48 Street	Direction (EW or NS):	EW
Side Street (name):	49 Avenue	Direction (EW or NS):	NS
Quadrant / Int #:		Comments:	2033 Base+Site
	CHECK SHEET		

for Warrant Calculation Results, please hit 'Page Down'

Road Authority:	Yellowknife, NT
City:	Yellowknife, NT
Analysis Date:	
Count Date:	2025 Sep 02, Tue
Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Shrd LT	Th & LT	Through	Th+RT+LT	Th & RT	Shrd RT	RT Channelization (y/n)	Offstream Storage (m)	#of Thru Lanes	LT Phase Type	RTOR Allowed (y/n)	Actuated Thru Phase
48 Street	WB	0	0	1	0	1	0	n	200	1	perm	y	n
48 Street	EB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	NB	0	0	0	1	0	0	n	2,000	1	perm	y	n
49 Avenue	SB	0	0	0	1	0	0	n	2,000	1	perm	y	n

Saturation Flow Rates (if not default) (vphpl)		Default Saturation Flow Rates (vphpl)
Left Turn	1,650	1,650
Through	1,800	1,800
Right Turn	1,500	1,500

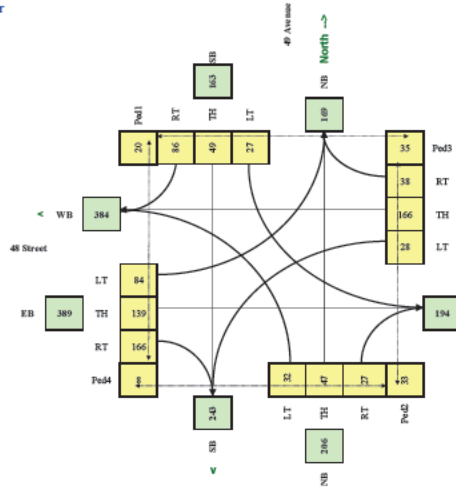
Are the 49 Avenue NB right turns significantly impeded by through movements? (y/n)	y
Are the 49 Avenue SB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street WB right turns significantly impeded by through movements? (y/n)	y
Are the 48 Street EB right turns significantly impeded by through movements? (y/n)	y

Demographics		
Elem School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	20,000
Central Business District	(y/n)	n

Other Input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
48 Street	EW	40	2.0%	y	0.0
49 Avenue	NS		2.0%	n	0.0

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
730 - 830	63	31	17	16	36	64	23	122	37	95	178	242	16	25	28	9
830 - 930	107	48	22	28	43	76	34	136	28	71	123	130	10	24	26	5
930 - 1030	88	36	20	16	37	72	28	128	27	81	148	184	12	24	28	8
1500 - 1600	174	55	32	28	56	87	28	216	34	84	128	134	25	35	41	15
1600 - 1700	182	54	37	42	61	116	25	192	59	88	128	158	29	47	44	3
1700 - 1800	176	56	36	34	61	102	28	204	43	85	128	148	28	40	44	8
Total (6-hour peak)	790	280	164	164	294	517	166	958	228	504	833	996	120	195	211	48
Average (6-hour peak)	132	47	27	27	49	86	28	160	38	84	139	166	20	33	35	8
													Actual Pedestrian Crossing Distance (m)			
													18.0	18.0	18.0	18.0

Average 6-hour Peak Turning Movements



$W_{SIG} = [C_M(X_{c-s}) / K_1 + (F (X \quad L) / K_2] \times C_i$

W = 122 93 29

Veh *Pe*

Warranted

$W_{PED} = [F ((Xped_m)d_m/K_2) + (Xped_s)d_s/K_3)]$

W = 102

Warranted

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