DISTRICT OF LAKE COUNTRY
TRANSPORTATION PLAN
Phase 1-Review Existing Conditions

Prepared for:

THE DISTRICT OF LAKE COUNTRY

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SECTION 1 INTRODUCTION

Creative Transportation Solutions Ltd. (CTS) was retained by the District of Lake Country on 6 September 2002 to undertake *Phase 1 – Review Existing Conditions* of the District of Lake Country Transportation Plan.

The specific objectives of the study were:

1) To review background material in order to document key transportation issues, historical traffic data and findings from recent studies;
2) To conduct intersection traffic counts in order to quantify existing traffic volumes and patterns on key municipal arterial and collector streets at locations throughout the District;
3) To conduct a vehicle license plate survey at each of the 5 entry/exit points for the District in order to quantify the percentage of local versus external traffic on the major roads, including Highway 97; and
4) To prepare a report on the existing operational conditions of the District's transportation network (i.e. Phase 1).

The District of Lake Country encompasses the communities of Winfield, Oyama, Carr's Landing and Okanagan Centre, and is located in between Kelowna and Vernon. The 2001 census determined the population to be 9,267.

Transportation connections include Highway 97, which bisects the community, and a CN/CP rail spur connecting Vernon to the north with Kelowna to the south. Oyama Road, which is under the jurisdiction of the District of Lake Country, provides an alternate route to Highway 97 around Wood Lake. The majority of the District of Lake Country is rural in nature with the majority of commercial and industrial activity centred near the south municipal border in Winfield.

The majority of the municipal road network in the District of Lake Country encompasses a two lane rural cross section with gravel shoulders and ditches for drainage. Urban cross sections can be found in some commercial areas. There are currently a total of four traffic signals within the municipality, all of which are located on Highway 97 and under the jurisdiction of the Ministry of Transportation.

SECTION 2 — PHASE 1 – EXISTING CONDITIONS

2.1 Review Background Material

The following documents were reviewed by CTS staff in the context of this study in order to become more familiar with transportation issues in the District of Lake Country:

1) Highway 97 Constituent Study Ellison Overhead – Wood Lake;
2) District of Lake Country Road Inventory Study;
3) Highway 97 Corridor Safety Assessment;
4) District of Lake Country Traffic Study Winfield Town Centre;
5) Pollards Pond Residential Development Traffic Impact Study; and
6) District of Lake Country Official Community Plan.

2.2 Analyze Existing Conditions

2.2.1 Intersection Volumes

The District of Lake Country identified the preferred hours of analysis to be the weekday afternoon peak hours. CTS conducted intersection counts at twelve intersections in the study area between Thursday, 19 September 2002 and Thursday, 26 September 2002 as outlined in **TABLE 1**.

TABLE 1
SURVEYED INTERSECTIONS AND DATE OF SURVEY

Intersection	Survey Date	Day of Week	Survey Period
1. Okanagan Centre Road West & Glenmore Road	19 Sept 2002	Thursday	15:00 to 18:00
2. Seaton Road & Glenmore Road	19 Sept 2002	Thursday	
3. Bottom Wood Lake Road & Beaver Lake Road	19 Sept 2002	Thursday	
4. Okanagan Centre Road East & Robinson Road	20 Sept 2002	Friday	
5. Bottom Wood Lake Road & Lodge Road	20 Sept 2002	Friday	
6. Bottom Wood Lake Road & Woodsdale Road	20 Sept 2002	Friday	
7. Okanagan Centre Road East & Camp Road	23 Sept 2002	Monday	
8. Okanagan Centre Road East & Carrs Landing Access Road	25 Sept 2002	Wednesday	
9. Bottom Wood Lake Road & Berry Road	25 Sept 2002	Wednesday	
10. Oyama Road & Woodsdale Road	25 Sept 2002	Wednesday	
11. Oyama Road & Sawmill Road	26 Sept 2002	Thursday	
12. Oyama Road & Trask Road	26 Sept 2002	Thursday	

The collected data was tabulated and reviewed to ensure data integrity.

Available intersection traffic volume data was also obtained from the Ministry of Transportation (MoT) for the following key intersections in the District of Lake Country:

1) Highway 97 & Beaver Lake Road;
2) Highway 97 & Oceala Road/Woodsdale Road; and
3) Highway 97 & Oyama Road.

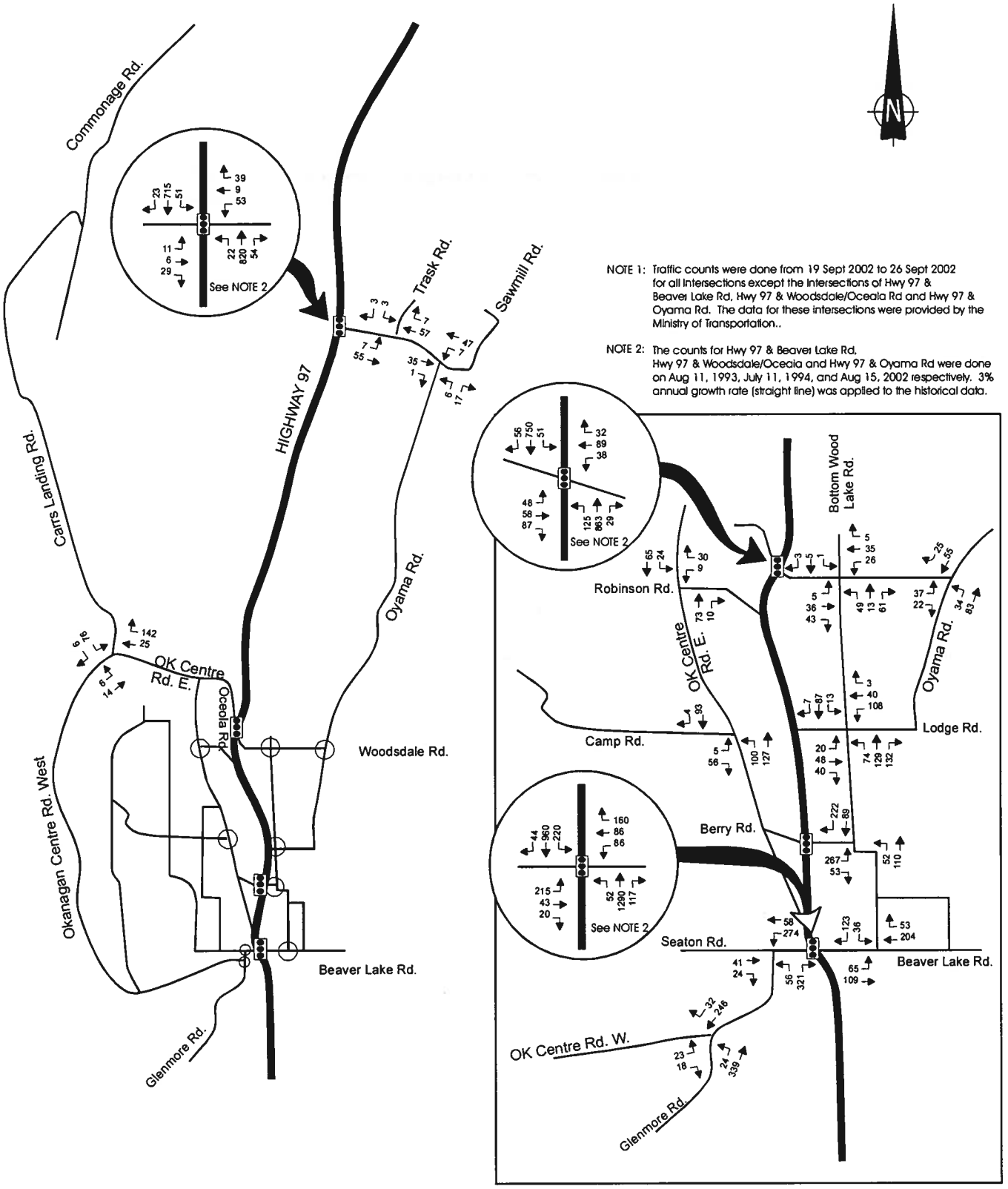
Unfortunately, two of the three available MoT traffic counts are quite old as the Highway 97 & Beaver Lake Road was conducted on 11 August 1993 and Highway 97 & Oceola Road was conducted on 11 July 1994. The Highway 97 & Oyama Road intersection count was fortunately conducted this year (i.e. 15 August 2002). The two historical traffic counts had a 3% annual rate (simple, straight line) applied to the data and then the traffic volumes were balanced with the recent 2002 count at Highway 97 & Oyama Road to estimated existing traffic volumes.

FIGURE 1 and **FIGURE 2** illustrate the weekday afternoon peak hour vehicle and pedestrian volumes respectively. **FIGURE 3** illustrates the observed three-hour bicycle volumes. Discussion with the District of Lake Country confirmed that the survey days and time periods represented typical operations. However, there was a temporary road closure on Woodsdale Road just east and west of Bottom Wood Lake Road that diverted traffic onto Lodge Road to access or egress Oyama Road. The tabulated data sheets for vehicles and pedestrians are in **APPENDIX A**. For bicycles, the tabulated data sheets are in **APPENDIX B**.

Key observations from the vehicle volumes in **FIGURE 1** are as follows:

1) The majority of municipal roads surveyed carry volumes of less than 200 vehicles per direction during the peak hour. This level of traffic demand can easily be handled by one lane of traffic.
2) Highway 97 carries the majority of traffic within municipal borders.
3) The intersection of Highway 97 & Seaton Road / Beaver Lake Road carries the highest volume of traffic within the municipality (i.e. 3,293 vehicles during the afternoon peak hour).
4) Glenmore Road is used significantly as an alternative to Highway 97 to and from Kelowna.

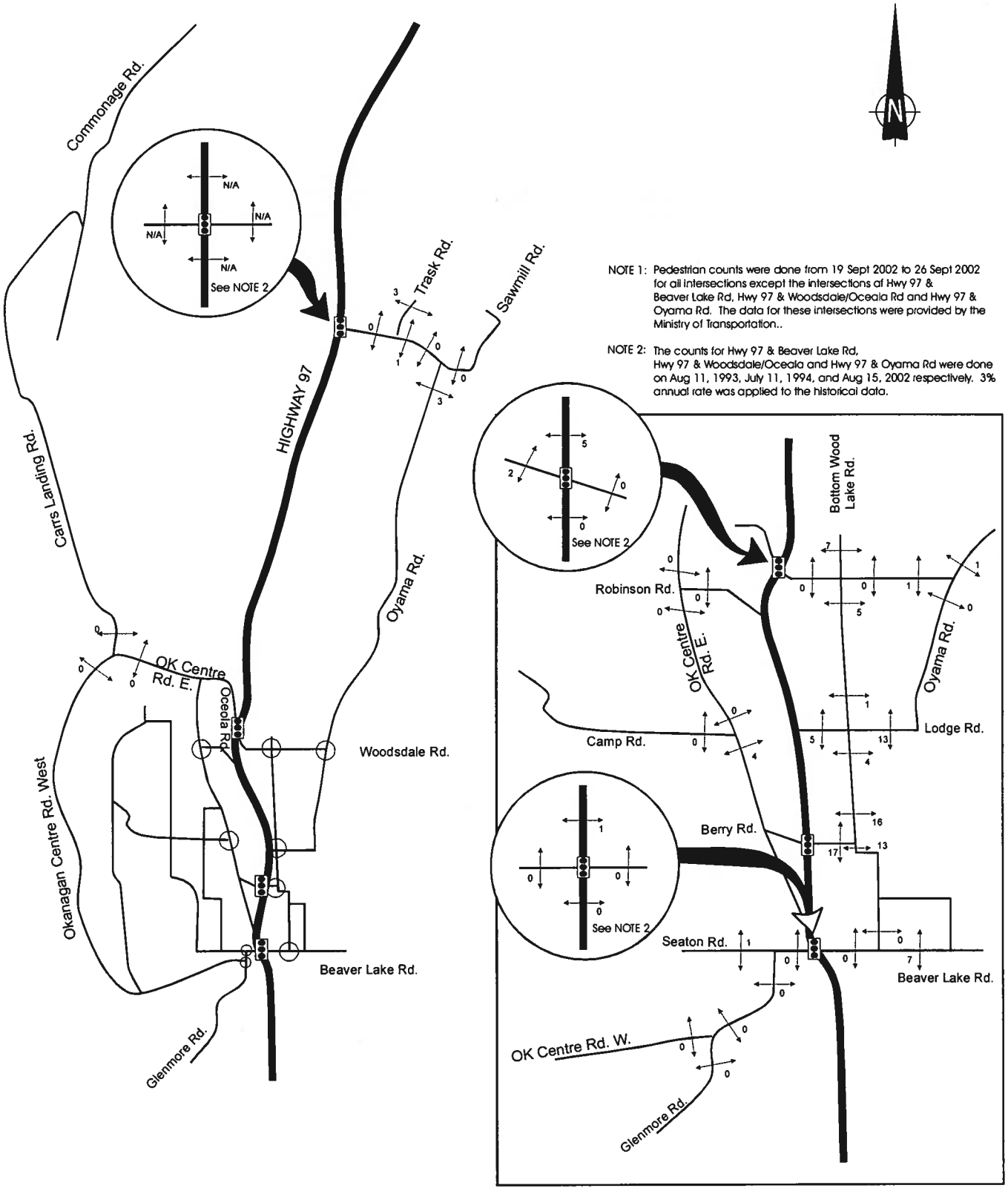
FIGURE 1
WEEKDAY AFTERNOON PEAK HOUR VEHICLE VOLUME



NOTE 1: Traffic counts were done from 19 Sept 2002 to 26 Sept 2002 for all intersections except the intersections of Hwy 97 & Beaver Lake Rd, Hwy 97 & Woodsdale/Oceala Rd and Hwy 97 & Oyama Rd. The data for these intersections were provided by the Ministry of Transportation..

NOTE 2: The counts for Hwy 97 & Beaver Lake Rd, Hwy 97 & Woodsdale/Oceala and Hwy 97 & Oyama Rd were done on Aug 11, 1993, July 11, 1994, and Aug 15, 2002 respectively. 3% annual growth rate (straight line) was applied to the historical data.

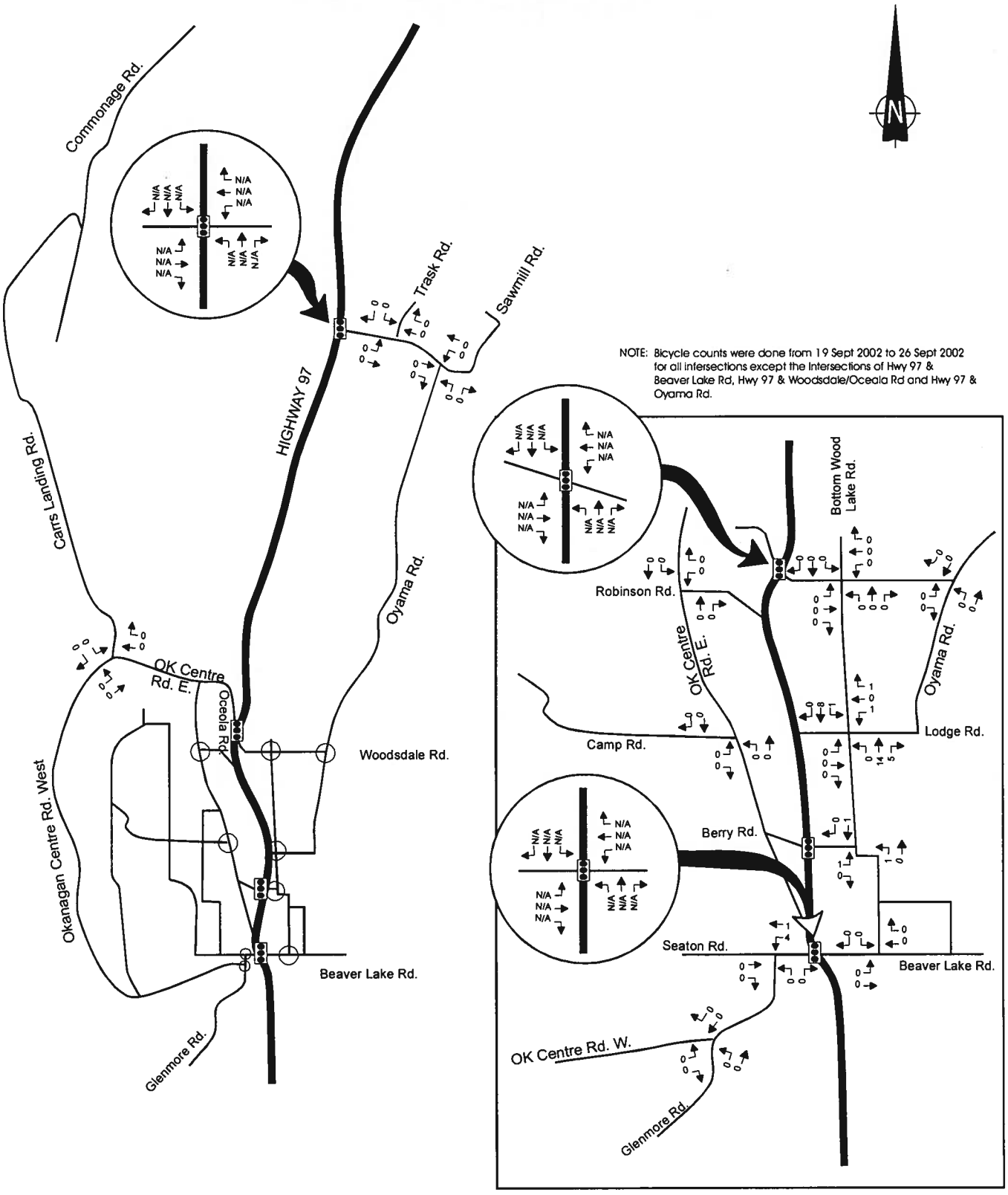
FIGURE 2
WEEKDAY AFTERNOON PEAK HOUR PEDESTRIAN VOLUME



NOTE 1: Pedestrian counts were done from 19 Sept 2002 to 26 Sept 2002 for all intersections except the intersections of Hwy 97 & Beaver Lake Rd, Hwy 97 & Woodsdale/Oceala Rd and Hwy 97 & Oyama Rd. The data for these intersections were provided by the Ministry of Transportation..

NOTE 2: The counts for Hwy 97 & Beaver Lake Rd, Hwy 97 & Woodsdale/Oceala and Hwy 97 & Oyama Rd were done on Aug 11, 1993, July 11, 1994, and Aug 15, 2002 respectively. 3% annual rate was applied to the historical data.

FIGURE 3
WEEKDAY THREE-HOUR (15:00 – 18:00) BICYCLE VOLUME



Key observations from the pedestrian volumes in **FIGURE 2** are as follows:

1) Observed pedestrian volumes were generally low in comparison with similar intersections and locales in B.C., especially in the built up areas of Winfield.
2) Of the 15 intersections examined, the intersection of Bottom Lake Wood Road & Berry Road carried the highest volume of pedestrian traffic during the weekday afternoon peak hour with 46 pedestrian movements. Nearby secondary school and transit exchange facilities are considered to be the primary contributors to this observed volume.

Key observations from the bicycle volumes in **FIGURE 3** are as follows:

1) Observed 3 hour bicycle volumes were generally very low in comparison with similar intersections and locales in B.C., especially in the built up areas of Winfield.
2) The intersection of Bottom Lake Wood Road & Lodge Road carried the highest volume of bicycle traffic from 15:00 to 18:00 with 30 bicycle movements. Based on other bicycle counts on Bottom Lake Wood Road, it would appear the majority of bicycle traffic originated from, or destined to the secondary school.

2.2.2 Transit

The District of Lake Country is currently served by Route 23 of the Kelowna Regional Bus Transit System. Route 23 connects the Lake Country with Okanagan University College North and Orchard Park Shopping Centre. Service is provided seven days a week, however the hours of operation vary. The bus service runs from 06:00 to 23:00, 08:00 to 23:00 and 10:00 to 17:00 on weekdays, Saturdays and Sundays respectively.

On weekdays, the service frequency is 30 minutes during peak hours and 60 minutes during off peak hours. For Saturdays, service frequency is every 60 minutes. Sunday service is very limited as service frequency is only once every three hours.

No information on ridership is currently available.

Of note, Route 23 is interlined with Route 8 in that the bus changes route numbers when arriving or departing from the Okanagan University College North (i.e. Route 8

becomes Route 23 northbound @ OUC and Route 23 becomes Route 8 southbound @ OUC). This may result in some confusion to new and or potential transit riders.

Some suggestions for future consideration to further enhance transit service and usage in Lake Country include the following:

1) Creation of a dedicated express bus between Lake Country and downtown Kelowna via OUC, Orchard Park etc. and which does not change route numbers;
2) Creation of a local community shuttle within Lake Country that can provide higher frequency of service to local residents;
3) Creation of a bus service between Lake Country and Vernon; and
4) Construction of a multi-modal transportation center facility in Winfield Town Centre that will encompass public transit, taxi's and regional bus services (e.g. Greyhound).

2.3 Intersection Capacity Analysis

Capacity analysis was performed at each of the surveyed intersections under the jurisdiction of the District of Lake Country in order to determine the intersection levels of service (LOS) that is provided to motorists. The Level of Service (LOS) for intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption and travel time. LOS range from "A" (excellent) to "F" (failing). For unsignalized intersections, LOS criteria are stated in terms of total delay, where total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required to travel from the last-in-queue position to the first-in-queue position. The criteria for unsignalized intersections are given in **TABLE 2**.

For a rural community like the District of Lake Country 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. Similarly, a LOS of "D" or better is considered acceptable for left turn movements at signalized intersections.

TABLE 2
LEVEL OF SERVICE AND DELAY CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY* (seconds per vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0

** Highway Capacity Manual 2000 (HCM)*

For signalized intersections, LOS criteria are stated in terms of the control delay per vehicle for a 15-minute analysis period. The criteria for signalized intersections are given in **TABLE 3**. The LOS thresholds for signalized intersections are somewhat different from the criteria used in **TABLE 2** because drivers generally tolerate less delay at an unsignalized intersection than at one that is signalized.

Intersection capacity analysis was performed at each of the intersections using the methods and procedures outlined in the Highway Capacity Manual (HCM) (Transportation Research Board Special Report 209, Millenium Edition). The Highway Capacity Software (HCS2000, Version 4.1c), which incorporates the HCM methodologies, was used for the unsignalized analysis. Synchro 5 was used for the signalized analysis. Synchro also evaluates the intersection based on actuated green times as opposed to maximum green time, yielding a more accurate result.

TABLE 3
LEVEL OF SERVICE AND DELAY CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE* (seconds/veh)	DESCRIPTION
A	≤ 10.0	This LOS occurs when traffic progression is extremely favourable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	> 10.0 and ≤ 20.0	This LOS generally occurs with good traffic progression, short cycle lengths or both. More vehicles stop than LOS A, causing higher level of average delay.
C	> 20.0 and ≤ 35.0	This LOS generally occurs with fair traffic progression, longer cycle lengths or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavourable traffic progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	LOS E is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor traffic progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences.
F	> 80.0	LOS F is considered to be unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.0 with many individual cycle failures. Poor traffic progression and long cycle lengths may also be major contributing causes to such delay levels.

** Highway Capacity Manual 2000 (HCM)*

The following assumptions were made with respect to the intersection capacity analysis of the weekday afternoon peak hour volumes:

- Saturation flow rate = 1,800 passenger cars per hour
- Heavy vehicle percentage = 3%
- Peak Hour Factor = 0.90 (average of intersections surveyed excluding that of Bottom Wood Lake Road & Woodsdale Road due to road construction)
- Existing signal timing plans at signalized intersections were used for all scenarios.

TABLE 4 and **TABLE 5** summarizes the results of the intersection capacity analysis for the unsignalized and signalized intersections respectively. Detailed worksheets can be found in **APPENDIX C**.

TABLE 4
VEHICLE DELAY BY INDIVIDUAL MOVEMENTS FOR UNSIGNALIZED INTERSECTION
2002 EXISTING WEEKDAY PM PEAK HOUR

UNSIGNALIZED INTERSECTION	DELAY (sec/veh)												OVERALL	OVERALL LOS	STATUS
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Bottom Wood Lake & Lodge	14.6			22.7			7.6			7.9			12.0	B	No Operation Problems
Okanagan Ctr Rd E. & Robinson				9.1		9.1		FREE		7.4			4.8	A	No Operation Problems
Okanagan Ctr Rd E. & Carrs Landing	7.6				FREE					9.7		9.7	3.5	A	No Operation Problems
Bottom Wood Lake & Woodsdale	9.9			10.8			7.3			7.4			8.9	A	No Operation Problems
Oyama & Woodsdale	9.9		9.9				7.5				FREE		5.7	A	No Operation Problems
Oyama & Sawmill		9.4		9.4			7.2		7.2				9.0	A	No Operation Problems
Oyama & Trask	7.4				FREE					9.0		9.0	3.9	A	No Operation Problems
Glenmore & Okanagan Ctr Rd W.	13.1		13.1				7.9				FREE		5.0	A	No Operation Problems
Glenmore & Seaton		13.6	8.4	24.1			7.3		7.3				14.9	B	No Operation Problems
Bottom Wood Lake & Beaver Lake	8.0				FREE					12.1		12.1	5.6	A	No Operation Problems
Bottom Wood Lake & Berry	7.8		7.8				49.9	24.3			23.2	9.7	15.1	C	Significant delays on south approach
Okanagan Ctr Rd E. & Camp	9.4		9.4				7.6				FREE		6.0	A	No Operation Problems

TABLE 5
VOLUME TO CAPACITY RATIO BY INDIVIDUAL MOVEMENTS FOR SIGNALIZED INTERSECTION
2002 EXISTING WEEKDAY PM PEAK HOUR

UNSIGNALIZED INTERSECTION	Volume to Capacity Ratio												OVERALL	OVERALL LOS	STATUS
	EASTBOUND			WESTBOUND			NORTHBOUND			SOUTHBOUND					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Highway 97 & Oyama Road	0.05	0.02	0.10	0.24	0.03	0.14	0.06	0.37	0.05	0.16	0.32	0.02	0.48	A	No Operation Problems
Highway 97 & Oceola Road	0.21	0.38		0.18	0.35		0.41	0.44	0.03	0.20	0.38	0.06	0.60	B	No Operation Problems
Highway 97 & Beaver Lake Road	0.98	0.13		0.25	0.54		0.29	0.79		2.77	0.56		1.06	F	Failing with 1993 data factored up

Below Capacity

Approaching Capacity

At or Above Capacity

From **TABLE 4**, the following observations can be made about the unsignalized intersections:

1) All of the intersections surveyed are operating at excellent levels of service with the exception of Bottom Wood Lake Road & Berry Road.
2) At the intersection of Bottom Wood Lake Road & Berry Road, the intersection is operating at an overall LOS C, which is acceptable. However, the northbound left turn movement from Bottom Wood Lake Road onto Berry Road westbound is currently at LOS E, mainly due to the high southbound right turn volume that has the right of way. However, since the actual left turn volume is only 52 vehicles during the afternoon peak hour and the movement to volume capacity ratio is only 0.42, this movement and the associated LOS is not considered significant nor critical.
3) Based on the analysis, no operational and/or geometrical improvements are recommended for any of the twelve intersections.

From **TABLE 5**, the following observations can be made about the signalized intersections:

1) The intersections of both Highway 97 & Oyama Road and that of Highway 97 & Oceola Road are both operating at excellent and very good levels of service respectively. No operational and/or geometrical improvements are recommended for either signalized intersection.
2) The intersection of Highway 97 & Beaver Lake Road is currently experiencing significant delays (LOS F) during the weekday afternoon peak hour and the intersection is over capacity (1.06). Significant delays are experienced by the following movements:

   - Eastbound left turn from Seaton onto Highway 97 northbound
   - Southbound left turn from Highway 97 onto Beaver Lake Road eastbound

   From the analysis, it would appear that the provision of left turn phases for the above movements would significantly reduce delays to motorists. The current cycle length is 87 seconds which is considered short for an intersection that is currently handling over 3,000 vehicle movements during the peak hour.

   However, as this analysis is based on traffic data from 1993 that was factored up to represent 2002 conditions, it is recommended that the District of Lake Country

request that MoT conduct an updated intersection count at this location in order to determine if any short term improvements (e.g. optimizing the signal timing plan, provision of a left turn phase, etc.) are warranted or not.

2.4 Vehicle License Plate Study

2.4.1 Methodology

A 3-hour license plate survey was conducted in the afternoon (from 15:00 to 18:00) on Friday, 20 September 2002 in order to quantify regional travel patterns. The District of Lake Country area has the following five major entry/exit points for the road network:

1) Highway 97 at north municipal border;
2) Commonage Road at north municipal border;
3) Beaver Lake Road at east municipal border;
4) Highway 97 at south municipal border; and
5) Glenmore Road at south municipal border.

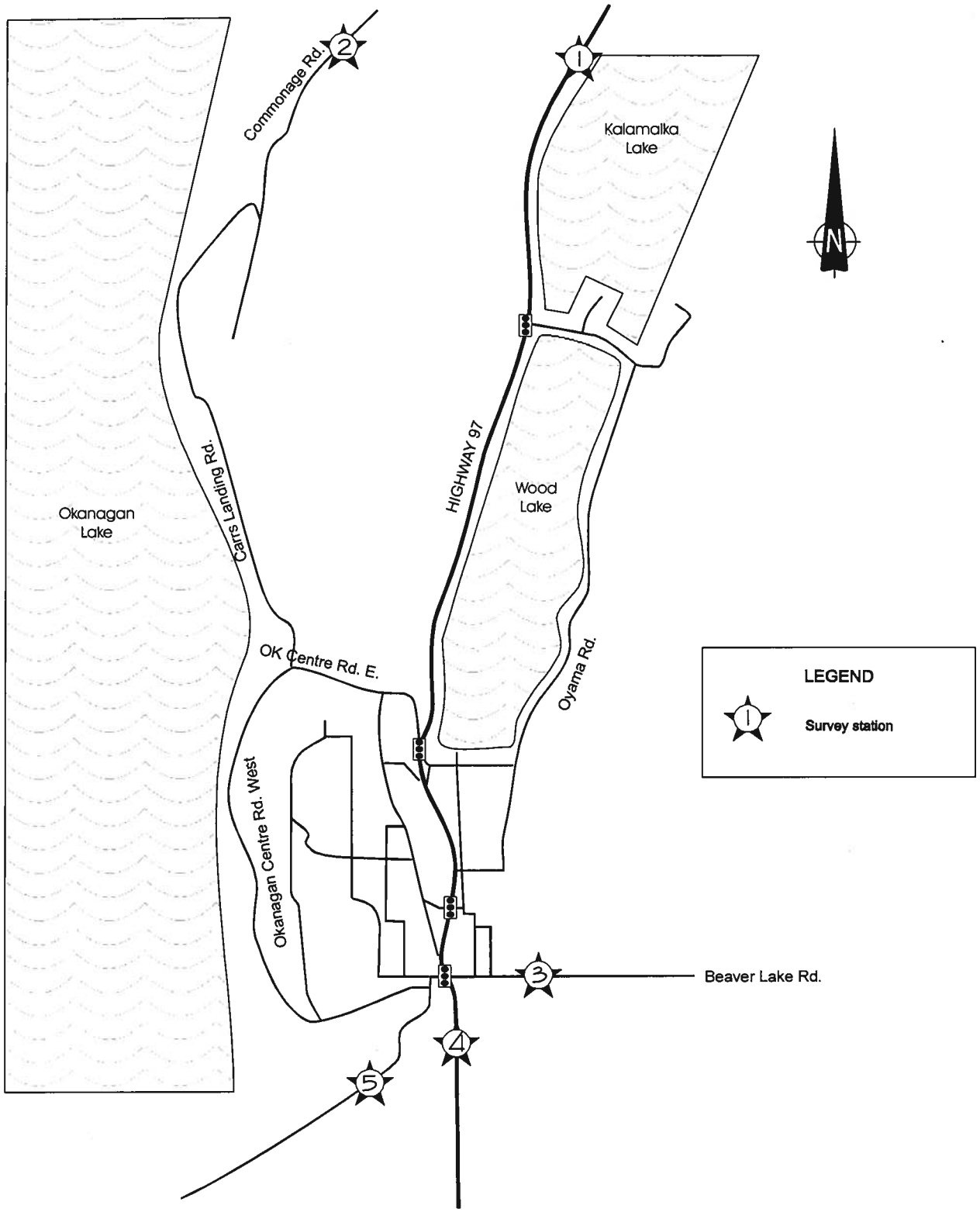
To capture the majority of trips entering and exiting the study area, the survey stations were designated as:

STATION 1: North of Oyama Road at Highway 97;
STATION 2: Predator Ridge Golf Course at Commonage Road;
STATION 3: East of Bottom Wood Lake Road at Beaver Lake Road;
STATION 4: South of Beaver Lake Road at Highway 97; and
STATION 5: South of Okanagan Centre Road West at Glenmore Road.

These are illustrated on **FIGURE 4**.

The recorded digits of each license plate and the corresponding time observed to the nearest minute were recorded by direction. Every effort was made to establish a precise population by recording all missed plates with a "dash" (i.e. those that could not be read). Recorded license plates with less than four digits were considered a missed plate and excluded from the sample. The observed sample for the afternoon peak hour is normalized with the population to reflect 100% traffic sample. All data presented in the analyses and exhibits are based on normalized numbers.

FIGURE 4
LICENSE PLATE STATION



2.4.2 Vehicle Demand

This analysis was performed prior to the license plate matches to identify the peak hour to be used in subsequent analyses. The traffic volume data by direction was tabulated in 15-minute intervals for the afternoon peak period. From the data, the average hourly volume, peak hour volume and the peak hour factor was determined by movement. Please note that pedestrian data was not collected as part of this exercise. The analysis spreadsheets have been included in **APPENDIX D**.

The afternoon peak hour was between 16:30 and 17:30 at the majority of the stations.

2.4.3 License Plate Survey

The license plate data at the five stations was combined and then summarized for the entire three hours. Each direction was examined separately to maximize the precision of the analysis. This is common practice to use the sample (observed license plate only) and the population (all vehicle observed) to develop the adjustment factor. Depending on the desire line, the applicable movements' factor are then averaged and applied to the actual license plate matches to reflect a sample of 100%. The collective sample rates are summarized in **TABLE 6**.

TABLE 6
SAMPLE RATE CALCULATION

STATION	RECORDED PLATES (vehicles/3 hr)		TOTAL TRAFFIC (vehicles/3 hr)		SAMPLE RATE		
	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	AVERAGE
1. Hwy 97 at north	1516	1629	2352	2249	**64.5%**	**72.4%**	68.4%
2. Commonage at north	22	42	22	42	**100.0%**	**100.0%**	100.0%
3. Beaver lake at east	308	539	340	606	**90.6%**	**88.9%**	89.8%
4. Hwy 97 at south	1886	1633	3218	2165	**58.6%**	**75.4%**	67.0%
5. Glenmore at south	549	409	852	685	**64.4%**	**59.7%**	62.1%

The Manual of Transportation Engineering Studies (*ITE, 1994)* states that sample sizes for license plate traces rarely exceed 60%. Therefore, the overall sample size of the data collected in the study period is excellent and the data is considered to be statistically valid.

The license plate data of selected movements have been used to quantify the amount of traffic for the following desire lines during the afternoon peak hour:

1. Traffic from Highway 97 at north municipal border towards:
   - i) Beaver Lake Road at east municipal border;
   - ii) Highway 97 at south municipal border;
   - iii) Glenmore Road at south municipal border; and
   - iv) A destination within Lake Country.

2. Traffic from Commonage Road at north municipal border towards:
   - i) Beaver Lake Road at east municipal border;
   - ii) Highway 97 at south municipal border;
   - iii) Glenmore Road at south municipal border; and
   - iv) A destination within Lake Country.

3. Traffic from Beaver Lake Road at east municipal border towards:
   - i) Highway 97 at north municipal border;
   - ii) Commonage Road at north municipal border;
   - iii) Highway 97 at south municipal border;
   - iv) Glenmore Road at south municipal border; and
   - v) A destination within Lake Country.

4. Traffic from Highway 97 at south municipal border towards:
   - i) Highway 97 at north municipal border;
   - ii) Commonage Road at north municipal border;
   - iii) Beaver Lake Road at east municipal border;
   - iv) Glenmore Road at south municipal border; and
   - v) A destination within Lake Country.

5. Traffic from Glenmore Road at south municipal border towards:
   - i) Highway 97 at north municipal border;
   - ii) Commonage Road at north municipal border;
   - iii) Beaver Lake Road at east municipal border;
   - iv) Highway 97 at south municipal border; and
   - v) A destination within Lake Country.

Regarding a destination within Lake Country, the only information that can be extracted from the license plate data is that it is somewhere within the municipality.

The vehicular traffic volumes associated with each of the above desire lines are summarized in **TABLE 7** and **TABLE 8** and illustrated in **FIGURE 5** through **FIGURE 9**. Please note that all volumes have been normalized using the appropriate adjustment factors (see **APPENDIX D**).

From **TABLE 8**, the following key observations can be made:

1) 67.4% of the traffic entering Lake Country from the north via Highway 97 had a destination within the municipality. Only 32.6% of the observed southbound traffic on Highway 97 was traveling through Lake Country without stopping.
2) 70.4% of the traffic entering Lake Country from the south via Highway 97 had a destination within the municipality. Only 29.6% of the observed northbound traffic on Highway 97 was traveling through Lake Country without stopping.
3) 82.3% of the traffic entering Lake Country from the south via Glenmore Road had a destination within the municipality. Only 17.7% of the observed northbound traffic on Glenmore Road was traveling through Lake Country without stopping.

Please note that the determination of whether a matched license plate was an external trip (i.e. had neither an origin or destination within Lake Country such as traffic between Kelowna and Vernon) or not was based on the recorded travel time it took the vehicle to travel between the two municipal borders. For example, the typical time to travel between the north and south municipal borders on Highway 97 was determined to be 12-15 minutes during the weekday afternoon peak hour, depending on the number of red traffic lights encountered and level of traffic congestion. Therefore, any license plate match that had a recorded travel time of 15 minutes or less was counted as an "external" trip. Any license plate matches where the recorded travel time was in excess of 15 minutes, the trip was recorded as having either an origin or destination in Lake Country as the motorists made a stop within Lake Country (e.g. to get gas).

TABLE 7 - LICENSE PLATE SURVEY RESULTS WITH NORMALIZED DATA

AFTERNOON PEAK HOUR (16:30 – 17:30)			DESTINATION					
			Hwy 97 at north border	Commonage at north border	Beaver Lake at east border	Hwy 97 at south border	Glenmore at south border	Within Lake Country
ORIGIN	Hwy 97 at north border	785			5	204	47	529
	Commonage at north border	16			0	0	0	16
	Beaver Lake at east border	190	10	0		43	22	115
	Hwy 97 at south border	1117	296	1	23		10	787
	Glenmore at south border	311	40	0	9	6		256
	Within Lake Country							

TABLE 8 - LICENSE PLATE SURVEY RESULTS WITH NORMALIZED DATA

AFTERNOON PEAK HOUR (16:30 – 17:30)			DESTINATION					
			Hwy 97 at north border	Commonage at north border	Beaver Lake at east border	Hwy 97 at south border	Glenmore at south border	Within Lake Country
ORIGIN	Hwy 97 at north border	100%			0.6%	26.0%	6.0%	67.4%
	Commonage at north border	100%			0%	0%	0%	100%
	Beaver Lake at east border	100%	5.3%	0%		22.6%	11.6%	60.5%
	Hwy 97 at south border	100%	26.5%	0.1%	2.1%		0.9%	70.4%
	Glenmore at south border	100%	12.9%	0%	2.9%	1.9%		82.3%
	Within Lake Country							

FIGURE 5
ROUTE: FROM HIGHWAY 97 AT NORTH MUNICIPAL BORDER TOWARDS:

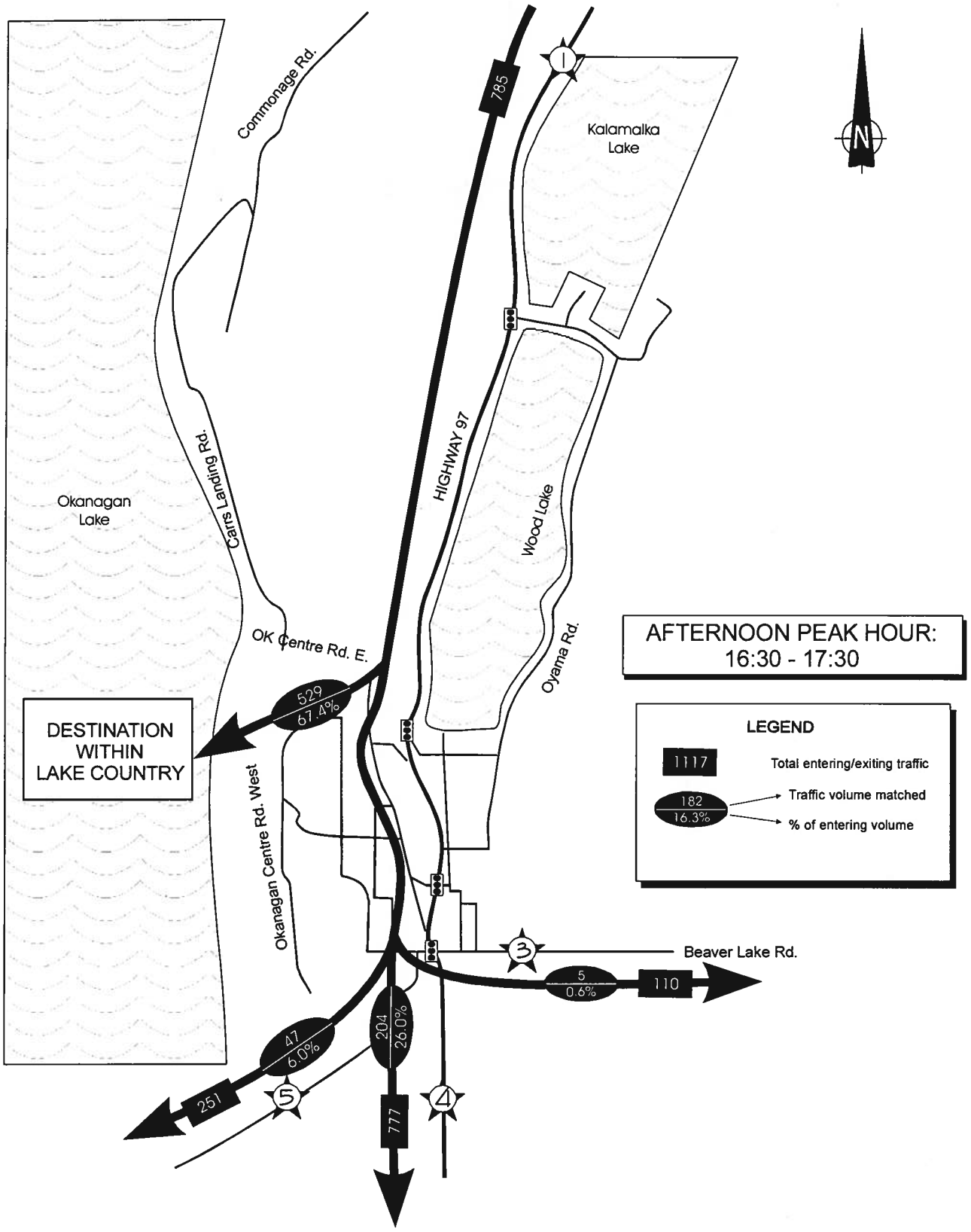


FIGURE 6
ROUTE: FROM COMMONAGE RD AT NORTH MUNICIPAL BORDER TOWARDS:

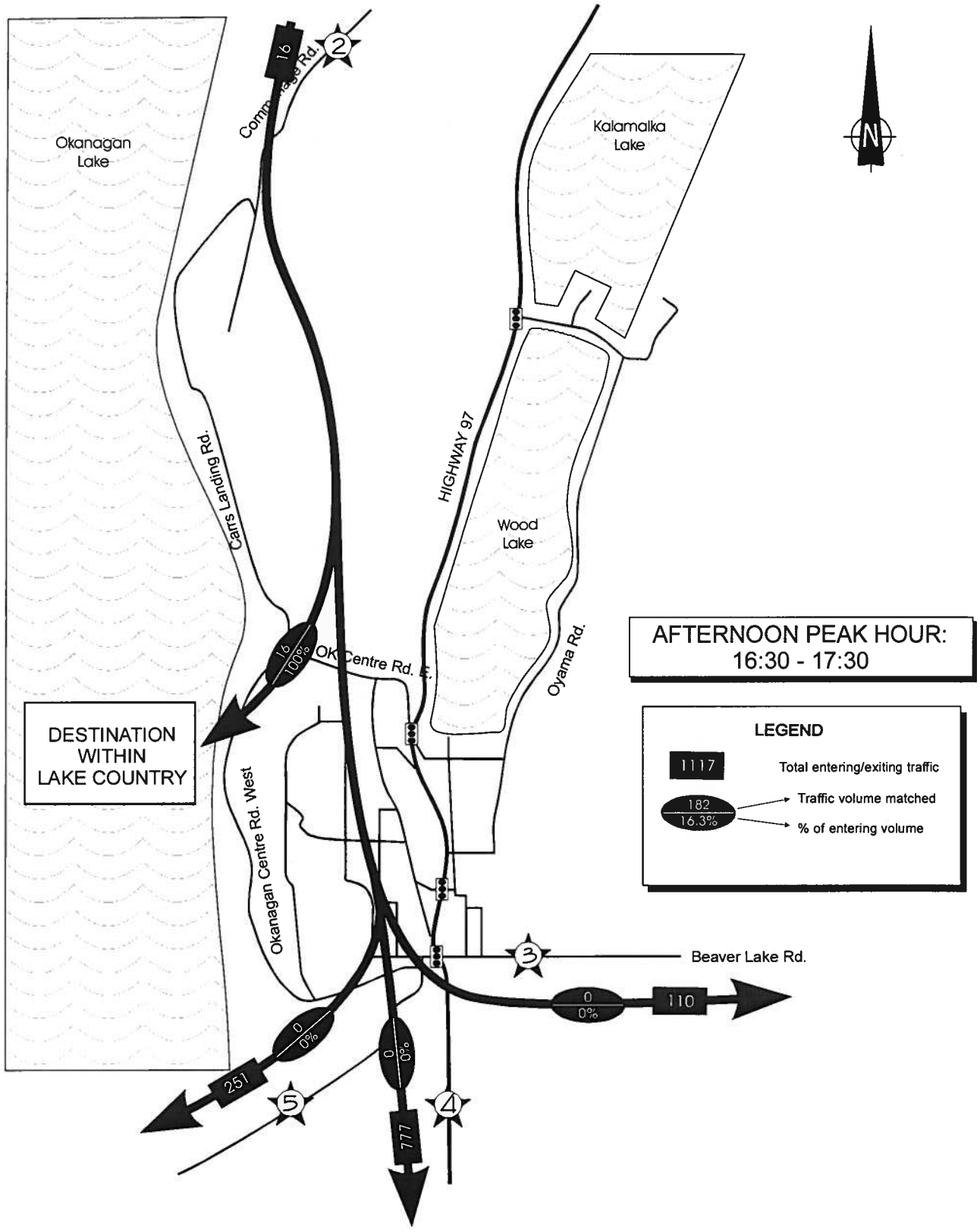


FIGURE 7
ROUTE: FROM BEAVER LAKE ROAD AT EAST MUNICIPAL BORDER TOWARDS:

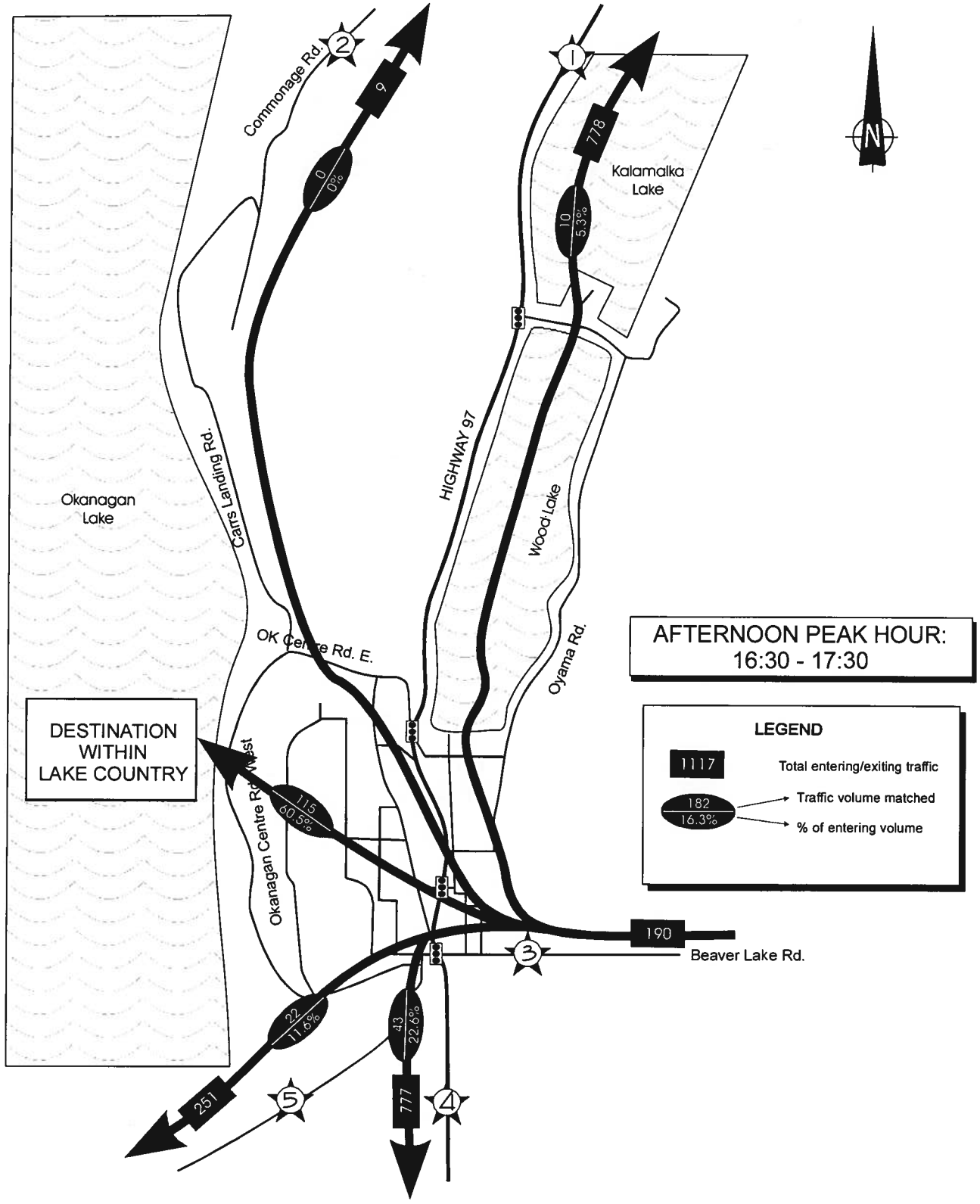


FIGURE 8
ROUTE: FROM HIGHWAY 97 AT SOUTH MUNICIPAL BORDER TOWARDS:

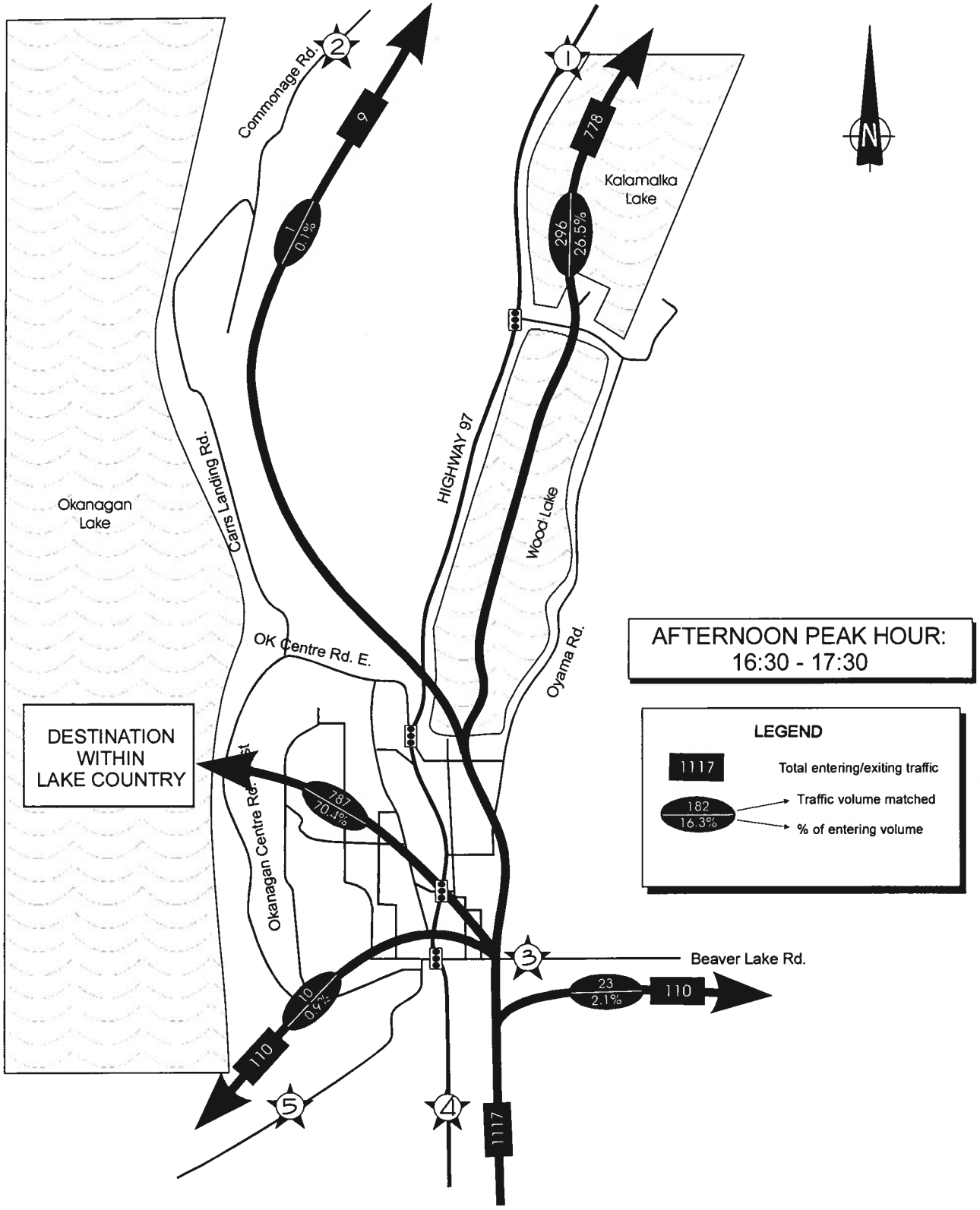
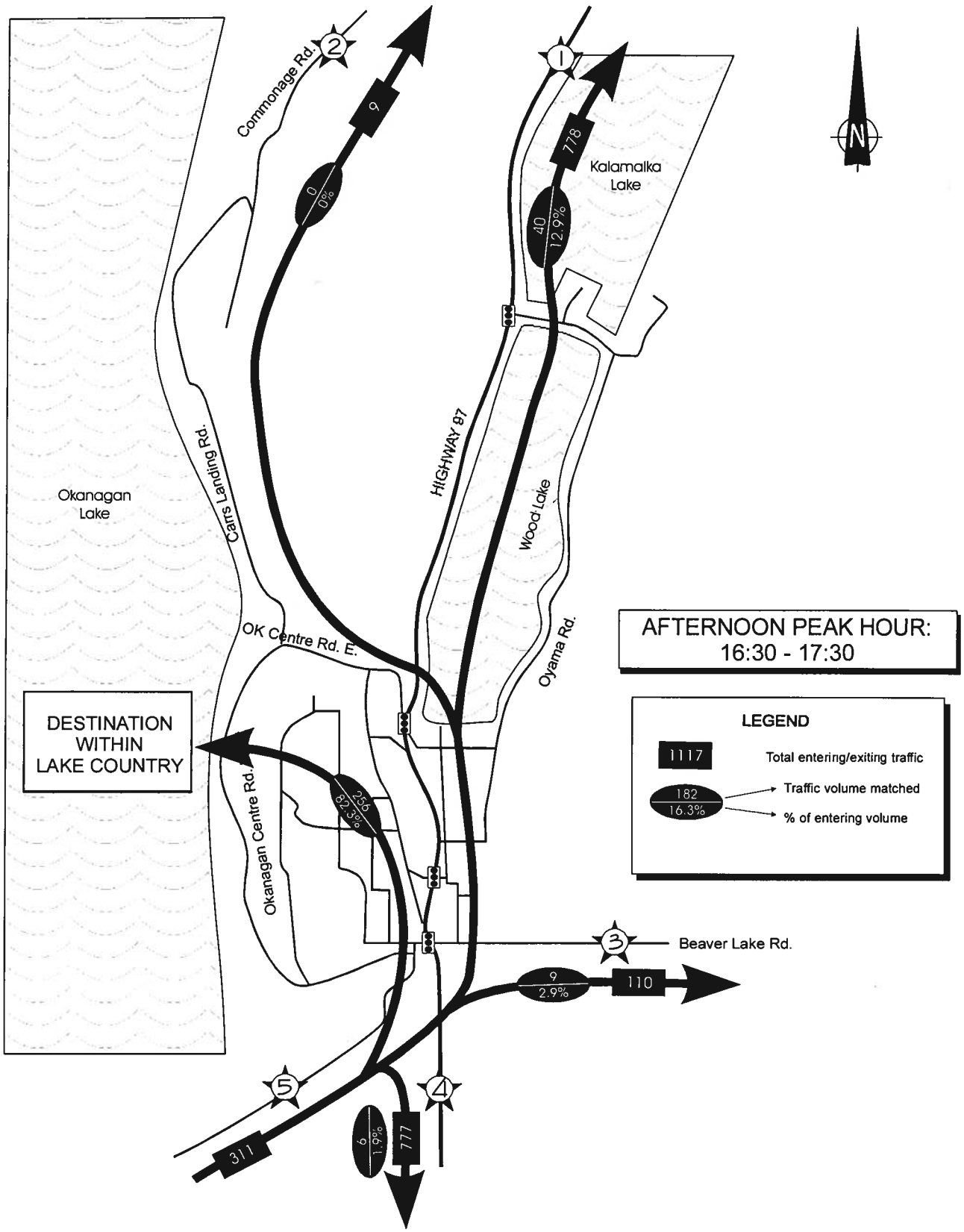


FIGURE 9
ROUTE: FROM GLENMORE ROAD AT SOUTH MUNICIPAL BORDER TOWARDS:



SECTION 3 CONCLUSION AND RECOMMENDATIONS

3.1 Conclusion

1) The majority of municipal roads surveyed carry volumes of less than 200 vehicles per direction during the peak hour. This level of traffic demand can easily be handled by one lane of traffic.

2) Highway 97 carries the majority of traffic within municipal borders.

3) The intersection of Highway 97 & Beaver Lake Road carries the highest volume of traffic within the municipality (i.e. 3,293 vehicles during the afternoon peak hour).

4) Glenmore Road is used significantly as an alternative to Highway 97 to and from Kelowna.

5) A comprehensive intersection count program at 12 unsignalized locations within the District of Lake Country determined that:

   - None of the surveyed intersections require any operational and/or geometrical improvements.

   - Pedestrian and bicycle volumes were quite low in comparison to similar intersections and locales elsewhere in B.C.

6) A review of available traffic data for three traffic signals on Highway 97 determined that both Highway 97 & Oyama Road and that of Highway 97 & Oceola Road are operating at excellent and very good levels of service respectively. However, the intersection of Highway 97 & Beaver Lake Road is currently failing with the estimated 2002 traffic volumes and that short term operational improvements may be warranted.

7) A comprehensive license plate survey conducted for the District of Lake Country has determined the following key travel patterns:

- 67.4% of the traffic entering Lake Country from the north via Highway 97 has a destination within the municipality. Only 32.6% of the observed southbound traffic on Highway 97 was traveling through Lake Country without stopping.

- 70.4% of the traffic entering Lake Country from the south via Highway 97 has a destination within the municipality. Only 29.6% of the observed northbound traffic on Highway 97 was traveling through Lake Country without stopping.

- 82.3% of the traffic entering Lake Country from the south via Glenmore Road has a destination within the municipality. Only 17.7% of the observed northbound traffic on Glenmore Road was traveling through Lake Country without stopping.

3.2 Recommendations

1) That the District of Lake Country request that the Ministry of Transportation undertake a full seven hour intersection count at the intersection of Highway 97 & Beaver Lake Road to update the 1993 historical count;
2) That the District of Lake Country request that the Ministry of Transportation undertake an intersection improvement study of the intersection of Highway 97 & Beaver Lake Road to determine if any short term improvements (e.g. optimizing the traffic signal timing plan, adding left turn phases, etc.) are warranted; and
3) That the District of Lake Country use the findings this study to assist in the updating of the Lake Country Transportation Plan. The transportation plan update should include strategies to improve the use of alternative modes of transportation to the private automobile as the current level of use is minimal.

APPENDIX A

Intersection Traffic Count Data

TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Thursday, 19 Sept 2002

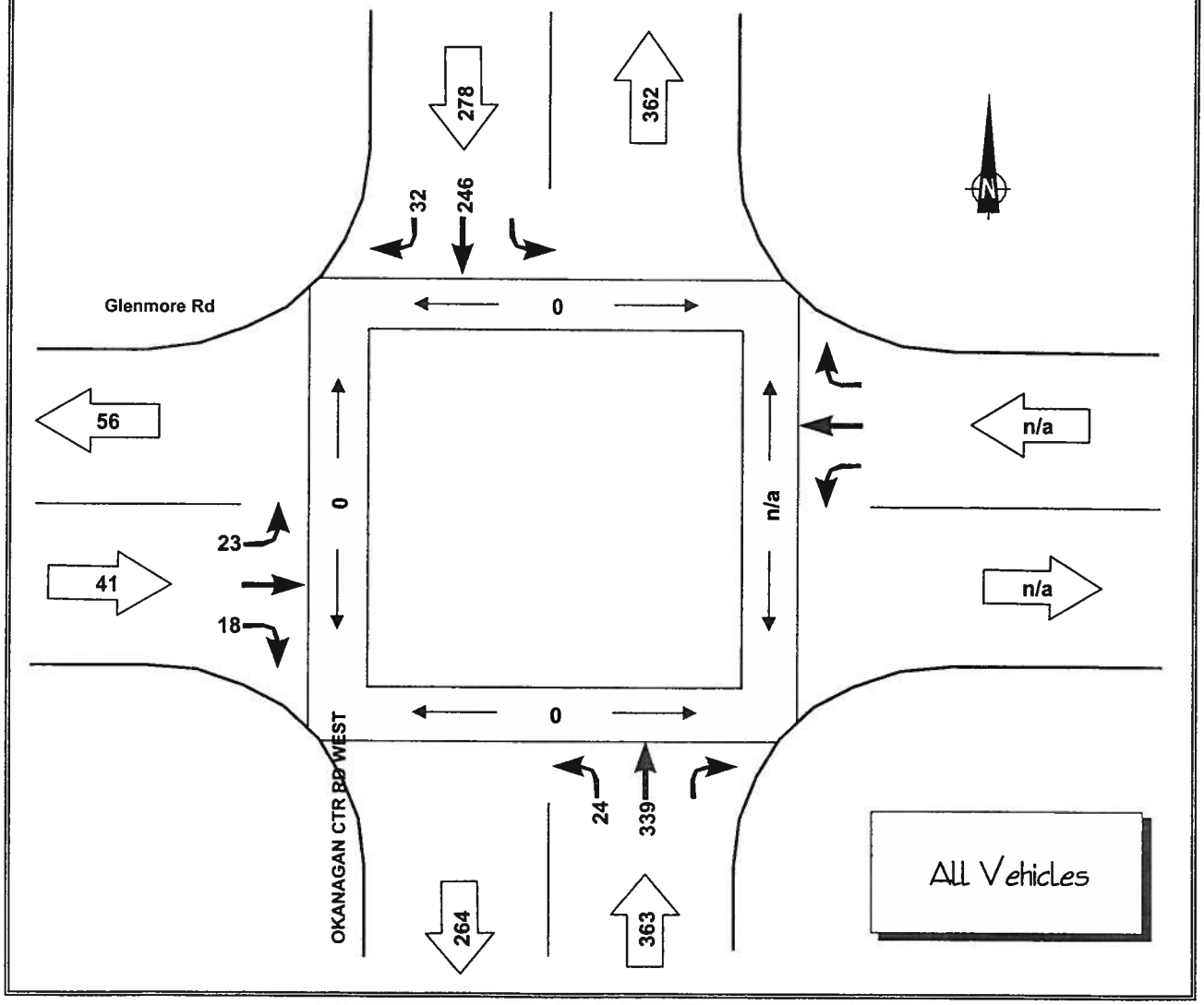
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

OKANAGAN CTR RD WEST & Glenmore Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		43	8	8	54		8		4				125	0	0	0	
15:15		55	3	2	60		4		3				127	0	0	0	
15:30		69	10	2	59		8		5				153	0	0	0	
15:45		64	11	7	64		6		8				160	0	1	0	
16:00		57	9	5	52		10		10				143	0	0	0	
16:15		56	7	11	84		11		6				175	0	0	0	
16:30		67	8	6	70		5		8				164	0	0	0	
16:45		45	9	4	92		5		4				159	0	0	0	
17:00		78	8	3	93		2		0				184	0	0	0	
17:15		54	8	8	87		3		6				166	0	0	0	
17:30		43	4	6	71		3		4				131	0	0	0	
17:45		39	5	5	50		3		3				105	0	0	0	
Total		670	90	67	836		68		61				1792	0	1	0	
Avg. Hour		223	30	22	279		23		20				597	0	0	0	
Peak Hour		*246*	*32*	*24*	*339*		*23*		*18*				*682*	*0*	*0*	*0*	
Peak 15 x 4		312	36	44	372		44		32				736	-	-	-	
PHF		0.79	0.89	0.55	0.91		0.52		0.56				0.93				

AFTERNOON PEAK HOUR VOLUMES

4:15 PM to 5:15 PM



TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Thursday, 19 Sept 2002

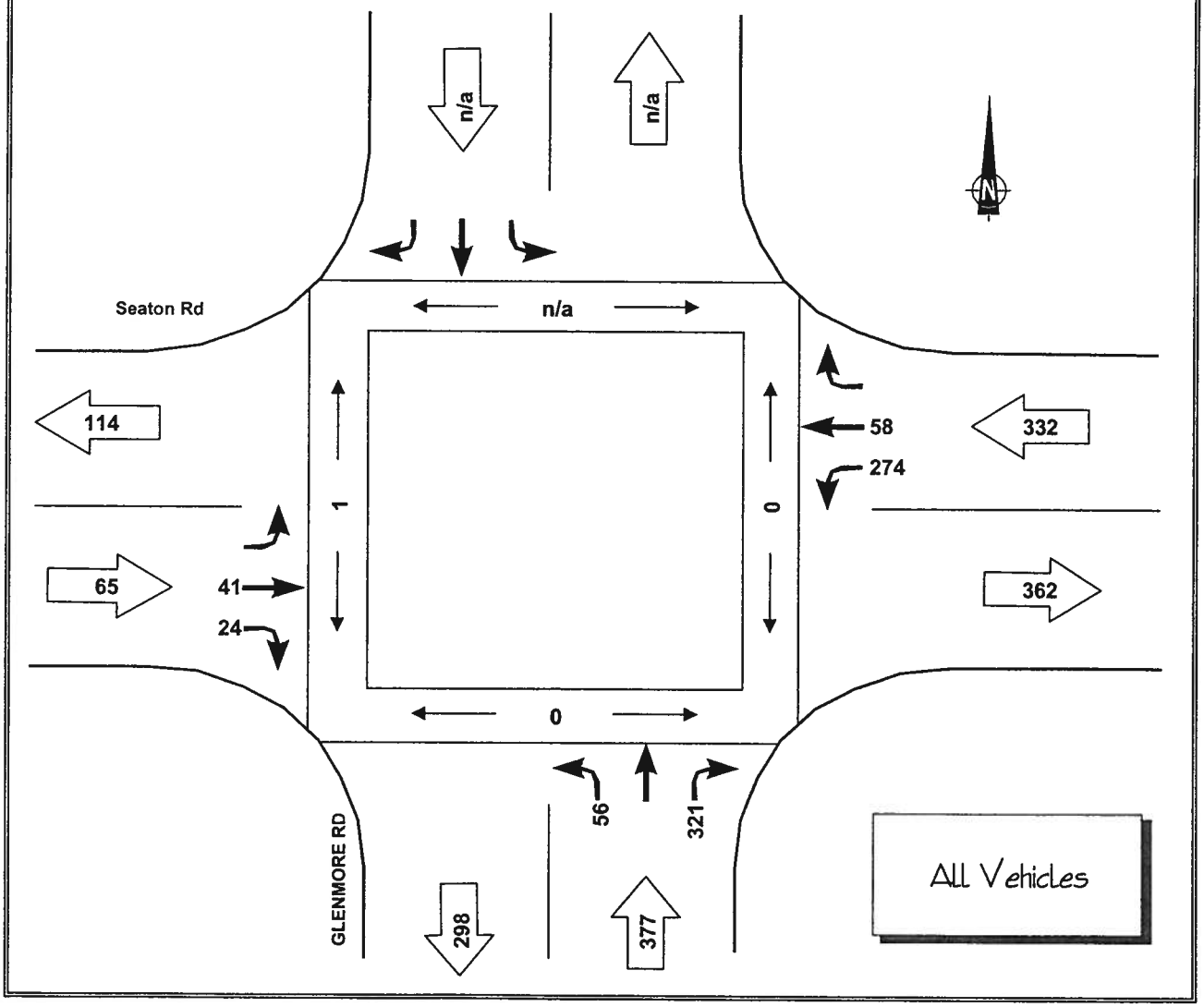
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

GLENMORE RD & Seaton Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00				3		59		7	5	53	14		141		0	0	0
15:15				12		54		9	7	53	15		150		2	0	0
15:30				10		64		9	5	78	15		181		0	0	0
15:45				10		67		8	6	66	17		174		0	0	0
16:00				14		46		13	6	65	14		158		0	0	0
16:15				19		88		12	10	57	10		196		0	0	0
16:30				7		67		8	7	69	13		171		0	0	0
16:45				19		86		10	1	66	11		193		0	0	0
17:00				11		80		11	6	82	24		214		0	1	0
17:15				19		77		9	3	66	14		188		0	0	0
17:30				7		70		5	4	46	10		142		0	0	0
17:45				8		46		7	6	43	12		122		0	1	0
Total				139		804		108	66	744	169		2030		2	2	0
Avg. Hour				46		268		36	22	248	56		677		1	1	0
Peak Hour				*56*		*321*		*41*	*24*	*274*	*58*		*774*		*0*	*1*	*0*
Peak 15 x 4				76		352		48	40	328	96		856		-	4	-
PHF				0.74		0.91		0.85	0.60	0.84	0.60		0.90				

AFTERNOON PEAK HOUR VOLUMES

4:15 PM to 5:15 PM



CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

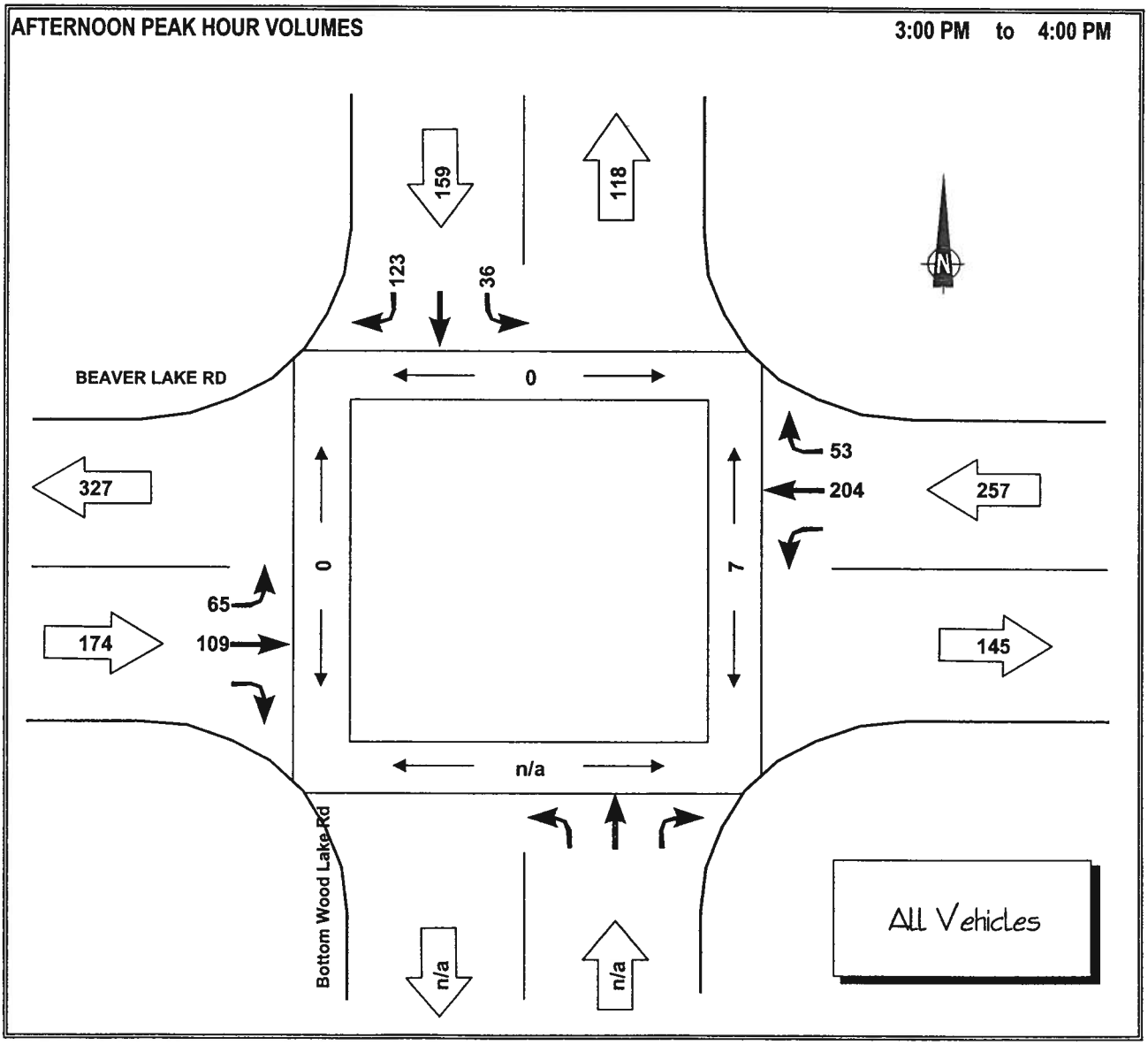
Thursday, 19 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

Bottom Wood Lake Rd & BEAVER LAKE RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	5		18				15	33			42	14	**127**	0		0	2
15:15	11		38				18	27			60	17	**171**	0		0	4
15:30	11		39				19	27			60	17	**173**	0		0	1
15:45	9		28				13	22			42	5	**119**	0		0	0
16:00	6		31				14	27			43	6	**127**	0		0	0
16:15	6		30				23	24			32	13	**128**	0		0	0
16:30	8		26				20	22			34	5	**115**	0		0	0
16:45	9		27				21	22			35	5	**119**	0		0	0
17:00	6		33				22	24			49	12	**146**	0		0	0
17:15	7		23				16	32			33	7	**118**	0		0	0
17:30	5		16				16	18			19	7	**81**	0		0	0
17:45	6		10				13	22			22	7	**80**	0		0	0
Total	89		319				210	300			471	115	**1504**	0		0	7
Avg. Hour	30		106				70	100			157	38	**501**	0		0	2
Peak Hour	*36*		*123*				*65*	*109*			*204*	*53*	***590***	*0*		*0*	*7*
Peak 15 x 4	44		156				76	132			240	68	**692**	-		-	16
PHF	0.82		0.79				0.86	0.83			0.85	0.78	**0.85**				

AFTERNOON PEAK HOUR VOLUMES **3:00 PM to 4:00 PM**



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

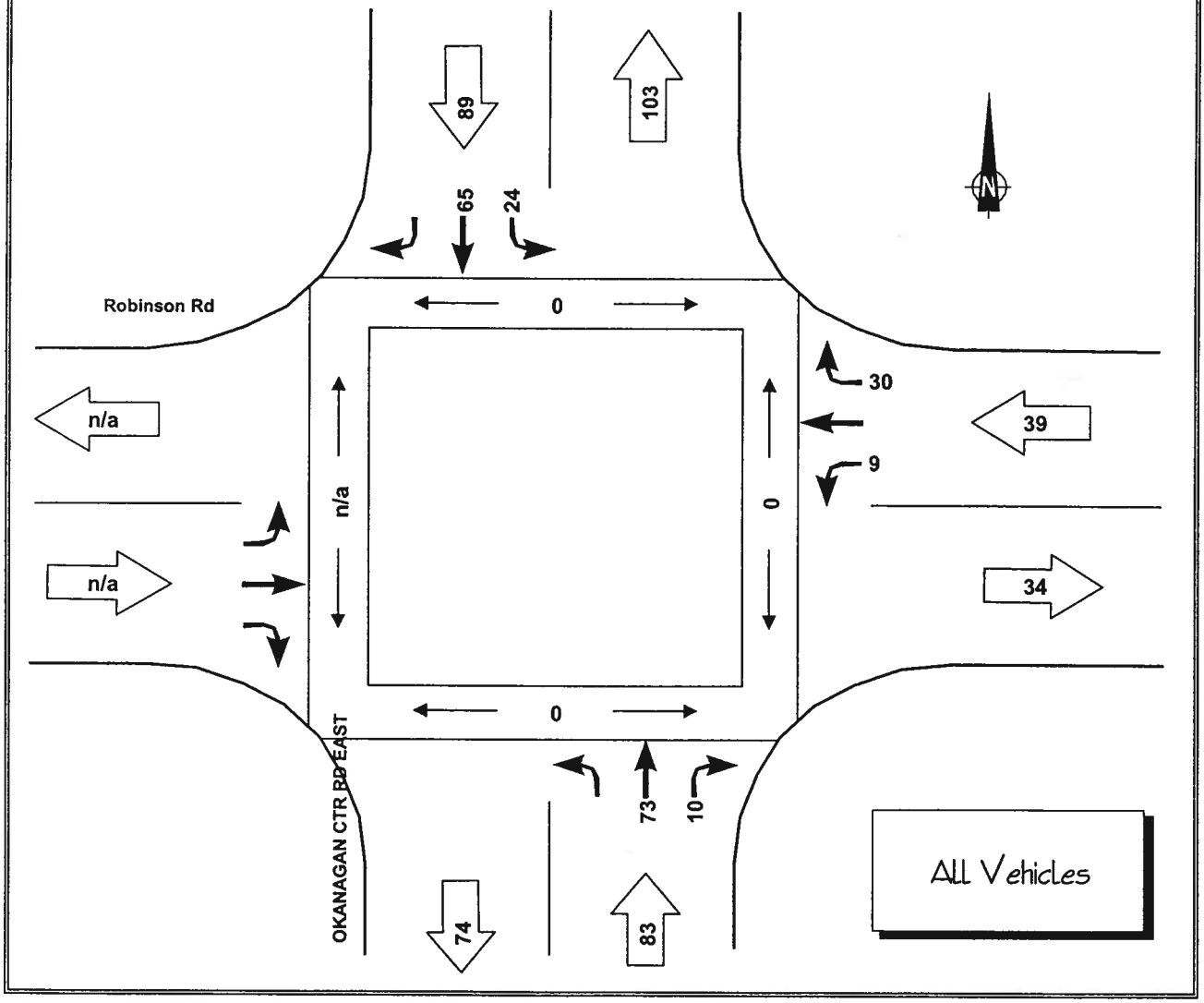
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OKANAGAN CTR RD EAST & Robinson Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	5	15			8	1				0		4	33	0	0		0
15:15	6	17			13	1				1		5	43	0	0		0
15:30	5	9			16	3				3		11	47	0	0		0
15:45	6	20			24	3				2		7	62	0	0		0
16:00	7	19			20	3				3		7	59	0	0		0
16:15	0	11			13	1				2		1	28	1	1		0
16:30	3	20			13	5				1		7	49	0	0		0
16:45	2	12			24	4				3		5	50	0	0		0
17:00	5	12			23	4				1		7	52	0	0		1
17:15	11	14			18	3				2		4	52	0	0		0
17:30	6	13			19	1				4		3	46	0	0		0
17:45	2	23			25	0				2		4	56	0	0		0
Total	58	185			216	29				24		65	577	1	1		1
Avg. Hour	19	62			72	10				8		22	192	0	0		0
Peak Hour	*24*	*65*			*73*	*10*				*9*		*30*	*211*	*0*	*0*		*0*
Peak 15 x 4	28	80			96	12				12		44	248	-	-		-
PHF	0.86	0.81			0.76	0.83				0.75		0.68	0.85				

AFTERNOON PEAK HOUR VOLUMES

3:15 PM to 4:15 PM



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

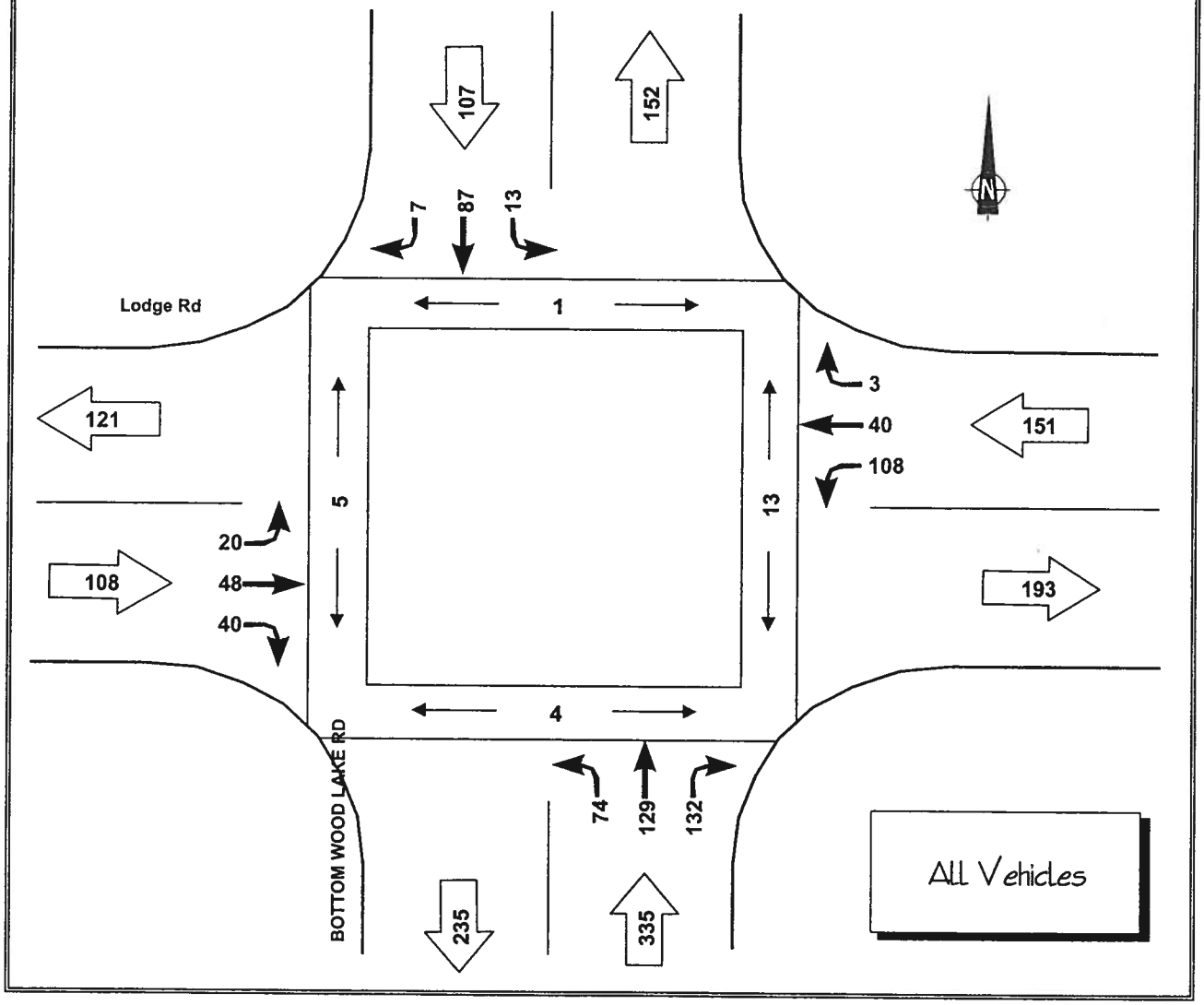
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

BOTTOM WOOD LAKE RD & Lodge Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0	31	5	5	23	31	6	11	5	28	10	1	156	0	0	0	0
15:15	3	26	1	23	37	35	7	8	15	25	10	2	192	1	0	1	6
15:30	4	20	3	29	36	35	3	14	9	26	12	0	191	0	2	2	5
15:45	4	25	1	13	28	31	2	13	11	23	8	1	160	0	0	1	2
16:00	2	16	2	9	28	31	8	13	5	34	10	0	158	0	2	1	0
16:15	1	28	7	7	36	31	4	10	6	25	11	0	166	0	2	4	1
16:30	3	30	3	8	33	37	5	18	2	21	11	0	171	0	0	0	1
16:45	2	23	2	13	31	40	7	18	3	19	17	2	177	0	0	0	1
17:00	1	20	5	7	39	32	5	13	5	26	7	2	162	0	0	0	0
17:15	2	21	1	5	35	28	6	18	3	19	6	0	144	0	0	0	0
17:30	1	24	2	9	33	42	8	18	4	13	8	0	162	0	0	3	0
17:45	6	19	3	5	29	38	5	7	4	20	17	1	154	0	1	0	0
Total	29	283	35	133	388	411	66	161	72	279	127	9	1993	1	7	12	16
Avg. Hour	10	94	12	44	129	137	22	54	24	93	42	3	664	0	2	4	5
Peak Hour	*13*	*87*	*7*	*74*	*129*	*132*	*20*	*48*	*40*	*108*	*40*	*3*	*701*	*1*	*4*	*5*	*13*
Peak 15 x 4	16	104	12	116	148	140	32	56	60	136	48	8	768	4	8	8	24
PHF	0.81	0.84	0.58	0.64	0.87	0.94	0.63	0.86	0.67	0.79	0.83	0.38	0.91				

AFTERNOON PEAK HOUR VOLUMES

3:15 PM to 4:15 PM



CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

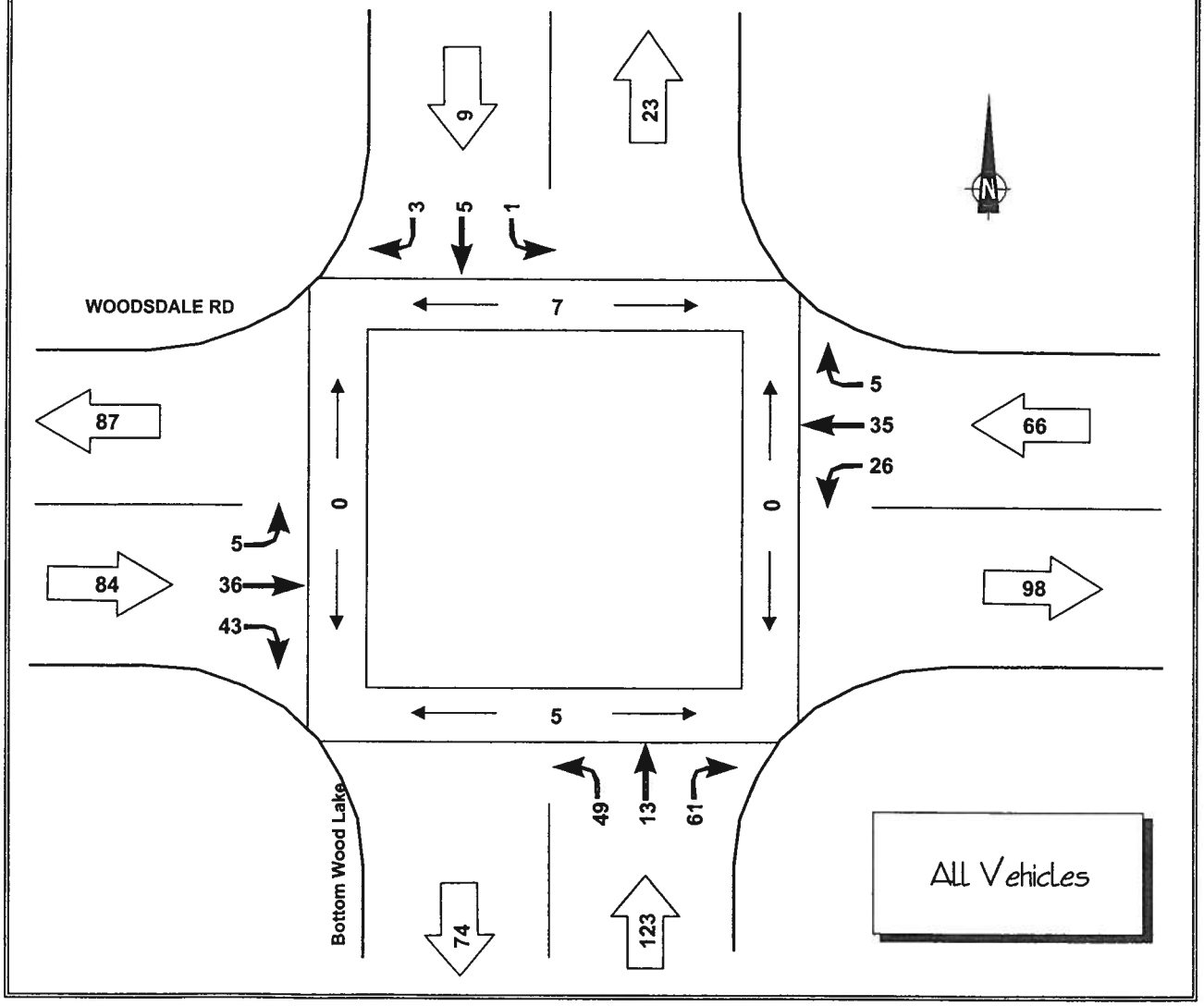
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry
Notes: East Leg was closed for local traffic only.

Bottom Wood Lake & WOODSDALE RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0	4	1	12	2	10	0	4	14	12	6	0	**65**	1	0	0	0
15:15	0	2	1	19	4	17	1	6	14	10	7	0	**81**	0	2	0	0
15:30	1	1	0	15	3	10	1	3	14	7	7	1	**63**	0	0	0	0
15:45	0	1	0	17	2	4	2	4	13	6	4	1	**54**	0	1	0	0
16:00	0	2	1	11	1	13	1	10	13	8	10	0	**70**	1	0	0	0
16:15	0	3	0	14	4	13	1	12	11	6	4	1	**69**	0	0	0	2
16:30	0	2	0	13	3	14	0	10	10	5	9	1	**67**	1	0	0	0
16:45	0	0	1	9	2	17	1	9	8	6	8	2	**63**	0	0	0	0
17:00	0	1	1	12	4	19	0	12	13	5	9	0	**76**	1	4	0	0
17:15	1	1	0	16	4	11	1	7	9	6	8	0	**64**	0	0	0	0
17:30	0	3	1	12	3	14	3	8	13	9	10	3	**79**	6	1	0	0
17:45	1	1	1	11	5	11	0	8	5	7	9	0	**59**	0	0	0	0
Total	3	21	7	161	37	153	11	93	137	87	91	9	**810**	10	8	0	2
Avg. Hour	1	7	2	54	12	51	4	31	46	29	30	3	**270**	3	3	0	1
Peak Hour	*1*	*5*	*3*	*49*	*13*	*61*	*5*	*36*	*43*	*26*	*35*	*5*	***282***	*7*	*5*	*0*	*0*
Peak 15 x 4	4	12	4	64	16	76	12	48	52	36	40	12	**316**	24	16	-	-
PHF	0.25	0.42	0.75	0.77	0.81	0.80	0.42	0.75	0.83	0.72	0.88	0.42	**0.89**				

AFTERNOON PEAK HOUR VOLUMES

4:45 PM to 5:45 PM



CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Monday, 23 Sept 2002

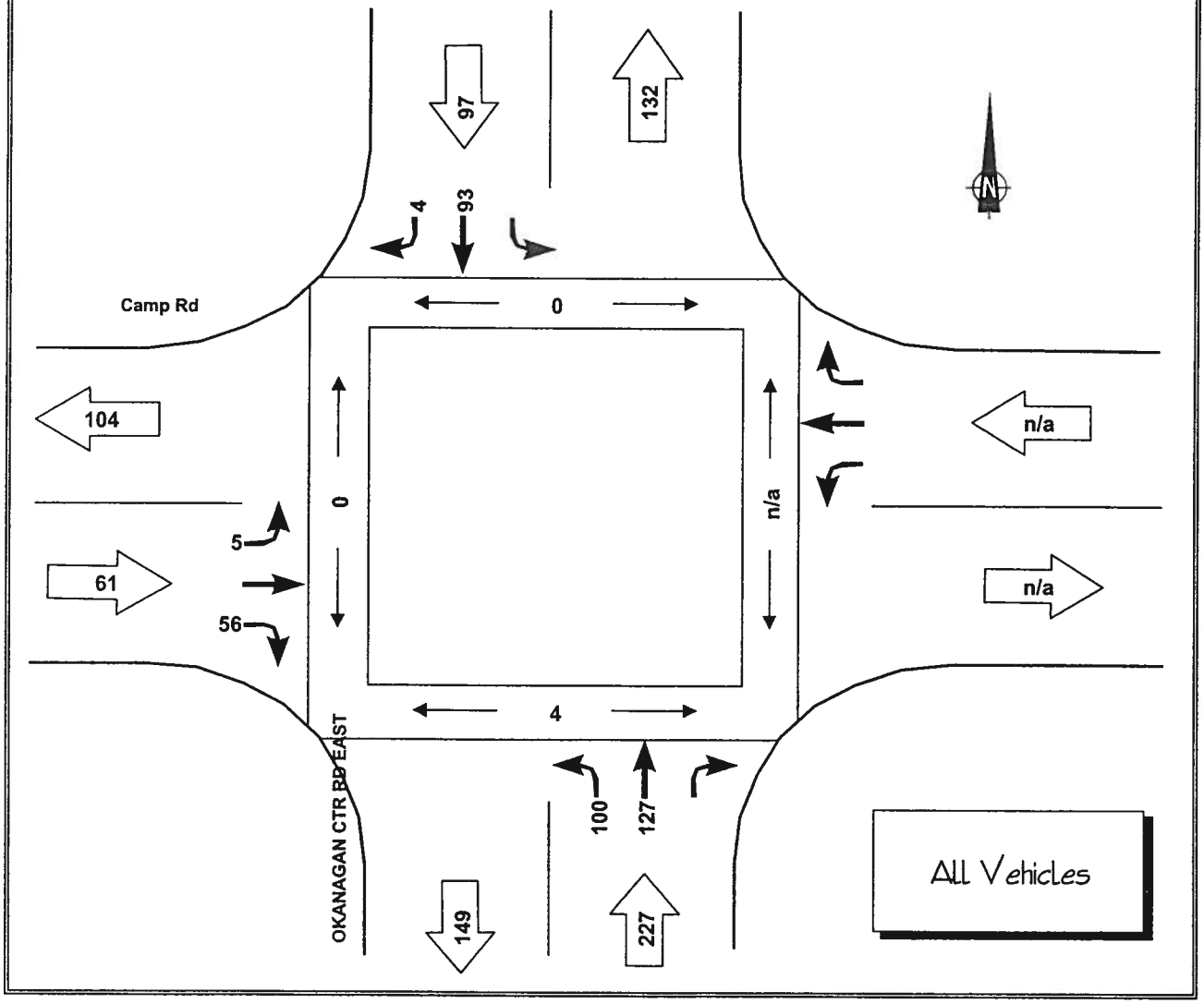
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OKANAGAN CTR RD EAST & Camp Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		19	2	11	20		3		9				64	0	1	0	
15:15		22	1	22	24		0		12				81	0	0	0	
15:30		18	3	23	29		2		18				93	2	0	0	
15:45		19	1	23	33		2		13				91	0	4	0	
16:00		22	2	26	25		2		19				96	0	0	0	
16:15		24	0	30	32		0		9				95	0	0	0	
16:30		28	1	21	37		1		15				103	0	0	0	
16:45		13	2	21	37		0		7				80	0	0	0	
17:00		16	1	17	30		2		9				75	2	0	0	
17:15		22	2	19	35		0		6				84	1	0	0	
17:30		16	2	20	28		0		10				76	0	0	0	
17:45		17	1	18	26		1		12				75	0	0	0	
Total		236	18	251	356		13		139				1013	5	5	0	
Avg. Hour		79	6	84	119		4		46				338	2	2	0	
Peak Hour		*93*	*4*	*100*	*127*		*5*		*56*				*385*	*0*	*4*	*0*	
Peak 15 x 4		112	8	120	148		8		76				412	-	16	-	
PHF		0.83	0.50	0.83	0.86		0.63		0.74				0.93				

AFTERNOON PEAK HOUR VOLUMES

3:45 PM to 4:45 PM



CTS TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

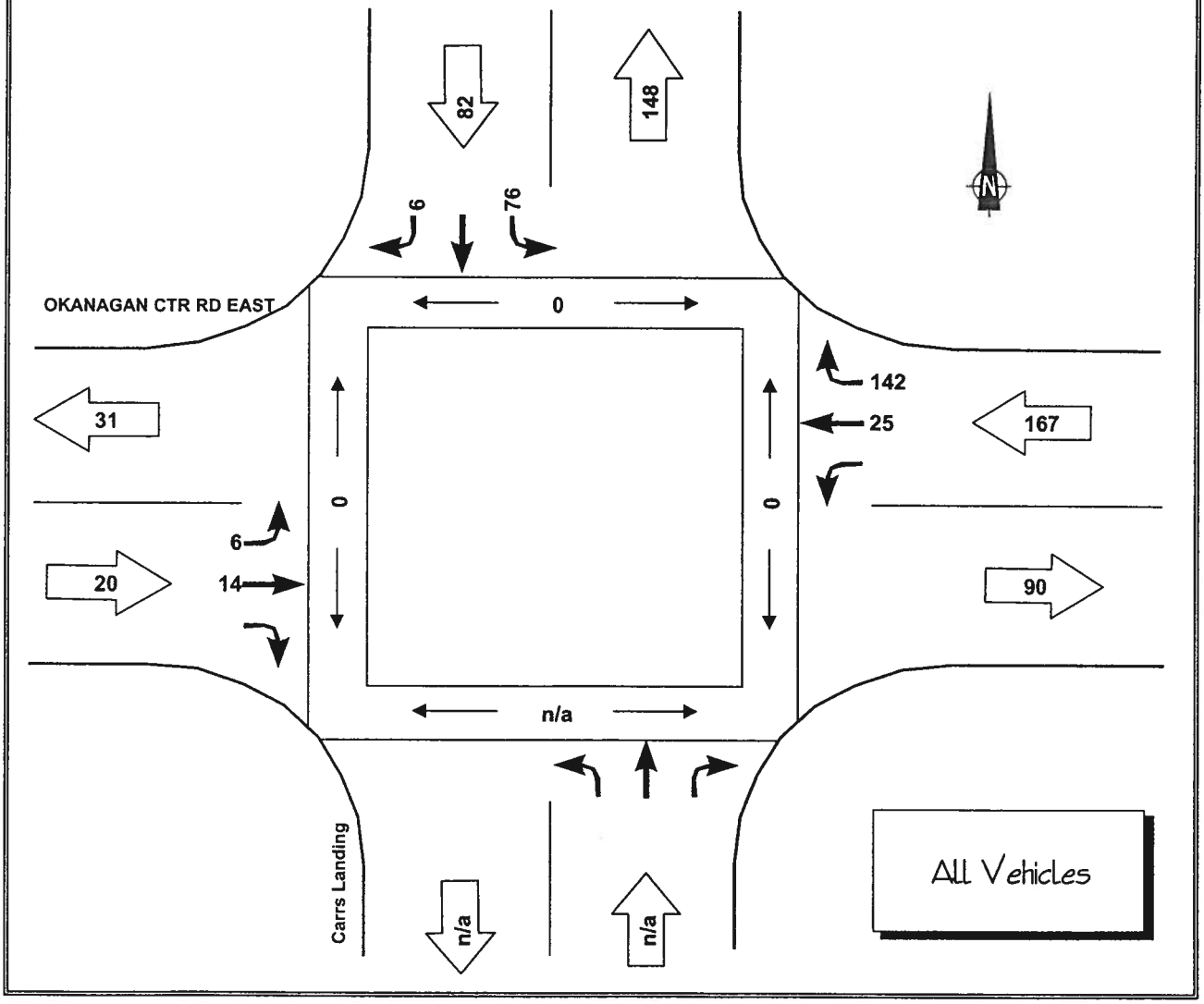
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

Carrs Landing & OKANAGAN CTR RD EAST

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	17		4				0	3			0	17	41	0		0	0
15:15	16		0				0	2			3	16	37	5		0	2
15:30	15		0				1	3			2	18	39	0		0	2
15:45	18		1				3	3			4	21	50	0		0	0
16:00	17		2				2	3			10	22	56	0		0	0
16:15	19		0				0	9			3	22	53	0		0	0
16:30	19		0				1	6			9	37	72	0		0	0
16:45	16		2				2	0			6	39	65	0		0	0
17:00	23		2				3	3			5	22	58	0		0	0
17:15	18		2				0	5			5	44	74	0		0	0
17:30	12		1				0	1			5	30	49	0		0	0
17:45	10		0				1	7			5	30	53	0		0	0
Total	200		14				13	45			57	318	647	5		0	4
Avg. Hour	67		5				4	15			19	106	216	2		0	1
Peak Hour	*76*		*6*				*6*	*14*			*25*	*142*	*269*	*0*		*0*	*0*
Peak 15 x 4	92		8				12	24			36	176	296	-		-	-
PHF	0.83		0.75				0.50	0.58			0.69	0.81	0.91				

AFTERNOON PEAK HOUR VOLUMES

4:30 PM to 5:30 PM



CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

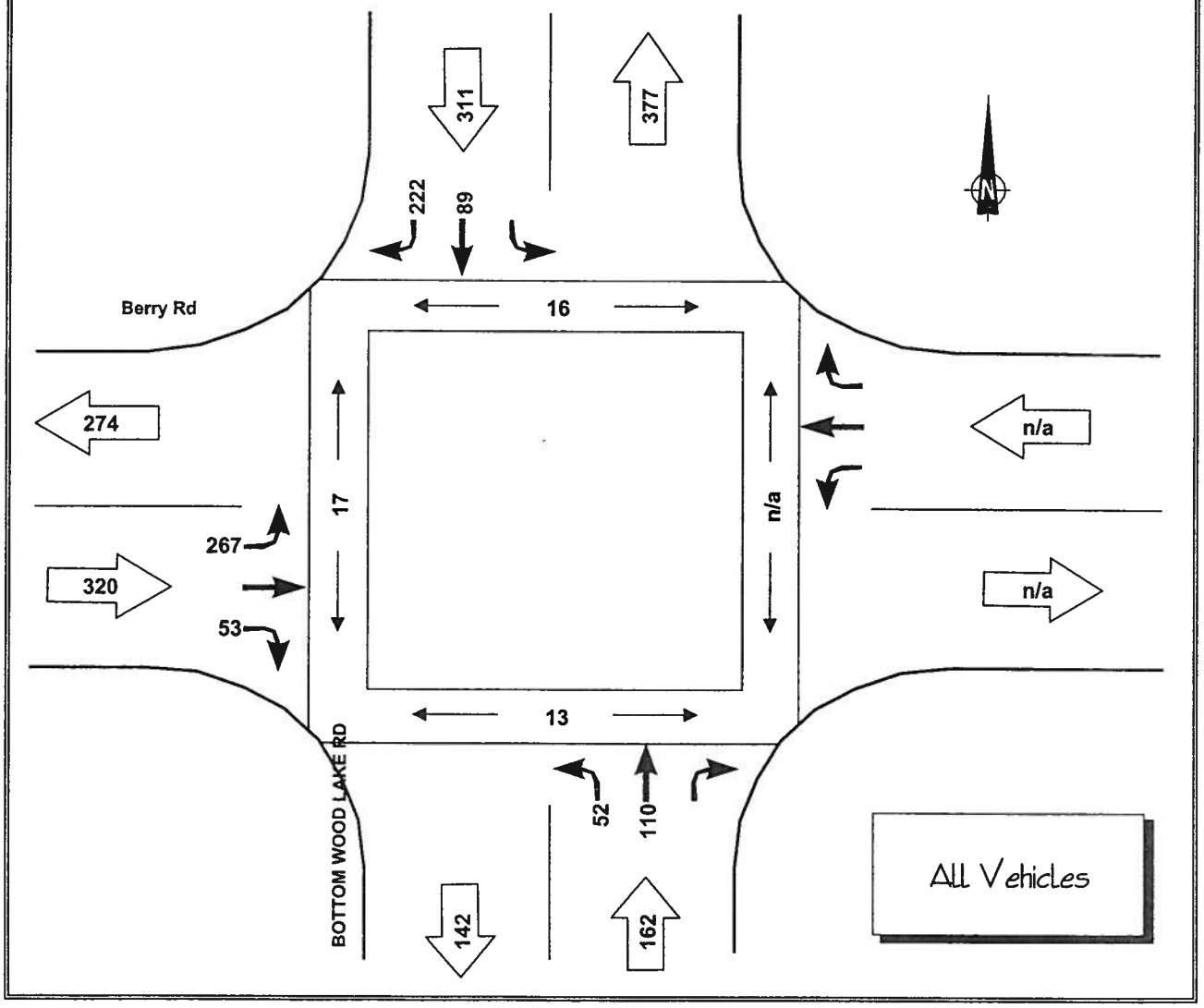
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

BOTTOM WOOD LAKE RD & Berry Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		15	26	9	16		5		11				**82**	0	0	7	
15:15		33	60	11	22		69		11				**206**	1	10	5	
15:30		23	71	19	30		66		17				**226**	7	0	3	
15:45		16	50	10	28		54		4				**162**	4	1	4	
16:00		17	41	12	30		78		21				**199**	4	2	5	
16:15		15	34	8	23		47		20				**147**	6	1	3	
16:30		14	46	13	15		54		10				**152**	2	5	3	
16:45		26	39	14	29		79		23				**210**	2	2	4	
17:00		17	37	9	29		64		12				**168**	7	2	1	
17:15		19	36	10	23		59		18				**165**	0	3	2	
17:30		13	23	12	14		50		12				**124**	0	1	4	
17:45		14	27	3	15		46		10				**115**	3	1	2	
Total		222	490	130	274		671		169				**1956**	36	28	43	
Avg. Hour		74	163	43	91		224		56				**652**	12	9	14	
Peak Hour		*89*	*222*	*52*	*110*		*267*		*53*				***793***	*16*	*13*	*17*	
Peak 15 x 4		132	284	76	120		312		84				**904**	28	40	20	
PHF		0.67	0.78	0.68	0.92		0.86		0.63				**0.88**				

AFTERNOON PEAK HOUR VOLUMES

3:15 PM to 4:15 PM



CTS TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

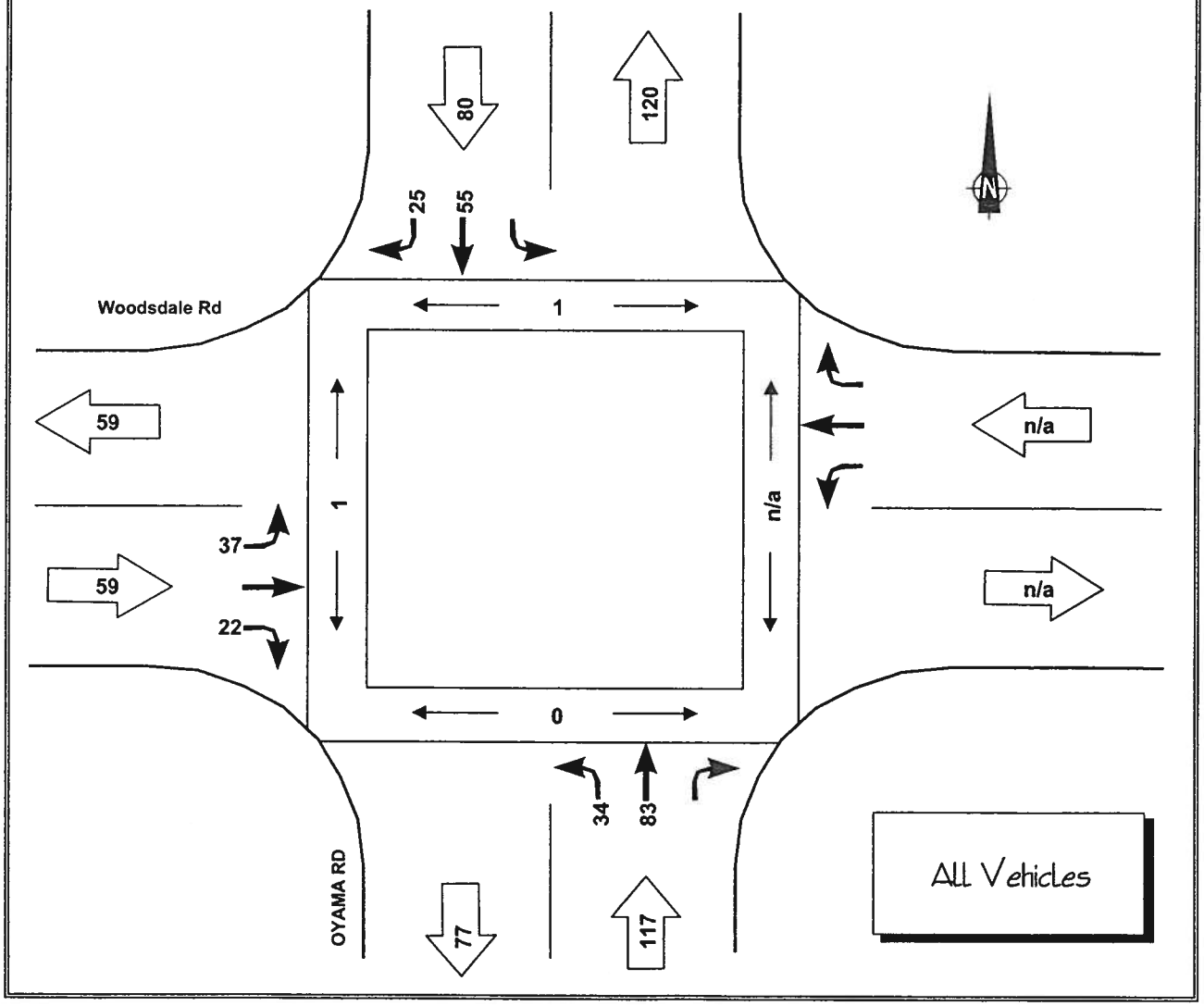
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OYAMA RD & Woodsdale Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		9	0	0	23		0		1				33	0	0	0	
15:15		12	0	0	22		0		4				38	0	1	0	
15:30		8	0	1	28		0		0				37	0	0	0	
15:45		11	0	1	27		0		2				41	0	0	0	
16:00		28	0	4	45		0		1				78	0	0	0	
16:15		16	1	0	28		0		1				46	1	0	0	
16:30		7	0	2	27		1		0				37	0	0	0	
16:45		14	2	5	21		5		11				58	0	0	0	
17:00		11	3	6	18		9		3				50	0	0	0	
17:15		19	8	14	40		14		7				102	0	0	1	
17:30		12	4	5	11		8		5				45	0	0	0	
17:45		13	10	9	14		6		7				59	1	0	0	
Total		160	28	47	304		43		42				624	2	1	1	
Avg. Hour		53	9	16	101		14		14				208	1	0	0	
Peak Hour		*55*	*25*	*34*	*83*		*37*		*22*				*256*	*1*	*0*	*1*	
Peak 15 x 4		76	40	56	160		56		28				408	4	-	4	
PHF		0.72	0.63	0.61	0.52		0.66		0.79				0.63				

AFTERNOON PEAK HOUR VOLUMES

5:00 PM to 6:00 PM



CTS TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

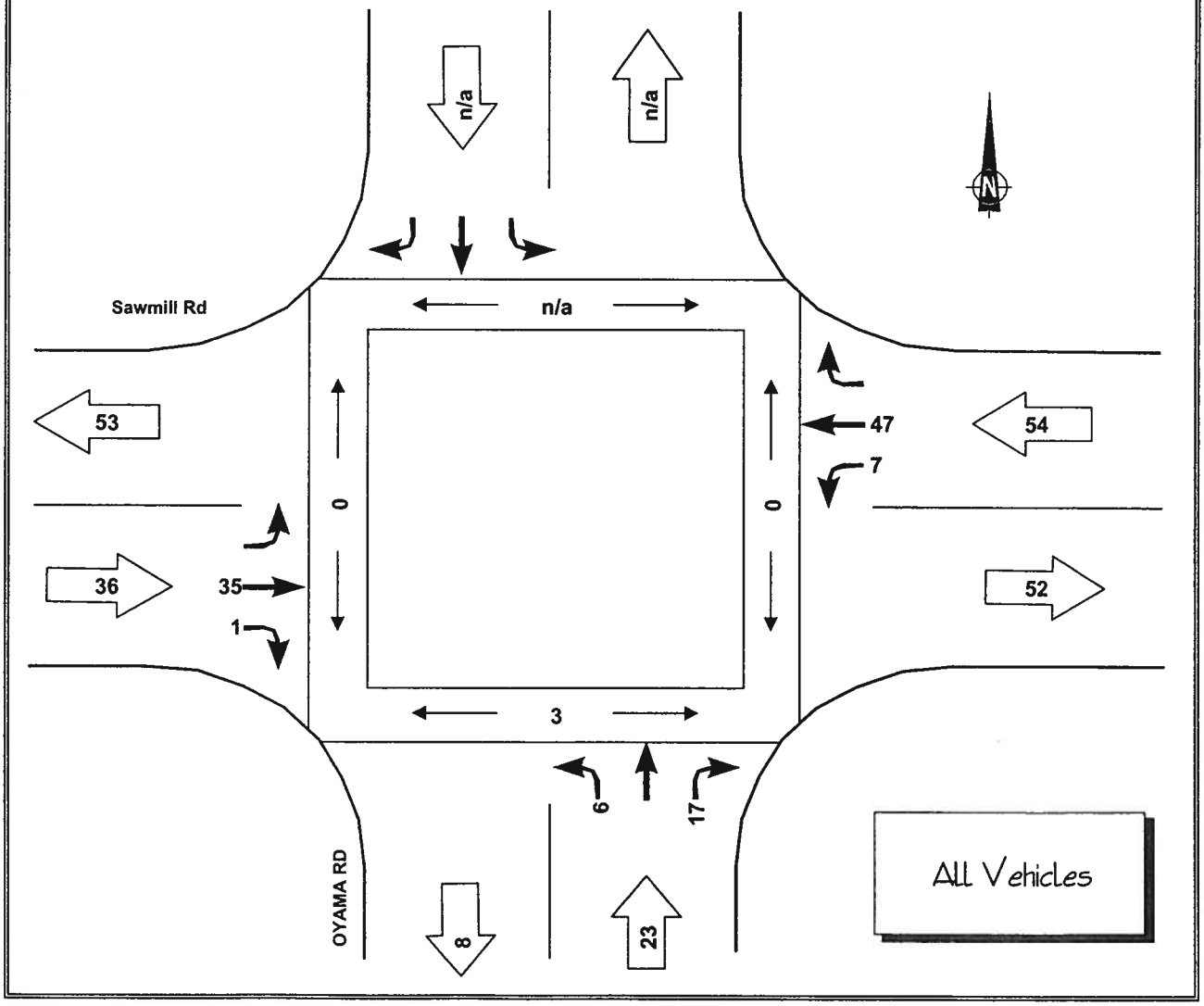
Thursday, 26 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OYAMA RD & Sawmill Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00				4		1		7	0	1	12		25		0	0	0
15:15				3		2		6	0	1	14		26		0	0	0
15:30				2		4		14	1	1	10		32		3	0	0
15:45				0		0		9	0	3	11		23		0	0	0
16:00				1		11		6	0	2	12		32		0	0	0
16:15				0		1		7	0	2	8		18		0	0	0
16:30				0		1		13	0	2	10		26		0	0	0
16:45				0		3		14	0	1	16		34		0	0	0
17:00				1		0		9	1	0	15		26		2	0	0
17:15				0		2		10	2	0	9		23		1	0	0
17:30				0		0		11	1	1	12		25		1	0	0
17:45				0		1		12	2	1	13		29		0	0	0
Total				11		26		118	7	15	142		319		7	0	0
Avg. Hour				4		9		39	2	5	47		106		2	0	0
Peak Hour				*6*		*17*		*35*	*1*	*7*	*47*		*113*		*3*	*0*	*0*
Peak 15 x 4				12		44		56	4	12	56		128		12	-	-
PHF				0.50		0.39		0.63	0.25	0.58	0.84		0.88				

AFTERNOON PEAK HOUR VOLUMES **3:15 PM to 4:15 PM**



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

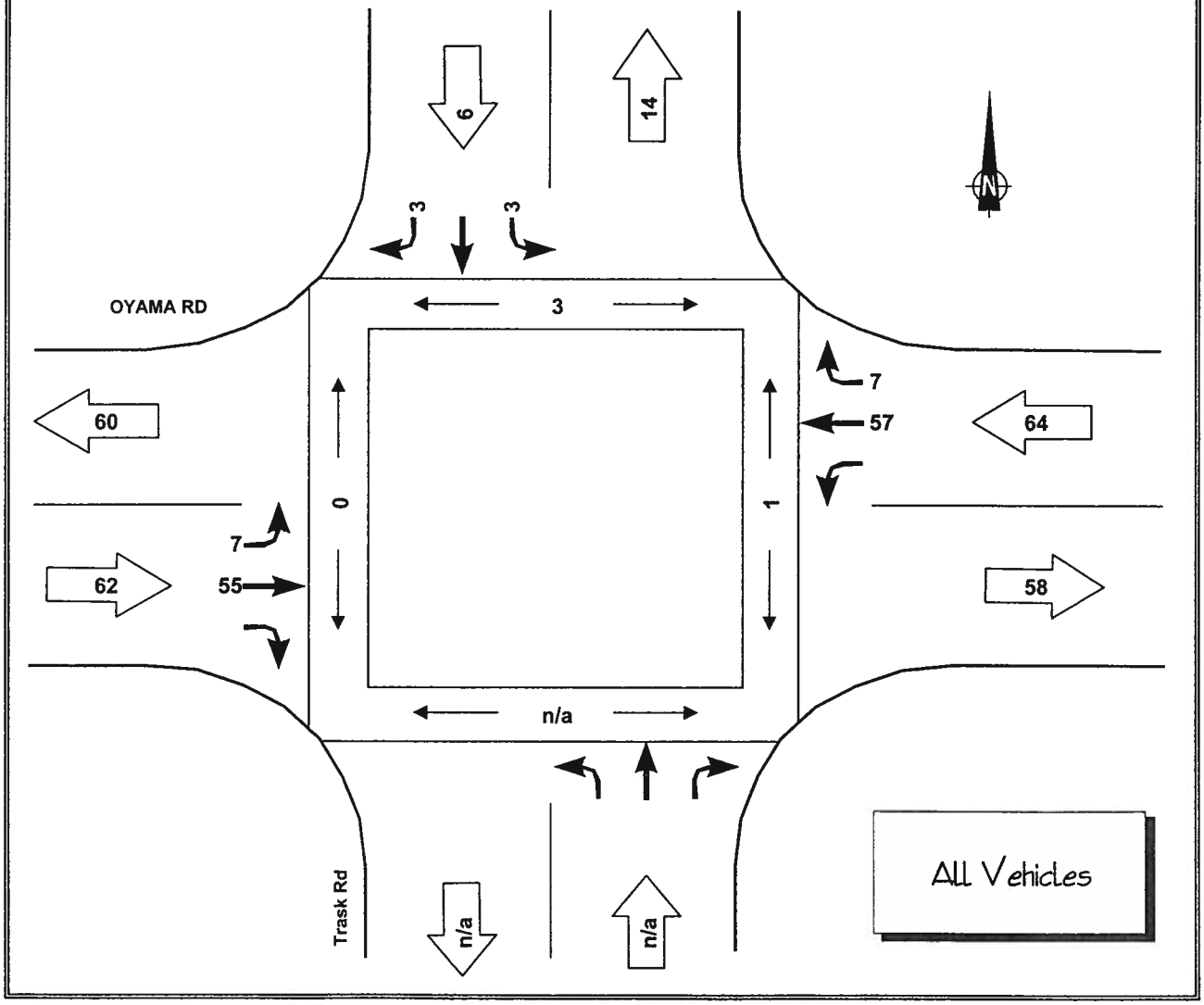
Thursday, 26 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

Trask Rd & OYAMA RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0		2				3	12			15	0	**32**	3		0	0
15:15	1		3				2	14			15	2	**37**	2		0	0
15:30	1		1				2	11			13	0	**28**	0		0	0
15:45	0		2				2	13			16	1	**34**	1		0	0
16:00	0		1				1	13			12	2	**29**	0		0	0
16:15	1		2				2	12			14	1	**32**	0		0	1
16:30	0		1				1	14			17	2	**35**	0		0	0
16:45	0		0				3	16			15	1	**35**	3		0	0
17:00	2		0				1	13			11	3	**30**	0		0	0
17:15	1		0				1	14			11	2	**29**	1		0	0
17:30	2		1				1	16			13	1	**34**	0		0	0
17:45	2		1				3	14			12	2	**34**	1		0	0
Total	10		14				22	162			164	17	**389**	11		0	1
Avg. Hour	3		5				7	54			55	6	**130**	4		0	0
Peak Hour	*3*		*3*				*7*	*55*			*57*	*7*	***132***	*3*		*0*	*1*
Peak 15 x 4	8		8				12	64			68	12	**140**	12		-	4
PHF	0.38		0.38				0.58	0.86			0.84	0.58	**0.94**				

AFTERNOON PEAK HOUR VOLUMES **4:15 PM to 5:15 PM**



APPENDIX B

Bicycle Count Data

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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Thursday, 19 Sept 2002

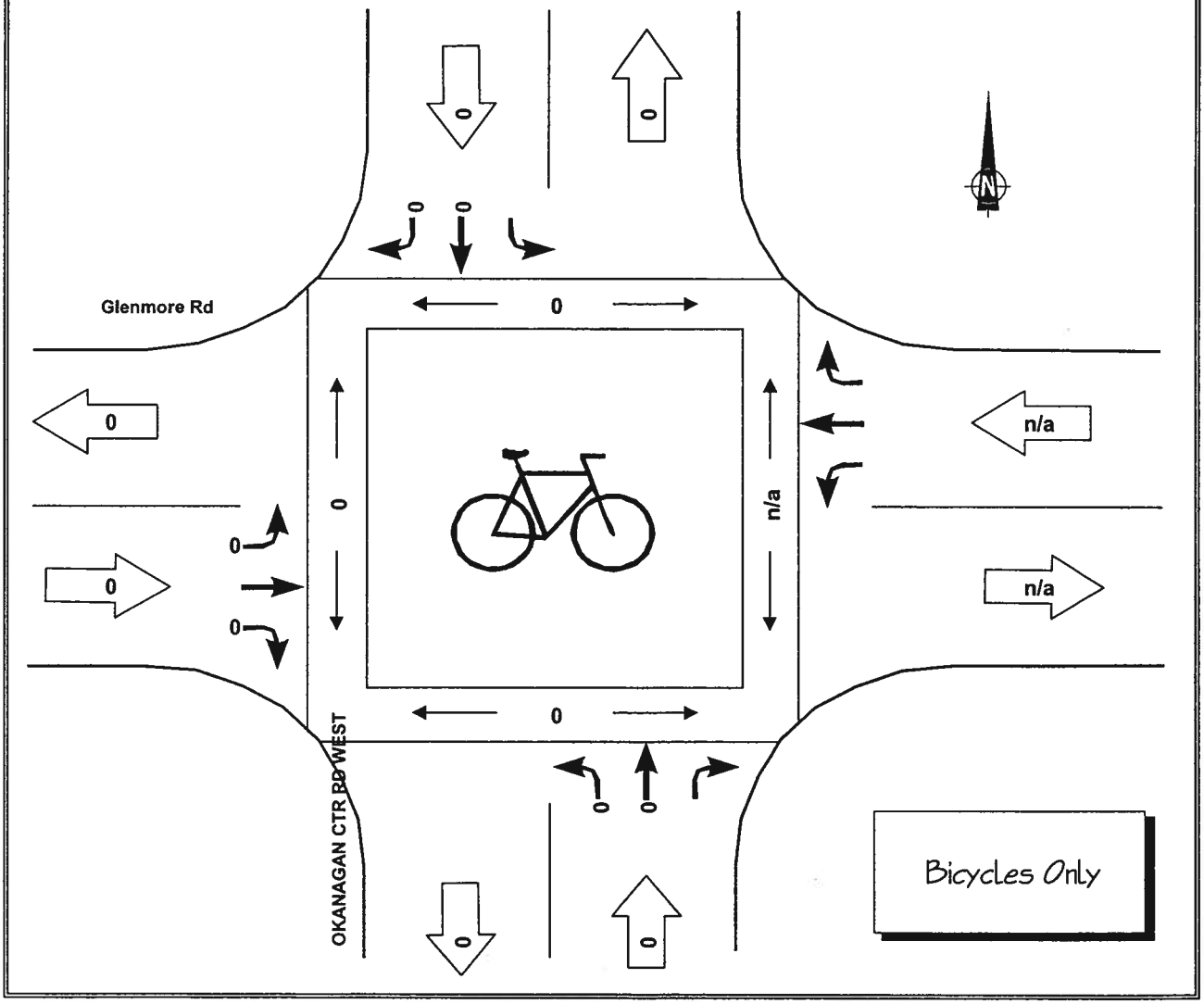
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

OKANAGAN CTR RD WEST & Glenmore Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		0	0	0	0		0		0				**0**	0	0	0	
15:15		0	0	0	0		0		0				**0**	0	0	0	
15:30		0	0	0	0		0		0				**0**	0	0	0	
15:45		0	0	0	0		0		0				**0**	0	0	0	
16:00		0	0	0	0		0		0				**0**	0	0	0	
16:15		0	0	0	0		0		0				**0**	0	0	0	
16:30		0	0	0	0		0		0				**0**	0	0	0	
16:45		0	0	0	0		0		0				**0**	0	0	0	
17:00		0	0	0	0		0		0				**0**	0	0	0	
17:15		0	0	0	0		0		0				**0**	0	0	0	
17:30		0	0	0	0		0		0				**0**	0	0	0	
17:45		0	0	0	0		0		0				**0**	0	0	0	
Total		0	0	0	0		0		0				**0**	0	0	0	
Avg. Hour		0	0	0	0		0		0				**0**	0	0	0	
Peak Hour		*0*	*0*	*0*	*0*		*0*		*0*				***0***	*0*	*0*	*0*	
Peak 15 x 4		-	-	-	-		-		-				-	-	-	-	
PHF		0.00	0.00	0.00	0.00		0.00		0.00				**0.00**				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Thursday, 19 Sept 2002

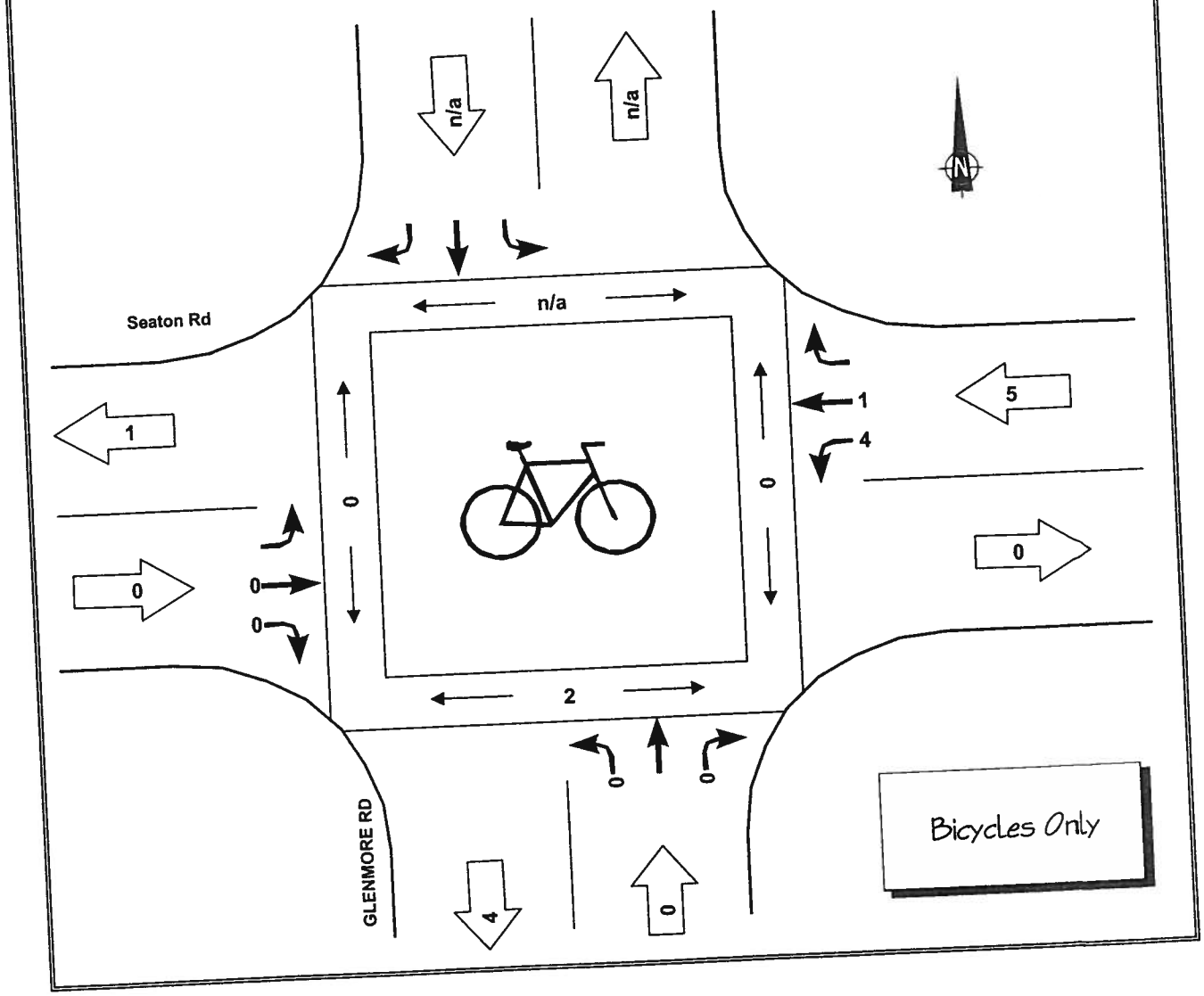
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

GLENMORE RD & Seaton Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00				0		0		0	0	2	0		2		0	0	0
15:15				0		0		0	0	0	0		0		2	0	0
15:30				0		0		0	0	2	1		3		0	0	0
15:45				0		0		0	0	0	0		0		0	0	0
16:00				0		0		0	0	0	0		0		0	0	0
16:15				0		0		0	0	0	0		0		0	0	0
16:30				0		0		0	0	0	0		0		0	0	0
16:45				0		0		0	0	0	0		0		0	1	0
17:00				0		0		0	0	0	0		0		0	0	0
17:15				0		0		0	0	0	0		0		0	0	0
17:30				0		0		0	0	0	0		0		0	1	0
17:45				0		0		0	0	4	1		5		2	2	0
Total				0		0		0	0	1	0		2		1	1	0
Avg. Hour				0		0		0	0	4	1		5		2	0	0
Peak Hour				*0*		*0*		*0*	*0*	8	4		12		8	-	-
Peak 15 x 4				-		-		-	-	0.50	0.25		0.42				
PHF				0.00		0.00		0.00	0.00								

3:00 PM to 4:00 PM

AFTERNOON PEAK HOUR VOLUMES



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Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Thursday, 19 Sept 2002

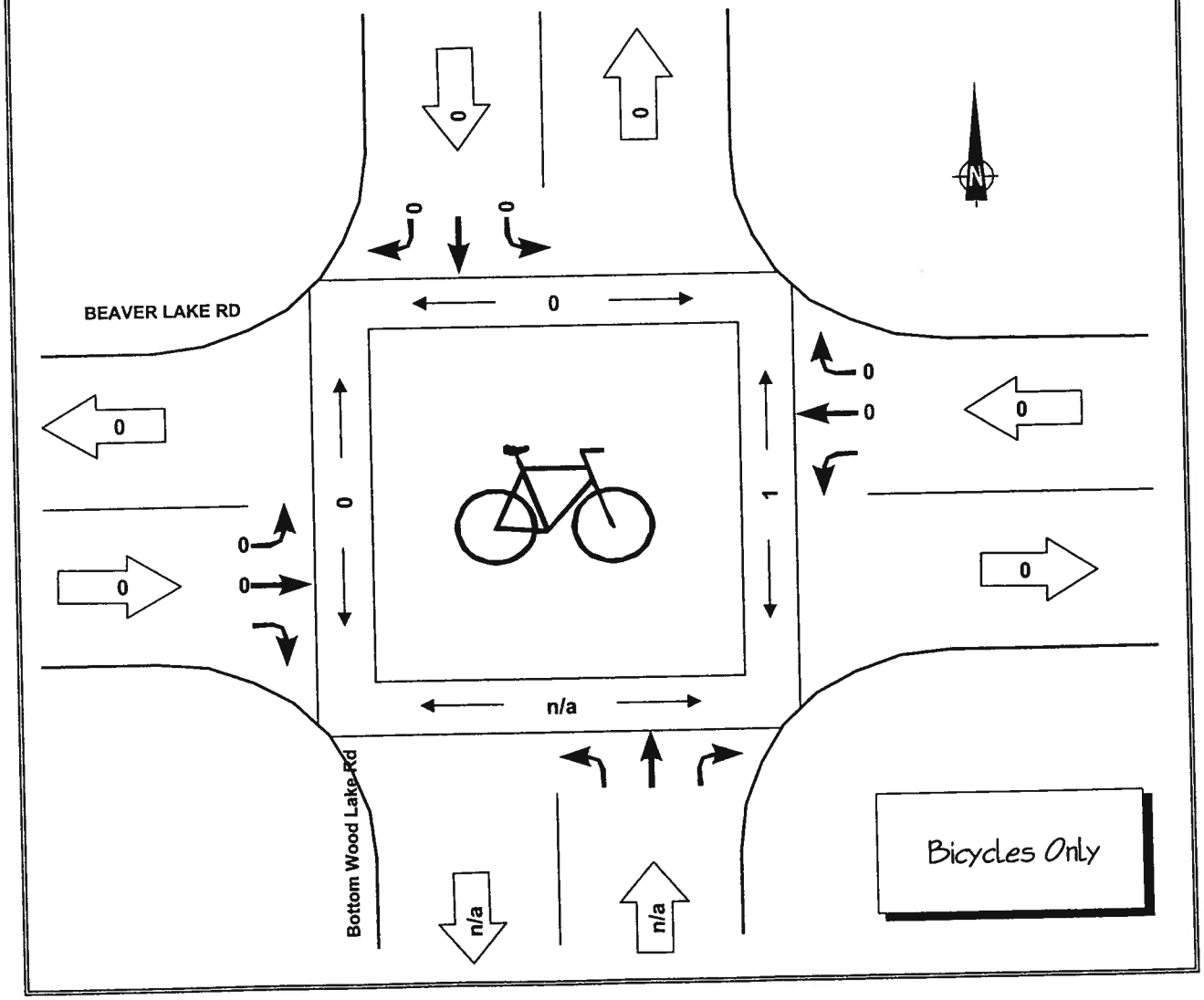
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Cloudy, Daylight, Dry

Bottom Wood Lake Rd & BEAVER LAKE RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0		0				0	0			0	0	0	0		0	1
15:15	0		0				0	0			0	0	0	0		0	0
15:30	0		0				0	0			0	0	0	0		0	0
15:45	0		0				0	0			0	0	0	0		0	0
16:00	0		0				0	0			0	0	0	0		0	0
16:15	0		0				0	0			0	0	0	0		0	0
16:30	0		0				0	0			0	0	0	0		0	0
16:45	0		0				0	0			0	0	0	0		0	0
17:00	0		0				0	0			0	0	0	0		0	0
17:15	0		0				0	0			0	0	0	0		0	0
17:30	0		0				0	0			0	0	0	0		0	0
17:45	0		0				0	0			0	0	0	0		0	0
Total	0		0				0	0			0	0	0	0		0	1
Avg. Hour	0		0				0	0			0	0	0	0		0	0
Peak Hour	*0*		*0*				*0*	*0*			*0*	*0*	*0*	*0*		*0*	*1*
Peak 15 x 4	-		-				-	-			-	-	-	-		-	4
PHF	0.00		0.00				0.00	0.00			0.00	0.00	0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

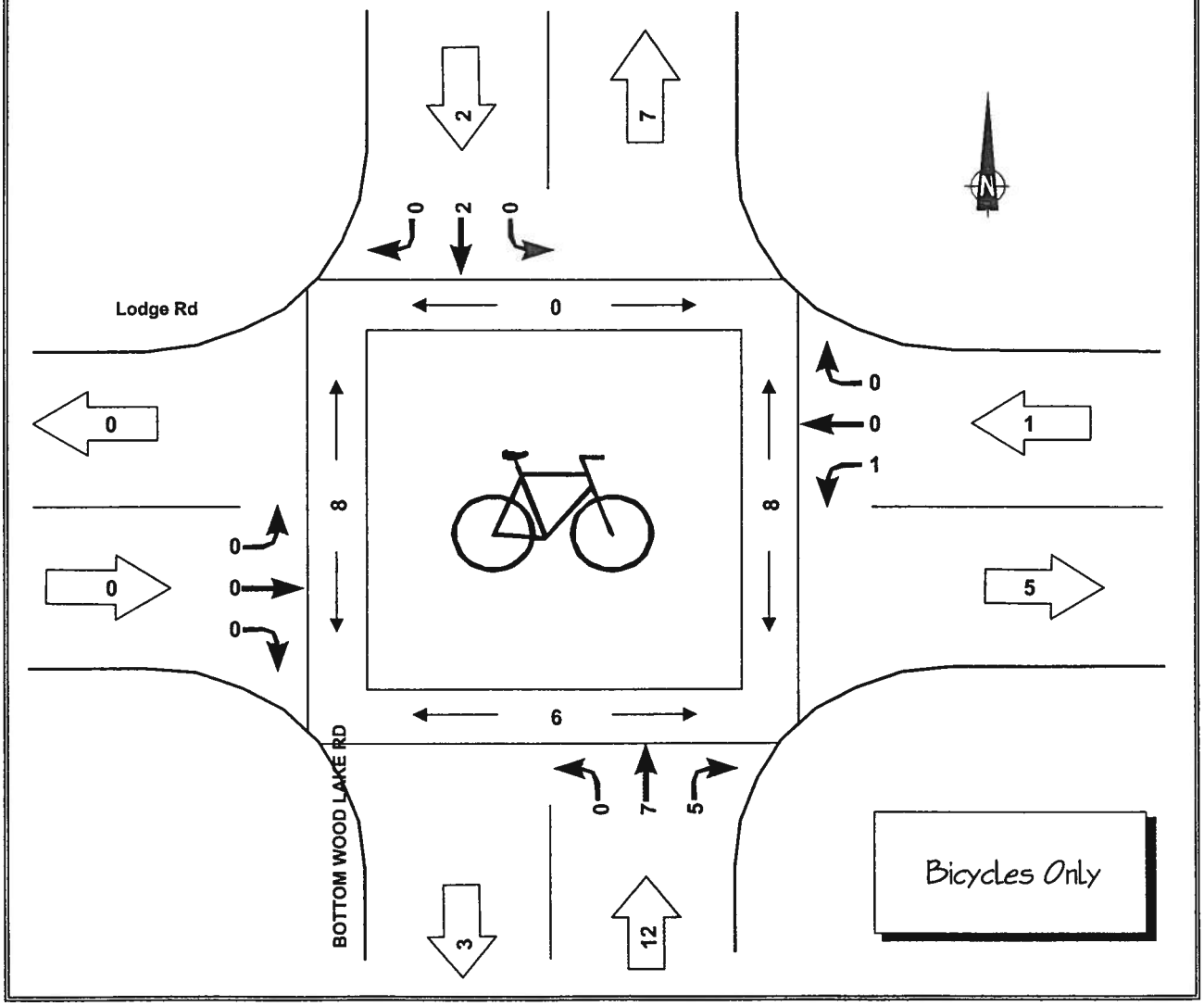
Friday, 20 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

BOTTOM WOOD LAKE RD & Lodge Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
15:15	0	0	0	0	3	0	0	0	0	0	0	0	**3**	1	0	1	6
15:30	0	0	0	0	3	3	0	0	0	0	0	0	**6**	0	2	2	5
15:45	0	1	0	0	0	1	0	0	0	0	0	0	**2**	0	0	1	2
16:00	0	0	0	0	1	0	0	0	0	1	0	0	**2**	0	2	1	0
16:15	0	1	0	0	3	1	0	0	0	0	0	0	**5**	0	2	4	1
16:30	0	2	0	0	1	0	0	0	0	0	0	0	**3**	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	1	**1**	0	0	0	1
17:00	0	0	0	0	2	0	0	0	0	0	0	0	**2**	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
17:30	0	4	0	0	1	0	0	0	0	0	0	0	**5**	0	0	3	0
17:45	1	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	0	0
Total	1	8	0	0	14	5	0	0	0	1	0	1	**30**	1	7	12	16
Avg. Hour	0	3	0	0	5	2	0	0	0	0	0	0	**10**	0	2	4	5
Peak Hour	*0*	*2*	*0*	*0*	*7*	*5*	*0*	*0*	*0*	*1*	*0*	*0*	***15***	*0*	*6*	*8*	*8*
Peak 15 x 4	-	4	-	-	12	12	-	-	-	4	-	-	**24**	-	8	16	20
PHF	0.00	0.50	0.00	0.00	0.58	0.42	0.00	0.00	0.00	0.25	0.00	0.00	**0.63**				

AFTERNOON PEAK HOUR VOLUMES **3:30 PM to 4:30 PM**



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

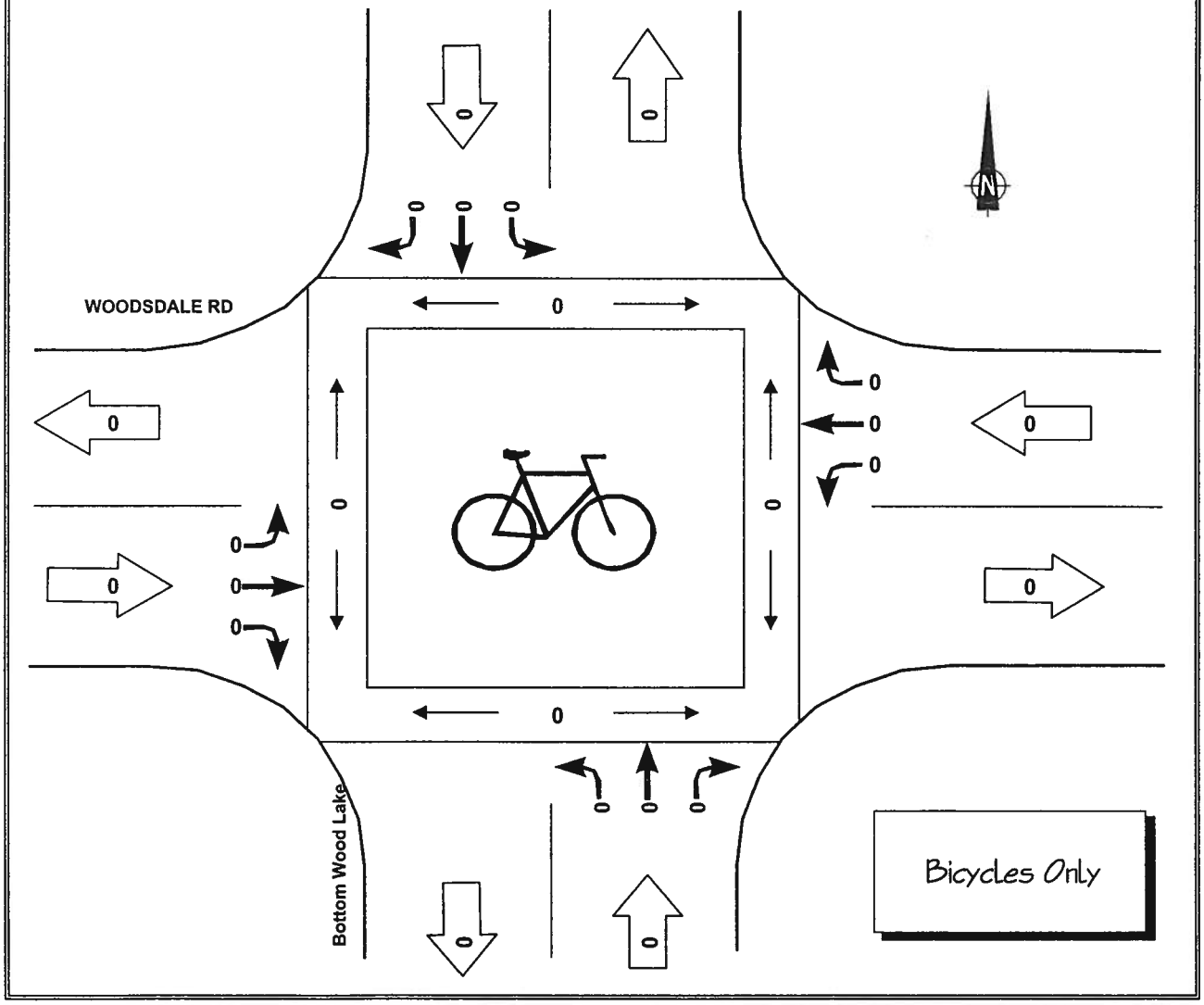
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry
Notes: East Leg was closed for local traffic only.

Bottom Wood Lake & WOODSDALE RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0	0	0	0	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**	0	0	0	0
15:30	0	0	0	0	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**	0	0	0	0
16:00	0	0	0	0	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**	0	0	0	0
16:30	0	0	0	0	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**	0	0	0	0
17:00	0	0	0	0	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**	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
Avg. Hour	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
Peak Hour	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	***0***	*0*	*0*	*0*	*0*
Peak 15 x 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

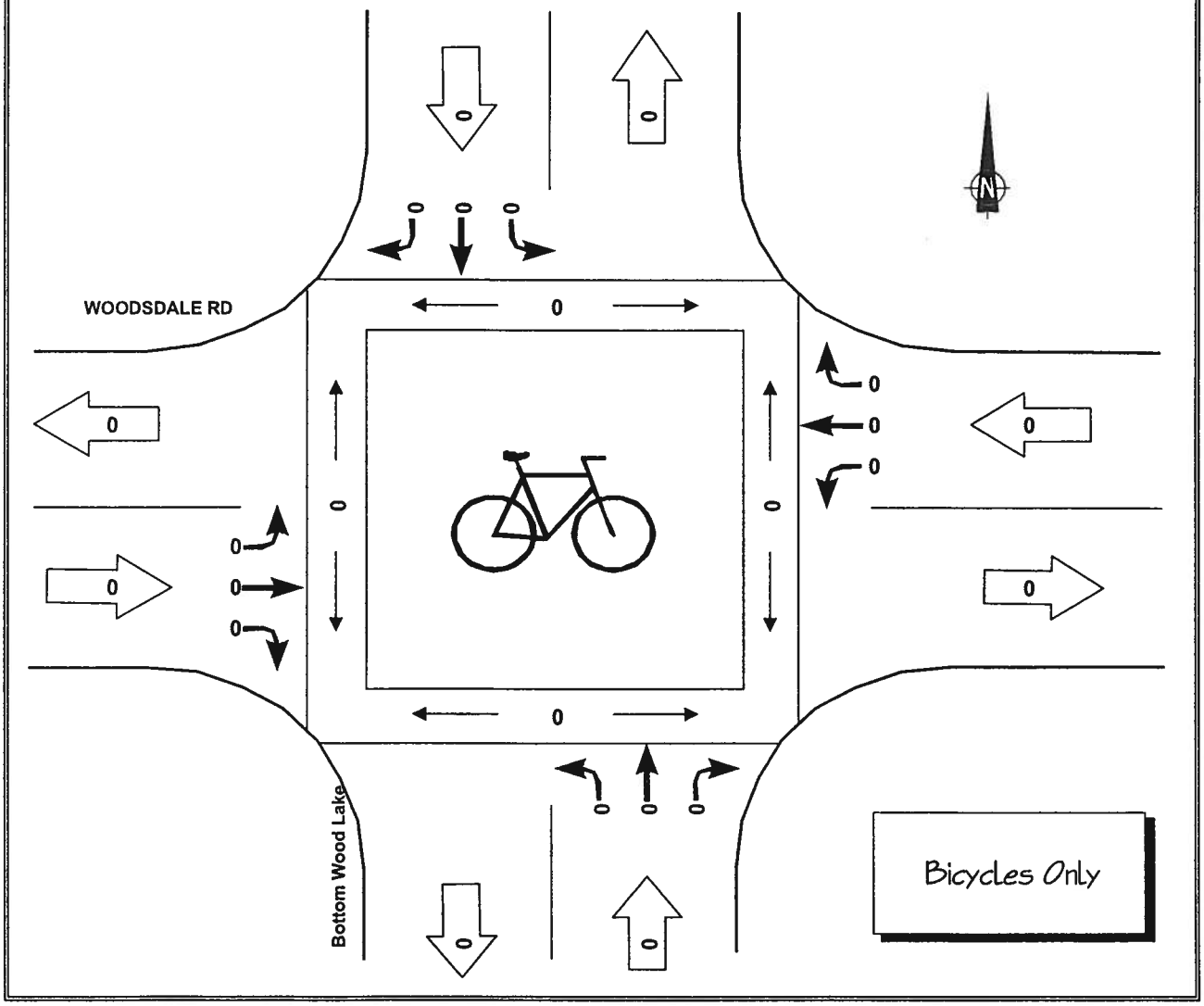
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry
Notes: East Leg was closed for local traffic only.

Bottom Wood Lake & WOODSDALE RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0	0	0	0	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	0	0	0	0
15:30	0	0	0	0	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	0	0	0	0
16:00	0	0	0	0	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	0	0	0	0
16:30	0	0	0	0	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	0	0	0	0
17:00	0	0	0	0	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	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Avg. Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Peak 15 x 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

Monday, 23 Sept 2002

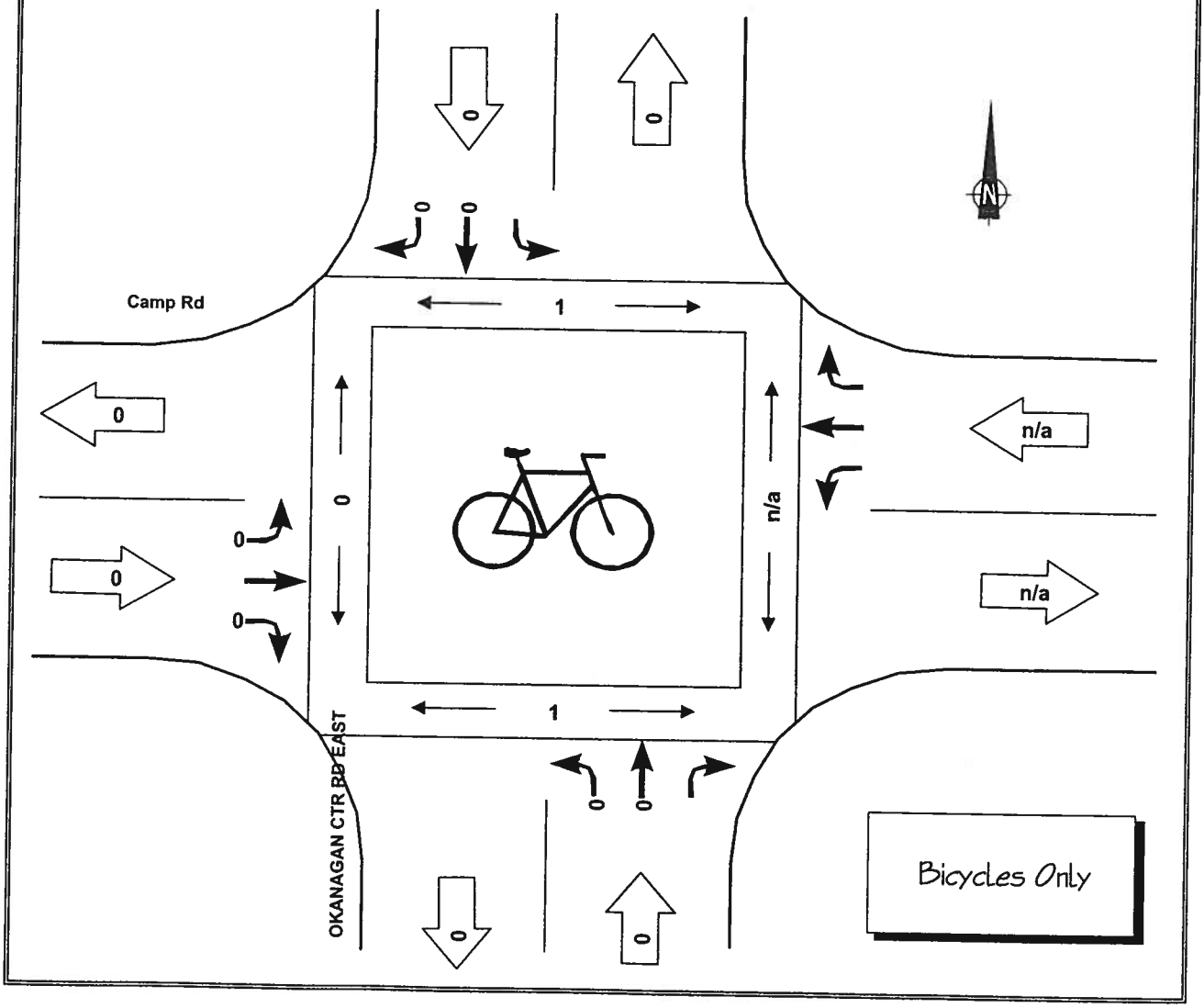
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OKANAGAN CTR RD EAST & Camp Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		0	0	0	0		0		0				0	0	0	0	
15:15		0	0	0	0		0		0				0	0	0	0	
15:30		0	0	0	0		0		0				0	1	0	0	
15:45		0	0	0	0		0		0				0	0	1	0	
16:00		0	0	0	0		0		0				0	0	0	0	
16:15		0	0	0	0		0		0				0	0	0	0	
16:30		0	0	0	0		0		0				0	0	0	0	
16:45		0	0	0	0		0		0				0	0	0	0	
17:00		0	0	0	0		0		0				0	0	0	0	
17:15		0	0	0	0		0		0				0	0	0	0	
17:30		0	0	0	0		0		0				0	0	0	0	
17:45		0	0	0	0		0		0				0	0	0	0	
Total		0	0	0	0		0		0				0	1	1	0	
Avg. Hour		0	0	0	0		0		0				0	0	0	0	
Peak Hour		*0*	*0*	*0*	*0*		*0*		*0*				*0*	*1*	*1*	*0*	
Peak 15 x 4		-	-	-	-		-		-				-	4	4	-	
PHF		0.00	0.00	0.00	0.00		0.00		0.00				0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

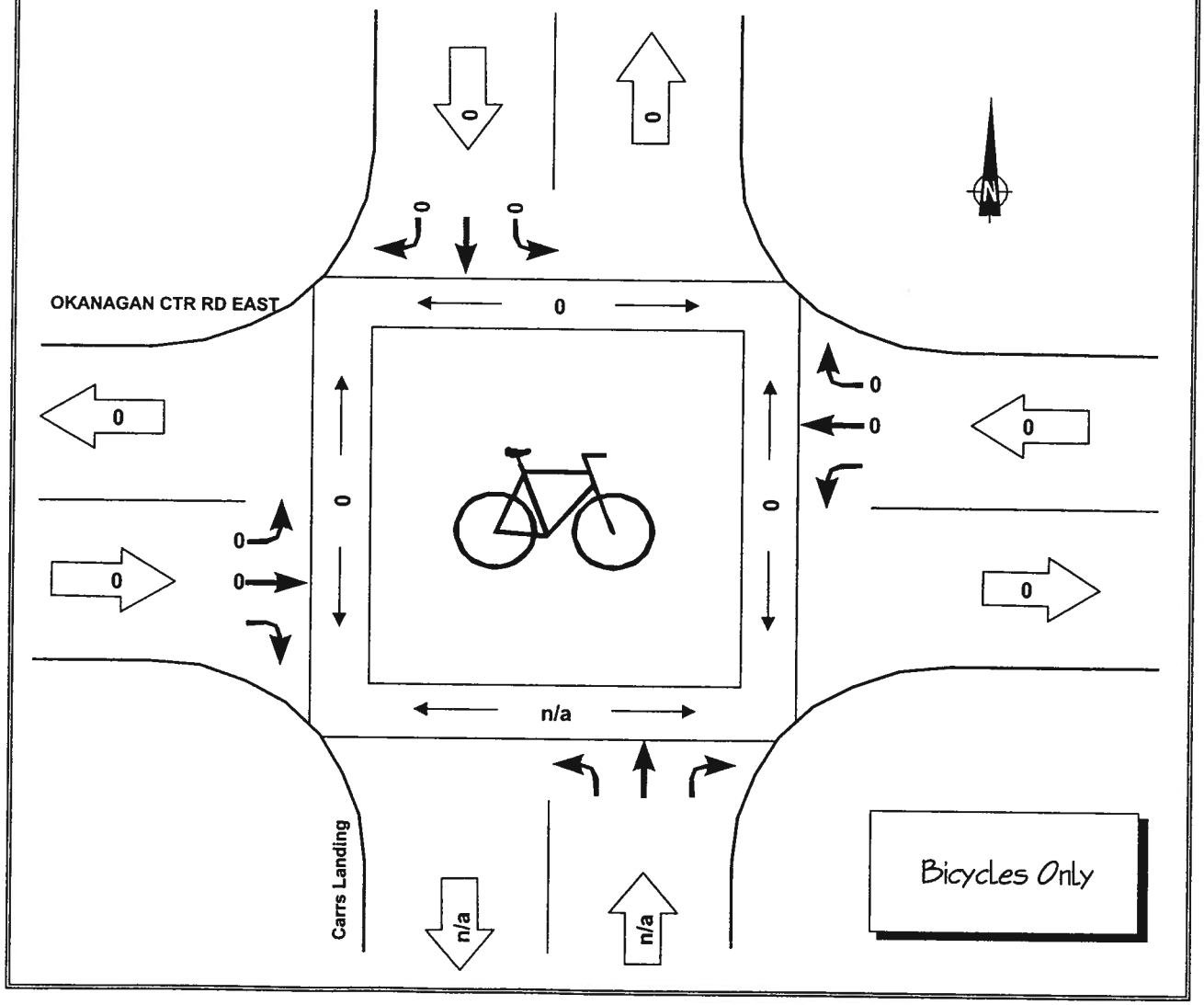
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

Carrs Landing & OKANAGAN CTR RD EAST

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0		0				0	0			0	0	0	0		0	0
15:15	0		0				0	0			0	0	0	0		0	0
15:30	0		0				0	0			0	0	0	0		0	0
15:45	0		0				0	0			0	0	0	0		0	0
16:00	0		0				0	0			0	0	0	0		0	0
16:15	0		0				0	0			0	0	0	0		0	0
16:30	0		0				0	0			0	0	0	0		0	0
16:45	0		0				0	0			0	0	0	0		0	0
17:00	0		0				0	0			0	0	0	0		0	0
17:15	0		0				0	0			0	0	0	0		0	0
17:30	0		0				0	0			0	0	0	0		0	0
17:45	0		0				0	0			0	0	0	0		0	0
Total	0		0				0	0			0	0	0	0		0	0
Avg. Hour	0		0				0	0			0	0	0	0		0	0
Peak Hour	*0*		*0*				*0*	*0*			*0*	*0*	*0*	*0*		*0*	*0*
Peak 15 x 4	-		-				-	-			-	-	-	-		-	-
PHF	0.00		0.00				0.00	0.00			0.00	0.00	0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

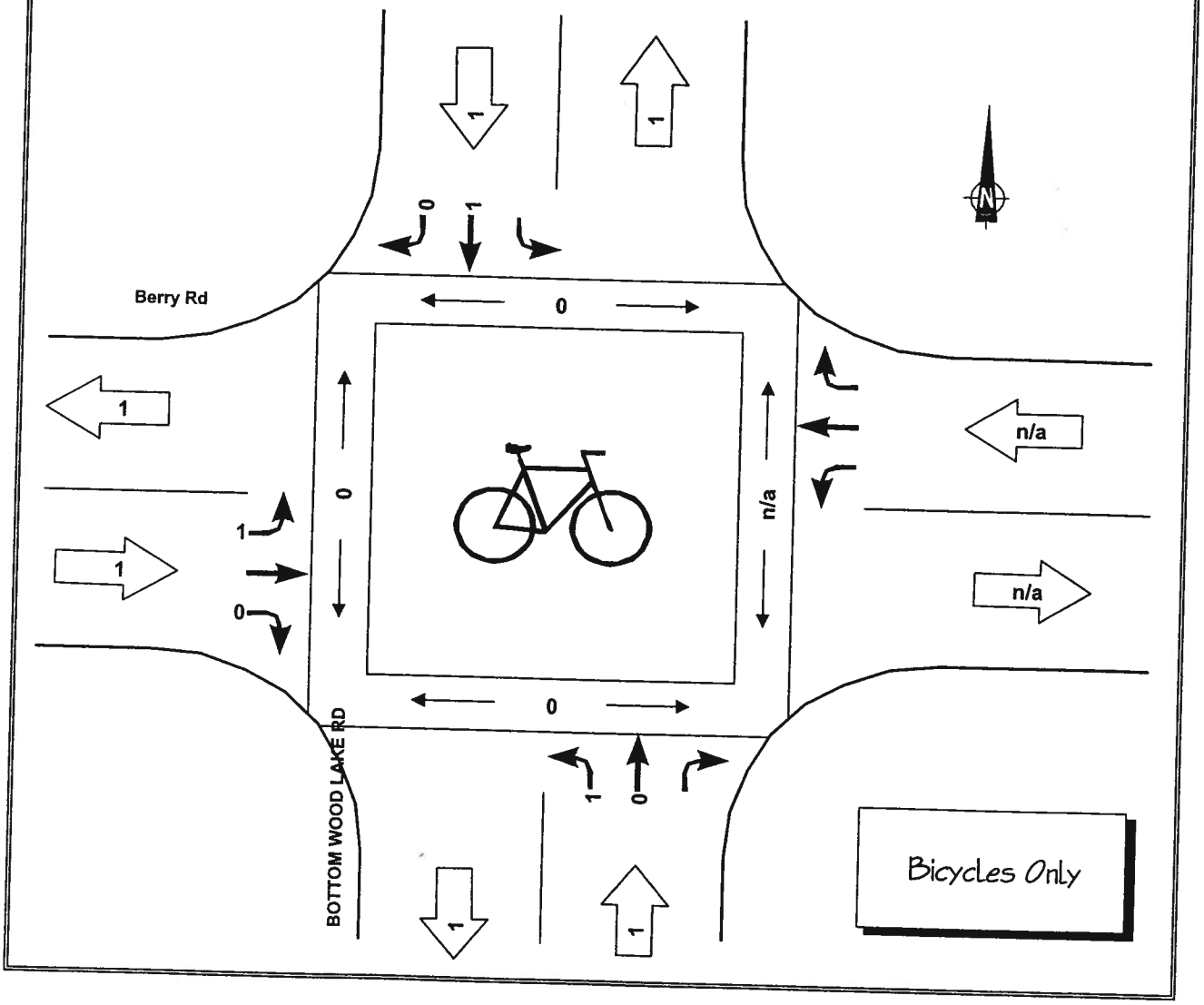
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

BOTTOM WOOD LAKE RD & Berry Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		0	0	0	0		0		0				0	0	0	0	
15:15		0	0	0	0		0		0				0	0	0	0	
15:30		0	0	0	0		0		0				0	0	0	0	
15:45		0	0	0	0		0		0				0	0	0	0	
16:00		0	0	0	0		0		0				0	0	0	0	
16:15		0	0	0	0		1		0				1	0	0	0	
16:30		0	0	0	0		0		0				0	0	0	0	
16:45		0	0	1	0		0		0				1	0	0	0	
17:00		1	0	0	0		0		0				1	0	0	0	
17:15		0	0	0	0		0		0				0	0	0	0	
17:30		0	0	0	0		0		0				0	0	0	0	
17:45		0	0	0	0		0		0				0	0	0	0	
Total		1	0	1	0		1		0				3	0	0	0	
Avg. Hour		0	0	0	0		0		0				1	0	0	0	
Peak Hour		*1*	*0*	*1*	*0*		*1*		*0*				*3*	*0*	*0*	*0*	
Peak 15 x 4		4	-	4	-		4		-				4	-	-	-	
PHF		0.25	0.00	0.25	0.00		0.25		0.00				0.75				

AFTERNOON PEAK HOUR VOLUMES

4:15 PM to 5:15 PM



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AFTERNOON PEAK PERIOD

Wednesday, 25 Sept 2002

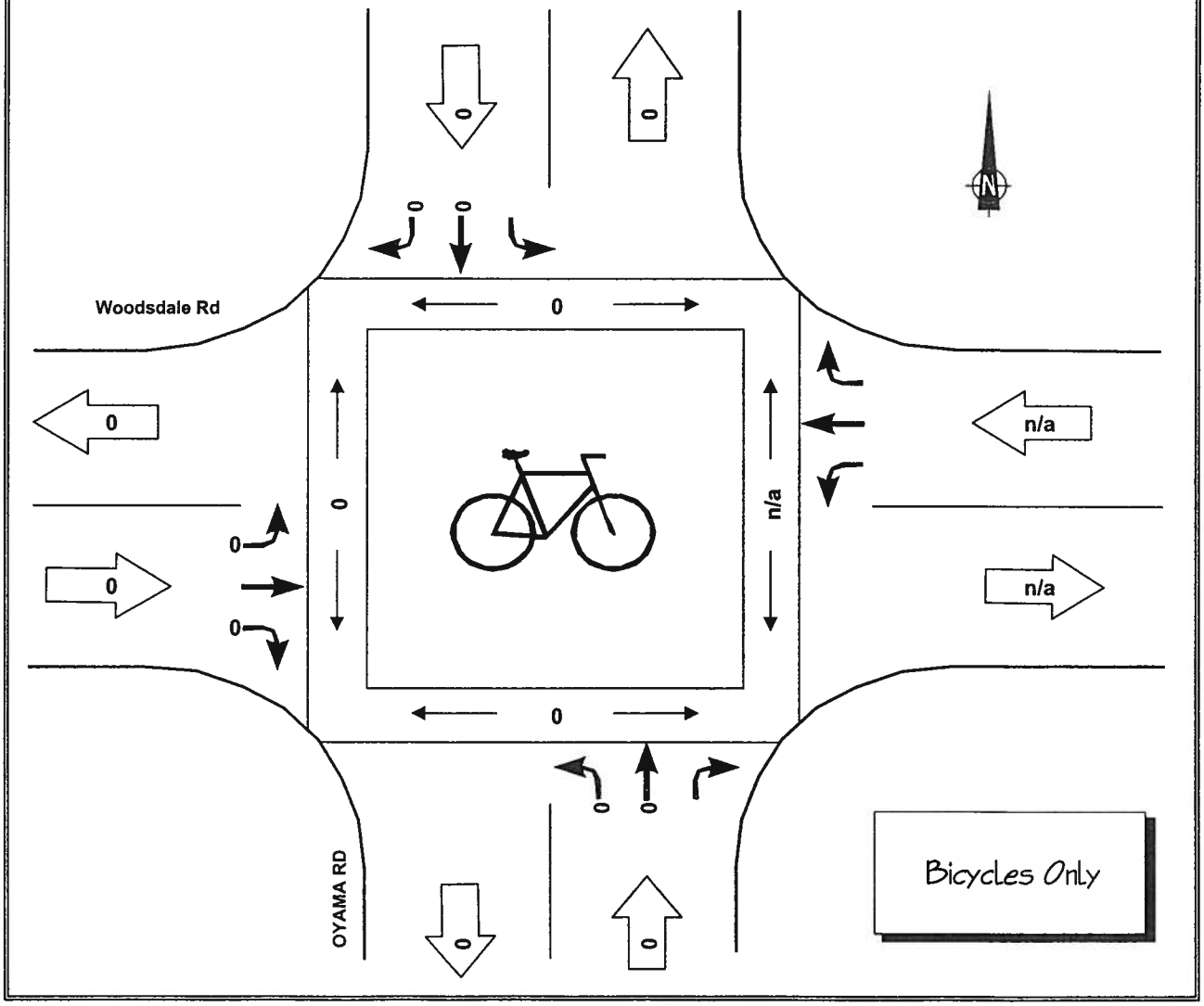
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OYAMA RD & Woodsdale Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		0	0	0	0		0		0				0	0	0	0	
15:15		0	0	0	0		0		0				0	0	0	0	
15:30		0	0	0	0		0		0				0	0	0	0	
15:45		0	0	0	0		0		0				0	0	0	0	
16:00		0	0	0	0		0		0				0	0	0	0	
16:15		0	0	0	0		0		0				0	0	0	0	
16:30		0	0	0	0		0		0				0	0	0	0	
16:45		0	0	0	0		0		0				0	0	0	0	
17:00		0	0	0	0		0		0				0	0	0	0	
17:15		0	0	0	0		0		0				0	0	0	0	
17:30		0	0	0	0		0		0				0	0	0	0	
17:45		0	0	0	0		0		0				0	0	0	0	
Total		0	0	0	0		0		0				0	0	0	0	
Avg. Hour		0	0	0	0		0		0				0	0	0	0	
Peak Hour		*0*	*0*	*0*	*0*		*0*		*0*				*0*	*0*	*0*	*0*	
Peak 15 x 4		-	-	-	-		-		-				-	-	-	-	
PHF		0.00	0.00	0.00	0.00		0.00		0.00				0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

Thursday, 26 Sept 2002

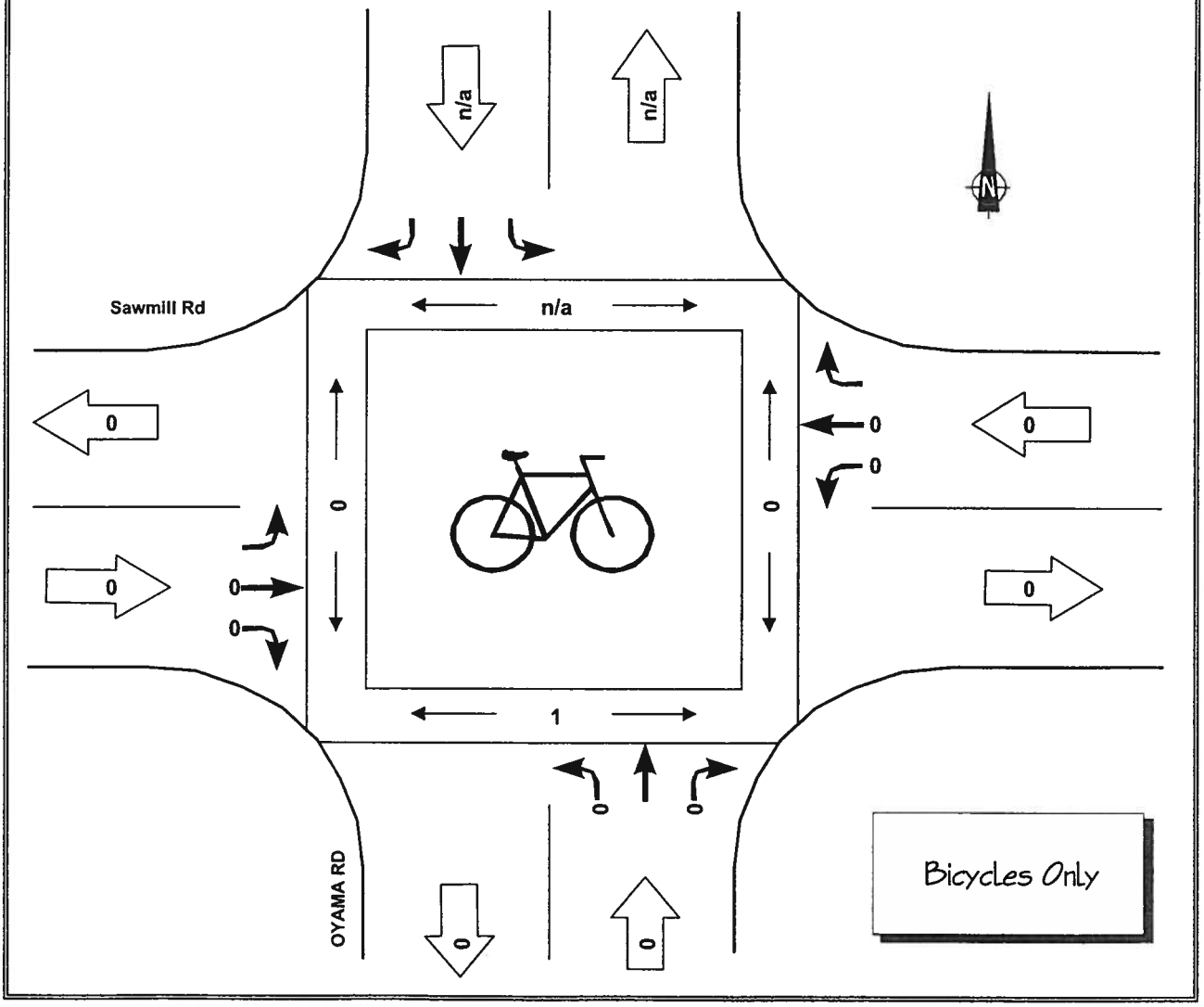
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

OYAMA RD & Sawmill Rd

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00				0		0		0	0	0	0		0		0	0	0
15:15				0		0		0	0	0	0		0		0	0	0
15:30				0		0		0	0	0	0		0		1	0	0
15:45				0		0		0	0	0	0		0		0	0	0
16:00				0		0		0	0	0	0		0		0	0	0
16:15				0		0		0	0	0	0		0		0	0	0
16:30				0		0		0	0	0	0		0		0	0	0
16:45				0		0		0	0	0	0		0		0	0	0
17:00				0		0		0	0	0	0		0		0	0	0
17:15				0		0		0	0	0	0		0		0	0	0
17:30				0		0		0	0	0	0		0		0	0	0
17:45				0		0		0	0	0	0		0		0	0	0
Total				0		0		0	0	0	0		0		1	0	0
Avg. Hour				0		0		0	0	0	0		0		0	0	0
Peak Hour				*0*		*0*		*0*	*0*	*0*	*0*		*0*		*1*	*0*	*0*
Peak 15 x 4				-		-		-	-	-	-		-		4	-	-
PHF				0.00		0.00		0.00	0.00	0.00	0.00		0.00				

AFTERNOON PEAK HOUR VOLUMES

3:00 PM to 4:00 PM



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AFTERNOON PEAK PERIOD

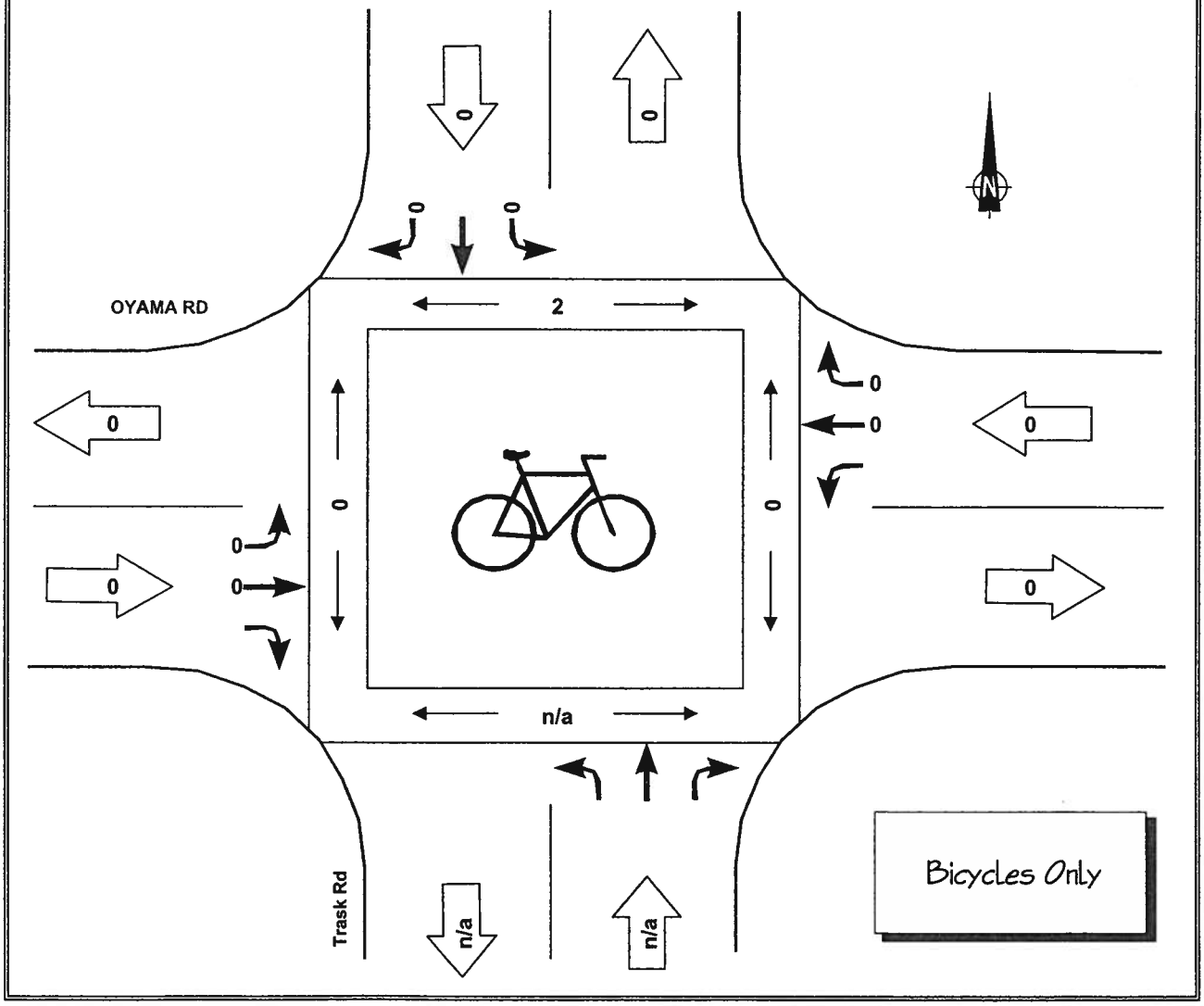
Thursday, 26 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Clear, Daylight, Dry

Trask Rd & OYAMA RD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00	0		0				0	0			0	0	**0**	1		0	0
15:15	0		0				0	0			0	0	**0**	1		0	0
15:30	0		0				0	0			0	0	**0**	0		0	**0**
15:45	0		0				0	0			0	0	**0**	0		0	0
16:00	0		0				0	0			0	0	**0**	0		0	0
16:15	0		0				0	0			0	0	**0**	0		0	0
16:30	0		0				0	0			0	0	**0**	0		0	0
16:45	0		0				0	0			0	0	**0**	2		0	0
17:00	0		0				0	0			0	0	**0**	0		0	**0**
17:15	0		0				0	0			0	0	**0**	1		0	0
17:30	0		0				0	0			0	0	**0**	0		0	0
17:45	0		0				0	0			0	0	**0**	0		0	0
Total	0		0				0	0			0	0	**0**	5		0	0
Avg. Hour	0		0				0	0			0	0	**0**	2		0	0
Peak Hour	*0*		*0*				*0*	*0*			*0*	*0*	***0***	*2*		*0*	*0*
Peak 15 x 4	-		-				-	-			-	-	-	4		-	-
PHF	0.00		0.00				0.00	0.00			0.00	0.00	**0.00**				

AFTERNOON PEAK HOUR VOLUMES **3:00 PM to 4:00 PM**



DISTRICT of LAKE COUNTRY

APPENDIX C

Intersection Capacity Analysis Worksheets

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Bottom Wood Lake Rd & Lodge Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Lodge Rd
North/South Street: Bottom Wood Lake Road
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	74	129	132	13	87	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	82	143	146	14	96	7
Percent Heavy Vehicles	3	--	--	3	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	108	40	3	20	48	40
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	120	44	3	22	53	44
Percent Heavy Vehicles	3	3	3	3	3	3
Percent Grade (%)		0			2	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	82	14		167			119	
C(m) (vph)	1480	1259		367			493	
v/c	0.06	0.01		0.46			0.24	
95% queue length	0.18	0.03		2.29			0.94	
Control Delay	7.6	7.9		22.7			14.6	
LOS	A	A		C			B	
Approach Delay				22.7			14.6	
Approach LOS				C			B	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Okanagan Ctr Rd E & Robinson
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Robinson Road
North/South Street: Okanagan Centre Road East
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		73	10	24	65	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		81	11	26	72	
Percent Heavy Vehicles		--	--	3	--	--
Median Type	Undivided					
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	9		30			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	10		33			
Percent Heavy Vehicles	3		3			
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No				
Storage						
RT Channelized?						
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		26		43				
C(m) (vph)		1496		912				
v/c		0.02		0.05				
95% queue length		0.05		0.15				
Control Delay		7.4		9.1				
LOS		A		A				
Approach Delay				9.1				
Approach LOS				A				

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: OK Ctr Rd E & Carrs Landing
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Okanagan Centre Road East
North/South Street: Carrs Landing
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6	14			25	142
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	6	15			27	157
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				76		6
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				84		6
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			2	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	6						90	
C(m) (vph)	1385						860	
v/c	0.00						0.10	
95% queue length	0.01						0.35	
Control Delay	7.6						9.7	
LOS	A						A	
Approach Delay							9.7	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Bottom Wood Lake & Woodsdale
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Woodsdale Road
North/South Street: Bottom Wood Lake Road
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	49	13	61	1	5	3
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	54	14	67	1	5	3
Percent Heavy Vehicles	3	--	--	3	--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	26	35	5	5	36	43
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	28	38	5	5	40	47
Percent Heavy Vehicles	3	3	3	3	3	3
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?		No			No	
Storage						
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	54	1		71			92	
C(m) (vph)	1587	1510		691			820	
v/c	0.03	0.00		0.10			0.11	
95% queue length	0.11	0.00		0.34			0.38	
Control Delay	7.3	7.4		10.8			9.9	
LOS	A	A		B			A	
Approach Delay				10.8			9.9	
Approach LOS				B			A	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Oyama Rd & Woodsdale
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Woodsdale Road
North/South Street: Oyama Road
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	34	83			55	25
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	37	92			61	27
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				37		22
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				41		24
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			3	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	37						65	
C(m) (vph)	1499						794	
v/c	0.02						0.08	
95% queue length	0.08						0.27	
Control Delay	7.5						9.9	
LOS	A						A	
Approach Delay							9.9	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Oyama Rd & Sawmill
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Sawmill
North/South Street: Oyama Road
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	6		17			
Peak-Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	6		18			
Percent Heavy Vehicles	3		--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0		0			
Configuration		LR				
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	7	47			35	1
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	7	52			38	1
Percent Heavy Vehicles	3	3			3	3
Percent Grade (%)		-2			3	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	R	LT					TR
v (vph)	6		59					39
C(m) (vph)	1617		868					858
v/c	0.00		0.07					0.05
95% queue length	0.01		0.22					0.14
Control Delay	7.2		9.4					9.4
LOS	A		A					A
Approach Delay				9.4			9.4	
Approach LOS				A			A	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Oyama Rd & Trask
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Oyama Road
North/South Street: Trask
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	7	55			57	7
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	7	61			63	7
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				3		3
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				3		3
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	7						6	
C(m) (vph)	1522						906	
v/c	0.00						0.01	
95% queue length	0.01						0.02	
Control Delay	7.4						9.0	
LOS	A						A	
Approach Delay							9.0	
Approach LOS							A	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Okanagan Ctr Rd W & Glenmore
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Glenmore Road
North/South Street: Okanagan Centre Road West
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	24	339			246	32
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	26	376			273	35
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				23		18
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				25		20
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			-1	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	26						45	
C(m) (vph)	1247						492	
v/c	0.02						0.09	
95% queue length	0.06						0.30	
Control Delay	7.9						13.1	
LOS	A						B	
Approach Delay							13.1	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Glenmore Rd & Seaton
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Seaton
North/South Street: Glenmore Road
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	56		321			
Peak-Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	62		356			
Percent Heavy Vehicles	3		--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0		0			
Configuration		LR				
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	274	58			41	24
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	304	64			45	26
Percent Heavy Vehicles	3	3			3	3
Percent Grade (%)		1			-1	
Median Storage						
Flared Approach: Exists?						
Storage						
RT Channelized?						No
Lanes	0	1			1	1
Configuration		LT			T	R

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	R	LT				T	R
v (vph)	62		368				45	26
C(m) (vph)	1617		546				465	1080
v/c	0.04		0.67				0.10	0.02
95% queue length	0.12		5.05				0.32	0.07
Control Delay	7.3		24.1				13.6	8.4
LOS	A		C				B	A
Approach Delay				24.1			11.7	
Approach LOS				C			B	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Bottom Wood Lake & Beaver Lake
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Beaver Lake Road
North/South Street: Bottom Wood Lake Road
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	65	109			204	53
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	72	121			226	58
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				36		123
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				40		136
Percent Heavy Vehicles				3		3
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	72						176	
C(m) (vph)	1273						683	
v/c	0.06						0.26	
95% queue length	0.18						1.02	
Control Delay	8.0						12.1	
LOS	A						B	
Approach Delay							12.1	
Approach LOS							B	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Bottom Wood Lake & Berry Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Berry Road
North/South Street: Bottom Wood Lake Road
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	267		53			
Peak-Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	296		58			
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0		0			
Configuration		LR				
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	52	110			89	222
Peak Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	57	122			98	246
Percent Heavy Vehicles	3	3			3	3
Percent Grade (%)		0			0	
Median Storage						
Flared Approach: Exists?						
Storage						
RT Channelized?						No
Lanes	1	1			1	1
Configuration	L	T			T	R

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	L	R	L	T			T	R
v (vph)	296		57	122			98	246
C(m) (vph)	1574		135	307			295	1010
v/c	0.19		0.42	0.40			0.33	0.24
95% queue length	0.69		1.84	1.83			1.41	0.96
Control Delay	7.8		49.9	24.3			23.2	9.7
LOS	A		E	C			C	A
Approach Delay				32.4			13.5	
Approach LOS				D			B	

HCS2000: Unsignalized Intersections Release 4.1c

TWO-WAY STOP CONTROL SUMMARY

Analyst: Jackie Tan
Agency/Co.: CTS
Date Performed: 10/18/02
Analysis Time Period: PM Peak Hour
Intersection: Okanagan Ctr Rd E & Camp Rd
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2002 Existing
Project ID: 3247 - District of Lake Country Transportation Plan, Phase I
East/West Street: Camp Road
North/South Street: Okanagan Centre Road East
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	100	127			93	4
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	111	141			103	4
Percent Heavy Vehicles	3	--	--		--	--
Median Type	Undivided					
RT Channelized?						
Lanes	0	1			1	0
Configuration		LT				TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				5		56
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				5		62
Percent Heavy Vehicles				3		3
Percent Grade (%)		1			0	
Median Storage						
Flared Approach: Exists?					No	
Storage						
RT Channelized?						
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	111						67	
C(m) (vph)	1478						884	
v/c	0.08						0.08	
95% queue length	0.24						0.25	
Control Delay	7.6						9.4	
LOS	A						A	
Approach Delay							9.4	
Approach LOS							A	

Lanes, Volumes, Timings
3: Oyama Road & Highway 97

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-2%			1%			0%			0%	
Storage Length (m)	17.0		17.0	39.0		17.0	39.0		56.0	45.0		39.0
Storage Lanes	1		1	1		1	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (m)	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1785	1517	1670	1758	1494	1679	3357	1502	1679	3357	1502
Flt Permitted	0.751			0.753			0.322			0.276		
Satd. Flow (perm)	1340	1785	1517	1324	1758	1494	569	3357	1502	488	3357	1502
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			32			43			60			26
Headway Factor	0.97	0.97	0.97	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		356.1			395.1			448.8			414.6	
Travel Time (s)		26.7			29.6			33.7			31.1	
Volume (vph)	11	6	29	53	9	39	22	820	54	51	715	23
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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	12	7	32	59	10	43	24	911	60	57	794	26
Lane Group Flow (vph)	12	7	32	59	10	43	24	911	60	57	794	26
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phases	4	4	4	8	8	8	2	2	2	6	6	6
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	12.7	12.7	12.7	12.7	12.7	12.7	16.1	16.1	16.1	16.1	16.1	16.1
Total Split (s)	20.7	20.7	20.7	20.7	20.7	20.7	46.1	46.1	46.1	46.1	46.1	46.1
Total Split (%)	31%	31%	31%	31%	31%	31%	69%	69%	69%	69%	69%	69%
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	40.0	40.0	40.0	40.0	40.0	40.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	14.0	14.0	14.0	14.0	14.0	14.0	9.0	9.0	9.0	9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	12.2	12.2	12.2	12.2	12.2	12.2	43.4	43.4	43.4	43.4	43.4	43.4
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.73	0.73	0.73	0.73	0.73	0.73
v/c Ratio	0.05	0.02	0.10	0.24	0.03	0.14	0.06	0.37	0.05	0.16	0.32	0.02
Uniform Delay, d1	21.2	21.0	0.0	21.9	21.1	0.0	2.6	3.4	0.0	2.8	3.3	0.0
Delay	12.6	12.5	6.1	12.5	12.6	5.6	4.5	4.2	1.6	4.9	4.0	2.1

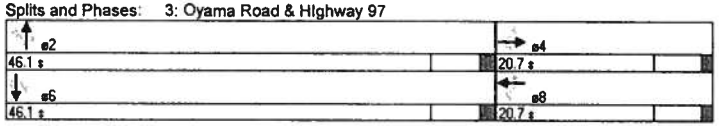
Lanes, Volumes, Timings
3: Oyama Road & Highway 97

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B	A	B	B	A	A	A	A	A	A	A
Approach Delay		8.5			9.8			4.0			4.0	
Approach LOS		A			A			A			A	
Queue Length 50th (m)	0.5	0.3	0.0	2.6	0.4	0.0	0.6	14.9	0.0	1.5	12.4	0.0
Queue Length 95th (m)	3.7	2.7	4.6	10.8	3.3	5.3	3.0	29.5	0.0	6.3	24.7	0.0
Internal Link Dist (m)		332.1			371.1			424.8			390.6	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (m)	17.0		17.0	39.0		17.0	39.0		56.0	45.0		39.0
50th Bay Block Time %												
95th Bay Block Time %								1%				
Queuing Penalty (veh)												

Intersection Summary

Area Type: Other
Cycle Length: 66.8
Actuated Cycle Length: 59.6
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 4.4 Intersection LOS: A
Intersection Capacity Utilization 48.3% ICU Level of Service A

Splits and Phases: 3: Oyama Road & Highway 97



3247-District of Lake Country Transportation Plan
2002 Weekday PM
Timing Plan: Default
CREATIPOR1-ST51

Lanes, Volumes, Timings
3: Oceala Road & Highway 97

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	34.0		0.0	28.0		0.0	28.0		0.0	22.0		0.0
Storage Lanes	1		0	1		0	1		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (m)	15.2	15.2		15.2	15.2		15.2	15.2	15.2	15.2	15.2	15.2
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99				0.99		1.00		0.98	1.00		0.98
Frt		0.910			0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	1608	0	1679	1685	0	1679	3357	1502	1679	3357	1502
Flt Permitted	0.668			0.627			0.293			0.245		
Satd. Flow (perm)	1168	1608	0	1108	1685	0	517	3357	1469	433	3357	1467
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		97			26				32			62
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		874.0			888.7			796.3			745.1	
Travel Time (s)		65.6			66.7			59.7			55.9	
Volume (vph)	48	58	87	38	89	32	125	863	29	51	750	56
Confl. Peds. (#/hr)	16					16	2		1	1		2
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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	53	64	97	42	99	36	139	959	32	57	833	62
Lane Group Flow (vph)	53	161	0	42	135	0	139	959	32	57	833	62
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phases	4	4		8	8		2	2	2	6	6	6
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	12.9	12.9		12.9	12.9		16.3	16.3	16.3	16.3	16.3	16.3
Total Split (s)	25.9	25.9	0.0	25.9	25.9	0.0	46.3	46.3	46.3	46.3	46.3	46.3
Total Split (%)	36%	36%	0%	36%	36%	0%	64%	64%	64%	64%	64%	64%
Maximum Green (s)	20.0	20.0		20.0	20.0		40.0	40.0	40.0	40.0	40.0	40.0
Yellow Time (s)	4.5	4.5		4.5	4.5		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.4	1.4		1.4	1.4		1.5	1.5	1.5	1.5	1.5	1.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		Min	Min	Min	Min	Min	Min
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	13.6	13.6		13.6	13.6		39.4	39.4	39.4	39.4	39.4	39.4
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.65	0.65	0.65	0.65	0.65	0.65
v/c Ratio	0.21	0.38		0.18	0.35		0.41	0.44	0.03	0.20	0.38	0.06
Uniform Delay, d1	19.4	7.7		19.2	15.9		4.7	4.8	0.0	3.9	4.5	0.0

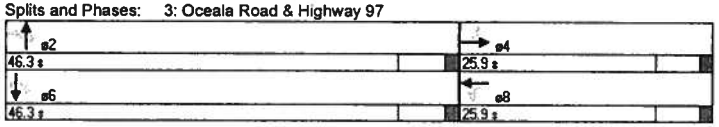
Lanes, Volumes, Timings
3: Oceala Road & Highway 97

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Delay	16.1	7.7		16.3	12.9		6.3	5.2	1.9	5.4	5.0	1.5
LOS	B	A		B	B		A	A	A	A	A	A
Approach Delay		9.8			13.7			5.3			4.8	
Approach LOS		A			B			A			A	
Queue Length 50th (m)	2.6	3.1		2.0	5.4		4.7	17.3	0.0	1.6	14.3	0.0
Queue Length 95th (m)	13.2	19.5		11.1	23.6		18.8	37.0	0.0	7.3	30.8	0.0
Internal Link Dist (m)		850.0			864.7			772.3			721.1	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (m)	34.0			28.0			28.0			22.0		
50th Bay Block Time %												
95th Bay Block Time %								15%			16%	
Queuing Penalty (veh)								10			4	

Intersection Summary

Area Type: Other
Cycle Length: 72.2
Actuated Cycle Length: 60.7
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 6.1 Intersection LOS: A
Intersection Capacity Utilization 60.4% ICU Level of Service B

Splits and Phases: 3: Oceala Road & Highway 97



3247-District of Lake Country Transportation Plan
2002 Weekday PM
Timing Plan: Default
CREATIPOR1-ST51

Lanes, Volumes, Timings
3: Beaver Lake Road &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Grade (%)		-3%			3%			0%			0%	
Storage Length (m)	45.0		0.0	34.0		0.0	34.0		0.0	62.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (m)	15.2	15.2		15.2	15.2		15.2	15.2		15.2	15.2	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				0.99			1.00				
Frt		0.953			0.903			0.988			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1704	1709	0	1653	1555	0	1679	3309	0	1679	3334	0
Flt Permitted	0.442			0.711			0.192			0.083		
Satd. Flow (perm)	791	1709	0	1237	1555	0	339	3309	0	147	3334	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			43			19			9	
Headway Factor	0.97	0.97	0.97	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		497.6			629.2			558.3			490.5	
Travel Time (s)		37.3			47.2			41.9			36.8	
Volume (vph)	215	43	20	86	86	160	52	1290	117	220	960	44
Confl. Peds. (#/hr)	5					5			4	4		
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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	239	48	22	96	96	178	58	1433	130	244	1067	49
Lane Group Flow (vph)	239	70	0	96	274	0	58	1563	0	244	1116	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phases	4	4		8	8		2	2		6	6	
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	12.9	12.9		12.9	12.9		16.1	16.1		16.1	16.1	
Total Split (s)	30.9	30.9	0.0	30.9	30.9	0.0	56.1	56.1	0.0	56.1	56.1	0.0
Total Split (%)	36%	36%	0%	36%	36%	0%	64%	64%	0%	64%	64%	0%
Maximum Green (s)	25.0	25.0		25.0	25.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.6	4.6		4.6	4.6	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.5	1.5		1.5	1.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	21.0	21.0		21.0	21.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	26.9	26.9		26.9	26.9		52.1	52.1		52.1	52.1	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.60	0.60		0.60	0.60	
v/c Ratio	0.98	0.13		0.25	0.54		0.29	0.79		2.77	0.56	

Lanes, Volumes, Timings
3: Beaver Lake Road &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Uniform Delay, d1	29.7	14.6		22.5	20.6		8.4	13.0		17.4	10.4	
Delay	72.3	16.3		23.2	21.4		9.6	13.5		350.6	10.6	
LOS	E	B		C	C		A	B		F	B	
Approach Delay		59.6			21.8			13.3			71.6	
Approach LOS		E			C			B			E	
Queue Length 50th (m)	39.1	5.6		11.9	31.4		4.3	85.7		~70.1	48.7	
Queue Length 95th (m)	#84.4	14.9		24.1	55.0		12.1	112.1		#113.6	63.8	
Internal Link Dist (m)		473.6			605.2			534.3			466.5	
50th Up Block Time (%)												
95th Up Block Time (%)												
Turn Bay Length (m)	45.0			34.0			34.0			62.0		
50th Bay Block Time %					3%			24%		18%		
95th Bay Block Time %	51%				29%			27%		50%	6%	
Queuing Penalty (veh)	18				14			15		190	7	

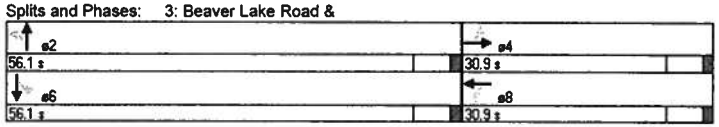
Intersection Summary

Area Type: Other
Cycle Length: 87
Actuated Cycle Length: 87
Natural Cycle: 40
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.77
Intersection Signal Delay: 39.8 Intersection LOS: D
Intersection Capacity Utilization 105.9% ICU Level of Service F

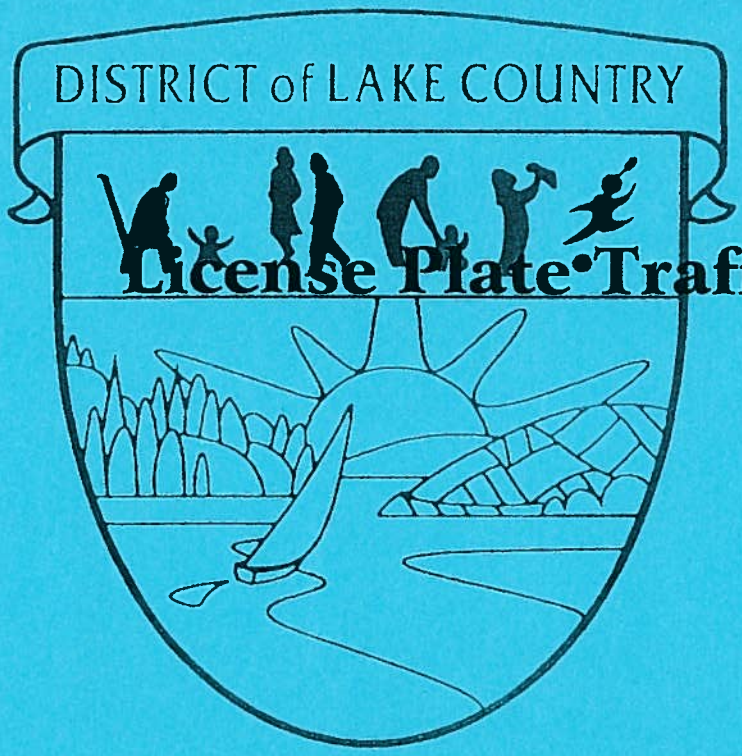
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Beaver Lake Road &



3247-District of Lake Country Transportation Plan
2002 Weekday PM
Timing Plan: Default
CREATIPOR1-ST51



APPENDIX D

License Plate Traffic Volume Data

CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2815A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

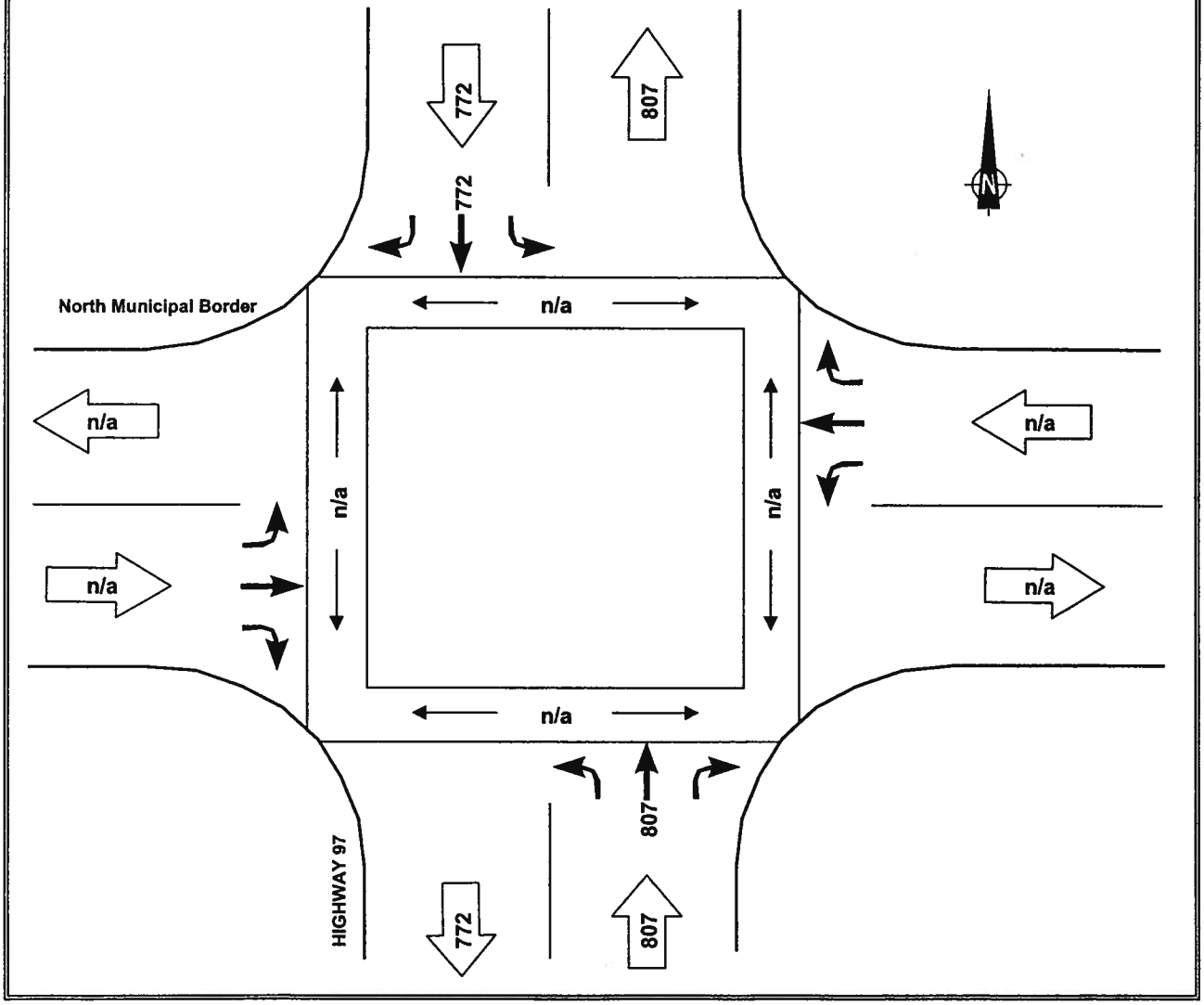
Friday, 20 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Sunny, Daylight, Dry

HIGHWAY 97 & North Municipal Border

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		182			178								360				
15:15		197			191								388				
15:30		191			184								375				
15:45		201			212								413				
16:00		168			204								372				
16:15		178			201								379				
16:30		183			177								360				
16:45		199			213								412				
17:00		204			198								402				
17:15		199			190								389				
17:30		170			206								376				
17:45		177			198								375				
Total		2249			2352								4601				
Avg. Hour		750			784								1534				
Peak Hour		*772*			*807*								*1579*				
Peak 15 x 4		816			852								1648				
PHF		0.95			0.95								0.96				

AFTERNOON PEAK HOUR VOLUMES **4:45 PM to 5:45 PM**



CTS CREATIVE TRANSPORTATION SOLUTIONS LTD.
TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

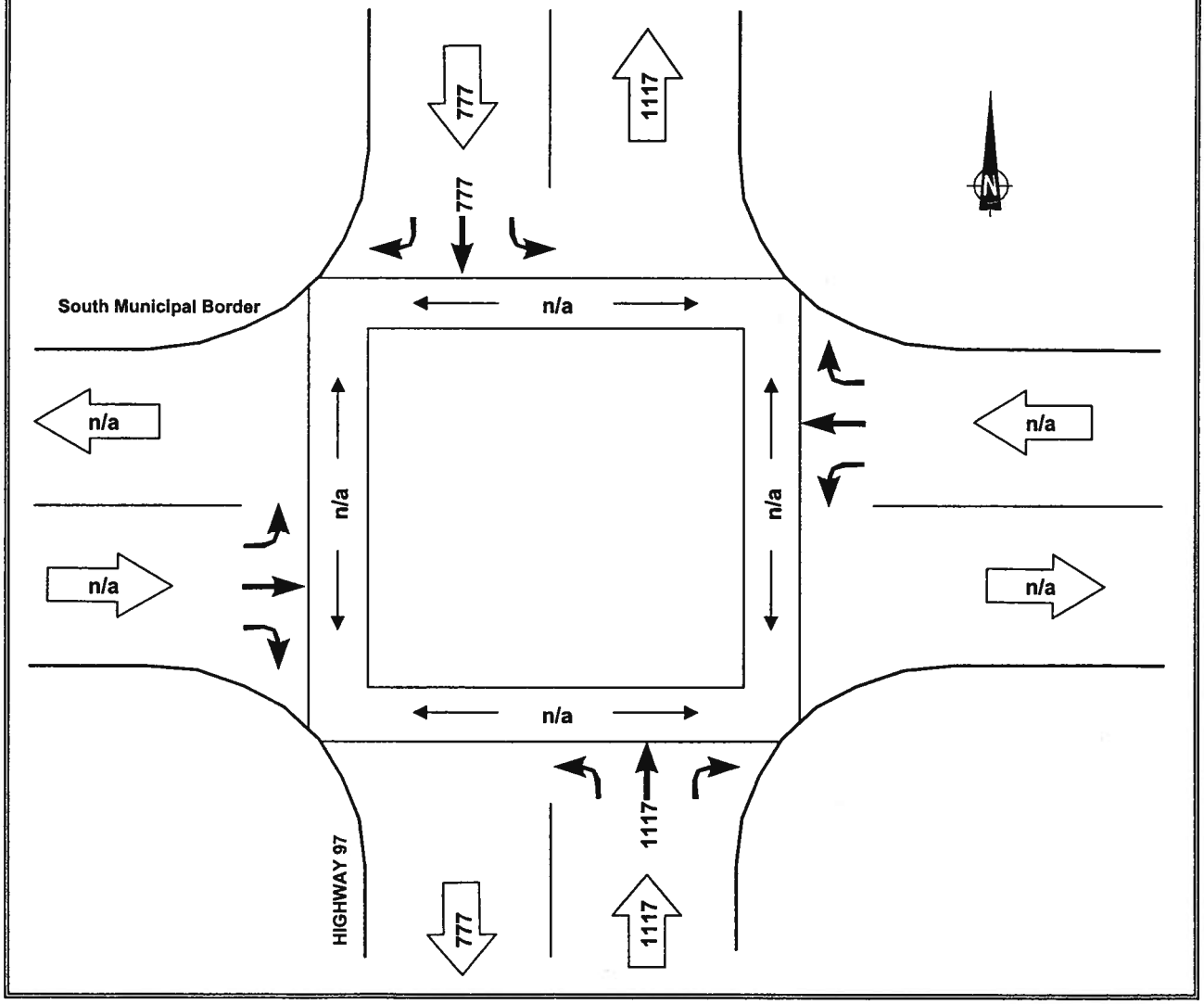
Friday, 20 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Sunny, Daylight, Dry

HIGHWAY 97 & South Municipal Border

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		166			272								438				
15:15		177			264								441				
15:30		203			278								481				
15:45		180			272								452				
16:00		180			248								428				
16:15		175			256								431				
16:30		204			281								485				
16:45		204			310								514				
17:00		199			263								462				
17:15		170			263								433				
17:30		168			265								433				
17:45		139			246								385				
Total		2165			3218								5383				
Avg. Hour		722			1073								1794				
Peak Hour		*777*			*1117*								*1894*				
Peak 15 x 4		816			1240								2056				
PHF		0.95			0.90								0.92				

AFTERNOON PEAK HOUR VOLUMES **4:30 PM to 5:30 PM**



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TRAFFIC & TRANSPORTATION ENGINEERING SPECIALISTS
Suite 202 - 2615A St. Johns Street, Port Moody, BC CANADA V3H 2B5

AFTERNOON PEAK PERIOD

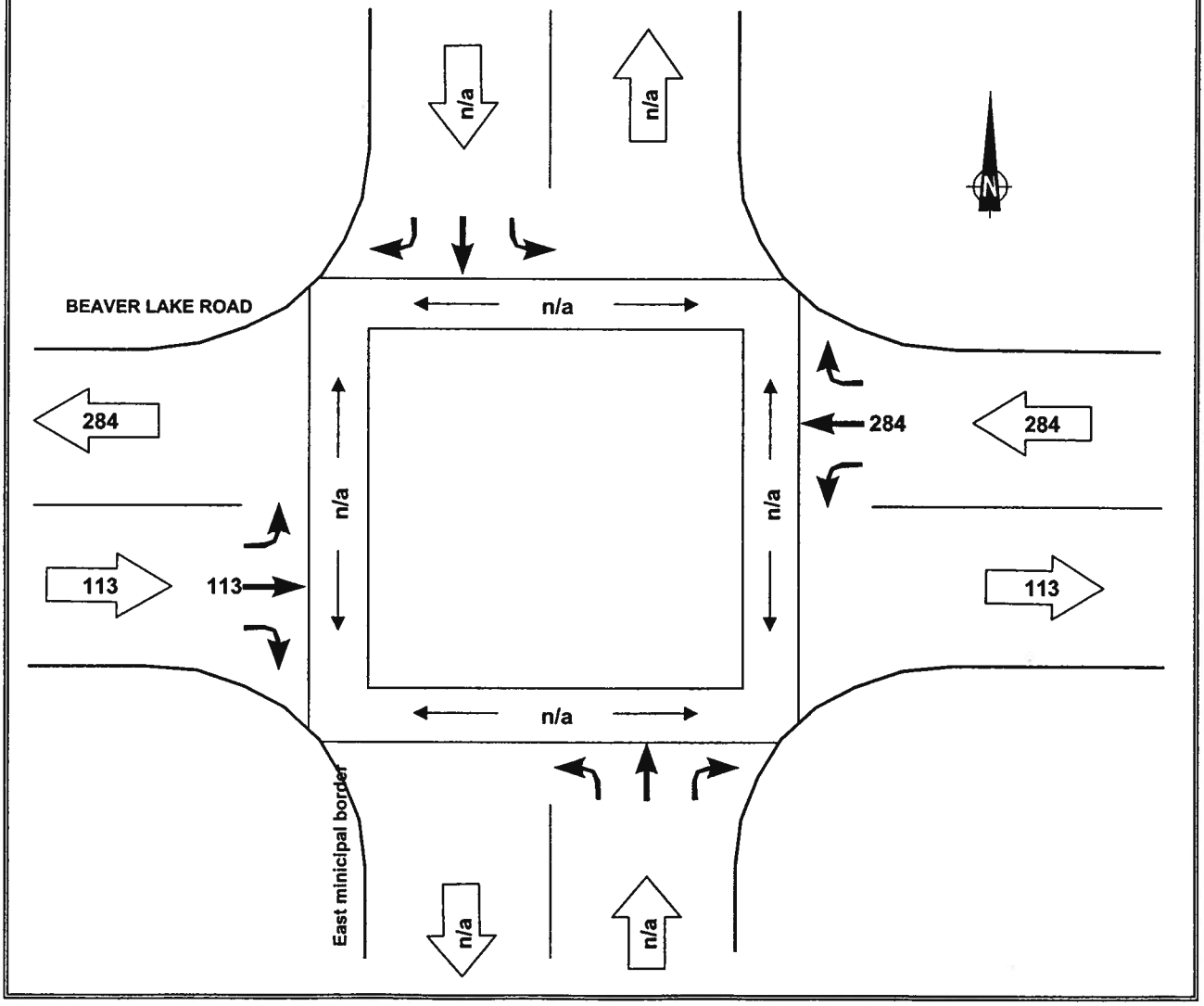
Friday, 20 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Sunny, Daylight, Dry

East minicipal border & BEAVER LAKE ROAD

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00								20			52		72				
15:15								39			55		94				
15:30								26			134		160				
15:45								28			43		71				
16:00								29			38		67				
16:15								40			39		79				
16:30								25			47		72				
16:45								27			60		87				
17:00								26			41		67				
17:15								32			39		71				
17:30								24			27		51				
17:45								27			31		58				
Total								343			606		949				
Avg. Hour								114			202		316				
Peak Hour								*113*			*284*		*397*				
Peak 15 x 4								156			536		640				
PHF								0.72			0.53		0.62				

AFTERNOON PEAK HOUR VOLUMES **3:00 PM to 4:00 PM**



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AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

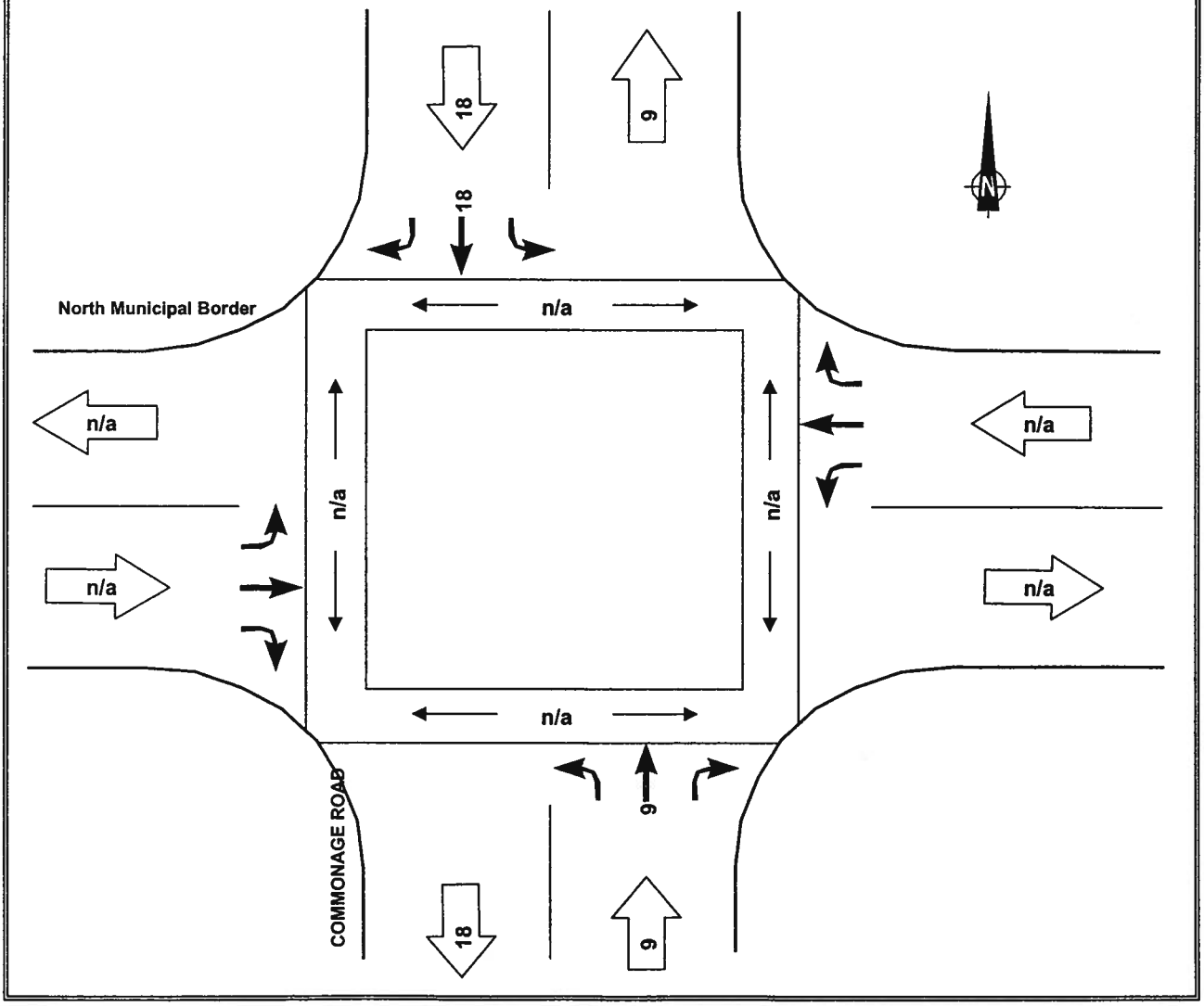
Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Sunny, Daylight, Dry

COMMONAGE ROAD & North Municipal Border

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		5			3								8				
15:15		1			1								2				
15:30		4			2								6				
15:45		4			1								5				
16:00		4			0								4				
16:15		1			3								4				
16:30		2			3								5				
16:45		5			1								6				
17:00		5			3								8				
17:15		4			2								6				
17:30		4			3								7				
17:45		3			0								3				
Total		42			22								64				
Avg. Hour		14			7								21				
Peak Hour		*18*			*9*								*27*				
Peak 15 x 4		20			12								32				
PHF		0.90			0.75								0.84				

AFTERNOON PEAK HOUR VOLUMES

4:45 PM to 5:45 PM



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AFTERNOON PEAK PERIOD

Friday, 20 Sept 2002

Project: 3247 - District of Lake Country Transportation Plan, Phase 1
Municipality: District of Lake Country
Weather: Sunny, Daylight, Dry

GLENMORE ROAD & South municipal border

Time Interval	NORTH Approach			SOUTH Approach			WEST Approach			EAST Approach			Total Volume	PEDESTRIANS			
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		N	S	W	E
15:00		48			46								94				
15:15		60			63								123				
15:30		63			60								123				
15:45		56			82								138				
16:00		76			102								178				
16:15		45			75								120				
16:30		60			51								111				
16:45		53			99								152				
17:00		72			74								146				
17:15		56			71								127				
17:30		49			69								118				
17:45		47			60								107				
Total		685			852								1537				
Avg. Hour		228			284								512				
Peak Hour		*255*			*307*								*562*				
Peak 15 x 4		304			408								712				
PHF		0.84			0.75								0.79				

AFTERNOON PEAK HOUR VOLUMES **3:15 PM to 4:15 PM**